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special libraries

February 1974, vol. 65, no. 2

☐ Cost Information

☐ Use: A Case Study

☐ SHARP Automation

☐ Pay As You Go

☐ Classification of Local Publications

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SPLBA 65 (2) 49–98 (1974)
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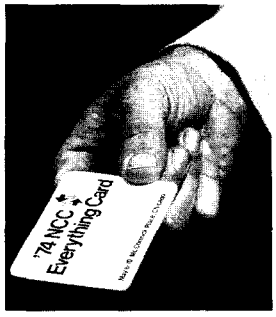

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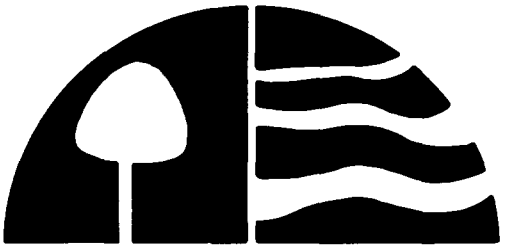

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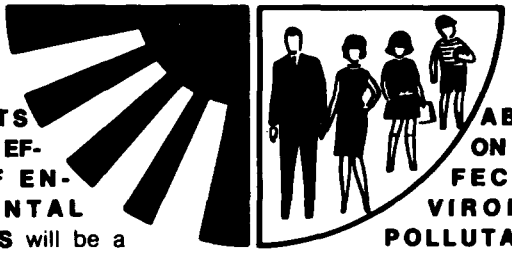

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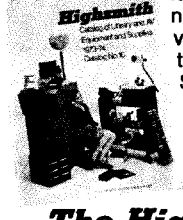

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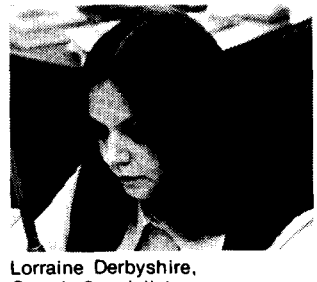

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LETTERS

Special Materials Sharing

I read with interest Joe Dagnese's article [*Special Libraries* 64 (no.10): 423–432 (Oct 1973)] on cooperation between academic and special libraries. Since I work in a library of a profit-making organization I am vitally concerned in this matter. It is true that there may be certain portions of a collection that a company may consider proprietary; however, this does not mean that such libraries cannot or do not contribute to the overall resource base of its community. I disagree, also, with Joe's statement that the materials in special libraries are books and journals which the academic library has in its collection anyway. In Virginia it is certainly true that academic and other libraries often call on special libraries because we are the only source for a particular item.

We have a Union List of Scientific and Technical Serials in libraries in Virginia called PHIL UNION. Checking the "A's" I found 83 serials listed which were not available in the state from any public or academic library. It is the very uniqueness of the materials held by the special libraries which makes their contribution to any cooperative venture important. These unique collections add to the scope of the university and public library collections in the state.

Most special libraries, while not "open" to the general public in the way that public libraries are, nevertheless are open to scholars and others who indicate a need to use their collection. They, therefore, should not be considered "closed"—not accessible to any patron who has a real need. Often confidential material, report literature, etc., are part of a technical information department which is kept separate from the library. Special libraries are willing to pay for service rendered. What we object to is being charged excessive prices. We also object when academic institutions hold the only copy of a particular journal (and we have usually spent considerable time in locating it), and then we are told that this university only lends to others universities and not to private industries. Academic institutions could not exist without the industrial community—we contribute both students and faculty, we pay taxes, and we contribute grants and scholarships. We, therefore, feel we should be included in any resource sharing. I am happy to report that in Virginia we are included, and hope that other states, including Indiana, will do likewise.

Bess P. Walford
Philip Morris U.S.A.
Richmond, Va. 23261

Coop: Academic and Special—A Reply

The letters from Mark Baer [*Special Libraries* 65 (no.1): 6A–7A (Jan 1973)] and Bess Walford [above] both address themselves to only two paragraphs out of a ten page article which tried to define areas in which cooperation has been really successful. My investigation seemed to indicate that *successful* cooperation, regardless of the type of library, was most often based on either mutual sharing of resources or on soundly funded arrangements. Perhaps the statement that libraries in profit-making organizations have little or nothing to share with academic libraries is a myth, and as with other folklore its restatement over and over seems to have made it axiomatic.

Perhaps! But I recommend that the citations in the bibliography be read carefully. There you will find substantially the same thing being said by several SLA members, one a past president of the Association.

Perhaps! But Purdue statistics reveal the following information. From July 1, 1973, to December 1, 1973, Purdue libraries received 17 items from industrial libraries including 3 technical reports not available elsewhere. In the same time span, Purdue furnished 1427 items to industrial libraries—a 1 to 84 ratio.

Perhaps! But MIT and Stanford have membership plans based on financial arrangements in an attempt to equalize the load.

Special libraries do cooperate in union lists of serials. The Indiana list includes several libraries of profit-making organizations among the 62 participants. But this is not resource sharing. It is only a partial list of holdings and, in spite of Bess Walford's survey (83 out of how many?), most are held by academic libraries.

The subject expertise of special librarians is widely acknowledged and applauded. However, catalogs of collections, developed by these experts, are not usually available except in-house, and access to them is generally gained only by knowing that a particu-

lar library may have the sought-after material because of its general interest in the subject.

Finally, I would like to take exception to two statements made by Mr. Baer. It does not seem inappropriate for a John Cotton Dana lecturer to suggest that libraries of for-profit organizations should pay for services from academic libraries—that was the point, after all—or that a form of the defunct State Technical Services Act be revived as a way of providing these services. Secondly, my experience in a for-profit company library as well as in the libraries at MIT and Purdue (characterized as a federation of specialized libraries) have perhaps given me a reasonably well-rounded picture of intertype library cooperation.

Joseph M. Dagnese
Purdue University Libraries
West Lafayette, Ind. 47907

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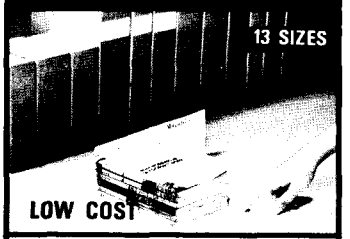

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Rational Cost Information:

Necessary and Obtainable

Douglas S. Price

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■ Rational cost information is necessary for management and future planning. A system called "Building Block Costing" has been developed based upon three premises. First, the most useful display of costs is in terms of unit costs, but, since no single unit can measure an entire information system, a process of subdivision, unit costing of the subdivisions, and reassembly must be applied. Second, unit costs are meaningful only in a framework of all costs. Third, cost collection must be continuous, with costs relatable to resultant production. The concept is explained with examples of techniques, reports, and application of the results.

FOR MANY YEARS, cost analysis of information systems and libraries has been a *bête noir* to information system professionals. Most seemed to feel that such analyses—and attempts to put price tags on "Information"—were impossible, irrational, even unprofessional. In these days of tightened budgets and almost universal application of planning, programming, budgeting (PPB) systems, such attitudes are no longer viable. Librarians and information scientists must have rational, usable cost information and real control of costs if they are to survive.

Unfortunately, the literature of information system costing has not, to date, been characterized by either rationality or usefulness. Almost exclusively, costs are reported on the basis of one of the techniques shown in Figure 1. A discussion of these methods follows.

Figure 1. Costing Techniques

1. Allocation by Interview
2. Allocation by Sampling
3. Allocation by Stopwatch (Time Study)
4. Gross Unit Cost $= \frac{\text{Total Expenditures}}{\text{Total Throughput}}$

• Allocation by Interview. This is the procedure in which each employee is asked how he spent his time during the previous month (or year) among his various tasks. The results are used to allocate his salary costs to the different tasks. Then production figures for that month—which, incredibly, are also sometimes obtained in the same interview—are used to compute unit costs.

Aside from the fact that such interviews provide no basis for the assignment of nonlabor costs, the principal shortcoming is that this technique relies almost entirely on the most fallible of records, the human memory. Few people can remember precisely what they were doing yesterday morning, much less last month. Furthermore, it is an accepted phenomenon that 15 minutes of drudgery loom far larger in our minds than a full hour of challenging work.

Therefore, allocation by interview is not a reliable method of unit costing.

• Allocation by Sampling. This is the technique by which every employee is given a detailed list of every activity to record the start and stop times for each activity engaged in or to enter how much time he spends on each activity when it is completed. The employees are thus placed in an abnormal situation. They are expected to learn and execute an unfamiliar task at the same time as they are doing their accustomed work, and this is going to seriously affect their productivity. If they do the task as directed, they will be repeatedly interrupting their work-flow. More probably, they will remember the recording task only two or three times a day and guess at the intervals since the last recording. Further, there is a learning curve problem, so that the figures from the beginning of the period will not jibe with those from the end. Finally—and this applies also to the preceding and following techniques—the duration of the sample is too short, at least for information systems, which are notorious for seasonal fluctuations and other uncontrollable perturbations.

• Allocation by Stopwatch. This is the time study technique by which each operation is observed in progress to determine how long it takes. The sum of the individual times multiplied by the appropriate labor cost equals the unit cost. While this technique works well for the highly repetitive tasks of the factory production line, it is entirely inappropriate for an information system for two very crucial reasons. First, most operations of an information system are essentially intellectual in nature, and hence, are not observable by definition. Second, the fact remains that since no two documents (or searches, or reference inquiries, or document analysts) are ever precisely alike, the small samples observed cannot accurately reflect the whole. The final objection to this technique can be stated as a question. Who can work normally when someone is standing over him with a stopwatch?

• Gross Unit Cost. This is the most obvious, and most popular, technique for determining information system unit costs. The total expenditures for a period (usually a year) are divided by some number (usually documents processed or announcements published) which is presumed to be a measure of the system's productivity to obtain a unit cost. While this sometimes has the virtue of including all costs—which is not easy using the other techniques—its useful information content is nil. The major objection to this technique is the irrational assumption that the productivity of an entire information system can be measured by a single unit.

Almost without exception, reported cost studies of information systems have suffered from either misunderstandings of the operations and principles of information systems, or the techniques and purposes of cost systems, or both.

Building Block Costing

Rational cost data for information systems are not unrealizable. A system called Building Block Costing has been developed, which provides precisely the kind of data a manager needs to manage intelligently. It has been validated in actual use in a number of applications and is flexible enough in concept to permit adaptation to almost any information system.

The major premise is that the most useful display of information system costs is in terms of unit costs. However, there is no single unit which can be used as a valid measure of productivity of an entire information system. Therefore, the system must be subdivided into subsystems, each of which can be measured by a single unit. It is imperative that the subdivision reflect the system as it really is—as opposed to what it is designed to be—and that it be complete to the last detail. You can simplify later, but the detail is needed to know whether or not it is insignificant. The whole staff must be involved. Nor is selecting the unit (or units) of measure for each activity simple. The unit must be a valid

Figure 2. Example of Building Block Assembly

	PER ISSUE	ANNUAL 12 ISSUES
700 ACCESSIONS TO FILE, WITH AUTHOR ABSTRACTS @ $8.00	$ 5,600	$ 67,200
300 ACCESSIONS TO FILE, IN-HOUSE ABSTRACTS @ $15.00	4,500	54,000
150 PHOTOCOMPOSED PAGES @ $5.00	750	9,000
200 CHAIN PRINTER PAGES @ $1.75	350	4,200
1,750,000 PAGES REPRODUCED (350 x 5,000 COPIES) @ $15.00 PER 1,000	26,250	315,000
	$37,450	$449,400
WITH 4,500 PAID SUBSCRIPTIONS, ANNUAL COST PER SUBSCRIPTION =	$99.87	
AVERAGE COST PER ACCESSION =	$37.45	

measure of the activity; it must be readily countable; and the count must be verifiable and documented. When you have determined the subdivisions, they can be unit costed, and the individual units "re-assembled" into the whole. Figure 2 is a highly stylized example of such an assembly. This represents a simple system which produces only a monthly abstract journal. The unit costs for each sub-activity are multiplied by the appropriate number of items for a single issue of one thousand announcements and for twelve issues averaging one thousand items each. This is much more useful than the single gross unit cost figure shown at the bottom.

The second premise is that unit costs are meaningful only in a framework which includes all system costs. Some activities of almost any information system cannot be unit costed, but they must be included in total costs. There are two approaches for handling these. If they are activities which are funded in and of themselves or for their results, the costs must be segregated—but not separated. If they are supporting activities, their cost must be allocated as burdens on the activities they support. This allocation process requires careful consideration. The practice of gathering all support costs into a common pool and making a single allocation is poor.

The third premise is that valid unit costs must be derived from data which are collected: in normal operations; in sufficient detail and over a sufficient period of time to permit statistical analysis; and, most important, in a manner which permits the costs to be related to the actual production resulting from the expenditure. This is stated fairly simply, but achieving it requires careful, intelligent planning and design, as well as extensive education and motivation of the staff. You must devise a system and provide tools to enable and encourage the staff to record their time accurately and in sufficient detail; this may require modification of work flow in some cases. You must devise a similar system and tools to enable them (or a computer) to record production accurately. The system must permit you to associate with a specific set of production units the specific costs incurred in processing that particular block of production. Since the time required to process a document through an information system ranges from six to twelve weeks, you cannot simply record costs for any calendar period and count the production delivered in that period, because some of the items delivered will have been partially processed in the previous period, and some of the processing done in any period will not be delivered until the next.

Following are the kinds of information which can come out of Building Block Costing. A summary report must show all costs. Figure 3 is a simplified example. The columns are kinds of costs: Direct, Allocations, and Burdens. The top line is Total Costs, and the remaining lines (in this report) are the broad

Figure 3. Summary Report Format (Simplified)

Description	Direct Costs	Internal Allocations & Transfers	Subtotal	External Burdens	Total Costs
Total Costs	$125,000	$ —	$125,000	$25,000	$150,000
General Costs	25,000	(25,000)	—	—	—
Ad Hoc Activities	15,000	3,750	18,750	3,750	22,500
Inputs	30,000	7,500	37,500	7,500	45,000
Outputs	35,000	8,750	43,750	8,750	52,500
Collateral Services	20,000	5,000	25,000	5,000	30,000

categories of activities of an information system, which should be explained at this point.

General Costs are the fixed costs of the operation, including such items as basic floor space, heat, light, telephone, the manager and his secretary, system development and maintenance costs, etc.

Ad Hoc Activities are those information system tasks which are not regular production but which can devour large amounts of resources, such as information analyses, special studies, evaluations, etc. Many of these are one time tasks and are usually unpredictable.

Inputs are all activities directed toward building the data base of the system.

Outputs are those activities which are totally dependent, or nearly so, on the presence of the data base to produce out-of-the-door (i.e., income producing) products.

Collateral Services are activities which, while they may draw peripherally on the data base, require the application of substantial other resources to produce output. For example, taking the ERIC system as a whole, the microfiche production of the ERIC Document Reproduction Service is a collateral service.

In a real report, these would be subtotals (as would the columns shown), which is why no unit costs are shown. Figure 4 shows details of Direct Costs for an Input stream, and here we see the building blocks for the first time.

To digress for a moment, why is rational cost information necessary? The answer is, of course, in order to make rational management decisions. A single unit cost of an item going out the door is not enough for this purpose. How much of what kinds of costs make up the total? How do these change with volume? Is the product labor intensive, computer intensive, material intensive, or—and it does happen—burden intensive? A final out-the-door unit cost is the sum of a score or more detailed unit costs, all of which are important to the manager. Building Block Costing was developed to provide such a picture.

In Figure 4, except for the Acquisitions line which will be explained later, every block contains two numbers. Above the dashed line is a total cost figure which enables the manager to assess the total dollar impact of that element of cost on that product. Below the dashes is a unit cost obtained by dividing the total dollar figure by the number of production units shown in the Units column. This gives the unit cost impact of each element of cost for each product. The selection of the kinds of direct costs to display as individual columns will depend upon the system and environment.

The product lines shown in Figure 4 were selected to illustrate most clearly the principles of Building Block Costing. Acquisitions and Receiving & Input are preliminary activities necessary to acquire and control the documents before the decision is made as to how they will be processed. The Authority File Updates represent the necessary maintenance of these files to permit indexing the documents. The actual building of the data base is represented by the three classes of Accessions to File. Class A documents are announced with an abstract;

Figure 4. Input Products

Description	Units	Direct Labor	Fringe	Computer Usage	Other Direct Costs	Total Direct Costs
Acquisitions	N.A.	$ 20,000	$ 4,000	—	$ 2,000	$ 26,000
Receiving & Input	26,000 Documents	52,000	10,400	—	15,600	78,000
		2.00	0.40	—	0.60	3.00
Accessions to File						
a. Class A—Announced	12,000 Accessions	117,000	23,400	21,000	18,600	180,000
		9.75	1.95	1.75	1.55	15.00
b. Class B—Indexed	5,000 Accessions	31,000	6,200	6,250	6,550	50,000
		6.20	1.24	1.25	1.31	10.00
c. Class C—Cataloged	2,000 Accessions	7,200	1,440	2,000	1,360	12,000
		3.60	0.72	1.00	0.68	6.00
Authority File Updates						
a. Indexing Vocabulary	120 Terms	1,800	360	720	120	3,000
		15.00	3.00	6.00	1.00	25.00
b. Corporate Sources	240 Sources	1,200	240	720	240	2,400
		5.00	1.00	3.00	1.00	10.00

Figure 5. Functional Labor Costs

Description	A Production Quantity	FUNCTIONS B Cataloging 21	C Indexing 22	D Abstract & Indexing 23	E Initial Edit 24	F Keying 31	G Print-Out Edit 25	H Clerical 11	I Total Direct Labor
CLASS A		21,000	15,000	27,000	15,000	24,000	12,000	3,000	117,000
TOTAL	12,000	1.75	1.25	2.25	1.25	2.00	1.00	0.25	9.75
Class A		21,000	See	See	15,000	24,000	12,000	3,000	75,000
Common	12,000	1.75	Below	Below	1.25	2.00	1.00	0.25	6.25
Class A Index			15,000						15,000
Author/Abstract	7,500		2.00						2.00
Class A Index and				27,000					27,000
In-house Abstract	4,500			6.00					6.00
Class B		8,750	9,000		5,000	4,000	3,750	500	31,000
Indexed	5,000	1.75	1.80		1.00	0.80	0.75	0.10	6.20
Class C		3,500			1,500	1,000	1,000	200	7,200
Cataloged	2,000	1.75			0.75	0.50	0.50	0.10	3.60

Notes: 1. The figures in column A (Quantity Produced) and column I (Total Direct Labor) are identical with column A (Quantity Produced and Units) and column B (Direct Labor) of Sheet 1 for the corresponding Product Line Entries.

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Class B documents are cataloged and indexed for retrieval only; and Class C documents are cataloged only for the purpose of control. In the Class A line, no distinction is made between documents with author abstracts and those for which abstracts must be prepared in-house. This is because, at the point of "delivery," the file update, they are indistinguishable from each other. When the distinction must be made, it is best done by a functional analysis of the labor costs (Figure 5). There are four lines here for Class A accessions. The top line,

Figure 6. Input Allocations

Description	Units	Allocations							Revised Total Direct
		Total Direct Costs	Management Note 1	Systems Maint. Note 2	Acquisitions Note 3	Input Note 4	Index Vocab. Note 5	Corp. Sources Note 6	
Acquisitions	N.A.	26,000	13,000		(39,000)				
Receiving and Input	26,000	78,000	39,000			(117,000)			
	Docmts.	3.00	1.50			//4.50//			
Accessions to File									
a. Class A—Announced	12,000	180,000	90,000	4,200	29,008	73,895	3,278	2,365	382,746
	Accessns.	15.00	7.50	0.35	2.42	6.16	0.27	0.20	31.90
b. Class B—Indexed	5,000	50,000	25,000	1,250	8,058	30,789	1,366	985	117,448
	Accessns.	10.00	5.00	0.25	1.61	6.16	0.27	0.20	23.49
c. Class C—Cataloged	2,000	12,000	6,000	400	1,934	12,316		394	33,044
	Accessns.	6.00	3.00	0.20	0.96	6.16		0.20	16.52
Authority File Updates									
a. Indexing Vocabulary	120	3,000	1,500	144			(4,644)		
	Terms	25.00	12.50	1.20			//38.70//		
b. Corporate Sources	240	2,400	1,200	144				(3,744)	
	Sources	10.00	5.00	0.60				//15.60//	

NOTES: 1. (a) 50% of Total Direct
2. (a) 20% of Computer Usage
3. To Classes A.B.&C. by Total Direct
4. To Classes A.B.&C. by Volume
5. To Classes A.&B. by Volume
6. To Classes A.B.&C. by Volume

Class A Total, reconciles this report to Figure 4, since the total in Column I matches the corresponding numbers in that figure. The second line, Class A Common, isolates those functions which are not affected by the presence or absence of an author abstract. The next two lines display the difference between indexing an author abstract item and the combined abstracting and indexing of an item without an abstract. In this illustration we have not separated abstracting from indexing. It is presumed that few installations would have one individual abstract a document and another index it, since this would be inefficient; and if one person is doing both, it is irrational to expect him to divide his time appropriately.

Figure 4 shows Direct Costs for seven different products, of which only three, the Accessions to File, are actual additions to the data base. To remedy this, a process of Allocation and Transfer is applied. The result would look something like Figure 6. Total Direct Costs repeats the last column in Figure 4; the next six columns are the allocations we would have to make in this case; and the last column is the Revised Total Direct, which in a complete report (remember this is only a fraction), would have an unchanged total.

Since allocation is an inherently arbitrary process, there is no right way to do it. The only requirements are consistency and rationality. These methods might not apply in another environment.

Each of the allocations in Figure 6 is examined, to show the rationale behind each, their impact on the unit costs, and why it is useful to have information broken out this way.

The Management Allocation (like the Systems Maintenance Allocation which follows it) is applied across the entire system, not just to Inputs. We have used Total Direct Costs as the basis for this allocation, which avoids the unrealistic overloading of labor intensive activities which would result from using Direct Labor as a base. The factor is 50%,

which is not unrealistic if basic occupancy costs are included. The Systems Maintenance Allocation, however, is allocated on the basis of Computer Usage (Figure 4). This avoids burdening activities which do not use the computer with this allocation.

With the Acquisitions Allocation, we return to a base of Direct Cost. However, the base consists only of the Direct Costs associated with the three classes of Accessions to File. This base of $242,000 is divided into the allocation pool of $39,000 (Total Direct plus Management Allocation) to give a factor of about 16%. Applying this to the Total Direct of each accession class gives the figures shown, which add up to the total of the allocation pool. The negative figure (in parentheses) zeroes out both the line and the column to maintain the arithmetic integrity of the report. While unit costs for Acquisitions have not been shown up to this point, we now show unit costs for the completed allocations and that they are different for each class. We have not heretofore shown unit costs for Acquisitions because, in the information center environment hypothesized, there is no really valid measure for it. Consider the fact that the exertion of the acquisitions effort and the receipt of the document may be separated by weeks or months. Considerable effort, involving much research and correspondence, might be applied to obtain a single document, while a form letter might result in automatic distribution of many documents over a period of years. Therefore, an "average" unit cost would be of no value in measuring the productivity of the Acquisition activity. However, the unit cost impacts of these costs upon the main product lines are significant, so these are shown. The differences among the unit costs occur because, with Direct Costs as a base, the more expensive accessions carry a greater share of the burden. One could—and in different circumstances, perhaps, should—allocate Acquisitions on the basis of the number of accessions in each series, that is, divide the pool by the total number of accessions (19,000) to get a "unit cost" of $2.05, which would then be applied to each class in proportion to the volume. This, however, would increase the burden on Classes B and C and reduce it for the—presumably—more desirable Class A.

With Receiving & Input, a unit cost is used to distribute the allocation to the Accessions to File, but while we have been tracking unit costs all along for this activity, the unit cost used to distribute the allocation is different and higher than that shown for the pool (indicated by slashes). This occurs because the valid measure of the Receiving & Input activity is the number of documents processed by that activity, not the number which may be eventually added to the file. Inevitably, some of this input will be duplicates or rejects which, although subsequently discarded, represent workload and costs incurred.

A similar phenomenon, except in reverse, occurs with the Authority File Updates allocations. In these, the volume is low and the unit costs are high until they are applied to the Accessions to File, where they become quite low—and tolerable. Since Class C accessions are not indexed, they carry no share of the Indexing Vocabulary Allocation.

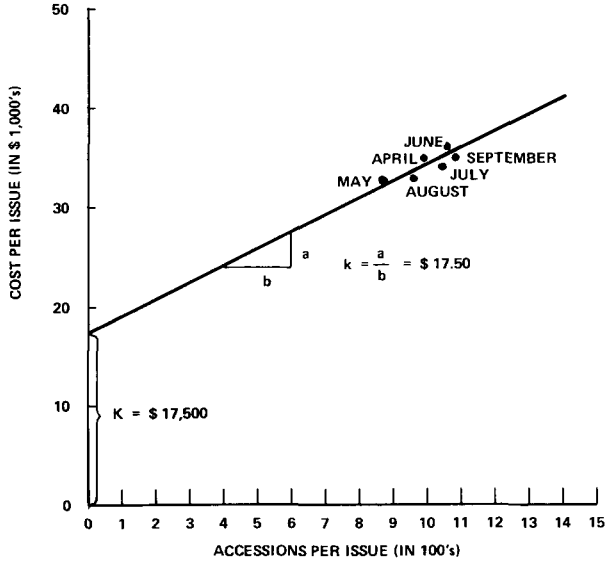
The last column, Revised Total Direct, finally shows the three products which are actual additions to the data base. But look at those unit costs. They have more than doubled as a result of the allocations. And yet, these allocations are costs which most of the literature ignores or collects into a single overhead. Consider the impact on just the costs shown of reducing the Management Allocation from 50% to 45%. The savings would be more than would be saved by eliminating in-house abstracting entirely! On the other hand, the unit cost of maintaining the Indexing Vocabulary, which looms large when viewed in isolation, becomes miniscule in terms of its impact on the unit costs of the Accessions to File.

In a service-type operation, where you are paid to build and maintain the data

Figure 7. Unit Costs by Issue

Product Number	Description	Total Cost	General Allocation	Adjusted Cost	No. of Units	Unit Cost
A03	March (Carryover)	$ 13,918	$ 332	$ 14,250	310	N/A
A04	April	34,046	1,054	35,100	985	$35.63
A05	May	32,060	920	32,980	860	38.35
A06	June	35,177	1,123	36,300	1050	34.57
A07	July	33,848	1,102	34,950	1030	33.93
A08	August	32,583	1,017	33,600	950	35.37
A09	September	34,705	1,145	35,850	1070	33.50
A10	October (Incomplete)	16,538	562	17,100	525	N/A
A99	General	7,255	(7,255)	—	—	—
Axx	Totals	$240,130	$—0—	$240,130		

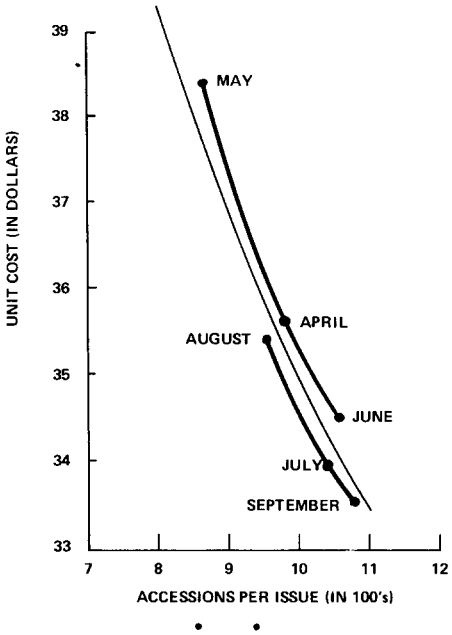
Figure 8. Costs Per Issue



base, external burdens, such as profit or fee would be added to these figures to give total cost. In a commercial organization, dependent for its revenues upon outputs delivered, these costs would be allocated, in turn, to the cost of producing the outputs.

This wealth of detail is not all there is to Building Block Costing. If, for example, in compliance with our third premise, you had tracked the costs of Class A Accessions to File by issue over several issues of the announcement journal, you could produce a tabulation like Figure 7. Only six issues can be considered in this report, since March was partially processed in previous periods and October was incomplete when this report was produced. The General Cost, labeled R99, represents costs (e.g., forms, machine maintenance, etc.) which apply to the input, but cannot be assigned to a specific issue. This is allocated on the basis of volume to each issue to give the Adjusted Cost. The cost of each issue is then divided by the number of accessions in that issue to obtain unit costs. This is informative: It is obvious

Figure 9. Unit Cost Curves



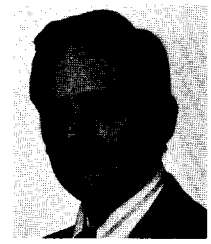
that unit cost varies with volume, but how does it change? A quantitative measure is needed. The standard statistical technique of regression analysis enables an equation to be derived which will permit a "best fit" line to be drawn which shows precisely how cost varies with volume (Figure 8). There is a fixed cost per issue of $17,500, plus an additional (or incremental) cost of $17.50 per accession in that issue. For these data, in a 1,000 item issue, the fixed cost and the incremental costs are equally divided. However, as volume increases, the fixed cost becomes less significant and the incremental more significant. As volume decreases, the fixed cost becomes a greater proportion of the total. This variation becomes even more dramatic when Figure 8 is converted from cost per issue to unit costs (Figure 9). The change in unit cost with volume is readily apparent. It is also apparent that between June and July, something happened which measurably reduced the unit cost of subsequent issues. If we had instituted a procedural change at that point, this would be assurance of its effectiveness. Similar techniques can be applied to either total costs or partial costs of any operation in the system to produce the detailed, rational cost picture needed for intelligent management.

This is only a brief glimpse of Building Block Costing, but, hopefully, it is enough to give an idea of its potential. Detailed instructions on how to design and implement Building Block Costing are beyond the scope of this paper. Most of the basic information needed is contained in *Collecting and Reporting Real Costs of Information Systems (1).* A more polished and more coherent presentation should be available in Fall 1974 in *Handbook of Costing for Information Systems (2).* The process is not easy, nor is the system inexpensive. It requires a great deal of careful planning, hard work, and intensive follow-up. The reward, in terms of solid, rational, usable cost information, which, of course, means better management, is well worth the effort.

References

1. Price, Douglas S. / *Collecting and Reporting Real Costs of Information Systems.* American Society for Information Science, SIG/CBE, Washington, D.C., 1971, 160p. (Available from ERIC Document Reproduction Service, ED 055 592, Microfiche only 65¢.)
2. Price, Douglas S. / *Handbook of Costing for Information Systems.* Becker & Hayes. (In preparation, Publication Fall 1974.)

Received for review Mar 14, 1973. Revised manuscript accepted for publication Sep 26, 1973. Presented Jun 12, 1973, as a Contributed Paper, during SLA's 64th Annual Conference in Pittsburgh.



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Technical Books:

Appraisal of Selection Policy and Use by Creative Chemists

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■ Of 59 books published in 1971 and selected according to a previously described acquisitions policy ["Accessibility, Browsing, and a Systematic Approach to Acquisitions in a Chemical Research Company Library," *Special Libraries* 62(no.3): 143–146 (Mar 1971)], 88% were used (withdrawn from the library) at least once by 32% of the professional staff of an industrial research organization. Users included 51% of all chemists recognized as most creative and 43% of all chemists regarded as least creative. Nonusers included management personnel and chemists with fewer papers published and patents issued than chemists identified as users.

ALTHOUGH several articles have recently appeared relevant to the reading of journals by chemists *(1, 3, 5)*, little attention has been directed to chemists who use technical books as a source of information. The effectiveness of a previously described *(4)* acquisitions program is discussed here along with user characteristics which verify the correlations between reading behavior and creativity.

James H. Schwartz was with the Technical Information Section, Celanese Research Company, Summit, N.J., when this paper was written.

Effectiveness of Book Acquisitions Policy

During 1971, the library of the Celanese Research Company in Summit, N.J. acquired approximately 200 scientific and technical books in accordance with an acquisitions policy based on knowledge of users' needs transmitted through profiles and nine other channels of communication *(4)*. Of these books, 59 were published in 1971 and made available for loan. When the library's open stacks were examined in April 1972, it was learned that 43 of these books were in the stacks and 16 were on loan.

The circulation cards of both the books in the stacks and on loan showed:

52 books used at least once; 31 books used at least twice; 20 books used at least thrice. Of the books on loan, it was found that eight of the circulation cards had the name of at least one person waiting to see the borrowed books. Five of these eight cards had names of at least two persons and three of the cards had names of at least three persons.

The study also revealed that the books were used by 40 of the 125 professional members of the research staff. In more detail, it was found that there were: 29 users of at least two books; 20 users of at least three books; 10 users of at least five books; 3 users of at least ten books.

Users' Characteristics and Creativity

The users represented the following percentages of total professional employees as expressed by job function:

Managers and Directors	8%
Research and Staff Associates	51
Senior Research Chemists	48
Research Chemists	43

Whereas the percentage of management personnel who use new books was the lowest of all employee groups, the percentage of research and staff associates, who represent the highest ranked scientific and technical personnel, was the greatest.

It is interesting that the decreasing percentage of readers with respect to level of employment corroborates the findings of R. E. Maizell who reported that the most creative chemist does significantly more technical reading than does the least creative chemist *(2)*.

According to Maizell, the number of papers written by and patents issued to a chemist may be a measure of his creativity. In a test of this belief, the number of papers and patents since 1967 by the group of ten chemists who had read at least five of the 59 books published in 1971 was compared with the number of such documents authored by two groups of ten chemists randomly selected from those who used less than five and none of the books, respectively (Table 1). Despite

Table 1. User Creativity.

Group	Books Used	Paper and Patents Since 1967
1	>5	33
2	<5	36
3	None	20

the insignificant difference between groups 1 and 2, a clear distinction, as tabulated, exists between groups 1 and 3 and groups 2 and 3.

It should be mentioned that books are not sent to readers by mail or messenger. Users are required to come to the library and decide whether or not a book is of interest. Consequently, this study indicates that the 40 different readers represent a minimum of users of the Celanese Research Company Technical Information Center. Additional user statistics would be obtained from an analysis of the use of the library's journals, indexes, abstracts, and reference books; the internal information center's reports and literature surveys; and the patent room's patents and abstracts of patents.

Conclusion

The needs of the research staff who use technical books (32%) as a source of information have been effectively satisfied by a new acquisitions policy. Eighty-eight percent of the books published and purchased in 1971 and made available for loan were utilized. Fifty-three percent of the books were used on more than one occasion. Users of the books included 51% of all chemists recognized as most creative and 43% of all chemists regarded as least creative. A group of chemists who had each read at least one book had collectively more papers published and patents issued than an equal number of randomly selected chemists who had not used the books.

Literature Cited

1. Gushee, D. E. / Reading Behavior of Chemists. *Journal of Chemical Documentation* 8 (no.4): 191–194 (Apr 1968).

2. Maizell, R. E. / Information Gathering Patterns and Creativity. *American Documentation* 11 (no.1): 9–17 (Jan 1960).
3. Panton, D. and G. G. Reuben / What Do Chemists Read? *Chemistry in Britain* 7 (no.1): 18–21 (Jan 1971).
4. Schwartz, J. H. / Accessibility, Browsing, and a Systematic Approach to Acquisitions in a Chemical Research Company Library. *Special Libraries* 62 (no.3): 143–146 (Mar 1971).
5. Vagianos, L. / Information Patterns of Chemists in a University Environment. *Journal of Chemical Documentation* 11 (no.2): 85–89 (Feb 1971).

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SHARP: Experiences in Library Automation

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■ SHARP (Ships Analysis and Retrieval Program), an automated storage and retrieval system for reports, is described. Emphasized is the post-design period from the initial operational status in December 1964 to the present. Problems of reprogramming and production, and the impact of new technologies such as optical character recognition equipment and third generation computers on system operation are considered. The final section concludes with future developments and scheduled system refinements: initiation of a current awareness service; addition of abstracts to the data base; and development of an interactive capability using data terminals.

SHARP, the Ships Analysis and Retrieval Program, was developed by the Bureau of Ships Technical Library as an attempt to cope with the increasing number of technical reports that resulted from the "information explosion" of the 1950s and 1960s. This paper covers present system operation and performance, system refinements, system statistics and costs, and future plans.

By 1960, the library reports collection contained some 150,000 classified and unclassified items. During a major reorganization of the Navy Department in 1966, the Bureau of Ships was renamed the Naval Ship Systems Command, and the technical library became one of the branches of the Scientific Documentation Division, the present organization. Today, there are approximately 281,000 reports in the collection, 42,000 of these are part of the SHARP data bank. The system is available to a large population of scientific, technical, and administrative personnel of the Naval Ship Systems Command headquarters and the Naval Ship Engineering Center, Hyattsville, Maryland.

The early developments of the system have been well documented in available references *(1)–(3)*. As background, the steps leading to an operational system will be reviewed briefly. In 1961, the David Taylor Model Basin (now the Naval Ship Research and Development Center) proposed to design and test a highly sophisticated system based on library specifications. This proposal was accepted, and Project SHARP was established as a cooperative research and development effort between the library and the center. The original system was designed for the IBM 7090 and 1401 computers, two of several that were located at the center. All basic processing was accomplished on the 7090 while printing, file-copying, and card-to-tape were accomplished on the 1401. Late in

1964, the system was declared ready to provide catalog cards and accessions bulletins on a production basis, and reports were indexed and processed in order to build a data base to provide retrieval service.

System Operation and Performance

From 1964 to the present, the SHARP system has undergone many changes. This portion of the paper deals with events that had major impact on system performance: computer changes; thesaurus development; and source data automation.

Computer Changes. As mentioned previously, the IBM 7090 computer was used initially. However, in making plans for the acquisition of a third generation computer, the center planned to dismantle the 7090 ahead of some other available computers. With these plans in mind, the SHARP routines were reprogrammed for another computer located at the center, the UNIVAC LARC. For information retrieval processing, the LARC had certain advantages, such as greater core storage, greater speed, and two central processing units, one for input/output operations, the other for computations. The system reprogrammed for the LARC used the 7090 prototype, with the addition of changes that enhanced its capabilities. The new system consisted of three master files: the bibliographic data file; the subject matter file; and the thesaurus file. The bibliographic file contained the usual bibliographic data elements for each document: corporate author, report number, title, personal author, contract number, etc. The subject matter file contained the coded terms that described the contents of each report. The terms were grouped by "link" and within the link were positioned as "roles," following the example of the system advocated by the Engineers Joint Council *(4)*. The thesaurus file consisted of the entire list of acceptable terms and term codes stored along with the term relationships.

While the system was operated on the LARC, regular production was maintained. Catalog cards were printed by the computer on perforated card stock with subject headings printed at the top; and accessions bulletins were printed on Multilith paper, ready for duplication. New output edits such as the bibliographic worksheets and revised search edits were designed and put into the production runs.

In 1968, the center reversed its earlier decision and decided: 1) to dismantle the LARC before the 7090, and 2) to reconvert the SHARP system, as an interim measure, to the 7090, which was still available at the center. Programming was done in COBOL to facilitate later conversion to a new computer. The change did allow for such system refinements as merging the bibliographic and subject files to permit simultaneous searching, and improving the format of the catalog cards and the accessions bulletins.

When the LARC was decommissioned in April 1969, all production for SHARP ceased, but as each subsystem program was completed, production was resumed; first the bibliographic file, then the subject file, the thesaurus update, and finally, the retrieval system. Within the year 1971, the third generation computer, the Control Data Corporation (CDC) 6700, was installed, the SHARP system was converted, and production was implemented. It should be pointed out that many of our conversion problems were induced by a horrendous five year procurement, over which the library had no control. I suppose some trauma is expected when you get involved with computers—hopefully not as much as we had. However, for our library, it was worth it; today SHARP is an efficient system, performing the tasks outlined in the original library specification.

Thesaurus Development. In the early operation of SHARP, the computer-stored NARDIS thesaurus was adopted for use. The NARDIS thesaurus resulted from a computer merging of two separate publications: the second edition of the Bureau of Ships thesaurus *(5)* and the first edition of the Engineers Joint Council (EJC) *Thesaurus of Engineering*

Terms (6). The NARDIS thesaurus was created by reformatting the entire EJC thesaurus and then inserting Bureau terms that were not identical. In the merger, the computer edit deleted identical terms, but the intellectual effort of checking different terms or different forms of the same term was a monumental task, performed by personal visual examination. Until this examination was completed, the subject file often showed two versions of the same term, depending upon the choice of the individual indexer.

In creating the NARDIS thesaurus the computer generated an eleven digit alphanumeric code for each term. The length of the code often created problems in updating this file, for all relationships between terms had to be recorded separately. For example, if a new term were related to ten other terms, at least ten alphanumeric codes had to be looked up and recorded on an update sheet. Needless to say, many errors in copying and keypunching were generated with this procedure.

When the thesaurus file was reprogrammed for the CDC 6700, improvements were incorporated in the structure and in file update procedures. Following the model of the Department of Defense *Thesaurus of Engineering and Scientific Terms (7),* the SHARP thesaurus can now display under very broad general terms a list of "preferred terms" without relationships; and it can show up to three COSATI subject categories for each term. Future printouts can be arranged according to these categories to assist users. Under thesaurus file update procedures, one of the major improvements was the elimination of the use of code words. Now terms are recorded in English at input and an internal code and all reciprocal relationships are generated automatically.

Source Data Automation. Originally keypunching and key verification were the techniques used for SHARP source data automation. Because of high costs, frequent errors, and long delays in the digitizing process, optical character recognition (OCR) equipment was investigated by the center as a substitute for keypunching. As a result of the recommendations from the study *(8),* OCR equipment was installed. In 1971, it became the technique used for SHARP. The flow of data is as follows: temporary records *and* the OCR forms are typed at the library; the forms are scanned at the center; and scanning results in a tape which is processed by the computer. OCR is a great improvement over keypunching; it has virtually eliminated errors and processing time has been reduced significantly.

System Refinements

Selective Dissemination of Information. A selective dissemination of information or SDI system had been planned for SHARP since its inception. Late in 1971, such a system became operational. SDI is a document alerting service that automatically provides a user with a monthly listing of new or newly acquired reports in his own subject areas. A user enters the system by completing a form providing identification data, his overall "topic," and his specific subject interests. Data from the form is transferred to the "SDI Input Form" for keypunching and computer processing. The result is the user profile file, a computer-stored data bank for each participant. Each time the SHARP master file is updated, the subjects of the new documents are matched against those contained in the user profile data bank. "Hits" are printed out in monthly bulletins and are forwarded to the individual participants. A pilot test of the SDI system, in progress for several months, using the profiles of ten engineers and program managers, elicited enthusiastic response. So now the system is being extended to serve other groups in the Naval Ship Systems Command.

Abstracts. During the latter half of 1972, the system was modified to accept abstracts that may consist of up to 36 lines of 60 characters each and that can be digitized by OCR typing. Output is printed as part of the bibliographic worksheet and can be retrieved and printed as part of the retrieval report.

Table 1. SHARP Operating Costs

SYSTEM	AVERAGE TIME (SYST SEC)	AVERAGE COST($)	RATE($)	FREQUENCY	TOTAL COST/YR
UPDATE	4800	$300	$0.065/sec	Bi-weekly	$ 8,000
REPORTING*	609	60	0.100/sec	Bi-weekly	2,160
THESAURUS	600	60	0.100/sec	Monthly	720
TOTAL					$10,880

*Catalog cards, accessions bulletins, worksheets.

We feel that this new capability increases the value of the entire system as an aid to users in selecting relevant documents.

Interactive Retrieval Capability. Since July of last year, SHARP has undergone another major modification. This time the objective was to provide a retrieval capability that can be operated in an interactive mode from a teletype terminal or from a teletype-compatible cathode ray tube terminal. In the past the system has operated in the batch mode with 24- to 48-hour turnaround time for retrieval; now retrieval results can be obtained in two hours or less. The modified system is a combination of the batch system and a retrieval system designed for terminal access. The new system consists of the following components: 1) file maintenance—the maintenance of the basic data base will continue in a controlled batch mode because of the classified nature of the contents; 2) data base control—two levels of data base will be maintained, a complete file and an unclassified file for on-line retrieval; 3) interactive data retrieval; and 4) batch data retrieval. Some of the features of the interactive system are the use of random access techniques for search and storage, the provision for query modification before and after execution, and the ability to print on-line in several formats.

The interactive system has two levels of retrieval language, the tutorial and the advanced. The tutorial mode is designed to assist the user not familiar with the SHARP system. He is guided by a series of questions that appear on the teletype or on the screen; he supplies the answers to each and thus is assisted in formulating his query. The advanced language is for the sophisticated user who knows the full capability of the system. The interactive retrieval system was demonstrated this spring and a teletype-compatible CRT terminal has been ordered for installation in the library. The only communications requirement is a telephone line for dialing the computer and an acoustic coupler.

System Statistics and Costs

At the present time, approximately 3500 titles are added annually to the SHARP data bank. The library staff responsible for processing input data (descriptive cataloging, indexing, revising, and preparation of the OCR forms) includes two librarians, one technical information specialist, and a library technician who devotes part of her time to the operation. Between thirty-five and fifty queries are processed a month. One query often generates from one to twenty-five computer queries, dependent upon the type of question and the strategies used in formulating the query. The system is capable of handling any number of queries simultaneously. Some special subject requests are run on a regular monthly basis, and several of the more popular bibliographies, such as the one on "underwater sound" are updated annually.

Operating costs for processing SHARP data in the batch mode on the CDC 6700 are presented in Table 1. Experiments operating the system in the interactive mode using direct access files indicate that costs can be reduced up to 75%.

Future Developments

One of the pressing problems in the processing cycle is the double typing of the temporary records for the library and the OCR forms for scanning. A great time and patience saver would be to have the ability to prepare temporary records and computer input with only one typing. Preliminary investigations indicate that this is feasible with the use of teletype-compatible CRT terminals or with terminals with tape cassette and printer attachments. Another project for future consideration is the automation of the circulation function. We have three problem areas to consider: overdues, reserves, and the clearance of records of personnel leaving the Command. It is felt that these and some other inventory-type circulation functions might be handled more expeditiously by automation.

Today, SHARP is a completely operational system consisting of several component subsystems. The basic system performs the maintenance and storage of the bibliographic and subject data. The subsystems are: 1) thesaurus, which maintains the terms and their relationships; 2) subject term control, for verification and control of terms to enter the data base; 3) information retrieval, which now includes the abstracts and the interactive capability; and 4) reporting, which provides library catalog cards, accessions bulletins, and the new SDI bulletins.

Literature Cited

1. Nicolaus, John J. / *The Automated Approach to Technical Information Retrieval —Library Applications.* Washington, D.C., Department of the Navy, Naval Ship Systems Command Technical Library, Mar 1964. 44p. (NAVSHIPS 250–210–2).
2. Naval Ship Systems Command / *Project SHARP (SHips Analysis and Retrieval Project) Information Storage and Retrieval System: Computer Aspects and Programs.* Washington, D.C., Department of the Navy, Dec 1964. 85p. (NAVSHIPS 0900–001–4000).
3. Naval Ship Systems Command / *Project SHARP (SHips Analysis and Retrieval Project) Information Storage and Retrieval System: Evaluation of Indexing Procedures and Retrieval Effectiveness.* Washington, D.C., Department of the Navy, Jun 1964. 49p. (NAVSHIPS 250–210–3).
4. Costello, John C., Jr. / *Training Manual and Workbook for Use in Abstracting and Coordinate Indexing.* Rev. Columbus, Ohio, Battelle Memorial Institute, 1964. 117p.
5. Naval Ship Systems Command / *Thesaurus of Descriptive Terms and Code Book.* 2d ed. Washington, D.C., Department of the Navy, Mar 1965. (NAVSHIPS 0900–002–0000).
6. Engineers Joint Council / *Thesaurus of Engineering Terms.* 1st ed. New York, N.Y., 1964. 302p.
7. U.S. Department of Defense / *Thesaurus of Engineering and Scientific Terms.* Prepared for United States Department of Defense by Office of Naval Research, Project LEX, in joint operation with Engineers Joint Council. Washington, D.C., 1967. 690p.
8. Stabenau, K. W. / *Evaluation of Optical Character Recognition for NARDIS Applications.* Washington, D.C., Naval Ship Research and Development Center, 1967. 47p. (AML–71–67).

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Pay-As-You-Go Plan for Satellite Industrial Libraries Using Academic Facilities

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■ Industrial librarians can make better future use of available time and money when they have the staff of a comprehensive library available to them. The Georgia Tech plan makes cross-country use as nearly like cross-campus use as possible. Distance is not a problem because the library can respond quickly and capably to literature search and other information requests. Information man hours are available to off-campus users in any quantity needed. A flexible organization, trend setting methods, strong collections, and a mandate to serve make remote access to this academic library/data bank practical.

SERVICE to business and industry by academic libraries has been the topic of many papers, surveys, and at least one dissertation *(1–4)*. Explained here is the philosophy and action of one academic library which has taken advantage of several favorable factors that add up to a unique capability.

Georgia Tech, through its library and Engineering Experiment Station, has been supplying library and information services to business and industry for many years. The present "Pay-As-You-Go" plan is a phase in its evolutionary development. The program began in the Engineering Experiment Station soon after the close of World War II and continued there until 1965. It was reconstituted in 1968 under the State Technical Services (STS) Program when the library became the primary source of the printed word necessary to make the STS program work.

In the organization of the new Technical Information Service (TIS) in 1968 an informal study of technical information services at other academic institutions was made. This plan was an adaptation of several then in operation. More closely than any of the others studied, the Georgia Tech program used as a model the *R*egional *I*nformation and *C*ommunication *E*xchange at Rice Institute *(5)*.

In addition to the contractual arrangements with the STS program, the library also began to offer, on a fee basis, literature searches, interlibrary loan, photocopy service, reference and directory assistance, acquisition assistance, and

Table 1. Information Exchange Center

Services and Fee Schedule—1973

Copy Service: $1.50 per item, plus costs of 5¢–50¢ per sheet, depending upon the format.

Location and Acquisition of items not in the library: $2.00 per item, plus cost to IEC.

Verification of incomplete or incorrect references: $2.00–$5.00 per item, depending upon the complexity.

Literature Searching and Reference Assistance: $10.00 per hour.

Translations: $5.00 handling fee, plus cost of the translation.

Microfiche Cataloging Service: $600.00 for basic catalog and supplement service through June 1974. Tentative fee for service from July 1974 to June 1975: $125.00.

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translation assistance to any off-campus organization or individual who was willing to acknowledge the value of the service by paying for it.

When the STS program ceased in Georgia in 1971, the administration of the Georgia Tech Library decided to try to continue on its own what the STS program had been trying to do. The library would try it with less staff time, less office space, fewer travel funds, and less of everything else except know-how and a strong library staff and collection to work with.

From September 1968 to September 1971, the library operated two separate but collateral off-campus services. One was the long standing interlibrary loan and copy service limited to academic and public libraries. The other was the TIS which provided the same services, plus the others mentioned, to business, industry, individuals, and government organizations. Each unit had its own fee structure. Photocopy charges were higher for TIS users who were also charged a $2.00 fee for loans.

Even though these two units had worked together closely during these three years, an intensive self-evaluation of the library operation in 1971 resulted in a more efficient use of the available staff time by merging the two units into a new Information Exchange Center (IEC). Now there was but one set of fees, forms, and files.

Manual and Computerized Searches

Most of our searches are one-shot, retrospective in nature, pragmatic, and not intended to be thorough. Most users need some help right now in finding the answer to a problem. We do prepare some comprehensive searches, and we do provide current awareness searches on a contract basis. Most of these are custom produced for specific clients.

Some of the current awareness searches are intended for industry-wide use rather than for the special needs of a particular company within an industry. These tend to be comprehensive in the coverage of specialized subjects. Among the topics covered by these industry-wide searches, which are available on a subscription basis, are kaolin, printing inks, asbestos, and textile auxiliary chemicals.

The searches can use either printed or machine readable data bases, or both. In addition to the more than 400 printed indexing and abstracting serial publications in the library, access to the data bases at the Georgia Information Dissemination Center (GIDC) in Athens is also available. This is a University System, i.e., statewide, service available to all units of the public higher education system in Georgia. Reference librarians on the Georgia Tech Library staff prepare profiles for searching on the data bases at the computer center in Athens.

The library also has a terminal for remote access to commercial on-line interactive computerized data bases. Such access is available to off campus users on a cost plus service fee basis.

How are we able to offer these services? When and why are they available? What are some of the effects, good and bad, internally and externally, of a strongly positive position on service to business and industry? There are several factors that make it easier for this library to take such a stance and provide good service.

Size and Scope of the Collection

At 750,000+ volumes, Georgia Tech does not have the biggest library in the world, and there are materials that are

badly needed. But it is a special library with the strengths of the collection in the very areas of most interest and usefulness to business and industry: Engineering, science, and management. These are the areas in which graduate degrees are offered. If the library covered humanities, fine arts, and social sciences as thoroughly as it covers science, engineering, and management, the library would probably have well over 4 million volumes.

In addition to the 750,000 bound volumes there are 1¼ million U.S. patents (complete from 1946), over 600,000 technical reports (mostly in microform), 70,000 maps, and 24,000 slides.

Lack of Duplication

Another factor in our strength is the centralization of the collection and its lack of duplication. The campus is relatively compact. The one departmental library, which is architecture, is only 450 feet away from the main library. The holdings of the architecture library are largely limited to those items classed in "N" in the LC classification, and there is little duplication there of major bibliographic tools. The purchasing power of the library is not diluted with multiple copies of *Chemical Abstracts, Engineering Index,* and other expensive items so that we can have a better, if not bigger collection.

Flexible Organization

While there is a limit to what the most competent staff can do with a limited collection, the capability of the staff is the single most important thing about any library.

The staff assigned to the IEC consists of four and one-half professionals, two library assistants, and four student assistants (EFT). As much as possible of the work of the IEC is handled by this staff. However, other members of the library staff are available for assistance, as needed. The most frequent assistance received from other units in the organization is in the form of literature searching performed by the reference staff. Librarians from the circulation department and various special collections departments have also been available to do literature searching or provide other reference assistance to industrial users.

The plan is to take advantage of this built-in flexibility of the organization up to the point where the demand for service justifies the addition of appropriate staff positions to the Information Exchange Center.

Microfiche Catalog and Other Conveniences

The Georgia Tech card catalog has been reproduced on microfiche, first by filming the catalog as it was in November 1971. This original filming is followed on a bimonthly basis by a self-cumulating supplement produced by Computer-Output-Microfilm (COM). Copies of the complete catalog and supplements are located in every departmental office on the campus. It is available for off-campus use and has been purchased by public, university, and industrial libraries. To the point of this paper, however, there are seven copies in the library. These are located at the circulation desk, reference department, cataloging department, acquisitions department, special collections, gifts and exchange, and the Information Exchange Center.

Patrons of the IEC, just as the faculty, can be advised while they are on the phone whether or not the library has a requested item. The microfiche catalog is in the same room ten feet or less from the persons who normally answer the telephone. The card catalog area is not crowded by everyone on campus who wants to use the library trying to be in the same place at the same time. Our Library assistants who look up call numbers to fill photocopy orders do so in their own office and don't have to stand in line waiting for someone to finish with the "J" (for Journal) drawer in the serials section of the card catalog.

The final touch to the capability for efficiency is the location of the IEC in

the heart of the collection. Right outside the door to the center are the QD's (Chemistry). In fact, all the Q's are on the same floor as are the current journals. The next two floors up contain all the T's (Engineering and Manufacturing). One floor down is the reference collection including the bibliographic tools. From the IEC to the farthest corner of the bibliographies is a matter of 30 seconds if one is willing to walk down one flight of stairs rather than wait for the elevator.

Moreover, with the Wide Area Telephone Service (WATS) contracts that many industries have, and with TWX available in the IEC, cross-country access to this library is as convenient as cross-town and almost as convenient as cross-campus.

Non-regional users may get material as promptly as some Atlanta users and probably more promptly than do some of the users in small towns around Georgia.

The library is committed to interlibrary cooperation at every reasonable opportunity that has come about. What the Information Exchange Center offers goes far beyond cooperation. It is like an out-patient clinic, but in some instances it goes almost to the extent of being an intensive care unit.

The message to off-campus users is that IEC will try to help them with their library and information needs in any way possible. One example of this is the *Secretary's Survival Kit,* prepared by Ruth Hale, Head of the IEC. This pamphlet goes into detail on such subjects as how to prepare an interlibrary loan form and how to order a photocopy and how the part-time industrial librarian–clerk can provide much better service for her own clientele simply by learning a few rules of the game.

Basically, the library is open to anyone who wishes to come. Self-help guidance is available in the reference department, in patents, in government documents, in technical reports, in maps, etc. Self-service, cash and carry photocopy equipment is also available.

Next, to those in Metro Atlanta who will go to the trouble to write ahead for one, "Special Borrower's Cards" are issued at no charge.

The next step is the special librarian's approach to his clientele and is concerned with the conservation of overall professional staff time. Man hours for engineers, scientists, management, and other professional personnel are expensive. Travel time to the library, whether it is down the hall, across the street, or across town, uses staff time. If the user knows exactly or approximately what he wants, he can call or write IEC and have the material sent to him or his library. Further, if he does not know what he wants, IEC can do the searching for him. Not only are IEC man hours less expensive than his, IEC can probably do it for him in less time than he can do it for himself—a double saving of funds.

Service is available in any quantity from one man hour to the equivalent of full-time staff members. In using IEC staff time, such additional costs as fringe benefits, office space, and supplies are already paid. Such is not the case when adding personnel to one's own staff. Knowing that there is short-term professional assistance available to a librarian or information manager can be helpful.

When can this additional resource be useful? Here are some examples: peak load periods, situations in which either the materials or know-how are not available in-house, periods of illness, vacation, leave of absence, or other temporary personnel shortages.

IEC Clientele

Who are our off-campus users? Whom do we serve? IEC serves its communities. The plural is used intentionally to indicate that there are two vectors to the thrust of our service.

The first sense of community is the geo-political one in which the Institute is located and to which it owes its existence because that community is the major source of the Institute's funding. Peck *(6)* described this type of community and some of the interlibrary rela-

tionships therein. Our main thrust, then, is to the business and industry in the State of Georgia, but it is by no means limited to Georgia.

The second community that IEC endeavors to serve is that of science, technology, and management; and there are no boundaries to this community. Service goes to big companies, small companies, individuals, inventors, government agencies, a few doctors (most go to the regional medical program), lawyers, merchants, chiefs, etc., and a few thiefs—people who have not paid their bills. We suspect that in more than one case the information provided was enough to convince the individual that he had no business being in the business he was in.

Many of the firms we work with have libraries of their own; some of them do not. At every opportunity we encourage the companies to upgrade their own information handling capabilities. The libraries with which we work range from some of the very best down to that which is library in name only. Frankly, we would prefer to work with an organization that does not claim to have a library rather than with one which is deluding itself with a one-tenth part-time clerk who happens to be situated close to a few shelves of books or journals.

We are not sure just how far our responsibility extends to some organizations. Some of them are in dire need of information assistance. We are much more willing to help someone who is willing to help themselves in the best way that they can. The problem is that our idea and the company's idea of adequate self-help are often not exactly the same.

Library Service for Pay

IEC services are available on a fee basis. Is there a conflict with the traditional concept of free public library service to all? Is this conflict especially apparent since Georgia Tech is a tax-supported institution?

Indeed there is a philosophical conflict, but there are some realistic factors to resolve it. IEC is not and does not intend to be in competition with any public library. We want our service to be a supplement to the services that anyone can get from his own public library.

The concept of the university library as an on campus research facility available for off campus use provides one precedent for the fee basis for service rendered.

There is also the precedent of the growth of special libraries in business and industrial organizations. Their very existence indicates that companies cannot rely on free, i.e., tax-supported, public libraries to provide all their information needs. They must pay for it themselves to get what they want. One way to pay for the information service is to build it within the organization. Another way is to buy the service outside.

Why not buy it from a commercial organization? Some do. There are lots of information consultants around, both individual and corporate. There are private special libraries for science and industry. There are also loose-leaf publications like those from Commerce Clearing House, Bureau of National Affairs, and Prentice-Hall which are like unmanned, mini-, portable, do-it-yourself special libraries. There are also firms which buy or lease or build computerized data bases and sell searches from them.

The Georgia Tech Library is one big data bank with instant access of infinite variety. Remote terminals are readily available. They are called telephone and TWX. Like a lot of other libraries and other data banks, this one can stand a much greater density of use than it gets. With the collection and the physical facilities already there, all that is needed is to add the necessary staff time. In Atlanta, professional library staff time is and will continue to be a readily available commodity.

Our mandate to serve the public and community comes from the Board of Regents of the University System *(7)* through the statement of purpose of the Institute *(8)*, and it permeates every department on campus, including the library.

For instance, here are two sentences from the "Statement of Purpose."

> *It (Georgia Institute of Technology) shall strive for excellence in teaching and scholarship, and for innovation in research and service.*
>
> *It shall provide service to the society of which it is a part through its educational and research programs and, to the extent possible without impairment of these programs, through applications of its research, development, design, and management capabilities.*

Two motives are behind such a statement on public service. The obvious one is public relations which intends to keep the level of support high. The second has to do with being able to perform the primary work of the school—to provide first rate educational opportunities for the students. All the research work and all the professional reading that the faculty can find time to do will not provide that first rate opportunity unless there is also a continual dialogue with the "real world" outside the classroom and laboratory. This aspect of staying professionally alive is just as important to the library on the campus as it is to the teaching faculty and to the research staff.

In addition to the internal initiative to fulfill the public service responsibility of the system, there are external pressures exerted on academic libraries to provide off-campus services.

Such pressure is exerted by the person who knows he needs help in obtaining information and goes to the obvious place to get it.

In addition to its local and regional prestige the Georgia Tech library owes a portion of its reputation to the alumni. As a group, the Georgia Tech alumni rank near the top, both in percentage and in level of their financial support of the school compared to the alumni of other tax-supported institutions *(9)*. Alumni may use the library directly or encourage their company libraries to refer to the alma mater.

Industrial users demand fast service, regardless of its source, in-house or elsewhere. In responding to the pressure of industrial users, the academic library places itself in jeopardy when it gives (or makes available) better service to off-campus people than it does to its own faculty and students. The tendency, then, may be to improve the on-campus service. There may or may not have been a definite cause and effect reaction on the Georgia Tech campus, but the sturdier posture of service to off-campus users has been a factor in developing services to on-campus users. This is certainly true of the free literature search service now offered to faculty, staff, and graduate students.

The administration of the Georgia Tech library has clearly demonstrated to the Institute that the overall saving of institutional staff time clearly justifies the on-campus call-in photocopy and book pick-up and delivery service, called LENDS *(10)*, which is part of the policy of dispersal of access to our collection provided through the microfiche catalog. A faculty member does not have to leave his laboratory to obtain material from the library. The conservation of professional staff time is just as important in this institutional special library as it is in an industrial situation.

The negative reaction to pressure of potential off-campus users can also occur. A variety of factors can make an academic library unable to cope with the needs of its campus community, and the library may actively or passively discourage off-campus users. This is definitely not the case at Georgia Tech.

Can a university library be everything to everybody when it comes to providing service to off-campus users, individual and corporate? Perhaps not, but an effort should be made. Much, if not all, can be accomplished, and a great deal can be learned in the process.

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Literature Cited

1. Nicholson, N. / Urban University Libraries. *Library Trends* 10 (no.4): 488–502 (1962).
2. Nicholson, N. / Service to Industry and Research Parks by College and University Libraries. *Library Trends* 14 (no.2): 262–272 (1966).
3. Mason, H. J. / *Industrial Research and the Academic Library in the United States*. Ph.D. dissertation. Columbia University, 1966.
4. Dagnese, J. M. / Cooperation Between Academic and Special Libraries. *Special Libraries* 64 (no.10): 423–432 (Oct 1973).
5. Meanley, C. and R. Paddock / R.I.C.E. Services for the Small Company Library. Presented to the 63d Annual Conference, Special Libraries Association, Boston, Mass., June 4–8, 1972.
6. Peck, T. / The Special Librarian and the Resource-Full Community. *Special Libraries* 63 (no.12): 549–553 (Dec 1972).
7. "Policy Statement on Public Service." Board of Regents, University System of Georgia, 1973 statement.
8. "The Georgia Institute of Technology: A Statement of Purpose." Reaffirmed by the Board of Regents, University System of Georgia, Apr 11, 1973.
9. Memorandum, Georgia Institute of Technology National Alumni Office, 1973.
10. Caine, B. R. / The Georgia Tech Library's Microfiche Catalog. Presented at the Joint Meeting of the ALA Book Catalog Committee and Catalog Use Committee, Annual Conference, American Library Association, Las Vegas, Jun 1973.

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Classification of Local Publications

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■ A classification scheme for nonfederal, government publications is explained in step-by-step sequence. The described scheme is sufficiently complex to handle any number of publications from an endless variety of nonfederal governmental units. The scheme is adaptable to any size collection of local publications, and to any type of library.

A brief discussion of the classification and use of local publications introduces the classification scheme.

THE SIGNIFICANCE of the urban community in the current American milieu has almost become a cliche. There is enormous emphasis in American institutions on the study and understanding of the urban crisis. As a result, the pressure put on libraries to provide data and information on the urban community has increased immeasurably.

"Through the long corridors and weeks of monotonous civic existence that are so characteristic of 'city halls,' it becomes difficult to coordinate and collect information for public use. Libraries have felt this as well as the individual researcher, and there has been a gradually increasing demand for the better communication of data regarding municipal operations."*

Publications of local governments (i.e., all nonfederal governmental entities) have traditionally been made accessible either by cataloging and integration with the general collection, or through their inclusion in the vertical file, or by a formal separate collection. The first two alternatives are relatively satisfactory for the small collection in small demand.

However, libraries are frequently confronted with an extensive collection of publications from a particular locality, usually the local community, or in a particular subject area, such as police or school board reports and publications. Situations such as these require a systematic and consistent method of handling local publications much the same as for federal documents.

A decision to catalog and integrate these materials with the general collection will prove expensive. The cataloging of ephemeral material would be inadvisable; and yet in the case of local publications these items are sometimes the most valuable to the patron. Inclusion of local publications in the general collection aside from being expensive often results in an unnecessary dispersion of materials, and due to the nature of general collections, sometimes lacks security. Although the vertical file is a possible alternative for a collection of any significant size, the vertical file often results in an inaccessible jumble.

A Usable Alternative

A more reasonable alternative for handling a large collection of local publications would be classification as a separate collection. The literature of library science indicates that there has been scant significant discussion in regard to the handling and classification of local pub-

* Shannon, Michael O. / For the Control of Municipal Documents. *Special Libraries* 61 (no.3): 127–130 (Mar 1970).

lications as a separate collection. There are checklists for several localities, but these are nothing more than their name implies. There are, of course, localities which have devised systems of varying degrees of sophistication for handling their local publications. However, there appears to be no system which is universally applicable to every local publications collection, aside from the one for which it was created. The California System† for handling state publications appears to be the best one available. It provides detailed instructions for the routine clerical handling of state publications. Unfortunately and typically the California classification scheme is applicable only to California and hence is of limited value for other localities.

The system devised for classifying local publications which this article describes is constructed in such a manner as to be able to handle an infinite number of items as well as all types of publications. Publications from any local governmental unit can be classified with this system. It is further constructed to handle publications retrospectively and can continue "forever" regardless of quantity.

Flexibility is built into this scheme so that it can easily and appropriately be applied to a community of a few thousand people or to the largest governmental units of the world. There is also the never-ending problem of perpetually changing governmental departments and commissions, etc. Any system designed to handle local publications must accommodate this problem with ease.

The scheme is arranged in steps so that one can have as much or as little detail in classification as he wishes. One need use only as many steps as the demands on his collection warrant. The classification of the more copious local publications could be carried out to the last step, while communities represented by only a few items need be classified no further than the first step. Adding steps later as the collection grows is a very simple process.

The system is based on a "key locality." The key locality can be any governmental unit, but should, of course, be the locality from which the majority of the documents are obtained. Usually it is the local community. The only criteria for selection of a key locality should be that it is complex enough to have a large departmental structure. When a key location has been selected the next step is to obtain a breakdown of departments, bureaus, sub-departments, etc. If there is no publication containing this exact information, the phone book or the annual budget will often provide this data. (Almost every department, no matter how small, finds its way into the annual budget.) When an accurate breakdown of the departments in the key location has been accomplished, it is a relatively simple step to provide for the classification of documents from other locations by simply adding additional departments to the key locality schedules. For example, if the key locality were New Orleans, a schedule would be made for New Orleans. If publications from the Chicago Police Department were to be added to the collection, it would only be necessary to add the breakdowns for the Chicago Police Department to the key locality schedule, followed by the name of the added locality in parentheses to distinguish it from the key city—in this case Chicago would be put in parentheses. Thus departments from thousands of random localities can be included in the schedules. The same procedure holds true for newly created departments and antiquated departments whose publications turn up after the schedules have been created.

Up Keep

The schedules should be loosely typed on 8½ × 11 inch loose leaf sheets so that additions can be penciled in. Retyping of the schedules to keep them up-to-date

† California. Department of Finance Organization & Cost Control Division / *California State Publications: Manual for Acquisition Processing Use.* 1961.

is kept at a minimum, and need only be done for a single sheet at a time—not for the entire schedule. Or, if the system encompasses hundreds of localities, it might be advisable to use a rotary card file.

If a library acquires an extensive collection of publications from a place other than its key location it would be relatively easy and advisable to create a schedule for both localities. At least one key schedule should be made for each category of cities, counties, and states.

At the time of classification a subject index could easily be created if it is felt this is desirable. A key-word subject index will generally suffice for most publications, and will probably make unique local subjects and phraseology more accessible. However, there is no reason why formal subject heading lists could not be used.

With this system of classification and a simple key-word index, access to materials can be through the key-word subject index or through the shelf-list. The classification scheme is constructed in such a manner that a person with only a slight degree of knowledge of the arrangement of responsibilities of local government can find much of what he is seeking. In addition, the classification schedule can be used as a guide to the break-down of local government, thereby leading the patron directly to the shelves.

APPENDIX I

(This is a partial sample of a schedule, it is not an actual schedule)

Schedule for Municipalities
Key City: New Orleans

MO	Mayor's Office
P	Parks Department
PD	Police Department
	Police Department (Boston)
PD1	Drug Division (Atlanta)
	Drug Division (Omaha)
	Drug Division (Washington, D.C.)
PL	Public Library
	Public Library (Chicago)
PR	Public Relations
SD	Street Department
SD1	Sidewalk Division
SD2	Sewer Division
SD3	Traffic
SW	Social Welfare
SW1	Unwed Mothers (Cleveland)

APPENDIX II

Rules for Assigning Classification Numbers to Local Publications

1. All call-numbers begin with the name of the locality, e.g., Omaha, New Orleans, etc. Abbreviations are permissible but only when really necessary and only when the abbreviation is completely clear. However, always use the official Post Office Department abbreviations for states.

2. Primary departmental units are indicated by a capital letter representing the first letter of the word in the departmental title which best describes the department, e.g., **P**—Parks, **T**—Transportation, etc. Those departments which have compound names which are always used together are to be given double capital letters, e.g., **PD**—Police Department, **SB**—School Board, etc. The reason for the double letter for a compound name is that in the certain event of repeated use of any given initial letter, those departments with compound names will have had priority in receiving letters which match their titles. The following letters should always be reserved for special use:

L—Law,
Y—Legislative bills, hearings, etc.,
Z—Inter-related governmental units.

3. In the event of more than one department with the same beginning letter in its title, a second capital letter must be selected. This should correspond as far as possible with the letters in the departmental title, i.e., second letter of the first word, first letter of the second word, etc. More than two letters can be used if the departments become prolific enough. It is not recommended that the number of letters exceed five. In the highly unlikely event that all letters of the alphabet up to combinations of five letters have been used, a new series of letters can be started over. A slash will distinguish one series from another.

4. Secondary divisions within primary departmental units are to be distinguished by a simple whole number, these are to be assigned on a strictly sequential basis.

5. Divisions within secondary divisions can be distinguished by again assigning numbers on a sequential basis. Divisions within divi-

sions can be distinguished ad infinitum in this manner.

6. Commonly accepted types of publications are then designated by capital letters. Double letters can be used when necessary and convenient. A list follows which can be expanded or reduced as necessary.

A	Addresses, Proclamations, etc.
AR	Annual Reports, Biannual Reports
B	Bulletins, Newsletters, House Organs, etc.
C	Constitutions, Charters, etc.
D	Directories
M	Manuals, Handbooks, etc.
MAP	Maps
MI	Minutes of Meetings
P	Periodicals
PL	Publications Lists
PR	Press Releases
SP	Special Reports

7. Items which are not of commonly accepted types or formats as listed above should be identified by **X**.

8. A three figure Cutter table should be used with all publications. Use either the first word of the title, or the key word from the title. Using the key word eliminates the repetition of the locality name which is often the first word of the title. Of course, never cutter for articles.

9. Dates should be used in call numbers for any items which are in the nature of yearly publications, continuations, periodicals, etc. Three digits should be used to indicate the year, followed by the standard abbreviation for the month, followed by the daily date if necessary. An alternative to the use of dates are volume and item numbers, etc.

10. Continuations, parts, supplements, etc., should be included as the last part of each number. If the continuation, part, supplement, etc., is numbered it should be so indicated, e.g., Part 3-C. The following abbreviations should be used and others added as necessary.

apd	appendix
cont	continuation
pt	part
supp	supplement

11. Exceptions to the above should be made in the case of laws. Law should be given the letter designation **L** following the name of the locality. Then the type of law should be indicated by assigning letter designations using the same principles as in assigning letters to major departments as in rule two above. Cutter numbers should then be used if the law has specific titles or key words. If the locality being dealt with has sequentially numbered laws and these numbers are significant as a locating device the sequential number should be placed after the L or the "type of law" letter designations whichever is appropriate to the given circumstances.

12. Always separate each part of the classification number by a slash. The sequence of the classification number is as follows:

name of political subdivision	New Orleans
major subdivisions	**PD**
secondary subdivisions	12
tertiary subdivisions	7
item designation	**AR**
dates	965
parts	supp. 3

Example: New Orleans/**PD**/12/7/**AR**/965/supp. 3

13. Copy numbers are added last.

14. Committees are placed under the office or official to whom they report.

15. When shelving or when filing in a shelf list always file numbers before letters if there is a choice.

16. A special category are governmental units which are associated with a given locality, but which are clearly independent governmental units, e.g., public utilities. These should be classified by using a **Z** immediately after the name of the locality. Then proceed as with any other publication, beginning with rule number one. This will gather together independent agencies and keep them with the locality with which they are most closely associated. Independent governmental agencies can be defined as those who report directly to the voters and not to another branch of government.

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National Bureau of Standards: A Compilation

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■ The National Bureau of Standards is a major publisher of critically evaluated data in the physical sciences. A compilation of the NBS data and related non-data publications since 1969 is presented.

"RELIABLE DATA on the properties of matter and materials is a major foundation of scientific and technical progress. Such important activities as basic scientific research, industrial quality control, development of new material for building and other technologies, measuring and correcting environmental pollution depends on quality reference data" *(1)*. This data is widely scattered in the primary literature and occasionally an individual scientist or a group of scientists extracts them from the literature to produce a compilation. But these types of compilations may or may not be updated. With the rapid growth of scientific literature, it is becoming increasingly difficult to prepare such compilations and to keep them up to date. Recognizing that "reliable standardized scientific and technical data are of vital importance to the progress of the Nation's science and technology" *(2)*, countries, like the U.S., U.K., and U.S.S.R., have established organizations to produce reliable data in the physical sciences. The National Standards Reference Data System in the U.S. is one such organization.

The National Standards Reference Data System was established by the Federal Council for Science and Technology in May 1963 and the National Bureau of Standards was charged with its administration. The aims of NSRDS are 1) "to provide critically evaluated numerical data, in a convenient and accessible form, to the scientific and technical community," and 2) "to provide feedback into experimental work to help raise the general standards of measurement" *(3)*. As a by-product of this program, annotated bibliographies and programs for the handling of computerized data are also made available. NSRDS is assisted by advisory panels and subpanels in making "detailed studies of user's needs, the present state of knowledge, and existing data resources as a basis for recommending one or more data compilation activities" *(1)*. The efforts toward the collection, compilation, critical evaluation, publication, and dissemination of standard reference data are concentrated on the intrinsic properties of matter which are clearly defined by accepted physical theories. Nuclear properties, atomic and molecular properties, solid state properties, thermodynamic and transport properties, chemical kinetics, and colloidal and surface properties are the major areas in which the data compilation projects were undertaken by NSRDS. Until recently, the principal outlet for the published data compilations was the NSRDS-NBS series. For better dissemination, NBS has chosen the quarterly

Journal of Physical and Chemical Reference Data as the vehicle for the publication of compiled data.

CODATA

The International Compendium of Numerical Data Projects (1969) produced by CODATA (Committee on Data for Science and Technology of the International Council of Scientific Unions) is a compilation of the world-wide numerical data projects in science and technology "that systematically extract, evaluate, and publish data for selected fields on a continuing basis" *(4)*. Since the appearance of this publication, some of the NBS publications cited have been superseded and many new sources of data have appeared. The following bibliography is a list of compilations of data and related non-data publications by this organization since 1969. The publications are grouped under the six major subject areas cited above; wherever possible, each category is subdivided. Each of the publications appearing in this list is annotated in the Supplements 1–3 of the NBS Special Publication 305 *(5)*. The monthly catalog of U.S. publications also annotates some of them.

Most of these publications are U.S. Government Printing Office depository items. The item number for the National Standards Reference Data Series (NSRDS) is 248–B and Superintendent of Documents number is C 13.48: (NSRDS number). The corresponding numbers for the NBS Special Publications and NBS Technical Notes are 247, C 13.10: (Special Publication number); 249–A and C 13.46: (Technical Notes number), respectively. The item number and Sup-Docs number of NBS Monographs are 247–A and C 13.44: (Monograph number), respectively. These series can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20403. The OSRDB series published by the Office of Standard Reference Data, can be obtained from National Technical Information Service, Springfield, Va. 22151.

Additional data tabulations published by other data centers can be located under "Data Tabulation" in the *Nuclear Science Abstracts,* and the *Government Reports Index*. The annotated accession list of data compilations of the NBS Office of Standard Reference Data (NBS-TN 554) also lists data compiled by sources other than NBS; but suffers from the absence of an index. In this respect, the NBS publications—critical evaluation of data in the physical sciences, a status report on the National Standards Reference Data System (NBS-TM 747, June 1972), and the National Standards Reference System: Publications list (Jan 1972)—are also of interest. These sources list the data compilations coming from: 1) Atomic and Molecular Process Information Center, Oak Ridge National Laboratory, 2) Joint Institute for Laboratory Astrophysics, NBS, Boulder, Colorado, and 3) Radiation Chemistry Data Center, University of Notre Dame, Notre Dame, Indiana. *Journal of Physical and Chemical Reference Data,* a quarterly jointly published by American Chemical Society, the American Institute of Physics, and the National Bureau of Standards, is an important source for non-NBS compilations.

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Literature Cited

1. Roberts, Richard W. / Foreword. In Anbar, Michael, Mark Bambenek, and Alberta B. Ross / *Selected Specific Rates of Reactions of Transients from Water in Aqueous Solution.* v.1: Hydrated Electron. Washington, D.C., U.S. Government Printing Office, 1973. p.iii.
2. Public Law 90–396, 90th Congress, House Report 6279, Jul 11, 1968.
3. Rossmassler, Stephen A., ed. / *Critical Evaluation of Data in the Physical Sciences: A Status Report on the National Standard Reference Data System, Jun 1972.* Washington, D.C., U.S. Government Printing Office, 1972. p.1.

4. Committee on Data for Science and Technology of the International Council of Scientific Unions / *International Compendium of Numerical Data Projects: A Survey and Analysis.* New York, Springer-Verlag, 1969. p.xviii.
5. Oberholtzer, Betty L. / *Publications of National Bureau of Standards 1968–1969.* NBS Special Publication 305, Suppl.1, Washington, D.C., U.S. Government Printing Office, 1970.
—— *Publications of National Bureau of Standards 1970.* NBS Special Publication 305, Suppl.2, Washington, D.C., U.S. Government Printing Office, 1971.
—— *Publications of National Bureau of Standards: 1971 Catalog.* NBS Special Publication 305, Suppl.3, Washington, D.C., U.S. Government Printing Office, 1972.

Bibliography

I. Thermodynamic and transport properties
  A. Binary Systems
    1. "Liquid-Vapor Equilibrium in the Binary Systems of He^4 and He^3 with nD_2 and nH_2." NBS Tech. Note 621, M. J. Hiza, Jul 1972.
    2. "Phase Behavior in Binary and Multicomponent Systems at Elevated Pressures: n-Pentane and Methane-n-Pentane." NSRDS-NBS 32, Virginia M. Berry, and B. H. Sage, Jun 1970.
  B. Conductance—Electrical and Thermal
    1. "Electrolytic Conductance and the Conductances of the Halogen Acids in Water." NSRDS-NBS 33, Walter J. Hammer and Harold J. DeWane, May 1970.
    2. "Survey of Electrical Resistivity Measurements on 8 Additional Pure Metals in the Temperature Range 0 to 273 K." NBS Technical Note 365–1, L. A. Hall and F. E. E. Germann, Aug 1970.
    3. "Lorentz Ratios of Technically Important Metals and Alloys." NBS Technical Note 634, J. G. Hurst and L. L. Sparks, Feb 1973.
    4. "Thermal Conductance at the Interface of a Solid and Helium II (Kapitza Conductance)." NBS Tech. Note 385, N. S. Snyder, Dec 1969.
  C. Critical Phenomena in Mixtures—Bibliography
    1. "Equilibrium Critical Phenomena in Fluids and Mixtures: A Comprehensive Bibliography with Key Word Descriptors." NBS Spec. Publ. 327, S. Michaels, M. S. Green, and S. Y. Larsen, Jun 1970.
  D. High Pressure Properties of Materials —Bibliography
    1. *High Pressure Bibliography 1900–1968.* v.1, Section I: Bibliography. Section II: Author index. NBS–OSRDB–70–1–v1 (PB191174), L. Merrill, Apr 1970.
    2. *High Pressure Bibliography 1900–1968.* v.II: Subject index. NBS–OSRDB–70–1–v2 (PB191175), L. Merrill, Apr 1970.
  E. High Temperature Properties of Materials—Bibliography
    1. "Bibliography on the High Temperature Chemistry and Physics of Materials." NBS Special Publ. 315, J. J. Diamond, ed.
    315 Oct, Nov, Dec 1968.
    315–1 Jan, Feb, Mar 1969.
    315–2 Apr, May, Jun 1969.
    315–3 Jul, Aug, Sep 1969.
    315–4 Oct, Nov, Dec 1969.
    315–5 Jan, Feb, Mar 1970.
  F. Salts, Properties of
    1. *High Temperature Properties and Decomposition of inorganic Salts.* Pt 2: Carbonates, NSRDS–NBS 30, K. H. Stern and E. L. Weise, Dec 1969.
    2. *Molten Salts.* v.2, Sect. 1: Electrochemistry of molten salts: Gibbs free energies and excess free energies from equilibrium type cells. Sect. 2: Surface tension data. NSRDS–NBS 28, G. J. Janz, et al., Aug 1969. (Volume 1 is NSRDS–NBS 15)
  G. Thermodynamic Properties of Materials
    1. "Selected Values of Chemical Thermodynamic Properties." NBS Tech. Note 270, D. D. Wagman, et al.
    270–4 Tables for elements 35 through 53 in the standard order of arrangement, May 1969.
    270–5 Tables for elements 54 through 61 in the standard order of arrangement, Mar 1971.
    270–6 Tables for alkaline earth elements (elements 92 through 97 in the standard order of arrangement), Nov 1971.
    2. "The Thermodynamic Properties of Compressed Gaseous and Liquid Fluorine." NBS Tech. Note 392, Rolf Prydz and Gerald C. Straty, Oct 1970.

3. "Thermophysical Properties of Helium-4 from 2 to 1500 K with Pressures to 1000 Atmospheres." (with bibliography) NBS Tech. Note 631, R. D. McCarty, Nov 1972.
4. "Thermophysical Properties of Helium-4 from 4 to 3000 R with Pressures to 1500 Psia." (with bibliography) NBS Tech. Note 622, R. D. McCarty, Sep 1972.
5. "Thermophysical Properties of Parahydrogen from Freezing Liquid Line to 5000 R for Pressures to 10,000 Psia." (with bibliography NBS Tech. Note 617, R. D. McCarty and Lloyd A. Weber, Apr 1972.
6. "Thermophysical Properties of Oxygen from the Freezing Liquid Line to 600 R for Pressures to 5000 Psia." NBS Tech. Note 384, R. D. McCarty and L. A. Weber, Jul 1971.
7. *JANAF Thermodynamic Tables.* 2d ed. NSRDS–NBS 37, D. R. Stull and H. Prophet, Jun 1971. (Supersedes PB 168–370 and addenda 1–3)
8. "Saturated Liquid Densities of Oxygen, Argon, and Parahydrogen." NBS Tech. Note 361, H. M. Roder, et al., Jan 31, 1968.
9. "Liquid Densities of Oxygen, Argon, and Parahydrogen." NBS Tech. Note 361 (rev.), H. M. Roder, R. D. McCarty, and V. J. Johnson, Oct 1972. (Revises and updates NBS–TN 361)

H. Thermodynamic Properties of Materials—Bibliographies
1. "A Bibliography of Thermophysical Properties of Methane from 0 to 300°K." NBS Tech. Note 367, L. A. Hall, May 1968.
2. "A Bibliography of Thermophysical Properties of Air from 0 to 300°K." NBS Tech. Note 383, L. A. Hall, Oct 1969.

II. Atomic and Molecular data

A. Atomic Spectra
1. *Selected Tables of Atomic Spectra.* NSRDS–NBS 3, C. E. Moore.
Section 3 A: Atomic Energy. 2d ed. B: Multiplet Tables N_{IV}, C_{III}, C_{IV}, C_V, C_{VI}, data derived from the analyses of optical spectra, Nov 1970.
Section 4 A: Atomic Energy Levels. 2d ed. B: Multiplet Tables, N_{IV}, N_V, N_{VI}, N_{VII}, data derived from the analyses of optical spectra, Aug 1971.
Section 6: Atomic Energy Levels and Multiplet Tables, H_I, D, T, Sep 1972.
2. *Atomic Energy Levels as Derived from Analyses of Optical Spectra.* NSRDS–NBS 35, C. E. Moore.
v.1: Hydrogen to Vanadium (Z = 1–23), Dec 1971. (Reprint of NBS Circular 467, v.1, 1949).
v.2: Chromium to Niobium (Z = 24–41), Dec 1971. (Reprint of NBS Circular 467, v.2, 1952. Includes additions and corrections to v.1).
v.3: Spectra of Molybdenum to Lanthunum (Z = 42–57) and Halfmium to Actinum (Z = 72–89), Dec 1971. (Reprint of NBS Circular 467, v.3, 1958)
3. *A Multiplet Table of Astrophysical Interest.* NBS-NSRDS 40, C. E. Moore, 1972. (In preparation)
4. *Ionization Potentials and Ionization Limits Derived from the Analyses of Optical Spectra.* NSRDS–NBS 34, C. E. Moore, 1970.

B. Atomic Spectra—Bibliographies
1. "Bibliography on the Analyses of Optical Spectra." NBS Special Publ. 306, C. E. Moore.
Section 2: ^{24}Cr–^{41}Nb, Feb 1969.
Section 3: ^{42}Mo–^{57}La and ^{72}Hf–^{89}Ac, May 1969.
Section 4: ^{57}La–^{71}Lu and ^{89}Ac–^{99}Es, Aug 1969.
2. "Bibliography on Atomic Energy Levels and Spectra, July 1968 Through June 1971." NBS Special Publ. 363, Lucy Hagan and W. C. Martin, Jun 1972.
3. "Bibliography on Atomic Line Shapes and Shifts (1889 through Mar 1972)." NBS Special Publ. 366, J. R. Fuhr, W. L. Wiese, and L. J. Roszman, Sep 1972.

C. Atomic Transition Probabilities
1. *Atomic Transition Probabilities.* v.II: Sodium Through Calcium, NSRDS–NBS 22, v.II, W. L. Wiese, et al., Oct 1969.
2. "Critically Evaluated Transition Probabilities for Ba I and II." NBS Tech. Note 474, B. M. Miles and W. L. Wiese, Jan 1969.

D. Atomic Transition Probabilities—Bibliography
1. "Bibliography on Atomic Transition Probabilities, January 1916 Through 1969." NBS Special Publ.

320, B. M. Miles and W. L. Wiese, Feb 1970. (Supersedes NBS Misc. Publ. 278 and its supplement) Supplement 1, Jul 1969 through Jun 1971, J. R. Fuhr and W. L. Wiese, Sep 1971.

E. Far Infrared Spectra
1. "Far Infrared Absorption in Liquefied Gases." NBS Tech. Note 390, M. C. Jones, Apr 1970.

F. Molecular Spectra
1. *Tables of Molecular Vibrational Frequencies Consolidated.* v.1, NSRDS–NBS 39, Takehiko Shimanouchi, Jun 1972. (Supersedes and extends data contained in NSRDS–NBS 6, Pt. 1; NSRDS–NBS 11, Pt. 2; and NSRDS–NBS 17, Pt. 3)
2. "Microwave Spectral Tables." v.III: Polyatomic Molecules with Internal Rotation. NBS Monograph 70, v.III, P. F. Wacker, et al., Jun 1969.
3. *Bond Dissociation Energies in Simple Molecules.* NSRDS–NBS 31, B. deB. Darwent, Jan 1970.

G. Photoabsorption Cross Sections
1. *Critical Review of Ultraviolet Photoabsorption Cross Sections for Molecules of Astrophysical and Aeronomic Interest.* NSRDS–NBS 38, R. D. Hudson, Aug 1971. (Reprinted from Reviews of Geophysics and Space Physics, v.9, no.2, May 1971)

H. Photoabsorption Cross Sections—Bibliography
1. *Bibliography of Photoabsorption Cross Sections Data.* NBS–OSRDB–70–4 (COM–71–00025), R. D. Hudson and L. J. Kieffer, Oct 1970.

I. X-ray Attenuation Coefficients
1. *Photon Cross Sections, Attenuation Coefficients, and Energy Absorption Coefficients from 10 Kev to 100 Gev.* NSRDS–NBS 29, J. H. Hubbell, Aug 1969.

III. Chemical Kinetics

A. Chemical kinetics—Bibliography
1. "Chemical Kinetics in C-O-S and H-N-O-S Systems, Bibliography 1899–June 1971." NBS Special Publ. 362, Francis Westley, Apr 1972.

B. Gas Phase Reactions
1. *Rate Constants of Gas Phase Reactions, Reference Book.* NBS–OSRD, COM–72–10014, V. N. Kondratiev (translated by L. J. Holtschlag; R. M. Fristom, ed.), Jan 1972.
2. Kinetic Data on Gas Phase Unimolecular Reaction. NSRDS–NBS 21, S. W. Benson and H. E. O'Neal, Feb 1970.

C. Gas Phase Reactions—Bibliography
1. *A Bibliography of Kinetic Data on Phase Reactions of Nitrogen, Oxygen, and Nitrogen Oxides.* NBS–OSRDB–71–2 (COM–71–00841), F. Westley, Aug 1971.
2. "A Supplementary Bibliography of Kinetic Data on Gas Phase Reactions of Nitrogen, Oxygen, and Nitrogen Oxides." NBS Special Publ. 371, Francis Westley, Feb 1973. (Supplements NBS–OSRDB–71–2, Aug 1971).

D. Kinetic Isotope Effects—Bibliography
1. "Heavy-Atom Kinetic Isotope Effects, an Indexed Bibliography." NBS Special Publ. 349, Martin J. Stern and Max Wolfsberg, Jun 1972.

E. Radiation Chemistry—Ammonia
1. *The Radiation Chemistry of Gaseous Ammonia.* NSRDS–NBS 44, D. B. Peterson (In press).

F. Rates of Reactions
1. *Selected Specific Rates of Reactions of Transients from Water in Aqueous Solutions.* v.1: Hydrated electron. NSRDS–NBS 43, Michael Anbar, Mark Bambnek, and Alberta B. Ross, May 1973.
2. *Selected Specific Rates of Reactions of Solvated Electron in Alcohols.* NSRDS–NBS 42, Edgar Watson, Jr. and Satyabhama Roy, Aug 1972.

IV. Solid State Data

A. Alloy Data Center
1. "The NBS Alloy Data Center: Permuted Materials Index." NBS Special Publ. 324, G. Carter, et al., Mar 1971.
2. *The NBS Alloy Data Center: Author Index.* NBS–OSRDB–70–2 (COM–71–00727), G. C. Carter, et al., Dec 1970.

B. Defect Properties—Alkali Halides—Bibliography
1. *Bibliography on Properties of Defect Centers in Alkali Halides.* NBS–OSRDB–71–1 (COM–71–00248), S. C. Jain, et al., Jan 1971.

C. Phase Transformations in Solids
1. *Crystal Structure Transformations in Binary Halides.* NSRDS–NBS 41, C. N. R. Rao and M. Natarajan, Jul 1972.

D. Superconductive Materials
1. "Superconductive Materials and Some of Their Properties." NBS Tech. Note 482, B. W. Roberts, May 1969. (Supersedes NBS Tech. Note 408).
2. "Properties of Selected Super-Conductive Materials." NBS Tech. Note 482, B. W. Roberts, Jun 1972. (Supersedes and extends NBS Tech. Note 482).
3. "Properties of Selected Super-Conductive Materials." NBS Tech. Note 724, B. W. Roberts, Jun 1972. (Supersedes NBS Tech. Note 482).

E. X-Ray Powder Diffraction Patterns
1. "Standard X-Ray Diffraction Powder Patterns." NBS Monograph 25, Howard E. Swanson, et al.
Section 7: Data for 81 substances, Sep 1969.
Section 8: Data for 81 substances, Sep 1970.
Section 9: Data for 63 substances, Dec 1971.
Section 10: Data for 84 substances, Nov 1972.
(Includes cumulative index to NBS Circular 539, v.1–10 and Monograph 25, Sect. 1–10).

V. Nuclear Data

A. Photonuclear Data
1. "Photonuclear Reaction Data 1973." NBS Special Publ. 380, E. G. Fuller, Mar 1973.
2. "Photonuclear Data Index." Suppl. 2 (1970), NBS Special Publ. 322, May 1970. (Supersedes supplement 1 to NBS Misc. Publ. 277).

VI. Colloid and Surface Properties

A. *Critical Micelle Concentrations of Aqueous Surfactant Systems.* NSRDS–NBS 36, P. Mukherjee and K. J. Mysels, Feb 1971.

VII. Miscellaneous

A. "Metric Conversion Card." NBS Special Publ. 365 (revised Nov 1972), 1972.
B. "General Physical Constants." NBS Special Publ. 344, Mar 1971. (Supersedes NBS Misc. Publ. 253)
C. "International System of Units (SI)." NBS Special Publ. 330, Chester H. Page and Paul Vigoureaux, Jan 1971. (Translation approved by International Bureau of Weights and Measures of Publication "Le Systeme International d'Unites")
D. "International System of Units (SI)." NBS Special Publ. 330, Chester H. Page and Paul Vigoureaux, Apr 1972.
E. "Annotated Accession List of Data Compilations of the NBS Office of Standard Reference Data." NBS Tech. Note 554, H. M. Weisman and G. B. Sherwood, Sep 1970.
F. "Critical Evaluation of Data in the Physical Sciences—A Status Report on the National Standard Reference Data System." NBS Tech. Note 553, David R. Lide, ed., Jun 1970.
G. "Critical Evaluation of Data in the Physical Sciences—A Status Report on the National Standard Reference Data System." NBS Tech. Note 747, Stephen A. Rossmassler, ed., Jun 1972.
H. *Publications List [of] National Standard Reference Data System.* Jan 1972.
I. "Publications of the National Bureau of Standards." NBS Special Publ. 305, Betty L. Oberholtzer.
Supplement 1: Publications of the National Bureau of Standards 1968–1969, Dec 1970.
Supplement 2: Publications of the National Bureau of Standards 1970, Jul 1971.
Supplement 3: Publications of the National Bureau of Standards 1971 catalog, Jul 1972.

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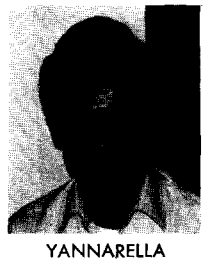
ALURI



YANNARELLA

Rao Aluri is reference librarian, Gene Eppley Library, University of Nebraska, Omaha, Nebraska. Philip A. Yannarella is documents/reference librarian, Gene Eppley Library, University of Nebraska, Omaha.

1974 CANDIDATES FOR SLA OFFICE

For President-Elect

DEUSS

TEES

Jean Deuss is chief librarian, Federal Reserve Bank of New York, Research Library. She received a BA with a major in history (1944) from University of Wisconsin and an MSLS from Columbia University (1959).

For 12 years she was employed in various personnel and secretarial positions. She became cataloger, Council on Foreign Relations Library (1959/61). In 1961 she went to Federal Reserve Bank of New York, Research Library, as head cataloger (1961/68), assistant chief librarian (1969/70), and assumed her present position in 1970.

SLA Chapter Activities. In the New York Chapter, she has served as 2d vice president/editor, *Chapter News* (1961/62); Membership Committee chairman (1962/63); 50th anniversary year chairman (1964/65); program chairman (1966/67), and Chapter president (1971/72).

SLA Division Activities. She was secretary/treasurer of the Social Sciences Division (1962/64).

At the Association Level. Tellers Committee (1965/66); Consultation Services Committee (1966/68); Convention Printing Committee, chairman (1966/67); Treasurer (1967/70); Chapter Liaison Officer (1972/74). A member of SLA since 1959.

Miriam Tees is chief librarian, The Royal Bank of Canada, Montreal. She received a BA (1944) and a BLS (1951) from McGill University.

After an assignment at McGill's Medical Library (1951), she was cataloger and indexer at the International Civil Aviation Organization (1951/53). She has held her present position since 1953.

Her memberships include Corporation of Professional Librarians of Quebec, Quebec Library Association/Association des Bibliothecaires du Quebec; Canadian Library Association. She wrote "The Bank Library" for *Canadian Banker* (Canadian Bankers Association, Summer 1955) and "Corporation of Professional Librarians of Quebec" for *IPLO Quarterly* (October 1973).

SLA Chapter Activities. In the Montreal Chapter, she has served as treasurer (1954/55), secretary (1955/56), vice president (1956/57), president (1957/58), and directory chairman (1959/64).

SLA Division Activities. Board of Directors, Business and Finance Division (1972/73).

At the Association Level. 1969 Montreal Conference chairman; Conference Advisory Committee chairman (1969/70); Board of Directors (1970/73); secretary to the Board (1972/73); John Cotton Dana lecturer (1973). A member of SLA since 1953.

For Chairman-Elect of the Advisory Council

DAMICO

MALINOWSKY

James A. Damico is sciences librarian, Brown University, Providence, R.I. He received the BS in Business Administration from C. W. Post College of Long Island University (1959) and the MLS from Rutgers (1961).

He was indexer, American Institute of Aeronautics & Astronautics (1961/63); technical librarian, Thiokol Chemical Corp.

(RMD Division) (1963/64); manager, technical information center, General Precision, Inc. (1964/67). He then went to University of Dayton as associate research documentalist (1967/68) and library systems specialist (1968/72). He assumed his present position in 1972.

SLA Chapter Activities. He was president (1969/70) of the Dayton Chapter and chairman of the Chapter's symposia on "Aspects of Systems Analysis" (1970) and on "Library Networks/Special Libraries" (1972).

At the Association Level. Government Information Services Committee chairman (1969/71). A member of SLA since 1962.

H. Robert Malinowsky is assistant director of libraries for public services, University of Kansas Libraries, Lawrence, Kansas.

He attended Midland College, received a BS in geological engineering from University of Kansas (1955), did graduate work in geology at University of Kansas, and received an MA in librarianship from University of Denver (1963).

Before entering the library profession he was production engineer, Gulf Oil Corp. He went to University of Kansas as assistant science librarian and engineering librarian (1963/64). He then became science librarian and instructor, Graduate School of Librarianship, University of Denver (1964/67) before returning to University of Kansas as science librarian (1967/69). He was appointed to his present position in 1969.

He is a member of Geoscience Information Society and has served as president (1970) and on the GIS Geoscience Serials Committee. A member of ASIS, he was president of the Frontier Chapter (1972). He is also a member of Mountain Plains Library Association and Tau Beta Pi. He has served on the graduate faculty, School of Pharmacy, University of Kansas; consultant, Kansas State Extension Service, and is currently on the faculty, Department of Librarianship, Kansas State Teachers College, teaching administration of special libraries. He is on the Advisory Board of a Continuing Library and Information Science Education Project being conducted by Catholic University of America and funded by NCLIS and is a member of the Education Task Force, CNLA. He is the author of *Science and Engineering Reference Sources* (Libraries Unlimited, 1967, 1974).

SLA Chapter Activities. In the Colorado Chapter, he was bulletin editor (1964/66). In the Heart of America Chapter he served as vice-president (1968/69), president (1969/70), board of directors (1970/71).

At the Association Level. Education Committee (1967/70), chairman (1971/present); Chapter Relations Committee (1970/71); SLA Representative to the American Association of Library Schools—Continuing Library Education Network (1972/74). A member of SLA since 1963.

For Director (1974/77)

FORD

MAMOULIDES

Constance Ford is chief librarian, Union Electric Company, St. Louis, Mo. She received a BA in French from Harding College (1941) and a BS (LS) from Washington University (1950).

She served as assistant librarian, Harding College (1947/48), and circulation librarian, interlibrary loans, and architecture librarian, Washington University (1948/52). In 1953 she went to Union Electric Co. as technical librarian (1953/60) and supervisor (1960/67) before assuming her present position in 1967.

Her memberships include Missouri Library Association, Zonta Club of St. Louis (2d vice president), and St. Louis Library Club. She is a member of the Missouri State Recruitment Network, the Committee on Library Cooperation of HECC (Higher Education Coordinating Council of Metropolitan St. Louis), and the Advisory Council (Downtown Activities Unltd.), Downtown St. Louis, Inc.

SLA Chapter Activities. In the Greater St. Louis Chapter, she was membership chairman (1953/54), bulletin editor/vice president (1955/56), president (1956/57), chairman, *Union List of Serials in St. Louis Area*

(1960); bulletin editor (1962/63), NLW "Librarian for a Day" chairman (1955/56), director-at-large (1964/65), meals and banquet chairman, 1964 SLA Conference; recruitment chairman (1966/67), consultation officer (1967/72).

SLA Division Activities. In the Public Utilities Division, she was News/Notes editor, secretary (1966/67), vice-chairman (1967/68), chairman (1968/69), Annual Conference student guest chairman (1972, 1974). She was also secretary (1971/73), Nuclear Science Division.

At the Association Level. Membership Committee (1967/69). A member of SLA since 1953.

Aphrodite Mamoulides is head librarian, Shell Development Company, Houston, Texas. She received a BS in chemistry from University of Wisconsin in 1953.

She has been head librarian for Shell since 1953.

She is a member of Geoscience Information Society.

SLA Chapter Activities. In the Texas Chapter, she was a member of the Project Committee (1956/57), bulletin editor (1958/59), program chairman (1959/60), president (1960/61), Nominating Committee chairman (1961/63). She also worked with the Education and Recruitment Committees in planning courses given at University of Texas Graduate School of Library Science (1959/60, 1960/61, 1961/62) and helped plan Library Assistants Workshop at University of Houston (1967).

SLA Division Activities. In the Petroleum Division, she was secretary-treasurer (1959/61) and chairman (1967/68).

At the Association Level. Membership Committee (1958), chairman (1973/74); H. W. Wilson Award Committee (1970/71); Nominating Committee (1970/71); Special Committee to Study Association Structure (1969/72), chairman. A member of SLA since 1954.

For Director (1974/77)

BESANT

DAGNESE

Larry X. Besant is assistant director of libraries, public services, The Ohio State University. He received an Associate in Arts from Centralia Township Jr. College (1959), and a BS in chemistry (1961) and an MSLS (1962) from University of Illinois.

He was technical processes librarian (1962/65) and then assistant librarian (1966/68), Chemical Abstracts Service. He then became assistant director for technical services, University of Houston Libraries (1968/71). He has been in his present position since 1971.

His memberships include American Chemical Society, Franklin County (Ohio) Library Association, and Ohio Library Association. He was leader of Chemical Abstracts Service Internal Staff seminar on handling chemical information (1964/66); panelist at ASIS Central Ohio Chapter Educational Institute (1966/67); chairman, 1st joint meeting of SLA Chemistry Division with ACS/DCL; program chairman, SLA Documentation Division seminar (following FJCC, 1970); technical information consultant for the Lunar Science Institute, Universities Space Research Association, at Symposia on "Geophysics of the Moon" (Aug 1969, Jun–Jul 1970); consultant to Information Dynamics Corp. on application of their micrographic catalog retrieval systems. Among his several publications are: *Oceanography: A Union Catalog of Selected Texas Gulf Coast Library Resources* (1970), "Library Support of the CAS Information System" (presented 1970 at CAS briefing), "The Self Destructing Constitution: 'Chousing' Up Sides at the Cincinnati Conference" (*Bulletin,* Ohio Library Assn., Jan 1973). He has also contributed substantially to several other papers.

SLA Chapter Activities. In the Dayton Chapter, he was president (1964/65) and director (1965/66). He was secretary of the Texas Chapter (1969/70).

SLA Division Activities. In the Chemistry Division, he was a member of the Planning Committee (1965/66) and Division chairman (1968/69).

At the Association Level. Scholarship Committee (1966/69), chairman (1967/68). A member of SLA since 1961.

Joseph M. Dagnese is director of libraries and audio-visual center, Purdue University, West Lafayette, Ind. He received a BA in English from Boston College (1949), and MA in English (1951) and an MSLS (1952) from Catholic University of America, and attended Heidelberg University, Germany (1954/55).

He was assistant head of cataloging, Catholic University (1955/57) and document librarian, Nuclear Metals, Inc. (1957/60). He then went to Massachusetts Institute of Technology where he was head, Acquisitions Department (1960/62); science librarian and head, Circulation Department (1962/66); and assistant director of libraries for technical services (1966/71). He served as library consultant for Ford Foundation at Birla Institute of Technology and Science, India (1967) and Delhi University (1970). He assumed his present position in 1972.

Mr. Dagnese's memberships include ASIS, Indiana Library Association, and ARL. He is author of "The Publisher's Representative and the Librarian" for *Pergamon Progress* (Jan 1967); "Cataloging Retrieval Systems on Microfiche: A Preliminary Evaluation," *Special Libraries* (Sep 1970); "Corporation Between Academic and Special Libraries," *Special Libraries* (Oct 1973). He has delivered many speeches and talks and has attended innumerable seminars, workshops and conferences.

SLA Chapter Activities. In the Boston Chapter, he was Education Committee chairman, Science-Technology Group (1962/64); Chapter vice president (1963/64); president (1964/65); editor, "Boston Chapter, SLA, Procedures Manual" (1970). Presently a member of the Indiana Chapter.

SLA Division Activities. He is a member, Documentation Division.

At the Association Level. Chapter Relations Committee (1969/70); Editor, "Guidelines for Chapters" (1970); Chapter Liaison Officer (1970/72); SLA Representative to ALA/LTP (1972/present); chairman, Committee on Positive Action Program for Minority Groups (1972/present); John Cotton Dana lecturer (1972). A member of SLA since 1962 (life member).

Ballots and voting instructions will be mailed from the Association's New York Offices in late March or early April.

Officers and directors who will continue to serve on SLA's Board of Directors in 1973/74 are:

~~**Edythe Moore**~~ who automatically succeeds to the office of President; and ~~**Roger M. Martin**~~ who automatically succeeds to the office of ~~Advisory Council Chairman~~. ~~**Gilles Frappier**~~ will serve as Past President. **Janet M. Rigney** will serve the ~~second~~ third year of her three year term as Treasurer (1973/76). ~~**Charles H. Stevens and Anne C. Roess will serve the third year of their three year terms (1972/75) as Directors.**~~ **Robert L. Klassen** and **Marian Lechner** will serve the ~~second~~ third year of their three year terms (1973/76) as Directors.

Joseph M. Dagnese and Constance Ford will serve the second year of their three year terms (1974/77) as Directors

Special Libraries Association Statement on the Draft Proposal "A New National Program of Library and Information Science," by the National Commission on Libraries and Information Science (Oct 1973)

January 7, 1974

Special Libraries Association agrees that there is an urgent need in the United States for a national program for library and information service which will include a national network of libraries and information-producing units. For this reason the Association urges that the Commission press forward for the immediate establishment of an independent agency in the federal government, a federal library agency, which can concentrate its total efforts toward this goal. This agency should be charged with the responsibilities to:

1. Continue the study and design, using a total systems approach, of a national program (not only a national network) of library and information service, with the long-range goal of the establishment of a national information utility.
2. Actively support the *ongoing* efforts of local, State, and regional cooperative systems and encourage the continuing formation of similar additional systems which can meet the needs at the *first* level of library service (i.e., at the local level).
3. Coordinate and support the growth of efforts from the local level up *to* the national level into an integrated total system.
4. Establish an adequate funding base, including federal-level funding through legislative authorization and appropriation, for *all* the developmental steps in the creation of a national program.
5. Recognize the prime value of human resources in the total program; and thus plan and implement, the augmentation of funds and facilities for both basic library education and for continuing library education in newly developing areas of librarianship and information handling.
6. Give immediate priority to the establishment of standards which are essential to national network implementation:
   6.1. Bibliographic standards which are the basic common language for information transfer regardless of the degree of sophistication of the ultimate system; and
   6.2. Standards for compatibility of both hardware and software to guarantee that the capability exists for the interconnection of subordinate networks with one another and with developing telecommunications systems.
7. Support viable basic research for new information handling techniques either by grant or contract or by research conducted by the agency itself.
8. Maintain appropriate and continuing formal contacts with the total library community through the existing mechanism of the professional library associations in the U.S. and with other countries engaged in similar development activities. (SLA has *8,340* members. Approximately 7.5% of our members are outside of the U.S.; SLA would expect that the special libraries in Canada would provide the first essential link in the development of an international network.)

Comments on The Network Plan

Developing a national network plan is of utmost urgency. The Association is emphatic in its assertion, however, that such a network must be flexible enough to accommodate *a wide range of system configurations* so that it can:

- Facilitate participation by *all* kinds of libraries and information units.
- Provide for varying kinds and levels of library and information service.
- Meet the needs of many differing individual user communities.

Without such network flexibility, the Association fears that special libraries might well find themselves excluded from the process of network development with the disastrous result that it would then be impossible or impractical for special libraries to contribute to, or to be able to benefit from network implementation. This must not happen.

Participation by All Types of Libraries

The role which special libraries, including those in business, industry, and private institutions, can play and expect to play in

network development is an important one and can be well-defined. Special libraries contain the latest literature resources of very specialized fields and have access to information and compilations of data often before they become available in the published literature. Special libraries constitute a portion of the national knowledge resource.

The Association is well aware of certain frequently mentioned "barriers" to network participation by special libraries. At the same time it does not recognize these as barriers; only deterrents or problems which can be resolved by appropriate administrative procedures.

One example of such a deterrent, often cited, is that proprietary and government classified information make up a portion of the collections of the libraries of industry and government. For network purposes, this data would very simply not be entered into the joint system data base, but it is only fair to point out that even this information is available to "outsiders" who possess the required "need-to-know."

Another statement often made is that special libraries are unable to share equally since many of their collections are small. But this statement is made without regard to the numbers of special libraries and to the uniqueness of their collections. Ten one-of-a-kind resources from 10 different special libraries are just as valuable to a network as 10 resources located in one larger research library. Also of importance and often overlooked is that the sharing by special libraries of even the most common resources can "take some of the load off of" the larger libraries.

It is in the matter of funding that the Association voices the greatest concern since "private" libraries are generally ineligible for federal, state or local government funding in the manner available to public institutions. The funding of a network mix of privately supported special libraries, public libraries and both publicly and privately supported academic libraries must be described explicitly beyond the general Federal/State matching funds concept. It is imperative that this matter be clarified in the earliest stage of network plan development.

Levels of Library Service for Differing User Communities

There is a specific requirement for the continuing existence and support of a variety of systems and networks. The self-generating and on-going trend toward cooperative local and regional systems must be recognized as a positive forward contribution; local user needs are reflected in the development of local networks. Too often local needs cannot be recognized or served through a system that is built from the top downward. The development of cooperative systems is an indication of what can and must be done on a larger scale. This trend reinforces the *need for coordination* at the national level.

National Collections and Bibliographic Control

Special Libraries Association agrees that strengthening and expanding national collections is of paramount importance. However, because speed and timeliness are vital to business and industry, we stress the need for immediate development of regional collections as well.

It is essential that bibliographic control of *all forms of library materials* (maps, pictures, sound recordings, computer tapes, reports, etc.) receive the same level of attention and emphasis as the monographic and periodical literature. The national plan must also define the responsibility for the bibliographic control of the literature of any new field when it first develops, whether it be a new subject area or a new format of material.

Resource-Sharing Networks

The chief obstacle to the satisfactory sharing of resources by libraries is their *lack of knowledge regarding the location* and availability of specific resources—not "distance."

The needed information resource is often "just around the corner," but its existence is unknown to the requesting library. For this reason, bibliographic tools in the form of joint data bases (catalogs) and bibliographic referral centers/clearinghouses must have first priority at the local level and then proceed to the regional and national levels in stepwise fashion.

Information Networks

Special Libraries Association calls the Commission's attention to the fact that, while the sharing of physical resources is extremely important for any network plan, physical resources are only *one* part of the total spectrum of library and information

service. Special libraries have a dual role; they are both consumers of information and disseminators of information. Their raison d'etre is to assemble specialized information for the use of their clients (and for ultimate benefits to the nation). Thus in the sense that special libraries are retailers of information, the special libraries are as much concerned with obtaining one specific datum as with locating one physical item. It is essential that any national program require the development of subject-oriented analysis and information centers in *all disciplines* at both regional and national levels—similar to the IACs (Information Analysis Centers) which now exist in very specific and technical areas.

One of the most vital contributions to any information network will be that of the subject-trained and subject-oriented specialists whose roles in specialized libraries is that of active synthesizers of information from individual items located in diverse sources. This is one area where special libraries will play a very significant role in network development.

CHAPTERS & DIVISIONS

Baltimore—Gilles Frappier addressed the dinner meeting Nov 15 at the Lord Baltimore Hotel.

Colorado—On Nov 15 a tour of the Denver Federal Center, the largest federal complex outside Washington, D.C., was given.

The Colorado Library Association held an open house Nov 26 to which all library association members in Colorado were invited.

Dayton—The Chapter meeting for November was a panel discussion, "The Small Special Library: What *Is* It All About?"

The December meeting, in Columbus, was addressed by Mrs. Hannah McCauley of Ohio University who spoke about the library technician, a recent addition to the library field.

Hudson Valley—The Chapter was officially installed by SLA President Gilles Frappier at a meeting Dec 4, 1973, in Tarrytown, N.Y.

Michigan—An all day meeting dealing with 1) the potential advantage of Special Library and GPO Depository Library cooperation at the local level, 2) U.S. Department of Commerce Publications, and 3) NTIS publications was held Nov 9 in Ann Arbor. Speakers: A representative of the U.S. Department of Commerce Library, a representative from NTIS, and a representative from CIS.

Minnesota—The November meeting was held on the 29th at a dinner addressed by Lois M. Upham, data base manager, MULS at the University of Minnesota, Minneapolis.

The Minnesota Chapter offered four short courses in continuing education beginning this fall. They were consumerism, recent developments in the international economy, new developments in industrial relations, and the multinational corporation. The courses were presented by special arrangement with the College of Business Administration and Graduate School of Business Administration, University of Minnesota.

New Jersey—The Princeton-Trenton and New Jersey Chapters sponsored a continuing education workshop Nov 16, at Rutgers University Graduate School of Library Service. The workshop was designed to examine developments in technical reports literature in science-technology, social sciences, and the humanities.

New York, Technical Services Group—The fall dinner meeting was held Nov 30 at the Graduate School and University Center of the City University of New York. A report was given by the Task Force on Library Data Centers, "Progress and Prospects."

Oregon Provisional—A meeting was held Nov 17 at the Malory Motor Hotel, Portland. It was addressed by Dr. Oxford, university librarian, University of Oregon on, "Performance Measurement in Libraries: Problems and Opportunities."

Pittsburgh—A workshop on PRLC government documents, cosponsored by the Pittsburgh Chapter, the Pittsburgh Regional Library Center (PRLC), and the Pennsylvania Library Association, was held Oct 6.

On Nov 20, Frank Zabrosky, Hillman Library, University of Pittsburgh, spoke to the meeting on Company archives and records.

Princeton-Trenton—On Nov 13 Melvin Weinstock, Institute for Scientific Information, spoke to the meeting at Trenton State College. He discussed citation indexing.

Rio Grande—A dinner meeting was held Nov 26, in Albuquerque. David Martin, director, New Mexico Civil Liberties Union, addressed the group on a new library project: prison libraries.

San Diego—A seminar/workshop on the use of data bases by libraries was held Nov 8 and 9 at the Rancho Bernardo.

A Nov 26 meeting was held at the Serra Historical Museum with Edwin Coman and Sylvia Arden as speakers.

San Francisco Bay Region—The Nov 15 meeting was held at Lockheed Palo Alto Research Laboratory. The subject was the Lockheed On-line Interactive Retrieval System.

South Atlantic—"Information Sources for the Media" was the topic at the Nov 15 meeting at Georgia Tech. The panel represented a cross section of information specialists in the business and academic worlds.

Southern California—A workshop on cataloging and acquisitions was held Nov 17 at California Institute of Technology.

Texas—A presentation was given at the September meeting by several microform data base companies. The meeting was held Sep 28–29 in Houston.

Toronto—On Nov 22 a meeting was held in conjunction with the School of Library Science, University of Toronto. Several publishers of business information exhibited publications and explained their services. Three representatives addressed the assembly and questions were answered.

Washington, D.C., Biological Sciences and Science and Technology Groups—Dr. Robert Stevenson, general manager, Frederick Cancer Research Center, spoke to the groups on the national cancer program Nov 12.

Washington, D.C., Documentation Group—A dinner meeting was held Nov 13 at which Davis McCarn, associate director, Office of Computer and Communications Systems, National Library of Medicine, spoke about the economics of on-line computer information services.

Washington, D.C., Military and Geography and Map Groups—Horace Porter, Department of Agriculture, addressed the Nov 13 meeting on his recent trip to the USSR.

Washington, D.C., Science and Technology Group—The meeting Dec 3 was addressed by Paul Zurkowski, deputy director, Information Industries Association. He spoke about copyright and other funding mechanisms.

Washington, D.C., Social Sciences Group—The group discussed some ideas on interlibrary cooperation and library administration at the Nov 14 meeting.

Toronto—Meeting Place, 1974

The Toronto Chapter extends a welcome to you to come to the 1974 Special Libraries Association Conference in Toronto, June 9–13, 1974. Again there will be competing programs—three general sessions, 20 contributed papers, Division and Committee meetings. Try to sample all types of programs and events from the reception in the Exhibits Area, Sunday 5–7 p.m., to the Division field trips on Thursday. The Education Seminar on Sunday will have at least four topics from which to choose. This is always popular and registration must be limited to about 50 per topic. To familiarize you with Toronto, we have organized a tour of Toronto on Sunday evening followed by a dinner at Ed's Warehouse. Monday, the keynote speaker Edward de Bono, author of *About Think,* will speak on "Lateral Thinking—A Problem Solving Method." The scholarship event will be held at the *Ontario Science Centre* on Monday evening. Division lunches and business meetings are usually scheduled on Monday and Tuesday noon hours before the Tuesday evening Advisory Council meeting. Other Division programs are scattered throughout the week usually ending on Thursday with a field trip or all-day session. Wednesday is the SLA day for the Annual Meeting and High Noon reception and awards banquet. Other SLA business is transacted by the Board before or after the Conference. Open houses for Divisions will probably be held on Sunday to Tuesday evenings. Watch for the notices in the Information Area and in the program. The Exhibition Area will be open from Sunday to Wednesday and should be bigger and better than ever. This is a must!

We would like to have you come to Toronto a little early or stay a little longer after the Conference and see some of the sights. Toronto is situated on Lake Ontario, about 80 miles from Niagara Falls and 280 miles from Ottawa, the capital of Canada. We are a major port with ocean-going ships and yet still have space for the recreational use of our harbour by sailboats of all sizes. The Toronto Islands which can be reached by ferry boats are well worth a visit with their areas of parkland, children's farm, animal zoo, wading pools, picnic areas and beaches. Toronto has both skyscrapers and historic buildings and churches; a modern subway system plus streetcars and buses, theatres and concert halls, museum, art gallery, planetarium and lots of restaurants. Our Information and Hospitality Committee has prepared two booklets—a walking tour of Downtown Toronto and a restaurant guide to help you find your way around.

Come to the SLA Conference in Toronto. Come to Canada. We would like to see you at The Meeting Place.

Barbara Weatherhead
Toronto Conference Chairman

MEMBERS IN THE NEWS

James B. Dodd (associate professor and information consultant, Georgia Tech) . . . received fellowship from Council on Library Resources to study demands on business and industrial organizations for library services.

Betty Jo Dollar . . . appointed science information specialist, Fondren Library, Rice University, Houston, Texas.

Ethel Elvove . . . retired as a cataloger, National Library of Medicine, Bethesda, Md.

Leonard H. Freiser . . . named director of libraries, National College of Education, Evanston, Ill., formerly director, Wilmette Public Library.

Emil F. Frey, previously director, Health Sciences Library, State University of New York at Stony Brook . . . appointed director, Moody Medical Library, University of Texas Medical Branch campus.

Stephanie J. Frontz . . . named head, University of Rochester Fine Arts Library.

Robert Klassen . . . attended the dedication ceremony of the new Nimitz Library, U.S. Naval Academy.

Henry Lash (librarian and coordinator, Los Angeles Trade-Technical College) . . . was among those to receive a certificate for recognition of outstanding service from the Los Angeles Community College District.

SLA Authors

Anderson, Frank J. *Private Presses in the Southeastern United States.* Spartanburg, S.C., Kitemug Press, 1973. xi,43p. $3.00 postpaid.

Baldridge, Alan. "Birds of Forest and Shore." In *Forest Heritage:* A Natural History of the Del Monte Forest, comp. by Beatrice F. Howitt. Berkeley, Calif., Native Plant Society, 1972. 56p. $2.75.

Baldwin-Scarborough, Mayra, ed. *Bicentennial Bibliography, Essex County, New Jersey.* American Revolution Bicentennial Committee, SLA New Jersey Chapter, 1973. 30p. paper, mimeo. $1.00.

Bloomfield, Masse and Harvey J. Wolf. *Man in Transition: A Concept of History.* Roseda, Calif., Mojave Books, 1973. $8.00.

Georgi, Charlotte. *The Arts and the World of Business: A Selected Bibliography.* Metuchen, N.J., Scarecrow Press, 1973. 123p. $5.00.

Grimm, A. C. and J. W. Swinehart, eds. *Public Information Programs on Alcohol and Highway Safety.* Ann Arbor, Mich., University of Michigan, Highway Safety Research Institute. 270p. 370 photos. $8.75 cloth; $4.75 paper.

Hughes, Marija Matich. *The Sexual Barrier:* Annotated General-Legal Bibliography on Discrimination of Women in Employment. 1970, $5.00. 1971 and 1972 supps @ $3.00. Marija Matich Hughes, 2116 F St., N.W., Box 702, Washington, D.C. 20037.

Kramer, Mollie W. Selected bibliography on the aging and the role of the library. Urbana, Ill., Graduate School of Library Science, University of Illinois at Urbana-Champaign.

Mount, Ellis. *Scientific & Technical Books:* Market Prospects and Publishing Programs. Oct 1972–May 1973. *Publisher's Weekly* 202(no.21): 24–36 (Nov 20, 1972).

Mount, Ellis, comp. *Scientific and Technical Books in Print 1972.* New York, Bowker, 1972. 1,575p.

Mount, Ellis and Paul Fasana. "An Approach to the Measurement of Use and Cost of a Large Academic Research Library System: A Report of a Study Done at Columbia University Libraries." *College & Research Libraries* 33(no.3): 199–211 (May 1972).

Nygaard, Anita. "Experts on Call." *Woman's Day:* (May 1973).

Peck, Theodore. "The Reference Librarian Re-Cast in a New Role." *RQ:* (Spring 1972).

Shores, Louis. *Looking Forward to 1999.* Tallahassee, Fla., The South Pass Press, 1971. 262p. $7.50.

Thomas, Sarah M. and Bernadine Weddington. *A Guide to Sources of Consumer Information.* Washington, D.C., Information Resources Press, 1973. xi,117p. $10.50.

Tudor, Dean. *Sources of Statistical Data For Canada.* Ottawa, Canadian Library Association, 1972. 33p. $2.75.

Vara, Albert C., ed. "Business Library." *AACSB* (American Assn. of Collegiate Schools of Business) *Bulletin* 9 (nos.1,2,3): 1972/73.

vistas

COMING EVENTS

Feb 28–Mar 1. ISAD (Information Science and Automation Division, ALA) Institute . . . in New Orleans. Theme: "Alternatives in Bibliographic Networking, or How to Use Automation Without Doing It Yourself." $60.00 ALA members; $75.00 nonmembers. For information: Donald P. Hammer, ISAD, ALA, 50 East Huron St., Chicago, Ill. 60611.

Mar 11–13, 1974, National Federation of Abstracting and Indexing Services Annual Conference . . . at the Pick-Congress Hotel, Chicago. For reservations write: NFAIS, 3401 Market Street, Philadelphia, Pa. 19104.

Mar 18–21. Information Industry Association, 6th national meeting . . . at Sheraton Park Hotel, Washington, D.C. For information: IIA/Washington, 4720 Montgomery Lane, Bethesda, Md. 20014.

Mar 27–29. Data Processing Symposium . . . at UCLA. For information: Tom Mincer, symposium coordinator, Continuing Education in Engineering and Mathematics, University Extension, UCLA, P.O. Box 24902, Los Angeles, Calif. 90024 [tel. 213/825–3344]

Apr 18. Federal Documents Regional Workshop . . . at the Sheraton-Boston. Enrollment limited to 200. For information: Mrs. Virginia Vocelli, Planning Committee chairman, Nelinet Task Force on Government Documents, Connecticut State Library, 231 Capitol Ave., Hartford, Conn. 06115.

Apr 22–May 3. Introduction to Modern Archives Administration, 30th institute . . . at National Archives Building. Directed by Dr. Frank B. Evans, Assistant to the Archivist. For information: Dept. of History, 30th Archives Institute, The American University, Washington, D.C. 20016 [tel. 202/686–2401]

Apr 23–26. Seminar on the Acquisition of Latin American Library Materials, 19th SALALM . . . at University of Texas at Austin. For information: Pauline P. Collins, SALALM Secretariat, University of Massachusetts Library, Amherst, Mass. 01002.

May 2–3. National Information Retrieval Colloquium, 10th annual . . . at Holiday Inn, 18th and Market Sts., Philadelphia, Pa. 19103. Theme: "Managing Data Effectively." For information: Colloquium on Information Retrieval, Inc., P.O. Box 15847, Philadelphia, Pa. 19103.

May 6–10. National Computer Conference . . . at McCormick Place, Chicago, Ill. For information: AFIPS, 210 Summit Ave., Montvale, N.J. 07645.

May 16–18. ASIS, 3rd Mid-Year Meeting . . . at University of Pittsburgh, Johnstown Campus, Johnstown, Pa. Theme: "Information Potpourri—On-line information retrieval systems, and standardization activities as they affect libraries and information centers." Contact: Mary C. Berger, Ferro Corp. Library, 7500 East Pleasant Valley Rd., Independence, Ohio 44131 [tel. 216/641–8580, ext. 619]

May 21–24. International Symposium on Science Media . . . at Flagship Rochester Hotel, Rochester, N.Y. For information: American Science Film Association (ASFA), 7720 Wisconsin Ave., Bethesda, Md. 20014.

May 23. Computer Networks Symposium, Trends and Applications . . . Gaithersburg, Md. Sponsors: IEEE Computer Society Eastern Area Committee and its Washington, D.C. Chapter.

Jun 17–19. Communications, IEEE International Conference . . . at Leamington Hotel, Minneapolis, Minn. Contact: E. D. McDonald, Institute of Electrical and Electronics Engineers, 345 E. 47th Street, New York, N.Y. 10017.

Jun 23–26. College Art Association of America, annual meeting . . . in Detroit and Ann Arbor, Mich. Theme: Visual Documentation. Contact: The College Art Association of America, 432 Park Avenue South, New York, N.Y. 10016.

REVIEWS

Databanks in a Free Society; Computers, Record-Keeping and Privacy. Westin, Alan F. and Baker, Michael A. New York, Quadrangle Books, 1973. 522p. $12.50 LC 75–183193 ISBN 0–8129–0292–0

Supported by a grant from the Russell Sage Foundation and under the sponsorship of the National Academy of Sciences, Westin and Baker have been given the mandate to undertake a "reasoned inquiry" and "balanced analysis" of the fundamental conflict between the individual's right to privacy and society's right to information. What was to be attained was nothing less than the comprehensive and intense collection, study and analysis of a large body of data tending to illuminate the effects of information technology and information science techniques on the creation, distribution, sharing and use of personnel databanks. To be considered within the realm of study were to be the many problems relating to privacy and confidentiality of individual, i.e., personal records, including access rights, due process, review, appeal, and information security in general. The data gathering was to be accomplished through on-site interviews conducted at a number of leading governmental, commercial and nonprofit organizations where, it was hoped, the motives, programs and concerns touching on issues of civil liberties could be examined within the real world of heavily computerized organizations. More than a dozen profiles were to be drawn for a variety of leading institutions known to make use of EDP in their personal file record-keeping. Indeed, a considerable amount of unique and vital information was compiled and made available by the researchers about the personnel information processing activities of such federal and local government agencies as the Social Security Administration, the New York State Department of Motor Vehicles, the Kansas City Police Department, or private organizations, such as the Bank of America or Massachusetts Institute of Technology. In addition, through use of a questionnaire, data were gathered from approximately 2,000 other public and private organizations believed to maintain personnel records. All of these efforts were, indeed, carried out with a considerable degree of success. A number of conclusions were drawn —conclusions which often were general and comprehensive in nature.

In analyzing this study, one perceives that Westin and Baker, able researchers though they are, have fallen into the common trap of generalizing from what are essentially circumscribed and delimited data. The researchers acknowledge that they were excluding from considerations security-classified government databanks; they had neither the necessary security clearances to examine such files nor, of course, the authorization to publish findings even if access had been granted. How, then, is it possible for them to generalize about the effects of databanks in our society without a consideration of secret or restricted-access files? How can they state in such positive terms the broad conclusion that "computer usage has not created the revolutionary new powers of data surveillance predicted by commentators"? Certainly recent revelations of the interchanges of personnel data among Federal government agencies, between and among the White House, Internal Revenue Service, Veterans Administration, FBI, CIA, etc., should evoke little optimism for current and future data confidentiality procedures and validity of personal data use. To a considerable degree, the above revelations negate one of the basic Westin and Baker generalizations that the effects of personnel databanks on our citizenry have thus far been minimal. Ease of access, internal system efficiency, selective access, rather than quantitative use may, ultimately, prove to be the prime factors determining the effects of databanks in our society.

Westin and Baker do acknowledge rapid advances in telecommunications technology, computer memory capacity, network linkages, systems response time, etc. And yet, while noting, e.g., that the National Crime Information Center, in early 1972, operated round the clock, seven days a week, and handled daily about 76,000 "network transactions," the researchers still exude optimism and minimize the potential dangers of misuse of personal records. Such optimism, however, is not shared by other researchers. A study just concluded under the sponsorship of the Law Enforcement Assistance Administration of the Justice Department calls for tight new restrictions on the use of criminal information systems and intelligence files (New York *Times,* 11/5/73, p.1). The study notes: "The threat to individual rights from unrestricted operations is direct. Leaks occur. Details which should be kept strictly private become public news. Reputations may be destroyed and careers ruined." Moreover, valid generalizations about the role of databanks in our society cannot be made when hardly any information has been collected from the users or actual and potential victims of these systems. Admittedly, collecting data from the subjects of databank compilations is a most difficult task, and admittedly the subjects of databank compilations frequently have little knowledge with respect to the internal processing and use made

of the data which they supply. This, however, does not preclude such individuals from learning and experiencing the effects of databanks on their personal and professional lives. Thus, while the compilations of information relating to the use of overt personnel databanks are most valuable, conclusions relating to their overall impact on our present and future society must await further, more comprehensive research and analysis.

I. M. Klempner
School of Library and Information Science
State University of New York at Albany

Computers and the Problems of Society, ed. by Harold Sackman and Harold Borko. Montvale, N.J., AFIPS Press, 1972. 575p. $15.00

Sackman and Borko have attempted to define the effect of the computer on our contemporary society and at the same time have tried to define where they think the state of the art for computers will be in the future. The various authors in this book have not whitewashed the problems of the computer in its developing phases. The key sentence about the computer industry in the recent past and in some cases into the present is: "The portrait so far shows cantankerous machines giving harassed users slow and faulty batch service, shrouded by inscrutable programming languages generated by secretive programmers, employed by socially indifferent computer firms."

Defining the past performance of the entire computer industry, both the hardware and software firms, should put the future into a reasonable perspective. The men who wrote this book are not dreamers or idealists. They recognized the limitations of the computer and its ability to function as a tool for the solution of some of man's problems.

There are several parts to this book which cover fifteen separate articles. These parts cover the use of the computer in 1) the political area; 2) the economic area; 3) the city and ecological area; and 4) problems of the individual in our society. I found that the approach taken in trying to assess the future of our society and the place of the computer in it, to be well balanced.

I believe the most impressive part the computer can play in our future is in education. It can become possible for every home to be linked to a computer through CATV channels providing courses from kindergarten through graduate school. The learning can take place in the home with the supervision of the parents. The courses will be available on demand in each living room. The student would need to attend formal group classes for only a half to a quarter of the time now spent in schools. The prospects for matching formal education with the computer and CATV channels, can represent a significant change in our social structure. Each of us would be able to take whatever we want, when we want it.

This book was written for the interested layman and is quite readable. There are no mathematical formulas nor any of the programming detail which would only confuse.

I can wholeheartedly recommend this book for those librarians who want a picture of the future of the computer. I cannot recommend this book to those librarians who have never seen a computer they could like.

Masse Bloomfield
Hughes Aircraft Corporation
Culver Ctiy, Calif. 90230

Research Libraries in Developing Countries, by Krishan Kumar. Delhi, Vikas Publishing House PVT TLD, 1973. 464p. Rs 50.

The first nine of 21 chapters in this work discuss in some detail the development and current status of library organizations, library education, and research and university libraries in India, Pakistan, Malaysia, Singapore, Indonesia, Thailand, and Taiwan. Considerable discussion is given to the organization of Supru House Library in Delhi. Named after the building in which it is housed, the Indian Council of World Affairs and the School of International Studies developed a joint library. In 1955 the Indian School of International Studies came into being, and in 1970 it was merged with the Jawaharlal Nehru University, New Delhi, and its name was changed to the School of International Studies.

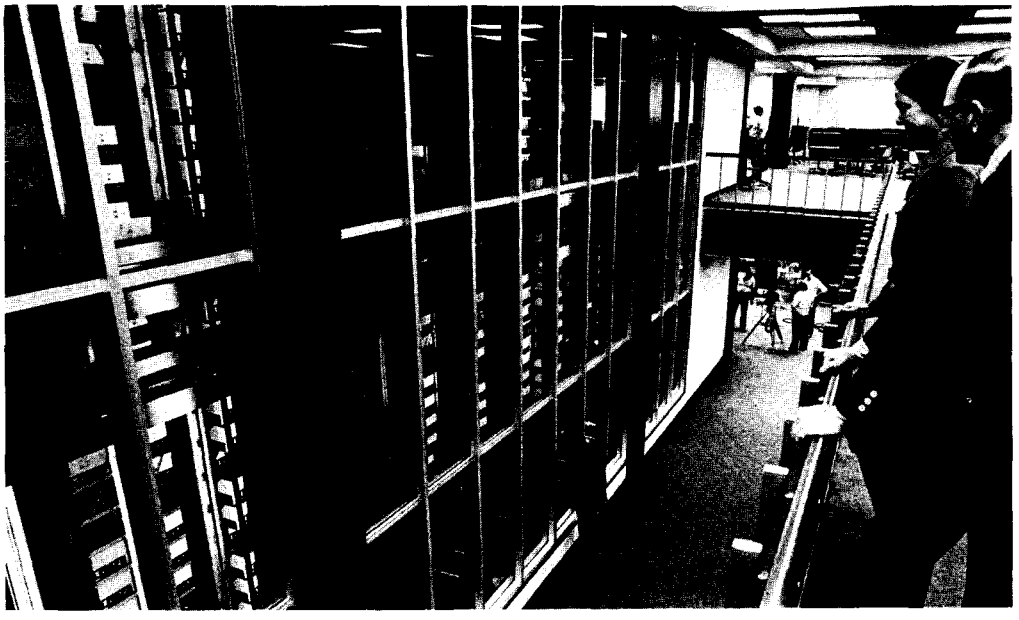
Krishan Kumar received his library education at the Universities of Delhi and Chicago, and has been a teacher of library science at the University of Delhi for over a decade. He has assembled a great bulk of material presented in a style easy to read, and interspersed with a great amount of statistical detail. This latter is used primarily to show the comparative growth of libraries in the several countries, and to present information on the type of users patronizing the Supru House Library. Fairly short chapters are given over to such topics concerning the Supru House Library as selection and acquisition procedures, classification and cataloging, documentation work and the description of a fine collection of United Nations' publications.

The future of the library is coming under some consideration. It is now a major part of

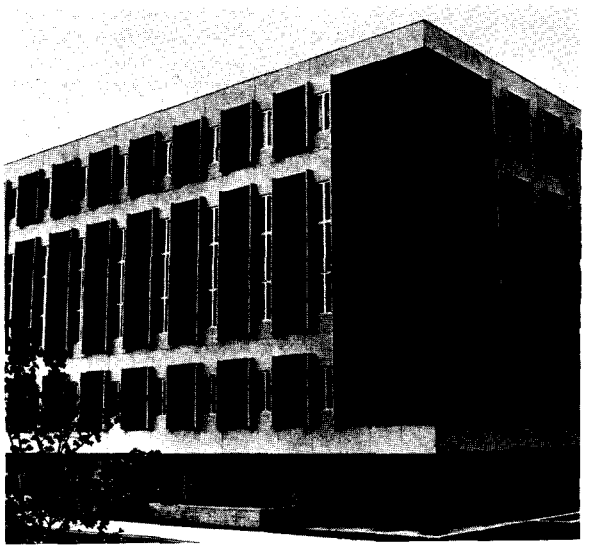
the Jawaharlal Nehru University, which as noted earlier, houses the School of International Studies. The author devotes a rather lengthy chapter to the problems involved, noting this as "A Case Study in Public Opinion." Finally, there is included as an appendix extracts from Parliamentary Debates known as the Rajya Sabha Debate on the proposed division of the Supru House Library. These extracts provide a most informative history of the library and its importance to the development of international scholarship in India.

Students of library history will find this volume by Krishan Kumar a suitable and informative source for library development in India and certain other countries of Southeast Asia. It is unfortunate, however, that Sri Lanka (Ceylon), which has had a long history of active library programs, is not included in this account.

Paul Kruse
School of Library and Information Sciences
North Texas State University
Denton, Texas



Automated Bookstack System in Health Sciences Library



The Health Sciences Library at Ohio State University is one of the few libraries in the country to install an automated bookstack system to locate and file books. In operation less than a year, the library has a capacity of 175,000 volumes. The system receives instructions over a terminal via an electronic device in an aisle. The device travels on vertical and horizontal columns in the aisles to select a small bin of about eight books containing the requested one. It then travels to the end of the aisle and places the bin of books on a conveyor belt to be picked up by the staff member. Because aisles are very narrow, the book stacks occupy about 15% of total library space compared with 40%–60% in most libraries.

Research Investigation into Expertise Indexes

Often the quickest and most effective way of solving a problem or obtaining information is to consult the appropriate expert(s). Person-to-person communication creates a dialogue situation enabling questions to be answered directly and precisely, as well as encouraging the spontaneous exchange of ideas and opinions. Such information transfer cannot necessarily be achieved as easily or satisfactorily by referring to the literature. The difficulty lies in knowing whom to consult. Here an "index to expertise," that is an index to persons having special knowledge or skills, may be a useful aid.

Information scientists and librarians, in endeavouring to provide comprehensive and efficient information services, should find the establishment in their departments of expertise indexes to be of considerable value. When indexes to both literature and expertise are used, a fuller and more useful service, which refers information seekers to subject specialists as well as to documents, will be supplied. If used alone, expertise indexes can save time in obtaining the precise answer to an enquiry. Expertise indexes already exist in a number of information departments and some, operated on a national or international scale, have been established at referral centers.

The UK Government Office for Scientific and Technical Information has recently awarded a grant for a research study of expertise indexes. The work, which is being undertaken by the Polytechnic of North London, started in Oct 1973 and is expected to take one year.

The project sets out to locate and gather information from those organizations, in any part of the world, having indexes to expertise in any subject field, technical or nontechnical. It is hoped that, once organizations have been located, it will be possible to construct a detailed picture of the indexes in existence using, at first, a generalized questionnaire technique followed by a selection of more detailed case studies. In particular, the following will be reviewed: the reasons for setting up the indexes, the methods of acquisition, storage and retrieval of information on expertise, the types of information recorded and the usage of the indexes. The problems and costs of compilation and maintenance, and the benefits obtained will also be examined. From the overall picture, it should be possible to set out the range of options for each step involved in providing expertise indexes. This will assist prospective index compilers to choose those most appropriate for their own specific circumstances.

The success of this project depends on the extent to which the indexes examined form a representative collection, and therefore the larger the number located the better. Utilization of the results of the project may assist the organization and acceleration of information flow within establishments or between subject specialists. Will anyone who has or who knows of an expertise index, therefore, please contact:

Mrs. S. G. Barry
c/o Group Scientific Information Service
J. Lyons & Company Ltd.
149 Hammersmith Road
London W14 OQU, England

PUBS

(74–011) **Foreign Affairs 50-year Index: Volumes 1–50, 1922–1972.** Palmer, Robert J., comp. N.Y., R. R. Bowker, 1973. xiii,1282p. $37.50 LC 24–9921 ISBN 0–8352–0584–3

Extensive index to the 2,700+ articles, book reviews and editorials in the influential quarterly *Foreign Affairs.*

(74–012) **Small Technical Libraries: A Guide for Librarians Without Technological Training.** Campbell, D. J. Paris, Unesco, 1973. 40p. $1.95 ISBN 92–3–101088–3 (avail. Unipub, Box 433, N.Y. 10016)

Originally published in *Unesco Bull. for Libraries* 26(nos. 5&6): (Sep/Oct; Nov/Dec 1972). Broad overview of administration and technical services. Intended for the professional librarian in a small scientific or other technical library. Bibliography.

(74–013) **A Survey of Commonplace Problems in Library Automation.** Patrinostro, Frank S., comp. & ed. Tempe, Ariz., LARC Assn., 1973. (World Survey Series, v.11) 56p. Apply ISBN 0–88257–073–0 (paper)

Reports from more than 50 libraries, of many types and sizes, on some of their automation problems, their causes and solutions.

(74–014) **Knowing Books and Men: Knowing Computers, Too.** Shera, Jesse H. Littleton, Colo., Libraries Unlimited, 1973. 363p. $13.50 U.S. & Can. ($16.00 elsewhere) LC 73–85553 ISBN 0–87287–073–1

A collection of 29 essays, written between 1931 and 1973, by the Dean Emeritus of the School of Library Science, Case Western Reserve Univ. Divided into six parts: philosophy of librarianship, library history, reference librarianship, documentation, academic libraries and library education.

(74–015) **Performance Measures for Public Libraries.** De Prospo, Ernest R., et al. Chicago, Public Libr. Assn. & Amer. Libr. Assn., 1973. viii,71p. $3.50 LC 73–16427 ISBN 0–8389–3149–9

Discusses new ways of gathering and applying library statistics to obtain a profile of library operations. While aimed at public libraries, many of the concepts may be applied to special libraries and their "publics."

(74–016) **Library and Library-Related Publications: A Directory of Publishing Opportunities in Journals, Serials and Annuals.** Hernon, Peter, et al. Littleton, Colo., Libraries Unlimited, 1973. 216p. $10.00 U.S. & Can. ($12.00 elsewhere) LC 73–84183 ISBN 0–87287–068–5

Primarily a list of U.S. publications with basic information: circulation, frequency, editor, where indexed, manuscript requirements and payment.

(74–017) **National Aspects of Creating and Using MARC/RECON Records.** RECON Working Task Force. Washington, D.C., Libr. of Cong. 1973. v,48p. $2.75 LC 73–3381 ISBN 0–8444–0094–4 Order: GPO Stock No. 3000–00062

The RECON pilot project was established in 1969 to study practical problems of converting retrospective catalog records to machine-readable form. This report discusses implications of RECON for a national bibliographic store, union catalog or library network.

(74–018) **Documentation of the U.N. and Other Intergovernmental Organizations: Information and Functional Purposes, Processing and Utilization—A Bibliography.** Dimitrov, Theodore D. Geneva, U.N. Inst. for Training & Research, 1972. 111p. 10 Sw. frs. UNITAR/EUR/SEM.1/WP.III/15

Prepared for the International Symposium on Documentation of the U.N. . . . Geneva, Aug 1972.

(74–019) **Education & Curriculum Series No.1.** Syracuse University, School of Libr. Sci., Aug 1973. 87p. $1.75

First issue in the series contains two essays: "Effecting change in library education" by A. F. Hershfield and "Curriculum design for library and information science" by R. S. Taylor.

(74–020) **New Consultants** (no.1): (Jun 1973). Detroit, Gale Research, 1973– . $45/2 years (semi-annual)

A supplement to *Consultants and Consultating Organizations Directory* (2d ed., Gale Research, 1973) issued in Jun and Dec in same format as base volume. Cumulative indexes.

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Frontiers in Catecholamine Research

Proceedings of the Third International Catecholamine Symposium, Strasbourg, France, May 20-25, 1973
Edited by Dr. Earl Usdin, National Institute of Mental Health, Rockville, Md. & Dr. Solomon Snyder, The Johns Hopkins University School of Medicine, Baltimore, Md.

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1974 ISBN 0-08-0179223-3 $50.00

International Journal of Multiphase Flow

Vol. 1, No. 1 October 10, 1973

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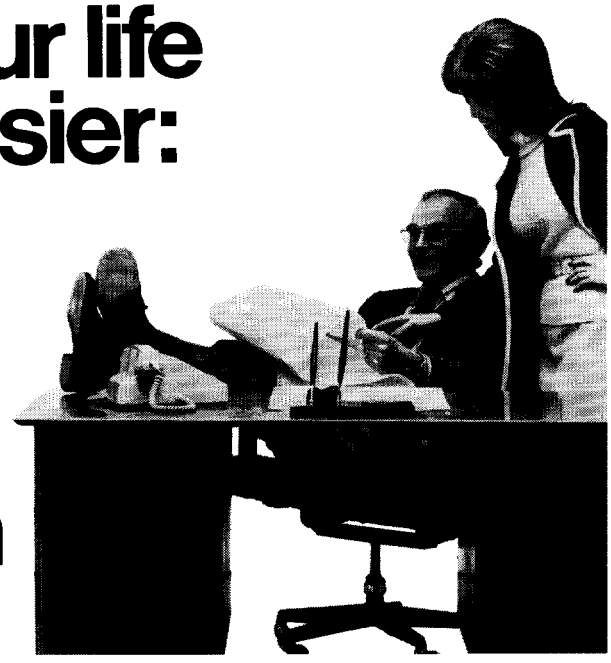

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