

LIBRARY RESOURCES & TECHNICAL SERVICES

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CONTENTS

	Page
Serials Holdings Information Service in Research Libraries. <i>Rosamond H. Danielson</i>	261
Current Serials Duplication at the National Agricultural Library. <i>Ann F. Painter</i>	284
Less-Used Titles and Volumes of Science Journals: Two Preliminary Notes. <i>Ole V. Groos</i>	289
Where Shall We Shelve Bound Periodicals? Further Notes. <i>Robert M. Pierson</i>	290
A Study of the Usage and Retention of Technical Periodicals. <i>Paula M. Strain</i>	295
Current Serials in English from Malaysia and Singapore. <i>L. J. Harris</i>	304
United Nations Documents and Their Accessibility. <i>Joseph Groesbeck</i>	313
Current Bibliographical Control of International Intergovernmental Documents. <i>James B. Childs</i>	319
Library Services and Photocopying. <i>Martha Shepard</i>	331
The International Exchange Service. <i>J. A. Collins</i>	337
Periodicals Automation at Miami-Dade Junior College. <i>Eleanor G. Eyman and others</i>	341
The Mechanization of the Serial Records for the Moving and Merging of the Boston Medical and Harvard Medical Serials. <i>Ann T. Curran</i>	362
A Simple, Mechanized, Non-Computerized System for Serials Control in Small Academic Libraries: A Primer. <i>William E. McGrath and Helen Kolbe</i>	373
Automatic Catalog Card Production. <i>David O. Lane</i>	383
Catalog Card Sets—A Microfilm First? <i>John M. Carroll and Alice E. Hackett</i>	387
Dewey 17: A Review. <i>Frances Hinton</i>	393
What Catalogers Really Say. <i>Gertrude Bingham</i>	403
In the Mail: Filing. <i>Gertrude Moakley</i>	405

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Serials Holdings Information Service in Research Libraries*

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AT THE JUNE 1964 CONFERENCE of the American Library Association, the Executive Committee of the Resources and Technical Services Division Serials Section authorized a survey of the current practices of research libraries in making serials holdings information available to their users. Specifically the Executive Committee wanted to know whether holdings information is furnished through available records or through consultation with the staff. If furnished by means of a record, as on a catalog card, in a vertical file, or in a book-form catalog, they wanted to know where the record is located, how complete it is and how specific. They also wanted to know how staffing problems differ if holdings information is furnished by staff rather than by available records. Implicit in the authorization for this survey was the desire to contribute to a knowledge of effectiveness and true cost.

The *ad hoc* committee appointed to make the survey chose the 74 member libraries of the Association of Research Libraries as an appropriate source of data. This organization is an ALA affiliate in which membership is "limited to institutions concerned with the collection and service of research materials in a wide variety of fields." The replies received in response to questionnaires should thus be considered as indicative of practices in this particular group of libraries and not as a sample of practices current in American libraries in general or in research libraries serving a more restricted clientele. In all, 63 of the questionnaires were returned, though on a few of them the libraries failed to answer some of the questions. The summary of responses below is divided into five main sections, following the pattern of the questionnaire, which, with the complete tables, is included at the end of this report.

A. Services

Reflecting the variations in handling the several types of serial publications within the many divisional and departmental libraries of the 63 institutions is the fact that 49 (77 %) reported the use of a combination

* Report of the ALA-RTSD Serials Section, Serials Holdings Information Survey Committee (*ad hoc*), Gerard D. Grygotis, Emilie V. Wiggins, Rosamond H. Danielson, Chairman.

of public records and staff consultation for furnishing serials holdings information. Of the remainder, 6 reported the service supplied by consultation alone, while 8 reported that they rely upon a public record. The coefficient of association between reliance upon a public record and completeness of the same record is a small .10 for back files and a —.26 for current issues, as figures in *Table C, Serials Records*, bear out.

Where information is furnished through consultation with staff, the service shows a slight tendency against centralization in one department. Of 55 libraries which give this type of service, 23 (41 %) have the service centralized. Where centralized, the distribution by department is as follows:

Reference Department	5
Periodicals	4
Serials	13
Records Section of the Division of Catalog and Records	<u>1</u>
	23

The replies indicate that the department designated as "Serials" may be a separate department or a section of the Acquisitions or Reference Department. At Purdue University serials information is supplied by a union catalog information section in the Reference Department.

Where service points are distributed in addition to maintaining service at a central location, the basis of division may be:

<i>By Subject</i>	<i>or</i>	<i>By Form</i>	
Subject departments	31	Current issues separate	34
Divisional libraries	33	Documents separate	39
College libraries	15	Microforms separate	34

Variation from the above pattern was reported where organizations included divisions based on language, as in the Orientalia Division at the Library of Congress or autonomous libraries, such as the Hoover Library at Stanford University.

Asked if the serials information service is available whenever other public services are scheduled, 56 (88 %) of the respondents replied in the affirmative. However a number of qualified answers were given, which in the tables are designated by an asterisk. In reading the answers it was apparent that a qualified "No" was in some cases as positive as a qualified "Yes." For example, one library which reported "Not always, evenings and Saturdays excluded" has been recorded as "No" while another which reported "Yes—(generally true; some information contained in Kardex file is not available after regular workday hours)" has been recorded as "Yes."

In all but one of the 63 libraries, telephone requests are handled directly from users. However one library reports that the calls are "not encouraged," and two others specified that telephone requests are received from faculty or faculty and outside industries only. The one li-

brary which does not accept telephone calls directly from users explained that such calls could be received by the reference and departmental staffs but not in the serials section where records of current issues are kept.

Collections of selected periodicals are maintained in a public service area by 51 of the 63 libraries. Separate records are maintained for 27 of these collections. Responsibility for answering questions regarding the collections is distributed as follows:

Periodicals	13
Reference	11
Serials	6
Subject departments or divisions	5
Reference and Circulation	2
Miscellaneous (one each)	<u>14</u>
	51

All of the above collections contain current issues; 20 contain, in addition, selected files of back issues.

B. Staff

Seeking to find how staffing problems differ if holdings information is supplied by staff rather than by available records, the Committee asked three questions designed to show whether special staff was assigned, for full or part time, to give the holdings information service or whether this service was being supplied by the same staff which regularly performs reference or serial check-in functions. These questions, with total affirmative replies, are as follows:

Is the staff assigned to answer inquiries also in charge of checking in the serials? 42 replied "Yes," 14 with qualifications.

Is the serials information function a part of a more general reference or information assignment? 35 replied "Yes," 13 with qualifications.

Is there a special staff assigned for this service? 19 replied "Yes," one with qualifications.

Three libraries replied affirmatively to all three questions. As 16 of the libraries indicating a special staff also checked "Yes" for one of the preceding two questions, indicating that the serials information service is a function of either the reference or serials checking-in assignment, it appears that only three libraries actually have a special staff assigned for serials holdings information service. Of these, the University of Minnesota, with a library of over two million volumes, reports that this special staff is professional. The University of Connecticut, with a smaller library, largely employs student help for this purpose. At the Library of Congress the special staff is full-time professional though in the Serials and Orientalia divisions the information service includes more than supplying holdings information.

A brief note about staff assignments from the Library of the University of California at Los Angeles, one of the libraries which indicated divided responsibilities, illustrates how the various functions relating to

serials service may be carried on: "Reference service for serial publications is given by the Reference Department. Serials Department gives only information about unbound publications in the University Research Library; this is through consultation of staff. . . . The Serials Department operates the Periodical Desk, which is staffed by full time people (two of whom are professional; the others of non-professional ratings) during the normal hours of 8-5 Monday through Friday. For evening hours (from 5-10), and the week-end schedule, this desk is manned by students specially trained. Some of the full-time staff assigned to the Periodical Desk are in charge of checking in the serials." Other libraries explained that the Serials Department was responsible for holdings information during the day while the Reference Department handled it evenings and week-ends, that the "staff rotates on public service counter," or that the checkers are "partially" responsible.

Amid the apparent conflict in replies it may be concluded that 16 of the 19 libraries reporting a special staff for serials holdings information employ this special staff either for evening and week-end hours or in other ways supplementing the same service given by staff assigned to reference or serials checking-in functions.

Finally, all of the libraries which indicated in Section A that they relied on a public record also checked items in Section B which indicated that holdings information service is given by staff, revealing thus indirectly what the Executive Committee wanted particularly to know, that not 77 % but 90 % of the respondents use a combination of public records and consultation with staff. Service by staff may be chiefly directional or instructional, but apparently it is still indispensable.

Closely related to functions of serials personnel is collecting and preparing material for binding. The process of collecting frequently is not centralized. Responsibility for this function is distributed among departments in this way:

Serials (or Central Serials Record)	16
Binding	9
Binding Preparations and Periodicals	1
Periodicals	6
Periodicals Room and Serials Record	1
Periodicals Room and Serials Cataloging	1
Public service departments	5
Reference Services	5
Stack supervisors	2
Combinations of various subject departments with Serials or Periodicals	14
Reference Department and Binding Preparation	1
	<hr/> 61

Preparation for binding is generally the function of a single unit within the library's organization. Divisions under which bindery preparation units are placed by 60 libraries include:

Serials Department (or unit)	15
Acquisitions (Order Department)	13
Technical Services	9
Assistant or Associate Director	5
Periodicals	4
Catalog Department	3
Preparation Division	2
Division of Library Operations	2
Circulation	2
Director	1
Periodicals and Catalog departments	1
Reference	1
Reference Services Division: Preservation Section	1
Services Division	1
	<hr/>
	60

C. *Serials Records*

Centralization of records for various types of serials has been achieved to some extent in 54 of the participating libraries. Interfiled with records of periodical back issues, sometimes in the main public catalog, records for the following materials are reported in the frequencies indicated:

Current issues	26
Analyzed series	44
Documents	32
Technical reports	29
Serials in microform	49
Serials in non-Western languages	45
Holdings of all agencies*	37
Holdings of the major agencies	7

* Includes branch, college or departmental, or other affiliated libraries.

The inclusion of an unexpectedly high proportion of records for current issues reported (46% of the 54 responding to this question) is offset by qualifications, as, "mostly annuals and monographic series," "of those sets not in Periodical Reading Room," and by reference to figures in Table C, question f2b, which indicates that in only 16 libraries does the public record show holdings of specific unbound issues for other agencies.

The high proportion of records for serials in non-Western languages is especially notable due to the difficulties involved in filing cards by a transliterated title note, frequently placed in the lower right corner of the card. Four libraries which include some non-Western languages make exception of Chinese, Japanese, or Korean. Some mentioned specifically the inclusion in the main public record of entries in Arabic, Cyrillic, and Hebrew.

The location of public records in 22 out of 48 libraries is shown to be in the public catalog area. Five are in the Reference Division, five in the Periodical Reading Room, others in various areas, usually central. One interesting arrangement is the opening of a service window from the Serials Department onto a main public corridor, at St. Louis University.

The physical format in which the public records are maintained is indicated in the following table:

	<i>In Main Catalog</i>	<i>Serials Catalog</i>	<i>Visible Index</i>	<i>Printed Book</i>	<i>Printed Sheets</i>
Back Files	31	26	19	9	0
Current Files	11	8	35	4	0

For back files, the other types of record specified included Linedex (possibly listed by some under *Visible Index*), duplicates of Flexoline lists, and a card file in the Periodical Department. Linedex was again mentioned for current issues, as was a rotary file. For both back files and current issues some libraries use a combination of records, depending upon the category of material, frequency, or completeness of holdings. Book-form catalogs in all cases supplement a record on cards.

Two libraries gave these details: "A xeroxed copy of visible index bound as a book is available in departmental libraries" (Ohio State), and "Using an IBM accounting machine, we print out a location list of current subscriptions. The list shows title and location, but not holdings. It is distributed to all public service units. It is published about every five years" (Texas). Cornell published a list of *Serials Currently Received* in 1962, listing titles and location only; its 1965 supplement includes volumes held.

As publications cease and serial entries are closed, entries tend to be left in the serial file (33 out of 51). If removed, they are kept in a separate file by 10 libraries and filed into the main public catalog by 26.

The extent to which public records indicate specific volumes of titles held (both back files and current issues) is shown in the next two tables:

Public Record—Back Files

	<i>For Main Library</i>	<i>For all Agencies</i>
Holdings of specific volumes, noting where incomplete	45	33
Holdings of specific complete volumes only	5	3
Holdings for bound volumes only	13	6
Titles only	11	11
By such statements as "—date" or "1+" that there is a standing order	26	17
Shelf location of volumes	49	30

Public Record—Current Issues

Titles only	35	28
Holdings of specific unbound issues	22	16
Shelf location of all titles	47	33
Shelf location of selected titles	5	2

Viewed in conjunction with the data relating to services, these tables are perhaps the most significant for the purposes of this study. Although

some respondents checked more than one category of holdings record, possibly indicating variation in method for different materials, it is possible to distinguish 45 libraries reporting the most complete public records for back files, 7 who record publicly only bound or complete volumes, and 11 who record only the titles held. Comparing the above with the list in Table A, question a1 of those who reported reliance on public record produces this new table, on which is based the coefficient of association (.10 for back files; —.26 for current issues):

	<i>Rely on Records</i>	<i>Consult with Staff</i>	<i>Total</i>
Specific vols. in public record	6	39	45
Not all vols. in public record	2	16	18
Total (back files)	8	55	63
Specific unbound issues in pub. rec.	2	20	22
Specific unb. issues not in pub. rec.	6	35	41
Total (unbound issues)	8	55	63

Here it is particularly notable that of the 45 libraries with the most complete records, 39 report that they also use staff consultation, while only 6 report reliance on the records. Local conditions, such as an open-stack policy or the lack of it, undoubtedly influence the character and effectiveness of any given library's serials holdings information service. Surely it is not ordinarily necessary to consult a complete check record to obtain one volume of a periodical from the library stack. But the volume not located raises questions not always answerable at the loan desk. There is, too, the research worker who uses the complete holdings check card, not in order to obtain a certain volume but to eliminate the examination or re-examination of an article incompletely cited in a bibliography. Possibly some library has already studied this use of its facilities by patrons and concluded that duplication of records for this purpose is or is not justifiable.

Where no public record is available, serials holdings are most frequently recorded in the Serials Record or Serials Department (11 out of 20). Usually such records do not represent all of an institution's serial holdings but some special category, such as current issues of periodicals. A variation from the general pattern occurs at the University of Pittsburgh, where holdings records of periodical back files are kept in the Circulation Department.

Divided responsibility for functions of serials acquisitions is reflected in the rather small amount of coordination which has been reported for current serials check records. While 59 libraries include source here, essential for claiming, only 35 include expiration date and 32 the payment record. One library which included payment record said regarding expiration date, "No. All standing orders."

In 14 libraries the serials check record indicates expected receipt date, 13 include bindery charges, and 11 bindery schedules. At only two libraries, Indiana and Louisiana, are all of the above six items coordinated into a single file.

D. Analyzed Monographic Series

The very complete response regarding location of records for analyzed series is summarized in the following two tables:

Location of Holdings for Series Separately Classified

Main public catalog	31
Serials record	14
Public catalog and serials record	7
Public and official catalogs	3
Serials catalog	3
Public catalog and acquisitions file	1
Public catalog and serials catalog	1
Separate contents file	1
Serials record and official catalog	1
Serials record if standing order; others in public catalog	1
	<hr/> 63

Location of Holdings for Monographic Series Classed As Sets

Serials record	18
Main public catalog	14
Public catalog with current in Kardex	10
Serials catalog	6
Public and official catalogs	3
Public catalog and shelf list	3
Public catalog and serials catalog	2
Public catalog or central serials record	1
Serials catalog and visible index	1
Serials record and shelf list	1
Serials record and tracing file in Catalog Department	1
Shelf list	1
Shelf list, acquisitions Kardex, and (for documents) serials record	1
Shelf list and acquisitions Kardex	1
	<hr/> 63

In form, the record of a monographic series may of course be a check card, a typed contents card, or a series of unit catalog cards. To save duplication, some libraries make cross references from one file to another, as from shelf list to public catalog or vice versa, for a complete record. The location of unit series cards for analyzed monographic series has been reported as being the main catalog by 51 libraries, the shelf list by 27, and the serials catalog by 16. Checking cards are used to record analyzed series in 34 libraries, 20 of which file them in the serials record, 4 in the public catalog, 3 in the serials catalog, and 3 in the shelf list.

E. Automation of Serials Records

Although only 11 libraries reported any serials operations automated, at least 20 indicated that they planned eventually to automate one or more of the processes, and others mentioned that this was under study. The pattern of moving from automation of book acquisitions to automated serials records is well described in this statement from Joint Universities (Nashville):

About two years ago we started studying the possibility of producing a printed serial holdings list which would include all divisions of JUL. That is still our goal, and we believe it is probably more needed than any other service we could render our readers and staff. For the present (and we hope not for too long) this plan has been set aside while we put our book acquisitions on punch cards. We believe that we will gain valuable experience on this simpler task and then can go on to the serials.

The printing of holdings information was reported as in operation by more libraries (7) than any other of the processes automated, though at both Florida libraries this was still on an experimental basis, partial lists having been run. A Kansas union list of serials, a holdings record of the six state schools, was being compiled on an IBM 1401 computer by the University of Kansas Libraries for the Kansas Library Council. Use of the machinable record as a basis of serials control was to be reviewed.

Automation of accounting was reported in operation by six libraries. From the University of Texas comes this detail:

Using IBM punched card equipment, the Library produces the following lists of serials:

(1) A location list of serials currently received. Columns 1-43 (Title) and 51-52 (Location) are reproduced by accounting machine. A multilith mat is made by Itak Platemaster, and copies made by multilith.

(2) Annual order renewal lists (state regulations require annual renewals). The punched cards are sorted on columns 69-70 (Source), with alphabetical sub-arrangement. The accounting machine prints columns 1-43 (Title).

(3) End-of-year lists of departmental expenditures. The primary sort is on columns 66-67 (Fund). The tabulating machine reproduces titles, year of payment, fund, subscription cost, and binding cost.

Purdue, which had operated a serials system for about a year, had discontinued while re-designing to incorporate improvements. The trend in other libraries is perhaps best expressed by the department head who wrote, "We have just begun to prepare . . . and we do not know how far we will proceed."

[Editor's note: The utter chaos of library terminology and organizational variations is only too apparent in this report. This complete lack of conformity makes a mish-mash of attempts at comparative studies or statistical analyses of library procedures.]

QUESTIONS AND ANSWERS REGARDING SERIALS HOLDING INFORMATION SERVICE IN RESEARCH LIBRARIES

A. QUESTIONS REGARDING SERVICES

- (a) Is serials holdings information in your libraries furnished to users by means of:
1. Consultation with staff; 2. A public record, e.g., a card catalog or printed list
- (b) If information is furnished through consultation with staff, is the service centralized in one department? If so, in what department?
- (c) If instead, or in addition, service points are distributed, please check to show the basis of the division:
1. By Subject
(a) Subject Departments
(b) Divisional Libraries
(c) College Libraries
2. By Form
(a) *Current Issues Separate
(b) Documents Separate
(c) Microforms Separate
- (d) Is the serials information service available whenever other public services are scheduled?
- (e) Are telephone requests handled directly from users?
- (f) 1. Is there a separate collection of selected periodicals in a public service area?
2. If so, what department has responsibility for answering questions regarding the collection?
3. Does the collection contain back issues? 4. Current issues?
5. Is there a separate record maintained for this collection?

*i.e. all recent issues until assembled for binding

A. ANSWERS REGARDING SERVICES

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	a1	a2	b	bDept.	c1a	c1b	c1c	c2a	c2b	c2c	d	e	f1	fDept.	f3	f4
Boston Public	X	X			X				X	X	X	X	X	Per.&Newsp.		X
Boston University	X	X			X		X	X		X	X	X	X	Reference		X
Brown	X	X			X	X		X	X	X	X	X	X	Serials		X
Calif. (Berkeley)	X	X			X	X	X	X	X	X	X	X	X	Per.Desk		X
Calif. (L.A.)	X	X				X		X	X		X	X	X	Serials		X
Chicago University	X	X			X	X		X		X	X	X	X	Per.Rm;Ser.Rec.		X
Cincinnati	X	X	X	SerialsSect.	X	X		X		X	X	X	X	Curr.Per.Rm		X
Colorado	X	X	X	Serials	X	X		X	X	X	X	X	X	Serials		X
Columbia	*X	*X				X		*X		*X	X	*X	X	Per.R.R.		X
L.C.	X					*X		X			*X	X	X	Ser.&Orientalia	*X	X
Connecticut		X					X	X	X	X	X	X				
Cornell	X	X	X	Ref.Dept.			X	*X		*X	*X	X	X	Ref.Dept.		X
John Crerar	X	X									X	X	X	Acqs.,Ref.	X	X
Duke		X				X	X	X	X		X	X	X	Per.Libn.		X
Florida Univ.		X					X	X	X		X	*X	X	Ref.		X
Florida State	X	X			X			X	X	X	X	X	X	ReadingArea&Ser.	X	X
Georgetown	X	X						*X			X	X		Per.&Pub.Serv.		X
Harvard	X	*X									X	X		Per.Rm(underRef.)		X
Illinois	X	X			X			X	X		X	X	X	Ref.		X
Indiana	X	X			X	X		X	X	X	X	X	X	Sers.&Docs.		X
Iowa	X	X	X	Serials		X	X				X	X	X	Sers.&Ref.	X	X
Johns Hopkins	X	X	X	Serials	X			*X	*X	*X	*X	X	X	Serials		X
Joint Universities	X					X		X			X	X	X	Ref.&Circ.	X	X
Kansas	X	X	X	Periodicals	X			X	X	X	X	*X	X	Periodicals	X	X
Linda Hall	X	X									X	X				

A. ANSWERS REGARDING SERVICES

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	a1	a2	b	bDept.	c1a	c1b	c1c	c2a	c2b	c2c	d	e	f1	fDept.	f3	f4	f5	
Louisiana	X	X			X				*X		X	X	X	Subj.Divisions			X	
Maryland	X	X			X	X		X	X	X	X	X	X					
McGill		X			X	X			X	X	X	X	X	Per.Dept.			X	
...I.T.		X			X							X	X					
Michigan State	X	X			X	X			X	X	X	X						
Michigan Univ.	X	X				X	X	X	X	X	*X	X	X	Circ.&Divisionals		X	X	
Minnesota	X	X				X			X	X	X	X	X	Periodicals		X	X	X
Missouri	X	X	X	Serials							X	X						
Atl.Agric.Lib.	X		X	RecordsSect.	X	X					*X	X	X	RecordsSect.		X	X	
Atl.Lib.ofMed.	X	X				*X		*X	X	*X	*X	X	X	Ref.&Tech.Serv.		X	X	X
Nebraska	X				X		X				X	X		Subj.Divisions		X	X	X
New York Public		X			X			*X			X	X	*X	Periodicals		X	X	
Newberry		X									X	X	X	Ref.Dept.			X	
North Carolina	X	X				X		X	X	X	X	X	X	Ref.Dept.&Libs.		X	X	
Notre Dame	X	X			X						X	X		Subj.Depts.		X	X	
Ohio State	X	X	X	Ser.Div.ofAcq.	X				X	X	X	X	*X	Serv.Pts.&Ser.Div.		X	X	X
Oklahoma	X	X			X	X	X	X	X	X	X	X	X	Subj.Areas		X	X	
Oregon	X	X	X	SerialsSect.		X			X		X	X						
Pennsylvania	X	X	X	Reference		X					X	X						
Penn. State	X	X	X	Periodicals			X		X		X	X	X	Periodicals		X	X	X
Pittsburgh	X	X				X		X	X	X	X	X	X	SerialsDept.		X	X	
Princeton	X	X	X	Reference	X						*X	X	X	Reference			X	
Rhode	X	X	X	UnionCat.Inf.	X	X		X			X	X	X	Ref.Unit		X	X	
Rochester	X	X	X	Periodicals	X		X	X	X	X	*X	X	X	Periodical			X	
Rutgers	X	X	X	Serials				X	X		*X	X						
St. Louis	X	X	X	Serials	X	X	X	X	X	X	X	X	X	Ref.&Sci.Tech.		X	X	
Stanford	X	X	X	SerialsRec.		X			X	X	*X	X	X	HumanitiesRef.		X	X	X
Syracuse	X	X			X	X			X	X	X	X	X	Reference		X	X	X
Temple	X	X				*X		X	X	X	X	X	X	Periodicals		X	X	
Tennessee	X	X					X		X	X	X	X	X	Reference		X	X	
Texas	X	X			X		X	X	X		X	X						
Texas A.&M.	X		X	Serials							X	X		Serials		X	*X	
Texas Tech	X	X	X	Periodicals	X				X	X	X	X						
Virginia	X	X	X	Serials					X		X	X	X	Ref.&Circ.		X	X	
Washington State	X	X				X		X			X	X						
Washington Univ.(St.L.)	X	X	X	Serials			*X	X	X	X	X	X	X	Reference			X	
Wayne State	X		X	SerialsAcq.	X	X			X	X	X	X	*X	Subj.Divisions		X		
Wisc.		X				X		X	X	X	X	*X	X	Ref.Dept.		X	X	
Unqualified answers	1	2			1	2	1	6	2	4	10	4	3			1	3	
Total	55	57	23		31	33	15	34	39	34	56	62	51			20	51	27

B. QUESTIONS REGARDING STAFF

- (a) Is the staff assigned to answer inquiries also in charge of checking in the serials?
 (b) Is the serials information function a part of a more general reference or information assignment?
 (c) 1. Is there special staff assigned for this service? 2. Fulltime? 3. For certain hours only?
 4. By professional staff? 5. Semi-professional? 6. Clerical?
 (d) What department is responsible for collecting serials for binding?
 (e) Under what next larger division of the library is the bindery preparation unit placed?

B. ANSWERS REGARDING STAFF

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	a	b	c1	c2	c3	c4	c5	c6	d	e
Boston Public	X	X							AllSubj.Depts.&Per.&Newsp.	Div.ofLib.Operations
Boston University	*X	*X							Serials	Asst.Director
Brown	*X	*X							Serials	OrderDept.
Calif. (Berkeley)	*X	*X							Various Units	Serials
Calif. (L.A.)	*X	*X	*X	X		X	*X		Serials&Divisions	Acquisitions
Chicago Univ.	X								Per.Rm&Ser.Rec.	Asst.Dir.forPrep.
Cincinnati	X		X	X		X			Serials	Acquisitions
Colorado	*X								Serials	Serials
Columbia		X							Per.R.R.&Ser.Cat.Dept.	
L.C.			X	X		X			Custodial Div.ofRef.	Ref.Dept.
Connecticut			X	X				*X	Serials	Serials
Cornell		X							CentralSerialsRecord	TechnicalServices
John Creerar	X	X							Binding	TechnicalServices
Duke	*X	*X	X	X		*X	*X	*X	*ServiceUnits&SerialsStaff	SerialsDept.
Florida Univ.		X							Reference&Ed.Prep.	Acquisitions
Florida State	*X								PublicServicesAreas	TechnicalProcesses
Georgetown	*X	*X							Periodicals	Periodicals
Harvard	X	X							SerialReceiptsSectioninAcq.	Catalogue
Illinois		*X							PublicServiceDepts.	SerialsDept.
Indiana	X	*X							Serials	Serials
Iowa Univ.	X		X	X			X		Serials	Serials
Johns Hopkins	X								Serials	TechnicalServices
Joint Universities		X							Binding	Asst.Director
Kansas	X		X	X		X	X	X	Periodicals	Asst.Dir.forTech.Serv.
Linda Hall		X							Serials	Serials
Louisiana	*X	X							SubjectDivisions	Acquisitions
Maryland		X							SubjectDivs.&Cat.Dept.	Acquisitions
McGill	X								PeriodicalDept.	Periodicals
M.I.T.		X							DivisionalLibraries	CentralTechnicalService
Michigan State		*X							AllSubjectDivisions	Serials
Michigan Univ.	X	*X							Circ.&Divisionals	Acquisitions
Minnesota			X	X		X	X	X	Periodical&Div.Libs.	Catalog
Missouri	X								PublicServiceDivs.	SerialsDept.

B. QUESTIONS REGARDING STAFF

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	a	b	c1	c2	c3	c4	c5	c6	d	e
Natl.Agric.Lib.	*X		X	X				X	MaintenanceSect.(Stacks)	Div.ofLending
Natl.Lib.ofMed.	*X	*X							ReferenceServicesDiv.	Ref.Serv.:PreservationSect.
Nebraska	X		X			X	X	X	SubjectDivs.&SerialsSect.	Acquisitions
New York Public			X						PeriodicalDiv.&SubjectDivs.	Preparation Div.
Newberry			X						Binding	LibraryOperations
North Carolina	X								DivisionalRef.Depts.	Acquisitions
Notre Dame	X		X			*X	*X	*X	BindingPreparations	CatalogDept.
Ohio State	X			X				*X	PointofService	TechnicalServices
Oklahoma	X	*X	X	X	X	*X		*X	Various	TechnicalProcesses
Oregon	X	X							SerialsSection	SerialsSect.ofAcq.
Pennsylvania			X						Ref.Dept.(orDept.Lib.)	ServiceDivision
Penn. State	X		X	X		*X	*X	*X	Periodicals&BranchLibs.	TechnicalProcesses
Pittsburgh	*X		X	X			X	X	Binding Unit	SerialsDept.
Princeton			X						Ref.Dept.(Main)&Spec.Lib.	PreparationDiv.
Purdue			X	X	X		X	X	Ref.&SerialsUnits	SerialsUnit
Rochester	X								Periodical	Periodical
Rutgers	X		X	X		X	X	X	Serials	
St. Louis	*X	*X				*X		*X	BindingPreps.	Acquisitions
Stanford			X					*X	StacksSupervisors&Dept.Lib.	Acquisitions
Syracuse			X						Bindery&Branches	Acquisitions
Temple	*X	X				X	X		Departments	Periodical&CatalogDepts.
Tennessee			X						Binding	ReportstoAssoc.Dir.
Texas			X							TechnicalServices
Texas A.&M.	X								BinderyPrep.Unit	SerialsDept.
Utah	X		X	X		*X	*X	X	BindingPrep.&Periodicals	Periodicals
Virginia	X		X	X		X	X	X	Serials	Circulation
Washington State			X						DivisionalLibs.	
Washington Univ.(St.L.)	X		X	X		*X	*X	*X	Serials	Serials
Wayne State	X					*X	*X	*X	SerialsAcq.	Acquisitions
Wale	X								Ser.Div.(ofCat.)orPer.R.R.	ASep.Dept.
Qualified answers	14	13	1			9	7	9		
Total	42	35	19	18	1	18	17	17		

C. QUESTIONS REGARDING SERIALS RECORDS

a. If holdings information is furnished through a publicly available record, please indicate whether holdings for one or more of the following are combined in a single file:

1. Back issues.
2. Current issues.
3. Analyzed series.
4. Documents.
5. Technical reports.
6. Serials in microform.
7. Serials in non-Western languages.
8. Holdings of all of your *agencies.
9. Holdings of the major *agencies.

b. In what area of the library is the public record (or records) located?

c. Is the public record in the form of

1. Back files?
2. Current issues?

- (a) In Main catalog. (b) Serials catalog. (c) In Visible index. (d) Printed book.
 (e) Printed sheets. (f) Other (Specify).

*Includes branch, college or departmental, or other affiliated libraries.

C. ANSWERS REGARDING SERIALS RECORDS

LIBRARY	Question a	Question b	Question c
Boston Public	1,3,4,6,7	Pub. Catalog	1a
Boston University	1,2,3,4,5,6,7,8	Ref. Div.	*1a,1f(Linedex for Pers.),*2a,2f(Linedex Pers.)
Brown	1,3,4,5,6,7,8	Pub. Cat. Rm	1a,2c
Calif. (Berkeley)			1a,2a,*2c
Calif. (L.A.)	1,3,4,6,7,8	Ref. & Per. Rm	1a,*1d,*2a,2c,2f(Linedex rotary file)
Chicago Univ.	*1	Ref. Rm	*1a
Cincinnati	1,6,8	Adjacent to Cat. & Ref.	1a,1b,2c
Colorado			
Columbia	1,*2,3,4,*5,6,*7,*9	Ref. Rm	1b,*2b
L.C.	*1,*2,*3,*4,8	Orientalia	1b,1c,2b,2c
Connecticut	1,3,6,7,9	Per. R.R.	1b
Cornell	1,4,5,6,7,8	Near Pub. Cat.	1b
John Crerar			
Duke	1,*2,3,5,6,7,8	Ser. Cat. near Pub. Cat.	1b,*2b,*2c
Florida Univ.	1,3,*4,5,6,7,8	Pub. Cat. Corridor	1a,1b
Florida State	1,3,5,6,7		1a
Georgetown	1,2,6,7,*9		
Harvard			1a,1b,*1c,*2b,*2c
Illinois	1,2,3,6,7,8	Adj. to Pub. Cat.	1a,1b,2f(Rotary file in Ser. Dept.)
Indiana	1,3,5,6,7,8	Pub. Cat. & Docs.	*1a,*1b,*1c,2c
Iowa Univ.	1,2,3,4,5,6,7,8	Adj. to Cat. & Ref.	1b,2c
Johns Hopkins	1,3,4,5,6,7,9	Adj. to Bibl. Center	1b,2c
Joint Universities			
Kansas	1,3,*4,6,7,8	Adj. to Pub. Cat.	1b,1c,*1d,2c,2d
Linda Hall	1,2,6,7	Adj. to Ref. & Ser.	1c,2c
Louisiana	1,2,3,*4,5,6,7,8	Adj. to Info. Desk	1c,2c
Maryland	1,3,6,8		1a,2c
McGill	1,3,6,7,9	Ref. Area	1a,1b,2c
M.I.T.			
Michigan State	1,2,3,7,8		1b,1c,2c
Michigan Univ.	*1,*2,*3,*4,*5,*6,*7,*8	Divs., Per. & Cat.	1b,1c,2b,2c
Minnesota	1,*3,*4,*5,6,8	Adj. to Per., Circ. & Ref.	1a,*1c,2a,2c

C. ANSWERS REGARDING SERIALS RECORDS

LIBRARY	Question a	Question b	Question c
Missouri	1,2,3,4,5,6,7,8	Near Main Cat.	1b,2b
Natl.Agric.Lib.			
Natl.Lib.ofMed.	*1,3,6,*7	Pub. Cat. Area	*1a,*1c,*1d,*2a,*2c
Nebraska	1,2		
New York Public	*1,3,*4,6,7	Main R.R.	1a
Newberry	1,2,3,4,5,6	Pub. Cat.	1a,2a
North Carolina	1,2,3,6,7,8		*1b,*1c,*2c
Notre Dame	1,2,3,4,5,6,7,8	Office near Cat.	1a,1b,2c
Ohio State	*1,*2,*3,*4,*5,*6,*7,*8	Per. R.R.	1a,1c,1d,2a,2c,2d
Oklahoma	1,3,*4,*5,*6,7,8	Near Pub. Cat. & Inf.	1b,2c
Oregon	1,2,3,4,5,6,7,*8	Acq. near Pub. Cat.	1c,2c
Pennsylvania	1,3,4,5,6,7,8	Ref. Dept.	1b
Penn. State	1,2,3,6,7,8	Per. near Cent. Ser.	1b,1f(Dups of Flexoline Lists),2c
Pittsburgh	1,2,3,5,6,*7,8	Pub. Cat. Rm	1a,2a
Princeton	1,3,4,6,*7,8	Near Main Lobby	1a,2c
Purdue	1,4,6,7,8	Reading Rm	1b,1d,2c
Rochester	1,3,4,5,6,7,*8,9	Circ. Desk Area	1a,2c
Rutgers	1	(Public) Ser. Dept.	1a
St. Louis	1,2,3,4,5,6,7	Ser. thru Window	1a,1b,2a,2b,*2c
Stanford	*1,*2,*3,*4,*5,*6,*7,*8	Near Main Cat.	1b,1c,1d,2b,2c,2d
Syracuse	1,3,4,5,6,7,8	Card Catalog	1a,1c,1d
Temple	1,3,5,6,7,8	Pub. Cat., Per., Ref.	1a,1f(Card file in Per.)
Tennessee	1,3,6,8	Circ. Lobby	1a,2c
Texas	1,3,4,6,*7,8		1a,*1c,*1d,*2c,*2d
Texas A.&M.			
Utah	1,6,7,8	Near Bk. Cat., Circ. & Ref.	1c
Virginia	1,6,7,8	Main Lobby near Cat.	1b,2c
Washington State	1,*2,3,4,5,6,7,8	Divisional Libs.	*1c,*1d,2c
Washington Univ.(St.L.)	1,2,3,*4,*5,*6,7,9	Near Ref. & Circ.	*1a,1c,*2a,2c
Wayne State			
Yale	1,*2,3,4,5,6,7	Pub. Cat.	1a,*2a

Qualified answers

C. QUESTIONS REGARDING SERIALS RECORDS

d. 1. Are closed entries removed from the serial file? 2. If so, are they kept in a separate file? 3. Are they filed into the main public catalog?

e. Does the public record show, regarding back files:

1. Holdings of specific vols., noting where incomplete? 2. Holdings of specific complete vols. only?
 3. Holdings for bound vols. only? 4. Titles held only? 5. By such statements as "-date" or "+date" that there is a standing order? 6. Shelf location of vols.?

(a) For Main library.

(b) For Other agencies.

f. Does the public record show, regarding current issues:

1. Titles held only? 2. Holdings of specific unbound issues? 3. Shelf location of all titles?
 4. Shelf location of selected titles?

(a) For Main library.

(b) For Other agencies.

C. ANSWERS REGARDING SERIAL RECORDS

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	d1	d2	d3	Question e		Question f	
				(a) Main Library	(b) Other Agencies	(a) Main Library	(b) Other Agencies
Boston Public	X	X	X	3,5,6		3	
Boston University	X	X		*1,*4,*5,6	*1,*4,*5,6	*2,3	*2,3
Brown	X	X		1,6	1,6	3	
Calif. (Berkeley)	X			*4	*4	1	1
Calif. (L.A.)	X	X	X	3	4	1,3	1
Chicago Univ.				*1,*4,5,6	*1,*4,5,6	1,3	1,3
Cincinnati	X		X	5,6		1,3	1,3
Colorado				4,5,6	4,5,6	1,3,4	1,3
Columbia				1,*3,6	*1,6	*1,*2,3	*1,*2,3
L.C.			X	1,5,6		2,3	
Connecticut				1,5	*1,*5	1	*1
Cornell				1,6	*1,6	1,3	*1,3
John Crerar	X	X	X	1		1	
Duke				1,*4,5	1,*4,5	*1,*2,3	*1,2,3
Florida Univ.				1,5,6	1,5,6	1,3	1,3
Florida State				3,5,6		3	
Georgetown				1,5,6	1,5,6	1,3	1,3
Harvard	X		X	*1,*6		2,3	
Illinois	X		X	1,6	1,6	2,3	2,3
Indiana			X	1,3,6	1,3,6	1,3,4	1,3,4
Iowa Univ.				1,6	1	2	2
Johns Hopkins				1	1	2,3	2,3
Joint Universities							
Kansas	X		*X	1,6	1,6	3	3
Linda Hall				1,6		2,3	
Louisiana				1,5,6	1,5,6	2,3	2,3
Maryland			X	1,3,6	1,3	1,2,3	1,2,3
McGill				*1,5	*1,5	3	3
M.I.T.				1	1	2,3	2,3
Michigan State				1,6	1,6	4	1
Michigan Univ.			X	1,6	1,6	2,3	2,3

C. ANSWERS REGARDING SERIALS RECORDS

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	d1	d2	d3	Question e		Question f	
				(a) Main Library	(b) Other Agencies	(a) Main Library	(b) Other Agencies
Minnesota				1,5	1,5	1	1
Missouri			X	4,6	4,6	1,3	1,3
Natl.Agric.Lib.							
Natl.Lib.ofMed.			X	*1,2,6		1,3	
Nebraska							
New York Public			X	1,*5,6		1,3	
Newberry				1,3,5,6		1	
North Carolina	X		X	1	1	1,3	1,3
Notre Dame	X	X	*X	2,3,*5,6	2,3,*5,6	1,3	1,3
Ohio State				4,6	4,6	1,3	1,3
Oklahoma				1,2,3,4,5,6	*1,2,*3,*4,5,6	1,2,3,4	1,2,3,4
Oregon	X		X	1,6	*1,6	2,3	2,3
Pennsylvania				1,5,6	1,5,6	1	1
Penn. State				1,5,6	1,5,6	2,3	1,3
Pittsburgh				1,5	1,5	2,3	2,3
Princeton	X			1,6	1,6	1,4	1
Rurdue			X	1,6	1,6	2,3	2,3
Rochester			*X	1,5,6	1,5,6	2,3	2,3
Rutgers				3,4,6	4	1,3	1,3
S. Louis			X	1,4,6		1	
Stanford				*1,6		1,3	1
Tennessee	X	X		1,5,6	1,5,6	3	3
Temple	X	X	X	3,5,6			
Tennessee	X	X	X	1,6	1,6	1,3	1,3
Texas				3,6	3,6	1	1
Texas A.&M.							
Tygh	X	X	X	2,5,6	2,5,6	1,3	1,3
Virginia			X	1,2,5,6		1,3	
Washington State				1,6		1,*2,3	
Washington Univ.(St.L.)			*X	1,5,6	*1	2,3	*2
Wayne State				4,6		1,3	
Wale			X	1,6	4,6	*1,2,3	1,3

Qualified answers

C. QUESTIONS REGARDING SERIALS RECORDS

g. If there is no public record, where are serial holdings recorded?

1. For back file. 2. For current issues.

(a) For Main library.

(b) For Other agencies.

h. Does the current serial check record include:

1. Source? 2. Expiration date? 3. Payment record? 4. Expected receipt date? 5. Bindery charges?
6. Bindery schedule?

C. ANSWERS REGARDING SERIALS RECORDS

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	Question g-1		Question g-2		Question h				
	(a) Main Library	(b) Other Agencies	(a) Main Library	(b) Other Agencies	1	2	3	4	5
Boston Public			Subj., Per. & Newspaper Depts.						
Boston University	Ser. Dept.	Ser. Dept.	Ser. Dept.	Ser. Dept.	X	X	X		
Brown					X	X	X		X
Calif. (Berkeley)	Per. Desk		Per. Desk		X	X			
Calif. (L.A.)			Ser. Dept.	In Agencies	X				
Chicago Univ.	Ser. Rec.	Ser. Rec.	Ser. Rec.	Ser. Rec. & Dept.	X	X		X	
Cincinnati					X	X	X	X	
Colorado	Ser. Dept.	Ser. Dept.	Ser. Dept.	Ser. Dept.					
Columbia					X	X	X		
L.C.					X				X
Connecticut					X	X	X		
Cornell					X	X	X		
John Crerar	Ser. Rec. Sect.		Ser. Rec. Sect.		X		X		
Duke					*X	X	X		
Florida Univ.					X	X	X		
Florida State					X	X	X	X	
Georgetown					X	X	X		
Harvard					X		X		
Illinois					*X				
Indiana					X	X	X	X	X
Iowa Univ.					X				
Johns Hopkins					X				*X
Joint Universities	Ser. Rec.	Cent. Ser. Rec.	Ser. Rec. & Kardex	Cent. Ser. Rec.	X				
Kansas			Kardex	Kardex	X				X
Linda Hall					X	X	X	X	X
Louisiana					X	X	X	X	X
Maryland					X	X	X	X	
McGill					X				
M.I.T.					X	X	X		
Michigan State					X		X	X	
Michigan Univ.					X				
Minnesota					X	X	X		
Missouri	Ser. Cat.	Ser. Cat.; br. S. List	Ser. Cat.	Ser. Cat.; br. S. List	X	X	X		X
Natl. Agric. Lib.	ABC Ser. File		Curr. Ser. Rec.		X				
Natl. Lib. of Med.	Tech. Serv.		Tech. Serv.		X	X			

C. ANSWERS REGARDING SERIALS RECORDS

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	Question g-1		Question g-2		Question h					
	(a) Main Library	(b) Other Agencies	(a) Main Library	(b) Other Agencies	1	2	3	4	5	6
Nebraska	Acq.	Acq.	Acq.	Acq.	X				X	X
New York Public									*X	X
Newberry					X	X	X	X		
North Carolina					X		X			
Notre Dame					X	*X	X			
Ohio State					X	X	X			
Oklahoma					X	X		X		
Oregon		Law. Lib.		Law Lib.	X	X	X		X	X
Pennsylvania	Ser. Dept.	Ser. Dept.	Ser. & Ref.	Ser. Dept.	X	X	X			
Penn. State					X					
Pittsburgh	Circ. Dept.	Circ. Dept.	Per. Rm	Agency Lib.	X					X
Princeton					X		X			
Purdue					X					X
Rochester					X	*X	X			
Rutgers	Ser. Rec.	At Agency	Ser. Rec.	At Agency	X	*X				
St. Louis					X	X	X			
Stanford					X					
Syracuse					X					
Temple			Kardex		X	*X	*X			
Tennessee					X					
Texas					X					
Texas A.&M.	Ser. Rec.	Ser. Rec.	Ser. Rec.	Ser. Rec.	X	X	X			
Tah					X	X	X			X
Virginia					X	X				*X
Washington State	Ser. Rec.		Ser. Rec.		X				X	X
Washington Univ.(St.L.)	Cent. Ser. Rec. (Inf. at Service Window)				X				X	X
Wyne State	Ser. Rec.	Dept. Ser. Rec.	Ser. Chk. Rec.	Dept. Chk. Rec.	*X					
le		Dept. Cat.		Dept. Lib. Cat.						
qualified answers										

D. QUESTIONS REGARDING ANALYZED MONOGRAPH SERIES

- (a) Where are holdings for series separately classified recorded?
 (b) Where are holdings for series classed together recorded?
 (c) 1. Are unit series cards filed in the shelf list? 2. In the main catalog? 3. In a serials catalog?
 (d) 1. Are form check cards used to record analyzed series? 2. If so, where are they filed?

D. ANSWERS REGARDING ANALYZED MONOGRAPH SERIES

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LITERARY	a	b	c1	c2	c3	d1	d2	
Boston Public	Pub. & Off. Cats.	Pub. & Off. Cats.					X	
Boston University	Main Catalog	S. List & Main Cat.	X	X		X	S. List	
Brown	Main Catalog	Main Cat. (Curr. in Kdx.)			X		S. List	
Calif. (Berkeley)	Pub. Catalog	Pub. Catalog						
Calif. (L.A.)	Pub. Catalog	Pub. Catalog			X	X	Public Catalog	
Chicago Univ.	Ser. Rec. & Pub. Cat.	Ser. Record			X	X	Ser. Record	
Cincinnati	Sep. Contents File	S. List						
Colorado	Ser. Check. Rec.	Ser. Check. Rec. & S. List	X	X	X		Ser. Check. Record	
Columbia	Genl. Catalog	Pub. Ser. Cat.			*X	X		
L.C.	Pub. Cat. & Ser. Rec.	Pub. Cat. & Ser. Rec.	X	X		X	Ser. Record	
Connecticut	Pub. Catalog	Pub. Catalog			X	X		
Cornell	Pub. Catalog	S. List			X	*X	X	Acquisitions
John Crerar	Ser. Rec. (in Acq.)	Ser. Rec. (in Acq.)	X	X	X	X	Ser. Rec. (in Acq.)	
Duke	Ser. Catalog	Ser. Catalog					X	
Florida Univ.	Pub. Cat. & Vis. Ind.	Pub. Cat. & Vis. Ind.	X	X				
Florida State	Main Catalog	Main Cat., Traced in S. List			X			
Georgetown	Acq. Dept. Kardex	Acq. Dept. Kardex & S. List						
Harvard	Ser. Record	Ser. Record					X	
Illinois	Main Catalog	Cent. Ser. Rec.	X	X	X	X	Cent. Ser. Rec.	
Indiana	Pub. Catalog	Pub. Catalog			*X	X	Pub. Cat. & Ser. Cat.	
Iowa Univ.	Ser. Catalog	Ser. Catalog	X	X	X	X	Ser. Catalog	
Johns Hopkins	Pub. Catalog	Ser. Cat. & Vis. Ind.			X	X		
Joint Universities	Ser. Rec. & Pub. Cat. Contents Same as "a" List				X	X	X	Ser. Record
Kansas	Pub. Catalog	Cent. Ser. Rec.					X	
Linda Hall	Pub. Catalog	Pub. Cat. & S. List			X			
Louisiana	Ser. Record	Ser. Record	X	X		X	Pub. Catalog	
Maryland	Pub. Catalog	Pub. Catalog			X	X	S. List	
McGill	Pub. Catalog	Pub. Catalog			X			
M.I.T.	Cent. Ser. Rec.	Cent. Ser. Rec.			X	X		
Michigan State	Cent. Ser. Rec.	Cent. Ser. Rec.			X	X	X	Cent. Ser. Rec.
Michigan Univ.	Ck. List & Official	Ck. List			X	X	Ser. Ck. List	
Minnesota	Ser. Div.; Some Pub. Cat.	Ser. Div.; Some Pub. Cat.			X	X	Kardex in Ser. Div.	
Missouri	Ser. Catalog	Ser. Catalog				X	X	Ser. Catalog
Natl. Agric. Lib.	Pub. Catalog	Rec. Sect.: ABC Ser. File						

D. ANSWERS REGARDING ANALYZED MONOGRAPH SERIES

For Those Questions Which Can Be Answered Affirmatively or Negatively, the X Indicates a "Yes"

LIBRARY	a	b	c1	c2	c3	d1	d2
Natl. Lib. of Med.	Pub. Catalog	Pub. Cat. & Ser. Rec.		X		X	Ser. Rec. Vis. File
Nebraska	Pub. Catalog	Pub. Cat. or Cent. Ser.			X		
New York Public	Main, Off., & Div. Cats.	Main, Off. & Div. Cats.		X		X	Official Catalog
Newberry	Pub. & Off. Cats.	Pub. & Off. Cats.	X	X			
North Carolina	Cent. Ser. Rec.	Cent. Ser. Rec.		*X	*X	X	Cent. Ser. Rec.
Notre Dame	Ser. Record	Ser. Record		X		X	Ser. Record
Ohio State	Cent. Ser. Rec. & Pub. Cat.	C.S.R. & Tracing File		X		X	Cent. Ser. Rec.
Oklahoma	Card Catalog	Cent. Ser. Rec.				X	
Oregon	Main Pub. Catalog	Ser. Check. Rec.	X	X	X	X	Ser. Check. Rec.
Pennsylvania	Main Catalog	Ser. Cat., Ser. Dept.			X		
Penn. State	Cent. Ser. Rec.	Cent. Ser. Rec.	X	X			
Pittsburgh	Card Catalog	Card Catalog	X	X			
Princeton	Main Catalog	Main Catalog			*X	X	S. List incl. Anal. Ser.
Purdue	Main Catalog	Ser. Catalog		X		X	Ser. Unit
Rochester	Pub. Cat. & Vis. Ind.	Pub. Cat. & Vis. Ind.	X				
Rutgers	Ser. Record	Ser. Record	X	X	X		
St. Louis	Pub. Catalog	Kardex & Pub. Cat.		X		X	Kardex in Ser. Dept.
Stanford	Main Catalog	Ser. Record				X	Ser. Record
Syracuse	Pub. Cat. & Ser. Dept.	Pub. Cat. & Ser. Dept.	X	X	X	X	Ser. Dept.
Temple	Pub. Catalog	Pub. Catalog	*X	*X		*X	Kardex until Cat.
Tennessee	Card Catalog	Card Catalog		X		X	Card Catalog
Texas	Pub. Catalog	Pub. Catalog	X	X			
Texas A.M.	Ser. Record (if S.O.)	Ser. Record					
Utah	Main Book Catalog	Main Book Catalog	X	X			
Virginia	Main Catalog	Ser. Cat. & Main Cat.	X		X	X	
Washington State	Ser. Record	Ser. Record	X	X		X	Ser. Record
Washington Univ.(St.L.)	Cent. Ser. Record	Pub. Cat. & C.S.R.	X	X			
Wayne	Pub. Catalog	Pub. Catalog	X	X			
Wale	Ser. Div. & Pub. Cat.	Ser. Div. & Pub. Cat.		X		X	Ser. Div. & Pub. Cat.
Qualified answers							

E. QUESTIONS REGARDING THE AUTOMATION OF SERIAL RECORDS

0. Are the serial records automated in any way?
If so, are any of the following made available by automation, or are there plans to produce them by automation?
1. Acquisitions processes.
 - a. Initial procurement.
 - b. Claims.
 - c. Renewals.
 - d. Accounting
 2. Recording receipt.
 3. Routing of issues.
 4. Monitoring the binding.
 5. Printing of holdings information.
 6. Preparation of bibliographies.
 - a. By subject
 - b. By country.
 - c. By language.
 - d. By source.
 7. Others.

E. ANSWERS REGARDING THE AUTOMATION OF SERIAL RECORDS

Answers To Questions 1-6 Are Indicated By an "O" For Systems In Operation and "P" For Systems Being Planned

LIBRARY	0	1a	1b	1c	1d	2	3	4	5	6a	6b	6c	6d	7
Boston Public		P	P	P	P	P	P	P	P	P	P	P	P	Yes
Boston University														
Brown														
Calif. (Berkeley)	Yes													
Calif. (L.A.)		P	P	P	P	P	P	P	P	P	P	P	P	
Chicago Univ.		P	P	P	P	P	P	P	P					
Cincinnati														
Colorado		P	P	P	P					P				P Yes, but these are priority.
Columbia														
L.C.					O									
Connecticut														
Cornell														
John Crerar														
Duke														
Florida Univ.	Yes				O	O			*O					Prints lists; gift & exchange additions list planned.
Florida State	Yes	P	P	P	P	P	P	P	O	P				
Georgetown		P	P	P	P	P	P	P	P	P				
Harvard														
Illinois									O					
Indiana														
Iowa Univ.														
Johns Hopkins														
Joint Universities														
Kansas	Yes								O					
Linda Hall		P	P	P	P	P		P	P	P	P	P	P	
Louisiana														
Maryland		P	P	P	P	P	P	P	P	P				
McGill		P	P	P	P	P	P	P	P	P	P	P	P	
M.I.T.														

E. ANSWERS REGARDING THE AUTOMATION OF SERIAL RECORDS

Answers To Questions 1-6 Are Indicated By an "O" For Systems In Operation and "P" For Systems Being Planned

LIBRARY	0	1a	1b	1c	1d	2	3	4	5	6a	6b	6c	7
Michigan State													
Michigan Univ.		P	P	P	P	P	P	P	P				
Minnesota													
Missouri	Yes	O	P	O	O	P	P	P	P				
Missouri Agric.Lib.													
Missouri Lib.ofMed.		P	P	P	P	P	P		P		P	P	Yes
Nebraska	Yes	P	P	P	O	P		P	P	P	O	O	By location; By Subscr. Date.
New York Public													
North Carolina													
Notre Dame													
Ohio State									P	P	P	P	
Oklahoma	Yes	*O&P		P	P								
Oregon													
Pennsylvania													
Penn. State		P	P	P	P	P	P	P	P	P	P	P	P
Pittsburgh													
Randolph													
Randolph	Yes	P	P	P	O	P	P	P	P	P	P	P	Redesigning system.
Rochester													
Tennessee													
Tennessee													
Texas	Yes			O					O				Partial accounting.
Texas A.&M.		P	P	P		P	P	P	P	P	P	P	P
Texas Tech.		P	P	P	P	P		P	P	P		P	
Virginia									*O				
Washington State	Yes	O	P	P	P	P	P	P	P	P		P	P
Washington Univ.(St.L.)	Yes	*O&P	*O&P	P	*O&P	*O&P	P	*O&P	*O&P	*O&P	*O	*O	*O
Wayne									P				
Wisconsin													
Unqualified answers													

Current Serials Duplication at the National Agricultural Library

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IN THIS DAY of constant reminders of the information explosion, particularly in the area of scientific and technological information, few if any libraries or information centers can afford to process materials other than those they intend to keep. In most libraries the problem of duplication is small and, book budgets being what they are, is kept small by continual vigilance before materials are ordered. However, in institutions where many materials are received free of charge, on an exchange basis, or as a result of some other reciprocal arrangement, the problem of duplication is removed from the pre-ordering routine and must be handled as part of the processing operation.

The problem is not limited to any one type of material. It may be monographic, serial, or report literature. Its source is not restricted as to origin, for local and national as well as foreign sources may be involved. Neither may a restriction be drawn as to type or size of institution which suffers from the duplication dilemma, although it is inclined to be a problem for larger research libraries, university libraries, and many government libraries because of their ability to obtain materials in the manner stated.

An earlier duplication study described some of the problems of report literature duplication as experienced by a government information handling center, The Office of Technical Services (now called The Clearinghouse for Federal Scientific and Technological Information).¹ A recent study has brought to light duplication problems of a different nature in the handling of serial publications at the National Agricultural Library and offers suggestions for its partial solution.

The National Agricultural Library is responsible for the selection and acquisition of the world's current and historical publications in the fields of agriculture and its related sciences. These publications appear either as monographs, serials, or reports; but the majority, 75% of them, are serials. Summary statistics for 1962/63 and 1963/64 indicate the volume of serial literature which must be handled:

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¹ Painter, Ann F. *An Analysis of Duplication and Consisting of Subject Indexing Involved in Report Handling at the Office of Technical Services, U. S. Department of Commerce*. Washington, D. C., Office of Technical Services, 1963. PB181501.

<i>Serials</i>	<i>1962/63</i>	<i>1963/64</i>
Total receipts	590,913	596,086
Total added to the collection	230,307	229,649
Total duplicates or discards	360,606	366,437

According to these figures, more than half of the serial receipts are duplicates and are discarded.

These serials are chiefly obtained in four ways: by subscription, through exchange (both foreign and domestic), by gift, and, by law as a repository for all discarded materials, from USDA personnel. The variety of sources and the conditions of acquisition further complicate the duplicate control problem.

Serial handling at the National Agricultural Library is done by the Current Serial Record Section, Catalog and Records Division of Technical Services. All issues received by the Library must be opened and sorted by the mail assistant, and delivered to one of seven checkers who in turn sort and search each title in the Current Serial File which now numbers some 22,000 titles. If it is a duplicate, it must then be discarded. Thus each item must be handled at least three times. Fifty percent duplication means 50% wasted or unnecessary effort.

The need for analysis is thus self-evident. Because of the complexities of source and volume of material, the study was divided into three units: analysis of U. S. government documents, analysis of state experiment station and extension service publications, and analysis of that rather indefinable group known as "the rest." Despite the fact that government-document duplicates constitute a sizeable portion of the serial collection, they seem to have individual complexities all their own. Therefore, it was decided to set up and test the analysis criteria on the other duplicates before proceeding to the documents.

The state experiment stations and extension services were approached through personal letters. This action was precipitated by the results of a sample of Illinois State duplicate publications collected over a three-month period (August-October 1963). The sample consisted of 28 different items (titles) distributed from at least three closely-related offices using four different mailing plates and as many typed addresses. If the rest of the states were to follow the same relative pattern, this source of duplication might account for some 5,000 duplicate titles a year. The only realistic method of determining the pattern of each state would be to take a similar sample for each of the fifty states. No satisfactory data would be available for from six months to a year.

An alternative plan was therefore put into motion. The U. S. Department of Agriculture, Federal Extension Service, Division of Information has published *Agricultural Information Staffs in the State Land-Grant Colleges and Universities* (October 1964) which lists editors and other personnel responsible for creating and distributing experiment station and extension service publications. Since the Illinois sample indicated that faulty mailing information was responsible for a large portion of the duplicate mailings, a form letter was drawn up requesting

editors to review mailing information and to correct it. Aside from the letter to Illinois which was initiated by previous correspondence, a trial run of four letters was sent in November 1964, followed at monthly intervals by 10-15 more each month. While response by letter was not required, approximately 25% of the first 21 states responded favorably to the request. It will take some time, however, before the action results in fewer duplicates.

The other group offering possible elimination of duplicates was that which included a variety of sources and made up 50-75% of the total duplicates. Since the nature of the population was so nebulous, a sample was taken to determine its character, type, and true volume. The sample was intended to be a 10% sample based on June 1964 duplicates statistics of 21,653, or approximately 4300 per week and 800 per day. The sample period covered two weeks, October 18-30, 1964. U. S. Government documents were excluded.

The sample was taken by all the checkers. The items were then accumulated and tabulated for the following information: source, date of publication, date of receipt, frequency of issuance, method of acquisition (gift, purchase, or exchange), source of the issue in hand matched with the established record, method of acquisition of the issue in hand matched with the established record, receipt in duplicate, triplicate or more, number of copies required, and number of copies received.

This sample and analysis showed that for this group duplicated materials fell into six major groups: Library of Congress duplicates, publications from other USDA departments, publications with no identification of source, blanket-order duplicates, multiple copies sent by publishers through incorrect mailing information, and duplicated state publications. (The last was included in order to determine the relative volume within the whole.) The total number of documents accumulated over the two-week period numbered only 253 or a total average of 25 per day as opposed to the expected volume. Further investigation revealed that several groups of serial items had not been counted because they did not normally reach the checkers. These items included LC duplicates, duplicates without wrappers, duplicates from other department personnel, daily newspapers, and blanket-order duplicates. Thus the sample was cut to a rather selective 3%, and its statistical validity was lost until a later complete count of all duplicates restored its proper perspective.

The second sample was taken in a two week period March 15-26, 1965, solely in order to determine the volume of duplicates in four major categories indicated by the earlier sample. There was no attempt to analyze the items as in the earlier study. The four categories included:

1. Items received from state experiment stations and extension services
2. Items received from other Department personnel, including unidentified items and those from LC or Smithsonian
3. Items received from blanket orders or other special arrangements including those from the Department of State, P.L. 480, Embassies, etc.
4. Other (corresponding roughly to the October sample)

The results showed 3,630 duplicates for this two-week period. No items were discarded without first being reviewed by the checkers. The sample fell into the following proportions:

Category 1:	464	(13%)
2:	1087	(30%)
3:	268	(7%)
4:	1811	(50%)

The two-week total was compared with the same two-week period in October, 1964, and February, 1965. Other monthly figures indicate a fairly steady decline in the number of duplicates during the previous fourteen months, but the precise reasons have not been determined. Based on this comparison, there appears to be no reason to question the validity of the total statistic of 3,630 duplicates as being representative.

Once the volume was established as representative, the percentages of the four-category breakdown were examined. The items of category 1 represented 13% of the total. These have been checked out by letters mailed to the experiment stations and extension services requesting mailing information review. Categories 2 and 3 (37%) have been restricted by formal regulation and acquisition arrangement, for the most part beyond the control of the Library and hence cannot be alleviated. This left the fourth category which corresponded in nature to the October sample. Since it represented some 50% of the total duplicates, any attempt to alleviate duplication in category 4 could substantially affect the total.

Since the March sample also indicated that the October sample was indeed representative of the population of category 4, the findings of the October sample may be examined and a recommendation based on them made. It was found that the majority of duplicates in this category were published no earlier than two months before their receipt at NAL. Over half came in frequently, i.e. monthly or weekly, and thus are a continuing source of duplication. Half of the duplicates were received at the same time as the recorded issue and thus might be eliminated if the source of the material had the proper mailing information (address and number of copies desired), especially since for 90% of the items checked NAL required only one copy when two and sometimes 20 were being received. Some 60% originated abroad, while 30% came from domestic sources.

Label characteristics were also interesting. The statistics were based on a tabulation of some 309 labels (more than one label per issue). Of these, 16% were new labels (addressed to the National Agricultural Library) but not necessarily to the proper section. About 70% were old labels (addressed to the Department of Agriculture Library or some variation thereof). Some 16% were addressed to other agricultural agencies and re-routed to NAL. A very small percentage were duplicated as a result of receiving both purchase copies and exchange or gift copies. Most of these were generated by a new Domestic Exchange Program in the throes of becoming operational and have since been ironed out.

The sample thus indicated, as in the state publications, that a large percentage of the problem lay in incorrect mailing information. In many cases a previous policy which requested two copies of all items was clearly the cause of duplication. In the other the difficulty lay in the fact that no formal change of address notification had ever been issued (except for occasional correspondence on an individual title basis) when the Department of Agriculture Library became the National Agricultural Library and hence both addresses appeared on mailing plates. The same is true with even earlier addresses bearing the names of former librarians and acquisitions chiefs. Further investigation revealed that two slightly different addresses were being used on forms sent out for claims and those for change of address; this also resulted in two different mailing labels at the source.

Based on this analysis it can be assumed that one of the major sources of duplication of serials at NAL can be ascribed to lack of proper mailing information at the source. A recommendation was submitted to insert with all claims for serial publications a notification slip requesting the receiver to check and correct mailing information. The Serials checkers will be responsible for flagging all serial records when serial publications are received with incorrect mailing labels. This action, like that of the letter sent to the state services, will probably not show results for at least a year; but it is hoped that it will cut the volume of duplicates.

In summary, the National Agricultural Library by examination of its monthly and annual serial statistics discovered that over half of its serial issues processed were duplicates. Time and cost of processing could therefore be reduced if the volume of duplication could be reduced. Analysis indicated that duplicates fell into four major categories, two of which could not be controlled because of formal regulations. One of the prime causes of the serial duplication centered around lack of proper mailing addresses and lack of notification of the number of copies desired. Of these, 63% could be alleviated by either a personal letter to state experiment stations and extension services or by a notice to the source, requesting mailing information review.

Less-Used Titles and Volumes of Science Journals: Two Preliminary Notes

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THE AIR FORCE CAMBRIDGE RESEARCH LABORATORIES (AFCRL) Research Library serves some 600 scientists, with major emphasis on the space environment. The Library circulates none of its 125,000 journal volumes, most titles of which are complete, but instead provides throwaway xerographic copies of requested journal articles.

Data compilation on xerographic use of journals was begun in January, 1964, and is, *Deo volente*, to run through December, 1968. Manual counts, preliminary to machine programming, brought out some user counts. They suggest a significant difference between the number of users and the number of articles used.

Journals Having One to Eighty-two Users over a Six-month Period

During January through June 1964, 382 users¹ requested 4,931 copies² of 4,579 articles³ from 1,854 year volumes⁴ of 552 journal titles. Sixty-eight percent of these articles (3,131) appeared in journals having five or more users per titles; while the remaining 1,448 articles (32%) were in journals having four or fewer users.

Table 1: Journal Use for Six-month Period

<i>Number of users per title</i>	<i>Number of titles</i>	<i>Number of year volumes used</i>	<i>Number of articles used</i>	<i>Number of users involved</i>
1	281 (51%)	372 (20%)	598 (13%)	144 (38%)
1-4	447 (81%)	837 (45%)	1,448 (32%)	253 (66%)
5-82	105 (19%)	1,017 (55%)	3,131 (68%)	317 (83%)
1-82	552	1,854	4,579	382

Assuming that 68% of the ARCRL requirements for articles would be satisfied by retaining only those titles which had five or more users during the six months, what percentage of the users would be adversely affected by the lack of the less-used titles? In this case 66%, or

1. One user is one unique, identifiable person.
2. A copy is not unique. One article may be requested in several copies.
3. An article is unique, identified by pagination within volume or year.
4. A year volume covers all completed volumes of a title published in one year. Volumes bridging years are considered as published in the terminal year.

253 users, would be affected by a lack of 32% of the articles. More radically, weeding out only those titles with but one user would deprive 38% of the users of needed articles while removing only 13% of the articles.

Use of "Physical Review" During January-December 1964

One hundred and twenty-seven users requested 630 copies of 560 articles from 44 year volumes of this journal during 1964. Seventy-nine percent of these articles (443) were published in the 1945-64 post-war period, while 21% (117 articles) were published during 1915-1944.

Table 2: Use of "Physical Review" during 1964

<i>Period</i>	<i>Year-volumes</i>	<i>Articles</i>	<i>All users</i>	<i>Exclusive users</i>
1945-64	20 (45%)	443 (79%)	108 (85%)	81 (64%)
1915-44	24 (55%)	117 (21%)	46 (36%)	19 (15%)
1915-64	44	560	127	127

Assuming that we could satisfy 79% of the AFCRL article requirements by keeping only those volumes published after 1944, sixty-four percent, or 81 of the users, would have all their requirements met. But fifteen percent (19 users) would have *none* of their requirements met, while another 27 users, or 21%, would have only part of their requirements met. In other words, removing 21% of the articles would affect 36% of the users.

The above figures have a bearing on a statement, much in current use, to the general effect that very small number of journals provide most of the wanted articles. (Martyn summarizes them in *Aslib Proceedings*, 17: 192. June, 1965.) The data on which this statement is based are citation counts and in no way reflect the library aspect of user demand. The AFCRL experience shows that the number of users involved with journals carrying only 13% of the articles constitute 38% of all users. The 38% is as valid as the 13% for measuring journal requirements.

Where Shall We Shelve Bound Periodicals? Further Notes

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TO JOSEPH C. BORDEN'S ARTICLE "The Advantages and Disadvantages of a Classified Periodicals Collection" in the Winter 1965 *LRTS* (9: 122-126), I should like to offer a few supplementary remarks; for I suspect that I am not the only librarian who uses *LRTS* as a kind

of practical encyclopedia, and I hope that Mr. Borden's article, together with these additions, may turn out to be of considerable help to libraries who need to make decisions and/or to marshal arguments in this area of concern.

Collocation of Current and Back Issues

If a decision is made to collocate current and back issues, they will necessarily be alike in arrangement—classified or alphabetical. Is such collocation desirable?

In many libraries some bound volumes (say, the last ten years) are shelved near the current issues, ideally on shelves below or preceding. But the "current vs. back" dichotomy seems difficult enough without the creation of a third category. It would perhaps be desirable to place *all* back issues with current issues, but one wonders how well this could be made to work. Some runs are longer than others, and holdings change as lacks are filled (perhaps in reprint editions). Moreover, it is usually felt that some general display of current periodicals is desirable; but if we shelve all the back issues of a title, then its current issues, then the back issues of another title, then *its* current issues, etc., we achieve, along with whatever we gain, a confusing scattering of current issues. In addition, the locations of current issues could not be fixed, unless the library were extraordinarily well supplied with shelves. If a library had long runs, it would be difficult to shelve such materials other than in a stack area. A compromise would be shelving current issues on shelving approximately 18 inches wide running perpendicularly to ranges and facing reading areas. In the ranges would be the back issues; on the cross-wise shelving, the corresponding current issues. Again, since runs vary, it would be difficult to be systematic—let alone economical. Incomplete volumes, tied together or in pamphlet binders, complicate the question, but to some extent provide an argument *for* collocation of current and back issues.

Confusion with Other Types of Serials

Readers, as well as librarians and their assistants, are often puzzled by practices involving serial symposia, annual reports, proceedings, "contributions," etc., which they may not distinguish from periodicals. On the other hand, librarians may, in the interest of economy, handle as periodicals items which are not recognized as such by the public. Rather than catalog and pam-bind each soft-bound booklet in a published series, each of which is cataloged as a part of a set rather than as a separate, librarians may decide to treat such a series as a periodical, binding and *then* cataloging every ten or so consecutive parts.

Another factor is the attractive possibility of collocating on shelves, as well as in catalogs, the various publications of corporate authors, e.g., the annual report, the bulletin, the quarterly, and the proceedings of the X society—and of each of its subsidiary organizations. The periodicals and some other serials may be brought together (apart from the books) or kept separated; in the former event, both classified or both alphabe-

tized; in the latter event, merged or not merged with the classified book collection. Collocating serials and separating them from the books simplifies the searches of those who know in which serials appear the items they seek; but it goes a long way toward defeating the aims of classification. The moral would seem to be, "You can't please everybody"—to which might be added, "Every library needs a reference librarian." Whatever decision is reached, it might rest in part, or altogether, upon one or more of the following considerations:

1. How many "other serials" does the library have?
2. To what extent are their parts handled as issues of periodicals?
3. How much reference service is provided?

The General Scope of Many Periodicals

Many much-used periodicals land in the LC AP's or in the Dewey 050's. Moreover, many "subject" periodicals are so broad in scope that, except in very small collections, classified volumes of them may stand far from monographs on subjects which readers are investigating. *American Literature* will presumably go with Dewey 810's, i.e., with monographs on American literature; but *Modern Drama* must go somewhere in 800-809, far from 812, 822, 832, 842, etc.; and *Modern Language Quarterly*, probably in 405, separated from even the most general of 800's by a wide expanse. This may be taken as an argument—not compelling, but worth considering—against classification.

The Use of Microforms

Microreproductions of periodicals, if they amount to a really large percentage of a library's holdings in back volumes, may also constitute an argument against classification. The microforms will not, presumably, be on open shelves. Whether, on closed shelves, they are classified or alphabetized will hardly matter to inquirers (although it may to attendants). If many back issues of periodicals are neither classed nor placed on open shelves, does it do much good to classify the others? The key factor is not the number of titles received in microreproduction, but the percentage of a library's periodical collection which they represent or will represent in the future.

The Intellectual Level of Library Use

It may be that in general libraries, the higher one goes up the ladder from small public, through junior college, to medium-size public, and so on, the higher will be the percentage of periodicals (represented by bound volumes) which are capable of being classed fairly closely, and the higher will be the percentage of periodicals not indexed. If this is true (and I am not sure that it is), we may conclude that the higher the level of a library's use, the greater the need to classify its periodicals. Thus, on the campus of a large university with a research library and an undergraduate library, the periodicals in the former might better be classified and those in the latter alphabetized. The question as to what to do with serials other than periodicals is relevant here. Assuming that

the higher the level, the greater the number of "other serials," we may find ourselves with an additional argument for classifying at the higher level and alphabetizing at the lower level.

On the other hand, it may be argued that the lower the level, the more important to appeal (in the absence—even brief—of effective reference service) to readers' interests, motives, etc., and that hence the lower the level, the more important the classified arrangement. It has been stated that the higher the level, the less the dependence upon such subject approaches as libraries themselves are likely to provide and the greater the dependence upon subject approaches provided by published bibliographies, and that the higher the level, the greater the use of author and title as opposed to subject catalogs.

Closed Stacks Which Are Really Closed

I word my heading so in order to emphasize the point that in relatively few libraries are so-called closed stacks really closed to *all* readers. In a truly closed stack there would seem to be little point to *any* arrangement other than whatever facilitates the shelving of additions and the retrieval of items requested. Most arguments on the question of the arrangement of periodicals seem to rest on the assumption that at least some readers will sometimes go to the shelves; such arguments do not apply where stacks are really closed. One possibility is to separate the periodicals, arrange them anyhow, close the periodical stacks, and leave the rest open.

Classifying the Current Issues

Another possibility is to classify, as closely as possible, titles not yet represented by bound volumes. The consistency achieved (both with these and with old titles) might be desirable; but the searches of some readers would probably be more difficult (even if those of a few might be facilitated), and there would probably be some delay in making new titles available. Sometimes a *broad* classification is feasible, e.g., Public Affairs, Literary Reviews, etc., adapted perhaps from Ulrich.

Periodicals in the Divisional Plan

Since many libraries feature a divisional arrangement of reference service, with accompanying separation of inquiry areas, staff specialization, and the scattering of periodicals among divisions, the possible applications of Mr. Borden's article to such libraries deserve to be reviewed. Basically, little justification is apparent for simultaneously maintaining subject reading rooms and collocating the periodicals; in the sciences, particularly, and to some extent in all large divisions of knowledge, loss of the periodicals would presumably weaken the effectiveness of specialized reference service. On the other hand, as everyone who has worked in a divisional arrangement will surely agree, there are many titles which cut across divisional lines to such an extent that they are equally compatible (or incompatible) with one area as with another; hence, in part, the need for rooms devoted to generalia, including the many periodicals

which fall naturally into AP and the 050's. In any event, there are several possibilities of periodical arrangement:

1. Current issues collocated alphabetically or roughly classified and all placed in a separate periodical area; back issues collocated alphabetically.
2. Current issues collocated in a separate periodical area and either alphabetized or classified; back issues classified and shelved either in a separate area or among classified books.
3. Current issues assigned to appropriate divisional areas; back issues alphabetized and placed in areas fairly accessible to the appropriate divisional areas.
4. Current issues assigned to appropriate divisional areas and either alphabetized or classified; back issues classified and placed in areas fairly accessible to the appropriate divisional areas and shelved among classified books or separately.

Other combinations are of course possible. But these four should cover the bulk of them. From the point of view of reference service in a divisional library, they are probably listed in ascending order of desirability. The first possibility would surely be bad; the second, undesirable but with some good in it (especially if the classified periodicals are merged with the classified books); the third and fourth, desirable—and with little to choose between them, unless the fourth, by employing classification, collocates better, especially if the book and periodical collections are merged.

The current proliferation of new libraries—caused, in academic circles, by the proliferation of branches, community and junior colleges, and so on, by the need to replace (or drastically enlarge) existing structures, and by the need to provide separate facilities for particular groups (e.g., undergraduates)—serves to emphasize the importance of the issue which Mr. Borden has raised and on which I have offered these supplementary observations.

A Study of the Usage and Retention of Technical Periodicals*

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LIMITED PHYSICAL SPACE EXPANSION, an administrative consideration in every library, becomes a stringent factor in the planning of special libraries. While public and college libraries may have several decades of growth possibility when they take possession of a building or area, it is indeed a fortunate industrial library whose stacks are not overcrowded after five years of establishment in new quarters. Industrial floorspace is too greatly in demand to devote more effort to the possible future growth of the library. Weeding or storage requirements, therefore, are far more immediate considerations to the special industrial library administrators than they are to administrators of other types of libraries. The limits of expansion are usually apparent earliest in the serials collections of industrial libraries because so much current technical data is published first in scientific and technical periodicals. These collections grow rapidly. This summarization of a recent study made by one technical library in the area of space for use of technical journals has potential value for other libraries.

For five years the IBM Electronics Systems Center Library has felt the restriction imposed by having more periodicals than available shelf space. Pulling duplicate issues, tightening and reshifting shelf arrangement, and discarding excessively-broken or very short runs alleviated the situation for two years. Storage of some of the older files in cartons, in another building, served for another two years. In 1965, we reached the limits of reasonably-accessible storage space. Either material would have to be put in records-storage warehouses some distance away, or weeding would have to be done.

Statistics Available

The use of statistics on hand did not contribute much to a decision. They consisted only of monthly loan totals which were not broken down by individual title (and which represented almost exclusively issues for the current year), and title and issue statistics of magazines recalled from storage. Fortunately, a file of written requests for periodical material used by plant engineers for specific projects existed, and this

* Issued also as *IBM Report* No: 66-825-1968. IBM, Federal Systems Division, Electronics Systems Center, Owego, New York, April, 1966.

could be converted to machine-manipulation form. This file was processed; full details of how the data was assembled and converted appears in the report¹ on which this article is based.

The written records permitted the production of statistics on the periodical titles requested, the dates of issue, the number and kind of requests, and by whom made. For the study, attention was concentrated on the titles requested, the date of issue, and the number of requests. Our problem was to determine what periodicals could be dispensed with to give needed room without handicapping reference service.

This study is limited to periodicals actually available in the Electronics Systems Center (ESC) and does not include those borrowed from other libraries. It should also be noted that statistics on the short-term loan of current periodicals were not included. Between 1500 and 1600 periodical issues, two-thirds of which are very recent, are loaned annually on specific request to individuals by the ESC Library. There is no regular routing of periodicals by the library. Reader use of current and back issues in the library was also excluded because of the impossibility of collecting such data in an open-shelf library accessible to readers twenty-four hours a day and with a library staff present only eight hours. Omission of these two types of statistics results in a lower apparent usage of current periodicals and reduces appreciably the statistics for current year use and for last year's use to a lesser extent. However, this makes only a minor difference to the statistics of use of older issues.

Periodicals Studied

The Electronics Systems Center Library owns some 752 different periodical runs, of which 137 are not part of the storage problem. These exempted titles are the periodical indexes and abstract services which will be retained because of their continuous reference value regardless of shelf limitations (e.g., *Computing Reviews*, *Engineering Index*, *International Aerospace Abstracts*, *Physics Abstracts*, *Technical Abstract Bulletin*) and ephemeral items, such as national and local newspapers, which are kept only for a few days or weeks before clipping and discarding. Six hundred and fifteen periodicals, therefore, are the ones posing a storage and space problem.

Table 1 summarizes the number of periodical titles requested and their ratio to the total collection and to the portion of the collection involved in the storage problem. Based on this statistical table, we are indeed keeping periodicals unnecessarily. Apparently, 50 percent of the periodical collection could be discarded immediately without affecting our service, and another 25 percent might be discarded if only the heavily-used titles (those requested in both years) were to be kept. While these findings are in line with Alfred North Whitehead's remark that half of the books in the *British Museum* could be burned without any one to the end of time knowing it, it has the same point of difficulty—"Which half?"

One approach to an answer is to study the dates of the periodicals requested. Table 2 breaks down requests by year of issue. Recent issues

Table 1

PERCENTAGE OF COLLECTION USED 1963-1964

	<u>No. Titles</u>	<u>% of Total Collection</u>	<u>% of Collection Having Storage Problem (Total Minus Exempted List)</u>
All titles requested during 1963-1964	325	42.0	50.4
Titles requested in both 1963-1964	202	26.9	32.3
Titles requested only in 1963	58	7.7	9.0
Titles requested only in 1964	58	7.7	9.0
Exempted titles requested in 1963-1964	4	3.0*	---
Inactive Periodicals requested, 1963-1964**	40	43.0*	6.0

* Percentage of own type of periodical, as four periodicals are 3% of 137 exempted periodical titles.

** These are also included in "All Titles Requested".

comprise the major usage which might be expected in a library concerned with aerospace, computers, and electronics, all three subject fields of fast growth and development. Of total usage, 34.8 percent is for the current year, 19 percent is for the previous year's issues, and 11 percent for the third year's. In fact, 80 percent of all requests are for magazines published within the past five years. The first six years (the current year and the previous five) get almost 84 percent of all requests. The next five years (the sixth through tenth year) absorb another 11 percent of

Table 2
PERIODICAL USE BY YEAR

	1963	1964	Total
Total requests	2062	2159	4221
Current Year (Year 1)	823	647	1470
Last Year (Year 2)	428	384	812
Year 3	266	214	480
Year 4	138	154	392
Year 5	102	123	225
Year 6	78	74	152
Year 7	46	55	101
Year 8	47	54	101
Year 9	33	44	77
Year 10	35	29	64
Year 11	14	24	38
Year 12	4	15	19
Year 13	6	14	20
Year 14	7	9	16
Year 15	2	6	8
Year 16	5	5	10
Year 17	7	3	10
Year 18	1	2	3
Year 19	1	1	2
Year 20	5	---	5

There were only four requests made during the years 21 through 24.

usage, and older issues account for the remainder. These statistics confirm P. F. Cole's formulae for retaining periodicals in technical libraries² and would, if displayed graphically, parallel his graph of predicted distribution. If the statistics for loans of periodical issues were included in this report, the parallel with his graph would be even closer.

In the portion of the Electronics Systems Center periodical collection having storage problems, some holdings go back to 1941. This is ten years before the establishment of the library. The majority of our periodical runs begin about 1955 or 1956 when, because of anticipated increase in space allocated to the library, it first became practical to retain many back periodical files. (This date is year 7 on the table.) Some correlation between usage and availability of periodical files is apparent.

Problem of Obsolescence

Along with the great increase in the number of technical journals published in recent years has come an increase in the rate of obsolescence of journals. C. W. J. Wilson's study of the use of periodicals in the Royal Aircraft Establishment in 1956-57³ noted that four-fifths of all use occurred in the most recent ten years of the periodical files. It is to be expected that the Space Age (which began in October 1957) would have accelerated the rate of obsolescence in the field of aeronautics/astronautics. Gordon E. Randall's graph⁴ comparing the rate of obsolescence in periodical literature between the Royal Aircraft Establishment and the Arnold Engineering Development Center, made with AEDC statistics from the last quarter of 1958, shows that acceleration had already begun. R. E. Burton and R. W. Kebler,⁵ defining the half-life of technical periodical literature as, "the time during which one-half of all currently active literature was published," reported in 1960 on half-lives of a number of subject areas. These varied from 3.9 years for metallurgical engineering periodicals and 4.8 years for physics and chemical engineering journals to 10.5 years for mathematical journals and 11.8 years for geology journals. More recent studies (Fleming and Kilgour in biomedicine⁶ and Slote in the newspaper field⁷) agree on five-years-back as being the point of obsolescence. After this period, less than 15 percent of all use occurs. ESC's point of obsolescence is at Year 6 (the current year plus 5) but the half-life for all its periodicals is at Year 2. The use of either the point of obsolescence or the half-life period, according to the caution or gambling spirit of the individual librarian, offers hope of a possible answer to the "Which half?" question.

How Magazines are Used

Studying the use of individual titles is another approach, time-consuming but valuable in determining retention requirements. Ranking periodicals by amount of use is its first step. ESC usage was unequal among the 325 periodicals requested at least once during the two-year period. Forty-one titles were requested only once, and requests ranged up to 210 for the most-used magazine.

It is interesting to observe that many of the more frequently-used titles are the free or controlled circulation journals, the technical news journals, and what might be described as the less scholarly but more practical engineering application journals. The more scholarly or purely technical journals are less used. Consequently, where space is a problem, it would seem that retaining a magazine file based purely on its reputation as a scholarly journal may be unrealistic for libraries. A fairly small core of journals supply the bulk of requests. Five journals provide 13 percent of all requests; they are: *Proceedings of the IEEE*, *Journal of Applied Physics*, *IEEE Transactions on Electronic Computers*, *Aviation Week*, and *Electro Technology*.

Two studies of the reference use of technical periodicals made in recent years include many of the same periodicals to which the Electronics Systems Center subscribes. Comparison of their rankings with the Electronics Systems Center's rankings of the magazines held in common emphasized the singularity of a special library. George S. Bonn's report of the use of periodicals in the New York Public Library⁸ named *Chemical and Engineering News* as NYPL's most-used periodical; it was 23rd on the Electronics Systems Center ranking of common titles. Our first title, *Proceedings of the Institute of Electrical and Electronics Engineers*, was their 16th. Of the first ten titles on our list of highly-used titles also listed by NYPL, only two were also among the first ten most used by NYPL: *Aviation Week*, number 4 on our list, was 6th on NYPL's; *Physical Review*, 8th on their list, is 7th on ours.

Comparable dissimilarity between rankings on Stella Keenan and Pauline Atherton's list of journals most frequently cited in *Physics Abstracts*⁹ and the same journals used by Electronics Systems Center personnel, emphasize that periodicals most frequently cited by an abstract service are not necessarily those most frequently used under working conditions. Our most-used title was 97th on their list of most-cited titles. Their first title, *Physical Review*, is our second most-used title of those in common, but it was the only one of their top ten titles also on our top ten.

The ranking of titles on an overall basis is of limited help due to the fact that the Electronics Systems Center deals with a number of related but different subject fields. It seemed more practical to determine in each of our eleven important subject fields which periodical titles were required by reason of use and which might be considered redundant.

Electronics was our most heavily used subject field. Astronautics and aeronautics, and engineering magazines stand as close seconds with approximately equal amounts of use. Management and business, computers and automation are third and fourth in ranking. Physics is fifth, with general science magazines sixth, followed closely by the magazines dealing with mathematics and astronomy. General interest magazines were our least-used subject group, having only 53 requests during the two-year period. Library science and documentation, and periodicals specializing in the armed forces and military science had slightly more

usage. Knowing that certain titles are used in a given subject field is more meaningful if one knows whether these titles represent a large or small proportion of the entire collection held. There are very few inactive titles in the military science group magazines but quite a few in the general science area. Thus Table 3 and the related groupings of titles will be given consideration when renewal time arrives.

Retention Policy

The approaches outlined provide a basis for a rational retention policy. The 300 periodical runs which have not been used in 1963-1964 will constitute the first to be weeded. The 325 periodicals which have had some use may be selectively weeded on the basis of obsolescence—the years of each run older than six years being discarded with the newer years being kept. This approach is probably satisfactory for the majority of periodicals held; however, applying this policy to periodicals having the heaviest usage may be unwise. A study of the individual titles is helpful in determining its utilization.

Ninety-four of the most heavily used periodicals in all subject fields were selected. A chart was made for each, comparing the Electronics Systems Center holdings and requests made for issues of various years in 1963 and 1964. Sample entries follow:

	1964	63	62	61	60	59	58	57	56	55	54	53
<i>Aviation Week</i>												
ESC Holdings												
1963 Requests		27	9	3	2	1	2	1				
1964 Requests	20	9	1	4	4	2	1		1			
<i>Electro Technology</i>												
ESC Holdings												
1963 Requests		5	1	2	1	2		4		1	1	
1964 Requests	1	7	9	5	1	2			1			4

In such a chart, the lack of relationship between holdings and usage is readily apparent, particularly for some titles assumed to be "basic" journals (*Communications of the ACM* and *Journal of Research, National Bureau of Standards*, where only a few years are requested of ten-year runs). The charts also support the view that magazines vary in usefulness of content from year to year. Issues for some years just do not contain much that applies to our needs; examples are the years 1958 in *Electro Technology* and 1961 in *Computer Journal* which are consistently not requested in otherwise consistently heavily-used long runs. These charts, exemplifying the kind of use given heavily-used titles, make it evident that individual decisions will be required for these titles; the outlined retention policy can furnish only guidelines. *Space/Aeronautics*, for instance, fourth highest in usage of the aeronautics/astronautics periodicals, goes back to 1955 in our holdings, but 1959 is

the earliest date requested (a change in editorial emphasis occurred that year); earlier files can be discarded. In contrast, *Operations Research*, also with a long run dating from 1954, is used less heavily, but usage is scattered over the entire run. A study of the usage of electronics periodicals in 1949 by R. C. Coile¹⁰ offered the opportunity to compare usage of periodicals in this subject field over a thirty year period covering 1934, 1949, and 1963-4. One journal, the *Proceedings of the IEEE*, was the most heavily referred to of all electronics journals in each of the three samplings. Five journals which were among the top ten most-used journals in 1963-64 were also among the top ten of 1949, and one was also among the top ten of 1934. The change in the scope and contents of magazines over the quarter century is noticeable in comparing rankings; the number of new titles which appear in the later years illustrate the growth of the field.

While an absolutely clear-cut set of rules answering the "Which half?" question cannot be developed, studying use statistics does give the library administrator adequate guidelines. It also furnishes data that support decisions on renewals and on binding policies for the particular library making the study. In the larger field of information control, the close agreement of all recent studies in periodical use show that all types of libraries, industrial as well as university and public, have similar patterns of use. Use is concentrated in the most recent years of publication of a periodical, and the half-life of scientific and technical journals grows shorter yearly.

Table 3

PERCENTAGE OF USE OF INDIVIDUAL MAGAZINE SUBJECT COLLECTIONS

Armed Forces	95%
Aeronautics and Astronautics	84%
Computers	77%
Electronics	72%
Engineering	45%
General Interest	30%
Library Science and Documentation	53%
Management and Business	77%
Mathematics and Astronomy	50%
Physics	71%
Science	21%

The advance of the date of obsolescence of periodical files has implications that extend beyond the walls of an individual library. Two obvious implications may be mentioned:

1. Industrial libraries, at least where space is an acute problem and whose budgets are examined with a businessman's eye to economy and efficiency, require for at least 50 percent of their periodical files some form of binding that is fairly adequate to keep a volume intact through the five or six years in which a magazine is in active demand. Ideally, such a binding would cost less than Class A library binding, through using less expensive material which also might be applied by mechanical means or less skilled personnel. The good quality Class A binding will always be required for the periodicals which represent, for each library, the heavy-use journals.

2. Since all libraries have the same problems of space (although the special library may have it to a greater degree than other libraries), regional planning for cooperation in retaining and making available for use the less active periodical runs is eminently desirable. What is heavily used in one library may not be needed in another, so that the special library may have unique or unusual holdings which public and university libraries overlook. The special library is often more able and willing to cooperate with its neighbors in the public and university fields than the larger libraries realize. When any of the various possibilities for regional cooperation are being considered, all the libraries in an area should be brought into the picture.

In summary, all studies of periodical use made to date suggest that selective retention of periodicals is most economic. Borrowing material infrequently used from another library or paying a fee for the privilege of a photocopy is as satisfactory and much cheaper than storing long runs of periodicals with very infrequent use.

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Current Serials in English from Malaysia and Singapore

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THE ACQUISITION OF LIBRARY MATERIALS from newly-developing countries has in recent years considerably exercised the talents of librarians. Successive conferences have pin-pointed the problems, and numerous remedies have been suggested. Although channels of procurement may still be ineffective, the lack of basic information about the publications themselves is perhaps even more distressing, and the dissemination of such information, it is generally agreed, might well be undertaken by national libraries and national documentation centres.

The circumstances peculiar to Southeast Asia have already been outlined for readers by Felix Reichmann.¹ He calls attention to the difficulties facing serials librarians. In the case of Malaysia such difficulties are aggravated by the absence of both a national library and a documentation centre, and the consequent paucity of information concerning serial publications. Past bibliographical activity has been directed in the main toward "secondary" material; it has, that is, tried to enumerate those books and articles relating to Malaysia and Singapore which are published in other parts of the world. The need is now for surveys of "primary" materials or the publishing output of the region itself.

Previous Bibliographies

A start in certain directions has already been made by local librarians. Lim Wong Pui Huen, for instance, has recently published a guide to Malaysian newspapers. It lists some fifty titles, twenty-six of which are in Chinese, thirteen in English, six in Malay, and five in Indian languages.² Documents have likewise attracted attention, although at present there is no comparable authoritative survey of the whole field.^{3, 4} In fairness, it is one of much greater bibliographical complexity; rapid political developments in the region have naturally had repercussions on the structure of government, but these have declared themselves by means of

publication in a most erratic fashion. This present time of flux seems hardly the right one in which to attempt a definitive listing of Malaysian documents. For the librarian who has to keep in touch with current titles, the only guides of use are the *Current List of Publications* (Kuala Lumpur, Government Printer), the *Catalogue of Government Publications* (Singapore, Government Printer) and the *Publications List* (Sabah, Government Printer). These contain information on publications available from the three Government Printing Offices but, unfortunately, they omit publications available directly from other government departments.

Guides to non-government serials (with this exception of newspapers) are still lacking. There have been no attempts to describe current serials published in languages other than English, although the checklists of holdings of serials in individual libraries have provided information on a number of English titles. A list of some two hundred such titles in the stock of the University of Singapore library was published in 1962 and has been of great value.⁵ However, it was never intended as a comprehensive bibliography of current serials in English, and there is now need for a further listing.⁶

Current Serials

Both the birth and death rates of Malaysian serials are alarmingly high. It is estimated that about four hundred titles are currently being published wholly or substantially in English and that half of this number began publication between 1960 and 1965. This well illustrates the tremendous growth in the number of Malaysian serials during the past few years. A glance at the fate of those published in the 1950's suggests that a good half of the recent arrivals will cease publication before the decade is through, but it is equally certain that there will be more than enough new titles to take their place.

About ninety of the titles still current began publication before 1950; twenty-six pre-date 1930; and only ten are of nineteenth century origin. Scrutinizing this group reveals that they survived because they fulfilled a genuine demand for specialized information, either about the region itself or about the tropics in general. In addition, many of them had the support of government departments, research institutions, or professional associations and thus did not have to justify themselves commercially.

Amongst the oldest distinctive groups are those with an academic concern for the history and culture of Malaysia. Most celebrated is the *Journal of the Royal Asiatic Society, Malaysian Branch* (first published in 1878), but both the *Federation Museums Journal* and the *Sarawak Museum Journal* date from the early part of this century. More recent notable additions include the *Journal of the South Seas Society*, the *Journal of Southeast Asian History*, and the *Journal of the Sabah Society*. The early issues of the historical journals often contained contributions on natural history, but new titles very soon developed in response to a growing interest in this field of study. Tropical botany, agriculture, and horticulture have been particularly well represented by titles like the *Gardens' Bulletin*, *Bulletin of the Department of Agriculture, Federation*

of Malaya, *Malaysian Agricultural Journal*, *The MAHA Magazine*, *Malayan Forester*, and *Malayan Orchid Review*. Zoological papers are still to be found in the *Federation Museums Journal* and the *Sarawak Museum Journal*, as well as in the *Bulletin of the Singapore National Museum* and the *Malayan Nature Journal*. Many of these journals are published by government departments; research organisations enjoying government aid have produced more. The results of government-sponsored research on natural rubber, for example, are published in *The Planter*, the *Journal of the Rubber Research Institute of Malaya*, and in the *Planters' Bulletin*.

Serials with the backing of professional associations have likewise flourished, the most significant of their number being the *Medical Journal of Malaya*, *Malayan Law Journal*, *Malayan Surveyor*, and the various journals which at one time or another have served the engineering and teaching professions. Some of the more recent professional associations are now producing creditable journals as *Rumah* from the Singapore Institute of Architects, and *Perpustakaan Malaysia*, from the Malayan Library Association bear witness. The police in both Malaysia and Singapore produce substantial and lively offerings in the shape of the *Malayan Police Magazine* and the *Singapore Police Magazine*.

The Christian churches have relied very heavily on printed literature in their missionary activities, and, besides the innumerable church magazines, all shades of belief have for a long time been represented in the more general periodicals, ranging from *Malaysian Catholic News* to *Malaysia Methodist Message*. There are comparatively few serials serving Buddhism and Islam. Additions to the ranks of Malaysian serials in more recent years have both strengthened the span of subjects represented and greatly extended it. The new economic and commercial interests of the region, for instance, are reflected in both academic offerings like the *Malayan Economic Review* and *Kajian Ekonomi Malaysia* and the more popular *Singapore Trade and Industry* and *Eastern Trade Gazette*.

However, there are some surprising omissions. The region lacks an impartial, quality news organ, with the result that the government gazettes assume a particular importance and, indeed, are often the sole source of information. Again, although the history of Malaysian publishing has been punctuated by attempts to produce a general and literary periodical along the lines of, say, *Encounter*, the "little magazine" finds the going as difficult here as elsewhere. Authoritative sociological journals are lacking, as are titles publishing material in the pure sciences. Apart from *NABLA* and a few student publications, Malaysian scientific serials are very much concerned with the biological and applied sciences.

Students in Malaysia do tend to be prolific publishers, and at the universities they often produce, in conjunction with staff, serials of more than passing interest. Within this category, at the University of Malaya are the journals of the Historical Society, the Chinese Language Society (*Majallah Pantai*), the Economics Society (*Ekonomi*), and the

Literary and Dramatic Society (*LIDRA*); while the University of Singapore counts the journals of the Chinese Society, the Law Society (*Me Judice*), and the Literary Society (*Focus*) amongst its major publications. Occasionally, these staff and student undertakings gain an international reputation and come to rely on overseas readers and contributors; this is what has happened in the case of the *Journal of Tropical Geography* and the *Journal of Southeast Asian History*.

At a more popular level there are a number of news and entertainment magazines, but the readership is fickle and there is a rapid turnover in titles. The film magazine thrives better than most. Surprisingly few periodicals serve sports and creative hobbies; only golf, motor-ing, photography, and stamp collecting have adherents capable of supporting substantial magazines.

House journals should not be overlooked. They are becoming increasingly fashionable, and, taken as a group, they attain high standards of presentation. For the most part they are of interest only to the employees concerned, but now and again an enterprising business will mount a prestige publication which is of general interest. A good example of this is *Pelita*, from Esso Standard (Malaya) Ltd.

Standards of Presentation

There is room for much improvement in the standards of presentation of Malaysian serials. Far too few appear regularly in a known format at a fixed price and can guarantee consistency in style and quality. The index is still a great luxury. Indeed, it is very common for publishers to omit entirely details of price and frequency, or of date and volume number, or, from time to time, details of their own names and addresses. To make matters worse, most serials fluctuate alarmingly in format, number of pages, and quality, while the nominal frequency of publication is very often no more than the ideal at which they aim. This is all very worrying to the serials librarian. He can never be sure that a Malaysian serial is defunct; it may lie dormant for years, only to make a sudden, brave reappearance. But the majority do seem to die, for there is at this stage of Malaysian publishing history a continuous process of birth and death, with the decay of old titles nourishing the growth of new.

Language Questions

Our concern in this paper is with English language serials, but, as English is only one of four languages commonly used for publication, it is advisable to look at its position in relation to other languages. Perhaps as many as 25% of Malaysian serials are wholly or substantially in Malay, Chinese, or Tamil. However, in terms of content and quality, the publications in English have always been considerably more important. At present, the government is mounting a strenuous campaign in favor of Malay as the national language, and, accordingly, there is great patriotic incentive to use Malay wherever possible. Most editors are very willing to insert into a publication in English an article or section

in Malay, or else to use a Malay title for a periodical which is not in Malay. But for some time to come English is likely to bear the weight of publication in science, technology, commerce, and indeed in most other fields when publication is at the academic level. Malay, however, is the *lingua franca* and the language best suited to act as a bridge between all races and classes. We can therefore expect to see an extension of its use in popular publications, probably at the expense of Chinese and Tamil.

Malaysian Serials: A Checklist of Major Titles

The following checklist gives basic information about ninety or so of the major serials in English currently published in Malaysia. This information includes date of first issue, frequency, price in Malayan dollars (per copy, unless otherwise stated), and names and addresses of publishers. Official government serials, with the exception of the *Gazettes*, are excluded.

Abbreviations: K.L. = Kuala Lumpur
S. = Singapore

Agriculture, Horticulture

- MAHA Magazine*. 1927/28, quarterly, \$2. Malaysian Agri-Horticultural Association, P.O. Box 706, K.L.
- Malaya. Department of Agriculture. *Bulletin*. 1956, irregular, price varies. Department of Agriculture, Jalan Swettenham, K.L.
- Malayan Forester*. 1931, quarterly, \$2.50. Editor, c/o Forest Research Institute, Kepong, Selangor
- Malayan Orchid Review*. 1931, semi-annual, \$3. Straits Times Press (M) Ltd., River Valley Road, S. 9
- Malayan Veterinary Medical Association. *Journal*. 1955, irregular, \$1.50. Editor, c/o Veterinary Department, Johore Bahru, Johore
- Malaysian Agricultural Journal*. 1965, quarterly, \$2. Business Manager, c/o Ministry of Agriculture and Co-operatives, K.L.

Commerce and Trade

- Eastern Trade Gazette*. 1962, monthly, 30¢. Mrs. M. V. Gill, P.O. Box 21, Thomson Road Post Office, S. 20
- Malaysian Trade Digest*, 1959, monthly, free. Straits Times Press (M) Ltd., River Valley Road, S. 9
- Singapore Trade and Industry*. 1960, monthly, \$1. Straits Times Press (M) Ltd., River Valley Road, S. 9
- Straits Times Directory of Singapore and Malaya*. 1949, annual, \$40. Straits Times Press (M) Ltd., River Valley Road, S. 9

Current Affairs

- Asian Almanac*. 1963, weekly, \$112 p.a. Vedagiri T. Sambandan, 2J Clifford House, Collyer Quay, P.O. Box 2737, S.
- Malaysia. *Government Gazette*. 1909, fortnightly, \$65 p.a. Government Printer, States of Malaya, K.L.
- Malaysia. *Official Yearbook*. 1961, annual, \$4. Department of Information, Jalan Mountbatten, K.L.
- Malaysia Yearbook*. 1957, annual, \$2.75. Malay Mail, 111 Jalan Pudu, K.L.

- The Mirror*. 1965, weekly, free. Publicity Division, Ministry of Culture, P.O. Box 484, S.
- Sabah. *Government Gazette*. 1892, bi-monthly, \$36 p.a. Government Printer, Jesselton, Sabah
- Sarawak. *Government Gazette*. 1908, weekly, \$42. Government Printer, Kuching, Sarawak
- Sarawak Gazette*. 1870, monthly, \$13.80 p.a. Editor, Kuching, Sarawak
- Singapore. *Government Gazette*. 1946, weekly, \$42 p.a. Government Printer, P.O. Box 485, S.
- Straits Times Annual*. 1935, annual, \$3.75. Straits Times Press (M) Ltd., River Valley Road, S. 9
- Suara Malaysia*. 1965, weekly, free. Department of Information, Jalan Mountbatten, K.L.
- Who's Who in Malaysia*. 1956, irregular, \$20. J. Victor Morais, Second Floor, Chan Wing Building, K.L.

Economics

- Bank Negara Malaysia. *Annual Report*. 1959, annual, free. Bank Negara Malaysia, K.L.
- Ekonomi*. 1960, annual, \$2. Economics Society, University of Malaya, Pantai Valley, K.L.
- Kajian Ekonomi Malaysia*. 1964, semi-annual, \$3. Economic Association of Malaysia, Department of Economics, Univ. of Malaya, Pantai Valley, K.L.
- Malayan Economic Review*. 1956, semi-annual, \$3.50. Department of Economics, University of Singapore, S. 10
- Suara Ekonomi*. 1961/62, annual, \$1. Economics Society, University of Singapore, S. 10

Education, Library Science

- Malaya. Ministry of Education. *Journal*. 1958, thrice yearly, \$2.50. Federal Inspectorate of Schools, Jalan Maxwell, K.L.
- Malaysian Journal of Education*. 1964, semi-annual, \$2.50. Educational Journal Press, P.O. Box 53, K.L.
- Perpustakaan Malaysia*. 1965, semi-annual, \$8 p.a. Library Association of Malaysia, University of Singapore Library, S. 10
- Teacher*. 1959, monthly, 30¢. L.M. Creative Publicity Ltd., 302 Chinese Chamber of Commerce Building, Hill Street, S.

General Periodicals: News and Entertainment

- Diplomat Malaysia*. 1965, monthly, \$2. Time Marketing Agency, F.A.M. Building, Third Floor, Jalan Birch, K.L.
- The Entertainer*. 1964, fortnightly, 30¢. Advertising and Publicity Bureau, Top Floor, Thornycroft House, 201 Clemenceau Avenue, S.
- Nanyang Monthly*. 1957, monthly, 80¢. Nanyang Printers Ltd., 30 Sumbawa Road, S.
- Saturday Post*. 1965, weekly, 30¢. General Services Ltd., P.O. Box 2115, K.L.
- This Week News Illustrated*. 1965, weekly, 40¢. Nanyang Publications, 63 Robinson Road, S. 1

History

- China Society, Singapore. *Annual*. 1950, bi-annual, free to members. 190 Keng Lee Road, S. 11

- Federation Museums Journal*. 1954/5, annual, \$10. Director of Museums, Jalan Damansara, K.L.
- Intisari*. 1962, quarterly, \$2. Malaysian Sociological Research Institute Ltd., 28N Oxley Mansions, Oxley Road, S. 9
- Journal of Southeast Asian History*. 1960, semi-annual, \$7. Malaysia Books Ltd., 4-8 Trafalgar Street, P.O. Box 347, S.
- Majallah Pantai*. 1962/63, annual, free. Chinese Language Society, University of Malaya, Pantai Valley, K.L.
- Malaya in History*. 1954, semi-annual, \$1.50. Editor, c/o National Museum, Jalan Damansara, K.L.
- Pelita*. 1959, quarterly, free. Esso Standard (Malaya) Ltd., 91 Jalan Campbell, K.L.
- Royal Asiatic Society. Malaysian Branch. *Journal*. 1878, irregular, \$10 p.a. National Museum, Stamford Road, S. 6
- Sabah Society. *Journal*. 1961, semi-annual, \$3. P.O. Box 547, Jesselton, Sabah
- Sarawak Museum Journal*. 1911/13, annual, \$3. Sarawak Museum, Kuching, Sarawak
- Singapore. National Museum. *Memoirs*. 1955, irregular. Stamford Road, S. 6
- Singapore. University. Chinese Society. *Journal*. 1940, annual, free. Chinese Society, University of Singapore, S. 10
- South Seas Society. *Journal*. 1940, irregular, free to members. P.O. Box 709, S.

Law

- Malaya Law Review*. 1959, semi-annual, \$30 p.a. Faculty of Law, University of Singapore, S. 10
- Malayan Law Journal*. 1932, monthly, \$120 p.a. 20 Malacca Street, S. 1
- Malayan Police Magazine*. 1928, quarterly, \$1.50. Federal Police Headquarters, Jalan Bluff, K.L.
- Me Judice*. 1958, irregular, \$2. Law Society, Faculty of Law, University of Singapore, S. 10
- Singapore Police Magazine*. 1955, quarterly, 80¢. Chief Police Instructor, Advance Training School, Royal Malaysia Police, S.

Literary Periodicals

- Focus*. 1961, annual, \$1. Literary Society, University of Singapore, S. 10
- Impression*. 1965, quarterly, 50¢. L. M. Creative Publicity Ltd., 302-305 Chinese Chamber of Commerce Building, Hill Street, S.
- Lidra*. 1960, annual, free. Literary and Dramatic Society, University of Malaya, Pantai Valley, K.L.

Medicine

- Malaysian Dental Journal*. 1964, semi-annual, \$2. Malaysian Dental Association, c/o Dental Clinic, General Hospital, S. 3
- Medical Journal of Malaya*. 1946, quarterly, \$3. Young Advertising and Marketing Ltd., P.O. Box 664, S.
- Singapore Medical Journal*. 1960, quarterly, limited circulation. Andre Publications, 22A and 24A Clemenceau House, Clemenceau Avenue, S. 9
- Singapore Paediatric Society. *Journal*. 1959, semi-annual, limited circulation. Andre Publications, 22A and 24A Clemenceau House, Clemenceau Avenue, S. 9

Religions

- Malaysia Methodist Message*. 1885, 10 p.a., 30¢. 23B Coleman Street, S. 6

- Malaysian Catholic News*. 1950, fortnightly, 15¢. Rev. J. R. Rozario, 73 Bras Basah Road, S. 7
- South East Asia Journal of Theology*. 1959, quarterly, \$1. Association of Theological Schools of S.E. Asia, 6 Mount Sophia, S. 9
- Voice of Buddhism*. 1964, quarterly, 50¢. Buddhist Missionary Society, Jalan Berhala, K.L.
- World Muslim League Magazine*. 1963, monthly, 80¢. 31 Lorong 12, Geylang, S.

Rubber

- Planter*. 1920, monthly, \$2.50. Incorporated Society of Planters, 3 Jalan Sultan Hishamuddin, P.O. Box 262, K.L.
- Planters' Bulletin*. 1952, bi-monthly, 50¢. Rubber Research Institute of Malaya, P.O. Box 150, K.L.
- Rubber Research Institute of Malaya. *Journal*. 1929, irregular, \$3. P.O. Box 150, K.L.

Science

- Borneo, Malaysia. Geological Survey Department. *Bulletin*. 1951, irregular, price varies. Director, Geological Survey, Kuching, Sarawak
- Gardens' Bulletin, Singapore*. 1949, irregular, price varies. Director, Botanic Gardens, S.
- Journal of Tropical Geography*. 1953, semi-annual, \$5. Department of Geography, University of Singapore, S. 10
- Malayan Nature Journal*. 1940, irregular, \$15 p.a. Malayan Nature Society, P.O. Box 750, K.L.
- Nabla*. 1952, irregular, \$2. Malayan Mathematical Society, c/o Department of Mathematics, University of Singapore, S. 10
- Singapore. National Museum. *Bulletin*. 1928, monthly, price varies. Director, National Museum, S. 6. (Brief zoological monographs).

Social and Political Science

- Bakti*. 1960, irregular, 50¢. Political Study Centre, 4 Goodwood Hill, S. 10
- People's Association, Singapore. *Bulletin*. 1962, monthly, 15¢. People's Association, Recreation Section, Kallang, S.
- Petir*. 1955, fortnightly, 20¢. People's Action Party, 143/45, Orchard Road, S. 9
- Plebeian Express*. 1963, monthly, 10¢. Barisan Socialis Headquarters, 436 C Victoria Street, S. 7
- Singapore. University. Social Science Society. *Journal*. 1961, annual, 50¢. Social Science Society, University of Singapore, S. 10

Technology, Engineering, Architecture

- Bina*. 1955, quarterly, \$2. Federation of Malaya Society of Architects, P.O. Box 855, K.L.
- Institution of Engineers, Malaysia. *Journal*. 1960, annual, \$2. P.O. Box 2077, K.L.
- Malayan Surveyor*. 1938, irregular, \$1.50. Editor, c/o Surveyor General's Office, Jalan Gurney, K.L.
- National Electricity Board of the States of Malaya. *Annual Report*. 1949/50, annual, \$2.50. 71-75 Jalan Tuanku Abdul Rahman, K.L.
- Power*. 1954, quarterly, free. National Electricity Board, 71-75 Jalan Tuanku Abdul Rahman, K.L.

- Rumah*. 1961, annual, \$2. Singapore Institute of Architects, P.O. Box 2723, S.
- Singapore-Borneo Joint Group. *Journal*. 1956, semi-annual, \$2. P.O. Box 730, S. (Civil, mechanical and electrical engineering).
- Technical Association of Malaya. *Journal*. 1948, quarterly, \$1.50. P.O. Box 318, K.L.

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1. Reichmann, Felix. "Acquisition of Library Materials from Southeast Asia." *Library Resources & Technical Services*, 7:13-21. Winter, 1963.
2. Lim Wong Pui Huen. "Malaysian Newspapers Currently Published." *Perpustakaan Malaysia*, 1:56-61. June, 1965. "Malaysian" is used by Lim to denote the territories of Malaya, Singapore, Sarawak, and Sabah. It has been used similarly in the present paper.
3. Anuar, Hedwig. "A Guide to Current Government Publications in the Federation of Malaya." Library Association of Malaya and Singapore. *Newsletter*. 3:2-9. May, 1959.
4. Srinivasagam, Elizabeth. "Guide to Singapore Government Departments and Serials, as on 30th August, 1963." *Majallah Perpustakaan Singapura/Singapore Library Journal*. 3:79-90. April, 1964.
5. Lim Wong Pui Huen. "Current Malayan Serials." *Majallah Perpustakaan Singapura/Singapore Library Journal*, 2:75-94. October, 1962.
6. The author has compiled, in part requirement for the University of London Post-graduate Diploma in Librarianship, a *Bibliographical Survey of Malaysian Periodicals*. This contains a directory of current periodicals which, it is expected, will be published in 1966. Much of the material for this paper originally appeared in the *Survey*.

TITLE II AND P.L.480 PROGRAMS

Edmond L. Applebaum, Executive Officer of the LC Processing Department since 1960, has been named Assistant Director of the Processing Department. In this newly-established position, he will assist the Director and Associate Director in the general administration of the Department and will have broad responsibility for the expanded acquisitions and centralized cataloging programs authorized under Title IIC of the Higher Education Act of 1965, as well as for the Library's Public Law 480 program.

United Nations Documents and Their Accessibility*

JOSEPH GROESBECK, *Deputy Director
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New York*

I AM AWARE that there is among American librarians a sense of puzzlement, frustration, and irritation in their good-willed approach to the heterogenous issuances that are loosely labelled "UN documents" and in their conscientious effort to control and to make use of a tantalizing corpus that they sense may be an important auxiliary source of information on a vast variety of subjects. I know, too, that the puzzlement, the frustration, and the irritation all are justified. However, I think these natural reactions are exaggerated, and I hope that I can allay them to a degree by describing in broad terms the patterns of publishing and distribution of UN documents in such a way that the possible approaches to them are illuminated somewhat, and the impossible approaches are recognized as inevitable.

First, let me explain that, counter to the general opinion, there is no closely-knit family of United Nations agencies. The relationships among them are those of half-brothers and half-sisters, guardians and wards, cousins and *cousins-twice-removed*, a loosely-united clan of which the individual members are loyal to certain common principles but are independent in action and equal in authority. It is not a family with a single responsible head and properly-obedient children.

The clan numbers fifteen agencies of which the United Nations itself is the largest, followed in size and influence by UNESCO, ILO, FAO, and WHO, each pre-eminent in a broad but special area, and by GATT, IBRD (together with the IDA and the IFC), ICAO, IMCO, IMF, ITU, UPU, and WMO, all smaller and more specialized, but extremely influential, each in its own sphere. The fifteen agencies have in common the fact that they are inter-governmental organizations dedicated to improvement of the conditions of life on this earth and that they all are organized in a roughly-similar pattern. Beyond that, they have really little in common. GATT is concerned with questions of tariffs, WHO with the eradication of disease, ICAO with the regulation of air transport, ILO with labor problems, WMO with the weather, IMF with the fate of the pound sterling, and UPU with postal systems. Each has its own constitution, rules of procedure, budget, and administrative head, even its own membership, for although most sovereign states belong to most of

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the organizations comprising the group, there are notable exceptions (e.g. the USSR and other socialist republics do not belong to the International Bank; the Federal Republic of Germany and the Republic of Viet-Nam are members of WHO but not of the UN; Indonesia has withdrawn from the UN but not from FAO).

In many efforts, especially those aimed at providing technical assistance to underdeveloped countries, there is a community of interest among several agencies and a consequent co-ordination of operations, but such projects are joint undertakings and there is no suggestion of one agency's taking direction from another. These and other matters of common concern are reviewed periodically by an Administrative Committee on Co-ordination composed of the executive heads of the agencies and some other related organizations (e.g. IAEA, UNICEF), with the Secretary-General of the UN as Chairman. The ACC is a useful instrument at the administrative level, and it has been effective in establishing a reasonable degree of uniformity among the agencies in personnel policies, salaries, and other common administrative functions. However, it does not have any positive authority over any one of the member organizations.

One of the areas in which efforts have been made through the ACC to achieve conformity among the related agencies is that of the preparation, external distribution, and indexing of their documents and publications. Those efforts have achieved little, for a variety of reasons, good and bad, but mostly a matter of extreme variation in the nature of the publications produced and the machinery of publication and distribution, the emphasis on public relations, the availability of technical staff, the degree of interest on the part of the executive heads, the proportion of documentation which is classified "Restricted," and even such apparently unlikely factors as the place and the language of publications of the several agencies.

Let me illustrate by reference only to the UN itself: The United Nations issues documents and publications which range from a one-line note transmitting a report, to the *Proceedings of the Second Conference on the Peaceful Uses of Atomic Energy*, offered for sale in 33 volumes at a price of \$500.

Broadly speaking, the "publications" of the United Nations are intended for public consumption. They comprise, on the one hand such books as *Everyman's United Nations* and *The United Nations Yearbook* and periodicals such as *The UN Monthly Chronicle* which are specifically designed for wide external distribution, and on the other hand such works as the *Official Records* of the General Assembly, the aforementioned *Proceedings of the Second Conference on the Peaceful Uses of Atomic Energy*, and a host of reports, studies, bulletins, etc., which, while they are prepared for internal use, are felt to be of some public interest and so are issued, as it were incidentally, as "publications." Materials in these two categories generally are offered for sale. They bear sales numbers and prices, they are listed in UN sales catalogs and in PTLA, and they may be purchased directly from the Sales Section

of the United Nations in New York or Geneva or through bookstores.

The "documents" of the United Nations, in contrast to the "publications," are not intended, either primarily or secondarily, for public use. Most of them are ephemeral mimeographed issuances produced for the information of States Members and the Secretariat. They include draft resolutions, verbatim records of meetings, working papers, preliminary reports, administrative announcements, press releases, etc. They are produced very rapidly, in small editions, and, for the most part, they are of no interest outside the House or beyond the immediate present.

Insofar as they are thought to have any lasting value or usefulness to the public they are reprinted in final corrected form and are issued as "publications." Thus, the verbatim records of meetings, after they have been corrected, edited, and summarized, are released as part of the *Official Records* of the appropriate organ (the General Assembly, the Security Council, etc.). So, also, are the final texts of resolutions, which in their existence as "documents" may have gone through any number of redraftings, with attendant revisions, corrections, and additions. Other "documents," such as some preliminary studies and reports, are refined and released as "publications" in the form of monographs or series.

And, finally, to make the full record of the Organization's work publicly available, sets of its publications and documents, including even the ephemeral mimeographed material intended only for internal use and not scheduled for inclusion in the *Official Records* or for other republication, are deposited in selected libraries around the world, and are made available to other libraries by subscription to entire series in their original mimeographed form, on microfilm, or in a microprint edition offered by the Readex Microprint Corporation.

Such is the general nature of the printed material produced by the United Nations and the general pattern of its distribution. I think it must be clear that these demonstrate a clear recognition of obligation to inform the world about the Organization's activities and an effort to do so economically and usefully. Indeed, publication and distribution are major concerns of two departments: the Office of Conference Services, of which the Publishing Service is a part, and the Office of Public Information. The Publishing Service has a staff of about 250 persons; it produces, distributes, and stocks some 45,000,000 pages of text each month. The Office of Public Information numbers about 500 people, including the staffs of nearly fifty overseas information centers, of which probably one hundred are more or less continuously engaged in writing or in facilitating the distribution of UN publications. To all of this publishing and distributing, the Secretary-General, as represented by a high-level Publications Board, gives encouragement and support.

Nonetheless, neither the machinery of publication nor that of distribution runs smoothly. And it never will, because at best "publishing" is incidental to the work of the Organization; in some ways it is even contraventional. For example, the Economic Commission for Europe, which sits in Geneva, is an influential body which, uniquely among economic associations, enjoys the participation of West Germany and the

USSR, as well as that of the West European countries and the United States. If it is to function effectively in its role of collecting and analyzing economic data, in facilitating economic agreements, in conducting long-range regional economic studies and forecasts, or in whatever similar role, it must maintain an atmosphere of mutual trust among the representatives of its constituent Member States. This can only be done if care is taken to embargo preliminary reports and draft resolutions which might be seized upon by the press or by commercial interests, to the possible embarrassment of one or another Member, or to the misleading of the business community. Understandably, therefore, to avoid an endless weighing of potential combustibility, and to eliminate the constant risk of errors of judgement, the Commission considers all such preliminary papers to be "Working Papers" and restricts their circulation to the appropriate working parties. This means that unless the Working Papers are republished as parts of final studies, reports, or Official Records, or unless they are in due course declassified—which is not done routinely—they never are generally available. Some of them, indeed, never even reach the Dag Hammarskjöld Library.

To cite another situation, the Economic Commission for Latin America, isolated from the rest of the Organization in Santiago, Chile, plainly cannot turn to the Publishing Service in New York or Geneva for reproduction of every document it requires, there and then. Inevitably, it has become its own publisher, at least of some series of mimeographed documents, and because its sphere is regional, it also is its own distributor. In this situation, mimeographed documents originating in Santiago are rerun in New York and are given normal worldwide distribution if they are documents of some consequence; if they are not—or if they are not thought to be—they are not rerun, and so they never receive more than regional distribution. Moreover, depending upon their considered significance, they are, or are not, translated from the original Spanish into English and French, and because distribution is on a basis of language, it can happen that some interesting material issued in Spanish and distributed from Santiago never reaches English- and French-speaking depository libraries or subscribers.

I have dwelt at some length on the complexity of the publication and distribution machinery of the United Nations—and believe me, I have not touched on many idiosyncratic variations—because I wish to show that in the fairly-well thought-out and adequately-supported system for the reproduction and distribution of the publications and documents of even one international organization—in this case the UN—there are complications and anomalies aplenty. To add the other agencies to the publications-distribution complex multiplies the complications and the anomalies by fourteen.

I began by saying that in our efforts through the ACC to achieve a degree of conformity among the fifteen agencies which make up the UN clan in the supposedly-simple area of production, distribution, and indexing of our respective publications, we met extreme variations in the nature of the publications produced and in the machinery of publication

and distribution operative in the several agencies. I trust that my description of the vagaries within the UN itself will suggest the vagaries compounded among the total fifteen members. Still, to drive the point home, let me note simply that, whereas the United Nations employs 250 people in its Publishing Service and maintains a worldwide system of sales agents and has established 250 depository libraries, at the other end of the scale the WMO relies on external printing, sells its modest list of technical reports and its *Bulletin* directly, and deposits its publications in five libraries; whereas the UN makes full use of a large and sophisticated Office of Public Information to spread its gospel, the ITU manages nicely with a Public Relations Officer; whereas ILO is developing an advanced system of computerized controls of its documentation, the IMCO finds it sufficient to assign one officer and two clerks to the task of keeping its own documents in order and to provide a basic library service; whereas the publications of the UPU are exclusively concerned with the regulation and techniques of national postal administrations and international postage agreements, UNESCO both publishes voluminously and also subvents numerous interesting books and journals on a wide gamut of subjects, authored by private individuals or institutions and published commercially; whereas the Dag Hammarskjöld Library has a staff of one hundred, including twenty-five editors, indexers, and technicians who are occupied exclusively in preparing indexes to UN documents, the Geneva Library of the UN (the former League of Nations Library) has a total staff of twenty-eight, none of whom is thus engaged.

Against this background let me review the effort that has been made over fifteen years to bring documentary unity out of diversity. The effort began in 1949 when the libraries of the agencies concerned agreed that there should be a single monthly publication which would list and index all of the documents published by all of the agencies in the preceding calendar month. It was further decided that this should be a cooperative undertaking with each agency sending its documents promptly to the UN Headquarters Library and supplying a monthly check-list of them together with a subject index prepared in an agreed-upon style. The *United Nations Documents Index*, which commenced publication in January, 1950, was the result.

From the start, the effort was less than completely successful, not for want of good will, but by reason of the extreme variance I have suggested in the publishing and distribution patterns of the members of the clan, the varying attention paid to public relations, the availability or the lack of technically-qualified staff, the degree of interest on the part of the executive heads of the respective agencies, the proportion of classified documentation, and even the place and language of a participating agency's publications. It was apparent quite soon that the consolidated UNDI was neither comprehensive nor truly co-operative, because some agencies were without the means or the incentive to carry their share of the responsibility to make it so. Increasingly, the indexing burden was shifted to the UN Headquarters Library, and what had been conceived as a relatively simple job of editing submitted copy, became for the

Library an onerous task involving the acquisition of the agencies' documents, the indexing of materials in technical subjects far removed from the day-to-day work of the UN itself, and the editorial chore of accommodating within one publication references to a widely-diverse body of documents.

The conviction grew with the years that we were trying to bag together oranges and apples, a few figs and many thistles, and that UNDI did not in fact provide what it was presumed to provide, i.e. a current and comprehensive bibliographical record of the documents and publications of all the members of the clan. Moreover, the mixed bag prevented our introducing a number of clearly-desirable changes in the method of compilation and the editorial presentation of the major portion of UNDI, that portion devoted to the listing and indexing of documents and publications of the United Nations itself. Accordingly, in 1962 it was decided, with the relieved consent of most of the specialized agencies, to give up the frustrating and unsuccessful effort to make UNDI an omnibus index to everything.

This made it possible to effect several improvements in UNDI, among them direct reference in the subject index to the symbol numbers of the documents themselves rather than to entry numbers in the checklist section, so it is now possible to go directly from the subject index to the shelves. It also allowed us to produce an annual cumulation of the check list (the subject index has been cumulated annually from the start), and to project a French language version of UNDI, unhappily not yet realized owing to the Organization's financial difficulties.

Subscribers to UNDI have been delighted with these and other improvements made in the past three years, but they have also decried the elimination of the specialized agencies' material, uneven and undependable as that coverage was. The fact is, however, that the documents of the agencies do not by any means go unrecorded. Several of the agencies, notably GATT, ICAO, ILO, IMCO, ITU, UNESCO, and WMO issue frequent comprehensive lists of their documents, and virtually all of them publish sales catalogs. Moreover, much of the most useful material issued by the agencies is picked up by such subject indexes as *The Bibliography of Agriculture*, *Index Medicus*, and *PAIS*. Still, the demand persists for a single index such as UNDI set out to be. Thus, most recently a proposal has been made to the newly-organized Association of International Libraries, an offspring of IFLA, that a counterpart to UNDI be established, to cover the specialized agencies and other international organizations, such as the Council of Europe, the OAS, and the OECD. I am sceptical, personally, of the feasibility of the proposal, in the light of our experience, but indeed it merits study, and if at its Helsinki meeting next month the Association decides to explore such a possibility, we shall co-operate in every way we can.

Current Bibliographical Control of International Intergovernmental Documents*

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"A STEP BACKWARDS in the long-range effort to provide complete bibliography control of documentation within the United Nations family"¹ is an official mention of the action that apparently had to be taken at the beginning of 1963 by eliminating from the monthly *United Nations Documents Index* the fifteen specialized agencies.² This comment may well serve as the basis on which to review the possibility of attaining more-nearly comprehensive current bibliographical control of the documents of the international intergovernmental bodies, during the period when the member states of the United Nations have increased from 51 to 114 and the intergovernmental agencies outside the UN have likewise increased.

To get a view of the extent and implications of international intergovernmental organizations, even beyond the participation of the United States, it is desirable to keep in mind three works.

The first, those intergovernmental agencies having some relationship to science have been included in the LC Guide,³ which was compiled and published under a grant from the National Science Foundation, with Robert W. Schaaf making considerable contributions. Several quotations from the Introduction seem pertinent. First, "the cataloging and bibliography of the official documents of national governments have always presented complex problems of differentiation and description." In some countries the library cataloging pattern is still similar to that of the Prussian Instructions. Hence there is no provision for corporate entry under the name of the jurisdiction or under the name of the intergovernmental agency. The entry is under an individual author or under the first substantive, or the first word, of the title other than an article. Next, "with the exception of such tools as the *United Nations Documents Index*, there are very few bibliographical works which serve for any sizable group of [international] organizations." And, as mentioned above, even the *UNDI* has had to divest itself of the documents of the specialized agencies. In the *Guide*, also, there is no ready differentiation of the

* Revision of a paper presented at the program meeting on documents, July 5, 1965, ALA Conference in Detroit.

intergovernmental agencies. For instance, the COMECON, the international intergovernmental agency of the People's Democracies for economic development, is listed with no mention of its publications beyond one of the Standing Committee on Agriculture.

The second significant publication is the revised second edition of the two-volume *International Governmental Organizations: Constitutional Documents* (The Hague, 1961), by the international lawyer, Amos J. Peaselee. Arranged alphabetically by the English form of name of the agencies, it includes, as his title indicates, only "international organizations created by governments and themselves of governmental nature," and only "multilateral bodies (i.e. with three or more members)." Thirty-five entirely new organizations have appeared since the first edition in 1956. Peaselee makes the seemingly over-optimistic statement that "the bibliographies do not in the main include the publications of the organizations themselves since this information is readily obtainable at source." The work is dedicated "to better international organization." My pleas for better current bibliographical control of the documents and publications of international intergovernmental agencies represent one facet of better international organization; the importance of this is not always too well esteemed.

The third publication to be mentioned is the *Yearbook of International Organizations: Annuaire des Organisations Internationales*, published at Brussels by the Union of International Associations; in the 10th edition (1964-65) the first three parts (nearly 300 pages of a total of 1702 pages) are devoted to (I.) the United Nations family, (II.) the European community, and (III.) other intergovernmental organizations. Here the distinction between the governmental organizations or agencies is maintained. Brief notices of publications, particularly serial publications of the organizations, seem to be given wherever possible.

Now let us turn to the United States. In the introduction to the *12th Report on the Extent and Disposition of U. S. Contributions to International Organizations for the Fiscal Year 1963* (House Document 313, 88th Congress, 2d session, 1964), the Department of State makes the following explanatory statement that would seem essential for understanding the problem and the importance of the fullest coverage from the point of view of one of the 114 member-states⁴ of the United Nations:

For practical reasons of enlightened self-interest, the United States has, by virtue of a treaty, convention, special act of Congress, or executive agreement, joined with many other nations in various programs of international cooperation to work *against* situations known to be wrong and to work *for* situations believed to be right.

The range of subject matter dealt with is encyclopedic: atomic energy, children's welfare, civil aviation, coffee, cotton, cultural affairs, economic development, education, fish, furs, geography, history, health, malaria, medical research, navigation, postal matters, radio frequencies, refugees, rubber, seed testing, sugar, telecommunications, travel, weights and measures, whales, wheat, yellow fever, zinc.

No matter how large or how small, each of these international [intergovernmental] activities is of value to the United States—or we would not contribute.

The concept of multilateral cooperation and action has long been actively supported by the United States as a means of achieving a better world in which to live.

United States participation in the Universal Postal Union (for example) dates back to 1875, while as recently as six months ago the Congress authorized United States participation in three "new" undertakings, the Hague Conference on Private International Law, the International Institute for the Unification of Private International Law, and the International Agreement regarding the Maintenance of Certain Lights in the Red Sea.

The number of countries collaborating in these organizations range from three or four countries (in the case of organizations dealing with a specific problem or with problems in a certain locality) to well over one-hundred (in the case of the United Nations and some of the specialized agencies).

Currently the organizations and programs to which the United States contributes carry out activities which support one or both of two basic aims of U. S. foreign policy: First, the promotion of peace and security, Second, the promotion of economic and social growth, which may well be one of the best ways to achieve peace and security in the long run. Some of these international programs are similar in character to activities, which we also help finance bilaterally. In any given case, the United States may choose between bilateral or multilateral actions since one may be more feasible or desirable than the other, or a combination of both may be more effective.

The report deals with contributions to multilateral organizations, i.e., *inter-governmental* bodies having three or more members. Bilateral organizations are not covered in the text or in the total figures, nor are the Inter-American Development Bank, the International Bank for Reconstruction and Development, International Monetary Fund, International Finance Corporation, and International Development Association since these are the subject of a report to the Congress by the Secretary of the Treasury.

As chairman of the National Advisory Council on International Monetary and Financial Problems, the Secretary of the Treasury presents to the Congress a semi-annual report, and a special report at less frequent intervals, on United States participation in international financial institutions.

Thus, in addition to the United Nations and its special programs, the United States contributes, according to the reports, to

- | | |
|--|------|
| 1. Specialized agencies of the UN | (15) |
| 2. Inter-American organizations | (10) |
| 3. Other regional organizations | (12) |
| 4. Other international intergovernmental organizations | (25) |
| In all | (62) |

Even beyond this number, there may be at least twice as many more in which the United States government has not been participating for one reason or another.

While the above-mentioned United States reports scarcely touch upon the matter of publications, probably for the lack of space, the 18th *Report by the President to the Congress for the Year 1963*⁵ on U. S. participation in the UN includes at its conclusion an eight-page appendix on publications and documents with lists both for the "sale of publica-

tions and visual materials of the United Nations and the specialized agencies" and for "depository libraries in the United States designated by the United Nations and the specialized agencies."⁶ As to the change mentioned at the beginning of this paper, nothing is said beyond the true but limited statement, "Current UN publications and documents are described in the monthly *Index to United Nations Documents*," without reference to the "step backwards."

That action, UN *Library Report* for 1963 explains as follows:

However, the projected French version of the *Index* made this curtailment necessary, since it is not feasible to produce at one central point indexes in both English and French to the entire documentation of the United Nations and the specialized agencies. The volume and complexity of the documentation and the fact that those specialized agencies which hitherto had submitted indexing copy in English could not do so in French as well make the task inordinately expensive in terms of manpower.

26. In any case, there was a certain amount of overlapping of effort, since several agencies produce and publish their own indexes. It is felt that if these indexes were distributed more widely and if the specialized agencies which do not now produce their own indexes would do so, a decentralized system following a uniform overall pattern but pliable enough to suit the special needs of each agency would be more useful than an imperfect combined effort.

No indication has been given other than possibly in the two working papers of quite limited circulation that a precise survey has been made of the situation, specialized agency by specialized agency, to determine what is being done to continue the "imperfect combined effort" represented in the *United Nations Documents Index*, volumes 1-13, for the years 1950 to 1962, or what representation of these there might be made in various national bibliographies.

In the 1962 UN *Library Report*, the change had been foreshadowed, as follows:

17. The principal preoccupation with bibliographical services concerned the problems of coping with the rising tide of United Nations documents and planning for the production of some indexes in French as well as in English.

18. The sheer volume of documentation was startlingly greater than in any previous year, an increase which appears not in the number of the documents indexed, but in the bulk of the individual documents and the many more index entries required properly to record the interventions of a Membership which has doubled over the last decade. Thus, whereas the number of documents indexed has remained fairly constant at about 10,000 per year, the number of index entries established for publication in the Library's principal indexes totalled 124,000 as against about 80,000 entries required in 1959 to index approximately the same number of documents.

19. This subterranean swelling required the full attention of the Index Section staff, increased somewhat over previous years, but precluded any new indexing commitments. Nevertheless, plans were made for the eventual publication of a French version of the *United Nations Documents Index*. Towards that end the scope of UNDI was restudied and two working papers in which were proposed certain drastic changes were circulated among the specialized agencies' librarians and others for comment.

Indeed it might be well to look at a few instances.

The Food and Agriculture Organization at Rome has been issuing a *Catalogue of FAO Publications* every two years in each of the three official languages (English, French, and Spanish), cumulated from 1945, with supplements between editions. The emphasis here is placed on publications for sale, without mention of those for limited distribution. Since 1961, there has been a processed checklist of working papers under the title: *FAO Documentation, a Quarterly List of Documents and ETAP* [Expanded Program of Technical Assistance] *Final Reports*, distributed only to authorized recipients as determined by the FAO National Committees. Whether there is anything like a full coverage currently of FAO publications in the Italian National Bibliography (*Bibliografia nazionale italiana*) has not been determined.

With the location of certain of the specialized agencies in Switzerland, mainly at Geneva, various questions may be asked. For instance, does the Swiss current national bibliography (*Schweizer Buch*), edited by the National Library (Landesbibliothek) at Berne, attempt to record in its two series (A in the booktrade, B not in the booktrade) all of the publications of the specialized agencies in Switzerland? Even the Swiss National Library has been issuing, beginning with 1946, an annual bibliography of Swiss official publications.⁷

For the International Telecommunication Union, Geneva, a four-page comprehensive list of publications, revised from time to time, seems to include only publications for sale and is kept up to date in the numbers of the *Telecommunication Journal*. Publications of both the attached International Telegraph and Telephone Consultative Committee and the International Radio Consultative Committee are also recorded. At the beginning of the comprehensive list is the statement: "As the General Secretariat of the Union sells its publications on a non-profit and non-discount basis no reduction can be made to booksellers." Thus, it would seem that there is no depository system for these. All of the documents are published in French, also, as required, in English, Spanish, Russian, and Chinese.

The World Health Organization, Geneva, occasionally issues a comprehensive catalog of its publications, cumulative from 1947, and has also published a *Bibliography of WHO Publications* for 1947-1957 and for 1958-1962. In May, 1965, at the annual assembly of the Organization, a resolution was presented to institute an international agency for research in cancer. If and when such an agency may be instituted, there is even more need to have coordination and indexing of the various actions of the specialized agencies.

Each of the other UN specialized agencies in Switzerland,⁸ has a similar more-or-less formal catalog or list of its publications. Such small bibliographical books are often thrown away when superseded or when the immediate use ceases, despite the fact that certain of the older editions may be the only clues to the existence of some publications no longer in print but which may be needed for some important purpose.

For all international organizations at Geneva, whether intergovernmental or not, occasional directories have been published by the Association des Intérêts de Genève under the title *Annuaire International de Genève: Geneva International Year-book. Edité par le Centre Permanent d'Informations Internationales.*

The Bureau International de l'Union Postale Universelle is located at Berne; all of its publications except the monthly *Union postale*, are issued in French, the official language of the UPU. The publications are furnished free only to postal services and then on a quota.

The only specialized agency in France is the United Nations Educational, Scientific, and Cultural Organization (UNESCO), Paris. A quarterly processed *List of UNESCO Documents and Publications* (UNESCO/ARC/List/), issued in both English and French, has appeared regularly at least since 1951. It includes the processed working documents for limited circulation of the General Conference, the Executive Board, and the Secretariat, as well as the UNESCO periodicals, the UNESCO non-periodical publications, and further publications issued by other publishers. The second part of each number is a combined subject-author index, and a cumulative index is contained in the last quarter for each year. Thus, it will be noted that this quarterly *List* seems to be the only one thus far mentioned as following more nearly the pattern of the *United Nations Documents Index*.

The UNESCO documents noted above are not included in the *General Catalogue of UNESCO Publications and UNESCO Sponsored Publications, 1946-1959* (UNESCO, 1962) nor in the much briefer *Check List, the Annual Current List of UNESCO Publications*, nor in the various subject lists.

UNESCO, through unanimous vote of its General Conference in December, 1962, approved the charter of the International Institute for Educational Planning at Paris, with facilities provided by the French Government and with its first budget assembled by UNESCO, the World Bank, and the Ford Foundation. The Institute is an autonomous body within the broad legal framework of UNESCO, serving all of the member states, but especially assisting the developing countries of Africa, Asia, and the Middle East; it has thus far issued three publications of more than a hundred pages each.

The occasional supplement of the *Bibliographie de la France*, devoted to official publications, has a section for those international intergovernmental bodies centered in France. This international section apparently records all UNESCO publications deposited in the Bibliothèque Nationale.

It may be noted that the Intergovernmental Maritime Consultative Organization, which is at Chancery House, Chancery Lane, London, W.C.2, and is the only specialized agency of UN in the United Kingdom, has issued as of 24 May 1965 a two-page foolscap folio list of its publications appearing in English and French and also, to a certain necessary extent, in Russian and Spanish.

Thus, the information about the documents and publications of all

the specialized agencies of the UN, which ceased to appear after 1962, needs badly to be kept updated, even if only for the users in one or more of the member states.

The Pan American Union at Washington, D.C., which serves as Secretariat for the Organization of American states, adopted in 1960 an organizational classification scheme for the official documents of the OAS. Spanish is the principal working language of the Organization (Spanish: Organización de los Estados Americanos, abbreviated OEA), and the sixty-eight page combined guide, scheme, and tables, issued in April 1961 is in Spanish: *Serie de los documentos oficiales de la Organización de los Estados Americanos: Guía, esquema y cuadros explicativos de categorías*.

The first annual list and index of the official documents of the Organization under the new classification scheme appeared as a volume of almost 500 pages, entitled: *Documentos oficiales de la Organización de los Estados Americanos: Índice y lista general*, volumen I, Enero-Diciembre 1960, having the reference numbers OEA/Ser. Z/I. 1 (español) vol. I. In all, 3,900 documents, extending to 42,000 pages, appeared in the classified list. The compact index to the more important documents prepared in the Columbus Memorial Library of the Union is on colored paper—about 140 pages at the end of the volume. Each listing gives the classification and the language (Spanish, English, French, or Portuguese), whether the item is for limited distribution or for sale, price, and in a few instances whether the numbers have been cancelled or not used. The classification is by organization, and the volume includes only the acts and documents of the Organization, the Inter-American Conferences, its Council, the Inter-American Economic and Social Council, the Meetings of Ministers of Foreign Relations, specialized Inter-American Conferences, and other central councils, commissions, and agencies. The informational and technical publications of the Pan American Union, of which separate lists are issued regularly, are not included, nor are the publications of the specialized agencies for public health, child welfare, geography and history, agriculture, and Indian affairs. Deposit for these publications may be subject to official representation through the appropriate national representative to OAS.

Turning next to the *Central American Organization of States*, we find the ten agreements and treaties tending to integrate the economies of the Central American Organization of States (or ODECA as it is often referred to) have been collected in a volume of 251 pages, and have appeared as series 2, number 26, of its *Boletín informativo*, published by the Secretaría General at San Salvador, Republic of El Salvador. These documents cover the period November 8, 1956, to December 13, 1960, and seem to represent the striving towards a Central American common market. In 1965 Costa Rica completed ratification of the Charter signed at Panama in 1962, and the Charter is now in effect. The Secretariat continues to be at San Salvador.

The Inter-American specialized agencies include one linked with Spain, the Postal Union of the Americas and Spain, with the perma-

ment bureau at Montevideo, Uruguay. Such an agency tends to limit its contacts to the postal services of the various member countries.

Spain, through its official Instituto de Cultura Hispánica, has been able to set up Ibero-American organizations in the fields of education, social security, and the official language academies. In these the United States has not participated. And since 1948, Spain apparently has been a member of the European Insurance Supervising Authorities Conference, and also a member of the International Congress of State Lotteries.

By 1940 in Spain, the great number of government publications existing in state-supported libraries was in contrast to the situation at the time of the approval of the first edition of the cataloging instructions in 1902. The obvious convenience for users of the catalogs in bringing the titles together under the name of the jurisdiction and agency motivated the drawing up and inclusion of fifteen additional rules for corporate entries in the second revised edition of the official cataloging rules of 1941.⁹

By 1959, the need for some revision of the *Instrucciones* had become apparent. The printing of unit catalog cards by the Biblioteca Nacional at Madrid pointed up some need for clarification and expansion. The International Conference on the Principles of Cataloging at Paris in October 1961 furnished impetus to the work of revision. Now twenty-two rules devoted to government publications appear in the third revised edition of 1964.¹⁰

Turning now to the special grouping of Western European inter-governmental agencies it may be helpful to quote from the introduction to vol. X (1962) of the *European Yearbook*¹¹ by L. Benvenuti, the Secretary-General of the Council of Europe.

During the ten years which have elapsed, the scope of European activities has expanded enormously. The first volume reported on the constitutions and activities of eight organisations; in the intervening period, the number has doubled. Two of the oldest have been transformed: The Brussels Treaty Organisation into the Western European Union and O.E.E.C. into the Organisation for Economic Co-operation and Development. The principal newcomers are, of course, the Economic Community, Euratom, and the European Free Trade Association. The oldest international organisation in existence, the General Commission for the Navigation on the Rhine, is now among the contributors, as are the newer technical organisations such as the Customs Co-operation Council, the Commission for Civil Status, the European Civil Aviation Conference, "Eurocontrol," the Conference on Posts and Telecommunications, and the two newest members of the European family: the European Space Research Organisation (ESRO) and the European Launcher Development Organisation (ELDO).

The number of these bodies and the variety of subjects with which they deal show that consciousness of the need for European co-operation is not limited to politicians and economists but extends to almost every branch of public activity.

Neither the European regional agencies of UN nor the specialized agencies with headquarters in Europe are treated in the *European Yearbook*. Summary lists of the official publications of the various Western European agencies accompany the appropriate section from year to

year, thus forming, so far as can be ascertained, the most comprehensive record extant. The Council of Europe came into being in 1949 at Strasbourg, France, as a forum for the development of public opinion, and has stimulated and fostered the growth of various specialized agencies. A 28-page *Catalogue of the Publications of the Council of Europe* for 1964 represents a remarkable impact. By the Treaty of 18 April 1951, signed by the German Federal Republic, Belgium, France, Luxembourg, and the Netherlands, the European Coal and Steel Community was created with seat in the Grand Duchy of Luxembourg. By Treaty at Rome, 25 March 1957, between the same powers, the European Economic Community came into being at Brussels, Belgium, with close and interweaving ties with the European Coal and Steel Community. The 56-page *Publications of the European Communities: Catalogue, March, 1964*, Luxembourg-Brussels, has been followed by a 49-page *Bibliographical Supplement*, also issued at Luxembourg-Brussels, and by a 39-page catalog, *European Economic Community Publications, 1965*, now issued only at Brussels.¹² All of the Community publications are in Dutch, French, German, and Italian. The Library of the Community in its *Bulletin des acquisitions* mentions that official publications of the Community are not included since it has complete periodical sets. As to current bibliographical coverage in the Belgian national bibliography, it must be remembered that the *Bibliographie de Belgique* only records books and pamphlets actually published and placed on sale in Belgium and that the publication activities of the Communities had been spread over various western European countries, with the main publication, sales, and distribution activity at 2 Place de Metz, Luxembourg, Grand Duchy of Luxembourg.

It may be helpful to note in the European Economic Community 1965 catalog the following: "Publications marked 'limited distribution' are reserved for specialists in the field concerned, and for libraries, universities, etc. *Working papers* (unprinted drafts) emanating from the various services of the E.E.C. Commission and not intended for distribution outside the organization are not listed in this catalogue." It is quite likely that many of the European Community publications are recorded currently in the monthly classified accessions list of the Central Library of the Belgian Ministry of Economic Affairs and Power.¹³

The very useful device of considering the establishment of a certain number of depository libraries for Community publications might well benefit by experience in one of the member states (German Federal Republic). By a Supplementary Order of March 17, 1961, printed in the *Gemeinsames Ministerialblatt*, 1961, no. 11, p. 235, the Bundesministerium des Innern designated the Bayerische Staatsbibliothek at Munich as the fourth national depository library for German Federal Republic Documents. Under the Reich, that institution had for some years been designated as one of the national depositories for Reich official documents. The three national depositories established for German Federal Republic Documents by the Bundesministerium des Innern through its order of May 12, 1958, are as follows:

1. Deutsche Bibliothek, Frankfurt am Main.
2. Westdeutsche Bibliothek, Marburg.
3. Bibliothek des Deutschen Bundestages, Bonn.

A similar standard order to provide in each Land (State) for systematic deposit for the official publications of each jurisdiction has been proposed by the Kommission für Amtsdruksachen of the Verein Deutscher Bibliothekare.

As a counterbalance to the "Common Market" in the European Economic Community, the European Free Trade Association (EFTA) was instituted by Convention in 1960, between Great Britain, Sweden, Norway, Denmark, Austria, Portugal, and Switzerland (Finland later an associate member), with headquarters in Geneva.

The Organization for Economic Cooperation and Development (mentioned earlier), the European Economic Community, and EFTA all maintain information offices in the United States in Washington, D.C.

Two instances of peculiarity of distribution in a closely-related subject field may be explained. At Brussels, Belgium, there is the Bureau International de Tarifs Douaniers (International Union for the Publication of Customs Tariffs), established by Convention of 5 July 1890, the United States being a member. The Bureau translates customs tariffs into five languages (German, English, French, Spanish, and Italian) and publishes these in the *Bulletin international des douanes* which is furnished only to the pertinent official agency of the contracting governments for distribution or subscription in the country. In the United States, this agency is the Office of International Regional Economics, Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. 20320. The other is the Customs Co-operation Council in Brussels, established late in 1954, under the Convention of 15 December 1950, in which 26 countries are members, not including the United States. As of 1 January 1964, the Council has a four-page list of publications available for sale, ordinarily in both French and English. One of these is the three-volume *Explanatory Notes to the Brussels Convention*, which was, for instance, translated into Spanish, adopted officially, and printed by the Spanish Government for use in Spain.

For the People's Democracies in Eastern Europe, there is a COMECON (Council for Mutual Economic Aid),¹⁴ which dates from January 1949, and which has headquarters in Moscow, the Soviet Union. Despite the occasional lengthy news dispatches concerning COMECON and its activities, the only substantial publication which apparently can be cited is the *Agricultural Review*, edited by the Standing Committee for Agriculture at Sofia, Bulgaria, and also published in German at Berlin in the German Democratic Republic under the title *Internationale Zeitschrift für Landwirtschaft*. What the Central Secretariat, as well as the various other standing committees, may have issued has not yet been determined beyond the fact that any and all such documents have apparently been for official use only. My recent discussion of official publications in a People's Democracy may even have some pertinence.¹⁵

Next, the Warsaw Treaty Organization for defense purposes was set up in 1955. Here again, no documents have been cited. Further, the Organization for the Collaboration of Railways (OSShD) was also established at Warsaw in a decision of the first Conference of Ministers of Transport of the Socialist Countries in 1956. A bimonthly *OSShD Journal* is published at Warsaw in German and reportedly also in Chinese and Russian. Mention of other OSShD publications is occasionally made in the *Journal*.

For the Arab countries of North Africa and the Middle East, the League of Arab States was set up with headquarters at Cairo in 1945, the official language being Arabic. The Arab Postal Union was set up in 1954 with Arabic again as the official language. There have probably been various other Arab states intergovernmental agencies.

For Africa the picture of intergovernmental agencies is not entirely clear. The Organization of African Unity was founded at Addis Ababa, Ethiopia, in May, 1963. This and other related agencies have been described as of 1965.¹⁶ There is also the Organisation Commune Africaine et Malgache at Yaoundé, Cameroons, of February 1965. Apparently there has not been sufficient time yet to determine whether any systematic plan for the issuance of documents and other publications is evolving.

In conclusion, the rather hasty picture sketched herein of current bibliographical control (or lack of control) of international documents seems to be one for the most part of continuing change of both agencies and publications as well as increasing members. Several possible points of approach might be recommended, such as:

1. For the agencies of which the United States is a member, to endeavor to have the needs of libraries and library users included regularly in the instructions to the missions and representatives, with, wherever necessary, mention of the utility of a library depository system.
2. For the agencies of which the United States is not a member, to seek to interest pertinent foreign library associations and institutions in having such needs presented to the agencies.
3. To stress along the same lines the desirability of striving for the fullest possible bibliographical coverage or control.

To ensure the coverage desired, even with conventional means of approach, constant alertness and adaptation to the realities of the situation are required, and may tend to stimulate better international organization.*

* Note. At Geneva on 24-25 February 1966, an Inter-Agency Working Party on the Indexing of Agency Documents was convened, and any tangible results of this or subsequent sessions would be awaited with much interest.

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Library Services and Photocopying*

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THE USES OF COPYING in improving public service are so obvious that some of them hardly need to be mentioned. One of the less obvious uses to which a young university student put the library's Xerox machine might interest you. She was noticed making at least a hundred copies of a document at 25¢ each which rather puzzled the staff, and when they questioned her, they found that she had secured original autographs of the Beatles and was reproducing them to sell at \$2.00 each.

I thought it would be useful to list the various ways in which copying can improve public service and to illustrate some of them with Canadian examples with which you might not be familiar. First, and probably the most widely used, is the substitution of Xerox copies, photostats, and microfilms for inter-library loans. This has the double advantage of leaving the book or periodical in the library where other patrons can consult it and of providing a permanent copy which the would-be borrower can keep if he desires to do so.

A second way of improving public service is to provide various types of copying to the users of the library for a nominal charge so that they do not have to transcribe the material themselves. This saves them time

* Paper presented at the program meeting of the RTSD—Copying Methods Section, in Detroit, July 5, 1966.

and gives them a permanent and accurate copy. A number of years ago when I was on the staff of the Toronto Public Library, we had a reader, a young man, who ordered a quantity of microfilms to be made. The material he selected was voluminous and covered several subjects, and we were puzzled as to what he was doing—not that it was any of our business, but he was a regular library user and we could not help being interested. After careful questioning, he told us that he was making a collection on microfilm of what he considered to be the most necessary information so that, when the next war came, he could retire to his cabin in northern Ontario and carry on his studying completely independently of world crises and possible library devastation.

The replacing of lost or mutilated pages is another application of copying which saves readers the frustration of finding that what they want is missing from the volumes they are using. Much-used reference books like Scott's or Gibbons' stamp catalogues, books of quotations, and encyclopedias are frequently mutilated by unscrupulous readers. When it is not feasible to replace the books or they are not revised and reissued frequently, the best solution is to substitute photocopies for the missing sections. A book like Fairbairn's *Book of Crests of the Families of Great Britain and Ireland* is a terrible temptation to a library user who wants to have a signet ring made bearing the family coat of arms. A few seconds suffice to cut out a neat little circle with the particular crest in which he is interested. An enterprising second hand book dealer in Toronto (now no longer with us) did a thriving business by paying the non-commercial rates which the public library charged for photocopies, adding the copies to imperfect books and selling them for higher prices than could be asked for them had the pages been missing. The library's decision to charge commercial rates in this case brought forth an interesting display of indignation.

Microfilming is usually cheaper than binding, particularly for files of newspapers and periodicals. For many periodicals, microfilms of back files are available to subscribers. The Library of Parliament in Ottawa needs to maintain files of all the major Canadian newspapers and has adopted the policy of buying microfilms rather than binding their files. They subscribe to all the microfilms which are available and for the others have made an arrangement with the National Library whereby both institutions pay part of the cost of having files filmed by the Central Microfilm Unit of the Canadian government, with each library paying for a positive microfilm. This has several advantages—it costs less to film than to bind, no one has to worry about the poor quality of the paper in the original, storage space is saved, and lastly, an unscrupulous reader cannot mutilate a microfilm as easily as he could the original. Several years ago the Library of Parliament had difficulty with such a reader. He was a gentleman who was writing a history of the National Hockey League and wished to consult many files of Canadian papers. The Library of Parliament staff laboured for several weeks bringing him the bound files that he needed and then decided that he seemed such a charming gentleman and so trustworthy, that they would

allow him to work in the newspaper stacks where he could lift off and use the volumes he needed. Unfortunately, the temptation to save time by clipping articles proved too much for the reader, and he proceeded to do just that. This was not discovered for some time, but when it was, the RCMP were called in, and they in turn communicated with the FBI since the criminal was an American citizen. They were able to locate him, retrieve the scrap-book in which he had mounted all his clippings and return it to the Library of Parliament which still has it.

A valuable service can be given by photocopying illustrations or original pictures for reproduction in forthcoming publications. I am sure that more than three quarters of the histories written about Canada are illustrated with reproductions made by the Public Archives of Canada from their Manuscript and Picture Collections. In *The Story of Advertising in Canada* by Stephenson and McNaught, published in 1940, most of the illustrations of newspaper advertisements were made by the Toronto Public Library from their newspaper files.

Any librarian hates to refuse a reader access to a rare or fragile book, but this must sometimes be done to prevent its disintegrating altogether. For such items which are in frequent demand, Xerox, photostat, or microfilm copies can be substituted. Sensation seekers and anti-Catholics are often interested in the *Awful Disclosures of Maria Monk* published in 1836, and it is poor public relations to have to refuse to let them see the book. A few minutes reading of a photocopy satisfies them that the good Maria was not as sensational as they had been led to believe and that the whole thing is rather boring. For the serious bibliographer the original is of course necessary, and it should be preserved for his use only. Newspapers obviously belong in this category. It is much better for a library to spend a few thousand dollars on microfilms of newspapers which can be used by any reader rather than denying them access to the originals. Readers quite rightly resent being questioned about their motives for using the newspapers but go away happy and impressed when the library introduces them to microfilm.

Lastly and most important, is the use of photocopying to make scarce and unobtainable material available anywhere in the world. All the out-of-print books which are being reproduced in the O-P series or the unobtainable reference books being reprinted by photo-offset are a boon to libraries. Older libraries need replacements or additional copies, and new libraries like the National Library of Canada and our many new universities could not acquire a basic collection without these reprints. Marion Higgins' *Canadian Government Publications* and Gregory's *American Newspapers, 1821-1936*, are two basic reference tools made available through the O-P series, and there are many more. At the National Library we could not have built up our reference and bibliography collection so quickly if photo-offset reprints had not been available of such standards as Evans, *American Bibliography*; Sabin, *Dictionary of Books Relating to America*; Brunet, *Dictionnaire des ouvrages anonymes*; or Lorenz, *Catalogue général de la Librairie française*, to name only a few.

The many card catalogues being reproduced in photo-offset by G. K. Hall, varying in value as they do, are on the whole a useful series. Probably the one that we use most frequently at the National Library is the *Dictionary Catalog of the History of the Americas Collection* in the New York Public Library. Other card catalogues, like the *Dictionary Catalog of the Yale Forestry Library* and the *Catalog of International Law and Relations* in the Harvard Law School Library (being issued by Oceana Publications), we ordered at the request of the Department of Forestry Library and the Library of the Supreme Court of Canada, both of whom felt that the catalogues should be available in Ottawa even though their individual book budgets did not allow them to purchase the catalogues themselves.

Guide to Microforms in Print lists hundreds of items available on microfilm or other microform such as the United Nations *Documents and Official Records*, the *Congressional Record*, *U. S. Government Publications*, depository and non-depository, British House of Commons *Journals*, *Sessional Papers* and *Hansards* as well as many newspapers and periodicals. University theses available on microfilm are listed in *Dissertation Abstracts*.

University Microfilms was, I think, the pioneer firm to produce a series of microfilms of rare and unobtainable publications with their series of the works listed in Pollard and Redgrave's *A Short-title Catalogue of Books, 1474-1640*, and Donald Wing's *A Short-title Catalogue of Books, 1641-1700*. Other similar projects are the *Early American Imprints, 1639-1800* and *1801-1819*, *Early English Text Society Publications*, and *Hakluyt Society Publications*.

The National Library is currently undertaking to microfilm Canadian university theses and make positive copies available for purchase. Some theses from the University of Toronto have already been done, and other universities have agreed to send their theses for filming. As these films become available, they are being listed in our national bibliography *Canadiana*.

There are several Canadian copying projects which I would like to mention and which have done a great deal to make available hitherto inaccessible or scattered material. With the help of a \$15,000 grant from the Rockefeller Foundation, the Canadian Library Association was able to launch its project of microfilming Canadian newspapers. To quote from the project's catalogue: "Scores of interesting and important Canadian newspapers have been microfilmed, and both their survival and availability thereby assured. In addition, certain by-products of the filming programme have been important; wear and tear has been transferred from original papers that are often fragile and frequently unique to easily replaceable film copies; widely scattered issue of newspapers have been hunted out, brought together, and made to form a single readily available file." These films are all listed in *Newspapers on Microfilm* as well as in the CLA's own catalogue.

The Public Archives of Canada has for years been microfilming files of papers in other archives, especially those of Great Britain and France,

which relate to Canada. Virtually all the main series of documents in the Colonial Office Records in London and the Archives des Colonies in Paris have been copied complete. In total these amount to several thousand reels of film. A single series of papers, for example C.O. 42, the main series of correspondence between Great Britain and Canada, consists of well over 600 reels. They have also tried to secure copies of many documents in private hands that relate to Canada. The private papers of most of the former Governors-General have been examined, and papers relating to Canada and Canadian affairs have been copied. The papers of missionary societies that maintained missions in Canada in early days have also been filmed, for example, the Church Missionary Society, the Society for the Propagation of the Gospel, the Church of Scotland, and many others. Important political papers have been microfilmed such as all the papers of three former Prime Ministers: the Sir John A. Macdonald papers which run to 240 reels, the papers of Sir Wilfred Laurier—218 reels, and those of Sir Robert Borden—134 reels.

In cooperation with the Hudson's Bay Company, the Public Archives has microfilmed the complete archives of the Company for the period 1670-1870. On film these consist of over 1800 reels, or about 1,250,000 pages. All census records in the possession of the Archives, up to and including the first federal census of 1871, have been microfilmed. All Orders in Council passed by the Governor-in-Council are microfilmed monthly by the Archives for security reasons. If the original files were destroyed, the Government of Canada could fall back on the microfilm files, and carry on as usual.

A special project of Dr. Lamb, in his capacity of National Librarian (he is both National Librarian and Dominion Archivist), was the microfilming of all but eight of the located items in Marie Tremaine's *Bibliography of Canadian Imprints, 1751-1800*. In addition, fifteen items not listed but falling within the period have been filmed. These films are available for loan or can be purchased.

Lastly, I cannot resist mentioning the National Library's Union Catalogue which was produced by microfilming the main entry cards in the catalogues of the principal libraries in the country. From the microfilms we made Xerox enlargements back to the original 3 x 5" size, and these were interfiled to form the catalogue. Several union catalogues have been produced in this way, and to my mind it is one of the outstanding examples of the benefits of photocopying. Certainly our Union Catalogue was needed and could never have been produced in any other way. I must admit to being somewhat biased when I begin to talk about the Union Catalogue, so perhaps it will be as well if I stop at this point.

SHACHTMAN AND HOLMES CITED

At a Special Merit Awards Program for Outstanding Cost Reduction Achievement at the Department of Agriculture, April 5, 1966, Bella E. Shachtman, Assistant Director for Technical Services, and Jeanne M. Holmes, Chief, Division of Catalog and Records, of the NAL, each received an award presented by the President in person (see picture).

They were cited for developing and implementing the plan which resulted in formal arrangements to publish commercially the *Dictionary Catalog* of the NAL, 1862-1965, without cost to the Department and at a reasonable cost to purchasers.



Bella Shachtman and Jeanne M. Holmes receiving USDA Special Merit Awards from the President.

The International Exchange Service*

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THE HISTORY OF THE INTERNATIONAL EXCHANGE of publications and the part that the Smithsonian Institution has played in this work are of interest to all libraries. I will start with a short resume of the early history of international exchange and how the International Exchange Service was established by the Smithsonian.

Early efforts were made to engage in the international exchange of publications. In 1694 Louis XIV authorized the Royal Library of France to exchange their duplicates for books printed in foreign countries. Among the exchanges that were made was one with China. Other efforts were made in Europe during the 18th century, but the lack of an established system hampered such efforts. Transportation facilities were not adequate, custom difficulties were encountered, and there were no exchange bureaus through which publications could be transmitted. One of the earlier promoters of international exchange was Alexandre Vattemare, a Frenchman. He was educated as a surgeon, but he chose to become a famous magician, sleight-of-hand expert, and court performer. As he wandered through Europe giving performances in many of the large cities, he visited libraries and museums, and his curiosity was aroused by the accumulation of duplicate books lying in storage rooms. He visualized the good these publications would do in other libraries, and he began a crusade to promote the exchange of these duplicates between the libraries of the world. He felt that culture, good will, and peace could be disseminated through the exchange of duplicates.

Baron Vattemare carried on his campaign in Europe in the 1820's and 1830's, and in 1839 visited the United States. He succeeded in convincing Congress of the desirability of initiating an exchange program with European libraries. But Congress was more interested in the current exchange of official publications than in the exchange of duplicates, being anxious to receive the official publications of other countries. In 1840 a joint resolution was passed by Congress providing that fifty copies of all federal government documents be printed and bound for the purpose of exchange with foreign countries. This resolution also authorized the Library of Congress to exchange its duplicates. Baron Vattemare left Washington with 700 volumes which he distributed to various libraries in Europe. As a result of this distribution, the Library of Congress re-

* Paper presented at a program on documents, July 5, 1965, at ALA Conference, Detroit.

ceived proposals to enter into exchange agreements. Some exchange of duplicates resulted, but the program was not too successful.

Baron Vattemare continued to promote the idea of international exchange, working both on the exchange of duplicates and on that of the official government publications. When he died in 1864, he had not seen the fulfillment of the many programs that he had started, but he had inculcated in the minds of many the desirability of international exchange and the good it would do in creating better understanding between peoples. And during the period of his activity in the international exchange of publications, James Smithson, an Englishman, died and willed his property to the United States of America to found at Washington under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men.

When the program of organization for the Smithsonian Institution was being considered in 1847, Professor Henry, the first Secretary of the Smithsonian, submitted a system for publications and their exchange and distribution throughout the world. This proposal was concerned with the exchange of current publications and had a high priority on the list of programs to be initiated by the new organization.

In 1848 the Smithsonian Institution issued "Ancient Monuments of the Mississippi Valley," the first of its long series of scientific publications. In addition to the American distribution, several hundred copies were sent to scientific and other learned institutions abroad; in return many valuable publications were received from the foreign institutions. To continue this desirable exchange of intelligence, Secretary Henry appointed agents in a number of foreign countries to distribute Smithsonian publications to foreign organizations and in return to receive publications from them for forwarding to the Smithsonian Institution. Thus began the Smithsonian system of international exchange which has continued through the years. Wars have handicapped but not stopped the operation of the Service. The system proved to be so successful, the privilege of using its service was offered to other learned bodies, and this opportunity for wide distribution of scientific publications was so eagerly grasped, the system grew rapidly.

Earlier in the 19th century the American Philosophical Society and the American Academy of Arts and Sciences had instituted programs for the current exchange of their own publications. Both of these organizations assisted in establishing the Smithsonian system of international exchange; and when they were permitted the use of the service, they abandoned their own programs and transmitted their publications through the Smithsonian Service.

Professor Henry said in 1852:

The worth and importance of the (Smithsonian) Institution are not to be estimated by what it accumulates within the walls of its building, but by what it sends forth to the world. Its great mission is to facilitate the use of all the implements of research and to diffuse the knowledge which this use may develop.

At that early date he could visualize the importance the Smithsonian

Exchange System would assume in the broad and comprehensive objective of the Institution, "the diffusion of knowledge."

Congress was not too happy about the results of Baron Vattermare's efforts in exchanging the official publications; thus, in 1848 it passed another resolution authorizing the Joint Committee on the Library to appoint agents in other countries to make arrangements for the exchange of official publications. Again the results were not satisfactory, and Congress assigned the exchange program to the Department of State. The State Department attempted to exchange the official publications through its embassies and legations; but, again, the results did not satisfy Congress. During this period the Smithsonian exchange service was steadily growing, and in 1867 Congress passed a joint resolution providing that copies of all documents thereafter printed by order of either of its houses be placed at the disposal of the Joint Committee on the Library to be exchanged through the agency of the Smithsonian Institution. This was the first official recognition of the Smithsonian exchange system.

Secretary Henry lost no time in carrying out the intent of Congress. He addressed a circular to the State Department to be distributed to American representatives abroad asking whether the appropriate government offices would be interested in establishing formal exchange relations with the United States. The replies were favorable, and many exchange agreements were entered into. The Smithsonian has served continuously in this program and today transmits the official publication to seventy-four countries.

The Smithsonian Institution had been operating the International Exchange Service out of its private funds. The Board of Regents requested that Congress appropriate funds to assist in the operation of the official document program, and in 1881 Congress did appropriate \$3,000 for this purpose, the first assistance received.

In 1875 an international geographical congress was held in Paris, and a recommendation was adopted proposing that a uniform system of exchanging literary and scientific publications be established. As a result of this recommendation, the Brussels Convention for the international exchange of governmental, literary, and scientific publications was drafted, patterned after the Smithsonian Exchange system. The United States adopted the Brussels Convention in 1886, and the Smithsonian Institution was requested to act as the United States agency. The Brussels Convention provided for the establishment of exchange bureaus in other countries, thus marking the beginning of international exchange of publications on an established plan, and the Convention continues to function. Many countries that did not adopt the Brussels Convention have established exchange bureaus similar to those proposed, and they assist in the international exchange. In 1958 UNESCO adopted two conventions for the international exchange of governmental, literary, and scientific publications. These two conventions do not replace the Brussels Convention but merely supplement it. The United States has not adopted the UNESCO Conventions.

The Smithsonian Institution extends the use of the International Exchange Service to libraries, societies, educational institutions, and individuals in the United States who wish to transmit their publications on exchange or as gifts to similar institutions in other countries. The publications must be packaged and addressed to the intended recipient, and transportation charges to the Institution must be prepaid. There is no charge to the sender for the transportation charges from the Smithsonian Institution to the intended recipient. Addressed packages of publications are forwarded to the 37 exchange bureaus in other countries, who then transmit the packages to the addressees. If the country of destination does not have an exchange bureau, the publications are mailed directly to the addressees unless there is a sufficient amount of publications to justify an ocean shipment, in which case the publications are sent by ocean freight, transportation charges prepaid, to the port of entry of the country of destination.

Approximately 1,000,000 pounds of publications are received by the International Exchange Service for transmission each year, of which approximately 100,000 pounds are received from the foreign exchange bureaus for distribution to addressees in this country. Publications are received from over 350 organizations and individuals in the United States for distribution in over 100 countries. The official United States publications are transmitted to seventy-four countries in accordance with conventions, 49 bilateral treaties, and other international agreements. The daily issues of the *Congressional Record* and the *Federal Register* are transmitted to sixty-two countries in compliance with agreements for the exchange of the parliamentary journals. The United States patent specifications are transmitted to 22 countries in accordance with agreements between the United States Patent Office and patent offices of other countries.

Publications transmitted through the Service are classified into three groups. First is the exchange of parliamentary publications: the official documents of the United States, the daily issues of the *Congressional Record* and the *Federal Register*, Congressional hearings, and proposed legislation. As indicated above, these exchanges are based on conventions, bilateral treaties, and other international agreements between the United States and other countries. The Library of Congress is responsible for initiating these exchanges and receives the publications sent in return.

The second group is known as the Departmental exchanges. These are the exchange of the publications of the various government agencies for those of similar agencies in other countries. Agreements for these exchanges are made by the government agencies with the foreign government agencies.

The third group comprises miscellaneous exchanges. These include the arrangements made by universities, state organizations, individuals, agricultural experiment stations, etc., with similar organizations in other countries. One of the many exchange programs in this group is the Medical Library Association exchange of duplicates. A list of available dupli-

cates is circulated to all member libraries. Many of the libraries in foreign countries claiming duplicates request that the sender transmit the duplicates through the Smithsonian Institution.

The work of the International Exchange Service serves as a means of developing and executing in part, the broad and comprehensive objective of the Smithsonian Institution, "the diffusion of knowledge." Over the years the operations of the Service have affected beneficially the libraries of all learned institutions in the United States and have helped to promote the rapid growth of science through facilitating the international exchange of ideas. Libraries throughout the world have been enriched by the publications received through the Service from many institutions in the United States, and in turn the libraries of the United States have benefited from the publications received from the institutions in foreign countries. It has been said by many libraries that without the Service it would not be possible to continue their foreign exchange program. The Exchange Service is a tangible expression of the Smithsonian Institution's part in the diffusion of knowledge, and has proved its worth. It continues to exist, and indeed to grow, in this highly competitive world of ours, which more often than not thinks in terms of doing yesterday what we think of today.

Periodicals Automation at Miami-Dade Junior College

ELEANOR G. EYMAN, *Acting Director, North Campus Library
and others**

*Miami-Dade Junior College Library
Miami, Florida*

FOR TWO REASONS, the Miami-Dade Junior College Library decided to automate its periodical files prior to those of circulation, acquisitions, or cataloging. First, periodical records are more easily separated from other library data; and second, the authenticity of the files had been jeopardized by extremely rapid growth and by having been supervised by a number of people, each of whom had introduced various codes and symbols which collectively assumed a hieroglyphic aspect to the user. To compound the confusion, separate filing systems had been

* Charles C. Fridlin, Systems Analyst; S. Bruce Olson, Programmer; Samuel M. Baker, Jr., Head, Periodicals Department; and Asa B. Pieratt, Assistant Periodicals Librarian.

developed for holdings: internal and public. In too many instances these files were at variance, a situation which was confusing both to patrons and to periodicals personnel. Separate internal files were maintained for binding records, claims, and renewals. A number of sub-files were also in existence. Consulting files began to consume inordinate time for both clerical and professional personnel. Add to this the necessity to verify conflicting information, and the total picture is disconcerting. Attempts to combine files were aborted, among other reasons, by inability to maintain growth of the collection while at the same time purging the data.

When the services of the Systems Analyst were made available to the Library Director, it was apparent to both of them that an automated periodical system could well test the claim that automated record-keeping is desirable as well as feasible. Many consultations took place between library staff and the Systems Analyst. That a mutual appreciation of demands, desires, and limitations developed without any disastrous capitulations is a tribute to the cooperation of both the incisiveness of the systems approach and the more cautious library attitudes.

The major problems were conceded to be: keeping abreast of claims; maintaining accurate, readable, up-to-date inventory files which would indicate whether the item was bound, unbound, or in microform; bindery control which would indicate color code, relevant information about the index, date sent to bindery, and cost. In addition, much additional information could be stored which could provide the faculty with information frequently requested, such as subject listing of titles, as well as a simple alphabetical title listing. At the present time our periodical subscription list numbers in excess of 1,100.

This system could be used by other institutions but would probably require changes and revisions to adapt it to different conditions and data processing equipment. At the present time, we have a 1620 computer, a punched-card reader and punch, a paper-tape reader and punch, a line printer, and two magnetic disk drives. This equipment limits the system to the handling of a maximum of 1,500 titles; however, with larger capacity equipment and the use of magnetic tape, there would be no limit to the number of titles which the system could handle. Based on this equipment and the problems being faced, a system was designed which would give the following:

- (1) weekly holdings print-out
- (2) weekly claiming report
- (3) monthly renewal list
- (4) monthly binding report

and upon request:

- (5) alphabetical title listing
- (6) subject listing.

These print-outs solved most of our problems. The weekly holdings print-out provides accurate, readable records for both the staff and patrons. The combined claiming report, renewal list, and binding report

removes the necessity of numerous files and the time and labor expended upon them.

The major problem faced was how to organize and gather the information for each periodical so it could be converted easily into computer language. Because of the distance traveled and storage space limitations, paper tape was chosen as the medium for communication and input to the computer. Punched paper tape is a more compact medium than cards and is less sensitive to humidity and rough handling. In addition to this, and perhaps more important, is the fact that tape lends itself perfectly to variable-length record format which is used to great advantage in reducing the size and amount of data prepared. Of somewhat lesser importance is the fact that paper-tape punching devices are quieter than card punches and therefore better adapted to a library environment. A paper tape punching machine was decided upon to convert the periodicals information to the computer's language. The paper tape punch is a machine consisting of an electric typewriter combined with a paper-tape reader and punch; it can also read and punch edge cards.

A Periodical Master File Sheet was then designed (see Exhibit 1) to accumulate the required information on each periodical. This sheet was designed to record information that will be used now and yet allow for information that may be needed at some future time. The information is written in coded form on the Periodical Master File Sheet (see Exhibit 2 for coding information). When the information is gathered on all of the periodicals, each Periodical Master File sheet is typed in title order on the paper tape machine, and a paper tape is punched. This paper tape is used to prepare the Master File on the computer's magnetic disk (see Exhibit 3).

Since information on the Master File for a given periodical may change, a Master File change procedure was designed (see Exhibit 4). This Master Disk File is sequentially organized, since the nature of the reports generated requires the processing of each record in sequential order. This would indicate a sequential storage medium such as magnetic tape rather than magnetic disk because little of the magnetic disk random access ability is used. Since our IBM 1620 System does not have magnetic tape capability, it is necessary that magnetic disk be used to provide the storage capacity required.

Part of the conversion process is the preparation of an edge-punched card for each periodical (see Exhibit 5). The edge-punched card is punched on the paper-tape punching machine as the operator types the periodical name and code number on a gummed label; this label is then placed on the edge-punched card for identification and filing purposes (see Exhibit 6). This file of edge-punched cards is used for up-dating the holdings records. The old holdings cards had notations which indicated whether a title was to be put on display, to be shelved with the unbound journals, to be discarded, or routed. These notations were transferred to the edge-punched cards, eliminating the necessity for maintaining a second directional file. Thus, in effect, the edge-punched cards assumed all the functions of the old holdings file.

After the computer master file is created, a Periodical Inventory report is printed (see Exhibit 7). Each week the Library forwards to the computer center a tape containing the periodical code number and the issue date for all periodicals received during that week. This tape is prepared by entering the edge-punched card for the periodical received into the paper-tape machine. This causes the periodical name to be typed and the periodical code to be typed and punched automatically into the paper tape. The issue date is typed by the operator on the keyboard of the paper-tape machine, and it also is punched into the paper tape. The paper tape is then read into the computer, and a new up-dated inventory report is prepared (see Exhibit 8). Four copies of this report are put into binders and placed in the Library for student and faculty use in locating periodicals.

Each week, after the inventory report has been prepared, the computer prepares the claims report (see Exhibit 9). This lists the title, the issue due, and the name and address of the source for each periodical title that should have been received but which did not arrive.

Each month, two additional reports are prepared by the computer center. The Renewal Report (see Exhibit 10) informs the Librarian four months in advance what periodicals need to be renewed, when the subscription expires, the price of the subscription, and the source of the subscription. The Binding Report (see Exhibit 11) informs the Librarian which periodicals are due to be bound the next month, the color of the binding, which indexes have been received, which indexes should have been received, the method of receipt of the index, and price, if any, of index.

Upon request, the Computer Center will prepare an alphabetic listing (see Exhibit 12) of all periodicals which are being received by the library. Also, upon request, a subject listing (see Exhibit 13) will be prepared, giving the subject heading and all periodicals that the library receives which deal with that particular subject. Each periodical can be listed under five different subject headings (see Exhibit 14 for subject headings).

Due to the number of cumulative man hours and computer time represented by the disk file, a back-up procedure has been designed into the system. Before any operation is attempted that will change the Master Disk File, a copy is made on a back-up disk pack. This will allow regeneration of the Master File in the event that something occurs to damage the data on the file. This protects the Master File from errors induced through bad data, machine or operator errors, or unforeseen program situations. The contrast in appearance between the large illegible Kardex file and the compact, eminently readable computer print-out sheets is notable. The staff encounters no demands on its time for interpretation of data.

EXHIBIT 1

PERIODICAL MASTER FILE

1. Periodical Title	_____	Annals of the Academy of Political & Social Science
2. Periodical Code	_____	7,500,000
3. Order Date	_____	070065
4. Publisher's Name	_____	Amer. Acad. of Political & Social Science
5. Publisher's Address	_____	3937 Chestnut St., Philadelphia 4, Pa.
6. Beg-Exp of Subscription	_____	060065 to 070065
7. Source	_____	01
8. Subscription Status	_____	1
9. Price	_____	1000
10. Discount Price	_____	1000
11. Our Price	_____	950
12. Method of Receiving Index	_____	1
13. Index Price	_____	
14. Frequency of Indexes	_____	
15. Latest Index Received	_____	
16. Date for Binding	_____	1
17. Color Code for Binding	_____	8820
18. Where Indexed	_____	1921
19. Frequency of Issue	_____	B101010101010
20. Days Early or Late	_____	21-
21. Unbound Inventory	_____	1925 0900 1957 0700 0900 1100 1958 0300 0500 0700 0900 1959 0500 0700 0900 1100 1965 0100 0300
22. Unbound Inventory at Bindery	_____	
23. Bound Inventory	_____	0327 0356 011960 121964
24. Microform Code	_____	
25. Microform Inventory	_____	
26. Day or Week Code	_____	3
27. Title Changed To	_____	
28. Former Title	_____	
29. Ceased Publication	_____	
30. Subject 1	_____	822
31. Subject 2	_____	694
32. Subject 3	_____	
33. Subject 4	_____	
34. Subject 5	_____	

EXHIBIT 2

PERIODICAL MASTER FILE EXPLANATION

1. *Periodical Title*
An alphabetic field with a maximum size of 40 characters including spaces.
2. *Periodical Code*
A numeric field with a maximum size of eight characters. Example: 12456013
3. *Order Date*
A numeric field of six characters. Example: 011065
4. *Publisher's Name*
An alphabetic field with a maximum size of 25 characters including spaces.
5. *Publisher's Address*
An alphabetic field with a maximum size of 50 characters including spaces.
6. *Beg. & Exp. of Subscription*
A numeric field of 12 characters. Example: 020065 010066
7. *Source*
A numeric field of two characters denoting the source of the periodical.
Example: 01
Coding: 01—Mayfair Subscription Agency
P. O. Box 126
Teaneck, New Jersey, 07666
02—Crossworld Books & Periodicals
333 S. Wacker Drive
Chicago 6, Illinois
80—Direct
90—Gift
8. *Subscription Status*
A numeric field of one character. Example: 1
Coding: 1—We are subscribing.
2—We are not subscribing.
9. *Price*
A numeric field of five characters. Example: 500 = \$5.00
10. *Discount Price*
A numeric field of five characters. Example: 450 = \$4.50
11. *Our Price*
A numeric field of five characters. Example: 425 = \$4.25
12. *Method of Receiving Index*
A numeric field of one character. Example: 1
Coding: 1—Index is part of the periodical.
2—Index is mailed automatically.
3—Must request to be put on mailing list.
4—No index.
5—Each index must be requested.
13. *Index Price*
A numeric field of five characters. Example: 1525 = \$15.25
If no price is indicated, the index is free.
14. *Frequency of Indexes*
A numeric field with a maximum of twelve characters. Example: 11
Coding: JAN 0 JULY 6
FEB 1 AUG 7
MAR 2 SEPT 8
APR 3 OCT 9
MAY 4 NOV 10
JUNE 5 DEC 11

15. *Latest Index Received*

A numeric field with a maximum of two characters. Example: 1
Coding: Same as Item 14 above.

16. *Date for Binding*

A numeric field with a maximum of six characters. Example: 030610
Coding: Same as Item 14 above.

17. *Color Code for Binding*

An alphabetic field with a maximum of five characters. Example: 8884A

18. *Where Indexed*

A numeric field with a maximum of ten characters. This allows five codes to denote where the periodical is indexed. Example: 011219

Coding: 01—A. S. & T. Ind.	13—Leg. Per.
02—Air Un. Ind.	14—Lib. Lit.
03—Art Ind.	15—Lib. Sci. Abstr.
04—B.P.I.	16—Math. R.
05—Biol. Abstr.	17—Meteor. & Geostrophys. Abstr.
06—Chem. Abstr.	18—Music Ind.
07—Educ. Ind.	19—P. A. I. S.
08—Eng. Ind.	20—Psycho. Abstr.
09—Fin. Ind.	21—R. G.
10—Ind. Med.	22—Sci. Abstr.
11—Ind. Sel. Per.	23—Amer. Hist. & Life
12—Int. Ind.	24—)
	thru) Allow for twelve more
	35—) @ 50 ea.

19. *Frequency of Issue*

An alphabetic field with a maximum of 13 characters.

Coding: 1st Character	
W—Weekly	Q—Quarterly
F—Fortnightly	S—Semi-Annually
T—Semi-Monthly	A—Annually
M—Monthly	I—Irrregularly
B—Bi-Monthly	

Other 12 Characters

Each character equals one month: 1st January-2nd February—etc.

Codes: 0—No issue this month
 1—One issue this month
 2—Two issues this month
 3—Three issues this month
 4—Four issues this month
 5—Five issues this month

If periodical is regular, the code will only be the one letter. If periodical is irregular, the code will be the letter and 12 characters.

Example: M MONTHLY-REGULAR
 W 345424544454
 M 101111000111

20. *Days Early or Late*

A numeric field of three characters. This denotes the number of days the receipt of a periodical differs from the issue date. Example: 10+

Coding: 10+ days early
 10- days late

21. *Unbound Inventory*

A numeric field with a maximum of 180 characters.

Example: 19631964010701140200

One year followed by another year denotes that we have the complete year; i.e., 19631964 tells we have all 1963 issues. The other numbers in the example denote month and day of issue; i.e., 0107

↑ ↑
MONTH DAY JAN. 7

Monthly magazines would be like this: 0200—February

22. *Unbound Inventory at Bindery*

A numeric field with a maximum of 60 characters.

Example: 00540055011963121964

This denotes Volume 54 to Volume 55 covering Jan. 1963 to Dec. 1964. If you have only one volume it would read: 00000055011963121963

23. *Bound Inventory*

A numeric field with a maximum of 120 characters.

Example: 00520053011961121962

Coding: Same as for Item 22.

24. *Microform Code*

A numeric field of one character. Example: 1

Coding: 1 Microfilm
2 Microfiche
3 Microcard

25. *Microform Inventory*

A numeric field with a maximum of 60 characters.

Example: 0050051011960121962

Coding: Same as for Item 22.

26. *Day or Week Code*

A numeric field of one character. Example: 1

Coding: Weeks of month coded 1-4.

Days of week coded: Sun. 1, Sat. 7.

This denotes the usual week of the month or day of the week that the periodical is published.

27. *Title Changed To*

An alphabetic field with a maximum of 40 characters, including spaces.

28. *Former Title*

An alphabetic field with a maximum of 40 characters, including spaces.

29. *Ceased Publication*

A numeric field of six characters denoting the date the periodical ceased publication. Example: 050164 denotes May 1, 1964.

30. —

34. *Subject 1-5*

Numeric fields of three characters. Example: 270

Coding: Starts with 005 accounting and proceeds through 985 zoology; i.e.,

005 Accounting
010 Advertising
015 Aeronautics

↓
985 Zoology

EXHIBIT 3

SYSTEM FLOW MASTER FILE PREPARATION



The master file sheets are typed on the Paper Tape Punching Machine and a paper tape is punched.

This paper tape is read into the 1620 computer system and the Periodical Master File is created on the magnetic disk.

EXHIBIT 4

SYSTEM FLOW
MASTER FILE CHANGES

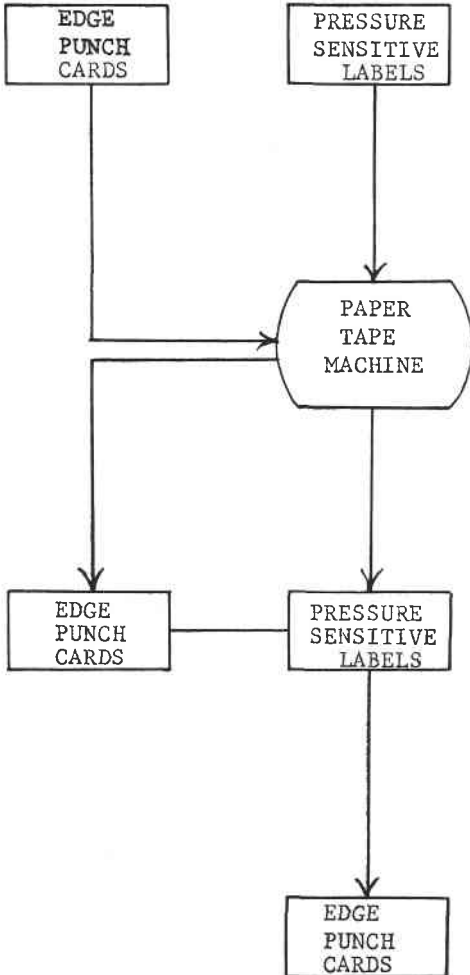


The master file sheet is typed on the Paper Tape Punching Machine, for those items of the periodical master file that need to be changed. This will punch a Paper Tape for each change containing the periodical code number, item number to be changed and the new information.

The paper tape is read into the 1620 and the master file on the magnetic disk is corrected.

EXHIBIT 5

SYSTEM FLOW
EDGE PUNCH CARD PREPARATION



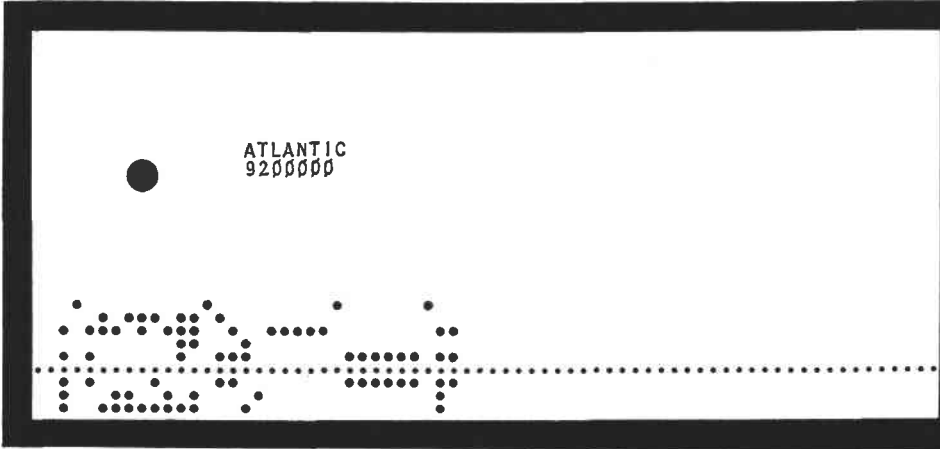
The edge punch cards are placed in the punch station of the Paper Tape Punching Machine and the labels are placed on the continuous form device on the typewriter of the machine.

The operator types the periodical title and number on the label, at the same time the periodical number is punched into the edge punch card.

The labels are put on the edge punch cards and filed by periodical title.

EXHIBIT 6
PERIODICALS AUTOMATION

EDGE PUNCH CARD



PUNCH PAPER TAPE

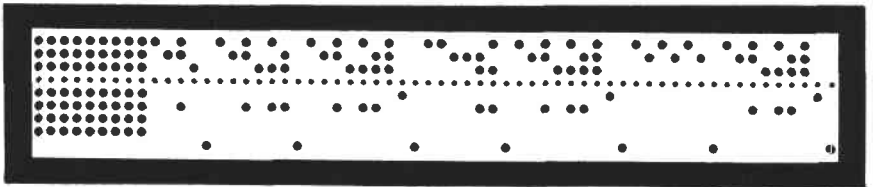


EXHIBIT 7

LIBRARY-PERIODICAL INVENTORY LISTING

JANUARY 1966

ACCOUNTING REVIEW

UNBOUND

1965 JAN. 6

BOUND

VOL. 37 TO 39 COVERING JAN. 1962 TO DEC. 1964

AMERICA

UNBOUND

1965 JAN. 4, JAN. 11, JAN. 18

BOUND

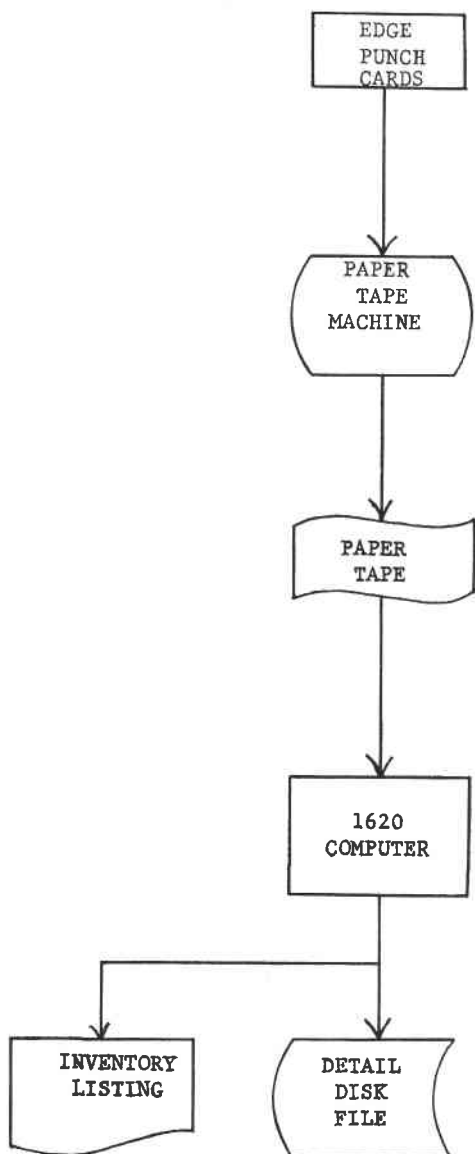
VOL. 89 COVERING APR. 1953 TO AUG. 1953

VOL. 95 TO 99 COVERING APR. 1956 TO AUG. 1958

VOL. 101 TO 111 COVERING APR. 1959 TO AUG. 1964

EXHIBIT 8

SYSTEM FLOW WEEKLY RECEIPTS



When a periodical issue is received the edge punch card is pulled. This card is read into the Paper Tape Punching Machine.

The operator types the issue date and the machine punches a tape containing the periodical code number and issue date.

This tape is read into the 1620 computer. The master file on the disk is updated and an inventory listing is prepared.

EXHIBIT 9

JANUARY 1966	TITLE	ISSUE DUE	SOURCE
	ACCOUNTING REVIEW	JAN. 1965	AMERICAN ACCOUNTING ASSOC. SCHOOL OF BUS. AD. STATE U IOWA CITY, IOWA
	AMERICAN ARTIST	JAN. 18, 1965	BILLBOARD PUBLISHING 2160 PATTERSON ST., CINCINNATI, OHIO
	AMERICAN FORESTS	JAN. 25, 1965	AMER. FORESTRY ASSOC. 919 17TH NW WASHINGTON, D. C.
	AMERICAN JOURNAL OF BOTANY	JAN. 10, 1965	BOTANICAL SOC. OF AM. INC. MONUMENTAL PR. CO. 32 ST. AND ELM AVE. BALTIMORE 11, MD
	AMERICAN JOURNAL OF NURSING	JAN. 15, 1965	AM. J OF NURSING CO. 10 COLUMBUS CIRCLE NEW YORK, N. Y. 10019

EXHIBIT 10

JANUARY 1966	TITLE	EXPIRATION DATE	PRICE	SOURCE
	AMERICA	JUNE 1965	\$7.20	AMERICA PRESS 920 BROADWAY, NEW YORK, N. Y. 10010
	AMERICAN ARTIST	JUNE 1965	\$6.60	BILLBOARD PUBLISHING 2160 PATTERSON ST., CINCINNATI, OHIO
	AMERICAN JOURNAL OF NURSING	JUNE 1965	\$4.75	AM. J OF NURSING CO. 10 COLUMBUS CIRCLE, NEW YORK, N. Y. 10019

EXHIBIT 11

LIBRARY-PERIODICAL BINDING LISTING

JANUARY 1966

TITLE	COLOR CODE	INDEX PRICE	INDEX DUE	LAST INDEX RECEIVED	METHOD OF RECEIPT OF INDEX
AMERICA	8817				PART OF PERIODICAL
AMERICAN BOOK PUBLISHING REVIEW	8815				REQUEST-INDEX
AMERICAN ECONOMIC REVIEW	8884				PART OF PERIODICAL
AMERICAN FORESTS	8841A		DEC. 1964	DEC. 1964	REQUEST-MAILING LIST
AMERICAN JOURNAL OF ARCHEOLOGY	8542				PART OF PERIODICAL

EXHIBIT 12

LIBRARY-PERIODICAL LISTING

JANUARY 1966

TITLE

ACCOUNTING REVIEW
AMERICA
AMERICAN ARTIST
AMERICAN BOOK PUBLISHING RECORD
AMERICAN ECONOMIC REVIEW
AMERICAN FORESTS
AMERICAN JOURNAL OF ARCHEOLOGY
AMERICAN JOURNAL OF BOTANY
AMERICAN JOURNAL OF NURSING

EXHIBIT 13

LIBRARY-PERIODICAL SUBJECT LISTING

JANUARY 1966

ACCOUNTING

ACCOUNTING REVIEW
JOURNAL OF ACCOUNTANCY
THE OFFICE

ADVERTISING

ADVERTISING AGE
ADVERTISING AND SALES PROMOTION
PRINTERS INK

ART

AMERICAN ARTIST
ART NEWS
INDICE DE ARTES Y LETRAS
SCHOOL ARTS

EXHIBIT 14

SUBJECT CODES*

4 ACCOUNTING	344 FRUIT-CULTURE
12 ADVERTISING	352 GARDENING
20 AERONAUTICS	360 GEOGRAPHY
28 AESTHETICS	368 GEOLOGY
36 AFRICA	376 HIGH-FIDELITY SOUND SYSTEMS
44 AGRICULTURE	384 HISTORY
52 AMERICAN LITERATURE	394 HOME ECONOMICS
60 ANTHROPOLOGY	402 HOSPITALS
68 ARCHAEOLOGY	406 HOTEL-MOTEL MANAGEMENT
76 ARCHITECTURE	410 HUMANISM
84 ART	418 HYGIENE
94 ASIA	426 INSURANCE
102 ASTRONOMY	434 INTERIOR DECORATION
110 BIOLOGY	442 INTERNATIONAL RELATIONS
118 BOOKS	450 JOURNALISM
126 BOTANY	458 LABOR AND LABORING CLASSES
134 BUSINESS	466 LANGUAGE AND LANGUAGES
142 BUSINESS EDUCATION	474 LAW
150 CHEMISTRY	482 LEADERSHIP
158 CHILDREN	490 LIBRARIES
166 COMMERCE	498 LITERATURE
174 COMMERCIAL ART	516 MANAGEMENT
182 COMMUNISM	524 MANUFACTURES
190 CONSTRUCTION INDUSTRY	532 MARKETING
198 CONSUMER EDUCATION	540 MATHEMATICS
206 CRITICISM	548 MEDICINE
214 CURRENT EVENTS	556 MENTAL HEALTH
222 DRAMA	564 MILITARY ART AND SCIENCE
232 ECONOMICS	568 MORTUARY SCIENCE
240 EDUCATION	572 MUSIC
248 ELECTRONIC DATA PROCESSING	580 NATURAL HISTORY
256 ELECTRONICS	588 NEGROES
264 ENGINEERING	592 NEWSPAPERS
272 ENGLISH LANGUAGE	596 NORTH AMERICA
280 ENGLISH LITERATURE	604 NURSES AND NURSING
288 EUROPE	612 ORNITHOLOGY
296 FAMILY	620 PACKAGING
304 FASHION	628 PARKS
312 FINANCE	636 PERFORMING ARTS
320 FLORIDA	644 PERSONNEL MANAGEMENT
328 FOOD INDUSTRY AND TRADE	652 PHILOSOPHY
336 FORESTS AND FORESTRY	

* The subject codes for the periodicals were set up by Samuel Baker and Asa Pieratt.

EXHIBIT 14

SUBJECT CODES

660 PHOTOGRAPHY	838 SOUTHERN STATES
668 PHYSICS	846 SPACE FLIGHT
676 POETRY	854 SPANISH AMERICA
686 POLICE	862 SPEECH
694 POLITICAL SCIENCE	870 SPORTS
702 PRINTING	878 STATISTICS
710 PSYCHOLOGY	886 TAXATION
718 PUBLIC ADMINISTRATION	894 TEACHING
726 PUBLIC RELATIONS	902 TECHNICAL EDUCATION
734 PUBLIC UTILITIES	910 TECHNOLOGY
742 PUBLIC WELFARE	918 TEXTILE INDUSTRY AND FABRICS
750 PURCHASING	926 THEATER
758 RADIO	936 TRANSPORTATION
762 REAL ESTATE	944 TRAVEL
766 RECREATION	952 UNITED NATIONS
774 RELIGION	960 UNITED STATES
782 RETAIL TRADE	968 UNITED STATES HISTORY
790 ROADS	976 UNIVERSITIES AND COLLEGES
798 ROCKETS (AERONAUTICS)	984 THE WEST
806 SCIENCE	992 WIT AND HUMOR
814 SOCIAL PROBLEMS	998 ZOOLOGY
822 SOCIAL SCIENCES	
830 SOCIOLOGY	

The Mechanization of the Serial Records for the Moving and Merging of the Boston Medical and Harvard Medical Serials

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Background and Introduction

Ever since 1826, when the Boston Medical Library, in one of its incarnations, separated from Harvard, and especially after its rejuvenation, 50 years later, these two libraries have lived apart in friendly, but somewhat aloof relationship, like two dusty drops of mercury upon a watch glass. But, as you all know, if you can clean the surface of such drops, make them shine, and give each a clearer vision of his neighbor, their surface tensions will subside and they will instantly flow together and become one, especially if you give them a slight jolt.¹

For the serials in the Boston Medical and Harvard Medical Libraries to become one "shimmering pool of medical knowledge,"² a jolt was indeed necessary. The two libraries used different schemes for recording and shelving their serials. Harvard's serial record entered the *Journal of the American Medical Association* under "Journal"; the Boston Medical entered it under "American." Harvard alphabetized its records by significant words ignoring all articles, prepositions, and conjunctions; Boston Medical filed by every word. Harvard shelved its journals in open stacks, alphabetically by title; Boston Medical shelved its journals in closed stacks by shelf location number. About one-fifth of the serials in the Harvard Medical Library had been cataloged; the Boston Medical Library had only a holdings record. At Harvard, an ACME 5 × 8" visible file was used to check in current receipts; at Boston Medical, current issues were checked in on 3 × 5" cards.

It was planned that in the Countway Library the volumes and the records of the two libraries be merged so that there would be one place to look for a title or volume, and one record to consult for current receipts. The volumes were to be arranged on the shelves alphabetically by title as it appears on the piece, so that the users of the library could find them easily from their citations. Title entry in the serials record was also to be alphabetical by title to correspond to the shelving

¹ Howard B. Sprague, "United We Stand," address presented at the dedication of the Francis A. Countway Library of Medicine, May 27, 1965, p. 1. (Harvard University Release: Morning Papers, Friday, May 28, 1965)

² *Ibid.*, p. 2.

practice. The filing of volumes and records would be by principal words ignoring all articles, prepositions, and conjunctions. The serial stacks were to occupy two floors in the new building—the first and second levels below the ground floor. In a scientific library it is the recent material that is most frequently sought, therefore the last ten years were to occupy the more accessible first level below ground with the older volumes relegated to the second underground level.

Title Establishing Project

It was decided in February 1964 that this problem should be tackled on a crash basis, in advance of the move. The first and most important part of the overall project was a title-establishing phase in which each title in both libraries would be reviewed and established in accordance with the principles of entry decided upon for the Countway Library. To accomplish this in the time available, all of the serial records in both libraries were copied, using the Xerox Copyflo in the Widener Library. The existing records which were in various sizes— $3 \times 5''$, $4 \times 6''$, and $5 \times 8''$ —were all produced in $5 \times 8''$ size for easier manipulation.

While this Xeroxing was being done, a temporary special-projects staff with a director was hired. This staff was to work on the non-recurring projects (the serials project was only one of several) that were necessary for the moving and merging of the two libraries. The staff members who worked under the supervision of the Project Director included college students, library school students, and retired librarians. The first endeavor of this crew was the title-establishing project. Although the people of the staff changed from time to time, an average of six to eight worked on this first project from April to October 1964.

The photocopied records from the two libraries, consisting of over 30,000 sheets, were roughly interfiled and then verified in four tools in this order: *World List of Scientific Periodicals*, *Index Medicus*, *Biomedical Serials*, and *Union List of Serials*. The *Union List of Serials* was used as an authority for distinctive titles only, because of our "title as on piece" policy. If the title could not be found in these four sources, the shelves were checked. The problem titles were passed along to the Project Director and the more experienced members of the staff for special attention.

For the titles which had been verified in the above cited sources, the title establishers recorded the source where verified, the place and dates of publication, and notes, even though this information was not to be keypunched at this time. No effort was made to find this information for titles not verified from these sources. It is hoped that eventually history and other information will be included in the mechanized file for all titles. In addition to the title, a minimum of serials information was recorded for keypunching. This included: range of holdings; the number of current copies received and type of acquisition (subscription, gift or exchange); the Boston Medical shelf number; and the Harvard Medical call number if the title were an abstract, index, or in the book collection. Also included was any information appearing in the Har-

vard serials record concerning serial titles owned by the Harvard Medical branch libraries. All of this information was taken as it appeared in the serials record without any further checking of other records or shelves.

Coding, Card Layout, Worksheets

The incentive for mechanizing the serials record was to answer an immediate and non-recurring need—the merging of the volumes and records of the two libraries. However, both libraries realized that this was not a project that would end with the move but, rather, was the beginning of a printed serials holdings list for the Countway Library. The value of such a list in saving staff time in a library the size of the Countway has already been demonstrated.

The value of such a list to the people in the Harvard Medical and Boston Medical communities, to other libraries in the surrounding area and beyond has indeed been realized though not as yet provided for. The plan was to produce, initially, a limited number of copies for internal staff distribution with the ultimate goal of sufficient copies for external distribution. This means eventually multilithing the list. Since it was also realized early in planning stages that the printing costs of 100 copies of such a list would be 10 to 20 times the cost of machine running time, a double column format was chosen which would reduce the amount of white space and thereby the printing costs. Samples of varying reductions in size were examined by library staff members to see what reduction of print chain printing they deemed easy enough to read for a reference tool which would be consulted as often as is a serials list. A 20% reduction was agreed upon, which in the planned double column format would result in an easy-to-read list for a price that the library budget could accommodate. This decision dictated the length of title line in the list and the length of the title field in the IBM card—42 columns.

At the time that the coding symbols for this project were determined, it was not known to what extent the Library might eventually mechanize other serials processing such as acquisition, checking in current issues, and binding; nor was there time to conduct a total serials system study. Since the Library did plan to make KWIC (Keyword in Context) indexes of serial titles, using Bell Telephone Laboratories programs, it seemed reasonable to use coding symbols that would make the input as compatible as possible with the Bell program. Later on, these codes can be mechanically converted if other symbols are found to be more suitable to future mechanized serials processing. The Bell coding and card layout, therefore, was followed with the following exceptions:

The holdings (W) cards do not continue the sequential numbering for the set, but are individually numbered; W₁ for Boston Medical holdings, W₂ for Harvard Medical holdings, and W₃, W₄, etc., for Harvard Medical branch library holdings.

The period indicating the last card in set was inserted by programming rather

than having the title establishers try to remember to indicate it on worksheets. Machines, when so programmed, do this type of chore accurately, consistently, and reliably—humans do not.

The two parts of a cross reference—that which is referred from and that which is referred to—were distinguished by coding the first part C and the second R, rather than using C for both parts. Although this is not an important point, it does allow greater flexibility in printing formats.

This resulted in the following types of cards:

- Title ("T" cards)
- Holdings ("W" cards)
- Cross reference, title referred from ("C" cards)
- Cross reference, See or See also ("M" cards)
- Cross reference, title referred to ("R" cards)

The field definition for title and cross reference cards are essentially the same. They are:

- Column 1 Card type (T, C, M or R)
- Column 2 Sequence number within type
- Column 7-12 ID number
- Column 19-60 Title

The field definitions for holdings cards are:

- Column 1 Card type (W)
- Column 2 Holding library (Boston Medical—W₁; Harvard Medical—W₂; Harvard Medical branch—W₃, W₄, etc.)
- Column 7-12 ID number
- Column 19-22 Number of current copies received and source (Subscription—S; Gift—G; Exchange—E)
- Column 23-40 Volumes and years owned
- Column 41-60 Boston Medical shelf number; Harvard Medical call number for abstracts and indexes; or name of Harvard Medical branch library

The information was recorded on worksheets. For titles which did not involve a change in the Xeroxed record, a shortened form of worksheet was prepared and stapled below the typed title (see Fig. 1). This eliminated rewriting the title and made the punching of the title easier for the keypuncher. The information on the bottom part of the form (below the double line) was not keypunched but is intended for future processing. The worksheet specified the data to be recorded in the majority of cases. When additional data were encountered that were not specified, such as card and sequence codes for longer titles, they were simply written in (T₃, T₄, T₅, etc.). When all titles were established and the data recorded on the worksheets, the worksheets were filed and then numbered with a special numbering stamp. This stamp automatically skipped 40 numbers between titles to allow for the insertion of new titles. The worksheets were sent to a service bureau where they were keypunched and verified.

Products

Total list of holdings (1)

When the punched cards—some 46,000—were returned a month later, they were run on the computer with a program that listed them and looked for a number of machine-findable errors. This preliminary list was then scanned for filing and obvious spelling errors; this was just a rough scan of the list and not a proofreading against worksheets. A copy was given to the Manager of the move, who fortunately had had considerable experience in handling serials. As he worked with this list and

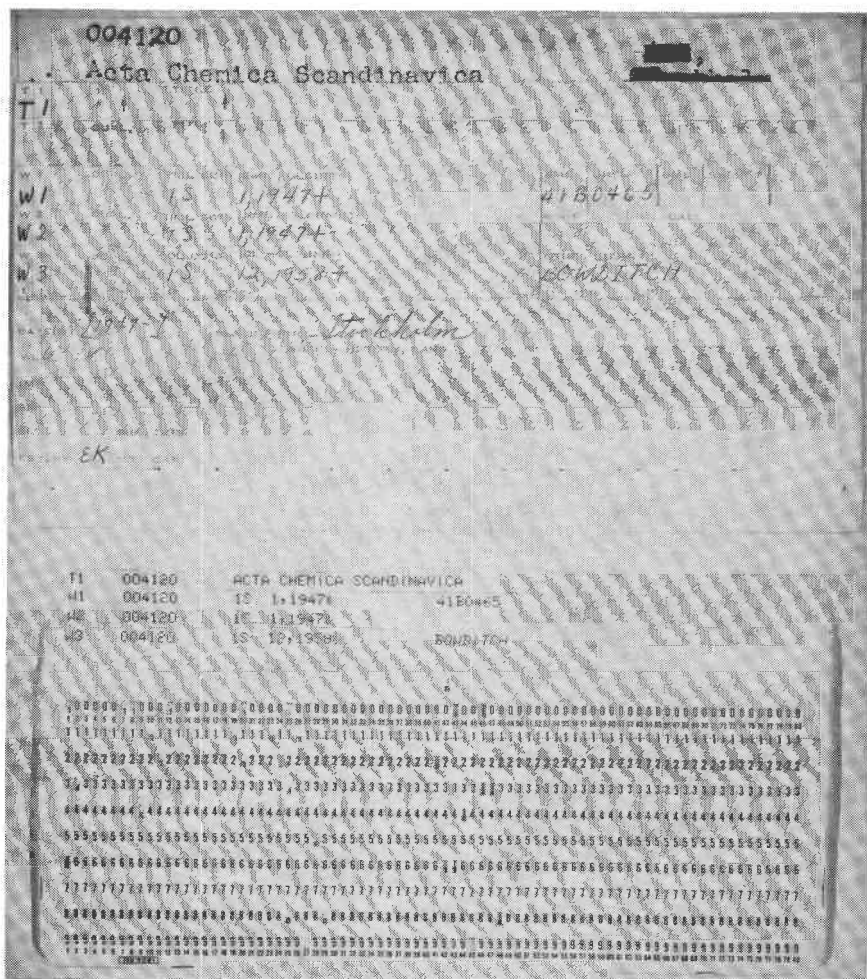


Fig. 1. Short form worksheet for a title owned by Boston Medical, Harvard Medical, and the Bowditch branch library. All three are currently receiving one subscription (1S) copy.

the later selective lists in plotting locations and moving volumes, he noted any questionable entries and discrepancies and reported them to the Serials Department. The corrected punched cards were run in March on eight-part carbon continuous paper. These copies were distributed sparingly among the staffs of both libraries. They were useful, not only in implementing the move, but also in the daily servicing of serials in the two libraries. Within the following two months the cards were run twice more. During these runs the computer not only produced the lists, but also compiled statistics or generated tapes from which other products could be made. These lists were run on six-part paper because of the poor quality of some copies with the eight-part paper and to help relieve decollating difficulties. (See Fig. 2)

Running the 46,000 cards through the editing-listing program took approximately two hours of 1401 machine time. At the rate of twenty dollars an hour, which was in effect at that time, each run cost about forty dollars and produced the following items.

List of titles owned (published 1955 and later) (2)

This list was used in plotting locations in the last-ten-years stack level.

List of titles owned (published through 1954) (3)

Stack locations for the older volumes were not plotted before the move. After all the older volumes were moved into the new building in their old orders, this list was used to organize the two separate collections into one merged collection, arranged alphabetically by newly-established title.

List of titles currently received (4)

This list will be of continuing interest and usefulness in the library. Immediately after moving in, it was used to select the 2,000 most substantive journals that were to be displayed on the special racks which hold about half of the current titles.

List of titles received concurrently by Harvard Medical and Boston Medical Libraries (5)

This list is being used to determine which duplicate subscriptions might be eliminated.

List of titles owned by the Harvard Medical branch libraries but not in either the Harvard Medical or Boston Medical main collections (6)

This list will be used to determine which titles should be transferred to or independently acquired by the Countway.

List of titles owned prior to 1800 (7)

This list was actually a by-product of one of the error routines and not originally planned. It is of special interest to the staff of our developing history of medicine and rare book activity.

List of titles for which more than one copy is currently received by either library (8)

Another by-product of the error routines.

List of Boston Medical titles arranged by the old shelf location number (9)

It will be some time before the spines of all Boston Medical vol-

umes will be changed to agree with the title as established for the Countway Library. Until these changes have been completed, this list will be useful as a shelving and housekeeping aid. From the old shelf number which is recorded in all volumes, the newly-established title can be found in this list.

KWIC (Keyword in Context) Indexes (10)

In addition to the KWIC index of all titles, a KWIC index of current titles only has been produced. The current KWIC will be used

3-720	BML 16	ACTA BIOCHIMICA IRANICA 2,1963+	41C 1755
3-760	BML 16 HML 16	ACTA BIOCHIMICA POLONICA 8,1961+ 1,1954+	41C 1573
3-800	BML 15	ACTA BIOLOGIAE EXPERIMENTALIS 23,1963+	NEW 0278
3-840	BML 15	ACTA BIOLOGICA. ACADEMIAE SCIENTIARUM HUNGARICAE 14,1963+	NEW 0716
3-880	BML 15	ACTA BIOLOGICA ET MEDICA. 7,1963+	B1N 0726
3-920	HML 15	ACTA BIOLOGICA ET MEDICA GERMANICA 1,1958+	
4-000	BML 16 HML 15	ACTA CANCEROLOGICA 1,1960+ 1,1960+	41C 1817
4-040	BML 15 HML 15	ACTA CARDIOLOGICA 13,1958+ 1,1946+	NB 1122
4-080	BML HML	ACTA CARDIOLOGICA. SUPPLEMENT. 1952-1961 3-10,1948-1961	NB 1122
→ 4-120	BML 15 HML 15 OL 15	ACTA CHEMICA SCANDINAVICA 1,1947+ 1,1947+ 12,1958+	41B 0465 BOWDITCH
4-160	HML 15	ACTA CHIMICA ACADEMIAE SCIENTIARUM HUNGARICAE. 21,1959+	
4-200	BML 16	ACTA CHIRURGIAE ORTHOPAEDICAE ET TRAUMATOLOGIAE CECOSLOVACA. 18,1951+	NB 0986
4-240	BML HML 15	ACTA CHIRURGIAE PLASTICAE. 2,1960 1,1959+	NB 1433
4-280	HML 15	ACTA CHIRURGICA ACADEMIAE SCIENTIARUM HUNGARICAE 1,1960+	

Fig. 2. Serials Holdings List.

mainly for subject approach. The total will be used to identify specific titles from words in the title other than the first. (See Fig. 3)

Pressure sensitive labels for titles owned 1955 and later (11)

These were attached to the shelves in the last-ten-years stack level in the plotted locations, to guide the placement of volumes as they were moved in.

Pressure sensitive labels for transliterated Russian titles (12)

When titles in the Cyrillic alphabet were received at Boston Medical, only the shelf location number was noted on the issue. For these unbound issues to be recorded, shelved, and serviced by transliterated title required recording the transliterated title on each issue. Labels with transliterated titles were run on the computer and attached to more than 5,000 issues.

Shelf labels for the current titles in the special display racks (13)

3 × 5" bindery file cards for Boston Medical current titles (14)

More than 2,000 of these were made and interfiled with the Harvard Medical bindery records.

5 × 8" visible film forms for Boston Medical current titles (15)

More than 2,000 of these were run on the computer and were interfiled with the Harvard Medical forms in the ACME visible check-in-file.

3 × 5" subscription file cards for all current titles (16)

These cards are for the Acquisition Department's subscription file. In addition to providing the Department with records for all Boston Medical current titles, these cards are being used to bring into agreement the serials records in the Acquisition and Serials departments. This is necessary groundwork, not only for efficient manual processing, but would be the required first step if it is decided to mechanize the serials acquisition routines.

Statistics (17)

The main program compiles various statistics as it edits and lists the cards. Statistics indicating the amount of overlapping and duplication in the collections as well as the type of acquisition are shown in Fig. 4.

Programming

More than a dozen programs were used in the project. Of these, all but two—the Bell KWIC program and the sort program to sort the Boston Medical stack numbers—were written by the author with the advice of a systems programmer at the Harvard Computing Center. These programs were written in Autocoder and run on an 8K 1401 with four tape drives. The two exceptions noted above were run on a 7094.

The main card listing program edits the input data cards, punches error messages, compiles statistics, formats and lists the output on the printer, and writes tapes. This program grew or developed from the time of the first preliminary listing in December 1964 to the last run in May 1965. When the program was run in March, it also wrote a tape for each Boston Medical title which could be sorted by shelf number,

	STUDII SI	CERCETARI DE ENDOCRINOLOGIE	597650
	STUDII SI	CERCETARI DE INFRAMICROBIOLOGIE	557655
	STUDII SI	CERCETARI DE MEDICINA INTERNA	537665
		CEREBRAL PALSY BULLETIN.	150400
		CEREBRAL PALSY REVIEW.	150440
	CAL MAGAZINE.	CERTIFIED AKERS LABORATORIES	143840
		CESKOSLOVENSKA DERMATOLOGIE	150640
E, IMUNOLOGIE.		CESKOSLOVENSKA EPIDEMIOLOGIE, MIKROBIOLOGI	150680
		CESKOSLOVENSKA FARMACIE.	150720
		CESKOSLOVENSKA FYSILOGIE	150760
		CESKOSLOVENSKA GASTROENTEROLOGIE A VYZIVA.	150800
		CESKOSLOVENSKA GYNEKOLOGIE.	150840
		CESKOSLOVENSKA HYGIENA.	150880
		CESKOSLOVENSKA MORFOLOGIE	150920
		CESKOSLOVENSKA NEUROLOGIE	151000
		CESKOSLOVENSKA OFTALMOLOGIE.	151040
		CESKOSLOVENSKA OTOLARYNGOLOGIE	151120
		CESKOSLOVENSKA PEDIATRIE.	151160
		CESKOSLOVENSKA PSYCHIATRIE.	151200
		CESKOSLOVENSKA RENTGENOLOGIE.	151240
		CESKOSLOVENSKE ZDRAVCTNICTVI	151280
	CASOPIS LEKARU	CESKYCH.	149440
		CHALLENGE	151500
		CHALLENGE TO SOCIALISM	151520
		CHANGE	ECONO 197640
	MIC DEVELOPMENT AND CULTURAL	CHARACTERISTICS	CURR 181880
	ENT HOUSING REPORTS, HOUSING	CHARACTERISTICS	CURRENT PC 182560
	PULATION REPORTS, POPULATION	CHECKLIST OF STATE PUBLICATIONS	MONTHLY 365920
	TEZISY NAUCHNOI KONFERENTSII	CHELIABINSKOGO GCSUDARSTVENNOGO MEDIT/INSK	320320
→	ACTA	CHEMICA SCANDINAVICA	004120
		CHEMICAL ABSTRACTS	152360
		CHEMICAL ABSTRACTS, DECENNIAL INDEX	152400
		CHEMICAL AND ENGINEERING NEWS	152520
		CHEMICAL AND PROCESS ENGINEERING	152720
	COLLECTION OF CZECHOSLOVAK	CHEMICAL COMMUNICATIONS	167400
	JOURNAL OF	CHEMICAL DOCUMENTATION	276160
	JOURNAL OF	CHEMICAL EDUCATION.	276200
	THEORETICAL	CHEMICAL ENGINEERING ABSTRACTS	563980
		CHEMICAL ENGINEERING PROGRESS	152540
		CHEMICAL PAPERS	181680
ES	CURRENT CONTENTS OF	CHEMICAL, PHARMACO-MEDICAL AND LIFE SCIENC	181720
	ADVANCES IN	CHEMICAL PHYSICS	013360
	JOURNAL OF	CHEMICAL PHYSICS	276280
IA OF PHYSICAL CHEMISTRY AND		CHEMICAL PHYSICS INTERNATIONAL ENCYCLOPED	254480
CO-OPERATION IN MEDICAL AND		CHEMICAL RESFARCH. /OTION OF INTERNATIONAL	472480
BIBLIOGRAPHY OF		CHEMICAL REVIEWS	091480
RUSSIAN		CHEMICAL REVIEWS.	526490
		CHEMICAL REVIEWS.	152760
	JOURNAL OF THE AMERICAN	CHEMICAL SOCIETY	271600
	JOURNAL OF THE INDIAN	CHEMICAL SOCIETY	283310
SPECIAL PUBLICATION, LONDON,		CHEMICAL SOCIETY	551940
BSTRACTS OF PAPERS, AMERICAN		CHEMICAL SOCIETY	002080
PROCEEDINGS OF THE		CHEMICAL SOCIETY.	431520
QUARTERLY REVIEWS.		CHEMICAL SOCIETY, LONDON.	458640
AMERICAN		CHEMICAL SOCIETY, MONOGRAPH SERIES	021760
BULLETIN OF THE		CHEMICAL SOCIETY OF JAPAN	117560
JOURNAL OF THE AGRICULTURAL		CHEMICAL SOCIETY OF JAPAN	270700
JOURNAL OF THE		CHEMICAL SOCIETY OF LONDON.	276320
AMERICAN		CHEMICAL SOCIETY, POLYMER PREPRINTS	021800
		CHEMICAL TITLES	152800

Fig. 3. KWIC Index of Current Titles.

TITLES OWNED

TOTAL 16,601

* BML (Sub total) 13,999
 ** HML (Sub total) 5,814
 *** OL (Sub total) 277

BML 10,591
 BML and HML 3,198
 BML, HML and OL 61
 BML and OL 149
 HML 2,535
 HML and OL 20
 OL 47

CURRENT TITLES OWNED

TOTAL 3,853

BML (Sub total) 2,038
 HML (Sub total) 2,640
 OL (Sub total) 124

BML 1,142
 BML and HML 843
 BML, HML and OL 31
 BML and OL 22
 HML 1,744
 HML and OL 22
 OL 49

CURRENT TITLES -- TYPE OF ACQUISITION

	Subscriptions	Gifts	Exchanges
BML	749	1,083	208
HML	1,767	885	8
OL	109	21	-

* BML -- Boston Medical Library
 ** HML -- Harvard Medical Library
 *** OL --- Harvard Medical Branch Library

Fig. 4. Statistics—March, 1965.

compiled statistics, and performed additional editing routines. When more copies of the list were run in April, a tape was also written which was used to make the list and labels for the last 10 years titles.

During the last run in May, while editing and listing the cards for six more copies of the list, the program wrote a master tape of all titles on one tape unit, wrote a tape for current titles on the second unit, and wrote a tape for titles owned only by Harvard Medical branch libraries on the third tape unit. The master tape was used to produce the list of titles of volumes more than 10 years old and the input for the KWIC index of all titles. The current tape was used to produce the list of current titles; the list of titles received concurrently by both Harvard Medical and Boston Medical libraries; the 5×8 " visible file records for Boston Medical current titles; the 3×5 " bindery cards for Boston Medical current titles; the 3×5 " acquisition cards for all current titles; and the input for the KWIC index of current titles. At present, tape update routines and refinements in format for the printed list are being programmed.

Conclusion

Within two weeks after the move date of June 15th, the serials covering the last ten years were merged and in their new arrangement. By the end of the summer two-thirds of the older volumes also were in their new merged arrangement. From the day Countway opened, all current issues were recorded in a single visible file. With the filing of the Boston Medical bindery cards in July, all the serial records in the Serials Department were merged.

This did not all come about by simply keypunching some cards and pushing a button. (Very little ever does.) Such a claim would ignore the human effort that went into this project—the decision-making and day-to-day effort of establishing the titles; the planning and execution of the move; the aching muscles from hours of tedious labor. However, it is no exaggeration that mechanization made it possible to accomplish far more with the amount of human effort expended than could have been otherwise achieved, especially considering the very limited time available. Imperfect as the products may be in some of the title entries and incomplete as the holdings information may be, the various lists, labels, and cards improved considerably the level of service the Countway Library offered its patrons during this difficult start-up period.

As we look forward to improving our list and extending our mechanization efforts, we see much to do. History notes and detailed holdings would do much to improve the usefulness of the list. Check-in, bindery notifications, and financial records are areas where the feasibility of mechanizing should be explored. Indeed, there is much more to do than has been done. We may have begun to "flow together," but it will be some time before we are a "shimmering pool".

A Simple, Mechanized, Non-Computerized System for Serials Control in Small Academic Libraries: A Primer

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Introduction

SMALL ACADEMIC LIBRARIES can mechanize many of their operations economically, without computers. Computers may be overly-sophisticated devices for many operations which can be performed satisfactorily on some of their companion or auxiliary machines. Three of these machines are (1) the necessary key punch, (2) the accounting machine or "card lister," and (3) the card sorter. Many smaller colleges, lacking computers, do have these three machines in their business offices.

The card lister (usually the IBM 402) and the card sorter can do much for the library. To use these machines, the librarian need learn only the basic punched card format; the data processing staff will operate the machines. Computers need not enter the picture, and the librarian need press no buttons. The IBM Corporation, in one of its manuals,¹ suggests a number of possible applications and provides an introduction to the punched card and to the capabilities of the basic machinery.

Although a total and integrated computerized system may be the ideal, an isolated non-computerized system, such as one for serials control, may be an easier beginning. A useful product can be generated even while learning to use the hardware. Many papers have appeared in library literature describing mechanized products, but few of them detail the steps needed to set them up. Accordingly, this paper describes the steps in setting up a simple mechanized system for listing periodicals and for encoding many of their characteristics. The system was designed for use with the IBM 402 because that machine is commonly available. Colleges fortunate enough to have an IBM 407 accounting machine can devise a somewhat more sophisticated system. While developing our own system, we have drawn upon the experience of several pioneers in serials applications—notably, Anthony and Hailstone,² Booser,³ Brown and Wolters,⁴ Pizer, Franz and Brodman,⁵ and Schultheiss.⁶

* Now with the Library, Johns Hopkins Applied Physics Laboratory, Baltimore, Md.

The system produces multiple copies of lists and revisions of lists very quickly. It can produce entire lists, partial lists, and lists with selected information. It augments the conventional serials control system and, therefore, does not replace the checklist. It does produce highly-usable finding lists and holdings lists which can be posted on bulletin boards or distributed to strategic locations.

Fields: Codes and Categories

The title and information about the title in each of the categories listed below is punched onto IBM cards. The keypunching workload is not great; the data processing staff should be able to handle it. Collecting the information may involve more work than keypunching it. The information is encoded in some categories and entered directly in others.

Title	Month Renewal is Due
Location	Cost
Holdings	Storage Form
Extent of run	Subject Classification
Current or otherwise	Shelf Arrangement
Frequency	Sort Code
Source	

The information for each category is always punched into its own fixed location on the IBM card. That location is called a "field." Figure 1

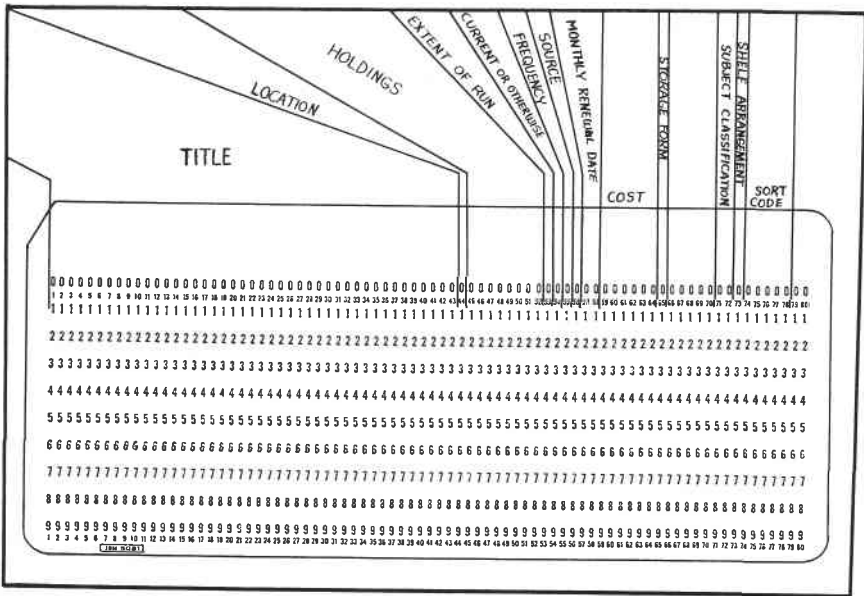


Figure 1. An IBM card with thirteen labeled fields.

shows an IBM card with the fields labeled. A field contains one or more columns of letters or numbers, whereas each column contains only one letter or number. Each field contains homogeneous information. Each

category has its own field. Thus, the *location* field is in column 44; the *holdings* field is in columns 45-52, etc.

Table I itemizes typical information encoded within each field. The categories, information, and codes can be varied to suit the individual library.

TABLE I
Headings and Codes for Data Fields

Title (1-43) (Actual data)	Source (56) 1. Faxon's 2. Standing order 3. Renewed annually 4. Gift 5. Depository 6. Renewed annually but paid for by non-library funds.
Location (44) 1. Downstairs 2. Down except current volume 3. Reference shelves 4. Index Table 5. Museum 6. Work Room 7. Librarian's Office 8. Locked case downstairs 9. Microfilm cabinet	Month Renewal is Due (57-58) (Only on 56:3; numbers stand for months of the year)
Holdings (45-52) [first year and last year]	Cost (59-64) (Actual data)
Extent of run (53) 1. Complete 2. Incomplete	Storage Form (65) 1. To be bound 2. Not to be bound 3. Bound by publisher 4. Microcard 5. Microfilm 6. Microfiche
Current or otherwise (54) 1. Current 2. Non-current 3. Current issue only 4. Current year only	Subject Classification (71-72) 1. Engineering 2. Chemistry 3. Mathematics 4. Physics 5. Other 6. Abstract
Frequency (55) 1. Daily 2. Weekly 3. Monthly 4. Semi-monthly 5. Bi-monthly 6. Quarterly 7. Annually 8. Semi-Annually 9. Irregular o. Monthly but less than 12 per year	Shelf Arrangement (73) 1. Alphabetical 2. Classified (L.C. or Dewey) 3. G.P.O. Classification
	Sort Code (74-78)

The information contained in each field, as explained above, is in either of two forms: the information itself, or a code for it. Thus, columns 1-43

contain the title itself; 45-52 (holdings) contain the earliest and latest year; 57-58 (renewal date) the month; 59-64 (cost) contain subscription costs in dollars and cents. All the other fields contain encoded information, or information "once removed." For example, 7 in column 44 means the title is located in the Librarian's Office, and 3 means it is on the Reference shelves. These codes are not a property of the system; rather, they are a matter of choice. Figure 2 shows a sample workslip with information ready for keypunching.

TITLE <u>INTERNATIONAL JOURNAL OF FRACTURE MECHANICS</u> (1-43)						
<u>44</u>	<u>45-52</u>	<u>53</u>	<u>54</u>	<u>55</u>	<u>56</u>	<u>57-58</u>
1	1965	1	1	6	3	10
<u>59-64</u>	<u>65</u>	<u>71-72</u>	<u>73</u>	<u>74-78</u>		
25.00	-	1	1	49050		

Figure 2. Workslip for the keypuncher,

The Fields Explained

A detailed explanation, by column, of the information in each field follows. *Columns 1-43 (Title); information entered directly.* The 402 can print letters only through column 43. The title, therefore, can be entered nowhere else but in columns 1-43. Since 43 columns are too few for many titles, we abbreviated, choosing the abbreviations of the American Standards Association.⁷ Cross-references are punched on second cards; this is the only instance of a second card for any field. The title cross-referenced begins on column 2 instead of column 1. Cross-reference cards contain no information after column 43 other than a sort number in columns 74-78.

Column 44 (Location); information encoded. Numbers are used in this and succeeding columns for both codes and direct information. In this column, numbers are used to designate specific locations in the library.

Columns 45-52 (Holdings); information entered directly. This field contains the first year of the run and, if the entry is closed, the last. Since many columns would be needed to describe complete holdings by

volume, we decided to encode only whether a run is complete or incomplete in column 53.

Column 53. (Extent of run—Complete or Incomplete); information encoded. Only two numbers are used: 1 to indicate that the run has no gaps and 2 to indicate that it has gaps. (Other characteristics about holdings could be encoded—e.g., “run is continuous but does not begin with volume 1.”) Since this method is less than satisfactory, holdings could be listed in more detail in the manner of the *Union List of Serials*, on second or third cards for each title, using all eighty columns. However, using the 402, this would present some difficult problems.

Column 54 (Current or otherwise); information encoded. The 1 and 2 codes in this column, as originally conceived, are redundant since no second date in 49-52 is an obvious indication that we are still receiving a title. To make use of this redundancy, we added a 3 and a 4 to designate other “current” conditions.

Column 55 (Frequency); information encoded.

Column 56 (Source); information encoded. This is one of the most useful and important categories. With it, subscription lists, as well as lists of annual renewals, standing orders, gifts, and U. S. Government periodicals, can be compiled and printed very quickly.

Columns 57-58 (Month renewal is due); information encoded. This category is used chiefly with code 3 in column 56 to determine when certain titles must be renewed. The numbers 1-12, in a two-column field, designate the months of the year.

Columns 59-64 (Cost); information entered directly. For dollars and cents, the decimal is understood to come between columns 62 and 63. This category, of course, is the one most difficult to keep up to date, requiring frequent repunching of cards. However, it is useful for planning the annual budget. The 402, being an accounting machine, can add these, or any other figures, while printing.

Column 65 (Storage form); information encoded. The principle value of this category is in preparing bindery lists.

Columns 71-72 (Subject classification); information encoded. Subjects are encoded broadly, using two columns—one to indicate primary emphasis, another to indicate secondary interest, if needed. These broad subject classifications are those used in an annual survey required in this institution. Future revisions will include codes for additional subjects; these will correspond more closely to our academic departments. From this information, we will be able to prepare lists very quickly in answer to such questions as “How many geology periodicals does the library

have and what are their titles?" With it, subject strength or emphasis can be measured.

Column 73 (Shelf arrangement); information encoded. Since the call number for classified serials is not punched onto the card, a designation is necessary to distinguish between titles that are classified by Dewey, L. C., or G. P. O., and titles that are unclassified and shelved alphabetically.

Columns 74-78 (Sort code). Alphabetizing with the card sorter is cumbersome, so, instead of letters, a five-digit numerical sort code is used to arrange titles in sequence. The sort code, like Cutter numbers, is a substitute for the alphabet. By leaving gaps between each number, later titles can be inserted. Thus, the five-digit code will accommodate a maximum of 99,999 titles. The distribution of the numbers in the sort codes was devised by first determining the approximate percentage of titles occurring in each letter of the alphabet, then assigning the same percentage of code numbers to each letter of the alphabet.

Columns 66-70 and 79-80. These were reserved for future categories.

By running the punched cards through the card sorter, all the cards containing any one or a combination of the codes or fields in the above categories can be selected in sequence, producing two or more decks of cards, and the information listed (printed) on the 402. The 402 enables us to produce and print lists of titles containing all of the additional information, part of it, or none of it. After listing, the decks can be recombined quickly by the card sorter.

Theoretically, lists could be generated with a great many different combinations of the codes and information in each of our thirteen fields. Though only a few of these combinations would be actually useful, or even meaningful, one can see the potential by multiplying the number of codes in one column by the number in the next, that product by the next, and so on: a large number results. If one needed all of the combinations, and needed them often and quickly, a computer would be necessary to manipulate the data. Indeed, computer programs could be written for the system described in this paper without changing the information on the cards or its format.

The Printed Lists

Figure 3 shows a list, printed by the 402, containing the coded information in all columns. Figure 4 shows a list containing the codes only up to column 54, and a code key for library users. The shorter list is the one we use for distribution to the faculty and for posting on our bulletin board (Figure 5). Note that even though nearly every column of each card was punched, the 402 can be adjusted to leave one or more spaces between any two columns or fields. Our bulletin board posting is one of the most important and most successful products of the project. The posted list is popular and is consulted frequently by the library staff,

faculty, and students. It largely supplants the Kardex visible index which still stands nearby.

Cost Analysis

The actual cost of the project was nominal, because the equipment, cards, paper, key-punch operator's time, and machine operator's time were supplied by the college data-processing center at no cost to the Library. The Library staff assembled the information for the punched cards along with regular duties. Thus the manpower cost was absorbed.

If this generous arrangement is not available, costs can be estimated by adding the local cost of punched cards, printout paper, running costs for the IBM 26, IBM 402, and IBM card sorter. Unless careful records of time spent on the project are kept, cost of staff time would have to be estimated.

ACCLS NEWSLETTER	1	1953	1962	2	2			5	1	50		
AIDS BULLETIN SEE BIOSCIENCE										100		
ALA BULLETIN	1	1948		2	1	3	4		5	1	200	
AMERICAN TECHNICAL DIGEST	1	1964		2	1	5	4		4	1	300	
AMERICAN DES SCI COMPT RENDUS HERD SFANCES	1	1963		2	1	1	1	14500	4	1	400	
ACAD OF NATURAL SCI OF PHILADELPHIA PROC	1	1846	1894	2	2				5	1	500	
ACAD SCI USSR BULL ATMOS OCEANIC PHYS SER	1	1965		1	1	3	1	10000	4	1	590	
ACAD SCI USSR BULL GEOPHYS SER	2	1961	1964	2	2				4	1	600	
ACAD SCI USSR BULL PHYS OF SOLID EARTH	1	1965		1	1	3	1		4	1	650	
ACOUSTICAL SOCIETY OF AMERICA JOURNAL	2	1950		2	1	3	1	2200	4	1	700	
ACTA CRYSTALLOGRAPHICA	2	1951		2	1	3	1	3600	2	1	800	
ACTA METALLURGICA	2	1957		2	1	3	3	1500	1	1	900	
ADVANCES IN APPLIED MECHANICS	1	1948		1	1	2			1	2	950	
ADVANCES IN CHEMICAL ENGINEERING	1	1956		1	1	2			2	2	975	
ADVANCES IN GEOPHYSICS	1	1952		1	1	2			5	1	1000	
ADVANCES IN PHYSICS	2	1960		2	1	6	1	3200	4	1	1100	
AERIAL AGE	1	1917	1923	2	2				5	1	1100	
AEROSPACE SAFETY US AIR FORCE	1	1965		2	1	3	5		5	1	1200	
AEROVOX	1	1928	1964	2	2				5	1	1300	
AGRICULTURAL ENGINEERING	1	1964		2	1	3	1	800	15	1	1400	
AIR ENGINEERING	1	1960		2	1	3	1	500	1	1	1500	
AIR FORCE CIVIL ENGINEER	1	1965		2	1	6	5		1	1	1600	
AIR POLLUTION CONTROL ASSOCIATION ABSTRACT	3	1964		2	1	3			1	1	1700	
AIR POLLUTION CONTROL ASSOCIATION JOURNAL	1	1960		2	1	3	1	1500	1	1	1800	
AIR UNIVERSITY REVIEW	1	1965		2	1	6	5		1	1	1850	
AKADEMIY NAUK SSSR IZVESTIYA SERIYA											1900	
GEOFIZICHESKAYA SEE ACADEMY OF											1901	
SCIENCES USSR BULLETIN GEOPHYSICS SFRIES											1902	
AMERICAN ACAD OF POLITICAL & SOC SCI ANNALS	2	1907		2	1	5	1	5	1000	5	1	2000
AMERICAN ANTIQUITY	5	1935		2	1	6	4	12	1200	5	1	2100
AMERICAN ANTIQUITY MEMOIRS	5	1943		2	1	9	4			5	1	2200
AMERICAN ASS FOR ADVANCEMENT OF SCI PROC	1	1889	1915	2	2					5	1	2300
AMERICAN ASS OF PETROLEUM GEOLOGISTS BULL	2	1917		1	1	3	3	11	1400	1	1	2400
AMERICAN ASS OF UNIVERSITY PROFESSORS BULL	1	1963		2	1	6	4			5	1	2500
AMERICAN BRASS FOUNDERS ASSOCIATION REC											2600	
AMERICAN INSTITUTE OF METALS											2601	
AMERICAN CERAMIC SOCIETY BULLETIN	2	1923		2	1	3	1	1250	12	1	2700	
AMERICAN CERAMIC SOCIETY CERAMIC ABSTRACTS	1	1927	1937	2	2				16	1	2800	
AMERICAN CERAMIC SOCIETY JOURNAL	2	1922		2	1	3	1	1250	12	1	2900	
AMERICAN CHEMICAL SOCIETY JOURNAL	2	1879		1	1	4	1	2600	2	1	3000	
AMERICAN CITY	2	1923		2	1	3	1	700	1	1	3100	
AMERICAN CONCRETE INSTITUTE JOURNAL	2	1964		2	1	3	1	1800	1	1	3200	
AMERICAN CONCRETE INSTITUTE PROCEEDINGS	1	1917		2	1	7	2	11	720	1	1	3300
AMERICAN DOCUMENTATION	1	1965		1	1	6	1	1850	5	1	3500	
AMERICAN DOCUMENTATION MICRO	1	1950	1960	1	2				5	1	3501	
AMERICAN EDUCATION	1	1965		2	1	5			5	1	3550	
AMERICAN ELECTROCHEMICAL SOCIETY SEE											3600	
ELECTROCHEMICAL SOCIETY											3601	
AMERICAN ENGINEER	1	1960		2	1	3	4		1	1	3700	
AMERICAN FOUNDRYMAN SEE											3800	
MODERN CASTINGS AND AMERICAN FOUNDRYMAN											3801	
AMERICAN GEOLOGIST	1	1888	1905	1	2				5	1	3900	
AMERICAN GEOPHYSICAL UNION TRANSACTIONS	2	1934		2	1	6	1	500	4	1	4000	
AMERICAN HISTORICAL REVIEW	1	1963		2	1	6	1	1000	5	1	4100	
AMERICAN INST OF CHEMICAL ENGINEERS JOURNAL	2	1955		1	1	6	1	2500	12	1	4200	
AMERICAN INSTITUTE OF CHEM ENGINEERS TRANS SEE											4300	
CHEMICAL ENGINEERING PROGRESS											4301	
AMERICAN INST OF ELECTRICAL ENGINEERS TRANS	1	1884	1962	2	2				1	1	4400	
AMERICAN INST OF ELECTRICAL ENG SEE IEEE											4401	
AMERICAN INST OF METALS TRANSACTIONS	1	1911	1918	2	2				1	1	4500	

Figure 3. A printed list of the information in all columns.

Had we been charged for our project, an estimate of initial printing costs (using local prices, rents and wages) might be as follows:

Unit Costs for Processing One Title

1. Punched cards (\$1.15 per 1000 cards) \$.00115 per card
 2. Printing paper, with one carbon (\$11.07 per box of 1500
14 7/8" × 11" 60-line sheets)

$$\frac{11.07}{60 \times 1500} = .000123 \text{ per line}$$
 3. Running cost for IBM 26 keypunch (monthly rent of \$116)
 - a. Keypunch rent per working hour (160 hour work-month)
divided by the number of cards punched per hour

$$\frac{116}{160 \times 200} = .00362 \text{ per card}$$
 - b. Keypunch operator's hourly wage divided by the number
of cards punched per hour

$$\frac{1.75}{200} = .00875 \text{ per card}$$
 4. Running cost for IBM 402 (monthly rent for a 100 line per
minute model is \$435)
 - a. 402 rent per working hour divided by the number of
cards printed per hour

$$\frac{435}{160 \times 100 \times 60} = .000453 \text{ per card}$$
 - b. 402 operator's hourly wage divided by the number of
cards printed per hour

$$\frac{2.75}{100 \times 60} = .000458 \text{ per card}$$
 5. Running cost for card sorter (monthly rent is \$40)
 - a. Card sorter rent per working hour divided by the num-
ber of cards sorted on 5 columns per hour

$$\frac{.25 \times 5}{450 \times 60} = .0000463 \text{ per card}$$
 - b. Card sorter operator's hourly wage divided by the num-
ber of cards sorted per hour

$$\frac{2.25 \times 5}{450 \times 60} = .000417 \text{ per card}$$
-
- Total \$.0150172 per card

	1	1953	1962	2	2
ACIS NEWSLETTER	1	1953	1962	2	2
ACIS BULLETIN	1	1948			1
ALA BULLETIN	1	1964			1
ALP TECHNICAL	1	1963			1
ACADEMIC DES SCI COMPT RENDUS HEBD SFANCES	1	1046	1894		2
ACAD OF NATURAL SCI OF PHILADELPHIA PROC	1	1963			1
ACAD SCI USSR BULL ATMOS OCEANIC PHYS SER	1	1961	1964		2
ACAD SCI USSR BULL GEOPHYS SER	1	1965			1
ACAD SCI USSR BULL PHYS OF SOLID EARTH	1	1965			1
ACOUSTICAL SOCIETY OF AMERICA JOURNAL	2	1950			1
ACTA CRYSTALLOGRAPHICA	2	1951			1
ACTA METALLURGICA	2	1957			1
ADVANCES IN APPLIED MECHANICS	1	1948			1
ADVANCES IN CHEMICAL ENGINEERING	1	1956			1
ADVANCES IN GEOPHYSICS	1	1963			1
ADVANCES IN PHYSICS	2	1960			2
AERIAL AGE	1	1917	1923		2
AEROSPACE SAFETY US AIR FORCE	1	1965			1
AEROVOX	1	1958	1964		2
AGRICULTURAL ENGINEERING	1	1964			1
AIR ENGINEERING	1	1960			1
AIR FORCE CIVIL ENGINEER	1	1965			1
AIR POLLUTION CONTROL ASSOCIATION ABSTRACTS	3	1964			2
AIR POLLUTION CONTROL ASSOCIATION JOURNAL	1	1960			2
AIR UNIVERSITY REVIEW	1	1965			2
AKAD. NAUK SSSR IZVESTIJA SERIYA GEOFIZICHESKAYA SEE ACADEMY OF SCIENCES USSR BULLETIN GEOPHYSICS SERIES	2	1907			2
AMERICAN ACAD OF POLITICAL & SOC SCI ANNALS	5	1935			1
AMERICAN ANTIQUITY	5	1943			2
AMERICAN ASS FOR ADVANCEMENT OF SCI PROC	1	1889	1915		2
AMERICAN ASS OF PETROLEUM GEOLOGISTS BULL	1	1919			1
AMERICAN ASS OF UNIVERSITY PROFESSORS BULL	1	1963			2
AMERICAN BRASS FOUNDERS ASSOCIATION SEE					
AMERICAN INSTITUTE OF METALS	2	1923			2
AMERICAN CERAMIC SOCIETY BULLETIN	1	1927	1937		2
AMERICAN CERAMIC SOCIETY ABSTRACTS	2	1922			2
AMERICAN CERAMIC SOCIETY JOURNAL	2	1929			1
AMERICAN CHEMICAL SOCIETY JOURNAL	2	1923			2
AMERICAN CITY	2	1964			1
AMERICAN CONCRETE INSTITUTE JOURNAL	1	1917			1
AMERICAN CONCRETE INSTITUTE PROCEEDINGS	1	1965			1
AMERICAN DOCUMENTATION	1	1950	1960		2
AMERICAN DOCUMENTATION MICRO	1	1965			2
AMERICAN EDUCATION	1	1965			2
AMERICAN ELECTROCHEMICAL SOCIETY SEE					
ELECTROCHEMICAL SOCIETY	1	1960			1
AMERICAN ENGINEER	1	1960			1
AMERICAN FOUNDRYMAN SEE					
WOODFAN CASTINGS AND AMERICAN FOUNDRYMAN	1	1888	1905	1	2
AMERICAN GEOLOGIST	2	1934			2
AMERICAN GEOPHYSICAL UNION TRANSACTIONS	1	1963			2
AMERICAN HISTORICAL REVIEW	2	1955			1
AMERICAN INST OF CHEMICAL ENGINEERS JOURNAL	2	1955			1
AMER INSTITUTE OF CHEM ENGINEERS TRANS SEE					
CHEMICAL ENGINEERING PROGRESS	1	1884	1962		2
AMERICAN INST OF ELECTRICAL ENGINEERS TRANS	1	1884	1962		2
AMERICAN INST OF ELECTRICAL ENG SEE IEEE					
AMERICAN INST OF METALS TRANSACTIONS	1	1918	1918		2
AMER INST OF MINING AND MET ENG BULL	1	1905	1919		2

CODE KEY:

1. Location in Library
 1. Downstairs
 2. Downstairs
 3. Reference Shelf
 4. Index Table
 5. Museum
 6. Work Room
 7. Librarian's Office
 8. Locked Cases Downstairs
 9. Microfilm Cabinet
2. Earliest year held
Latent year held
3. 1. No parts missing
2. Some parts missing
4. 1. Being received currently
2. Not being received currently

F-6

Figure 4. A printed list of the information in Columns 1-54, with key.

The total cost, then, for processing one title is about \$.01502. The total cost of materials and labor for producing a two-copy list (one original, one carbon) of 1000 cards is about \$15.00. (When cross-references are used, 1000 cards will be somewhat less than 1000 titles.) The cost of producing two additional copies of the list is simply the sum of items 2, 4a, and 4b above, multiplied by 1000, or \$1.03. The cost of updated lists would be similar, since day-to-day keypunching is minimal.

Summary

An introduction to mechanization can be made by small academic libraries with data processing equipment already available in the college business office or data processing center. Computers are not necessary for a beginning. A serials control file is described as an easy place to begin. Serviceable lists with a wide variety of information and considerable flexibility can be produced. The lists can be located strategically and updated frequently. Costs are reasonable. Using the same equipment, the same economies can be applied to other aspects of library processes, and certainly to larger volumes and to larger libraries. If desired, the system described could provide the basis, with little change, for later computerization.

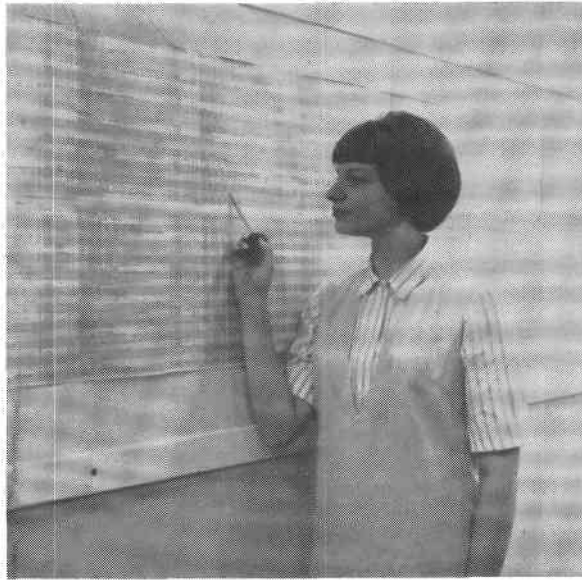


Figure 5. The posted list, all titles displayed on a 2½ ft. × 7 ft. bulletin board.

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Automatic Catalog Card Production

DAVID O. LANE

*Assistant Director of Libraries
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THE BOSTON UNIVERSITY LIBRARIES have recently installed a system for the automatic production of catalog cards, utilizing the Dura Business Machines Mach 10 automatic typewriter. The following is a discussion of our reasons, procedures, and experience to date.

In the Boston University Libraries as in most institutions, the slowest parts of the card production flow have been the procurement of unit cards and, subsequently, the addition to these of added entries. Any new system of card production adopted would have to provide for the automatic addition of any and all added entries to unit cards.

In the past, we followed a traditional method of card production; from good copy, LC proof sheets, LC card, or library-typed card, unit cards were produced by xerography by an outside firm, at a cost of 6¢ each, but requiring two weeks to prepare. On these were typed individually the added entries. Although it was a well-functioning, economical system and any new system would have to come in at the same unit cost in order for the Library to justify to the University administration the acquisition of new equipment, the possibility of reduction in preparation time led us to investigate other methods.

It is possible to produce automatically complete sets of cards using computers. The IBM Corp. has also recently demonstrated a process by which card sets can be automatically produced without the use of a computer, but utilizing several pieces of expensive business equipment in a somewhat involved procedure. However, neither of these solutions seemed applicable to our circumstances, as the cost involved would be too high. We therefore began to investigate the possible applications of tape-driven typewriters. Our goal was a system that would allow us to produce complete sets for the same cost or less than our Xerox manual method; careful cost and time studies led us to believe that we could utilize such typewriters. The Dura Corp. machines were finally chosen as our most likely bet as their equipment is faster and less noisy than other machines. Additionally, as the Dura machine is built around the IBM "Selectric," there is no carriage motion, a decided advantage when working with continuous stock.

The Dura Mach 10, working from punched tape, can type at the rate of 875 characters per minute. If we assume that an average catalog card contains 300 characters, this would then require 34 seconds, or 107 cards an hour. Then if we assume that a good utilization of the machine would be four hours of typing per seven hour shift, allowing

time for repair, time between sets, wastage, etc., we can produce 2140 cards a week or 111,280 per year. A library adding 20,000 titles a year might need 80,000-100,000 cards a year—well within the capacity of the Dura on just a one-shift basis.

When we were sure machinery was available that would perform the job at a price we could afford, the next problem was a study of how the task could be organized. Many hours of discussion among members of the library staff and with the representatives of the Dura Corp. convinced us that it would be easier for the manufacturer to teach us the capabilities of his machine than it would be for us to teach their programmer all the intricacies of catalog card production.

To accomplish this, a representative of the Dura Corp. spent several sessions of several hours each with two members of our staff, instructing, answering questions, and describing the limitations of the equipment. Experimentation by the staff led to modifications of the equipment by Dura, and ultimately the following procedure evolved:

Basically we are utilizing two machines, one with a punch and a reader, the other with two readers. The text of the card is punched by a typist on the first machine. The tape is then glued into a loop and transferred to the right-hand reader of the dual reader machine. A prepunched tape corresponding to the format of the set of cards desired (e.g. two unit cards, three added entries) is put on the left reader, and it controls the interpretation of the text on the right.

But to begin at the beginning, the cataloger as in most systems begins the process of cataloging by preparing a working copy of the card, complete with class number, added entries, special location marks, if any, etc. Then, based on his knowledge of the distribution of the volume, number of added entries, etc., assigns a simple code that will tell the operator at the card production step what program tape to pair with the card tape.

For example, if we need three unit cards (shelf list, and main entries in two different catalogs), two copies of one added entry, and one copy each of two additional added entries, it would be coded 3-1²-2. Similarly, three copies of an added entry would be represented by "1³," etc.

The typist, working at a Dura Reader-Punch machine, types on a work sheet (see below) all the information that will ultimately appear in the set. Before beginning the unit card, the typist transcribes (on the top line of the work sheet) the complete call number in linear form, set off by "non-print" and "print restore" codes. This call number has nothing to do with the production of cards but was added to the routine by us to facilitate the future manipulation of the bibliographic data on the tape by computers. Then, below this, a complete unit card is typed. Below the card proper are typed, on the lines provided, the added entries exactly as they will appear on the unit cards. The only extra duty the typist must perform is to insert before and after the tracings on the unit card and after each of the added entries, a simple "switch code" (i.e. a code causing the dual reader unit to stop reading on the right hand reader and read the left).

The punched tape thus produced, the work sheet, and the original text of the card are returned to a cataloger for proofing.

The work sheet is a complete record of everything on the punched tape. Our Mach 10 machines have been modified so that the punching of the switch code causes the typing of a symbol (-) in the appropriate spot on the sheet. This permits the cataloger to check readily for the proper insertion of these necessary switch codes as he is proofing the text and added entries for the card set. It is our belief that the ease of proofing and the little extra required of the typists is one of the best features of this card production system.

The approved work sheet and tape are then sent to the card production unit where they are filed by the "type of set" code (i.e. all "2-1³-4" sets are kept together). Tapes are seldom held for more than a few days before a set of cards is produced. They are held up at all only in order to batch the work for a more efficient utilization of the machines. Periodically, as the dual-reader Dura machine produces sets, all those card tapes on hand requiring, for example, "2-1³-4" sets are pulled from the file, the proper program tape is placed in the left reader, and the card tapes requiring that program are run through the right reader, one after another. When all card tapes on hand for a given tape-set have been run, the program tape is changed and another type of set is run.

The program tape therefore is the heart of our system. This is what instructs the machine to advance the card stock, indent, "down-space," tab, etc., produces "X" number of complete unit cards, "Y" number of a certain given added entry, "Z" number of another, and so forth. The form, sequence, and commands in the program tapes were developed by the Boston University library staff after studying the capabilities of the Dura machines. Given the switch codes in the card tape as discussed above, we can generate, by formula, program tapes to produce any possible kind of card set.

It is true that each different type of set requires a different program tape; but, since the tape can be changed in a very few seconds, we can quickly and easily produce program tapes for any configuration upon demand.

We had originally planned to produce our cards on pin-feed card stock, die cut between cards to produce a smooth edge top and bottom, and perforated on the sides. We soon discovered that this type of stock would cost us in the neighborhood of \$16 per 1000 cards. So, in order to reduce costs, we use a fan-fold 100% rag medium weight card produced by Library Bureau. This stock is perforated only for folding purposes, pin fed, and punched with rod holes at 3½ inch centers. The cost is about \$8 per thousand. After the cards are automatically typed, they are fed to a Nikor automatic card cutter which stamps them out exactly to size and perfectly centered around the rod hole. The card cutter is at present rather expensive (\$1700), but it is a sturdy, simple little machine and will pay for itself in several years. Our experience so far indicates that it is a dependable unit.

The cards, now cut, are ready for sorting and filing into various

card catalogs. As stated above, we were able to go to this new method of card production only because we were able to show the University administration that it was no more expensive, per card, than our previous system.

The advantages to the system are several: in-house card production (an important consideration affecting the speed of the processing routines); attractive, completely uniform cards (a most desirable but certainly not necessary point); and finally, of prime importance, a complete bibliographic record of all titles so processed in machine readable form.

As is well known, one of the largest expenses in data and information processing is getting the desired material into machine-readable form. This we now have for all new acquisitions as a by-product of our card production process.

These tapes are saved, filed in call-number order by the typed work sheet. They can then be used as input into data processing machines at any time. The linear complete call number, "hidden" at the beginning of each tape, is easily identified and manipulated by processing machines, and of course these machines can be programmed to sort, select, and arrange by various factors present on the tapes (e.g. the title can be found between the first double tab and the next period).

Among the possible applications that suggest themselves to us are periodic lists of new accessions—for the entire library system, or selectively by subject, as represented by added entry or call number; such lists can be produced automatically at comparatively little cost.

Another application which we expect to be of great value concerns a book catalog; in the fall of 1966 we will move into a new central library. One part of the building will be an undergraduate open-shelf collection. This year we are processing about 25,000 titles for this collection. As all of the cards for these books will be produced on our machines, we will have at the end of the project a complete bibliographical record of the entire collection in machine readable form. From this we expect to be able to produce book catalogs of the collection for distribution to the dormitories and other points on the campus. It will also mean that, given access to the sophisticated computer the University will install at about the same time, we could develop a very efficient automated circulation system based upon a machine stored shelf list. Other applications will no doubt suggest themselves as we become more expert in machine applications.

One matter not touched on so far is the problems we encountered and, although they could not be called devastating, anyone intending to utilize machines should recognize the inevitability of a shake-down period. Given a good machine and a good service agency the process can be moderately painless. After these several months, we are still confident of the system and its components.

Catalog Card Sets—A Microfilm First?

JOHN M. CARROLL, *Chief Librarian*
Division of Home Reading and Community Services
and

ALICE E. HACKETT, *Coordinator*
Cataloging and Classification
Boston Public Library

ALTHOUGH LIBRARIANS ARE AWARE of the growing role of the computer in information retrieval and processing of library records, there are still steps in the processing of catalog information in both small and large libraries which do not have access to a computer, where the cost of reproducing catalog copy invites exploration of possible economies of time, money, and manpower. Great strides have been made in the use of microfilm and photoduplication in reproducing exact copy of catalog cards inexpensively. This has been done successfully by a number of firms and libraries. The photographic processes reproduce only the unit card and require further steps to convert a unit card to sets—either the added headings have to be run in after the unit cards have been reproduced, or copy for the complete set has to be prepared and each card in the set reproduced individually.

The Boston Public Library, as far back as November, 1963, began to explore the possibility of using photographic techniques to eliminate the need for running in headings after the main card was reproduced in quantity or preparing copy for a complete set for later reproduction. The library experimented with transparencies to superimpose the added entries on the main card. Cut-outs were devised. It was a generally-discouraging experience. Finally, through the cooperation of a commercial contractor, the General Microfilm Company of Inman Square, Cambridge, Massachusetts, a method was devised to run off from *one catalog card* a complete set or multiple sets of catalog cards, with the headings incorporated. Thus we have eliminated need for further manual processing of the unit cards for running in headings, the operation which raises the cost of every card purchased or prepared locally because of the manpower and additional materials or equipment needed to complete the sets. Multiple sets of cards can be provided from one card and one formula card regardless of the number of subject or added entries required for each title.

Essential in the process is a "formula card" developed jointly by the contractor's representative and the Coordinator of Cataloging and Classification, Boston Public Library. The size of the formula card is 3 x 4 inches, custom designed for the processes involved. It serves a dual purpose. It indicates the required subject and added entries, typed

on the 4-inch edges, using both sides of the formula card, or two or more formula cards, if necessary. (See Figure 2.) It provides the information on the number of cards to be duplicated in each category with the totals tallied on each side. The headings on the formula card are superimposed by overlay and photography, using standard microfilm equipment.

Since the cards produced can be no better than the original copy, good copy is essential. The catalog card stock provided by the contractor is one hundred percent new linen rag stock. The contract sets very specific standards for the card stock. There may be a slight shadow reflected in the area where the headings are added to the original copy, but the process provides *the complete set*, from one card, prepared and delivered for immediate sorting and filing. This seems to be a first in this kind of card service. In addition to saving the salary of the typists to process unit cards or to cut stencils, we have eliminated the cost of stencils, maintaining duplicating equipment, etc. It is expected that six typist positions can be eliminated by attrition and inroads still made on backlogs as a result of this innovation. The cost per card of 4½ cents to the Boston Public Library is a realistic price for this service. Although a smaller volume of orders might result in a higher unit cost, it would still appear to be a most efficient and economical method of making sets of cards.

This process can be adapted in various ways, particularly by the use of an LC slip, a clip from *Publishers' Weekly*, etc., instead of cataloger's typed copy. Any trained typist can prepare the formula card as well as the typed copy. Experience shows that copy typed on an electric typewriter reproduces better than copy prepared on a manual machine. The possibility of typing errors occurring after the copy has been prepared is completely eliminated. Additional copy for book card or cross references, apart from catalog cards, can be incorporated in the order and processed simultaneously.

To summarize, the preparation of copy for the Home Reading Division of the Boston Public Library includes:

- 1 main card typed with subject or added entry as heading (Figure 1)
- 1 formula card, indicating any additional subject or added entries and the number of cards needed for each run (Figure 2)
- 1 book card (optional)
- 1 copy for cross references if required for any title (optional)

In the experimental phase five test runs were made representing approximately 5,000 cards (1,000 cards in five lots), each title varying in its requirements, some only requiring 20 cards for four sets, some requiring 150 to 200 cards for 20 to 30 sets, depending on the number of branches or departments acquiring the title. Copy was returned ready for use within a week after being picked up by the contractor's messenger.

These experimental runs took place between May and July 1964. Provision for contracting for such a service was included in the 1965 budget requests. By July 1965, the Boston Public Library was able to begin using the method after the budget was passed, public bidding was held, and a contract was awarded. The system is now operating on a weekly schedule, with as many as 32,000 cards being processed in a peak week. The normal weekly flow is 11,000 cards.

CATALOGER'S COPY

709 B814p	EUROPE-DESCRIPTION AND TRAVEL-GUIDE BOOKS.
	Braider, Donald, 1923- Putnam's guide to the art centers of Europe. N. Y., Putnam, c1965. 5+2 p. 20 cm.
	Art-Europe. Europe-Description and travel-Guide books. Europe-Galleries and museums. Title.

FIGURE 1

FORMULA CARD

RECTO

VERSO

ART-EUROPE.	
Subject # <u>6V</u>	Add. Subject # _____
Author # <u>5V</u>	
Shelf List # <u>659</u>	Total <u>41</u>
Location # <u>1V</u>	Over <u>①</u>
Cross File # _____	
Title # <u>6V</u>	
Putnam's guide to the art centers of Europe.	

814p²⁹

EUROPE-GALLERIES AND MUSEUMS.	
Add. Subject or Title # <u>19</u>	
Book Card # <u>5</u>	

FIGURE 2

SHEFLIST CARD

	ACCESSION	WITHDRAWAL	ACCESSION	WITHDRAWAL
709 B814p				
Braider, Donald, 1923- Putnam's guide to the art centers of Europe. N. Y., Putnam, c1965. 542 p. 20 cm.				
Art-Europe. Europe-Description and travel-Guide books. Europe-Galleries and museums. Title.				

FIGURE 3

UNION CATALOG

709 B814p	AD	BI	CON	FAN	LM	MTP	OSC	SCH	WV
	ALL	BRI	DOR	HLS	MAT	NE	OSY	SB	WE
	AV	CHA	EB	HP	MEM	OH	PH	SE	WR
	BK	CSQ	EGL	JP	MTB	OS	ROS	UC	
Braider, Donald, 1923- Putnam's guide to the art centers of Europe. N. Y., Putnam, c1965. 542 p. 20 cm.									
Art-Europe. Europe-Description and travel-Guide books. Europe-Galleries and museums. Title.									

FIGURE 4

REPRODUCED SET

709
B814p

Braider, Donald, 1923-
* Putnam's guide to the art centers of
Europe. N. Y., Putnam, c1965.
542 p. 20 cm.

Art-Euro
Europe-f
Europe-f
Title.

709
B814p

ART-EUROPE.

Braider, Donald, 1923-
Putnam's guide to the art centers of
Europe. N. Y., Putnam, c1965.
542 p. 20 cm.

709
B814p

EUROPE DESCRIPTION AND TRAVEL-GUIDE BOOKS.

Braider, Donald, 1923-
Putnam's guide to the art centers of
Europe. N. Y., Putnam, c1965.
542 p. 20 cm.

709
B814p

EUROPE-GALLERIES AND MUSEUMS.

Braider, Donald, 1923-
Putnam's guide to the art centers of
Europe. N. Y., Putnam, c1965.
542 p. 20 cm.

709
B814p

Putnam's guide to the art centers of Europe.

Braider, Donald, 1923-
Putnam's guide to the art centers of
Europe. N. Y., Putnam, c1965.
542 p. 20 cm.

Art-Europe.
Europe-Description and travel-Guide books.
Europe-Galleries and museums.
Title.

FIGURE 5

MACHINE-READABLE CATALOGING INFORMATION

The Council on Library Resources, Inc., has made a grant of \$130,000 to the Library of Congress for investigations leading to the inauguration next fall, by the Library, of a pilot program for the distribution of cataloging data in machine-readable form. Under the grant the Library will also study the feasibility and value of providing such service on a wider scale and continuing basis.

The immediate aim is the centralized preparation and distribution of data from which participating libraries can automatically produce catalog cards, book catalogs, reading lists, and other library materials at local computer facilities. The larger aim is to assess the ultimate feasibility of a national communications network in which machine-readable data would be transmitted electrically from library to library. The Library of Congress, as the largest library in the country, would serve as the center of this network, disseminating its cataloging products in machine-readable form. Several libraries are already using computers, but each must convert catalog data to machine-readable form. A centralized service would eliminate the need for this local keypunching effort, thereby saving money, and facilitate increased use of computers in libraries.

Present plans are that approximately 10 participants, including university, public, government, and school libraries, will receive the equivalent of catalog cards in machine-readable form—that is, on magnetic tape or punched cards. The Council on Library Resources grant will enable the Library of Congress to let contracts to develop operational procedures and computer programs for this test. The Library will support the cost of preparing and distributing machine-readable data in the test.

The Library of Congress has been moving steadily toward the goal of automating its bibliographic record for several years. In 1961 a \$100,000 grant from the Council on Library Resources enabled the Library of Congress to survey the possibilities of automating the organization, storage, and retrieval of information in large research libraries. More recent CLR grants have supported projects and conferences to assess the problems involved in converting the information on catalog cards to machine-readable form for computer processing. These projects are related to other Library automation activities which are supported from appropriated funds. Interested firms were recently asked by the Librarian of Congress to submit proposals for a study to determine specific requirements for an automated system for the central bibliographic operations of the Library. It is expected that the contract for this study will be awarded in June 1966.

The Library's Information Systems Office, headed by Samuel S. Snyder, Information Systems Specialist, has responsibility for directing the Library's automation program. Its staff members will serve as project directors for activities supported by the new CLR grant. Mrs. Henriette D. Avram, Supervisory Information Systems Analyst, will supervise the test project, and Donald M. Rickerson, Supervisory Data Systems Engineer, will be in charge of the feasibility study.

Dewey 17: A Review

FRANCES HINTON, *Catalog Librarian*
Free Library of Philadelphia
Philadelphia, Pennsylvania

I HAVE BEEN ASKED to review Dewey 17 from the point of view of a cataloger in a large library.* This is the point of view I could scarcely avoid if I would, since the Free Library of Philadelphia is a large library. Moreover, it is a large library system, with forty branches and a central library organized largely into subject departments whose collections are determined by Dewey Decimal Classification numbers. This fact must inevitably affect my feelings about the practicability of adopting the 17th edition of Dewey. I will try to indicate clearly when my comments are on the advisability of a particular sort of library's following a particular change rather than on the abstract rightness of the change. Most of all, I hope to consider Dewey 17 on its own merits. Does it set forth a logical, workable plan for arranging books in a library? Is it easy, or at least possible, to follow its instructions? And, finally, is its basic approach to classification a valid one?

This 17th edition of the Dewey Decimal Classification is the first one produced by the Decimal Classification Office, which was formed in 1958 by the merging of the Dewey Decimal Classification Editorial Office with the Decimal Classification Section of the Library of Congress. Thus it might have been expected to reflect the experience of a staff actively engaged in applying the Decimal Classification to a large percentage of the titles cataloged by the Library of Congress. This practical experience might and ought to have been a great advantage in removing ambiguities and inconsistencies from the schedules. Sad to say, this possible advantage has not been anywhere near fully realized; for, while the earlier editions were nothing if not practical, Dewey 17 is more the extreme expression of a philosophy of classification than the product of experience in applying a particular scheme of rules. This philosophy—the concept of classification by discipline rather than by subject—underlies the changes from earlier editions and permeates the entire plan of classification, even where the editors have made no actual changes.

The prospective user should give Benjamin Custer's Introduction a thoughtful reading before turning to the tables themselves. There is a brief discussion of book classification in general, followed by a history of the Dewey Decimal Classification. These will be used chiefly in library school classes, but a review of them and a re-reading of Melvil Dewey's

* Editor's note: This was to have been a two-part article, one from the viewpoint of the large library and the other from the viewpoint of the small library. The second part has not yet been completed and will appear in a later issue.

own final introduction may prove enlightening. Mr. Custer writes, "The primary basis for DDC arrangement . . . is by discipline. . . . There is no one place for any subject in itself." The first part of this statement agrees with what Dewey wrote, but Dewey had gone on to say "in other cases, it is more useful to keep books on the same subject together, tho treated from different standpoints." This increased rigidity is most important, for it is at the root of most, or many, particular troubles with the newest edition. This section of the introduction describes the splitting of subjects by discipline, the hierarchical nature of the system in both disciplinary and subject relationships, the mnemonic features of the notation, and the faults for which the system has been criticized.

The longest and most important section of the Introduction is the third: "How to use DC." Here the user is instructed directly, although the Editor appears to be a little unclear as to whether "you" or "one" or "we" are his public. There is also an irritating incongruity of vocabulary in the use of "dripping" and "synthesis." The "drip principle" is an evocative if deplorably-kittenish phrase that describes the effect of the "principle of hierarchy." Each entry within any of the ten main classes is a part of and is governed by every entry superior to it; i.e., the qualities of each superior entry "drip" to those below it. This is mere in-group jargon and does not sort well with such constructions as the Editor's other favorite phrase, "synthesis of notation"—which is itself only jargon of a more resounding kind. Further explications only muddied instead of clarifying my understanding. "Scope" notes, it seems, "drip"; notes beginning "Including" do not "drip." The 16th edition made no such elaborate distinction, but used "Including" notes to enumerate both "subordinate topics not obviously part of the heading" and "subordinate qualifications not obviously part of the heading"—for which Dewey 17 uses "scope." In both editions the situation is perfectly clear in the tables themselves. But the explanation in the Introduction left me so confused that I found myself having to refer to page 21 each time I came across either word in a note. So also the instruction to "divide like" a sequence of numbers. I had never been conscious of any particular difficulty in "dividing like" until I read how one is supposed to work methodically. Now, having been instructed, I feel a compulsion to write out all the five necessary steps, and even then I am dubious of the result. First you determine and set down the full span of the secondary sequence. Second, set down the number from that sequence that applies to the work in hand. Third, cancel the repeating digits of the secondary sequence. Fourth, substitute for them the repeating digits of the primary sequence. Fifth, insert the decimal point and strike out any terminal o's.

Further, the suggested precedence formula to prevent cross classification left me wondering whether the fact that an ocean is definably a "place" is really a "property" of, say, the North Atlantic. And the reasons for some instructions escape me. Cross references are no longer used to lead from a subject treated in one discipline to the same subject treated in another discipline. Such references were among the most use-

ful notes in the 16th edition. The loss of these references, together with the severe limitation of the Index, makes interdisciplinary classifying more difficult than it need be. The instructions for classifying a book on more than one subject, or on one subject viewed in two or more of its aspects, ends by reminding the classifier not to overlook the possibilities of class o. Since interdisciplinary studies are being published more and more frequently, I suspect that librarians who choose to follow Dewey 17 will find their collections falling chiefly in the 000's. The suggestions for reduction of numbers are, on their face, very sensible and flexible: Cut at a reasonable spot; be sure that when you cut you do just that (i.e., do not change digits); record in the schedules all decisions for reduction. Unhappily, the very nature of Dewey 17 makes it all but impossible to find a truly reasonable spot to cut most numbers and still retain more than the merest vestige of the specific subject within the discipline. So the sweet reasonableness of the instruction is of little practical benefit.

Next comes an exposition of the Index—still *relative*, but now also *limited*. The present editor recommends, as did Dewey, that you class a book by approaching the tables directly. He warns the classifier that "whether you are beginner or expert, you must not, and, in fact, you cannot class directly from the index." This is a magnificent understatement. The editors have omitted many subject terms "obviously part of broader concepts." The example given in the Introduction, "how to pitch in baseball," is indeed obviously omissible. The broader concept, "baseball," is stated clearly and would probably be the word looked for in the first place. Yet I still yearn to see the specific number for "baseball" listed instead of a reference to "Bat games." Such leadings toward the less and less specific give me, at least, the feeling of chasing will-o'-the-wisps. The indexer must have a peculiar idea of what relationships most people are or are not likely to know off-hand. Thus, for example, "Sikhism" does not appear at all, even though its proper location under "Hinduism" might not be at all apparent, while "Zen," which is today a common word, does appear with its obvious reference to "Buddhism."

Many subject terms appear only as references to synonyms or near-synonyms or to broader or related terms. Such references undoubtedly save space. Turning from "Zen" to "Buddhism," you find five aspects listed. These, or some of them, would have had to be listed also under "Zen." But the space saved here is in good part wasted by such excess baggage as three lines referring from "Slave labor" and "Slave trade" to "Slaves" and a *see also* reference from "Slavery" to "Slaves," all following each other in a single column. The entry for "Kaddish" refers you to "Funeral rites," where you find four class numbers for various aspects of funeral rites, a reference from the aspect "mil. sci." to "Official ceremonies," and, finally, "*see also other spec. rel.*"

Probably you will have been able to infer from the book itself that Kaddish is a Hebrew word; you might even know that it refers to a Jewish funeral rite. But if you knew all this, you would surely have already turned directly to 296.4 "Public services, rites, traditions" under

Judaism and found the specific number 296.445 "Burial and morning rites and traditions." If you had turned to the Index for help, how much more satisfactory it would have been if for a specific rite of a specific religion it had told you the specific number without blackmailing you into taking an educational detour. To me, the Index, in which the editors obviously take a great deal of pride, is one of the most infuriating weaknesses of Dewey 17. It seems to be designed not only to prevent the slothful from attempting to use it to class a book directly but effectively to discourage anyone from using it at all.

Section 4 of the Introduction describes variations, some official and some unofficial, from recommended practice. Official variations appear in the printed tables. Certain topics are given two numbers, one preferred by the editors, the other optional. There are fifty-four such options, and under each appears a note. Under the number *not* preferred by the editors, the note is "Optional; prefer [another number]." For example, 920.1-928.9 are still listed as the location of biographies of specific classes of persons. But under the centered heading is the note: "Optional; prefer standard subdivision 092." The practical result of this preference is that collected biographies of saints will now be assigned 235.20922 on LC cards instead of 922.22. Under the editors' first-choice number appears the note: "If preferred [meaning 'if you prefer'], class in [another number]." Under 901.9 "Civilization" is the note: "If preferred, class in 909." Under 909 "World history" is the note: "Optional: civilization; prefer 901.9." This form of the option note I, for one, found a little difficult to interpret. Since the option usually refers to the heading for the number itself, I found myself overlooking the colon and reading the note as if it meant that 909 was optional for "World history," but that "civilization" should go in 901.9. This did not appear to me to make much sense, and it certainly did not tell me where to class "World history."

Another officially-suggested variation is the right to use letters in addition to figures or in place of them. Optional alphabetical arrangements are provided in a few places—e.g., an alphabetical arrangement of colleges under countries in 378.4-.9, an alphabetical arrangement of flowering plants by families under 583 and 584. Because the numbers assigned to certain languages, cultures, etc., are so long, the tables frequently suggest that you use a letter or other symbol as an artificial digit to bring into prominence any desired lingual, ethnic, or cultural approach. For example, a library with a large collection on Hinduism might, instead of 294.5, use 2Ho or 29H and shelve the books so labelled before 220 or 290.

Other variations, although not mentioned in the tables, are described in the Introduction as possibilities. Classification by attraction, while surely anathema to anyone holding the philosophy of the editors, is described as possibly desirable because of local interest or for special collections. All books about the Jews, not strictly about Judaism as a religion, can allowably be classed in 296. All books about automobiles, not just about their engineering, can be classed in 629.2. The only warning given is that such a practice should serve a real and permanent need,

not just a temporary drawing together of interests. The editors discourage homemade expansion of any class. A good expansion takes a great deal of time and special knowledge; and once a change is made, for good or bad, it must be lived with indefinitely. Working as I do in a library that suffers from the local expansion of several major classes, I wish someone had heeded this warning in the past.

Section 5, Features of Edition 17, includes a diatribe against "slot" classification, or classification by attraction, as recommended by clear implication in Edition 16. The vitriolic tone is a little puzzling since the Editor and a majority of the Decimal Classification Editorial Policy Committee are responsible for both the 16th and 17th editions. This edition, however, "emphasizes the hierarchical nature of true classification." The specific editorial rules are intended to make the hierarchy clear. Headings have been broadened, or in some cases limited, to cover all concepts included under subordinate numbers. Both notation, as far as possible, and indentation are hierarchically expressive, and different type faces are used to emphasize degrees of subordination. Centered headings are used freely to call attention to spans of numbers in which coordination and subordination must be shown by indentation alone.

The development is from the general to the specific. Contradictions of this principle in Edition 16 have been eliminated. For example, Edition 16 directed that topics under 371 "Teaching, school organization, administration" when applied to a specific level of education were to be placed with that level, but contradicted itself by dividing 371.21 "Admission," 371.73 "Physical education," and 371.85 "Secret and Greek letter societies" by levels. This edition provides for general treatment of these topics in 371 and for treatment by level with each level. Edition 17 makes many new provisions for division of subjects by more than one principle and specifies by cross references or by tables of precedence which of two principles is to be followed first.

The new or renewed emphasis on integrity of subject relationships rather than on integrity of numbers has necessitated numerous relocations. The editors have assumed rightly that libraries can cope with any number of reductions and expansions. This kind of relocation has appeared in each new edition as literature on a subject increases or falls into disuse. The question of the degree to which the Decimal Classification and libraries using it can afford to shift a subject to a completely different number, e.g., "Astronautics" from 629.1388 to 629.4, is a subject on which there is violent disagreement. The editors of Dewey 17 and the Decimal Classification Editorial Policy Committee have decided that a "reasonable" amount of relocation is both desirable and inevitable. Knowledge is not static, and a classification that refuses to accept change becomes out-of-date and inhospitable to new subjects. The chief objection to relocation has always been the "compulsion for consistency," i.e., the feeling that older books must be reclassified into the new location. The cry, "But we can't afford to reclassify," has been loudest from the older and larger libraries, who feel they have a vested interest in the stability of DC. However, the larger a library's holdings, the less pos-

sible it is to browse through any class comprehensively. If a collection must be approached via the catalog and a series of call slips, the fact that old and new books on a given subject are separated on the shelves is comparatively unimportant. Furthermore, almost every older library using the Dewey Decimal Classification has already departed from the printed tables, so that they must annotate the schedules and ignore the recommendations of the Dewey Office. Therefore it is not right to let the vested interests of old libraries withhold the benefits of modernity from new libraries here and abroad. These are the editors' convictions, and they are mine. Putting them into practice is another matter, and the decision cannot be the cataloger's alone. The relocation of the laws of various subjects into 340 is logical and reasonable, but the consternation it would cause among the staffs of four subject departments of the Free Library of Philadelphia and the confusion it would create in the minds of the users of these departments are reasons for proceeding no faster than with deliberate speed.

Relocations were based on specific conditions. If a heading could not be broadened or limited to tolerate a specific topic, it was relocated. If the location of a topic in Edition 16 made it impossible to provide for the literature, it was relocated. Relocations were made to eliminate dual provision for a topic, so long as it was really dual provision and not simply another aspect of the same subject. If the known amount of material was small, a topic was relocated to secure a more appropriate sequence of subjects. Dewey 17 contains 746 relocations of topics from the places provided for them in Edition 16. To these we must add 89 changes in area notations and 9 in the Table of Standard Subdivisions. This may seem conservative when compared with the 1603 relocations in Edition 16 from the provisions of Editions 14 and 15, but the effect is much greater, because many are for topics on which there is a great deal of literature.

Relocations in the Area Table and in standard subdivisions are a major problem, because they may affect any number in the classification. Some relocations use with a new meaning a number that had been used in an earlier edition for a different subject. This is truly violation of integrity of numbers and is permitted only if the number has been vacated for twenty-five years. Otherwise the Decimal Classification Editorial Policy Committee must approve the re-use. In this edition ten numbers have been re-used with new meanings. These, set in italics in the tables, are 321.9, 363, 372.1, 373.11, 551.6, 576.1, 576.2, 576.4, standard subdivision 017 and area notation 549.

In addition, there is a completely new schedule for 150 "Psychology," which re-uses 65 numbers and re-locates 27 topics. Two other schedules, 340 "Law" and 510 "Mathematics," have been authorized for future development. In anticipation of this, many topics have been relocated in 340, appearing as a list at the beginning of the class, while a note under 510 directs the classifier to class in 510 without subdivision all branches of mathematics not clearly belonging in a subordinate number. Relocations are shown in the tables by enclosing the abandoned number in

square brackets if the relocation is complete and by a note of instruction if it is partial; e.g., 572 "Human races (Ethnology): Class cultural anthropology [formerly 572] in 390." A dagger precedes every number in the Index to which any topic is relocated, whether the topic specified in the immediate entry is relocated or not. I fail to see the necessity for this.

The most immediately-noticeable innovations in Dewey 17 are the new Table of Standard Subdivisions and the new Area Table, both located in volume two. Given the increase in size of the schedules, this location was probably inevitable. It is, however, an unmitigated nuisance to the classifier, who must continually consult two unwieldy volumes. A minor puzzle is the inclusion of a section, "Synthesis of Notation," immediately following the Area Table. What is the intended use of this list of all the "divide like" notes that appear in the main tables? A similar list was given in Edition 16, but in neither edition is there any suggestion for its use. To me this seems a waste of eleven pages.

The Table of Standard Subdivisions is an expanded and considerably-revised version of the list of form divisions that preceded the main schedules in previous editions. The Decimal Classification Editorial Policy Committee felt that these numbers had tended to depart from the concept of subject integrity, and directed the editors to rework them completely, even to the extent of using one number with a new meaning; 017, formerly "Systems of units and measures," is now "Professional and occupational ethics." But this is an optional number; the editors prefer 174. And [069], the abandoned number for "Professional and occupational ethics," refers only to 174, with no mention of standard subdivision 017. Number 02 "Miscellany," with twenty subdivisions, includes much that was formerly in divisions of 08 plus "Directories" from 058. Frankly, I cannot see any particular gain in subject integrity from the splitting of miscellany—for "Collections and anthologies" are themselves miscellaneous—between 02 and 08. "Correspondence courses," formerly 0714, are now classed 07154, so that they can be hierarchically subordinate to "Agencies for adult education." "Civil service examinations," formerly 351.3, are to be classed by subject in standard subdivision 076. These 74 subdivisions may be added to any number from the general tables. This sweeping generalization, which appears at the beginning of the table, had to be, and is, qualified in the Introduction: you must not add standard subdivisions to the number chosen if it has a broader meaning than the subject of the book being classified. In some parts of the classification, a concept that is ordinarily expressed as a standard subdivision has its own number. In other places, more than one 0 is used for standard subdivisions because subdivisions with the single 0 are needed or may later be needed for another kind of subdivision. In many places—and no warning is given of this—use of form divisions from earlier editions may block the use of either 0 or 00 divisions with their new meanings.

The Area Table had been anticipated as a practical convenience, and it is. No longer will catalogers have to "drop the 9" before dividing like 930-999. This has certainly given some trouble in the past. 973-

.744-.749, divided like 974-979, was divided incorrectly by the Dewey Office itself on more than one occasion. "Add area notations 1-9" is much simpler, although the instructions are still unclear in those places where the number preceding the decimal corresponds to a continent. For example, under 554 is the note "Add area notation 4 to 55." This would be clearer if it read "Add subdivisions of area 4."

Area 1 provides for division of subjects by climatic zones, land forms, types of vegetation, atmosphere, oceans and other waters, socio-economic regions and groups, hemispheres, and even space. Subject integrity is not guarded with much zeal here. Ethnic and religious culture groups are not areas; and broadening the heading to include "groups" does not make them so, any more than calling a mule's tail a leg makes it one. We need a specific number for the Jews. Many catalogers must have writhed each time they classed—by attraction—a history of the Jews in Germany in 296.943. Obviously such books do not belong in "Religion." But what does Dewey 17 give us? First we must reverse the subject and consider the book a history of Germany, subdivided by the history of a group. To 943 "Germany," we add standard subdivision 009. Under 930-990 we are told to divide standard subdivision 009 like area 1. In volume two, we find that area 174 "Ethnic groups" is to be divided like 420-490. Returning to the first volume, we find the Hebrew language classed in 492.4. Thus a history of the Jews in Germany is properly classed in 943.00974924.

Other number designations in area 1 seem to me of dubious value. Area 1712, to which the Introduction calls special attention, is to be used for "Empires and political unions," and can be further subdivided by the mother country, like areas 3-9. There is logic in the provision of a special number for the British Commonwealth, a union including many diverse areas. But when the Editor says to put the constitutional law of the United Kingdom, Canada, and New Zealand together in 342.171242 instead of scattered in 342.42, 342.71, and 342.931 respectively, does he mean that we are to do this only if a single book treats of two or more members of the Commonwealth, or does he mean that we are no longer to use 342.42 at all? And is it wise to separate the Commonwealth from Great Britain at all? Area 18 "Other kinds of terrestrial regions" provides in one of its subdivisions for "Oceans and sea basins," defined as "Islands and continents facing specific major bodies of water." Use of this code results in 910.091823 as the number for a guidebook to the Pacific area—a long way from 919, where most of the countries in that area class. The Mediterranean region, formerly area 4, is now area 1822. While it is true that North Africa and Asia Minor also border on the Mediterranean, would it not have been better to retain a perhaps less logical but briefer number?

The inordinate length of numbers derived from Dewey 17 appalls me. We are told that few libraries will need or wish to carry these numbers to their full length. We are told to cut at a reasonable spot. But what is a reasonable spot at which to cut 943.00974924? Cutting to 943.00974 "History of ethnic minorities in Germany" might be satisfactory at this

particular point in history, since the ethnic minority in Germany most likely to be written about is Jews, but even this is still a very long number to have so unspecific a meaning in relation to the books classed there. Since 943.009 is meaningless and 943 retains no vestige of the particular subject, many librarians will return discouraged to 296, which at least shows that Jews, not Germany, are the subject of the book. Librarians who think this example is unusual or exaggerated should observe the numbers being assigned by the Dewey Office on Library of Congress proof slips and in *Publishers' Weekly*.

As usual, the general tables are preceded by three summaries, listing the ten classes, the one hundred divisions, and the one thousand sections. Also as usual, I wish the third summary for each class could have been repeated at the beginning of the class. I also wish the tables could have been thumb-indexed.

Some relocations seem to have been made principally in order to vacate numbers for future use. Class 001 "Knowledge" has gathered into itself "Research" [formerly 007], "Cybernetics" [formerly 006], and "The book" [formerly 002], leaving 002-009 available for new subjects that may appear. Similarly, 302-308 have been vacated in favor of 300.1-.9 for standard subdivisions of "The social sciences."

Yet the principle of classification by discipline is, of course, the cause of many other changes in location. "Library architecture" now classes in 727.8, a more reasonable place than 022.3. "Book collecting" and "Documentation" [both formerly 010] now class under "Library science" in 020.75 and 029.7 respectively. This change may or may not please documentalists. "Prehistoric archeology" [formerly 571] now classes in 913; and "Flower arranging," which has only a remote connection with flower growing, has moved from 636.9663-.9664 to 745.92 among "Other decorative arts and crafts." This is one lonely instance of a shorter number in the 17th edition than that in the 16th.

Many subjects that have come into prominence since the publication of Edition 16 now have their own numbers. Among these are 323.43 "Personal security," 323.442 "Freedom of conscience and religion," 651.8 "Data processing," 658.4 "Executive management," and 659.2 "Public relations."

The 150 "Psychology" schedule is completely new. Very few books classed in the 150's in accordance with the 16th or earlier editions will fit the content of the Dewey 17 numbers. I think that the new classification is a good one, although only use can prove or disprove this opinion. Section 155 "Differential and genetic psychology" is an improvement over the old 136 class. The arrangement is more logical, and it fits the literature better. Section 157 "Abnormal and clinical psychology" [formerly 132] is less successful, and sufferers from organic epilepsy may be interested to learn that—decimally—they are psychologically psychotic (157.1) although medically only psychoneurotic (616.853), when actually they may well be neither.

Still other changes reflect the increasing interest of libraries within the United States in the philosophy, literature, culture, and history of non-

Western people and the increasing attention being given to the needs of libraries outside the United States. Class 181 "Oriental philosophy" provides subdivisions for philosophies based on specific religions. Class 200 "Religion" has been recast to make clear which divisions apply only to Christianity and the Christian Church, and the major non-Christian religions now have expansions similar to that provided for "Judaism" in the 16th edition. Most literatures and most places now have period subdivisions. Librarians of other countries will have the final word as to how well the editors of Dewey 17 have succeeded in their effort to de-emphasize the traditionally Anglo-Saxon and Christian orientation of the Dewey Decimal Classification. Certainly a first step has been taken, and the 18th edition, which ought to benefit from the 1964 survey of DC use abroad, should be a greater improvement.

Unlike the 16th edition, which even at first seemed as comfortable as a pair of soft slippers, Dewey 17 is a difficult classification to use. The inadequacy of the Index and the limited number of cross references are real handicaps to the classifier. The instructions in the Introduction are hard to comprehend; those in the Tables are hard to follow. The classifier must read not only the notes pertaining to the particular number selected but also all notes under any superior numbers in the hierarchy. The effect is something like tracing one's way through the Labyrinth without a ball of string.

But the chief reason for my dissatisfaction with Dewey 17 is the rigid fanaticism with which the editors have imposed their concept of what classification by discipline means. Nine of the ten major classes may be called "disciplines," but within these disciplines are subjects, *not* sub-disciplines. There is a difference between a subject treated from a certain aspect and a subject that falls within a certain discipline. In far too many places, unless the number is divided like and divided like again, there is no precise subject content revealed, but merely the discipline into which the subject problematically falls. In many places, if the fully-divided number is not to be used, a book can more logically and more usefully be classed in a completely different number. I am afraid that Dewey 17, like the 15th edition, will prove to be a blind alley in classification. Unfortunately, it is likely to be a more difficult one from which to retrace our steps. The fact that the 16th edition will be kept in print leads me to wonder if the editors themselves do not share such misgivings.

WHAT CATALOGERS REALLY SAY

The scene is the office of the director of a medium-sized academic library, where a meeting of department chiefs is in progress. You will not need a program to identify the participants. The director is speaking:

Dr. Head: And now, does the Cataloging Department have any new problems this month?

Mrs. Catt: No new problems, Dr. Head, only the continuing ones, too large an arrearage of uncataloged books and too few catalogers to reduce it.

Dr. Head: But, Mrs. Catt, what do you do with all those fine young people we employ for you? There must have been a dozen of them in the past two years, all fresh out of library school and eager to succeed in the profession.

Mrs. Catt: Not one of them is still with us. All five of the young men left after a year to become heads of libraries. Two of the young women married students and left at their husbands' graduation, and the others transferred to the Circulation and Reference Departments, where they could "meet the public."

Mrs. Acqui: Why don't you catalogers put your work on a computer, as we are going to do and as Serials Department has already done?

Mr. Sere: Yes, this is the age of the machine, you know, and one must not be afraid to progress with the times.

Mrs. Catt: I and my staff, or what remains of it, would be delighted to begin at once to catalog with any kind of mechanized equipment the administration can provide us. Just tell us when the machine will be available.

Dr. Head: Please be patient, Mrs. Catt; we will not be able to go into machine cataloging for years.

Miss Reff: I have always said that if you people in Cataloging didn't cling to so many picky details, you could get your work done and keep your positions filled.

Mr. Sere: Where was it I read the funniest piece about a typical cataloger? Must have been in *LRTS* last summer. It was a kill!

Mrs. Catt: I have been thinking of items on the catalog card which we might begin omitting, and with Dr. Head's permission I should like to present them, one by one, for your comments.

Dr. Head: This sounds like a step in the right direction. Let's cut cataloging to the bare essentials. Proceed, Mrs. Catt.

Mrs. Catt: Starting at the top of the card, we could omit the call number. Now, please don't interrupt yet. We could stop classifying monographs, as we have stopped classifying periodicals.

Dr. Head: But remember, Mrs. Catt, that our faculty have access to our stacks, and they would not willingly relinquish the privilege of browsing among books arranged according to subject matter. What is that delightful word everyone is bringing into conversation? Serendipity? That's what they would have to forego if we stopped classifying and closed our stacks to them. Please confine yourself to practical suggestions. For example, why don't you cease searching authors' full names and dates?

Mrs. Catt: We haven't done that for years, Dr. Head. We follow the "no conflict" policy for names and never add dates except to distinguish between authors with exactly the same name. But last week Professor MacTavish of the French Department stopped me at the catalog and was complaining that we had not added the death date to all the Sinclair Lewis cards.

- Miss Reff: Dates are helpful. But you certainly don't need to give an author statement, as you have been doing lately. Surely that's a redundancy.
- Mrs. Catt: We thought the author statement unnecessary and passé, except when joint authors had to be named, but now LC has gone back to requiring the author statement on practically every card where a personal author is named, and we follow.
- Mr. Sere: What seems absurd to me is that catalogers measure books, as if words were put up by the yard.
- Mrs. Catt: May we stop measuring, then?
- Mr. Sirk: Now just a minute! If you don't mark the catalog cards for oversize books, how are my pages going to know they should look on the special shelves—
- Mrs. Catt: Sorry, Mr. Sirk. We will continue to measure for you. But we could eliminate some of the notes on our cards, don't you think?
- Mr. Sirk: By all means. No one reads below the title on a card, anyway.
- Mrs. Catt: The bibliography note, for example—
- Miss Reff: Now, please! Don't you realize how important bibliography notes are to the Reference staff and to our patrons who are serious about research? What catalogers put on a catalog card once—
- Mrs. Catt: Saves the Reference Department looking up the same information many times over. Well, I suppose there is no use asking whether we may cease assigning subject headings?
- Dr. Head: Certainly not. Don't you recall that Professor Whatsnew, in his address at our regional meeting, said that every book should be assigned at least twenty, and some books up to a hundred subject headings?
- Mrs. Catt: Series added entries, anyone?
- Miss Reff: Yes, indeed. Sometimes the series title is the only valid information on the request that comes to our inter-library loan desk.
- Mrs. Acqui: And my searchers are instructed to look for series when they search orders.
- Dr. Head: Chins up, Mrs. Catt, hold the fort, and all that! There will soon be a new crop of library school graduates, and we will find you another group of young people to bring up the way you want them to grow. Meeting's adjourned.
- Mrs. Catt: Thank you, Dr. Head. (She leaves the office, followed at a little distance by the others, who shake their heads and murmur to each other.)
- Others: What a performance! Did you ever see anyone try so hard to get out of a little work?

—Gertrude Bingham

IN THE MAIL: FILING

Since my retirement I thought I had lost all interest in library matters, but the word "filing" on the cover of *LRTS* sent me off to the races again. Perhaps you would like to print my reactions to the article by Joseph T. Popecki (Summer 1965). I will not attempt to reply to Jean M. Perreault's article in the same issue, as it belongs to an area somewhat like that called "terra incognita" on old maps—if he gets his way, he will be proven either right or fantastically wrong.

Mr. Popecki has so much right on his side, especially in the wording of his rules, that I hesitate to question anything he has said. Still, I fear he has never really had a machine do any filing for him. Has he ever seen the complicated arrangements for getting a machine to file the "Mc's," which were worked out by a cataloger faced with this problem? C'est formidable!

First, in his third paragraph he comments that most libraries still file by the old "Saints, Popes, Kings" rule. What libraries? I've never met up with them. But that is by the way.

I like his title for his rules: BRASS (Basic Rules, etc.)

Rule 1. OK if your catalog is not too big, but when it gets too big, your readers have to guess what the cataloger chose to put after the punctuation mark.

Rule 2. Oh no! Here, in your example, you have violated both your own Rule 1 and the telephone-book arrangement, which is word by word. You have filed letter by letter here! Surely you meant to file:

Green, Mrs. Eunice . . .
Green, Winifred
The green years
Greenaway
etc.

Rule 3. This I like very much. The rule is one most of us follow, except our unfortunate brother, the Library of Congress, and the wording is superb: anybody should be able to understand it.

Rule 4. Ah! Ah! ". . . numbers file before alphabetical characters." When do they? How about FIRST AID, SECOND SIGHT, and such? Better if you just said: "All signs and symbols *not* letters or numbers go at the beginning of the catalog, before the letter A." Take up the numbers later on, and don't lead your machine astray here.

Rule 5. Would A., Z. also precede A.A.A.? You see, I still don't believe you mean to intermix personal names, or initials standing for them, with other entries that begin with the same word, "*ignoring all punctuation.*" Even ALA's appendix W doesn't do this.

Rule 6. My problem has always been how to know an acronym from another "nym." I have solved it by asking the reference librarians in my fortunately large library where they would look for the item. If they say "Ascap" or "Unesco," that is how those things got filed, with references from the initials. If they disagree, I have stuck to the initials, with a reference from the acronym as a single word.

Rule 7. Oh here there are TRAPS! How do you file S.S.S.R. (Soyuz Sovetskoi and all that)? And "Rx" (just ask around and see what you find)? And how about "Dr." when it stands for "Doktor" or "docteur"?

Rule 8. Here I violently disagree, and I think ALA does, too. An elision is usually *pronounced* as one word, and should be so filed. My favorite example is, "File 'That's Brown's mother comin', Cap'n,' as 'Thats browns mother comin capn.'" (That's the way you would say it, isn't it? And we should file things the

way they are spoken if we can; that is why I would file S.S.S.R. as "S s s r" and not "Soyuz sovetsoi . . .")

Rule 9. The list of articles needs "vetting" a little. What strikes me at once is that care must be taken by the machine to distinguish between the indefinite article and the numeral *one*, which are the same in most languages, and I am not sure the accusative of the German "die" and "das" has been taken care of.

Rule 10. When the machine really takes over, the bibliographer will have to do a lot more than "provide the filing word in brackets following the numeral." He will have to write the heading exactly as he wants it filed, e.g. "Zwei Knabentagebücher," not "2 [Zwei] Knabentagebücher." (Unless he wants to go through all that "Mc" rigmarole mentioned above, which could be avoided by simply setting up all the "Mc" names as they began "Mac.")

And does he really mean to file numerals within the heading ahead of words? The "Charles" example is fine, but I feel uneasy about titles which begin "Europe since 1885" and the like.

Rule 11. This is fine, but in a card catalog will the reader ever find the reference to other possible spellings of the name? But perhaps I carp.

Rule 12. Fine (filing the latest edition first). In my old library we called this familiarly the "best foot forward" principle.

Rule 13. I like very much the way Mr. Popecki has gently insinuated the filing title here, as if it were a matter of *no moment*. That is the way filing rules should be worded, if possible; but we so seldom see how we can do it. But I object to the term "identical entries." Entries are not identical unless they are the same, word for word, down to the last tracing at the bottom of the card, and then they just shouldn't exist; one of them should be discarded.

Rule 13b. I dare you to tell this to any machine, however clever. The bibliographer must make up his entries (like the "Mc's") with the machine's simple mind in view.

Rule 13c-g. I am tired, and so is the machine, perhaps, by this time. But I do like "Subfile by the main entry." I have hesitated to use the term, because "entry" means the whole card, but it is so simple and intelligible, and struck me as so reasonable when I came upon it here, that I think the wording should be adopted.

In ending, I want to say that my heart goes out to the author for taking this interest in the important and often undervalued question of filing.

But I forgot:

Rule 13f. ". . . form or subject entry." Better just say "subject entry," for even catalogers often can't distinguish between form and subject entries, and think any entry in ALL CAPS is a subject entry. Talk down to your clerks, and let the savants damn you.

And somewhere he used the delightful term "intermix" instead of "interfile." ALA Committee on Filing Rules, take notice, for this is important! "Intermix" is so much better than "interfile." It is concrete, and evokes an image in the mind, and we all should have thought of using it instead of "interfile" long ago!—*Gertrude Moakley, 411 West 22nd St., New York, N. Y. 10011.*

A PROPOSED MANUAL ON THE CARE AND REPAIR OF LIBRARY MATERIALS

The ALA Library Technology Project has received a \$15,000 grant from the Council on Library Resources for the detailed planning of a three-volume manual on the preservation and restoration of books and other library materials.

Present plans call for one volume devoted to the care and repair of ordinary books, the second to rare books, and the third volume to the conservation of all other types of material collected by libraries—e.g. such items as prints and maps, photographs, motion picture film, slides, microforms, tape and disc recordings, and clay tablets and papyri.

Planning of the manual will be in the hands of an advisory committee under the chairmanship of Harold Tribolet, Head of the Extra Bindery Department, R. R. Donnelley & Sons Company, Chicago. Other members of the Committee are: H. Richard Archer, Custodian, Chapin Library, Williams College, Williamstown, Massachusetts; Paul N. Banks, Conservator, The Newberry Library, Chicago; Margaret C. Brown, Chief, Processing Division, Free Library of Philadelphia; Stewart P. Smith, Head, Serials Department, University of Missouri Library, Columbia; and Colton Storm, Head, Special Collections Department, The Newberry Library, Chicago.

Planning of the outline and text is expected to require a year.

Various specialists will be invited to contribute chapters to the manual. It will be addressed to the reader without specialized training since very few persons in the United States have had formal training in this area. Emphasis will be on practical techniques with detailed information and with illustrations.

CATALOG CODE FOR LIBRARY MATERIALS IN THREE WEST PAKISTANI LANGUAGES

The Council on Library Resources has granted \$5,175 to Columbia University for development of a cataloging code for library materials in the Pushto, Urdu, and Panjabi languages.

The project will be carried out by Mr. Abdus Subbuh Qasimi, a Teaching Assistant at Columbia, under the guidance of Maurice F. Tauber. Mr. Qasimi, a native of Pakistan, headed the Oriental Section of the Panjab University Library for several years and served as Librarian of the University of Peshawar for twelve years. He has also been a summer employee of the Library of Congress.

Urdu, Pushto, and Panjabi are all common literary languages in West Pakistan. Pushto is also the official language of Afghanistan, and Urdu is a commonly used language in India.

Among Western institutions having collections in these languages are the Library of Congress, New York Public Library, Columbia, California (Berkeley), Princeton, Harvard, Illinois, and other university libraries in the United States, McGill University in Montreal, and the British Museum and India Office Library in London.

There is no established code of rules in Pakistan or elsewhere for the cataloging of materials in these languages. The result is that there is no uniformity of cataloging, sometimes even within the same library.

In 1957 the Council made a grant to assist preparation of cataloging rules for Persian materials. The code, *Cataloging of Persian Works*, by Dr. Nasser Sharify, was published by the American Library Association in 1959.

BOOK CATALOGS

The RTSD Book Catalogs Committee, in its effort to promote a systematic research program in the field of book catalogs, is interested in learning what studies are in progress in library schools or in libraries. The Committee through its chairman, Ian W. Thom (Princeton University Library, Princeton, New Jersey 08540) will serve as the clearing center for publicizing such studies in *Library Resources & Technical Services*, and would urge that all such studies be reported to him.

The Committee would also like to find out which libraries actually have on-going book catalogs and would like to gather basic information about those catalogs. Any library which has an on-going program is urged to report that fact to Mr. Thom.

INTERNATIONAL CATALOGING NEWS

International Cataloging Principles

The International Federation of Library Associations (IFLA) has recently published provisional editions of two international lists which it has prepared under contract with Unesco in accordance with a resolution of the International Conference on Cataloguing Principles held in Paris, October 1961.

The first title is *International List of Approved Forms for Cataloguing Entries for the Names of States/Liste internationale de formes approuvees pour le catalogue des noms d'Etats*, compiled by Suzanne Honore, Paris, 1964. 53 p.

The list, based on replies to a questionnaire, shows the approved forms of names of States in five languages—English, French, German, Russian, and Spanish. Approved forms of federated units in the principal federal States, of names of territories having a certain legal or actual autonomy, and of non-autonomous territories administered by the various States have also been included. The Russian form is given in transliteration, following ISO recommendation R9. The entries are arranged in alphabetical order of the approved form. An index includes all cross references which appeared necessary, even from earlier names of States and territories (particularly for newly independent States).

The second title is *International List of Uniform Headings for Anonymous Classics/Liste internationale de vedettes uniformes pour les classiques anonymes*, compiled by Robert Pierrot, Paris, 1964. 120 p.

This list incorporates the replies to a questionnaire sent by the following countries: Austria, Belgium (two literatures), Ceylon, France, Great Britain, India (eight literatures), Israel, Italy, Korea, Netherlands, Poland, Spain, United States of America, U.S.S.R. (eleven literatures) and Viet-Nam. The anonymous classics listed are religious or literary texts of unknown or legendary authorship. Only those texts are included which have appeared in several editions (under various titles) or in translation. Each title chosen as a uniform heading is followed by: (a) references from the different titles under which the work has been published, in the original or in translation; (b) in the not infrequent cases where an anonymous classic has been published under the name of a supposed author but the attribution has not been upheld by scholars, an indication of the reference to be made from the supposed author.

Copies of these two lists (£ 1 each) may be obtained from the Secretary of IFLA, 13 Vine Court Road, Sevenoaks, Kent, United Kingdom.

International Standardization of Documentation

Technical committee ISO/TC 46 "Documentation" and its sub-committee no. I, "Documentary Reproduction," of the International Organization for Standardization (ISO), whose French member-committee is AFNOR, held their tenth meeting at Budapest, between 12 and 17 October 1964.

Technical committee ISO/TC 46, "Documentation," sat from 14 to 17 October. The meeting was attended by fifty-three delegates, representing the following fourteen countries: Belgium, Czechoslovakia, Denmark, France, Germany, Hungary, Italy, the Netherlands (responsible for the Secretariat), Poland, Rumania, Republic of South Africa, Sweden, the United Kingdom, and the United States of America. The International Federation for Documentation (FID), the International Federation of Library Associations (IFLA) and Unesco sent observers.

Three groups of questions were considered by the technical committee: Bibliography, Layout of books, and Transliteration.—from *Unesco Bulletin for Libraries*, 19:166-167. May-June 1965.



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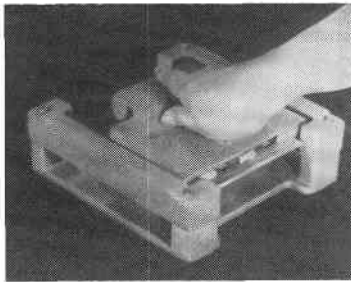
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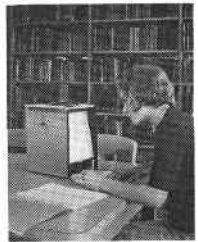
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Second Edition. Compiled and Edited by Albert C. Stevens. Published by E. B. Treat and Company, New York, 1907.

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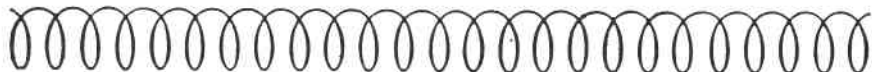
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