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Special Libraries, April 1970

Special Libraries Association

special libraries

April 1970, vol. 61, no. 4

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Honor the Earth for she is ours, with all her wonders and joys and beauty; she is the dark tremulous source of all life, and in the end all life returns to her.

She is our Earth, our home, with her enduring hills, vast plains and deep forests, embraced by immense oceans, wreathed by white cloud-galleons, and prefixed in her journey through a timeless infinity of stars.

Honor the Earth; enjoy her magnificence; touch the Earth and feel her pulsating tremor of life; love her and cherish her. Take strength from her abundance, learn love from her beauty, find solace in her quiet sanctuaries.

Above all conserve her -- for in the whole wide universe of suns and planets and galaxies and stars -- she is the only home we will ever have. This is where we came into being, and this is where we must live...

Theodore John Mazaika

Spearheads Soviet research in information theory and data transmission

PROBLEMS OF INFORMATION TRANSMISSION

Problemy Peredachi Informatsii

Faraday Advisory Editor: M. Levison,
University of London

Soviet Editor: V. I. Siforov

An outstanding publication of interest to researchers in all fields concerned with the R & D of communications systems. Contents include statistical information theory; coding theory and techniques; noisy channels; error detection and correction; signal detection, extraction and analysis; analysis of communications networks; optimal processing and routing; topics in the theory of random processes; and bionics.

Prof. V. I. Siforov is well known for his research contributions in radioelectronics, signal detection and analysis, and the design of advanced communications systems. Among the notable members of the editorial board are Prof. M. A. Gavrilov of the Institute of Automation and Remote Control of the USSR Academy of Sciences, and Acad. A. N. Kolmogorov, Dean of the Mathematics and Mechanics Faculty at Moscow University and Chairman of the International Association on the Use of Statistics in the Physical Sciences. Kolmogorov has won both the Lenin and Stalin Prizes for research on the theory of functions of a real variable, and he also has recently developed a major modification of the theory of information which introduces an algorithmic approach employing recursive functions. Other members of this distinguished board include B. S. Tsybakov, R. L. Dobrushin, and M. S. Pinsker who have specialized in coding theory and problems of error detection and correction; L. M. Fink and V. N. Roginskii who have contributed significantly in the area of complex signals; M. L. Tsetlin who is renowned for his work in game theory; as well as such well-known researchers in large-scale information and communications systems as O. B. Lupanov, V. A. Uspenskii and A. M. Yaglom.

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Documents the increasingly prominent role played by Soviet mathematical linguists

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Selected articles from
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Faraday Advisory Editor: L. Cohan,
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Soviet Editor: A. I. Mikhailov

Focuses on experimental methods of analyzing, translating, encoding, searching and correlating scientific and technical information. Covers problems in the development of information languages, classification and indexing, and automatic analysis of texts. Describes new projects in automatic documentation, mechanical translation, mathematical linguistics and information retrieval.

Academician Mikhailov, Director of the USSR Institute of Scientific and Technical Information (VINITI), is acknowledged to be one of the world's most eminent authorities in the theory and design of information systems. VINITI employs over 4,000 specialists and has been involved in countless research projects relating to the theory, methodology and automation of scientific and technical documentation. Such leading mathematical linguists as Yu. A. Shreider, G. E. Vleduts and I. A. Mel'chuk have directed in-depth research dealing with problems of generative-transformational grammar, semantic analysis and synthesis, syntactic and morphological analysis and natural-language to information-language conversion. Under the guidance of Prof. D. A. Bochvar, one of the most outstanding Soviet specialists in the field of mathematical logic, a special Semiotics Division was created at the Institute to conduct research in information analysis, logical semantics, structural linguistics and other disciplines which are designed to make available to the new science of informatics the exact methods currently employed to create automated information systems.

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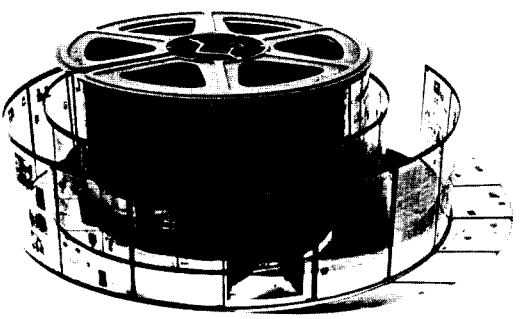

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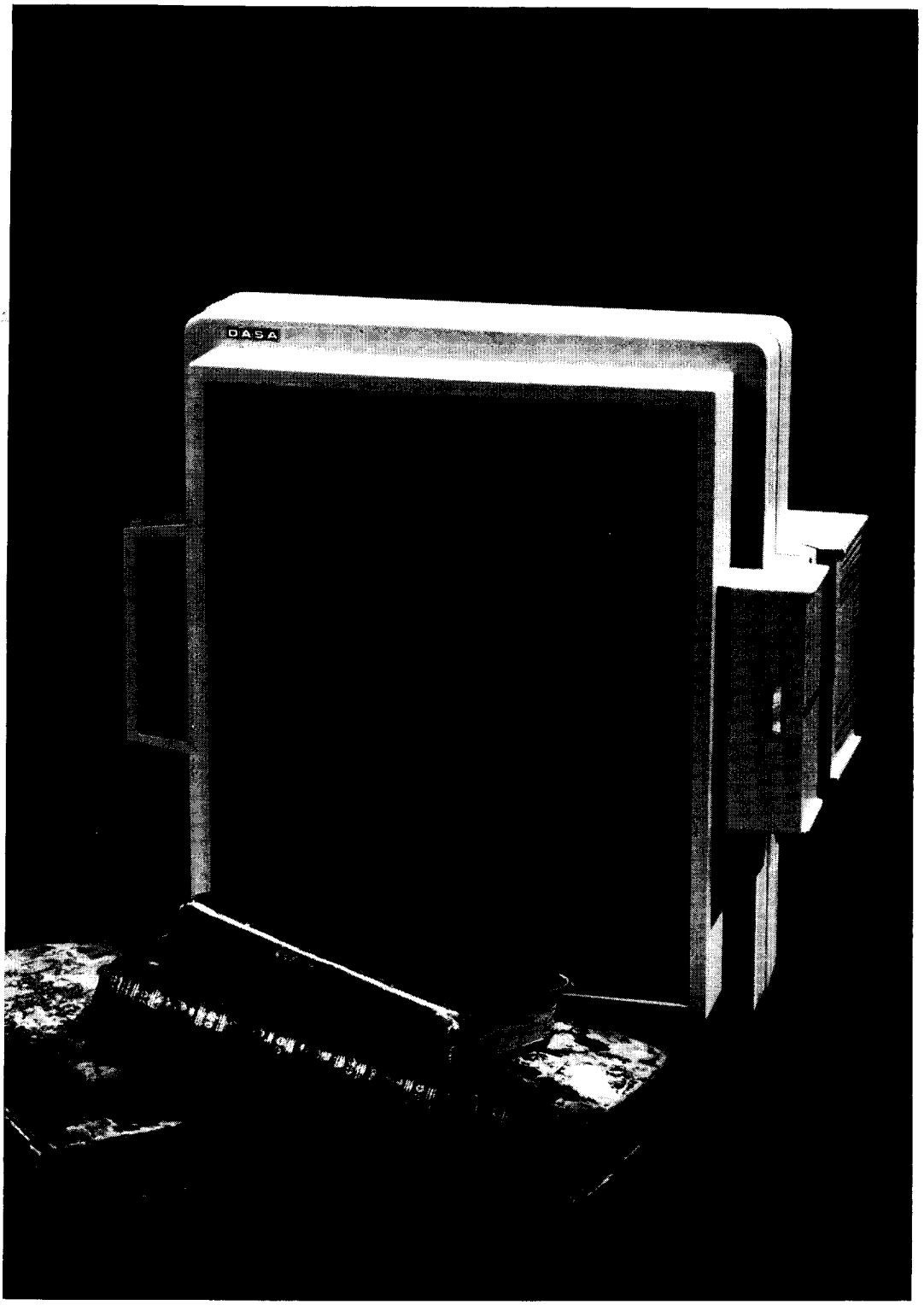
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LETTERS

Home Address vs. Business Address

The following are additional replies to the Editorial by President Robert W. Gibson in the Nov 1969 issue of Special Libraries.

This is a late, though complimentary, comment on the *1969/70 SLA Directory,* combined with a reply to comments you made in an issue of *Special Libraries.*

You were suggesting that members use their business addresses, rather than their home addresses, for Association mailings. In my case, however, this custom would have involved six business addresses during a period of seven years against one home address during that time. Aside from the drudgery of writing change-of-address letters to SLA and the very real possibility of losing mail, two of those addresses were schools which strongly discourage handling mail for mere students.

On the other hand, your argument for more information about a member's employer seems quite reasonable. Perhaps an additional field for corporate affiliation could be added to the present record. Once a year at renewal time, each member could be asked to verify or update this affiliation field. If SLA were concerned about the location of the corporate body, five characters could be reserved for the Zip code of the company. I suspect that once-a-year updating of affiliation would be sufficient for statistical purposes; so for the sacrifice of some extra magnetic tape and a bit of programming, you could have our affiliations and we could have our choice of address.

Congratulations on the *Directory.* I like the first two parts particularly.

Caryl McAllister
Palo Alto, Calif. 94306

I was interested in your appeal to SLA's members in the November 1969 issue of *Special Libraries.* I designed the annual report forms the Michigan State Library mailed to libraries, including special libraries, two years ago, and I am working on similar forms for Wisconsin libraries.

If SLA wants to find out "Who We Are," why doesn't the Statistics Committee start working with state libraries on uniform annual reporting for special libraries? California has been collecting special library statistics for many years.

There is, as you may know, a new USA Standard for Library Statistics (Z39.7–1968), including special library statistics. There may be some things wrong with the standards for special libraries—I think there are—but they're a place to start.

Jean Legg
LSCA Title III
Division for Library Services
Madison, Wisc. 53701

Proposed Amendments to Proposed Amendments

The proposed changes in the SLA Bylaws concerning membership, which will be presented at the annual business meeting in Detroit, do not differ significantly from the proposal which was voted down a year ago in Montreal.

The main objection then was that certain sections of the membership requirements did not include any professional qualifications on the part of the applicant, but asked only that he hold a "professional position." *This objection still remains,* since the "new" proposals fail in the same respect.

Instead of the way it reads in the proposal, the requirement for Associate, Article II, Section 3(b), which covers the non-degree-holding applicant, *should* read:

> Has a professional position in a special library, does not have a four-year degree, but whose qualifications for holding such position are determined by the Association Committee concerned with membership to be of a professional nature.

To be consistent, the requirement for Member, Article II, Section 2(c), which also covers the non-degree-holding applicant, *should* read:

> Has at least seven years experience in a professional position in a special library, does not hold a four-year degree, but whose qualifications for holding such position are determined by the Association Committee concerned with membership to be of a professional nature. (One year of undergraduate college credit equals one year of professional experience.)

If the Bylaws Committee and the Board of Directors are serious about maintaining

meaningful professional qualifications for membership in SLA, it is difficult to see why they should find these simple changes objectionable.

Samuel Sass
General Electric Company
Pittsfield, Mass. 01201

For ease in comparison with Mr. Sass' proposal, the corresponding Sections as published in the Mar 1970 issue of Special Libraries *are reproduced below:*

Article II, Section 3(b)

Has a position in a special library, such position determined by review of the Association Committee concerned with membership to be of a professional nature.

Article II, Section 2(c)

Has at least seven years experience in a special library, determined by the Association Committee concerned with membership to be professional experience. (One year of undergraduate college credit equals one year of professional experience).

Discrimination on SLA Ballots

I question the legality, or perhaps constitutionality, of SLA's continuing practice of separating male and female names on its ballots. I have noticed this custom for several years now. Seldom do two persons of the same sex compete for election in the same slot. Is this a coincidence or planned to equalize representation in some fashion?

Catherine M. Brosky
Graduate School of Public Health
University of Pittsburgh
Pittsburgh, Penna. 15213

In 1968 a man and a woman were in the same slot; this seems to be the only instance on record. Does the Nominating Committee wish to comment? —ED.

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June 7–11, 1970
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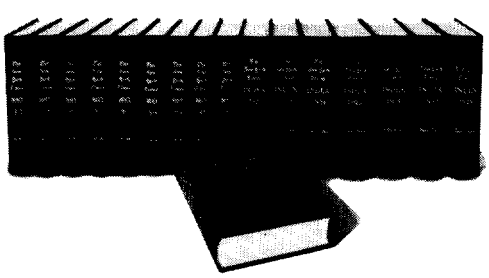


Data Processing Applications in an Industrial Library System

Irving H. Neufeld

United Aircraft Research Laboratories, East Hartford, Connecticut 06108

■ An account is given of some of the historical background leading to the adoption and development of data processing operations in the United Aircraft Library System. These operations are described and the rationale behind the particular approaches taken is explained. An attempt is made to evaluate the operational data processing applications, in terms of cost effectiveness, as a tool for general library management.

THE United Aircraft Library System first began to use automatic data processing equipment on a relatively small scale in 1963. Since that time, data processing routines have been put into use in an increasing number of applications until, at present, a very large proportion of the library system's operations involve the use of computers and related equipment. A review of these operations can be of interest to others who are using or considering the use of ADP equipment for library applications.

Historical Background

The United Aircraft Corporation Library System consists of a main library serving personnel in the East Hartford area, including the United Aircraft corporate headquarters, the Pratt & Whitney Aircraft Division, and the United Aircraft Research Laboratories. Three branch libraries within a 30 mile radius serve company personnel at other locations. In addition, cooperative programs are undertaken from time to time involving other company libraries at more remote locations. The library system staff numbers 35, and 9 of these positions are graded at the professional level.

The United Aircraft Corporation Library System is administered by the United Aircraft Research Laboratories which houses the main library. The Research Laboratories also maintain a large computing laboratory which provides data processing services to the library. The computing laboratory is equipped with a complex of third generation computers and ancillary equipment.

A brief review of some of the library systems which were in use in the early 1960's and of some of the problems related to these systems may be useful as background information.

Books and reports acquired for the library collections at that time were handled in essentially the same way. All were cataloged according to more or less traditional library descriptive and subject cataloging rules. A set of 3″ × 5″ catalog cards was produced from offset masters for each book and report. Library clerks would then underline the filing captions on these cards (subject

headings, authors, titles, etc.), and the cards were filed into the card catalog.

These cards were used also as the basis for a circulation control system. One card was included in each book and report, and when the item was charged out, the borrower's name and the date were written on the back of the card, which was then filed in a circulation file.

A great many problems developed with these systems. Here are some of them:

- Because an average of 7 or 8 cards were filed for each book and report, the card catalog began to assume the dimensions of a leviathan. At the time in question, there were more than 1,000,000 cards in the catalog.
- It became impossible, with a limited clerical staff, to keep up with the task of filing cards into the catalog and locating, removing and destroying cards for items which were discarded.
- Due to the large clerical requirements, it was not possible to prepare and send overdue notices on a regular basis by the manual methods required in this system. The inevitable result was that borrowers lost track of large numbers of materials which consequently could not be recalled when needed. Neither was it possible to produce a listing of books and reports charged to an individual when required—in case of a termination, for example.
- The complete record of books and reports in the library system was available only in the main library and not at any other location. This resulted in numerous phone calls from branch libraries and other locations to find out: *1)* whether a book or report was in the collection, and *2)* its current whereabouts.
- The filing and retrieval of reports under the alphabetic arrangement by corporate author and title then in use were extremely slow and difficult.

These are examples of some of the problems we were encountering—problems which did not appear to be amenable to solution by traditional procedures and which we tried to solve by the data processing techniques described in this paper.

Table 1. Selected UAC Library System Statistics, 1968

Reports Received & Cataloged	13,100
Books Received & Cataloged	1,964
Items Circulated*	46,297

* Does not include journals and periodical articles.

We had decided, in effect, to apply these techniques to the broad mechanics of general library operations, rather than to the development of more restricted applications such as a specialized information retrieval system, for example. We felt that the use of electronic data processing would enable us to provide improved library service to all users and potential users of the library system, while holding the library expenditures at their existing level, or if possible, even reducing them despite the exponential growth in the numbers and costs of technical publications and continually rising labor costs. It was also felt that it would be wasteful for us to duplicate the elaborate and expensive programs in information retrieval, machine translation, automatic indexing and the like which were being pursued under federal government sponsorship at academic centers and within the government agencies themselves.

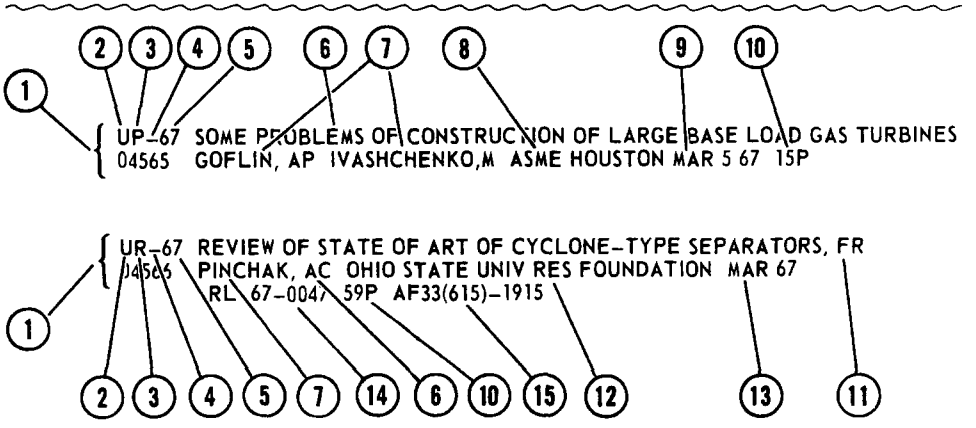
Technical Reports System

Under the heading of technical reports are included reports of research sponsored by the Department of Defense, NASA and other federal government agencies, as well as preprints of papers delivered at meetings of technical societies and other such publications. They form a very important part of the library collections because the research results are published in this form long before they appear in the so-called "open literature," that is, journals and books. Over 13,000 reports were added to the collections in 1968. (See Table 1 for selected UAC Library System statistics.)

All reports which are to be incorporated into the collections are processed in the main library's cataloging section.

For each report there is prepared a work sheet containing the complete cataloging and indexing data such as authors, titles, subject headings, report numbers, etc. An accession number (a sequential number with a prefix indicating the security classification of the report and the year it was added to the collections) is also assigned to each report title. All of the information in the work sheets is punched onto sets of cards in the computing laboratory. This input is then processed by the computer to produce the following:

- Offset masters for a biweekly reports announcement bulletin titled *Reports Received* (Figs. 1 and 2).
- A set of cumulative print-outs indexing the reports by corporate author, personal author, subject, title (Fig. 3), report number, AD number and contract number. These are printed on four-part paper to give us copies for distribution at several locations.
- One sign-out card for every copy of each report.
- A card for each report title which is



1. Accession Number
2. Security Classification
   U—Unclassified
   C—Confidential
   S—Secret
   N—Nato Classified
3. P—Preprint
   R—Report
   M—Microfilm
   F—Microfiche
4. Library Collection
   —Main Library
   R Main Library FOR REFERENCE ONLY
   C Corporate Systems Center
   E Electronics Dept., Hamilton Standard
   H Hamilton Standard
   M AMRDL Middletown
   S South Windsor Engrg. Facility, P&WA
5. Year Received
6. Title (may be abbreviated)
7. Personal Authors
8. Sponsoring Society (& meeting location)
9. Date (first day of meeting)
10. Paging
11. AR—Annual Report
    FR—Final Report
    PR—Progress Report
12. Corporate Author
13. Issue Date
14. Report Number
15. Contract Number

Cumulated indexes to reports listed are available at the Main Library and at branch libraries of the UAC Library System. These indexes are by TITLE, AUTHOR, SUBJECT, CORPORATE AUTHOR, REPORT NUMBER and CONTRACT NUMBER.

Fig. 1. Inside Front Cover of Reports Received **Announcement Bulletin, showing arrangment of entries**

used as a "shelf list" record, that is, a record indicating how many copies of the report we have and where they are located.

The print-outs are used by both library staff and clientele in much the same way that a card catalog is used. We have found that the title index receives especially heavy use by the staff to determine quickly whether we have a given title, and, if we do, the accession number under which it is filed.

The reports are filed by their accession numbers. The circulation control subsystem for the reports is based on the sign-out cards. Each time a report is charged out or returned, these transactions are recorded on reproduced cards in the computing laboratory. Included in the information punched on these cards is the name and location of the borrower, the copy number of the report, and a code for the due date.

As the normal loan period is two weeks, a computer run is made every other week to produce overdue notices. The program is set up in such a way that one notice addressed to the borrower lists all reports charged to him which are overdue. Delinquent borrowers receive two notices; if the material is not returned, the circulation librarian is alerted to follow up by getting in touch with the borrower.

Listings by borrower are produced periodically so that we always have a record available of all reports charged out to any individual.

It will be seen that this system goes a long way toward solving the problems we had encountered when using manual operations. With the use of data processing equipment we have accomplished the following objectives:

- The burdensome card filing task is eliminated.
- Access to recent reports is much faster because there is no delay while waiting for cards to be filed into a catalog. The print-outs are produced almost immediately after the reports are announced in the accessions listing.
- A complete circulation control record is maintained with overdue notices

17. MARINE TECHNOLOGY

UR-69 04791 HISTORY OF CHERNOMOR UNDERWATER LABORATORY PODRAZHANSKIY STEFANOV JOINT PUBLICATIONS RES SERVICE DEC 68 JPRS 47071 8P

UR-69 04792 INTERNATIONAL DECADE OF OCEAN EXPLORATION: OCEANIC QUEST NATL ACAD OF SCI-NATL RES COUN 1969 PR 183679 115P

UR-69 04793 MARINE SCIENCE AFFAIRS - YEAR OF TRANSITION, PR1 1967 EXECUTIVE OFFICE OF THE PRESIDENT FEB 67 157P

UR-69 04794 STUDY OF PRESSURE DIALYSIS + COUPLING PHENOMENA IN SYNTHETIC + NATURAL MEMBRANES, PR CAPLAN HARVARD UNIV JUN 69 7P+

18. SURFACE TRANSPORTATION

UR-69 04795 HIGH SPEED GROUND TRANSPORTATION: NOISE SOURCES DIETRICH BOLT, BERANEK + NEWMAN INC OCT 68 R 1741 48P

UR-69 04796 STUDY OF MAINTENANCE COST OPTIMIZATION + RELIABILITY OF SHIPBOARD MACHINERY BAZOVSKY MACFARLANE UNITED CONTROL CORP JUN 62 158P NONR37400(00)(FBM)

19. PHYSICAL AND CHEMICAL TOPICS

UR-69 04797 APPARENT RADIATION PROPERTIES OF ROUGH SURFACE HERING SMITH AIAA SAN FRANCISCO JUN 16 69 AIAA 69-622 11P

UR-69 04798 CHEMICAL EQUILIBRIUM OF ABLATION MATERIALS INCLUDING CONDENSED SPECIES STROUD BRINKLEY NASA AUG 69 NASA TND 5391 41P

Fig. 2. Sample Page from Reports Received Announcement Bulletin (offset master for reproduction)

sent on a regular basis.

- Complete information about the reports in the collections is available at several locations.
- The filing and retrieval of reports by accession number is easier and faster than with the previously used alphabetic arrangement by corporate author and title.

Book System

The methods currently in use for processing books are very similar to those used for reports, with minor differences because of the nature of the material. For example, in place of an accession number, each book receives a call number based on the LC classification system. This is done in part so that books on similar subjects may be grouped together on the shelves. Such grouping makes it possible for the library user to browse through the stacks and locate books in his area of interest. Because the user has no direct access to the report stacks, this is not necessary for the reports.

CORPORATE SOURCE INDEX PAGE A- 79

NEW YORK UNIV
UR-6901922 NUMERICAL SOLUTION OF TURBULENT BOUNDARY LAYER, PR
UR-6900326 REVIEW OF SOME PROBLEMS IN TURBULENT MIXING, PR
UR-6903573 SINGULAR + NONUNIFORM LIMITS OF SOLUTIONS OF BOLTZMANN EQUATION
UR-6900350 SLOT COOLING AT HIGH SPEED FLOW, PR
UR-6900659 STABILITY OF DISSIPATIVE SYSTEMS
UR-6900825 STABILITY OF RESISTIVE SHEET PINCH
UR-6901840 TWO LAYER ABLATION AT AXISYMMETRIC STAGNATION POINT, PR
NEWARK COLL OF ENGINEERING
UR-6900834 EFFECTS OF PARTIAL COHERENCE ON HOLOGRAPHY
NIELSEN ENGINEERING + RES INC
UR-6901728 CALCULATION OF COMPRESSIBLE TURBULENT BOUNDARY LAYERS WITH PRESSURE GRADIENTS + HEAT TRANSFER
NORTH AMER AVIATION INC
URH6901415 EARTHQUAKE PREDICTION FROM LASER SURVEYING
URH6904724 HUMAN RESPONSE TO RAPID RECOMPRESSION
URH6902486 INFRARED RADIOMETRIC STRESS INSTRUMENTATION APPLICATION RANGE STUDY
URH6901396 PRELIMINARY INVESTIGATION FOR ZERO-GRAVITY WATER SEPARATOR
URH6900893 RESEARCH + DEVELOPMENT OF NONDESTRUCTIVE TESTING TECHNIQUES FOR COMPOSITES, PR JUL 65-JUN 68
URH6904715 SHELL ANALYSIS MANUAL

PERSONAL AUTHOR INDEX PAGE B- 60

FORBES,N
UR-6902747 RESEARCH ON LASER MIRRORS, AR
FORD,AE
UR-6904454 WATER-AUGMENTED AIR-JET FOR PROPULSION OF HIGH SPEED MARINE VEHICLES
FORD,RA
UR-6901632 DEVELOPMENT OF AN INTEGRATED + MECHANIZED HIGH ENERGY FORMING MACHINE, FR
FOREMAN,KM
UR-6903258 TERRESTRIAL + MARTIAN AEROSOLS
FORESTIERI,AF
UR-6901842 ON RESOLUTION + IMAGE INTENSITY OF FIELD-ION MICROSCOPE
FORMAN,J
UR-6902437 SENSITIVITY OF THERMAL RECORDING MATERIALS TO CO2 LASER RADIATION
FORRESTER,AT
UR-6904058 ELECTRON BOMBARDMENT THRUSTER TECHNOLOGY
FORRESTER,JW
UR-6902545 PLANNING UNDER DYNAMIC INFLUENCES OF COMPLEX SOCIAL SYSTEMS

SUBJECT INDEX PAGE C- 36

ELASTOMERS-TESTING
UR-6903100 FLEXIBLE EXIT CONE DEVELOPMENT PROGRAM - MATERIALS EVALUATION TEST RESULTS
ELASTOMERS-USES
URM6901003 CARBON DIOXIDE SEPARATION BY SELECTIVE PERMEATION, FR
URK6902250 REVIEW OF DYNAMIC SEAL LITERATURE THROUGH 1967
UIH6900254 VITON AS IMPROVED ELASTOMERIC SEAL RUBBER FOR AEROSPACE VEHICLES
ELECTRIC ARC-PERFORMANCE
UR-6904267 HIGH PRESSURE AC ARC HEATER SYSTEM
ELECTRIC ARC-PROPLPTILS
UR-6903286 ON RETROGRADE MOTION OF ELECTRIC ARCS
ELECTRIC ARC-STABILITY
UR-6903713 ELECTROTHERMAL INSTABILITY - EXPLANATION OF MPD ARC THRUSTER ROTATING SPOKE PHENOMENON
UR-6903714 MEASUREMENTS OF PLASMA FLOW IN MPD ENGINE
UR-6903736 ONSET OF INSTABILITIES IN COAXIAL HALL CURRENT ACCELERATORS
UR-6903716 ONSET OF ROTATING DISTURBANCE IN INTERELECTRODE REGION + EXHAUST JET OF MPD ARC
UR-6903719 PROPERTIES OF ROTATING SPOKE IN UNSTABLE PULSED MPD ARC

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UR-6903910 DIGITAL COMPUTER SIMULATION: COMPUTER PROGRAMMING LANGUAGES
UR-6902387 DIGITAL DATA PROCESSING IN IONOSPHERIC SOUNDING, PR
UR-6901024 DIGITAL DEMODULATION WITH DATA SUBCARRIER TRACKING
URH6903491 DIPOLE SHUTTER: TRANSPARENCY FOR EYE PROTECTION
UR K6903553 DIPOLES WITH LOSSY STUB MATCHING NETWORKS
UR-6904371 DIRECT ANALYSIS OF PROPERTIES OF MOLECULAR OXYGEN IN HYPERVELOCITY FLOWS

UR-6903746 DIRECT LIFT CONTROL FOR APPROACH + LANDING
URH6902084 DIRECT LIFT CONTROL FOR THE LAMS B-52
UR-6902175 DIRECT OPTICAL READOUT, TRANSMISSION, + DEMODULATION AT HIGH DATA RATES, FR
UR-6902010 DIRECTION COSINE COMPUTATIONAL ERROR
UR-6904771 DIRECTIONAL CHARACTERISTICS OF LUNAR NIGHTTIME RADIATION
UR-6904606 DIRECTIONAL EMITTANCE FROM EMITTING, ABSORBING, + SCATTERING MEDI

Fig. 3. Corporate Source, Personal Author, Subject and Title Indexes

The circulation control system for books is almost identical to that for reports.

At the time of writing, all new books acquired for the collections are being handled in this way. We are still in the process, however, of incorporating some of the older books into this system.

In general, the same advantages apply to this system of processing books as accrue to the similar one for reports.

Periodicals

A periodical record is maintained on tape. This record contains the basic information about all the periodicals to which the library system subscribes. The following are some of the products obtained by means of various computer runs on this tape.

- Periodical holdings list indicating holdings of the main and branch libraries.
- Binding list.
- Current subscriptions with costs, expiration dates, etc.
- Listing of journals by 26 general subject codes.
- Periodicals on automatic routing.

Many other output listings can be and are produced from time to time from the master tape.

Punched cards are used to check in periodicals as they are received. A file containing one punched card for each copy of each periodical issue is maintained in the acquisitions section. Upon receipt of a periodical issue, the corresponding card is pulled from the file and inserted into the periodical which is then delivered to the next processing station.

Cards remaining in the file after the expected date of receipt of the periodical are used to produce claim notices requesting delivery of the missing issues. These are sent to the appropriate vendor or subscription agent.

Special Projects

Many programs are available for the manipulation of bibliographic data by computer. The UAC Library System has experimented with several of these from time to time.

The most recent example is a KWOC (Key Word Out of Context) index covering reports and journal articles in the field of lasers which were announced by the library during 1968. Two hundred copies of this listing have been made available to company personnel, and we hope to obtain some indications about the value of such special listings. Similar programs can easily be applied to other categories of materials at a relatively low cost if they prove to be useful.

Expanded Applications

As the data processing applications have been developed in the main library it has been found possible to apply some of these programs at other locations. For example, the Hamilton Standard Branch Library has recently begun to use the circulation control system as described above for books charged out from their collection. This is accomplished by means of a data link between the Hamilton Standard Division and the computing laboratory at the United Aircraft Research Laboratories.

Another example is the recently completed arrangement under which technical reports added to the collections of the Sikorsky Aircraft Division Library are being cataloged, indexed, and announced uniformly with those of the United Aircraft Library System. This will hopefully result in lower costs to the Sikorsky Aircraft Division, while insuring that reports coming into both systems are made available to interested technical personnel at all locations served by these libraries.

Costs and Rationale

In preparing this review, it was hoped to include some cost data which would permit comparison between the data processing applications described herein and other programs in library management and information handling. Unfortunately, meaningful cost data is very hard to come by in the literature, even

Table 2. Library Data Processing Costs and Computer Time, 1968

Library Labor (estimated)	$20,600
Computing Laboratory Labor Charges*	6,004
Computing Laboratory Material Charges	152
Total	$26,756
* Computer time, Univac 1108	48.36 hr.

in reports prefaced by such statements as *(1)*: ". . . we regard the sharing of information with other workers in the field of information retrieval, documentation, and library science as one of our most important responsibilities."

The report from which that statement is quoted was intended as a final review of MEDLARS, a system for preparing and publishing indexes to the medical literature. This 76 page report contains not one word about costs. A clue is available, however, in the report that MEDLARS II was begun with the award of a $2 million contract to Computer Sciences Corporation, Los Angeles *(2)*: "The contract includes the design, development, and program support for MEDLARS II but does not include the cost of an IBM 360/50."

Some interest has been expressed at the United Aircraft Research Laboratories in TIP (Technical Information Project), a physics literature handling system based on articles published in 25 (later 30) physics journals. This program was part of Project MAC at MIT. MAC is a multi-million-dollar computer time-sharing program supported by the Advanced Research Projects Agency with additional support from other government agencies. Several articles about TIP have been published, but we could not find any cost data. The physics literature promises to be well covered, however, since the National Science Foundation has granted funds to the American Institute of Physics to develop a national physics information system to serve the needs of U.S. physicists *(3)*.

The above-mentioned systems are special-purpose systems designed to perform rather specific tasks in well-defined subject areas. But the information requirements of the people served by the United Aircraft Library System are extremely varied, embracing not only the basic physical sciences and mathematics but also such technologies as high temperature materials, fuel cells, electron beam welding, life support systems, propulsion devices of all kinds, power production, and ranging even into such areas as long-range planning, economics, marketing, etc. The data processing applications in the United Aircraft Library System therefore, in contrast to the specialized programs mentioned before, were developed to serve as general library management tools designed to have the widest possible application while keeping costs down to a reasonable level.

While the costs of goods and services purchased by libraries have been increasing at inflationary rates, the United Aircraft Library System has succeeded in continuing to expand and improve services in the two years, 1967 and 1968, without any significant increase in expenditures. This record speaks well for the library management program of which the data processing applications are an essential part. They were developed at low cost, and operating costs are relatively modest (see Table 2). In terms of cost effectiveness, they appear to offer good value for dollars spent, and this is always the acid test in an industrial environment.

Literature Cited

1. Austin, Charles T. / *MEDLARS, 1963–67*. U.S. Dept. of Health, Education, and Welfare. Public Health Service. National Institutes of Health. National Library of Medicine. (Public Health Service publ. no. 1823) n.d. Foreword by Martin M. Cummings, M.D., p. iii.
2. *Special Libraries* 59: 459 (Jul/Aug 1968)
3. *Library Journal* 3076 (Sep 15, 1968)

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How the Birds (Pigeons) & Bees & Butterflies Do It

Avuncular Advice to A New Librarian . . . about to Talk to His Purchasing Agent . . . Who Has Already *Signed A Book Buying Contract*

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PURCHASING AGENTS everywhere have long been wont to consider the acquisition of books in the same routine channels as they would the purchase of erasers, pencils and toothpicks—and frying pans. Unfortunately, as we all know, this just ain't so.

Purchasing agents have a very great love for competitively-arrived-at contracts. They love *DISCOUNTS*. They have been directed to love discounts by state, county and municipal fiat, by federal regulations, and by the procedure manuals of industry. Rarely do they consider *SERVICE* beyond throwing a fish to the barking librarian in the form of a contract clause which stipulates "delivery within 45 days."

Jobbers are the boys who get the contract. (Except that there are good librarians, who adamantly insist that buying from the publisher, is both cheaper and faster. Let us not debate *that* point here!) A jobber must make a profit to exist. The profit must cover mundane items such as postage, insurance, promotional activities and interest charges to the banker who is staking him. Obviously the cheapest way a jobber can function is as a "drop shipper." This gentleman is ensconced in an office in a strategic city with a telephone. He has *no* stock; thus there is *no* capital invested, *no* interest to pay, and *no* warehousing costs. When an order arrives, he calls the local publisher's agent and says, "Wilbur, please send one copy of *Title X* to *Library Y*, and bill me." Note the elimination of part of the postage costs. When the bill from Wilbur arrives for *Title X*, the "drop shipper" adds on his profit and sends the new bill to *Library Y*. All neophyte acquisitions librarians should try a "drop shipper" once. Experience is a fine teacher.

Jobbers compete in allowing discounts in the expected manner. If a jobber has sufficient capital to order a large number of copies of one title from a publisher, he obviously receives larger discounts in the trade category and sometimes in the technical category. This advantageous position can lead to a nice bit of hanky-panky which delays deliveries to the library. A small jobber will wait to accumulate orders for a number of copies of a given title and then order them. Obviously if he starts his waiting process with *your* order, you are a dead pigeon* as far as your library patron is concerned.

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* TWENTY-THREE SKIDOO! We *do* agree with our avuncular author—but we wonder if our readers, born after 1940, recognize the usage of "pigeon"? Some intriguing usages appear in the *Thesaurus of Slang* / Berrey, Lester V. and Van den Bark, Melvin. N.Y., Crowell, 1949.—ED.

The publishing industry divides its output into three categories:

- Trade,
- Technical, and
- Text.

Trade books may be defined as books of general interest, including cook books, guide books, biographies, all-time classics, works of fiction and non-fiction, including the best sellers. Technical books may be defined as handbooks and other practical works of a technical, scientific, or business nature. Textbooks may be defined as educational books, college, elementary, and high school textbooks and professional books. Discounts given jobbers for trade books generally run from 40% to as high as 60%; for technical books the discount is generally about 32% and for textbooks about 20%.

The significant fact about this arrangement is that there is no way for a librarian—especially one ordering from announcements in *PW* or *LJ* or *Forthcoming Books*—to determine in which category the book ordered fits. Thus, he must take the word of the jobber as to its category; it is not unheard-of for the less than impeccable dealer to shift trade and technical books to lower discount categories on billing. Auditing large orders for this type of peccadillo is a Herculean and costly job. One randomly selected list of ten—that I checked sometime ago—yielded three which had "slipped." *Only if publishers could be compelled to insert category of books in* ***LJ*** *and* ***PW*** *at time of first announcement could this problem be overcome.*

So, you are a Federal librarian, who buys more than $2,500 worth of books a year and thus directed by law, 41 USC 252(C)(3), to go to competitive bidding, or you are an industrial librarian and the company president puts everything (including the daily newspaper) out for bids, what do you do?

- There is the all-purpose, everything-bid which binds the contractor to supply virtually every book a library orders at a flat discount (usually fairly low for a scientific library). This has been used in the Department of Defense.

- Next there is the GSA-type contract, with books in six categories: medical, technical, text, trade, paper-bound, and miscellaneous (generally from non-profit publishers). Here the library is not only exposed to the "slip" problem described above, but also, in many cases, faces the "Permanently Out-of-Stock" ploy. This latter move may occur when the contractor receives an order for a book for which his discount is so low that he is unable to supply the item except at a substantial loss (or if an order to the publisher is too troublesome).
- Another federal contract simply calls for "All Publications of Publishers Listed in *Publishers Trade List Annual,* excluding Legal and Medical, and exclusive of Mass-Market Paperback and non-profit material of Societies, Associations, and Institutions." Also excluded from this contract are such low discount publishers as Gale, Engineers Joint Council, Scarecrow, Special Libraries Association, Consultants Bureau, Edwards Bros. *et al.* It is interesting to note that this contract also includes most major English publishers since these firms all have outlets based in New York.
- A most intriguing contract is one currently in an experimental state at AEC. Among other things it calls for the provision of all items at wholesale to the jobber plus a flat figure of less than $2.00. The jobber retains all publisher's invoices available for audit at any time. The profession may hear more about this later.

Which of these contracts is the "best deal?" Sorry, there is no answer. If one could discover a well-managed jobber, capitalized so high that he could arrange to have at least five copies of everything in-print on hand at all times, with a

policy of shipment within 48 hours of receipt of order, we could do our best from the point of view of prompt service to the clients of our libraries. As for straight discount without consideration of service, I suppose the "drop shipper" would serve best. Most librarians settle for something in between.

Let Him Without Sin . . .

A word on behalf of the jobber! Failure to give prompt service is generally *not* the fault of the jobber who likes to sell as quickly as possible, so he can turn his money over rapidly.

First, there are the faults of the librarian! The jobber wants the correct information—no more, no less—author, full title, publisher, date. (For an obscure publisher, add the address of the publisher.) Be cautious when ordering from an advertising flyer. Actual publication date of the book may be months away. Remember, too, the mails can be slow. One jobber, 60 miles from New York City, surveyed his first-class mail arriving from New York City. It took from one to four working days for a letter to travel those 60 miles. From Washington, it was one to five days; from Chicago, three to seven. Obviously, it is economical for both you and the vendor to order a number of books at one time. Do your bit!

Next, there are the faults of the publisher! Remember the publisher may invest about $35,000 on a book without knowing if it will be a "turkey" or a "Portnoy's Complaint." There is a great tendency to be cautious in technical book production so to reduce chances for loss; many publishers bind as few as 500 copies, nearly all of which go out to jobbers on standing orders. These, of course, in many cases are gone in a hurry and your jobber has to report "Publisher Out of Stock—Indefinite." This means that the publisher has fed another batch of sheets to the binder and, lo, in six weeks to six months, you may receive your book. If one were to assign actual fault for delays, it would run like this:

1. Yours for ordering too late;
2. The publisher's for not sticking his neck out further;
3. The jobber's, Ditto.

In all seriousness, nearly 100% of all long delays, when dealing with a reputable jobber, are due to difficulties in the publishing plant.

Normal—Schnormal

If you are dissatisfied with your jobber, consider yourself normal. After a number of years of exposure to the errors of the computer and the humans in his office (they also occur in ours), and after you have been chewed out by your boss a few times for slow or non-delivery of a vital book, you may think that you are ready for a divorce.

My own advice is that if you are certain your jobber is honest and responsive, keep him. You will not do better elsewhere.

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Development of a National Information System for Physics

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■ A national information system for physics is being developed. It pivots on the design of a new classification system to be used in conjunction with free-language index terms. Author classification, indexing and abstracting are to be under the scrutiny of referees and editors. AIP journals are to be produced by computer-aided photocomposition. This tape has as a by-product the computer input about AIP-generated physics literature. Another by-product is input to *Physics Abstracts;* and in exchange, computer-readable information on non-AIP journals is to be obtained from *Physics Abstracts.* The computer store contains bibliographic information, classification, index terms, citations and possibly abstracts. From this store, published indexes and bibliographies, copies of computer tapes, remote on-line access to the computer store, selective dissemination of information, and demand searches can be derived.

ONE OF the most frequently discussed topics during the past decade has been the explosive growth of scientific literature and the vital need for improving its organization, accessibility and flow. These needs have promoted the implementation of several effective mission-oriented information systems by federal agencies. During this period, the concept that the National Science Foundation (NSF) would sponsor the development of non-federal, mainly discipline-oriented information systems *(1)* was also strengthened and widely accepted. This concept reflects the philosophy that the management of information systems ought to be entrusted to those organizations with professional responsibility for furthering the creation and dissemination of information *(2).*

The nature and function of the American Institute of Physics rather uniquely designated it as a logical organization to develop and manage a National Information System for Physics. AIP is a federation of the leading American societies in physics and astronomy. In addition to serving as the management headquarters of these societies, arranging meetings and providing educational services to the physics community, AIP is the largest single publisher of physics journal literature in the world. AIP publishes about 85% of the physics journals issued in the U.S. This primary publication program, supplemented with the Institute's translated journals, accounts for 35% of the world's physics journal literature. In no other discipline is the publication process similarly concentrated.

In addition to its extensive publication program AIP, with support from NSF, has had a continuing program of studies analyzing the information habits and needs of physicists *(3–6)*, the communication channels used by physicists *(7)*, existing innovative methods of information synthesis or "repackaging" *(8)*, and information production, organization and dissemination *(9, 10)*. These studies were preliminaries to efforts to establish a National Information System for Physics. Research studies continue to examine facets of the physics community, scientific literature and topics closely associated with the development of an effective national information resource and service. The development of this system is the responsibility of the AIP Information Division. The division is divided into three organizational units: Information Analysis, Computer Store, and Service Development. A fourth major area of the project, computer-aided photocomposition of primary physics journals, is conducted externally, on contract. The Information Analysis Section is responsible for the intellectual organization of the literature and the editing of system publications. The Computer Store Section is responsible for the input and maintenance of the information store as well as general programming. The Service Development Section conducts investigations of various aspects of the physics community the generation and utilization of information, maintains liaison with system users, does long-range planning, and product design.

The AIP Advisory Committee on the Information Program was established to serve as a guide and voice for the 53,000 physicists who are members of the societies affiliated with the Institute. To ensure practitioner interaction with the development of the system and services, three subcommittees were formed by the Advisory Committee. Each subcommittee has been so structured that its members are leaders in various subdisciplines of physics; that they are representative of scientific societies; and that they are each interested in the improvement of information organization and dissemination. Dialog with the physics community is further aided by more than 100 respondents selected by the committees. Respondents were selected to represent all subdisciplines of physics and also to be representative members of academic, governmental and industrial organizations. With this extensive network for communication, evaluation and feedback, the division has benefited from a steady exchange with the community during the concept and development phases of the system.

Organization of the Literature of Physics

In describing its plans for a future information system for physics *(11, 12)*, AIP felt that the crucial considerations were those concerning the flow of information: what information is channeled to whom, from which source, according to what criteria, and by whose decision. Since these questions were intimately related to the intellectual organization of the literature, extensive studies of existing classification systems were performed *(13–21)*. Work was begun on a classification scheme that would meet the requirements for a national system devoted to the discipline of physics. An early faceted classification scheme *(22)* was expanded and refined into a five-faceted classification scheme. This classification was tested by the system staff, by AIP editors and by the staff of *Physics Abstracts*. Two goals of the system are:

1. To provide authors with a classification scheme which can readily be used by them to classify their papers at the time that manuscripts are submitted, and
2. To provide concurrently a classification that can easily be manipulated by the computer to produce indexes, subject searches and similar services.

Therefore, after extensive evaluation and testing, it was decided that a less complicated classification could better meet these goals. In Nov 1968, the five-faceted classification was revised to two lists of

terms and a list of facet (role) indicators for each list of terms. The first list of terms describes 250 objects arranged in a multilevel hierarchy. The second list of terms describes 135 phenomena also arranged in a multilevel hierarchy. A list of facet indicators is given for each list of terms to describe the roles which are played by the object or the phenomenon. A classification number is constructed by choosing the appropriate facet indicators and by attaching them to strings of numbers selected from the appropriate lists of terms for the objects and phenomena. Characteristics of the present classification may be summarized as:

- A "neutral" matrix. The terms used are such that the classification is not weighted in favor of any subdiscipline. Physicists as well as scientists in other disciplines who require physics information can readily use the classification for either input or retrieval.
- Accessible across subdisciplines. Information is so organized in the current classification that requirements of any subdiscipline can be be met. The system contains the inherent potential for subdivision into several smaller systems, each capable of use for a different subdiscipline of physics.
- Convenient to use. There are only two lists to peruse. Although most of the terms used in the earlier five-faceted classification have been retained, and others added as dictated by experience gained in testing, the two lists are easier to use than five.
- Multi-utility for retrieval. The available depth of hierarchy is unlimited. Further, additions and deletions may be implemented without perturbing other parts of the classification than the immediate terms affected.

At present the classification is being tested and evaluated in five ways:

1. AIP journal editors are using the lists to classify journal articles on a test basis.
2. Articles in the primary AIP journals are classified and assigned descriptors by system staff.
3. Bibliographic data, classification, and descriptors are keyboarded and entered into a pilot store for test print-outs by computer.
4. Editors of *Physics Abstracts* are classifying an issue of their publication using the AIP classification and reporting their evaluation.
5. Randomly selected research articles are being classified by different groups of graduate physics students.

These efforts will be statistically analyzed and reported.

When a searchable, classified store is available, the store will be queried to test the effectiveness of the classification as an access route for the production of indexes, literature searches, profile matches for SDI, and other services such as a current awareness journal. Results of these evaluations, and others which may be performed by advisory groups, will be used to prepare the operative classification of the system, and its monitoring.

With the implementation of the operative classification, a concerted effort will be made to have authors who submit papers for publication to assign the classification numbers and descriptors to their papers before publication. We realize that this will require a lengthy educational and transitional period; however, it is a change which will be attempted over a reasonable period. The possibility of the classification of manuscripts before publication is enhanced because of the Institute's unique position as the major publisher of physics information as well as the developer and operator of a national physics information system. This unique feature of the AIP as both publisher and operator of the information system benefits the community in other ways. The most striking benefit of this dual role will be the announcement of new publications. If we accept the time required before author classification can be realized, the time lag in announcement of research literature can still be effectively reduced.

During the transition stage, the system staff will assign classification and descriptors to articles while these manuscripts are in galley proof. Galleys will be returned to the publication work flow without a delay of that function. At the page proof stage, page proofs will be sent to the system staff as well as to journal editors. The keyboarding for input to the information store will be at the page proof stage of publication. Thus, announcements of new research can be made at about the same time that the journal text is available. This expeditious announcement by the system will also speed announcement in secondary publications, such as *Physics Abstracts,* since input tapes will be exchanged with secondary publications thus eliminating delays due to repeated keyboarding.

Photocomposition

Rather than examining the flow of documents through the keyboarding and magnetic tape production, a more unique feature of the system warrants consideration. Utilizing basic computer-aided photocomposition capabilities, AIP is undertaking the computer-aided photocomposition of its journals. The magnitude of this undertaking may be better appreciated if one remembers that 85% of the total U.S. physics journal literature is involved. From Table 1 it can be seen that, while the membership of AIP is about one-third that of the American Chemical Society (ACS) or the Institute of Electrical and Electronic Engineers (IEEE), AIP publishes more pages than both societies combined.

Table 1. 1968 Membership and Journal Data

	AIP	ACS	IEEE
Members	48,683	126,269	186,298
Publications			
Primary Journals	20	20	36
Translated Journals	14	0	7
Editorial Pages			
Primary Journals	65,887	40,225	23,759
Translated Journals	26,065	0	9,979

In addition to the volume of literature involved, there are special problems to be resolved due to the nature of the text of physics research articles. The character set required for AIP journals is approximately 1,200 characters. For other journals (even other journals of a technical nature) a character set of 800 characters is ample. A fundamental requirement in this project is that the tapes generated in photocomposition keyboarding be suitable for computer search programs and generating typical print-outs required by the system. Considerable progress has been made although numerous problems remain for solution prior to complete capability to photocompose all AIP journals.

The benefits from successful photocomposition of physics journals will be numerous. For example, a single keyboarding will furnish:

- Bibliographic tape, with or without abstracts, for input to the store.
- Magnetic tapes for exchange with other societies and publishers, expediting broadcast dissemination while reducing keyboarding and related efforts on the part of the recipient.
- High speed computer generation of microcopy of either journal text or bibliographic data and abstract.

Additional editorial benefits are expected, but since these do not relate directly to the system, these are bypassed here.

Input to Information Store

New literature enters the store from three major routes:

1) Photocomposition of journals,
2) Journals printed by conventional methods, and
3) Tapes received by exchange from other publishers or societies.

This input flow is shown in Fig. 1. From this figure it can be seen that input to the store is made in different ways that depend on the type of media received:

1) AIP journals, printed in the conventional manner, are keyboarded at page proof stage.

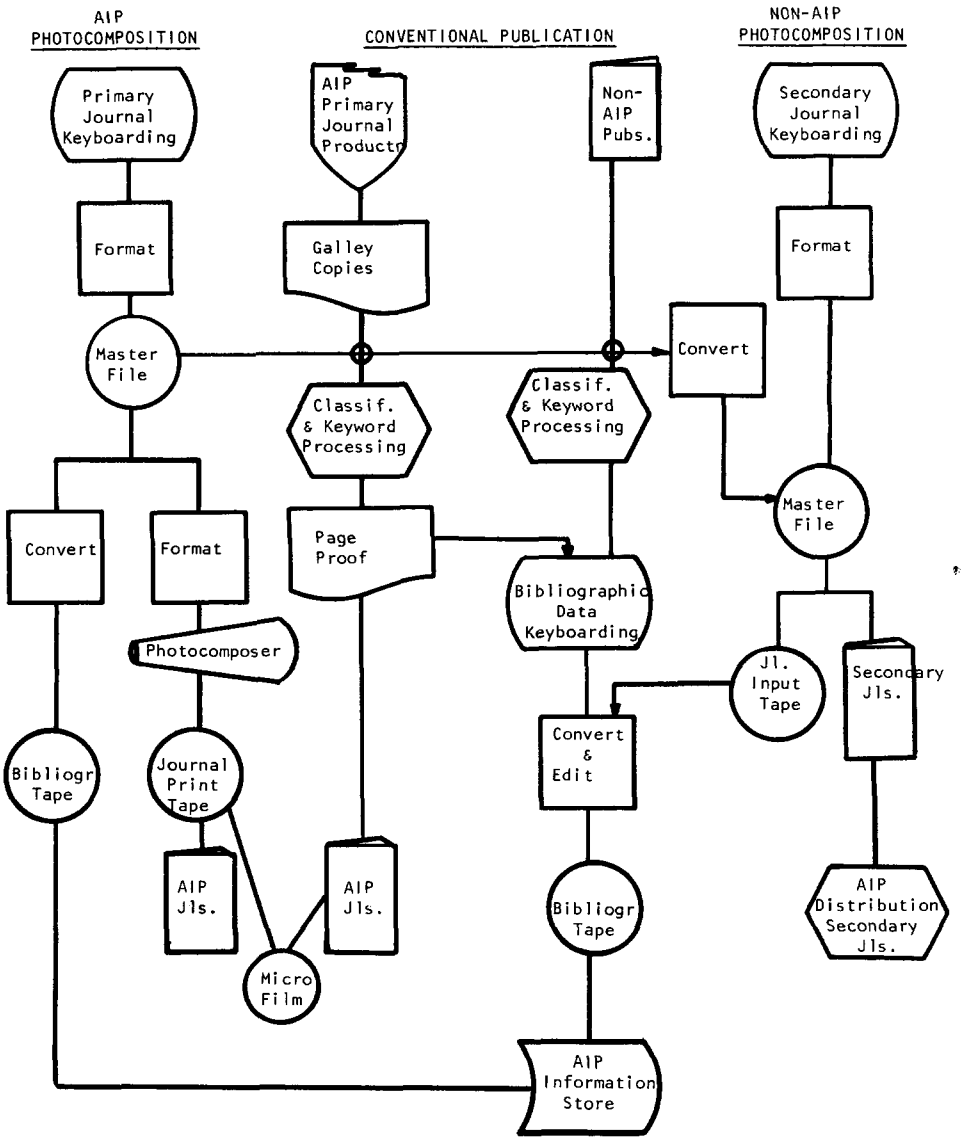

Fig. 1. AIP Information Store Input.

2) Publications of other publishers are keyboarded after classification.
3) Magnetic tapes with bibliographic data, either generated as a by-product of the photocomposition of AIP journals or received from other information sources, are processed through an edit and conversion program, and then entered to the store.

The AIP tape format was established after consultations with other societies, publishers and information system operators. The unit record (Table 2) has been established to attain maximum compatibility with other systems as well as flexibility.

In examining the physics journal literature, it was found that physics research literature was concentrated in far fewer journals than other disciplines. For example, to input 50% of the world's journal literature in physics, only 23 titles need to be reviewed. For similar

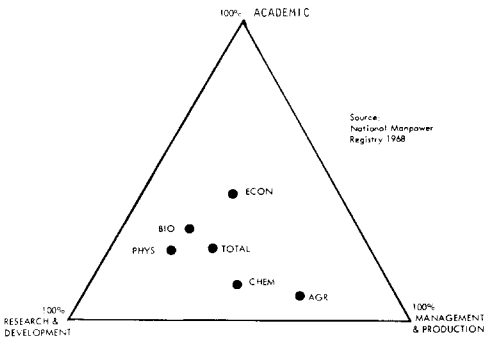

Fig. 2. Distribution of Scientists in Selected Disciplines by Principal Work Activity.

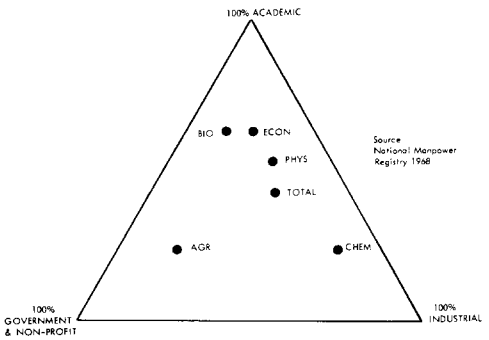

Fig. 3. Distribution of Scientists in Selected Disciplines by Type of Employer.

reporting of 50% of the research articles in chemistry, 275 journal titles would be required. AIP has projected an input for 1970 of approximately 26,000 articles; this represents 48% of the world's physics journal literature.

Users & Services

After a central information store has been established, what services are to be available? How can one identify the potential users of the system?

The National Register of Scientific and Technical Personnel, 1968 (23) was examined to determine where physicists are employed and their types of work activity. It was found that physicists are employed in academia more than the average for the total scientists; however, physicists are not as widely found in academia as biologists or economists, and are less industrially employed than chemists (Fig. 2). The physicist is more apt to be in research and development than in management and production (Fig. 3).

The organizational affiliation and location of authors who contribute to physics journals were studied. These findings generally supported the distribution of physicists by type of activity in that educational organizations accounted for 60% of the published papers. The most productive states are California, New York, New Jersey, Massachusetts and Illinois. While the operating structure of the AIP information system has not yet been specified, service to these centers of population and productivity will be a prime consideration. Division of the United States into regional areas based on these studies is in Fig. 4.

Services to be offered are planned in three stages. As services of one stage evolve from pilot production and field

Table 2. Unit Record for Items in the Information Store

1. Article Identifier:
   - Coden
   - Volume & Issue
   - Pages
   - (Year)
2. Title
3. Author(s)
4. Affiliation(s)
5. Classification Numbers
6. Free Language Descriptors
7. Abstracts
8. Other Elements (language, type of article, etc.)
9. Citations to Journals:
   - Author
   - Coden
   - Volume
   - Page
   - Date
10. Citations to Other Literature:
    - A ◆ r
    - Title
    - Publisher's Name
    - Publisher's Location
    - Publication Date
    - Page Number

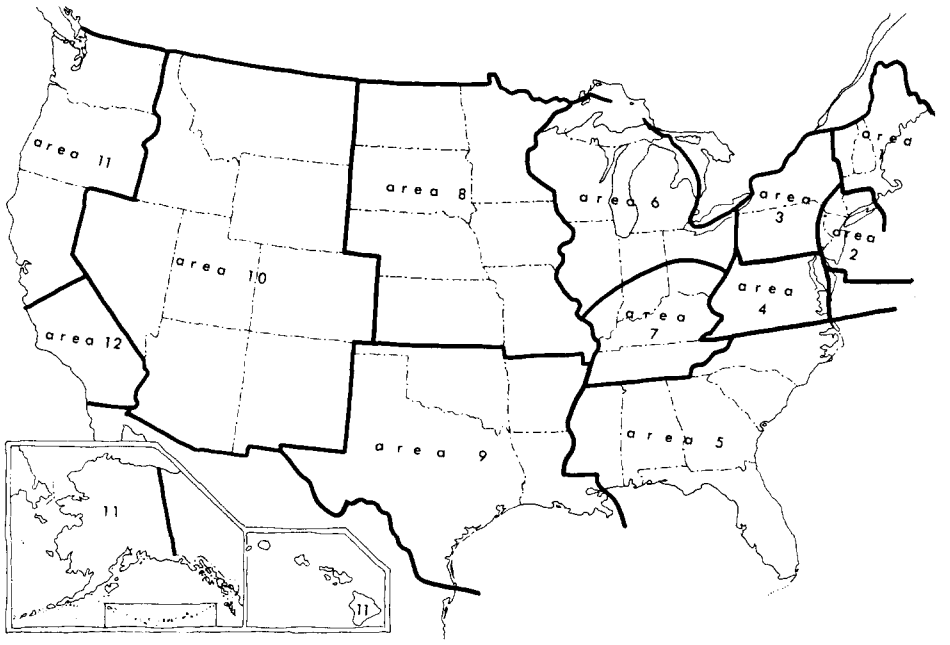

Fig. 4. Regional Service Areas Based on Sampling of Journal Articles.

JOURNAL ARTICLES PUBLISHED BY AREAS

Area	Total Papers	Education	Government	Industry
1	490	359	60	71
2	927	452	152	323
3	474	332	5	137
4	296	132	152	12
5	119	97	8	14
6	674	427	202	45
7	272	143	119	10
8	160	135	1	24
9	131	101	11	19
10	198	78	118	2
11	511	247	201	63
12	405	255	36	114

testing to full production, services for the next stage are being completed and pilot production begun. Services are designed to meet the needs of both the individual physicist as well as organizational groups. In the first stage, for example, a current awareness journal and selected subject bibliographies are planned for the individual. Search tapes offered would be to organizational subscribers. The services output from the store are shown in Fig. 5; dashed lines delineate services of the three stages of the system.

With a continuing interaction with the physics community by means of the various advisory committees and respondents, and through active participation in such national groups as SATCOM, COSATI and NSF/SIC, the AIP National Information System for Physics will be responsive to information requirements of the physicist. Through international exchange, the physics research literature of the world will be intellectually organized and disseminated in a more expeditious manner *via* information tools and channels that are developed in concert with the users of the system.

Literature Cited

1. The President's Scientific Advisory Committee / *Science, Government and Information.* Washington, D.C., The White House, Jan 1963.
2. Committee on Scientific and Technical Communication / *Scientific and Technical Communication. . . .* Washington, D.C., National Academy of Sciences, 1969. (Draft)
3. Slater, M. and Keenan, S. / *Results of Questionnaire on Current Awareness Methods Used by Physicists Prior to*

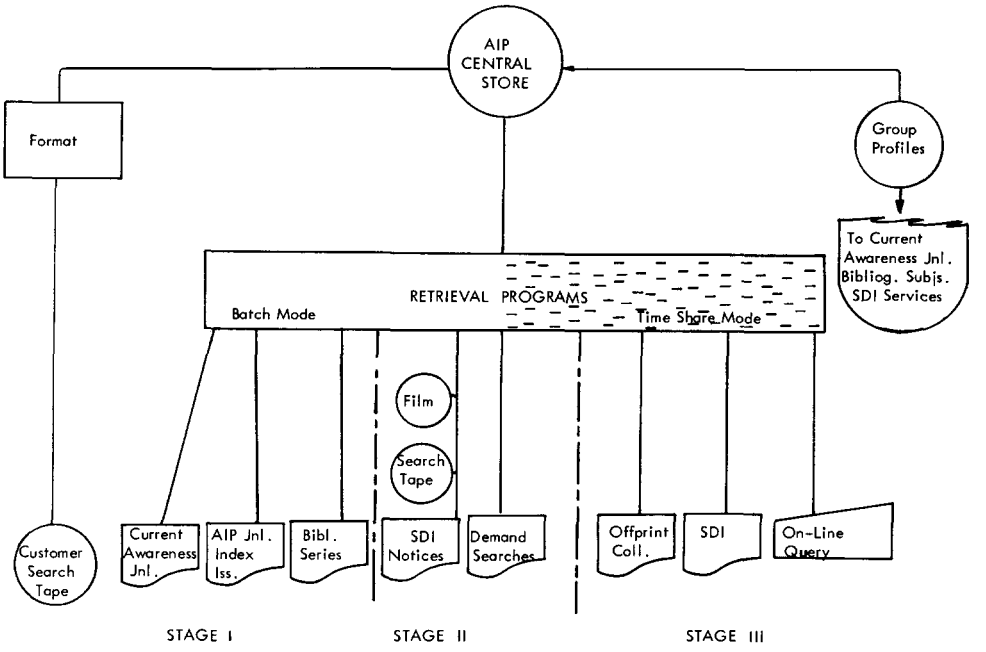

Fig. 5. AIP Information Store Output.

Publication of Current Papers in Physics. Amer. Inst. Phys., Rept. AIP/CPP–1 (Sep 1967) PB 178 368.

4. Slater, M. and Keenan, S. / *Current Papers in Physics User Study: Coverage Arrangement and Format.* Amer. Inst. Phys., Rept. AIP/CPP–2 (Jul 1968) PB 179 677.
5. Slater, M. and Keenan, S. / *Use Made of Current Papers in Physics.* Amer. Inst. Phys., Rept. AIP/CPP–3 (Jul 1968) PB 179 678.
6. Keenan, S. and Slater, M. / Current Awareness Needs of Physicists: Results of an Anglo-American Study. *J. Documentation* 24:98–106 (1968); also available as AIP Rept. ID 68–11.
7. Libbey, Miles and Zaltman, G. / *The Role and Distribution of Written Informal Communication in Theoretical High Energy Physics.* Amer. Inst. Phys., Rept. AIP/SDD–1 (Aug 1967)
8. Cooper, M. / Current Information Dissemination Ideas and Practices. *J. Chem. Doc.* 8:207–218 (Nov 1968); also available as AIP Rept. ID 68–15.
9. Keenan, S. / Abstracting and Indexing Services in the Physical Sciences. *Library Trends* 16:329–336 (Jan 1968); also available as AIP Rept. ID 68–7.
10. AIP Information Program Staff / Techniques for Publication and Distribution of Information. In *Annual Review Information Science Technology* 2:339–384 (1967); also available as AIP Rept. ID 68–8.
11. Alt, F. L. and Herschman, A. / *Plans for a National Physics Information System.* Amer. Inst. Phys., Rept. ID 68–6; PB 178 645.
12. Koch, H. W. / A National Information System for Physics. *Physics Today* 21:41–49 (Apr 1968)
13. Freeman, R. R. / *Research Project for the Evaluation of the UDC as the Indexing Language for a Mechanized Reference Retrieval System: An Introduction.* Amer. Inst. Phys., Rept. AIP/DRP UDC–1 (Oct 1965) PB 168 885.
14. Freeman, R. R. / *Research Project for the Evaluation of the UDC as the Indexing Language for a Mechanized Reference Retrieval System: Progress Report for the Period July 1, 1965–January 31, 1966.* Amer. Inst. Phys., Rept. AIP/DRP UDC–2 (Feb 1966). PB 170 436.
15. Freeman, R. R. / *Modern Approaches to the Management of a Classification.* Amer. Inst. Phys., Rept. AIP/UDC–3 (Oct 1966)

16. Russell, M. and Freeman, R. R. / *Computer-Aided Indexing of a Scientific Abstracts Journal by the UDC with UNIDEK: A Case Study.* Amer. Inst. Phys., Rept. AIP/UDC–4 (Apr 1967) PB 175 926.
17. Freeman, R. R. and Atherton, P. / *File Organization and Search Strategy Using the Universal Decimal Classification in Mechanized Reference Retrieval Systems.* Amer. Inst. Phys., Rept. AIP/UDC–5 (Sep 1967) PB 176 152.
18. Freeman, R. R. / *Evaluation of the Retrieval of Metallurgical Document References Using the Universal Decimal Classification in a Computer-Based System.* Amer. Inst. Phys., Rept. AIP/UDC–6 (Apr 1968) PB 179 637.
19. Freeman, R. R. and Atherton, P. / *AUDACIOUS—An Experiment with an On-Line Interactive Reference Retrieval System Using the Universal Decimal Classification as the Index Language in the Field of Nuclear Science.* Amer. Inst. Phys., Rept. AIP/UDC–7 (Apr 1968) PB 178 374.
20. Atherton, P., King, D. W. and Freeman, R. R. / *Evaluation of the Retrieval of Nuclear Science Document Reference Using the Universal Decimal Classification in a Computer-Based System.* Amer. Inst. Phys., Rept. AIP/UDC–8 (May 1968) PB 179 679.
21. Freeman, R. R. and Atherton, P. / *Final Report of the Research Project for the Evaluation of the UDC as the Indexing Language for a Mechanized Reference Retrieval System.* Amer. Inst. Phys., Rept. AIP/UDC–9 (May 1968)
22. IARD Staff / *A Faceted Classification Scheme for Physics.* Amer. Inst. Phys., Rept. IARD 67–2 (Oct 1967) PB 178 745.
23. *National Register of Scientific and Technical Personnel, 1968.* Washington, D.C., National Science Foundation, 1968. [Also in *Reviews of Data on Science Resources,* National Science Foundation, no. 16 (Dec 1968) Washington, D.C., NSF 69–5.]

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Map Collection Prepares to Automate

The U.S. Army Topographic Command Library

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■ Description of the present cataloging systems for maps, books, documents, and map reproduction materials in the Information Resources Division of the U.S. Army Topographic Command, formerly the Army Map Service Library; reorganization on the basis of function rather than type of material; plans and preparation for a single automated system in which format or type of material is subordinate to content. In conclusion, several recommendations are made for any library considering automation.

NATIONAL and international conferences of librarians, information scientists, cartographers, hydrographers, geodesists and geographers are devoting more and more time to the problems of how to make the rapidly expanding quantities of information in the fields of geography, geodesy, and cartography more readily available. Many recent discussions have been devoted specifically to maps, both to the use of computers in the production of maps and to the handling of them in libraries or map collections.

The British Cartographic Society *(1)*, the Soviet All-Union Conference on Automation and Mechanization of Cartography *(2)*, the Ninth International Hydrographic Conference *(3)*, and the International Cartographic Association *(4)* —to name only a few—have published papers in the last few years on various aspects of automation and maps.

In the United States there is, of course, a great deal of activity and interest in automation of map libraries. In Nov 1968, a conference on *Automation in Federal Map Libraries* was held at the Library of Congress. Of most probable interest is the progress being made on the Automation Project in LC's Geography and Map Division where the MARC II format is being adapted to catalog single maps.

The U.S. Army Topographic Command has been working for several years on preparations to automate its library. Various phases of the program have reached different stages of development. This report is a brief review of the procedures we are following and the kinds of problems we have encountered in laying the foundations for automation.

The Army Map Service (now TOPOCOM) Library was developed through the years from a relatively small collection of maps to an organization with a staff of about 150, a collection of more than 1½ million maps, one million pieces of film (reproduction material or "repromat" sometimes referred to as manuscript), 120,000 books and periodicals, and about 30,000 documents.

The library was structured along classical lines based primarily on the types of material handled. There were four distinct libraries: the **Map Library** itself, **Repromat Library, Book Library,** and **Document Library**—each with its own system. Although the four libraries were under a common administration, and although acquisition and interlibrary loan functions involved all types of material, there was very little interface among the four collections.

Each "library" had its own cataloging system. The **Map Library** which used EAM equipment) had developed a punched card system based on the Williams System *(5, 6)* (designed in 1929 for the War Department General Staff Map Collection which in 1942 became the Army Map Service Library). The Williams System originally used a 4″ × 6″ card with printed headings (Fig. 1). A master card was typed and then run through a duplicating machine using different colored card stocks to produce cards for the various files: Geographic Area, Subject, Scale, Date, Special Number, Authority, Source, M.I.D. No., Obsolete Number, and Daily Record.

When the files were converted to Remington Rand 90-column punched cards in 1945, the same basic system was followed, but some of the written information such as geographic area and authority were converted to numeric or alphanumeric codes. The 30 subject numbers (often referred to as the Williams Classification) that Williams had used only in the call number for filing maps were now used without the written headings. Other elements such as date and scale were already numeric *(7–10)*.

The **Repromat Library** is a file of reproduction materials (facsimiles of map sheets on stable base materials). For each map sheet the repromat material consists of a set of "pulls" or photographic films, one for each color that appears on the map. The printing plates are made from these pulls. The files are arranged by series and sheet numbers. The records were originally on 90-column punched cards but are now on magnetic tape. From this tape a semi-annual tabulation of repromat material and monthly supplements are prepared. The information shown for each sheet of repromat material includes the series and sheet number, agency, the number and kinds of film, date and edition. In addition to the tape there is a file of 5″ × 8″ cards which serve as a manual index to the files and as a circulation record (Fig. 2).

The **Book Library** followed traditional cataloging rules, using LC classification and subject headings with some modifications.

The **Document Library** had developed an entirely separate system using a 3″ × 5″ form card (Fig. 3). The subject heading numbers were taken from the *Intelligence Subject Code (11)*. This is a six-digit code made up of a single-digit for chapter number, a two-digit number for major subject class and a three-digit subject subdivision within each class. The seven chapters are: Politics; Social and Cultural Forces; Science and Technology; Commerce, Industry, and Finance; Transportation and Communications; Commodities and Weapons; and Armed Forces.

A Duplimat master is prepared by the cataloger and reproduced on pre-printed card stock, eight cards to a sheet. The cards are cut apart and are filed in separate files by AMS number, geographic area and subject, source or originator, report number, title (if distinctive), and security classification.

The four libraries were physically separated from each other and also separate from the **Interlibrary Loan Section** in the **Services Branch.** Each had its own receiving procedures, its own catalogers and card files, its own charge-out system, its own reference personnel, and issued its own accessions list. The **Army Map Service Library** had official responsibility for topographic maps and related data for DoD. The relationship of the related data to the maps had not been emphasized. Although the whole field of topographic mapping covers a wide range of related subjects, nevertheless in the whole field of knowledge, it is a rather specific sphere. All the information in

Fig. 1. Williams System Card (4″ × 6″)

	Outline of Title			
Country	Authority		Old File No.	
Filed as	Date	Scale 1:	Negative	Store Room
Exact Title Shows				
Source M.I.D. No. Remarks			Received No. Sheets Copies Total Sheets Date of Survey Compiler or Publisher	

REPROMAT CONTROL RECORD

SERIES	SHEET NO	NAME			
SCALE	COUNTRY		EDITION		DATE
SETS RECEIVED	DATE	NEG	POS	OTHER	SOURCE
REMARKS					

DATE OUT	P O NUMBER	UNIT	INITIALS	DATE IN	INITIALS

Fig. 2. Repromat Control Record (5″ × 8″)

AMS	AREA	ACC DATE
SOURCE SOURCE NO		REPT DATE
TITLE SUBJECT		
INCL	NO P. P.	CLAS

Fig. 3. Document Catalog Card (3″ × 5″)

the AMS Library was more or less directly related to that sphere.

We had learned through experience that, although a user sometimes wanted a specific kind of material (such as a map or a technical report), more often his requirement was for all the information—graphic or textual—available on a geographic area or a particular subject. Yet in order to get information or materials on one subject, a researcher had to go to the **Book Library, Document Library, Map Library,** and **Interlibrary Loan Section.**

In addition to the inconvenience to the users, such compartmentalization fostered specialization of the library staff and inhibited flexibility. It was difficult, if not impossible, to transfer personnel from one library branch to another. Not only was super-specialization developed on the job, for example, map catalogers, book catalogers, and document catalogers were familiar with entirely different systems and procedures, but there were several different Civil Service Series Classifications represented on the Library Division Staff. Librarians, Intelligence Specialists, and Translators were not interchangeable. In place of one rather extensive career ladder, there were several rather limited ladders—all mutually exclusive.

Who Doesn't Have a Complex Problem? Or Its Solution?

As the library grew larger and more complex, the problems also increased. The time and attention of the library administrators were turned toward solving these problems. They felt that a more efficient organization could be developed if the library were reorganized on functional lines, with all related activities coordinated and if a single system were developed that could be applied to maps, books, and documents. The application of automation to library operations had been developed by this time to a point that indicated it might be a help in developing a unified system.

Early in 1965, several library committees were appointed—each one representing several branches of the library, different points of view, and a total of 70–80 man-years of professional experience. Functions, procedures, materials, and files of all elements of the library were analyzed in detail with a dual purpose: 1) to recommend an improved organizational structure, and 2) to determine whether a single automated system could be developed that might provide the answers to many of the perplexing questions that were becoming more urgent every day.

In Feb 1966, one series of meetings culminated in the preparation of a combined subject code and alphabetical index based on the headings then in use for cataloging maps, books, and documents. By March, basic agreement had been reached on rules for establishing authorities. In April, a tentative data sheet was ready for testing. By May, tentative plans had been drawn up for automation and reorganization of the Library Division.

In Jun 1966, a contract was awarded to North American Aviation Corporation, now North American Rockwell (NAR), to analyze all mapping, charting, and geodetic activities of the Department of the Army and to design a total ADP system to be coordinated with other ADP systems of the Department of Defense.

Representatives of NAR studied all phases of our library operations. They frequently sat in on library committee meetings concerned with data elements, card formats, etc. and acted in an advisory capacity. The library committee would indicate what characteristics were absolutely essential to carry out our mission and functions. The contractor would indicate what additional features could be provided and which desirable but not essential features could be added easily to the system, and which would be too cumbersome or too expensive to be practical at the present time.

To implement a single system in which format or type of material would be subordinate to content, the whole concept and structure of the library had to be changed. The trend in DoD and, indeed, in the government as a whole, had been toward specialization. No one organization could hope to keep up with the rapidly increasing masses of information in more than a relatively narrow field. This trend toward specialization has led to a need for subject specialists in the library field, and to the establishment of information centers in place of or in addition to traditional libraries.

The Civil Service Commission series for professional librarians makes no provision for automation. Computer specialists and programmers as well as systems analysts are in an ADP series; but any library developing

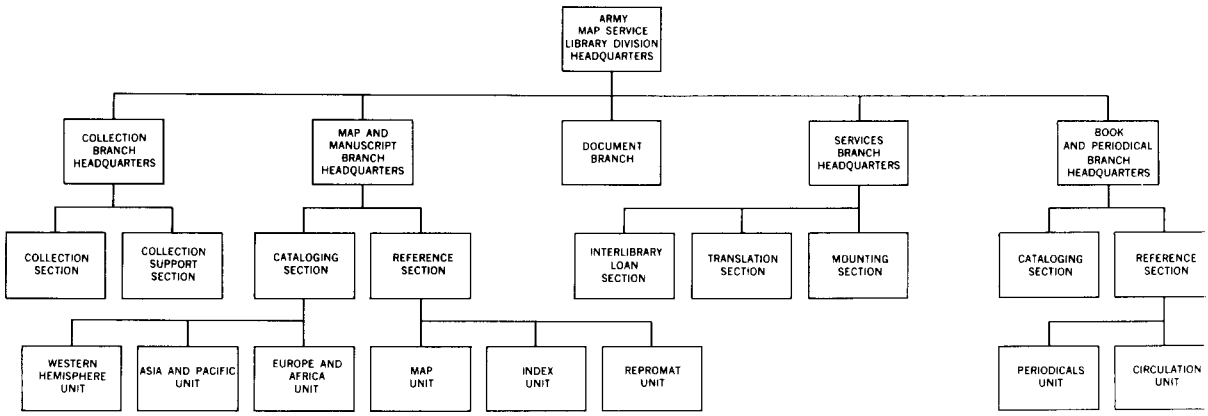

Fig. 4. U.S. Army Map Service Library. Organization Chart (before May 1968)

ADP operations needs qualified personnel versed in a combination of library science, information science, and ADP. In addition, the special librarian also needs some subject matter knowledge. Fortunately the Civil Service Commission has created the Technical Information Specialist Series, which bridges the gap between the professional librarian and the subject specialist on the one hand and the ADP specialist on the other. Converting all the professional staff of our library to the Technical Information Specialist Series seemed to offer a solution to the problems of inflexibility and stunted career ladders.

The question arose then: If there were no more librarians, would there be a library? The answer to that is *Yes* and *No*. *No*—if library means the classical library that had been the only kind of library in the past. *Yes*—if library is considered as a broad term to cover all types of collections of information. Actually some people, such as Mr. Skelton of the British Museum, object to using the term library at all in connection with maps. They feel that library implies a collection of books, and that a map "library" should be called a map collection. Certainly at TOPOCOM the emphasis is not on books. Emphasis is on maps and related data. The related data can be in the form of books, but it may also be in the form of journal articles, documents, photographs, and any other information media.

In addition, the traditional library functions such as cataloging and classification are changing. We are not concerned so much with accurate bibliographic descriptions of books and maps. We are concerned with analyzing any sources of map-related data and making available to our users the information that is of specific interest to them.

The changes in concepts and functions of the Army Map Service Library are reflected in its reorganization which actually took place in May 1968 (Figs. 4–5). The name has been changed to Information Resources Division, and the structure, with one exception, is based on function. The exception is the **Repromat Section** which is still responsible for all functions connected with reproduction materials.

The **Collection Branch** continues to handle all acquisition functions, but the receiving function previously performed in the **Collection Branch** has been combined with the receiving functions from the **Book Library,** the **Document Library,** the **Map Library,** and the **Interlibrary Loan Section,** and assigned to the **Data Records Unit** in the **Services Section.**

Separate cataloging systems are continuing temporarily for maps, books, and documents, but all cataloging is now done in the **Analysis Branch,** and all the cards for unclassified maps, books, and periodicals are now in one room.

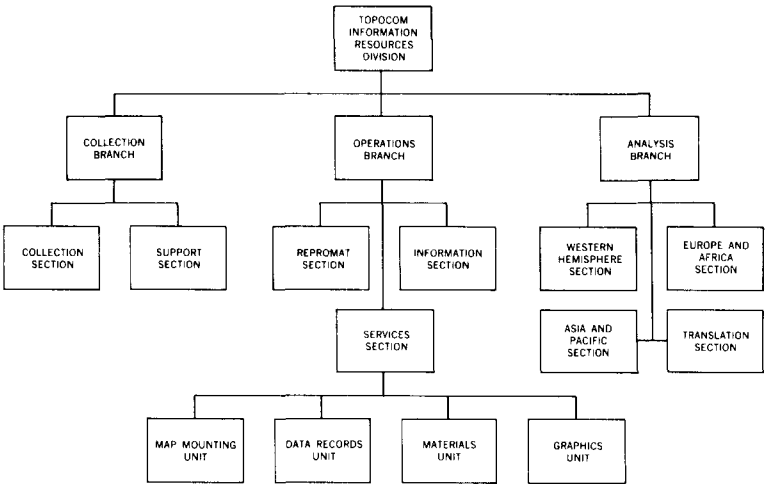

Fig. 5. U.S. Army Topographic Command, Information Resources Division. Organization Chart (after May 1968)

A single loan record has replaced the three circulation forms previously in use, and all circulation, filing, and shelving are the responsibility of one element in the **Services Section.**

All reference services have been combined with the interlibrary loan function and are handled by the **Information Section.** The changes that have already taken place and the service projected for the future are illustrated in Figs. 6–8.

Key personnel from the **Library** or **Information Resources Division** have been working with the contractor for several years on the details of the new system. Specific codes had to be considered and in many cases developed for each data element.

In designing a data sheet to be used in providing input to the new system, it was first necessary to decide what data fields were needed and to define each field. In examining the cataloging systems for maps, books, and documents, we found amazingly few data elements that were unique to only one type of material. There were some differences in essential elements especially between maps and texts. There were also some differences in terminology for the same concept. For example, the "author entry" on a book card was equivalent to the "authority" on a map card and the "source" on a document.

Subject headings, geographic areas, and authorities or organizational entities are three of the major data fields that required coordination and coding. Subject headings and geographic areas have been developed as two parts of a common thesaurus with a common program which is now on magnetic tape. A print-out can be produced in either an alphabetical or hierarchical arrangement. In the alphabetical print-out each heading is followed by its broader term, narrower terms and related terms if any. Definitions or scope notes are included in many cases.

The present TOPOCOM code for map authorities will be used for all organizational entities. Rules for establishing authorities *(12)* have been written, but will be expanded to include rules for individual authors, whose names will not be coded.

Far more difficult to resolve than the question of what data elements were needed was the problem of how the various elements should be arranged on the data sheet and in the card files. At first we attempted to group the elements common to all types of material at the beginning of the data sheet, and to put the

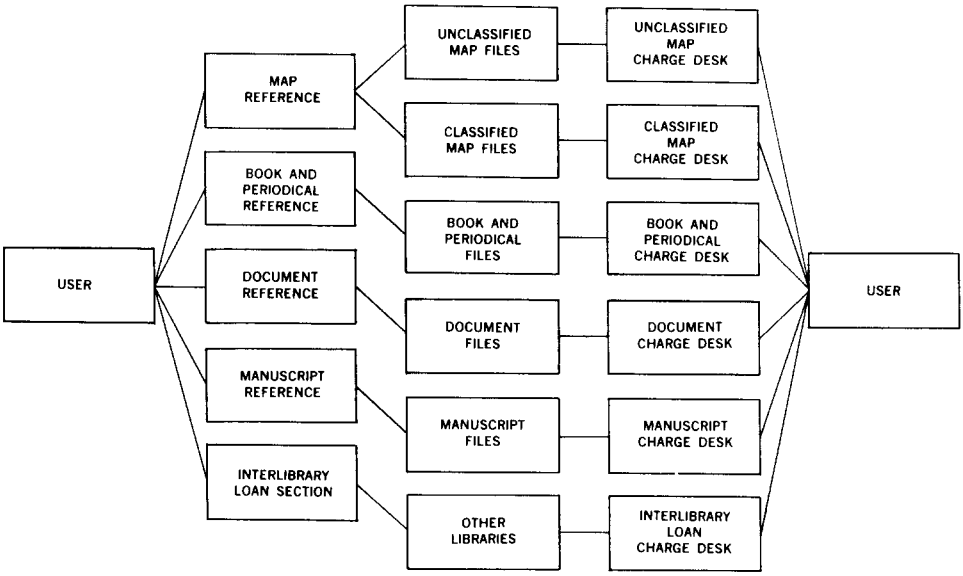

Fig. 6. User Contact with AMS Library

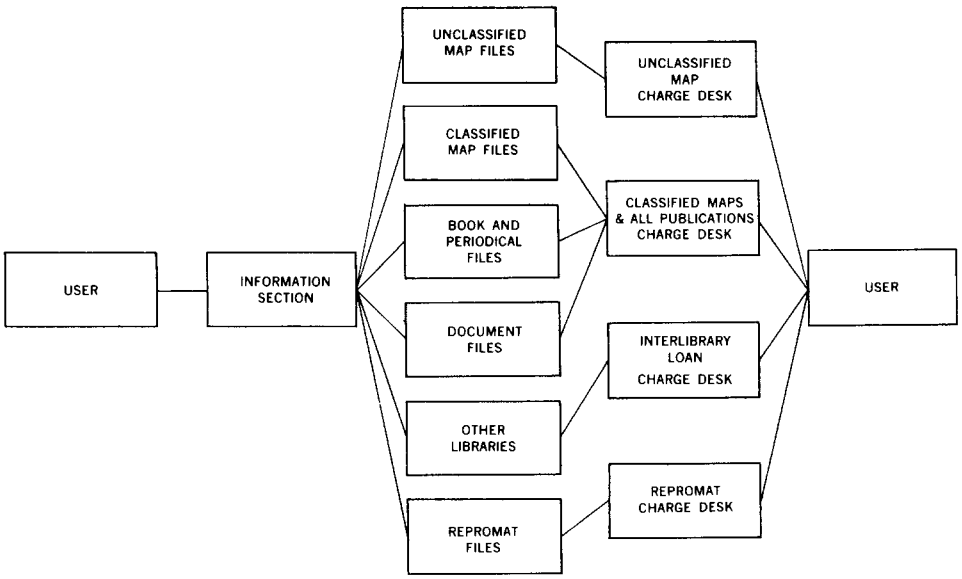

Fig. 7. User Contact with TOPOCOM/IRD Today

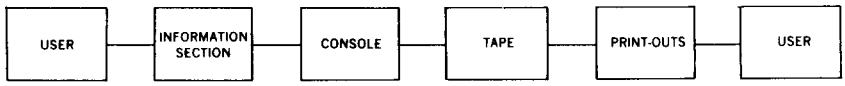

Fig. 8. User Contact with TOPOCOM/IRD in the Future

fields applicable to only one type of material at the end. This proved impractical. There was a tendency at first to be unduly influenced by punch card formats and their limitations.

Eventually, the fields were grouped by a combination of criteria: first the importance of the field to TOPOCOM, which resulted in putting geographic area and subject as the primary fields. Secondly, data fields were grouped according to whether they are applicable to groups of material or to individual items. The upper portion of the data sheet that finally evolved (Fig. 9) contains what we call the master data fields. These are the elements that are generally common to all sheets of a map series, all volumes of a series of reports, all issues of a periodical, all editions of a monograph, etc. The master

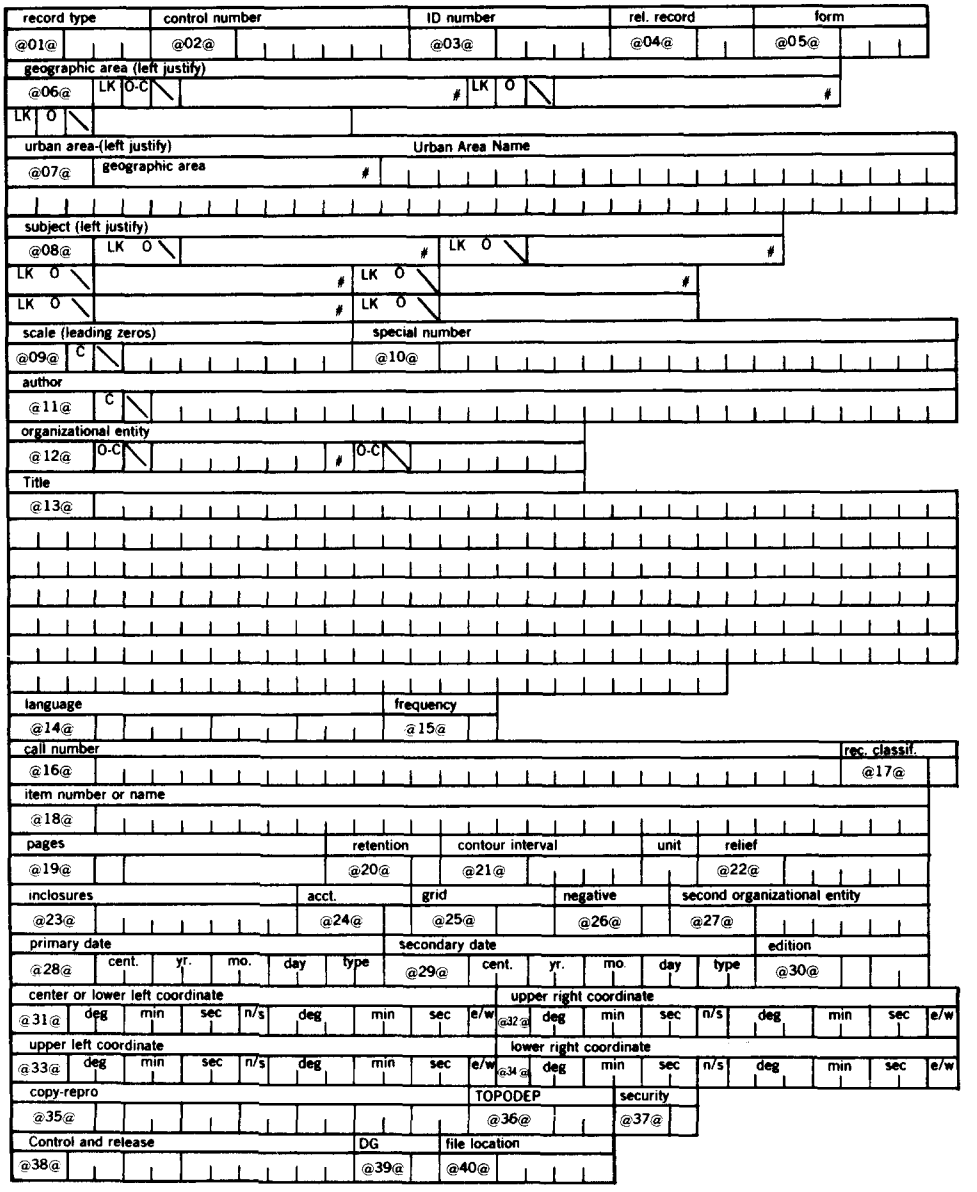

Fig. 9. Catalog Data Sheet

data elements are the geographic area, urban area, subject, scale, series or special number, organizational entity or author, title, language, frequency, control number, and form (Data Fields 1–17).

The lower part of the data sheet and card will be for specific information on each item, that is, each map sheet, individual book, periodical issue, etc. Item information will include such data elements as ID (for identification) number, item number or name, date, edition, paging, inclosures, geographic coordinates, security and control, type of reproduction, number of copies, file location, etc. (Data Fields 18–40). The control and ID number will appear on each piece of material. The control number will apply to all parts of a series. The control and ID number together will provide a unique identification of each item in the collection.

In addition to specific data elements and their arrangement on the card, it was necessary to decide what kinds of card files, accessions list, query responses, and other possible outputs would be needed.

A 5″ × 8″ card to be computer generated was designed. The appropriate heading for each file will be added at the top of the card. The same format can be used for text; for example, an issue of a periodical.

In most instances where information is coded, the code is given on the card in parentheses and is followed by the heading in clear text. In some files only master information will be shown; in others each individual item will be described. The codes used in these samples are not necessarily authentic.

The design logic and flow charts for computer operations are available in the TOPOCOM Library. These charts include Area-Subject Cards, Control-ID, Organizational Entity-Author, Urban Area, Scale, Special Number, and Title.

Specific queries will probably be answered from the card files. For general queries, the requester will be able to ask for either master or item information arranged in a variety of ways. If the number of responses to any query is greater than a specific number, this will be indicated so the query can be modified. If the number is not too high, the records will be printed out in a predetermined format.

North American Rockwell's contract was renewed to Oct 1969. At that time a detailed report *(13)* was submitted defining and describing all data elements, inputs, outputs, files, logic, and conversion tables for the new system, and recommending a pilot test using a 10% sample of the holdings in order to evaluate the design of the system and confirm it as operational or modify it before converting the entire Topographic Command Collection.

Conclusions

1. A thorough detailed analysis of every procedure in the present system including the reason for every action, its present importance and probable continued importance is essential in order to make an efficient evaluation of the system and to determine whether automation is desirable. If the decision is made to automate, the analysis will help to achieve an effective automated system. If the decision is not to automate, the analysis may suggest improvements in the manual system.

2. The mission and functions of the library should be considered. If the present procedures are satisfying the requirements, there may be no advantage to automating. Factors to be considered are the degree to which the present system is satisfying the requirements; the additional accomplishments, if any, to be achieved by automation; the extent to which these added benefits would justify the extra costs inherent in automating; and whether a computer is already available for library use.

3. Cooperation between librarians and systems analysts familiar with "hardware" and "software" will probably produce a better system than one designed by a computer specialist who is not familiar with the library—or a librarian who is not familiar with computers.

4. As much flexibility as can be built

into a system without making the costs prohibitive should be provided to take care of the changes that will almost inevitably have to be made when the system is in operation and to prepare for future developments.

5. Procedures, codes, input forms, programs, etc. should be tested as they are developed. Sample outputs should be prepared, preferably by the personnel who will be operating the system. All library elements concerned, especially cataloging and reference personnel, should have an opportunity to evaluate the outputs and add the benefit of their knowledge and experience to the development of the system.

6. As a new system is developed it should be completely documented. Decisions should be recorded and dated as they are made. Terms should be defined. Specific instructions should be written for both the cataloger and the computer. An alphabetical index to any non-alphabetical data code makes it easier to use and may reveal duplications.

7. Designing an automated library system and putting it into operation is likely to take more time, money, and personnel than anticipated. When such a system is developed, it is usually a long-range project, and if it is worth doing, it is worth doing well enough to achieve the best system possible.

Presented at a Workshop for Map Librarians sponsored by the Geography and Map Division on Jun 3, 1969 during SLA's 60th Annual Conference in Montreal. Miss Murphy *is chief of the Information Section, Information Resources Division, U.S. Army Topographic Command.*

Literature Cited

1. Proceedings of the Symposium of the British Cartographic Society. University College of Swansea, 17–19 Sep 1965. *Cartographic Journal* 3. (no. 1) (Jun 1966) p.9–13.
2. All-Union Conference on Automation and Mechanization in Cartography. *Geodesy and Aerophotography* Engl. ed. (no. 4, 1967) p.244–256 (Apr 1968).
3. Moitoret, Capt. V. A. and Johnson, Norman E. / Automation of Hydrographic Source Data. *International Hydrographic Review* 45: (no. 1) p.7–20 (Jan 1968).
4. International Cartographic Association. Meeting of Commission III. *Surveying and Mapping* 38: (no. 3) p.493–94 (Sep 1968).
5. *Terrell, Lt.Col. J. P. *The Williams System of Classification, Cataloging, Indexing, Filing, and Care of Maps as Adopted for the General Staff Map Collection.* 2d ed. Washington, 1930. 26p.
6. Murphy, Mary / The Army Map Service Library—Map Cataloging. *Special Libraries* 36: (no. 5) p.157–59 (May/Jun 1945)
7. *U.S. Army Map Service Library. *Guide to the Williams System Map and Engineer Plan Subject Classification and Cataloging in Use at Map Library, The Army Map Service.* revd. Feb 1952. (Washington, D.C.) 49p. mimeographed.
8. **Guide to the AMS Library Map Subject Classification System* (revd. Jan 1960) 65p.
9. *U.S. Army Map Service. Library Division. *Guide to the Map Accessions List.* Washington, D.C., 1964. 18p.
10. *U.S. Army Map Service. Library Division. *Automation of a Map Library* Part I. Sep 1966; Part II. Nov 1967.
11. United States Intelligence Board. Committee on Documentation. *Intelligence Subject Code and Area Classification Code.* 4th ed. Mar 1967, v.p.
12. *U.S. Army Topographic Command. Information Resources Division. *Rules for Establishing Authorities.* revd. Aug 1968. 22p.
13. North American Rockwell Information Systems Company. *Topographic Data Library System* (DACA 71-69-C-0106) 15 Oct 1969, Washington, D.C. v.p.

* Unpublished papers available in the TOPOCOM Library.

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MARC Tape as a Selection Tool in the Medical Library

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■ A research project is described for determining if the Library of Congress MARC tape can be used economically as a selection tool. A manual system for searching LC proofslips and preparing purchase orders is described and compared to a mechanized system which performs the same task using the MARC tape. The unit costs of the two systems are compared in order to answer the question of the economy of using the MARC tape as a selection tool.

UNTIL quite recently acquisitions librarians in medical libraries have assumed that mechanized procedures are limited to generating purchase orders, acquisitions records, and fiscal reports. It seemed too much to ask of the state-of-the-art that a solution be found to the problem of the tiresome search through the spectrum of selection tools for new titles to add to the collection. This situation has changed somewhat with the advent of Project MARC at the Library of Congress. The "communications format for bibliographic data" developed during Project MARC opens several avenues of research in the mechanization of selection techniques used in acquisitions departments.

Purpose of This Research

At the Washington University School of Medicine Library (WUSML) an effort has been made to determine the possible cost benefits of using the MARC tape in the Acquisitions Department as a selection tool. Although at least two other medical libraries, the Countway Library of Medicine at Harvard and the Yale Medical Library, have been experimenting with applications of the MARC tape in acquisitions, the Library of Congress has reported that costs have been difficult to determine *(1)*. Determining costs at WUSML has been accomplished by calculating the relative costs of a set of manual procedures and a set of mechanized procedures.

In concentrating on the costs of the two systems, the author does not mean to imply that other elements are less important than cost for evaluation of a system. Although assessing the costs of manual and mechanized procedures can be quite complicated, cost was selected for this research because it is the most quantitative and objective measure of a system. Other elements, such as reliability, growth potential, and product flexibility, are highly subjective and not good candidates for research objectives *(2)*.

Manual System

The set of manual procedures begins with the arrival of a complete set of

proofslips from the Library of Congress (Fig. 1). The acquisitions librarian studies each proofslip and selects the ones representing potential acquisitions for the Medical Library. The selected proofslips are then manually searched against the card catalog and the acquisitions files. This leads to discarding the proofslips for those publications already in the library or on order.

Each of the remaining proofslips is marked with a record number and the name of the vendor from whom the publication is to be ordered. Using the proofslips as source documents, a keypunch operator prepares punched cards with specific bibliographic information in specific positions. From these cards a five-part purchase order is automatically typed on an IBM 870 Document Writer within the Medical Library. The punched cards are later used as input to the library's computer-based acquisitions catalog system *(3)*. Each proofslip is kept on file by the acquisitions librarian until the corresponding publication is received by the library. The proofslip is then slipped into the publication and passed on as an aid to the cataloger.

Mechanized System

In a fashion somewhat similar to the manual system, the mechanized system begins with the weekly arrival of the MARC tape from the Library of Congress (Fig. 2). The MARC tape is submitted to the Computer Center where it is processed on an IBM System/360 Model 50 computer. The processing is under the direction of a program written in the Operating System version of PL/1. This

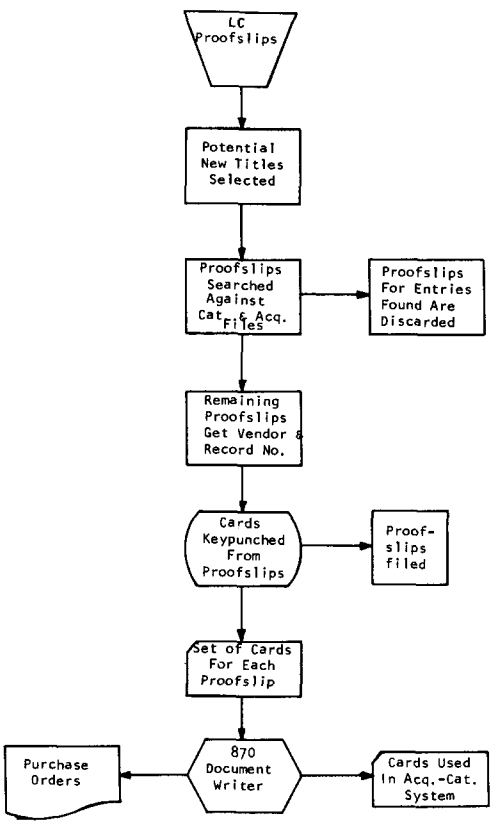

Fig. 1. Diagram of the Flow of Work, Information, and Paper in the Manual System.

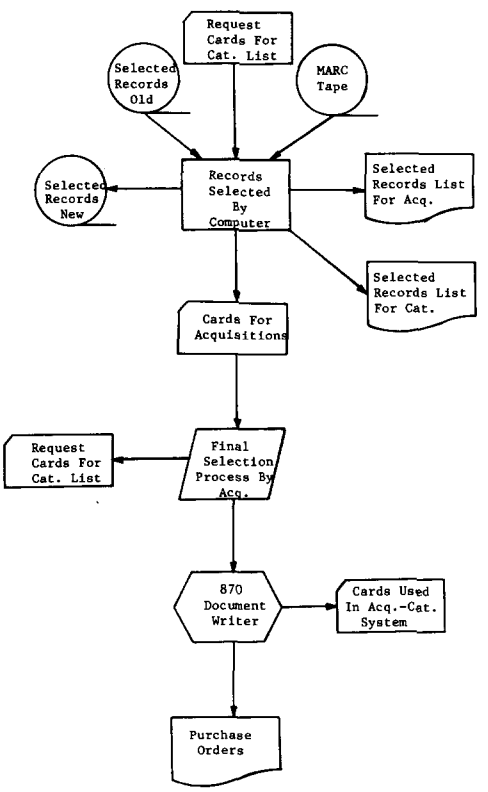

Fig. 2. Diagram of the Flow of Work, Information, and Paper in the Mechanized System.

programming language was selected for three reasons. First, it was the language most familiar to the programmer. Second, PL/1 has an excellent capacity for manipulating characters, either as individual symbols or joined together as strings. This capacity is obviously necessary when bibliographic records, such as those on the MARC tape, must be examined and restructured character by character. Third, a PL/1 program can be written, debugged, and changed at least 25% faster than programs written in any other high level language.

The computer, under the direction of this PL/1 program, performs these tasks:

- Searches the MARC tape for those records representing publications that are potential acquisitions for the Medical Library. The records are selected by comparing the LC Classification Number in each record to a list of classification numbers provided by the acquisitions librarian. This list is taken from both the **Q** and **R** classes and can be easily changed to reflect the changing needs of the library.
- Processes each record that satisfies the search criteria and thereby provides three different products:
  —Listing of each selected record in the same format and sequence as on the MARC tape. This listing is used by the acquisitions librarian for making the final selection of titles to be purchased.
  —Magnetic tape file of each selected record in the same sequence as on the MARC tape. This file is used by the cataloger to get a listing of the records for publications which are ready for cataloging. Since this listing is used as an aid to cataloging and therefore requires careful study, the format of the records is changed to increase readability.
  —Set of punched cards for each selected record. The cards are punched in a format compatible with the library's computer-based acquisitions catalog system.
- Selects and prints from the tape file produced on earlier computer runs a listing of those records needed by the cataloger as an aid to cataloging.

There are normally only two points where human intervention is necessary in this mechanized system. The first point occurs where the records selected by the computer must be searched against the card catalog and acquisitions files—even this intervention would not be necessary if the magnetic tape files from the library's computer-based acquisitions catalog system were compatible with the tape files of this system. Only after the search can the punched cards generated by the computer be used to prepare the purchase orders on the 870 Document Writer. The second point occurs where the cataloger needs a listing of the records for publications which are ready to be cataloged. This listing is requested by submitting cards from a computer-generated file of punched cards encoded with the LC Card Number and main entry of each publication ordered.

Manual System Costs

The operating costs of the manual system during the period of this research (Jan 1–Jun 30, 1968) are as follows:

Salaries (this figure is an estimate based on a weekly average of 2 hours of professional time and 5 hours of nonprofessional time devoted to the duties of this system)	$500
Keypunching (at $3.00 per hour)	216
Machine time. IBM 870 Document Writer (at $1.50 per hour)	18
LC proofslips, cut & punched ($20.00 per month)	120
Supplies	50
Total	$904

Since 1,008 titles were ordered from the proofslips during this 6 month period, the unit cost is approximately $0.90 per title.

Mechanized System Costs

The costs of the mechanized system are in two main categories:

Development Costs (these figures are estimates based on personnel time and machine time):

Programming & system design time (6 weeks)	$ 900

Machine time.	
IBM 1401 (at $20.00 per hour)	10
IBM System/360 Model 50 (at $275.00 per hour)	756
Keypunching (at $3.00 per hour)	12
Supplies (includes one reel of MARC test tape)	40
Total	$1,718

Operating Costs (these figures are estimates based on current prices and salaries and projected Library of Congress English cataloging rate for operating the system over a 6 month period; it should also be noted that these are projected estimates and are not based on operational experience as a participant in the MARC Pilot Project):

Salaries (this figure is an estimate based on a weekly average of ½ hour of professional time and 1½ hours of nonprofessional time that will be devoted to maintaining this system)	$129
Machine time.	
IBM System/360 Model 50 (at $275.00 per hour)	403
IBM 870 Document Writer (at $1.50 per hour)	17
MARC tape (at $600.00 per year)	300
Supplies	40
Total	$889

Using data gained from the study of the manual system in operation for 6 months, the mechanized system is expected to yield purchase orders for approximately 3.5% of the records on the MARC tape. With English language cataloging at the Library of Congress proceeding at the rate of about 1,000 titles per week, this means that the Medical Library will order 840 titles semiannually through the mechanized system *(4)*. Amortizing the development costs over a 5 year period and adding them to the operating costs as suggested by Fasana *(2)*, we get a unit cost of approximately $1.25 for the mechanized system.

Conclusion

This paper has attempted to show that when the MARC tape is used as a selection tool in the Medical Library, the unit cost of the mechanized system will exceed by approximately 38% the unit cost of the manual system. Although cost is only one of several elements used in evaluating a system, it would be difficult to justify implementing a mechanized system costing 38% more than the manual system. All is not lost, however, if we consider the effect on unit cost of sharing the subscription cost of the MARC tape with two other libraries. This cooperative venture, with each library doing its own processing, would decrease by two-thirds the cost of the MARC tape to the WUSM Library and reduce the unit cost to $1.01 per title (this unit cost excludes the expense of transporting or mailing the MARC tape within the group of participating libraries). This figure exceeds by only 10% the unit cost of the manual system and would not be a prohibitive factor to implementing the mechanized system. The unit cost would be reduced still further—though not so dramatically—as the number of records on the MARC tape being processed by the computer increased.

Acknowledgements

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Literature Cited

1. Library of Congress. Information Systems Office. / *The MARC Pilot Experience: An Informal Summary.* Washington, Jun 1968. p.14.
2. Fasana, P. J. / Determining the Cost of Library Automation. *ALA Bulletin* 61: 656–661 (Jun 1967)
3. Moore, E. A., Brodman, E., and Cohen, G. S. / Mechanization of Library Procedures in the Medium-Sized Medical Library. III. Acquisitions and Cataloging. *Bulletin of the Medical Library Association* 53: 305–328 (Jul 1965)
4. Library of Congress. Ref. *(1)* p.4.

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Book Reviewing Media for Technical Libraries

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■ Selection aids are essential for the building of high-quality book collections. The best type of selection aid is the book review. Publications which publish reviews of new technical books for scientists and engineers are compared and evaluated. The ideal reviewing journal provides critical reviews of all books—good, bad and indifferent—written by subject specialists, and publishes these reviews at the same time as the books are published. A proposal for producing such a journal is presented for consideration.

ONE CRITERION by which a library is judged is the quality of its collections. No matter how well the library is administered, budgeted and operated, and no matter how good are its services, all is for naught if its collections are not of adequate quality, sufficient and appropriate to the aims of the library's sponsors and the needs of its clientele.

Since no library, even the very largest, can collect everything, some selection—more or less—must be made from the vast bulk of material pouring off the publishers' presses. It, therefore, follows that the selection process is of the utmost importance.

Let us then examine the tools available for the selection of new library material and, in particular, scientific and technical publications. These are of two kinds:

- Detection aids, and
- Evaluative aids.

Detection aids are book lists which make the librarian aware of the existence of new books. Some examples are the *Cumulative Book Index,* the "Weekly Record" in *Publishers' Weekly* and the *Monthly Catalog.* These provide the usual bibliographical data, as well as other information useful for ordering books, but give no descriptions or annotations of any consequence. They are not of much value as selection aids, except for large libraries.

Evaluative aids make appraisals and/or recommendations either in the form of an annotation or a critical book review. They provide information which helps the librarian decide if a book is worth buying or not. To make such a decision, at least two factors must be considered. One is the suitability of a book for a specific type of reader or library, and the other is an analysis of the quality of the book's contents for the purpose of determining how good the book really is. The best source of information of this kind is the book review, preferably a critical review written by a qualified book reviewer.

The book reviewing media now available consist of two kinds. One is the book review section in a scientific or trade periodical; the other kind is found in journals devoted solely to the pub-

lication of book reviews. Examples of the first type are the book review sections which appear in *Chemical and Engineering News, The Franklin Institute Journal,* and *Mechanical Engineering.* Reviews appearing in these and other magazines are written by subject specialists who are qualified to point out both unfavorable as well as favorable qualities, and to make judgments of high standards. They can be, at their best, excellent and authoritative, although in fact their quality varies considerably. They have, however, several drawbacks. They are inconvenient to use, since it is necessary to consult a number of periodicals in order to find reviews in various fields. Some fields are poorly covered. Another serious problem is that the reviews do not appear when the books are published, but frequently much later. One survey of a representative group of trade journals showed that a majority of reviews appeared four months or more after publication of the books *(1).* Another survey revealed that 18% of a group of books had been reviewed within four months of publication and 60% within seven months *(2).*

Reviews which appear so late are of little value for selection purposes. They should appear as the books are published or at least within a month or two, at the most, after publication *(3).*

Probably one major reason for the delay in publication is the result of the mechanics of book reviewing. Most periodicals do not have reviews written by members of their own staff, but by individuals who have other jobs and who review books as a part-time activity. Books must, therefore, be mailed to the reviewers. After the reviews have been written, they must be returned to the magazines for editing and publication. This procedure obviously takes time. Delays may also occur because reviewers must wait for an opportune moment in their busy schedules to do the work.

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We are concerned here with publications designed for research and industrial libraries in all areas of science

and technology. They include *Technical Book Review Index, New Technical Books* and *Aslib Book List.* These publications review books intended mainly for professionals and specialists; specifically, scientists, engineers, designers, research workers, and teachers. Books on an elementary level for children or for popular use are rarely found, although books for college students are more frequent, particularly on the upperclass undergraduate and graduate levels. For this reason we do not discuss such magazines as *Science Books,* which is published for the use of elementary and high school libraries or *Choice,* which is geared to the needs of college libraries.

■ *Technical Book Review Index* (published monthly except July and August by the Special Libraries Association) reprints excerpts from reviews which have appeared in the scientific and trade periodicals. It also cites the publications from which the excerpts have been taken, so that the complete review may be consulted if desired. This is a convenient and time-saving tool. However, since these reviews must necessarily appear in *TBRI* after they have been published in the original periodical—about two months after—it means that the time lag between review and publication is increased. This time lag may be anywhere from six to nine months—or more. *TBRI* would then appear to have its major value as a reference source for the evaluation of books

which have already been purchased, rather than as a selection tool for newly published books.

■ *New Technical Books* (published monthly by the Research Libraries of The New York Public Library) is an annotated list of currently published books in the physical sciences, mathematics, and engineering. Books in the fields of biology, medicine and pharmacy are not included. Only books in English are reviewed and they are arranged according to the Dewey Decimal Classification. The annotations are, mainly, descriptive with recommendations of reader or library suitability. Critical notes on the literary quality and treatment may also be given, including evaluations of the bibliography, references, illustrations and index. Critical remarks on the technical quality of the book are not usually made. The table of contents is reprinted in full, in most cases, as well as the usual bibliographical data, with price and Library of Congress catalog card number.

The annotations are written by librarians on the staff of the Science and Technology Division of The New York Public Library after examination of review copies received from the publishers. The reviews are prepared for publication as soon as they are received; the reviews are published, in most cases, though not all, within a few months after the books are published.

■ *Aslib Book List* (a monthly British publication) is similar to *New Technical Books*. This Aslib publication lists new books in all fields of science and engineering with annotations. Only books in English are reviewed. The arrangement is according to the Universal Decimal Classification. The annotations are descriptive with occasional critical remarks on style or content. A novel feature is the use of symbols to indicate the level of reader suitability. Each entry includes the usual bibliographical data, price, and other information. The books are examined by subject specialists or special librarians, who select for review only those books they consider to be superior. As expected, coverage of books published in Great Britain is especially good, although books published in the U.S. are also included.

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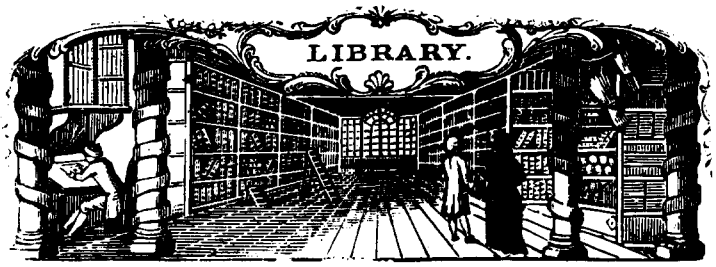
Examples of reviews as published in the three review journals are given here. One book was selected and reviews in each of the three publications were found.

Since no recent data could be found in the literature on the time lag between the publication dates of books and the appearance of reviews, we made our own brief survey. Of 25 books reviewed in both *New Technical Books* and *Technical Book Review Index*, 21 (84%) appeared in *TBRI* an average of 5 months later than in *NTB*; 4 (16%) appeared in *TBRI* one month earlier than in *NTB*. Since most reviews in *NTB* are published about 2 or 3 months after publication of the books, these figures would indicate that the results of earlier surveys *(1, 2)* have not changed during the past 20 years.

A study of these publications indicates the three essential qualities an ideal book reviewing medium should have. *First, comprehensiveness of coverage.* All scientific and engineering disciplines should be covered, as well as all books—both good and bad—in these disciplines. If a book is not reviewed, there will be some question whether it was not reviewed because it was not worth reviewing or for some other reason. *Second, critical reviews by qualified reviewers.* Critical reviews can help librarians make a really discriminating decision on whether or not to buy a book and thus save money. *Third, promptness of publication.* Reviews should appear at the same time as the books, so that librarians will be able to obtain copies of the books they need as quickly as possible. None of the reviewing publications now available combine in one publication these three desired qualities. The next step in the development of reviewing media should



Review reprinted in *Technical Book Review Index* (Nov 1968)

Candlin, John Patton, and others.

Reactions of transition-metal complexes. 483p. 1968, Elsevier, New York, $30.

Chemistry in Britain. Sept. 1968, p.409. 3/5 col. "Authors, mainly through lack of selectivity, have tended to over-reach themselves . . . Book comprises two major and one minor part . . . First part deals with the mechanistic aspects of the characteristic reactions of transition metal complexes and crams into some 200 pages, with a breathless style . . . a treatment that is unable to compete with some of the recognized texts already available . . . Second part, instead of applying the classification of reactions already introduced, considers the reagents according to their chemical type . . . Third section deals with the preparation of new organic systems. To those people who believe a textbook should provide something more than a comprehensive catalogue this will be a disappointment." M. L. Tober.

Original review in *Aslib Book List* (Aug 1968)

Candlin, J. P., Taylor, K. A. and Thompson, D. T.

Reactions of transition-metal complexes. Amsterdam, London, N.Y. Elsevier, 1968. xvi, 483p, tables, digrs, refs, indexes. 190s.

C This text designed particularly for research workers is on a subject which is of considerable complexity and which has expanded greatly during recent years to become one of considerable technological importance. The first part discusses systematically the different types of reactions which can be undergone by ligands, the second part describes the reactions of various reagents towards transition metal compounds, and the last, briefer section deals with new organic ring systems which are stable only as ligands.

The letter C, which appears at the beginning of the above annotation, denotes a book of an advanced or highly technical character.

Original review in *New Technical Books* (Apr 1968)

403. Candlin, J. P. and others. Reactions of transition-metal complexes. NY: American Elsevier, 1968. 483p. $30. 67-19855.

Contents: Substitution reactions. Combination reactions. Redox reactions. Hydrocarbon reactions. Reactions of organic halogen compounds. Reactions of carbon monoxide and isonitriles. Reactions of OR—, OH—, and CN—. Reactivity of H—, H_2, and H+. Reactions of inorganic compounds. Stabilized organic systems. Reaction index. Subject index.

Note: Assesses current state of the chemistry of transition-metal compounds primarily via a thorough review of the literature. Intended for research workers, but its encyclopedic nature makes the work an ideal reference tool for more generalized use. The Reaction Index is remarkable. Author: with Imperial Industries, Ltd.

be in the direction of producing a publication that does.

One means of achieving this goal has been suggested *(4)*. This would be the establishment of an independent book reviewing organization for the writing and distribution of technical book reviews. Such an organization would have its own staff of reviewers, especially selected for their literary and subject qualifications. These reviewers would be supplied with review copies of new books in advance of publication. They would then prepare critical reviews which would be published as the books become available.

A project of this kind would need the sponsorship and support of a major library organization. As a beginning, the feasibility of such a project and the means of implementing it could be referred to one of the appropriate committees of SLA for consideration. Certainly the stakes are high enough and the need urgent enough for some action to be taken.

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Literature Cited

1. Schutze, G. / Time Interval between Book Publication and Review. *Special Libraries* 38:297–299 (Nov 1947)
2. Culver, M. and Long, F. R. / Too Much Time Lag in Technical Book Reviews. *Library Journal* 74:805–806 (May 15, 1949)
3. McClelland, E. H. / Selecting Books for a Technical Department. *In:* Wilson, Louis R., ed. / *The Practice of Book Selection.* Chicago, University of Chicago Press, 1940. p.138–168 (*see* p.142)
4. Culver, M. and Long, F. R. See Ref. (3) p.806.

Mr. Sadow *is the editor of* New Technical Books *published by The New York Public Library.*

Repair and Preservation of Map Materials

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ALL who handle maps should be familiar with *Maps—Their Care, Repair, and Preservation in Libraries* by Clara LeGear (Library of Congress, Division of Maps, Washington, D.C. 1949, revd. 1956) which is a classic in this field. Miss LeGear states:

"The care of maps in a library begins upon their arrival. Unwrapping them carefully cannot be stressed too emphatically. Maps may be received in various wrappings. They may be

1) rolled inside a tube with paper protecting the ends;
2) rolled inside a tube with paper wrapped around the outside;
3) rolled around the outside of a tube with paper around both;
4) rolled around the outside of a tube with the wrapping paper rolled partly under the maps;
5) rolled and wrapped without a tube;
6) folded in packages; or
7) flat in packages or boxes."

Maps are also received

8) in various sizes of envelopes,
9) in paper bags,
10) in triangular shaped containers,
11) in cardboard boxes with excelsior packed around them,
12) rolled around a stick with paper wrapped around them,
13) rolled inside a tube having a cap with a metal end,
14) rolled inside a tube with ends rolled under,
15) rolled inside a metal tube,
16) in wooden boxes like a moving company would crate a mirror,
17) by hand as gifts, etc.

To get into these various types of containers, a good supply of tools must be on hand: a claw hammer, screwdriver, diagonal cutters, scissors, letter opener, knife, staple remover, pliers, etc.

Every package must be handled in a different manner. Those maps which are rolled inside a tube are usually relatively easy to handle, that is if the tube has not been damaged. First, remove the paper tucked in the ends, the tape over the ends, the caps, etc. If you can reach the maps, grab them by the forefinger and the thumb and twist to the inside or into a tighter roll. They should come out easily. If not, have someone hold the tube and pull away from you while you pull the maps away from the tube. They should come out. If, after removing the end, you cannot reach the maps, tap down on a hard surface with the open end down, and the maps will drop to where you can reach them. If the tube is damaged by a bend or break, it probably will be necessary to cut or tear the tube open.

One must use extreme care with any tube-shaped package having a paper wrapping on the outside. The maps are probably either rolled around the tube, rolled and wrapped with paper, or rolled with the wrapping paper partly under the maps. If they are wrapped diagonally, find the place where the top overlap is and slit across. Usually you can then unroll the wrapper, but you must be careful with the ends, which are probably tucked

in and taped for fear that they will tear the maps unless cut and/or pulled out.

Careful use of a claw hammer is necessary with wooden boxes. In wrapping maps, it is best to place them in flat cartons. If you are shipping maps in mailing tubes, make sure that the tube is larger than the maps. Place paper in the end of the tube, secure end, roll the maps and put them in the tube, put paper in the open end, and secure that end. Do not roll at right angles to folds or you will get wrinkles and—even—tears. Completely unfold a map before rolling it, or you will be dealing with an excessively thick area which will wrinkle and also tear.

After a map has been removed from its container, it generally has either a roll or a fold to remove. We have found that the best way to handle the maps is to iron them with a steam iron set on "steam" and "wool." We generally place the map face-down on the ironing board, but no harm is done face-up. The folds do not come out completely, but enough so that the maps will lie flat.

For rips, tears, weak spots, holes, etc. we use Scotch "Magic Mending Tape" which does not discolor or slip and can be written on.

When checking maps out, we always place them in tubes. When they are returned, they are ironed and patched. It is advisable to iron first and patch second as the tape is affected by the heat of the iron.

Undoubtedly the best way to preserve a map for posterity is the laminating process. In this operation a sheet of backing material is placed on the table of the laminating press, the map on top of that and a transparent sheet over the map. Then the press is brought down on all three with heat and pressure, and you have a fine finished product. There are also other methods of laminating. For example, muslin backing is used for reinforcement; maps to be folded can be sectioned and backed with muslin.

We try to fit our maps into our cases without folding. If they do not fit, we may fold them with the grain of the paper. In a few cases we must make a second fold. We have found it handy to trim the map with care.

Dust covers and/or large folders for storage are important adjuncts to preservation. Where there is inadequate protection, the maps slip back in the cases, and curl and tear. Because this situation exists in our collection, it is necessary to make periodic checks of the drawers. Curled and torn maps are removed for ironing and patching. Files should only be ½ to ¾ full, because overcrowding the files damages the maps.

For protection of atlases, it is best to lay them down flat rather than to stand them up. If shelved vertically, the weight of their own pages tends to warp the covers and break the bindings unless the atlases are packed tightly together. If they are tightly packed on the vertical shelves, it is difficult to use the atlases.

Received for review Jul 18, 1969. Accepted Oct 25, 1969. Mr. Easton *is map librarian at Illinois State University. His paper was presented at a meeting of the Geography and Map Division on Jun 3, 1969 during SLA's 60th Annual Conference in Montreal.*

sla news

CHAPTERS & DIVISIONS

Boston—Tufts University (Medford, Mass.) was the site of an all day Seminar for Library Managers on Apr 17. Topics included: Planning for Computerization, Organizing for Computerization, Employee Morale, and Job Enrichment.

Cleveland—Two meetings were co-sponsored by the Chapter and the U.S. Department of Commerce. *U.S. Outlook 1970/75* was held on Jan 26; and an *Input/Output Symposium* was held on Feb 26.

Colorado—A revised edition of *Specialized Library Resources of Colorado–1969* has been published by the Chapter; 206 libraries are listed. Indexes for library name, personnel and subject are provided. Copies are available at $3.50 from Allen Wynne, 2750 Heidelberg Dr., Boulder, Colo. 80303. Checks should be payable to SLA, Colorado Chapter.

Illinois—A luncheon meeting on Mar 19 heard a discussion of "Florence Experiences" by Harold Tribolet, R. R. Donnelley & Sons. A dinner meeting on Apr 15 heard of the plans of the Chicago Historical Society for the 70's. May 19 is the date of the annual business meeting at the J. Walter Thompson Company.

Indiana—The operations of the Midwest Regional Medical Library (at John Crerar Library) were described by Richard A. Davis on Mar 10. An all day program on Apr 18 was concerned with new developments in library school curricula relative to special librarianship; the location was the Graduate Library School, Indiana University, Bloomington. The Chapter's annual business meeting is scheduled for May 11 in Indianapolis.

Minnesota—Facsimile transmission and microreproduction will be features of the Apr 29 meeting. The annual business meeting is set for Saturday, May 23; a box lunch and tours of the new veterinary medicine and entomology libraries of the University of Minnesota are also on the program.

New Jersey—"Computer-Aided Information Systems" was the topic of an afternoon plus evening meeting of the Chapter on Mar 17 at Bell Telephone Laboratories, Holmdel, N. J. The speakers were: Alfred Anzalone (Picatinny Arsenal), Efren W. Gonzalez (Bristol-Myers), Mrs. Katherine C. Owen (Warner-Lambert Research Institute), and Mrs. Emma Warren (Esso Research and Engineering Co.).

New York—The Library and Museum of the Performing Arts at Lincoln Center was the site for the Mar 18 meeting. Services and resources of New York Public Library available to special librarians were discussed by Edward G. Freehafer, director of NYPL. Other NYPL staff members were panelists in an open forum following the main address.

Pacific Northwest—"Structuring Effective Interpersonal Relationships" is the subject of a Saturday workshop for continuing education on Apr 25 at the University of Washington, Seattle. A joint meeting with the American Records Management Association's chapter was held on Apr 17. The annual business meeting of the PNW Chapter is scheduled for May 16 together with a special tour of the Seattle–First National Bank.

San Francisco Bay Region—The Chapter will visit the Naval Postgraduate School in Monterey on Saturday, May 9.

South Atlantic—A John Cotton Dana Lecture will be presented on Apr 30 at Emory University. Paula Strain will speak on "Aspects of Cooperation between Special and Other Libraries." The final meeting of the year will be held at the Coca-Cola Company's Technical Information Center in Atlanta.

Southern California's Social Science Group—The Group toured the campus libraries of the University of California, Irvine before dinner. Dr. Lyman W. Porter, professor of administration and psychology, spoke on "The Employee Motivation Puzzle."

Texas—The Chapter held a two-day joint meeting with the Dallas County Library Association on Feb 6–7.

Toronto—The Ontario Science Centre was visited by the Chapter on Mar 20. The annual business meeting is scheduled for Apr 23; in addition, the story of the acquisition of the Bertrand Russell papers by McMaster University will be described.

A joint meeting of the Toronto and Montreal Chapters with the Canadian Association of Special Libraries and Information Services (CASLIS) is scheduled for Jun 19–20. The meeting will be at McMaster University (Hamilton, Ontario) immediately before the annual conference of the Canadian Library Association.

Upstate New York—A departure from the usual Chapter meeting format occurred on Mar 20. An all day tutorial session on "Laser Technology" was planned to provide information in new areas of scientific progress. The speakers were from both industrial and academic institutions.

A joint meeting with the Connecticut Valley Chapter was scheduled for Apr 18 in Pittsfield, Mass. Speakers and panelists—in their roles as "Technological Gatekeepers"—discussed how they obtain and use information in their own research activities.

Honorary Member of SLA

At the Annual Meeting on Wednesday, Jun 10, in Detroit the Board of Directors will present the name of a distinguished nonmember for election to Honorary Membership.

Exchange of Library-Produced Bibliographies

A Study/Survey of the Illinois Chapter

A BIBLIOGRAPHY is considered by librarians to be basically "a list of documents on a particular subject." Webster's *International* takes a more elaborate view; among its many definitions it includes ". . . a list or catalog, often with descriptive or critical notes, of writings relating to a particular subject, period, or author. . . ." Whichever definition one chooses it will encompass the essence of bibliographic work.

Bibliographies requested by a library's clientele are not all at the same level. One may, perhaps, classify them at three levels of sophistication: 1) A listing of bibliographic citations within a determined span of time; 2) A literature survey—meaning an exhaustive search of the literature on a given subject matter; and 3) An interpretive bibliography, whereby a report of findings in relation to the query is put forth (plus pertinent bibliographic citations).

It must be emphasized that a bibliography is not in itself the answer to a query, but solely a first step toward providing the inquirer with the articles that will ultimately provide specific answers.

Bibliographies on request in research libraries are an essential part of the information dissemination process. Every research library receives information requests that will eventually be developed into bibliographic presentations. The subject matter of these requests cover, of course, a wide spectrum. Understandably, there will be obvious duplication and overlapping of efforts—not only on a national scale but also at the local level.

Wherever there are more than ten research libraries concentrated in one geographical region, probabilities are high that a fair percent of their efforts to prepare bibliographies on request are duplications or overlaps. The possibility that such research libraries can help one another by exchange or by offers and requests of bibliographies through a clearinghouse, presents a constructive step toward aiding the performance of this service. Further exploration is deserved.

These thoughts were very much part of the Illinois Chapter's decision to appoint a committee to study the feasibility of a bibliography exchange program. The committee's objectives were: 1) To determine whether a bibliography exchange program would be feasible within the Illinois Chapter; 2) To survey the Chapter's members by means of a questionnaire; and 3) To tabulate the responses and to make recommendations to the Chapter's Executive Board.

A variety of opinions were expressed about the program; and, as often happens with

Questionnaires Mailed	400
Members Answering Questionnaire	113 (28.2%)
Libraries in Illinois Chapter	228
Libraries Answering Questionnaire	95 (43.5%)
Total libraries preparing bibliographies	47
Total libraries NOT preparing bibliographies	42
Libraries not preparing bibliographies (but indicating will do in near future)	6
Libraries Preparing Bibliographies	
Reported preparing an annual average of 1,264 bibliographies	36
Selective bibliographies	15
Exhaustive bibliographies	2
Both bibliographies	27
Files of bibliographies maintained	34
Bibliographies indicate sources checked	23
Willing to submit list for Union List	25
Willing to supply copies without charge	34
Responses to Program Proposal	
Would Participate	43
In All Subject Areas	11
In Some Subject Areas	32
Would Not Participate	12
Feel Program Would Be Beneficial	62
Not Beneficial	19
Would Like To See Presentation In "The Informant"	32
A Periodical Publication	32
—Willing to subscribe	30
—Not willing to subscribe	2

questionnaires, some questions were left unanswered on many of the questionnaires—thus making the tabulations somewhat difficult to interpret. For instance, of the total 113 questionnaires returned, 62 indicated the program would be beneficial, but only 43 respondents indicated they would participate in the program completely or partially. Twelve indicated they would not participate.

Of the libraries answering (95), 45.2% would participate in all or some subject areas, while 12.6% would not participate at all, leaving a 42.2% segment of libraries (40) that did not express an opinion one way or the other. By the same token, of the total libraries answering only 23 of them indicated that their bibliographies included the scope of search. The others did not answer this question; therefore it may be assumed they do not.

		Libraries	Bibliographies
000	Gen. Works	1	1
100	Philosophy	3	3
200	Religion	0	0
300	Soc. Sciences	19	427
400	Language	1	*
500	Science	16	355
600	Technology	24	442
700	Arts	4	9
800	Literature	2	21
900	History	4	9

*** Number of bibliographies not indicated.**

A further questionnaire to libraries preparing bibliographies on request produced a table somewhat indicative of the extent of duplication and overlap in this area. Unfortunately, this could be done only on the basis of broad areas, in this case the major classes of DDC. However, the areas of greatest activity are obvious from this table.

Even though no definite decision pattern emerged from the total survey, the committee felt that the program—if established—would be worthwhile and would eventually pick up the required momentum. Therefore, the committee recommended to the Chapter's Executive Board, that a Bibliography Exchange Clearinghouse be established on a trial basis (for a period of one year) to be operated in the manner of the Chapter's Duplicate Exchange, and to utilize *The Informant* (Illinois Chapter's bulletin) as the vehicle to publicize offerings and requests.

Some questions regarding this program were discussed to the point of exhaustion without satisfactory conclusions, due mostly to lack of actual experience. These questions relate directly on the proprietary factor attached to bibliographies prepared for research staff members of an organization (within which a library or information center operates). It was felt, however, that since a program of this nature would definitely aid all special libraries by avoiding repetitive efforts when producing some of these bibliographies, this factor would lessen the proprietary aspect. It did *not*. On the contrary, large organizations will, in fact, be the most reticent to cooperate with this type of program. A large number did not even answer.

Then to facilitate more cooperation, the committee further recommended that participation in the program be made on a voluntary basis; and that even though titles of bibliographies offered and requested would be listed as such, the names of libraries and corporations would be omitted to eliminate somewhat the proprietary factor.

No doubt a program such as the one presented here will require time to prove its tremendous worth. Considering the high cost of bibliographies on request—in staff time—the potential of a clearinghouse for the exchange of library produced bibliographies is great. It is hoped this presentation, relating the Illinois Chapter's organizational experience in this area, will be of some help to other SLA Chapters.

C. C. Cuitino
Library Services Associates
Glen Ellyn, Illinois 60137

SLA Hall of Fame/1970

PRESIDENT Robert W. Gibson, Jr. has announced the election of two members to the SLA Hall of Fame in 1970 who have made outstanding contributions to the growth and development of Special Libraries Association at the Association, Chapter and Division levels.

Elizabeth Ferguson

A highly professional librarian, an excellent teacher, a fine cellist, as well as an accomplished author and a stimulating lecturer with a wonderfully hearty sense of humor—this is Elizabeth Ferguson. A librarian since 1930 and a member of SLA since 1944, when she became a special librarian, Miss Ferguson's leadership qualities soon became evident, when in 1946 she was elected Chairman of the Insurance Division for a two-year term. She was re-elected to this position again in 1961. A long-time member of the New York Chapter, Betty, as she is known by her many friends, held numerous committee chairmanships and memberships, and was for 20 years the representative of the New York Chapter to the Ballard School. As such, she was responsible for establishing library courses for library assistants. Her activities in the Association were numerous, ranging from chairman of the Public Relations Committee to President of the Special Libraries Association in 1952/53. She served as Publicity Chairman for the Association's 50th Anniversary Conference in Atlantic City, and as Conference Program Chairman for the 1967 Annual Conference in New York.

Born in Willoughby, Ohio, Elizabeth Ferguson attended both Middlebury College and Oberlin College, receiving her BA in English Literature from Oberlin. She earned her graduate degree in library science from Western Reserve University library school. Although Betty began her professional career in the Cleveland Public Library, as a children's librarian and later as a reference librarian, she is best known for her work as librarian at the Institute of Life Insurance in New York, a position she held for 25 years until her retirement in 1969.

Co-author of the book, *The Creation and Development of an Insurance Library,* published in 1949, she edited *Sources of Insurance Statistics* in 1965. She is the author of many articles on various aspects of library work, in addition to several bibliographies for the Institute of Life Insurance.

A wise and generous teacher, Miss Ferguson inspired many of her students to become special librarians through her courses in special librarianship, taught as early as 1953–55, at Queens College School of General Studies, and as recently as last summer at the University of Hawaii library school. For ten years, 1959–1969, she taught at Pratt Institute library school. She continues to be active professionally by serving on the ALA Accreditation Committee and on a Medical Libraries Association committee, establishing standards of subprofessional training. In summer 1970 she will be on the faculty of St. John's University library school, teaching her course in Special Libraries.

A contributor to the development of the Special Libraries Association at all levels—Chapter, Division, and Association—Elizabeth Ferguson will always be to her many friends and former students a very Special Librarian indeed.

W. Roy Holleman

W. Roy Holleman has been elected to the SLA Hall of Fame posthumously. A member of the Special Libraries Association for 32 years, he contributed towards its growth and development on all levels —Chapter, Division and Association. A warm, friendly, modest gentleman who was devoted to his profession, he was an inspiration to his friends and associates. Roy threw himself into productive activity for SLA with an enthusiasm which was contagious. While he was president of the Southern California Chapter, he was largely responsible for the formation of the San Diego Chapter, later serving as its president. He was chairman of the Science-Technology Division, held numerous Association Committee appointments and was elected to the Board of Directors, serving from 1959 to 1962. Sharing his interest in Special Libraries Association was another SLA Director, Marian Patterson, an attractive medical librarian from Canada. Their mutual attraction culminated in their marriage in 1961.

Roy Holleman was born in Alderson, Oklahoma and educated in Oklahoma schools. Both his BS in biological and physical science and his Master of Science in Education were received from Oklahoma State University. He was elected to membership in several scholastic honor societies: Phi Beta Kappa, Phi Delta Kappa, Kappa Delta Phi, and Scabbard and Blade. He earned his MLS from the University of Illinois. Keenly interested in sports, Roy, while head of the Science Department at McAlester (Oklahoma) High School and Junior College, coached basketball and football and was active in the Boy Scouts.

His library career began in 1938 after several years of teaching, but was interrupted by World War II service in the Army Air Force. He became a special librarian after the war, holding chief librarian positions at Boeing Aircraft Company (Wichita, Kansas); Mead Corporation (Chillicothe, Ohio); the United States International University (the former Balboa University, San Diego, California); and Scripps Institution of Oceanography (La Jolla, California). He also taught library education courses for the University of Southern California, Extension Division. In 1961, he joined the faculty of the Graduate School of Library Science at the University of Southern California, and in 1963 became head librarian and associate professor of library science of San Diego College for Women, holding this position until his final illness. An inspired lecturer, he was also author of numerous professional and technical articles. Other professional organizations in which he held membership were the American Library Association, the American Association for the Advancement of Science, the American Chemical Society, and the American Geophysical Union.

He was a man of high professional standards, great integrity, and had the ability to engender confidence. He took great joy in working with young people particularly, and his influence among his students and fellow librarians will long be felt. On the Special Libraries Association, the far-sighted contributions of Roy Holleman have left their permanent mark.

MEMBERS IN THE NEWS

Donald C. Anthony, Associate Director of Libraries, Columbia University, has been awarded a fellowship by the Council on Library Resources "to study the extent to which audio-visual materials are used at selected academic libraries and to evaluate their effectiveness as aids to instruction."

Janet H. Axman is director of the Industrial Information Service of the Connecticut State Library, Hartford.

Bobby R. Carter, formerly librarian of the Pharmacy Library, University of Houston, has accepted a position as cataloging librarian at The University of Texas Medical Branch Library, Galveston.

The Central Du Page Library Association met on Feb 10 at the Wheaton (Illinois) Public Library to hear **C. C. Cuitino,** executive vice president, Library Service Associates, describe his recent library experiences in Brazil and Chile.

Mrs. Phyllis Dalton, assistant state librarian, California State Library, was the featured speaker at the Apr 20 meeting in San Francisco of the Hospital Librarians Section, Association of Western Hospitals.

Annette M. DeLorenzo . . . appointed director of the newly organized Housing and Urban Research Division of Holmes-Harmon Corporation, Birmingham, Mich. She was formerly assistant librarian, Campbell-Ewald Company, Detroit.

Patricia C. Farrell . . . from Stanford Research Institute, Menlo Park to supervising librarian at the Bio-Agricultural Library, University of California, Riverside.

Laurence M. Feldman . . . appointed head librarian of the Becton Engineering & Applied Science Library, Yale University, New Haven.

The American Geographical Society honored **Nordis Felland** at a reception on Jan 30. Miss Felland was presented with a book of tributes from librarians, geographers and colleagues on the occasion of her retirement after 26 years as librarian of the Society. She has served as chairman of SLA's Museum Division and Geography and Map Division. As librarian emeritus she will work part time for the Society. **Lynn S. Mullins** . . . from assistant librarian to librarian of the Society.

Murray Howder will serve both as bibliographer in the ARL Slavic Center and as assistant director in the headquarters of the Association of Research Libraries, Washington, D.C.

Mrs. Linda Johnston, librarian of the Federal Reserve Bank of Atlanta, will represent special libraries on the editorial board of *The Georgia Librarian* published by the Georgia Library Association.

Philip S. Ogilvie . . . elected vice president (president-elect) of the American Association of State Librarians.

Marian M. Orgain, curator of special collections, University of Houston, was featured in "People in Our Town" in the *Houston Chronicle* (Dec 7, 1969) . . . headlined as "The Story of a Globe-Trotting Marian Who Became a Librarian."

Cover Girl of the Jan/Feb 1970 issue of the *California Department of Fish and Game Newsletter* . . . **Patricia Powell,** supervisor of the Marine Technical Information Center, Terminal Island, since 1946.

Anne J. Richter retires on Apr 30 as editor-in-chief of the Book Department of R. R. Bowker Company. Since her career with Bowker began in 1937, she has been associated with many of the company's publications: *Literary Market Place, The Bowker Annual, Ulrich's International Periodicals Directory,* and *American Library Directory* among others. She has been a member of the company's Board of Directors since 1956 and secretary of the company since 1967. Mrs. Richter has long been active in SLA. She has been chairman of the Publishing Division and has represented SLA in many capacities on the Z39 Committee of the American National Standards Institute. She is currently serving as a member of the *Special Libraries* Committee.

Walter W. Ristow, Chief of LC's Geography and Map Division, has retired from the U.S. Board on Geographic Names after completing more than 21 years of service. This is the longest tenure of any agency member since the Board on Geographic Names was established by act of Congress in 1947.

John Sherrod, director of the National Agricultural Library, was chairman of an invitational conference on Federal Information Resources on Mar 26–27 in Washington.

Joel Robert Siegfried, Queens Borough (N.Y.) Public Library, has been awarded two grants

by the American-Scandinavian Foundation to assist with a public library research program in Scandinavia.

Dr. Pauline M. Vaillancourt . . . named associate professor in the School of Library Science, State Univeristy of New York at Albany. She will continue as editor of *Scientific Information Notes* published by Science Associates International, N.Y.

Barbara Wight, Los Angeles County Library System . . . elected president-elect of the California Library Association's Business and Industry Division.

Washington Library Association has elected **Erna Gabrielson** a member of the WLA Executive Board . . . **Julia Owens** appointed a member of the WLA Recruitment Committee, representing SLA's Pacific Northwest Chapter . . . **Kay Todd** appointed a member of the WLA Steering Committee for NLW.

In Memoriam

Otto P. Brysch, technical librarian at the Institute of Gas Technology, Chicago until his retirement in 1963 . . . on Jan 18. He also had been editor of *Gas Abstracts*. An SLA member since 1951.

Catherine A. Simms, librairan at the Institute of Gas Technology, Chicago since 1951 . . . on Jan 2. She had been chairman of the Public Utilities Section. An SLA member since 1940.

Marion E. Peterson, associate professor in the School of Librarianship, University of Washington (Seattle) . . . on Jan 6, 1970. Miss Peterson had undergone eye surgery during the preceding week. She joined the full-time faculty at U.W. in 1950 as an assistant professor. An SLA member since 1964.

Phyllis A. Reinhardt, librarian of the Smith College Art Library . . . in Oct 1969. A member of SLA since 1950.

An Apology—The Dec 1969 issue of *This Journal* reported erroneously the death of George H. Goodwin, former librarian of The American Museum of Natural History. Confusion with middle initials occurred when the death of George G. Goodwin, curator emeritus of the museum's Department of Mammalogy was reported. Our apologies to George H. Goodwin who is chief librarian, U.S. Geological Survey, Washington, D.C.

SLA Authors

Baer, Karl A. Bibliography in the Special Libraries of the United States: A Non-statistical Survey. *International Library Review* 2: 85–100 (1970)

Hickey, Doralyn J. Systems Analysis and the Theological Library. *Theological Education* 6: 34–42 (Autumn 1969)

Mersky, Roy M., ed. and comp. *Law Books for Non-Law Libraries and Laymen: A Bibliography.* (Legal Almanac Series, no. 44) Dobbs Ferry, N.Y., Oceana Publications, 1969. 110p.

Sloane, Margaret N. The Role of the Special Library. *The Central New York Reference & Resources Council Bulletin* 3: (nos. 2 & 3) 5–10 (Sep/Oct & Nov/Dec 1969)

Spence, Barbara A. The Community-Owned Ghetto Library: A Commitment to People. *Bay State Librarian* 58: (no. 3) 11–17, 19 (Oct 1969)

SLA Placement Service at Conference

The SLA Placement Service will be available to SLA members and to employers registered at the Conference in Detroit. Hours and location of the Placement Service will be listed in the Conference Program.

Resume forms for members who are interested in vacancies can be obtained from the Membership Department, Special Libraries Association, 235 Park Avenue South, New York, N. Y. 10003. The completed resume forms must be returned by May 29. The Placement Service will arrange interviews at the Conference.

Employers with vacancies may request a "Job Opening" form from the same address as above; the deadline for their submission is also May 29. Job descriptions for the vacancies will be posted at the Conference.

Institutes for Training in Librarianship

Summer 1970 and Academic Year 1970/71

Robert Klassen

Bureau of Libraries and Education Technology,
U.S. Office of Education, Washington, D.C. 20202

THE Division of Library Programs of the Bureau of Libraries and Education Technology in the U.S. Office of Education has just released the 1970/71 list of 42 training institutes* and 382 graduate fellowships available in library and information science under the provisions of the Higher Education Act of 1965, Title II-B. Grants total $1,032,000.

Any person who has been or is engaged in librarianship, or has an undergraduate or graduate degree in library science may apply whether or not presently enrolled in the institution. Information, admission requirements, and application forms should be obtained from the institution offering the program for training.

Participants are eligible to receive a stipend of $75 per week for the period of attendance plus an allowance of $15 per week for each dependent.

The following is a list of training institutes of possible interest to special libraries and information science personnel. Included are the name and location of the institution, inclusive dates, the director, and the number of allocated participants:

California

1. University of California, Berkeley, Calif. 94720.

   Law Librarianship—Comparative, Foreign and International.

   Jul 6—24, 1970 *Dan F. Henke* (25)
   Seeks to provide training in the acquisition, organization and use of comparative, foreign and international legal materials.

2. University of Southern California, Los Angeles, Calif. 90007.

   Library Automation and Information Retrieval.

   Jun 1—Jul 10, 1970
   Everett M. Wallace (40)

   Intensive course to educate and train participants in techniques of data processing, automation, information retrieval, and other aspects of information science applicable to library systems and networks.

Colorado

3. University of Denver, Denver, Colo. 80210.

   Library Systems Analysis and Design.

   Jul 20—Aug 7, 1970 *James K. Foyle* (25)
   To teach the principles of library systems analysis and design to librarians who are now or who soon will be engaged in systems studies in their own libraries.

Illinois

4. University of Illinois, Urbana, Ill. 61801.
   Development and Administration of Slavic and East European Library Resources.

   Jun 22—Jul 31, 1970.
   Laurence H. Miller (15)

   Will provide librarian involved with Slavic and East European collections with the opportunity to develop competence in reference services and to learn practical aspects of collection development.

*Includes 2 institute awards granted in FY 1969.

Louisiana

5. LOUISIANA POLYTECHNIC INSTITUTE, Ruston, La. 71270.

Planning and Implementing Library Automation Programs.

Jun 14—27, 1970 *S. A. Dyson* (20)

Will involve the study of computer theory, as well as the planning and implementing of library automation programs for practicing librarians.

Ohio

6. MIAMI UNIVERSITY, Oxford, Ohio 45056.

Management Development Institute for Library Administrators.

Jul 12—18, 1970 *Robert H. Myers* (30)

Designed to provide library supervisors or directors with instruction in the principles and techniques of general management—planning, organizing, motivating, controlling, and planning for future management demands.

Pennsylvania

7. DREXEL INSTITUTE OF TECHNOLOGY, Philadelphia, Pa. 19104.

Non-conventional Reference Sources and Services.

Apr 12—16, 1971 *Charles H. Davis* (20)

Will introduce participants to data sources and reference tools which take a non-conventional format, such as punched card, tape, disk, or film, and which have not as yet been readily assimilated into traditional reference service in libraries.

Wisconsin

8. UNIVERSITY OF WISCONSIN, Milwaukee, Wis. 53201.

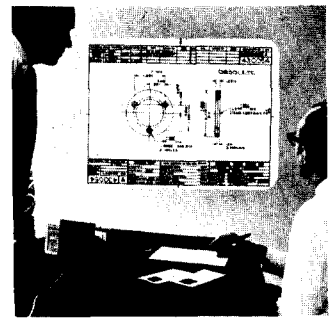
Acquisition of Foreign Materials for U.S. Libraries.

Sep 28—Oct 9, 1970 *Frank L. Schick* (30)

Aims to familiarize the participants with 1) both traditional and newly-developed techniques and procedures for the acquisition of library materials from foreign countries (especially Europe, Africa, Asia and South America), and 2) with the relationship of these procedures to national programs, policies and developments.

Mr. Klassen *is Special Libraries Specialist, Library Planning and Development Branch, Bureau of Libraries and Educational Technology, U.S. Office of Education.*

HAVE YOU SEEN ?

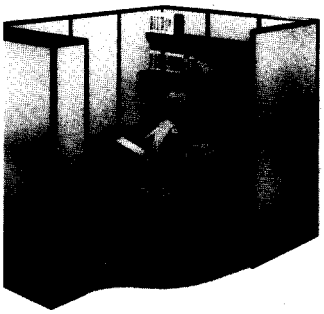


A mini-projector for aperture cards will project a wall size image in a normally lighted room. Adapters for color filmstrips and slides are also available. The "Aperture-Master" is priced at about $80. Contact: The Taylor-Merchant Corp., Microfilm Division, 25 W. 45th St., N.Y. 10036.

A high capacity paper shredder is said to handle papers without removal of staples, paper clips or other metal fasteners. A conveyor belt allows for the direct disposal of crumpled papers from waste baskets. The "Compact Conveyor Destroyit" will handle more than 2,000 lb. of paper per hour. Smaller models are available from a desk-top size or wastebasket size. Write: Electric Wastebasket Corp., 145 W. 45th St., N.Y. 10036.

A new eraser for removing excess or misplaced rubber cement is available through retail outlets as "Pik-Up." The 2-inch squares are made from natural, pure white, Malayan crepe rubber which is particularly effective due to the natural affinity of rubber for rubber. Distribu-

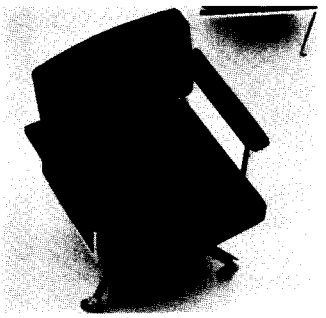
tion is through retail outlets which carry the Union Rubber and Asbestos Best-Test Brand Rubber Cement and Thinners.



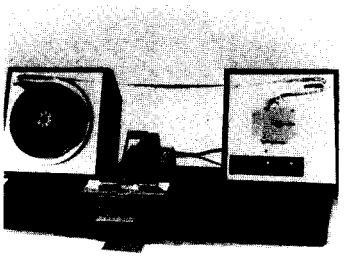
Completely outfitted private office modules have been announced in the $350–$550 price range. The "Apton Office Modules" are free standing with steel tube framing and laminated vinyl panels. For brochure, write: Dexion Incorporated, 39-27 59th St., Woodside, N.N.Y. 11377.

A portable microfilm duplicator reproduces both 16mm and 35mm film on Kalvar roll film in one continuous operation. No darkroom, chemicals or water are needed. The "Canon Roll Duplicator 500" can make reversal duplicates (positive-to-negative or negative-to-positive). The price of the unit is $4,350. For information, write: Canon U.S.A., Inc., 64-10 Queens Blvd., Woodside, N.Y. 11377.

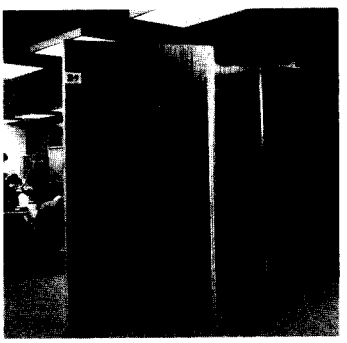
Contemporary office chairs in a moderate price line are available in the "Triad Series." Two layers of foam cushions are in the seat with the layer of softer foam on the bottom. The manufacturer claims



the user sinks more slowly into these chairs without the sensation of hitting bottom. For information: Steelcase, Inc., Grand Rapids, Mich. 49501.



A high speed cartridge loader for 16mm and 35mm microfilm will accept 1,000 foot spools of film in addition to 100 foot reels. Automatic tension in the Model 106 Cartridge Loader is maintained to prevent the film from spilling as speed is decreased. Manufactured by: Information Design, Inc., Menlo Park, Calif.



Free-standing partitions can be combined to build carrels, individual work or study areas. Units are available in 48, 79 and 96 inch heights. They can be mounted at right angles or at fixed angles of 120 or 150 degrees. Write: Walker Systems, Inc., 520 S. 21st Ave. East, Duluth, Minn. 55812.

COMING EVENTS

May 7–8. Seventh Annual National Colloquium on Information Retrieval at the Sheraton Hotel, Philadelphia . . . sponsored by SLA's Philadelphia Chapter and eight other organizations. For information: Louise Schultz, BIOSIS, 2100 Arch St., Philadelphia 19103.

May 17–21. Medical Library Association . . . at the Roosevelt Hotel, New Orleans.

Jun 1–12. Introduction to Modern Archives Administration . . . at the National Archives Building, Washington, D.C. Address inquiries to the institute's sponsor: Department of History, The American University, Massachusetts and Nebraska Aves. NW, Washington, D.C. 20016.

Jun 1–Jul 10. Institute on Library Automation and Information Retrieval . . . at University of Southern California. Address inquiries to: Dr. Martha Boaz, Dean, School of Library Science, USC, Los Angeles 90007.

Jun 4–6. Council on Library Technology, COLT, at Palm Beach Towers, Palm Beach, Fla. Theme: *The Coming of Age of LTAs.* COLT was organized to strengthen training programs for Library Technical Assistants. For information: Sister Mary Chrysantha, Felician College Library, 3800 Peterson Ave., Chicago 60645.

Jun 7–11. SLA, 61st Annual Conference. Cobo Hall and Sheraton-Cadillac Hotel, Detroit. *Theme:* The Changing Face of Special Libraries. Conference chairman: Mrs. Gloria M. Evans, Parke Davis & Company, Production and Engineering Library, Detroit, Mich. 48232.

Jun 20–26. Canadian Library Association, Annual Conference . . . in Hamilton, Ontario at the Holiday Inn and the Sheraton-Connaught Hotel.

Jun 22–26. Engineering School Libraries Division of the American Society for Engineering Education . . . at Ohio State University, Columbus. Program chairman: Mrs. Elizabeth P. Roberts, P.O. Box 2114 C.S., Pullman, Wash. 99163.

Jun 22–Jul 3. "The Scene in British Librarianship," a summer school for librarians from the USA and Canada . . . at Ealing Technical College, Ealing, London W5. Course secretary: L. C. Guy, School of Librarianship, Ealing Technical College.

Jun 23–26. Fifteenth Seminar on the Acquisition of Latin American Library Materials, SALALM, . . . at the University of Toronto. Write: Carl W. Deal, Center of Latin American Studies, University of Illinois, Urbana 61801.

Jul 1–Nov 30. Sixth Special Course for Medical Librarians . . . at the University of Antioquia, Colombia. For information: Julialba Hurtado Marulanda, Escuela Interamericana de Bibliotecologia, Apartado Aereo 1307, Medellin, Colombia.

Jul 12–18. Management Development Institute for library administrators . . . at Miami University, Oxford, Ohio. Write: Robert H. Myers, School of Business Administration, Miami University, Oxford, Ohio 45056.

Jul 18–21. National Audio-Visual Convention at the Sheraton-Park Hotel, Washington, D.C. For registration, write: NAVA, 3150 Spring St., Fairfax, Va. 22030.

Jul 19–31. Library Administrators Development Program . . . at the University of Maryland's Donaldson Brown Center, Port Deposit, Md. For information: School of Library and Information Services, University of Maryland, College Park 20742.

Jul 20–31. "Improving Communication Skills for School Library Supervisors" . . . at the University of Michigan. For information: Dr. Helen D. Lloyd, School of Library Science, University of Michigan, Ann Arbor 48104.

Jul 27–Aug 21. Institute of Archival Studies . . . at the University of Denver's Centennial Conference Center. Write: Professor Dolores C. Renze, Institute of Archival Studies, 1530 Sherman St., Denver 80203.

Aug 3–28. Archives Institute at the Georgia Archives and Records Building, Atlanta . . . co-sponsored by Emory University's Division of Librarianship. Write: Georgia Department of Archives and History, Atlanta 30334.

Aug 9–13. Biocommunications '70 . . . in Houston, Texas. Combined meetings of the Association of Medical Illustrators, the Biological Photographic Association, and the Council on Medical Television. Write: Robert Beaubien, Baylor College of Medicine, Rm. 414E, Houston 77025.

Aug 29–Sep 7. IFLA General Council . . . in Moscow and Leningrad.

Sep 7–11. Sixth International Cybernetics Congress . . . in Namur, Belgium. For information: Secretariat of the International Cybernetics Association, Palais des Expositions, Place Andre Rijckmans, Namur, Belgium.

Sep 14–24. FID Conference and Congress . . . in Buenos Aires, Argentina. For information: U.S. National Committee for FID, National Academy of Sciences, 2101 Constitution Ave., Washington, D.C. 20418. (Some travel support funds are available from USNCFID; requests must be received before Jun 1.)

Sep 21–23. ASLIB Annual Conference . . . at the University of Aberdeen, Scotland. Write: ASLIB, 3 Belgrave Sq., London SW 1.

Oct 11–15. American Society for Information Science . . . at the Sheraton Hotel, Philadelphia. Convention chairman: Dr. Eugene Garfield, Institute for Scientific Information, 325 Chestnut St., Philadelphia 19106.

REVIEWS

Manual and Guide for the Corporate Secretary. Miller, Besse May. Englewood Cliffs, N.J., Prentice-Hall (1968, c1969). 3v. (ix,1756 p.) illus. Index. $49.95. LC 68-22251. (Original title: *Corporate Secretary's Manual and Guide,* rev. ed.)

This reference work is designed to serve the corporate secretary as a guide to corporate practices as they affect his function within the firm. It therefore includes the legal implications of the official actions he is called upon to execute as an officer of the company. The basic principles controlling every phase of general corporate policy and activity are treated.

The *Manual and Guide* is divided into ten parts covering corporate meetings, minutes, management, operation of the secretariat, compensation of officers and employees, capital stock, financial borrowing, the corporation as a legal entity, mergers, reorganization and dissolution. Each part provides numerous examples of the diversified forms relevant to the subject matter treated, e.g. affidavits, ballots, certificates, waivers, notices, resolutions, letters and memoranda.

The *Manual and Guide for the Corporate Secretary* is not of consistently high quality or usefulness, although for many subjects that will engage the attention of the corporate secretary the *Manual* provides excellent, detailed advice. For instance, the sixteen pages of directions for preparation of the firm's annual report to stockholders is so concise and clearly presented that it is tempting to believe a novice could prepare an annual report from these instructions. The compendious five-page chronological "Schedule of Preparation of Annual Report" is an especially noteworthy aid.

The examples of forms relating to the corporate secretary's functions are generally of high quality and, consequently, usefulness. For example, Chapter 10 "Bylaws, Forms, and Resolutions Relating to Minutes of Meetings," provides excellent examples of minutes of the annual meeting of stockholders of the corporation as well as examples of minutes of meetings of the board of directors. Here one will find specific examples of how to report many kinds of actions one would expect to transpire at such meetings.

On the other hand, the examples of form letters the corporation secretary will most frequently address to stockholders (Chapter 23) are inadequate. Though unquestionably well-conceived in purpose, many are artlessly expressed and contain occasional grammatical errors. The example of a form letter answering a stockholder's inquiry regarding the advertising expenses of the firm concludes with the sentence, "Such progress redounds to the benefit of all the stockholders." It is clearly not progress that redounds to stockholders, but rather the benefits thereof. The form "thank you" to be sent to stockholders who voted by proxy in favor of propositions suggested by the management at the annual stockholders meeting concludes with the information that a copy of the stockholders' letter has been sent to the President of the company (an excellent procedure, indeed), followed by the laudatory phrase attributing to him primary responsibility for the firm's progress. Such a phrase will cause the recipient to wonder if the remark is meant for the benefit of the corporate secretary himself rather than for the stockholder's information. It can be expected that most corporate secretaries can and do compose better form letters than the examples provided in the *Manual.*

Despite its occasional short-comings, the *Manual and Guide for the Corporate Secretary* is a valuable reference work recommended for business libraries and public libraries serving business clientele, as well as those for whom it is specifically published.

Richard L. King
Graduate School of Business Administration
University of California, Los Angeles

REFERENCE

Aldine University Atlas. Norton Ginsburg, Harold Fullard and H. C. Darby, eds. Chicago, Aldine Publ. Co., 1969. viii,102p. $8.50.

Marketing & Management: A World Register of Organizations. I. G. Anderson, ed. Beckenham, England, CBD Research, 1969. xii,228p. pap. £ 3 (US & Canada $12). (154 High St.)

Reference Data for Radio Engineers, 5th ed. Indianapolis, Ind., Howard W. Sams & Co, 1968. approx. 1150p. $20.

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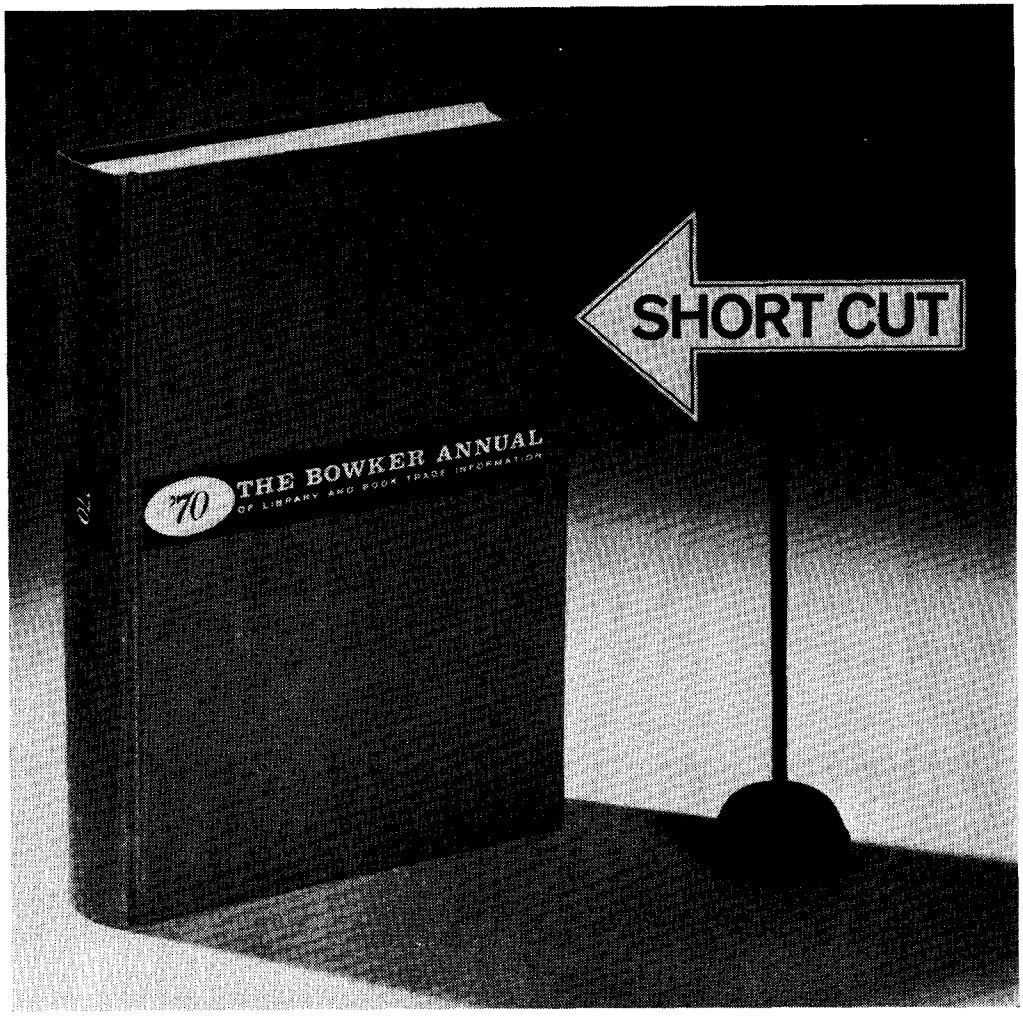

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Librarian–Information Specialist—Required to head the Institute of Animal Resource Ecology Library of the University of British Columbia. The collection, mainly devoted to hydrobiology, consists of several thousand separates bound and author indexed, a broad collection of serials and a modest collection of books, as well as a very large collection of translations. We wish to maintain and expand this material as well as to develop a data source in the broader field of general ecology. We are seeking innovative approaches to the compilation, distillation and dissemination of material in this area. Applicants should have a library degree, experience as an information specialist, some training in biology and/or zoology and a familiarity with modern languages, particularly Russian. The staff will comprise the incumbent and two library assistants. The salary is open depending upon experience. The University of British Columbia is in Vancouver, a beautiful west coast city of about one million population. Current enrollment of the University is 22,000. There are excellent medical, disability, group insurance and superannuation benefits, and four weeks vacation. Librarians are eligible to join the Faculty Club and Faculty Association. Apply to: Dr. C. S. Holling, Director, Institute of Animal Resource Ecology, University of British Columbia, Vancouver 8, B.C., Canada.

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