

4-1-1979

## Special Libraries, April 1979

Special Libraries Association

Follow this and additional works at: [https://scholarworks.sjsu.edu/sla\\_sl\\_1979](https://scholarworks.sjsu.edu/sla_sl_1979)

 Part of the [Cataloging and Metadata Commons](#), [Collection Development and Management Commons](#), [Information Literacy Commons](#), and the [Scholarly Communication Commons](#)

---

### Recommended Citation

Special Libraries Association, "Special Libraries, April 1979" (1979). *Special Libraries, 1979*. 4.  
[https://scholarworks.sjsu.edu/sla\\_sl\\_1979/4](https://scholarworks.sjsu.edu/sla_sl_1979/4)

This Magazine is brought to you for free and open access by the Special Libraries, 1970s at SJSU ScholarWorks. It has been accepted for inclusion in Special Libraries, 1979 by an authorized administrator of SJSU ScholarWorks. For more information, please contact [scholarworks@sjsu.edu](mailto:scholarworks@sjsu.edu).

# Special libraries

*April 1979, vol. 70, no. 4*

**Cost-Benefit Determinations**

**Maritime Information**

**Criteria for Performance**

**Microfilm Conversion**

**Use and Cost of Journals**

**European Patent Libraries**

# NEW

FROM ISI® FOR 1979

## Index to Social Sciences & Humanities Proceedings™

### Send for our FREE flyer.

The flyer describes a new service from ISI — available in 1979 — the *Index to Social Sciences & Humanities Proceedings*. It details the contents and coverage of this important new reference tool to the conference literature of the social sciences and humanities.

You'll find samples of the main entries in *ISSHP*™, in

the unique table-of-contents format that displays not only the proceedings title, but also information on individual papers. You'll see examples from each of *ISSHP*'s six index sections — and how easy it is to search the 1,000 proceedings (over 20,000 individual papers) *ISSHP* covers annually. The examples will show you how quickly and easily you can identify individual authors and papers in the conference literature.

The new flyer is FREE. For your copy, simply send us the coupon below.

Please send me a free copy of your new booklet describing the *INDEX TO SOCIAL SCIENCES & HUMANITIES PROCEEDINGS*™.

NAME

TITLE

ORGANIZATION

DEPARTMENT

ADDRESS

CITY

STATE/PROVINCE

ZIP

COUNTRY

TELEPHONE

isi®

Institute for Scientific Information®

325 Chestnut Street, Philadelphia, Pa 19106, U.S.A. Tel: (215) 923-3300. Cable: SCINFO. Telex: 84-5305

©1979 ISI  
26-1424



*Courtesy Hawaii Visitors Bureau*

**What to wear in Hawaii—  
see page 202 for information.**

# Save Silas Marner

and other great works



Silverfish, termites, moths, larvae, insect eggs, mold and fungus—all are timeless enemies of your rare volumes, valuable manuscripts, documents and other records.

The compact VacudyneAltair Document Fumigator can preserve this written heritage.

Anyone can operate it without special training. Here's how: once or twice a year, or when new arrivals come in, roll the valuable books and manuscripts on a cart up the ramp into the fumigator. Close and lock the door. Set the controls (similar to a washing machine), press a button and four hours later your documents are fumigated.

The fumigating gas under vacuum conditions penetrates every square inch of the chamber and that includes the material being treated. The fumigant gas can be used with paper, bindings, films or other materials commonly found in libraries. Additionally, there is no known conflict between the various chemicals used for preservation and restoration, and the fumigant.

Available in 18 and 36 cu. ft. models, Vacudyne designed their fumigator to meet your needs. Additionally, a list of options is provided to more exactly tailor the unit to your requirements.

A very special option is the drying cycle. This allows you to safely, quickly and effectively dry materials that have been water-soaked by floods, water damaged due to fire or excess washing procedures.



**VacudyneAltair**

375 E. Joe Orr Rd.  
Chicago Heights, IL 60411  
(312) 757-5200  
TWX 910-239-2315

APRIL 1979  
VOLUME 70, NUMBER 4  
ISSN 0038-6723

SPLBAN

# special libraries®

*Editor:* NANCY M. VIGGIANO  
*Assistant Editor:* BARRY J. KATZEN  
*Advertising Sales:* DOROTHY E. SMITH  
*Circulation:* FREDERICK BAUM

*Special Libraries* is published by Special Libraries Association, 235 Park Avenue South, New York, N.Y. 10003. Monthly except double issue May/June. Annual index in December issue.

©1979 by Special Libraries Association. Material protected by this copyright may be photocopied for the noncommercial purpose of scholarship or research.

Second class postage paid at New York, N.Y., and at additional offices.

## SLA News

Actions of the Board of Directors, Feb 1-3, 1979 195

Networking Notes 200

In Memoriam 202

## Vistas

Coming Events 203

Staff Development 205

Reviews 207

Pubs 208

163 Cost-Effectiveness and Cost-Benefit Determinations in Special Libraries  
*Herbert S. White*

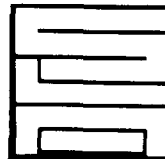
170 An Information Service for the Maritime Industry  
*D. G. Mellor*

173 Overcoming the Criterion Problem in the Evaluation of Library Performance  
*John J. Knightly*

179 Looking Back at the Microfilm Decision: Expectations and Experiences  
*Gloria J. Zamora and Martha C. Adamson*

182 Survey on the Use and Cost of Scientific Journals in the Soreq Library  
*S. Weil*

190 Information Management: Survey of Readership in Public Patent Libraries  
*H. Bank*



24A Placement

26A Index to Advertisers

# ON-LINE SEARCHING

## THE ESSENTIAL TOOL FOR DATA BASE USERS

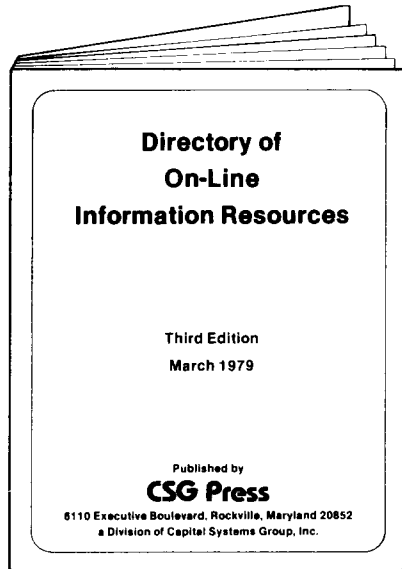
- Over 150 on-line data bases described
- Both bibliographic and non-bibliographic data bases
- Subject and source indexes
- Addresses of all data base producers and sources

Send orders to:

CSG Press  
6110 Executive Blvd., Suite 250  
Rockville, Maryland 20852

Price: \$10 per copy; \$8 if prepaid

Telephone orders accepted:  
(301) 881-9400



Subscription Rates: Nonmembers, USA \$26.00 per calendar year; add \$3.50 postage for other countries including Canada. \$8.00 to members, which is included in member dues. Single copies (recent years) \$3.00 except for October issue (Directory) which is \$13.00.

Back Issues & Hard Cover Reprints (1910-1965): Inquire Kraus Reprint Corp., 16 East 46th St., New York, N.Y. Microfilm & Microfiche Editions (1910 to date): Inquire University Microfilms, Ann Arbor, Michigan. Microforms of the current year are available only to current subscribers to the original.

Changes of Address: Allow six weeks for all changes to become effective. All communications should include both old and new addresses (with ZIP Codes) and should be accompanied by a mailing label from a recent issue.

Members should send their communications to the SLA Membership Department, 235 Park Avenue South, New York, N.Y. 10003.

Nonmember Subscribers should send their communications to the SLA Circulation Department, 235 Park Avenue South, New York, N.Y. 10003.

Claims for missing issues will not be allowed if received more than 90 days from date of mailing plus the time normally required for postal delivery of the issue and the claim. No claims are allowed because of failure to notify the Membership Department or the Circulation Department (see above) of a change of address, or because copy is "missing from files."

Special Libraries Association assumes no responsibility for the statements and opinions advanced by the contributors to the Association's publications. Instructions for Contributors last appeared in *Special Libraries* 70 (no. 1) (Jan 1979). A publications catalog is available from the Association's New York offices. Editorial views do not necessarily represent the official position of Special Libraries Association. Acceptance of an advertisement does not imply endorsement of the product by Special Libraries Association.

Indexed in: *Book Review Index*, *Business Periodicals Index*, *Information Science Abstracts*, *Historical Abstracts*, *Hospital Literature Index*, *Library Literature*, *Library & Information Science Abstracts*, *Management Index*, *Public Affairs Information Service* and *Science Citation Index*.

## Membership

DUES. Member or Associate Member \$40; Student Member \$8; Retired Member \$10; Sustaining Member \$200; Sponsor \$500; Patron \$1,000.

# MINI MARC

## It Speaks Your Language

Sometimes, computers that enable you to do a lot, make you learn a lot to operate them. New methods. New procedures. Even new languages.

Not MINI MARC, the automated cataloging system that brings you the complete MARC record in machine readable form and lets you change that record to meet your library's needs.

To keep the system simple, the creators of MINI MARC first assembled a list of the basic steps one takes in cataloging an item . . . and then dedicated one key on the keyboard unit to each step.

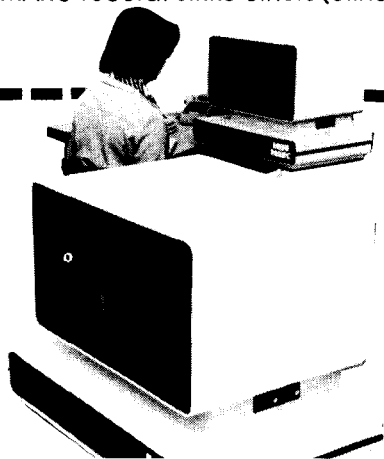
Press one key and call up an entire MARC record. Strike others (either

singly or in combination) and you can insert a blank line, delete a line, send an updated MARC page to computer . . . perform 13 functions in all.

When you need to create an original record, special prompters appear on the screen — written in plain English — to assist you.

No complicated codes. No language barriers. Just a simple, straightforward system enabling you to catalog books, records, monographs, films, maps, even music.

Interested? Then send for a fact-filled catalog about MINI MARC today. Just clip the coupon below.



SP-4-79

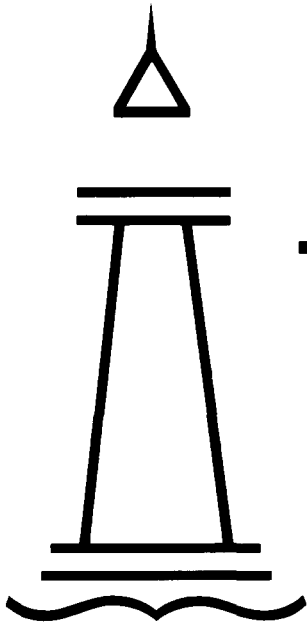
**informatics inc**

Library  
Information  
Services

6011 Executive Blvd. Rockville, MD 20852  
Send me more information about MINI MARC

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Organization \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_





Meet Us in Hawaii at

## **THE CONFERENCE**

*The H. W. Wilson Company wishes you  
an enjoyable and productive conference  
and invites you to visit*

### **BOOTHS 100-102**

**See these new or expanded indexes:**

ART INDEX now indexing 208 periodicals—an increase of 46 %

INDEX TO LEGAL PERIODICALS—20 additional periodicals now  
being indexed

CURRENT BOOK REVIEW CITATIONS—indexes book reviews appearing in  
over 1200 periodicals

GENERAL SCIENCE INDEX—indexes 89 English language periodicals  
covering all the major areas in science today.

**New Books for Special Librarians**

American Book of Days

Current Career and Occupational Literature

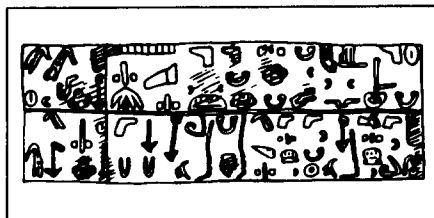
Introduction to Library Technical Services

Musicians Since 1900

# DIVINE CONCEPTION

Thought by ancient Egyptians to be of divine origin, HIEROGLYPHICS were in existence around the 3rd millennium B.C. In a rather loose way, the Greeks called the symbols *hieroglyphika grammata* ("sacred carved letters")...but they weren't really letters, nor were they always carved. Unique to Egypt, and last used in 394 A.D., this complicated script remained totally indecipherable until the 19th century when several brilliant Egyptologists unlocked the mystery using the priestly decree carved in the famous Rosetta Stone.

Our translators and editors feel like Egyptologists when a translation job abounds in cryptic jargon and mysterious



acronyms. We have no Rosetta Stone to guide us, but do have intelligent human resources and a constantly growing library. The FCFC reputation grows with each language problem solved.

Try our work at our expense... simply call or write for the details of our free translation offer.



**FRANK C. FARNHAM COMPANY, INC.**  
Foreign Language Services

P.O. Box 8187 • Philadelphia, Pennsylvania 19101  
Area Code 215 Tel. 567-1500

## Keep Sherlock Holmes in circulation longer...

and solve your book repair problems with Fastape.

There's no mystery about which repair tape keeps your books in circulation longer. Created especially for libraries, time-tested Fastape outperforms all imitators as the strongest, most effective book repair tape you can buy. Its high thread count gives Fastape the best resistance to abrasion and stretching. The tougher vinyl coating is waterproof and washable, yet easily lettered on with pen or electric pencil. And Fastape's adhesive hangs on in spite of rough treatment and doesn't spoil on the book or in storage.

Take the mystery out of long-lasting book repair with easy-to-use Fastape... available exclusively from Demco. You'll find Fastape in 12 colors and 6 widths, plus an entire line of book repair materials, on pages 169-185 of the new Demco Library Supplies & Equipment Catalog. Write today for this complete Library Shopping Guide.

# DEMCO

Your Library Specialist

Demco, Box 7488, Madison, Wisconsin 53707

Tell me more! Send me your 1979/80 Library Supplies Catalog.

In addition, please send me:

- The new Demco Perma-Bound Books Catalog
- A Periodical Subscription Service brochure

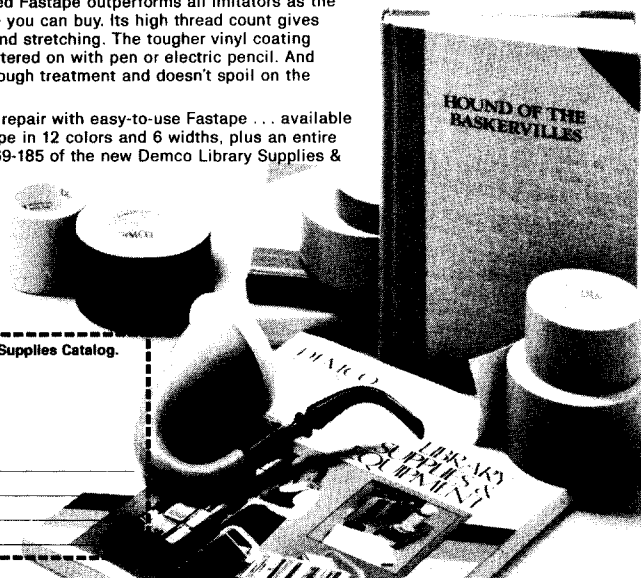
Send to: Demco  
Box 7488 Dept. C34  
Madison, Wis. 53707

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_



**HEYDEN**

# VADEMECUM

**The Complete What? Where? Who?  
Guide to the World of Higher  
Learning in Germany!**

*An Indispensable Reference Tool  
for all Libraries*

This unique directory, published by the Foundation for the Advancement of German Science, supplies complete information about the scholarly world in Germany.

The VADEMECUM will help you find:

- the exact address of an establishment, including telephone number
- an institute devoted to a particular field, where it is located and who is in charge of it
- where a particular subject is being taught
- which examinations can be taken and where
- foundations which serve science and education in the public and private sectors
- the background information needed for an overview of German scientific life.

The principal section of the book breaks down all physical, biological and social sciences, the humanities, legal sciences, medicine and agriculture into a logical system of subheadings. Each subheading lists all institutions where the subject is taught or researched, and includes the name, address, telephone or telex number of the senior staff members.

Three special indexes give access to this information by personal name, by establishment and department listed under the appropriate town, and by subject cross-referenced to all the entries at which the subject is studied.

The VADEMECUM contains 1,572 pages and offers access to 7,000 institutions of higher learning at 374 locations, 15,300 personal names of senior staff at these establishments, and 13,000 subjects which are taught or researched by these people. Details are also presented on 1,100 scientific societies, special libraries, archives and documentation centers.

ORDER NUMBER ISBN 85501 167 X

1,572 pp. Hardbound

\$68.00

**IMPORTANT!**

The next edition of the Vademecum is planned for 1981. If you miss this chance, you must wait nearly three years for your next opportunity, because present stock is very limited.

**HEYDEN**

To order or obtain our complete catalog, write or call:  
Heyden & Son, Inc., 247 South 41st Street, Philadelphia, PA 19104, (215) 382-6673, TLX 831 769

**HEYDEN**

# AKADEMIAI KIADO

Heyden & Son, Inc. is pleased to announce its appointment as the North American marketing and distribution agent for the English language publications of AKADEMIAI KIADO, world renowned publishing house of the Hungarian Academy of Sciences. Established in 1828, AKADEMIAI KIADO has just celebrated its 150th anniversary.

One of the original intentions of AKADEMIAI KIADO was to make the world's scientific literature available to Hungarian readers. In the past twenty years, however, this emphasis has shifted and now AKADEMIAI KIADO brings a broad spectrum of Hungarian scientific research to the rest of the world. Heyden & Son, Inc. of Philadelphia has now joined in cooperation with AKADEMIAI KIADO to expand the marketing and distribution of Hungarian publications in North America. A full list of all AKADEMIAI KIADO titles is available upon request.

## SEPTIMLINGUAL DICTIONARY OF THE NAMES OF EUROPEAN ANIMALS

*Edited by L. Gozmany, with H. Steinmann and E. Szili*

A new, comprehensive reference to the names of European animals!

This pioneering work will be a valuable addition for anyone working in natural history, applied zoology, for translators, etymologists and linguists.

Volume One contains the main index, which is alphabetic by the Latin name for each animal. This is followed by the German, English, French, Hungarian, Spanish and Russian equivalent. In each language the reader will find not only the standard name of the animal but also the variants, applied zoological, colloquial, dialectal, obsolete, and misapplied or misleading names, as well as appropriate slang names if they exist. Also included are the names designating different developmental stages, sex and seasonal forms, as well as the English, French and Spanish regional names.

In Volume Two, alphabetic indexes are provided for German, English, French, Hungarian, Spanish and Russian. Each name is cross-referenced back to the total entry in Volume One. Thus, if only one name is known, it is possible to locate the total entry.

Two other unique features of this dictionary are the family name index and the system of animals by location of the species and by the higher group into which it is incorporated.

The dictionary will be of value, not only to the scientist and researcher, but also to the interested amateur or armchair philologist.

**SEPTIMLINGUAL DICTIONARY OF THE NAMES OF EUROPEAN ANIMALS  
in two volumes**

ORDER NUMBER ISBN 996 00 100-X

\$230.00

To order or obtain our complete catalog, write or call:  
Heyden & Son, Inc., 247 South 41st Street, Philadelphia, PA 19104, (215) 382-6673. TLX 831 769

**HEYDEN**

# GeoRef

**PROVIDES ON-LINE ACCESS TO BIBLIOGRAPHIC INFORMATION FOR GEOSCIENCE LITERATURE WORLDWIDE**

- **FILE SIZE:** Contains over 540,000 references with 3500 to 4500 new references added monthly
- **COVERAGE:** Over 4000 journals are scanned regularly in addition to books, maps, theses and government documents
- **IN PRINT:** The monthly *Bibliography and Index of Geology*, for years a distinguished reference tool in the field, is the printed counterpart of GeoRef

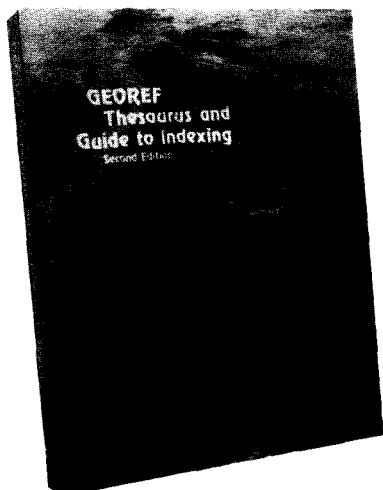
● **SUBJECT AREAS:**

areal geology  
economic geology  
energy sources  
engineering geology  
environmental geology  
extraterrestrial geology  
geochemistry

geochronology  
geomorphology  
geophysics  
historical geology  
hydrology  
marine geology  
mathematical geology

mineralogy  
mining geology  
paleontology  
petrology  
seismology  
stratigraphy  
structural geology  
surficial geology

- **UNIQUE FEATURES:** Depth of indexing, geographic coordinates, adherence to UNISIST standards for data elements in the file, and more
- **NEW THESAURUS:** The second edition of the *GeoRef Thesaurus and Guide to Indexing* includes over 12,500 terms, historical notes, improved cross-referencing and scope notes, and indexing methods used by the GeoRef editors



## GeoRef

American Geological Institute  
5205 Leesburg Pike  
Falls Church VA 22041



**Please send me**

- Information on on-line searches  
 GeoRef Thesaurus & Guide to Indexing  
 \$35, paper       \$20, microfiche

Name

Address

City

State

Zip

# Three Ways to Stretch Your Budget

## Up to 25% Discount

### SAVE 12 ½ %

Libraries can now order **PERGAMON PRESS** books directly and receive a 12 ½ % discount by subscribing to the **SELECTIVE ORDER PLAN**. Notify Pergamon of the subject areas in which you want to receive information about our books and each month your library will receive **Information Cards** with bibliographic and content information on books in the areas of your choice.

### 15% DISCOUNT

Enroll your library in **THE PERGAMON STANDING ORDER PLAN** and receive Pergamon books **automatically** in the subjects you designate.

### 10% SAVINGS

Purchase all your books directly and save 10% . Sign up **now** for the **LIBRARY CASH DEPOSIT DISCOUNT PLAN**, a major new, speedy, reliable and economic book service and save dollars **immediately**.

Combine this Plan with The Pergamon Selective Order Plan and receive a 22 ½ % discount or with the Standing Order Plan and save a total of 25%.

---

For further information on these Library Discount Order Plans, please write or call us at:

Library Information Department  
PERGAMON PRESS, INC.  
Maxwell House, Fairview Park  
Elmsford, New York 10523  
(914) 592-7700



## PERGAMON PRESS

Maxwell House, Fairview Park, Elmsford, New York 10523  
Suite 104, 150 Consumers Road, Willowdale, Ontario M2J 1P9, Canada  
Headington Hill Hall, Oxford OX3 0BW, England

# PSY'INFO™

---

Offering you a family of database services in psychology and related behavioral and social sciences. A trusted name established through reliable services available in the forms users need.

## ONLINE SERVICE

Nearly 300,000 database entries available for searching and review through your interactive terminal whenever you need access.

## PRINT PRODUCTS

**Psychological Abstracts** monthly journal and subject and author indexes in six month and multiple year cumulations.

## TAPE LEASES & LICENSES

PsycINFO monthly updates and historical volumes on magnetic tape ready for on site processing by information centers.

## DEMAND SEARCHES

The Psychological Abstracts Search and Retrieval service (PASAR) bringing our staff expertise to bear on your retrospective search topics from strategy formulation through final review.

---

PsycINFO offers effective reference tools and training services for online and manual utilization of the database:

- **The Thesaurus of Psychological Index Terms** (2nd Edition)
- **The PsycINFO Users Reference Manual**
- PsycINFO user training seminars

We welcome your inquiries or comments.

### CALL OR WRITE.

#### NEW!

PsycINFO Action Line (800) 336-4980  
(Toll free in the continental U.S.)



PsycINFO, 1200 Seventeenth St., N.W., Washington, D.C. 20036, (202) 833-7600  
A service of the American Psychological Association

**PUBLICATIONS**



**AVAILABLE  
ON MICROFICHE**

**INTERNATIONAL LABOR DOCUMENTATION:  
CUMULATIVE CATALOG OF THE ILO LIBRARY,  
1965-1977**

A bibliographical record based on current acquisitions in the ILO Central Library, covering the fields of industrial relations, management, manpower planning, vocational training and other problems of economic and social development.

The collection covers 136 COM microfiches A6 (105 mm x 148 mm); each 400 frames, 48 x reduction; computer-produced cumulation with approximately 72,000 abstracts at the price of \$274.70.

**OFFICIAL BULLETIN  
1920 TO 1976 (VOLS. 1 TO LIX)  
ABOUT 30,000 PAGES**

The Official Bulletin is the channel through which the International Labor Office supplies official information on matters connected with the life and work of the International Labor Organization.

The collection in microfiche form A6 (105 mm x 148 mm); 20 x reduction; at the price of \$669.30. Further volumes in preparation.

**TITLE LIST OF ILO PUBLICATIONS AND  
DOCUMENTS, 1970-1977**

An indispensable reference tool for all librarians and researchers interested in the field of industrial relations, management, manpower planning, vocational training and other problems of economics and social development. It includes sales publications, mimeographed documents and journal articles. Gives bibliographical information only.

4 COM microfiches A6 (105 mm x 148 mm); each 400 frames; 48 x reduction; at the price of \$12.45.

**REGISTER OF PERIODICALS IN THE  
ILO LIBRARY**

The register contains a listing by title and by country of some 8,000 periodicals and annual publications currently received by the library of the International Labor Office. In addition, a further 3,000 titles of items no longer received or published are included.

The volume covers 4 COM microfiches A6 (105 mm x 148 mm); each 400 frames; 48 x reduction; at the price of \$12.45.

**YEAR BOOK OF LABOR STATISTICS  
1935-36 TO 1977**

A unique reference work which brings together in statistical form world-wide data on labor and conditions of work. It provides the background information essential to a proper understanding of trends and developments in labor and related matters influencing all aspects of modern society.

The collection of 37 volumes in microfiche form A6 (105 mm x 148 mm); 20 x reduction; at the price of \$534.40.

Also available separately: 1935/36 to 1964 at \$22.45 per volume; 1965 to 1977 at \$24.95 per volume.

Further volumes in preparation.

**IN PREPARATION ON MICROFICHE  
WEP RESEARCH WORKING PAPERS**

WEP Research Working Papers are preliminary research studies circulated to stimulate discussion and critical comment. As such, they are reproduced in limited numbers and given restricted distribution to specialists in the various subject matters covered under the World Employment Program (income distribution, technology, migration, population, etc.).

This unique collection of some 120 volumes will shortly be available for the first time in microfiche form A6 (105 mm x 148 mm).

Standing orders for forthcoming volumes are accepted.



See these and other ILO Publications at Booth \_\_\_\_\_  
Send orders and requests for Free Catalog to:  
**INTERNATIONAL LABOR OFFICE**  
Suite 330-SL, 1750 New York Ave., N.W.  
Washington, D.C. 20006 (202) 634-6335



**NOW AVAILABLE**

**STATISTICAL YEARBOOK 1977**

Important compilations of statistics from countries throughout the world covering a wide range of economic and social subjects, including: population, agriculture, manufacturing, construction, transport, trade, balance of payments, national income, education and culture.

Sales No. E.F.78.XVII.1 980 pages  
Cloth \$45.00 Paper \$37.00

**UNITED NATIONS PUBLICATIONS**  
Room A-3315  
New York, N.Y. 10017

**UNITED NATIONS PUBLICATIONS**  
Palais des Nations  
1211 Geneva 10, Switzerland

**Dionne Warwick says:  
"Get your blood  
into circulation."**



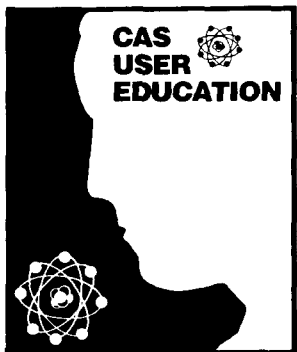
**Call Red Cross now  
for a blood donor  
appointment.**



ART  
UNITED A Public Service of This Magazine  
& The Advertising Council



# IMPROVE YOUR SEARCHING SKILLS



## USER EDUCATION FROM CHEMICAL ABSTRACTS SERVICE

### FIND THE FACTS FASTER

When you need chemical information, you probably need it right away. You know that CHEMICAL ABSTRACTS (CA) and its related services can lead you to the facts. After all...we abstracted, indexed, or cited 478,225 chemistry-related documents in 1977 alone. All this valuable information is at your finger tips, *if* you know how to retrieve it. Our USER EDUCATION services, available at reasonable prices, will show you the fast, efficient way to find the information you need.

### THE BETTER YOU KNOW CA, THE MORE USEFUL IT BECOMES

Are you sure you're using CA and its related services for all they're worth? Ask yourself these questions: How can I find all the references relevant to my research? How can I avoid missing important documents? What about information regarding specific chemical substances and classes of substances? What exactly can be found in CAS computer-readable files?

Many scientists, librarians, and educators ask these questions and more about CHEMICAL ABSTRACTS SERVICE (CAS) information tools.

### NOW...SHARPEN YOUR SEARCHING SKILLS

USER EDUCATION, a special department of CAS, was created to answer your questions about the content, organization, and effective use of CAS information services.

USER EDUCATION will conduct workshops for your organization to demonstrate effective searching of CAS printed or computer-readable services. Our instructors will explain how to apply these services to information problems you often face. Also available: an Index Nomenclature Workshop concentrating on the CA Volume Index terminology.

In addition to workshops, USER EDUCATION provides informative self-instructional tools:

- Search Aids, to develop effective search strategies for CAS computer-readable files
- a convenient workbook on the effective use of CAS printed services

### FIND OUT HOW CAS USER EDUCATION CAN HELP YOU MAKE BETTER USE OF THE CAS INFORMATION SYSTEM.

Clip This Form (or Mail a Photocopy) Today



MAIL TO: CHEMICAL  
ABSTRACTS SERVICE  
USER EDUCATION  
DEPT. SDR  
Box 3012  
Columbus, Ohio 43210

OR CALL: (614) 421-6940 Ext. 3231

Please send me more information about the price and availability of the item(s) I've checked below.

- Arranging a USER EDUCATION WORKSHOP for my organization
- SEARCH AIDS for CAS computer-readable files
- WORKBOOK on CAS Printed Services

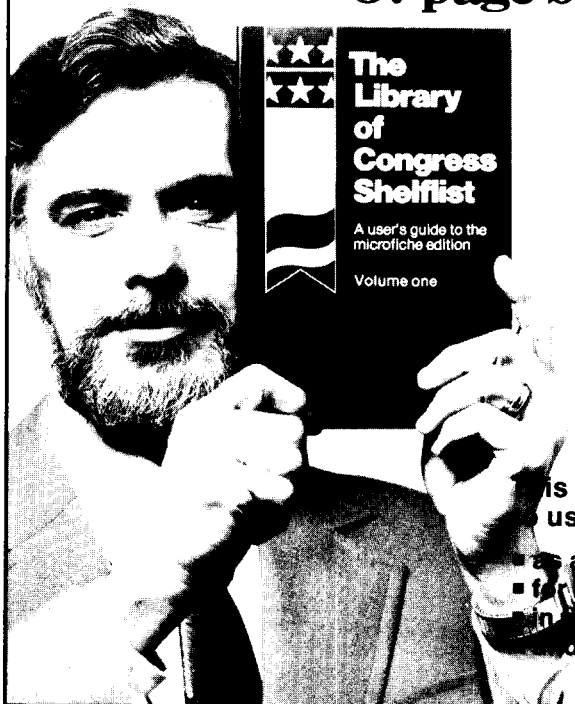
Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

# FREE!

57 page book on...



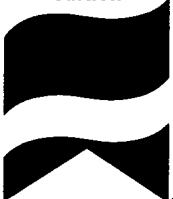
using  
the most  
powerful  
professional  
tool your  
library will  
ever own!

This guidebook shows you how  
to use the LC Shelflist

- as a cataloging source
- for bibliography development
- in your reference department
- and in special libraries



**THE  
LIBRARY  
OF  
CONGRESS  
SHELFIST**  
microfiche  
edition



Now you can have all 6.8 million cards in the Library of Congress Shelflist at your fingertips—stored on microfiche in the space of two shoe boxes.

To learn how to use the Shelflist in your library, send for your **FREE User's Guide** today!

Name/Title \_\_\_\_\_  
Department \_\_\_\_\_  
Library \_\_\_\_\_  
Phone (area) \_\_\_\_\_  
Address \_\_\_\_\_  
City/State \_\_\_\_\_ Zip \_\_\_\_\_

**CALL TOLL-FREE**

From U.S.—800-521-0600 (except Michigan, Hawaii, Alaska)

From Canada—800-261-6090 (except British Columbia)

or call 313-761-4700

University  
Microfilms  
International

300 N. Zeeb Road  
Ann Arbor, Michigan 48106



Complete Shelflist: \$2395.  
Also in LC Class segments.

# NEW Up-To-Date Books From Noyes Data

NOYES DATA has developed two new techniques of vital importance to those who wish to keep abreast of rapid changes in technology and business conditions: 1) our advanced publishing systems permit us to produce durably bound books within a few months of manuscript acceptance; 2) our modern processing plant ships all orders on the day after they are received.

## HARDCOVER BOOKS—EARLY SPRING 1979

**PHARMACEUTICAL MANUFACTURING ENCYCLOPEDIA** by M. Sittig: Describes manufacturing processes for 673 major pharmaceuticals, arranged alphabetically by generic name. Notable for its trade name and trademark index and its index of raw materials and the drugs producible from them. ISBN 0-8155-0739-9; \$72.

**EMULSIFIERS AND EMULSIFYING TECHNIQUES** by J.C. Johnson: This book details about 250 processes developed since January 1973 on preparation and application of emulsifiers in fields such as food, petroleum, chemical, polymer, cosmetic, pharmaceutical, ink and coatings. ISBN 0-8155-0740-2; \$42.

**OFFSHORE OIL TECHNOLOGY—RECENT DEVELOPMENTS** by M.W. Ranney: Technology necessitated by development of offshore drilling has grown rapidly. This text brings the reader up to date on platform erection, wellhead construction, drilling, storage, etc. Over 80 figures and illustrations supplement descriptions of about 170 processes. ISBN 0-8155-0741-0; \$42.

**WATER-SOLUBLE POLYMERS—RECENT DEVELOPMENTS** by Y. Meltzer: About 250 methods to process and use natural starches, and synthetic and semisynthetic polymers; namely products of acrylic acid, natural gums, cellulose ethers, epoxies, ethylene oxide, polyurethane, PVA and more. ISBN 0-8155-0742-9; \$48.

**CANDIES AND OTHER CONFECTIONS—RECENT DEVELOPMENTS** by M.T. Gillies: How to incorporate sweeteners into desserts, candy, confectionery ingredients, toppings, chewing gums and specialties to achieve a satisfactory, saleable product requires the special skills and equipment described here. Close to 200 processes dating from 1973. ISBN 0-8155-0743-7; \$36.

**HEAT PUMP TECHNOLOGY FOR SAVING ENERGY** edited by M.J. Collie: This alternative to fossil fuel for space heating encompasses experiments and computer-simulated studies in various buildings, performance comparisons, solar assistance, noise control and improvements in water- and air-source pumps. ISBN 0-8155-0744-5; \$39.

**ENERGY SAVING BY INCREASING BOILER EFFICIENCY** edited by L. Yaverbaum: This text furnishes the precise data the boiler plant manager or operator needs on adjustments, modifications, auxiliary equipment, alternate fuels, testing, and evaluating the efficiency achieved and economics involved. ISBN 0-8155-0745-3; \$32.

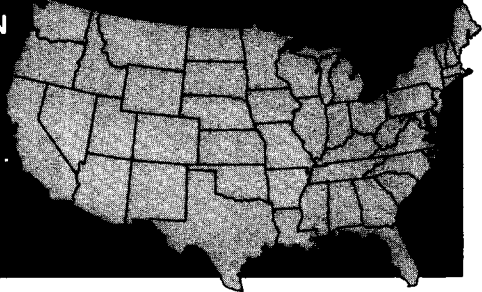
**PASSIVE SOLAR ENERGY DESIGN AND MATERIALS** edited by J.K. Paul: Architects, designers and producers of materials and components will profit from accounts of over 100 buildings using passive design to distribute heat by natural means. Case studies and hybrid arrangements are included. ISBN 0-8155-0746-1; \$39.

**ndc**

**NOYES DATA CORPORATION**  
NOYES BUILDING, PARK RIDGE, NEW JERSEY 07656

# Who has the answer

TO STATEWIDE QUESTIONS ON  
ENERGY . . .  
TAXATION . . .  
WELFARE . . .  
NATURAL RESOURCES . . .  
EDUCATION . . .  
VITAL STATISTICS . . .



## THE NATIONAL DIRECTORY OF STATE AGENCIES/1978-1979

**The authoritative reference for identifying key sources  
of information for 94 state agency functions.**

Opening a whole network of sources for those who need information at a state level, this comprehensive guide covers functions, agencies, and key personnel in the governments of the 50 states, and the District of Columbia, and U.S. possessions and territories.

An essential tool for business, academia, libraries, government, and others who must receive information from, or do business with, the states, the *Directory* is conveniently divided into two sections: the first lists information by states, the second by specific functions (i.e., agriculture, consumer affairs, environment, etc.).

### **TIMELY AND ACCURATE**

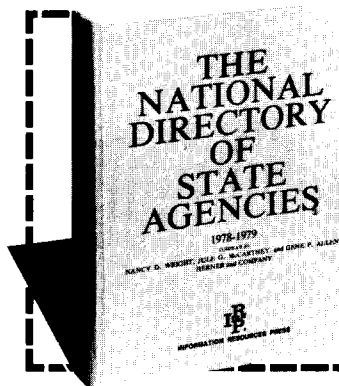
To ensure the greatest possible reliability, the *National Directory* verifies every entry, updating until press time.

### **SPECIAL APPENDIX**

For those interested in nationwide associations of state government officials, 63 such organizations are listed, with names, addresses, and phone numbers for easy reference.

*Durably and handsomely clothbound,  
7½ x 10½, 679-pages . . . \$55.00 (plus  
\$2.40 for postage and handling).  
L.C. No. 74-18864, ISBN 0-87815-023-4*

**Send for this vital reference now — call (202) 293-2605 or mail the coupon below:**



### **INFORMATION RESOURCES PRESS**

2100 M St., N.W., Dept. SL 039 Washington, DC 20037

YES, please send \_\_\_\_\_ copy(ies) of the *National Directory of State Agencies/1978-1979* @ \$55.00 each (plus \$2.40 for postage and handling).

Name \_\_\_\_\_

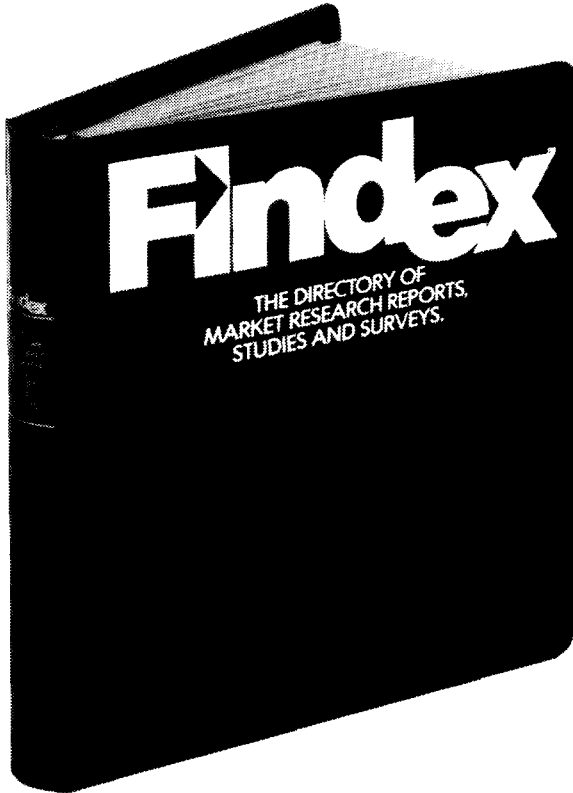
Title \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

# FINDEX™ takes the search out of market research.



Over 2,500 reports listed in the following categories:

- I. Basic Industries
- II. Energy
- III. Construction/ Materials/Machinery
- IV. Computers/ Electronics
- V. Consumer Durables
- VI. Consumer Nondurables
- VII. Retailing/ Consumer Services
- VIII. Healthcare
- IX. Transportation
- X. Defense/Security Systems
- XI. Media
- XII. Business/ Finance
- XIII. Company Reports

Instead of spending hours trying to locate information, you can find research that's already been done in one quick, simple step. Introducing Findex: The Directory of Market Research Reports, Studies and Surveys.

Findex is a new comprehensive reference guide that lists over 2,500 reports and studies on consumer and industrial topics available from domestic and international publishers and research firms. It includes syndicated and multi-client studies, audits, subscription research services, and reports on companies which are produced by major investment firms. Its

scope is tremendous.

Findex is the only reference work of its kind that contains a complete description of each study listed. It also tells you when the study was published, the number of pages, the price, and where to order it.

An invaluable tool, Findex comes with a full money-back guarantee.

So, order Findex today. The \$89.50 price includes the 1979 edition and a 1979 mid-year supplement.

At last, there's a way to locate market research information without researching the whole market.

Please send me \_\_\_\_\_ copy(ies) of the 1979 edition of Findex at \$89.50 per copy.

If I am not completely satisfied, I can return it within 15 days and receive a full refund.

(Foreign orders must be prepaid in U.S. currency drawn on a U.S. bank. Add \$9.00 for air mail shipping.)

Payment enclosed in the amount of \$ \_\_\_\_\_  
(N.Y. state residents add sales tax.)

Please charge my American Express Credit Card

Card No. \_\_\_\_\_ Exp. Date \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Signature \_\_\_\_\_

**Find**/SVP 500 Fifth Avenue, New York, N.Y. 10036 (212) 354-2424

# COMPENDEX / TECHNOLOGY

- Your window on worldwide developments in engineering
- Your first choice for answers to queries on:

- Solar Energy Measurement
- Propellants for Rockets and Missiles
- Treatment of Industrial Wastes
- Heat Insulating Materials
- Geothermal Energy
- Waste Heat Utilization
- Defects in Semiconductor Materials
- Control of Air Pollution
- Engineering Education
- Industrial Management
- Data Base Management
- Biomedical Engineering

**COMPENDEX** — *via on-line* search services operational in U.S., Canada and Europe. Providing instant access to over 700,000 records (including Abstracts) — growing by 7,500 additions monthly; average rates — \$10.00 to \$15.00 per search.

**COMPENDEX** — *via batch mode* (SDI or retrospective searches) available from centers around the world.

**COMPENDEX** — *via Acquisition* Lease or License for National Information Services, Industrial Organizations and Academic Institutions.

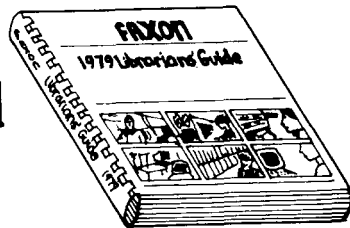
For further information contact: Marketing Division

**Engineering Index, Inc.**

345 East 47th Street, New York, New York 10017 • 212/644-7615, 644-7616, 644-7620



## Subscriptions the Professional way . . .



### Faxon wrote the book.

With costs increasing as library budgets shrink, modern librarians are called upon to use their professional skills more than ever.

That's why Faxon's fast, accurate, flexible subscription service makes sense for so many busy libraries. Ordering through Faxon helps manage costs, and frees librarians for important management tasks.

Write or call today for our LIBRARIANS' GUIDE and SERVICE BROCHURE. Faxon. For subscription service . . . the professional way.

*Library business is our only business — since 1881.*



**F.W. FAXON COMPANY, INC.**

Library Magazine Subscription Agency

15 Southwest Park, Westwood, Mass. 02090

Tel: 800-225-6055 (toll-free)

617-329-3350 (collect in Mass. and Canada only)

# MAP COLLECTIONS IN THE UNITED STATES AND CANADA

A Directory, 3d ed.

1978 / soft cover / 215 pages / 6 $\frac{7}{8}$  × 10 / \$19.75  
ISBN 0-87111-243-4 / LC 77-26685

**David K. Carrington and Richard W. Stephenson, eds.**

The *Directory* describes 745 major map collections in the United States and Canada—a 23% increase in coverage over the previous 1970 edition.

The entries are arranged alphabetically by city within a state or province. A comprehensive index aids the user of this valuable reference tool.

The *Directory* is completely revised, as well as expanded. The data has been compiled from questionnaires completed by responding libraries. It is the first time data about cataloging, classification, and reader services are included. In addition to information about the name and address of the institution, the person in charge, the size and growth of the collections, and major subject and area specializations, the *Directory* gives the date the map library was established, the number of professional and non-professional staff, chronological emphasis of materials in the collection cataloged, hours of service, seating capacity of the reading room, and number of readers served per month.

Order your copy from:

**Special Libraries Association  
Order Department  
235 Park Avenue South  
New York, N.Y. 10003**

# Cost-Effectiveness and Cost-Benefit Determinations in Special Libraries

**Herbert S. White**

Graduate Library School, Indiana University, Bloomington, Ind. 47401

---

■ Mechanisms to establish and evaluate cost-effectiveness in the administration of libraries are as feasible and necessary as for any other operational unit. The determination of cost-benefit to the sponsoring organization is far more difficult, and probably cannot be made on a consistent and continuing basis. However, user perception that such cost-benefit exists, even if unsupported in an accounting sense, can suffice to justify the validity of the library operation. It is this perception and appearance that library managers must seek to cultivate.

---

ONE OF THE THINGS which differentiates libraries in the for-profit sector from academic, public, and school libraries is that in these latter institutions the library is assumed to have value *per se*. In part this is because there is perhaps a greater tolerance for knowledge and learning as a self-evident good, rather than simply as a contributor to bottom line figures. However, academic librarians now report that much of this tolerance for the library is eroding under financial pressures. Nevertheless, it should be safe to assume that a university president would not, and could not, shut down the university library and sell its books, even if the administration was absolutely convinced that the library contributed nothing to academic excellence on the campus. The faculty would not allow it, the school would lose its accreditation, the graduates would not get jobs, and the Board of Trustees would fire the president at its next meeting.

By contrast, the author cannot envision any such restraining pressure on corporate officials, or company presidents comparing notes on the quality and size of their libraries.

## Corporate Decision-Making

Although many companies are beginning to soften their public image, the fundamental purpose of the for-profit organization is still precisely that—to make a profit. What size profit? Stockholders never set limits on their appetites for return on investments, and when short-term profits are plowed back into the business for plant expansion and enhanced research programs, all that is being done is to trade in a present return for the expectation of an even larger future profit. Corporate executives are hired to make good decisions, and if the decisions work out well for the company, no one really cares whether or not they were scientific.



ically based. If the decisions turn out badly, nobody cares how they were arrived at either.

Most business decisions of the 19th and early 20th centuries, as well as management philosophies in existence today, were and are based on instinct and innovation. Success rates were never high, but those who did succeed were glorified and lionized, and the impression grew that such bold and incisive courage was the key to business success.

We still have some such instinctive innovators, but they are a dying breed, replaced by groups of professional managers whose objective is frequently the avoidance of a bad decision rather than the formulation of a good one. These managers, who did not necessarily start the business or grow with it, need tools with which to make good, or at least safe, decisions.

Cost-benefit and cost-effectiveness analysis programs are designed to assure the effective allocation of scarce resources. In a production environment this works reasonably well. Parameters can be established for determining the relative merits of starting a second shift or of building a new assembly plant. Models can be drawn to determine whether or not price increases will depress sales sufficiently to offset the gain in unit profitability.

### **The Library as Overhead**

Cost-benefit analyses become more difficult when applied to overhead operations such as the library. In accounting terms, overhead is cost applied to gross profit; overhead turns profit into a smaller operating or net profit, or even a net loss. Since overhead always has a negative impact, it is always assumed to be too large. Furthermore, the advantages of overhead expenditures, while perhaps easy to claim, are difficult to justify. Why renovate the company cafeteria? Because it improves employee morale? Does it really, even if there were complaints in the last survey? Would employees prefer this to a raise? Will

renovation decrease turnover or improve productivity? If productivity later increases, how do we know that this renovation was solely or even primarily responsible? It makes for happier employees? So what? There is no tangible proof that happier employees are harder workers. We have all seen organizations with so much staff camaraderie that most of the day was spent in planning parties, picnics, bowling tournaments, and bridal showers, and almost no work at all got done.

The author is forced to conclude, from his own experience in operations and management, that a true cost-benefit analysis of an overhead organization such as the library, in terms of what it



contributes directly to organizational goals, may be neither practicable nor even possible. There are libraries, of course, whose operating budgets are allocated to user groups, either by formula or by actual use. In theory, to the extent to which the group has the right to reject library service, such an acceptance can be argued to represent cost-benefit acceptance, but in point of fact there is organizational pressure for each group to pay its so-called fair share. Part of this pressure still comes from the belief, even in business environments, that libraries are good things, and not to be reviled. Part of it comes from the recognition that, if one group refuses to pay, the others will probably have to pay more. Most importantly, they are willing to go along because their share of the allocated library expense is in fact rather trivial, and really does not make that much difference.

Generally, corporate measurement criteria have not extended to the evaluation of one overhead service against another—of a better library versus hot cafeteria lunches versus new electric typewriters versus expanding the parking lot versus doubling the number of daily mail deliveries.

Usually, the library is treated as part of the overhead pool, and a fairly insignificant one at that. Overhead funding is decreased when sales and earnings fall, or when they do not approach expectations. It can be convincingly argued that bad times are in themselves the worst times in which to cut back on research and, by extension, library activities, but those arguments are usually fruitless. Stockholders are interested in this year's dividends and this year's stock market quotations. Five years from now somebody else may own the stock, and the present owner will not care.

If decisions affecting specific overhead services such as the library are not made within the organization based on any specific or scientific cost-benefit formulation, how are they made? By and large, these decisions are based on perceptions by individuals on how the continuance, strength, growth, or decline of the library will affect their own performance. It should not be assumed that individual profit center managers will be sufficiently altruistic to vote for things that will hurt them or their performance, but which may help the organization. Managers are encouraged to be selfish in their thinking; they are rewarded for their own successes and punished for their own failures. Credit and blame are not generally shared.

### **The Library's "Usefulness"**

Individual managers have little idea of how the operation of the library affects the success or failure of their own performance. They cannot admit that they would have committed a serious blunder, if not for certain help from the library. Nor can they accept that the existence of a strong library allows them to decrease their own technical

staffs or to increase their sales targets. While they may happily agree that the library saves them time, they will never agree that this allows them to operate with fewer people, and there is therefore no tangible cost reduction.

The lesson for librarians in this is clear. The library is perceived as being useful (these words are chosen carefully because it cannot actually be proven to be useful) to the extent that its services and activities are felt by operating profit center managers to be of positive influence on their group. Only "positive" counts. An evaluation of "having no impact" is just as deadly as a negative one would be. Having postulated that cost-benefit studies of the role of the library in the achievement of overall organization goals are probably not practicable, it could then be argued that cost-benefit analysis of operations within the library can be measured quite effectively if objectives for the library are established in terms of their impact on the performance of operating groups.

### **Internal Cost-Benefit Analyses**

What this requires, first of all, is that librarians think of themselves as entrepreneurs running a business. The success or failure of that business comes from the acceptance and appreciation of its products and services—its operating capital comes from the willingness of the customers to provide it with a stake.

Most corporations pay little attention to how libraries allocate their funds. The budget may require line item descriptions, but the only real interest is in the cost total. In addition, most organizations impose headcount ceilings, in that additional money cannot usually be spent on full-time permanent employees without additional permission. However, it usually can be allocated to purchased services or contract labor, and sometimes even for in-house employees, as long as these are either part-time, temporary, or both.

In order for the library administration to perform its own internal cost-benefit analysis, it must obviously know both costs and benefits. Costs are easy to calculate; they come monthly from the accounting department. If we assign functional or task codes to time sheets we can get cost breakdowns by functions performed and even user groups for which services are performed.

One of the traditional management communication problems that libraries have had is that library objectives are usually inwardly directed. We will purchase and process books and periodicals to projected numbers, we will compile a certain number of bibliographies, we will achieve a 10% increase in

not our job. Economy may become a requirement, but corporate profitability is a factor that someone else is hired to monitor at a considerably higher salary. In fact, we can cost reduce our way into being fired for not doing our job, which is to run a library that is both an effective library and one which is perceived to be an effective library. Both are important, and both are inexorably tied together. The first because that is our professional responsibility, the second because it is a prerequisite for being able to do the first. It is sometimes difficult to convince library managers in for-profit environments, who are usually conservative to start with and who have been ground down by corporate propaganda, not to worry about

---

*... a true cost-benefit analysis of an overhead organization such as the library, in terms of what it contributes directly to organizational goals, may be neither practicable nor even possible.*

---

circulation and an 8% increase in inter-library loan. These statistics, while they may impress fellow library professionals, are meaningless to management, which is not in the book processing and material lending business. It is to the real business, or the many businesses, of the company that library objectives must relate. What does the library plan to do in support of program A and program B? At least as importantly, how do we assure that the directors of programs A and B are aware of what we are doing for them—are they direct recipients, are they told by their own people, or do we make sure we tell them ourselves?

Unless the library manager has a specific direction for the library and feels convinced that success in this endeavor is good both for the library and for the organization, then the library will inevitably drift. The librarian was hired to run a good library and to serve the needs of the organization, even if management cannot articulate them.

That is our objective; saving money is

requesting a tripling of their budgets for a program addition or a program expansion if that program makes sense. The library cannot spend enough, no matter how extravagant we get, to affect earnings by even one cent per share, and new programs are far easier to sell than a 20% increase in existing programs.

### **Justifiable Costs**

It is possible, then, to make cost-benefit determinations in the for-profit special library, but only if there is first a determination of what will be beneficial. That determination is not practicable in terms of overall corporate goals and objectives. These are too broad to permit the library to measure its performance against the achievement of corporate performance. In fact, it might be misleading in that corporate performance may be excellent despite a poor library, or that corporate performance may be poor because of a marketing strategy decision in which the library had no part.

Nor can the library's contribution be measured simply in terms of its own internal statistics. Technical processing unit costs, circulation unit costs, or circulation per volume owned are useful tools in any library, and they may be sufficient in an academic setting in which the need for a library, and even the largest possible library, is accepted as a premise and not subject to question by the faculty. However, in a for-profit library, located in an organization for which library service is an incidental and suspect miscellaneous expense, the only meaning of benefit can come in terms of impact on those profit centers and revenue earning programs which are subject to close scrutiny, and, even more importantly, in terms of the perception of that impact by profit center managers.

With this as a yardstick, consideration of alternatives within the library is possible. Bibliographic access, which is now expanding so rapidly through various time-shared access systems, inevitably carries a cost; the cost of providing bibliographic availability

volume of material requested, its relation as a percentage to the material supplied internally (missing the tenth article is not quite so important when you have been able to immediately supply the other nine), and the user perceived importance of rapid service in general and for specific items. Of course, we must also consider what we give up in other services by detaching this half-time clerk, or by cutting \$4,000 from our other budget categories to contract for twenty hours per week of a student to do this work. That option is usually ours. Management neither knows nor cares, nor should it bother.

Academic libraries are not as fortunate. Since the concept of information service has not really been developed and no expectation for it has been aroused, except in small departmental collections which function more like special libraries, the academic library is basically expected to maintain the size of its acquisitions program. It does not have the option of transferring materials money to services or to the development of effective computer systems.

---

*The librarian was hired to run a good library and to serve the needs of the organization, even if management cannot articulate them. That is our objective; saving money is not our job.*

---

must be related to the cost of providing document delivery. This can be done through library purchase of single copies and subscriptions, through the purchase of multiple copies and subscriptions to assure rapid access, through effective recall procedures for material already in the system, and through providing rapid and reliable document delivery from outside the collection. Should the librarian, from the labor budget, designate one individual on a half-time basis to make a daily trip to the nearby university library, make the necessary interlibrary loan copies personally, and bring them back the same day? It obviously depends on many factors, including the

If we look at our stewardship of the library as running a private business, we will quickly see that making wrong decisions is a luxury we cannot afford. Store owners will rapidly go bankrupt if they sink capital into stock which does not move from the shelves. The comparison to libraries is apt. If we spend our money to have staff perform useless tasks, if we subscribe to bibliographic data bases in which no one is interested, we are not only wasting organizational money, we are stealing money from ourselves which we could use for more meaningful purposes. This is not to suggest that we return it as surplus. Our job, as previously stated, is not to save money. There is a whole

financial control organization; let them worry about that. Nor is it our job to help out the personnel department by taking protected misfits into the library. Our need for a high quality staff is as great as that of any other unit. Perhaps our need is greater, because our staff is usually small.

### **Coordination with Company Projects**

The library cannot make tangible contributions to the specific programs which are carried out within the organization without first knowing what these are. This may seem obvious, but it is surprising to what extent these programs are only dimly perceived. Start by making a list of programs and activities within the organization, and then determine to what extent these can benefit from library support, and to what extent they are already supported. There are two kinds of projects that should be starred or underlined. The first consists of the ones run by individuals in a position to affect library funding and library support. Frequently these individuals, in general administration and finance, are not natural or instinctive library users, but that does not mean they do not have information problems. Lack of complaints in this instance does not necessarily imply good library service. It may mean poor service, or no service.

The second group concerns newly started projects, because new projects are most in need of information, and timeliness is critical. Frequently a new project team is put together and given specific and demanding assignments, with little if any understanding of what has transpired in the past, what documentation already exists, or what services might be available. The manager of this new project has no time to spend on literature searches. More priority must be given to logistical problems, concerns about justifying, interviewing and hiring staff, fighting for and arranging space and equipment, getting a budget established, and developing the necessary contacts with the

accountants and purchasing agents without whom life in the organization is impossible. These managers of new projects need help most of all. Yet they do not know what they need; neither do they have time to think about it.

How do we find out what projects exist, particularly what new projects are just coming into being? We must work hard at developing informal communications channels, because most decisions are made long before they are formally reported. Depending on the librarians' position in management chains, they may be participants in meetings in which decisions are made. If not, then somebody in the management chain is such a participant, and we must make it clear that it is part of their job to help us do ours by keeping us informed.

Part of the information process simply consists of talking to people, informally or through formal appointments, to find out what they are doing



and to suggest support the library might be able to provide. People like to talk about their work, like to explain what they are doing. They usually do not consider this an imposition, even if it requires translation into very basic English. At the same time, their perceptions of and expectations for services from the library are frequently restricted to the clerical provision of documents on request, and they require education just as we do.

## Conclusion

The implementation of cost-benefit determinations within the library is a long overdue process. Librarians have continued, for far too long, to perform their jobs in a traditional way, partially because they report to a management which is neither knowledgeable enough nor interested enough to suggest any changes. At the same time, the premise of the library as an inherent good is coming under growing chal-

lenge in the public and academic sector. In the private sector this is nothing new, as the "bloodbaths" of the early 1970s attest. Libraries, unable to demonstrate their specific contribution to this year's profit growth, have tended to avoid financial analyses entirely. It is a third alternative, a middle ground, which this paper has sought to address.

*Manuscript received Apr 21, 1978. Revised manuscript accepted for publication Dec 11, 1978.*



**Herbert S. White is professor, Indiana University Graduate Library School, Bloomington.**

---

# An Information Service for the Maritime Industry

*D. G. Mellor*

Maritime Research Information Service, Transportation Research Board, National Academy of Sciences, National Research Council, Washington, D. C. 20418

---

■ The services and publications available to the maritime industry through the Maritime Research Information Service (MRIS) are reviewed. MRIS is a computer-based service sponsored by the Maritime Administration and operated by the Transportation Research Board of the National Research Council. Information distribution to the maritime industry is provided through monthly and semiannual publications to subscribers, special bibliographies, computerized retrievals on request, and on-line retrieval directly through the Lockheed DIALOG system.

---

**T**HE Maritime Research Information Service (MRIS) has been in operation for about nine years. It is sponsored by the Maritime Administration and operated by the Transportation Research Board of the National Research Council for the benefit of the maritime industry. The purpose of the service is to provide rapid access to maritime information that has been brought together from numerous sources.

MRIS selects, abstracts, and stores maritime information that relates to the design, building, and operation of commercial vessels. The information covers vessels that operate on inland waterways as well as in foreign commerce.

The MRIS data base now contains over 17,000 abstracts of reports, journal articles, and conference proceedings. Storage of this information in the computer at the National Research Council makes it possible to retrieve information on request, and to use the output to produce publications.

The sources of information for MRIS input consist of articles from the various maritime journals (United States and foreign), reports resulting from government sponsored research, conference proceedings, and papers from technical societies.

The maritime information in MRIS is from international as well as domestic sources. The major input of overseas maritime information is covered

through exchange agreements with the British Ship Research Association, the Norwegian Ship Research Institute, and membership in foreign technical societies.

Basically, MRIS provides information in four different ways.

1) Subscribers receive the following two publications:

- *MRIS Abstracts*, issued in June and December yearly. Each issue covers all the information collected during each six-month period and has two major divisions: abstracts of reports and journal papers, and summaries of ongoing research. The abstracts and summaries are grouped under twenty-four subject areas that are listed in the Appendix. In addition, each issue of the *Abstracts* has a keyword index, a list of authors, and a list of publishers and performing or publishing agencies.

- *Current Awareness Service*, issued each month. It contains abstracts of published reports and papers, as well as summaries of ongoing research which were abstracted during the month. In addition, each issue contains information on maritime meetings and conferences and citations of timely transportation reports and articles. The citations are furnished through the cooperation of the Transportation Center Library at Northwestern University.

2) On-request computer retrievals are supplied for specific topics. These generally are handled by a telephone call to one of the MRIS maritime information specialists.

3) Beginning in March 1979 users could search the MRIS data base via the Lockheed DIALOG on-line retrieval system. This new mode of access to maritime information makes it possible for users to search for information on specific questions and to learn immediately of relevant information that is contained in the data base. Relevant abstracts can be displayed at the user's terminal or may be ordered through Lockheed's off-line printout service. Each abstract indicates how the user



may acquire the corresponding report or article that is represented by the abstract. Present U.S. users of DIALOG data bases do not need to make additional arrangements with Lockheed to use the MRIS data base.

4) Special publications represent the last type of MRIS output. Generally these are bibliographies with abstracts. MRIS plans to publish a special bibliography on "marine transit" that will incorporate abstracts of available papers from the October 1977 International Waterborne Transportation Conference with about 150 additional abstracts on this topic selected from the MRIS data base.

Two bibliographies of this type, already published, are *Technical Report Abstracts* covering Maritime Administration Research and Development from 1957 to 1972 and *Abstracts of Maritime Education and Training Publications*. The latter was published as a cooperative effort by the Maritime Administration, the Maritime Training Advisory Board, and MRIS.

MRIS is one of four modally oriented transportation information services operated by the Transportation Research Board. The other three are the Highway (HRIS), Railroad (RRIS), and Air Transport (ATRIS) research information ser-



vices. Since all four modes use the same software and computer, it is possible to provide multimodal retrievals when required by a requestor's need for transportation information.

There are numerous sources of information that can be tapped only through voluntary cooperation. These consist of the many individuals, companies, and state and local agencies who collect maritime information or produce re-

ports written under contract. If this information is forwarded to MRIS for input, the service can provide greater in-depth output for all users.

Continued cooperation of this type between the people seeking specific maritime information and the group that provides the information can only improve the quality and usefulness of the services that are already available to all users through MRIS.



## Appendix

All information abstracted and stored in the data base is classified according to one of the following twenty-four categories.

---

01 Arctic and Cold Weather Operations	14 Pollution Abatement and Control
02 Air Conditioning, Heating, and Refrigeration	15 Ports and Harbors
03 Auxiliaries	16 Propellers, Gear Trains, Shafting, and Couplings
04 Cargo and Materials Handling	17 Propulsion Machinery
05 Corrosion, Fouling, and Protection	18 Safety and Damage Control
06 Electric Generation and Distribution	19 Ship Construction, Conversion, and Repair
07 Experimental Ships and Special Type of Craft	20 Ship Design and Analyses
08 Lubrication, Fuels, and Combustion Technology	21 Ship Handling and Control Systems
09 Management and Advanced Planning	22 Ship Operation
10 Maritime Labor, Education, and Training	23 Strength of Materials and Structural Analysis
11 Marketing and Traffic Management	24 Trade Development and International Commerce
12 Materials	
13 Navigation, Communications, and Detection	

---

*Manuscript received Apr 27, 1978. Accepted for publication Nov 22, 1978.*

**Davis G. Mellor is manager, Maritime Research Information Service, Transportation Research Board, National Research Council, Washington, D.C.**

# Overcoming the Criterion Problem In the Evaluation of Library Performance

*John J. Knightly*

The University of Tennessee, Graduate School of Library and Information Science, Knoxville, Tenn. 37916

---

■ Library performance criteria in use by managers in sixty-two academic, special, and public libraries are analyzed to measure the extent to which criteria proposed in the literature are actually used, to identify types of criteria in use, and to develop guidelines for future criterion selection. The study's criterion model includes measurement on basis of users' opinion, experts' opinion, formulas/standards, comparison to other organizations, quantifiable operations, quantifiable outputs, costs. Findings suggest use by managers of few criteria of only one or two types with other types excluded. Accordingly, feedback on performance may be misleading. Recommendations are offered.

---

THE EXTENSIVE literature pertaining to library evaluation has introduced a seemingly endless list of criteria. Managers are awash in item-use days, exposure time, effective user hours, library use transactions, holdings and availability indexes, performance indexes, delivery times, ratios, and satisfaction rates. But, while the literature is complex and dynamic, actual practice may not be changing significantly. Evidence to be examined in this article suggests that the same technology transfer problems that exist in so many other research areas exist also in libraries. That is, the literature is going one way, while managers are going another.

In the 1970s there have been excellent books and articles on evaluation, written by Orr, Deprosopo, Hamburg, Evans, Lancaster, Kates, Saracevic, and

others (1-7). However, the complexity of the literature may be an obstacle to its usefulness. The task now is to make the literature usable. The purposes of this article are to offer a framework for viewing library performance criteria, to introduce data on criteria in wide usage, and to provide guidelines to library managers for selecting more appropriate criteria for the evaluation of their own organizations.

## Types of Evaluation

Library managers have become accustomed to thinking in the system terms of inputs, processes, and outputs. Thus, the manager obtains resources (inputs), allocates them to develop capability (processes), utilizes that capability to provide products and services (outputs), and, from these outputs, has an

Table 1. Four Classes of Evaluation with Examples.

I Inputs (Resources)	II Processes (Capability)	III Outputs (Utilization)	IV Impact (Benefits)
Budget Space Salaries Gifts	Methods Collections Security Catalog Cooperative arrangements Staff Training User Education Policies Planning/ Organizing	Use of Services	Impact on objectives of parent organization—learning, company performance Cost savings compared to use of alternate sources of information Stimulation of invention or productivity Improved decisions Improved level of education Better use of leisure

effect (impact) on the parent organization or larger community. This view of the system gives rise to at least the following four classes of evaluation also noted in Table 1: 1) effort evaluation focusing on inputs, 2) process evaluation focusing on the appropriateness and efficiency of activities and programs, 3) effectiveness evaluation focusing on the extent to which outputs accomplish organizational objectives, and 4) impact evaluation focusing on the extent to which accomplished objectives actually meet needs of the parent organization or larger community.

Additionally, relationships of classes 1-3 and 1-4 produce a fifth class of evaluation, cost-effectiveness and cost-benefit. Effective planning is concerned with all parts of the system, thus with all five classes of evaluation. However, library managers are sometimes criticized for giving too much attention to inputs and activities, and not enough attention to outputs and impact. Odiorne has called this situation the "active trap," in which the entire system approach breaks down because "people become so bemused of the activity that they lose sight of the input-output relationship" (8).

### The Criterion Problem

The purpose of evaluation is to gather information on how well the library is accomplishing objectives,

with a view toward improvement of the situation if needed. Such a purpose implies that performance criteria exist by which achievements can be measured. However, the identification of appropriate measures has proven so difficult that it has come to be known as "the criterion problem" (9). A long list of evaluation approaches and measurement criteria have been offered in the literature. Although the list is long, there are only four classes of evaluation and a limited number of *types* of measurement criteria. Seven types of measurement criteria are proposed as follows:

- assessment on basis of user opinion;
- assessment on basis of expert opinion;
- assessment on basis of ideal standards;
- assessment on basis of comparison with other organizations;
- assessment on basis of quantifiable outputs;
- assessment on basis of quantifiable processes;
- assessment on basis of costs or unit costs which gain meaning in combination with other criteria to produce cost-effectiveness and cost-benefit relationships.

When the measurement categories are combined with the principal classes of evaluation, a perspective emerges

which will be called here the evaluation grid, shown in Table 2.

### Criteria in Use by Managers

A pilot study was designed to test the usefulness of the evaluation grid and to gather data on the types of criteria now in use by managers. The study was based on a listing of all criteria mentioned in annual reports of sixty-two selected libraries of various types, listed in the Appendix. Although sources in addition to annual reports would be needed to give a complete picture of any library's evaluation efforts, study of current practices in the annual reports is indicative and engaging.

Criterion use is extensive, as shown in Table 2. The sixty-two annual reports included 774 criteria of various types and averaged 12.3 criteria per report.

*User opinion.* This type of measurement criterion was little used by the practitioners studied. Only 1.1% of criteria were of this type.

*Expert opinion.* Of all criteria, 20.5% were that of expert opinion. The library managers' own statements of opinion were tabulated as expert, which is appropriate since the librarians clearly are experts on their own operations. It was expected that opinion of outside experts also would be used; however, this was cited in only one instance. Expert opinion was concentrated al-

most entirely on processes evaluation. That is, the manager voiced an opinion on how well a particular procedure or approach was working, or would work in the future.

*Standards/formulas.* Prior to the study, it was foreseen that some criteria in use would be based on the library standards of ALA, ACRL, various accrediting organizations, and the like, or from formulas such as the Clapp-Jordan formula for academic libraries (10). Findings showed negligible use of criteria of this type, only 0.2%.

*Comparison to other organizations.* Comparison generally is based on quantifiable measures. The advantage of comparison is that it draws attention to areas of possible shortcoming or strength. An example can be drawn from the 1977 report of the Cincinnati Public Library, entitled "We're No. 2!" The report notes the library's second place national ranking in number of volumes read per person and in least amount expended to circulate materials. Overall, measurement on the basis of comparison appeared infrequently in the annual reports studied for this article and made up only 1.9% of criteria used.

*Quantifiable measures.* Nearly 60% of all criteria cited in the annual reports were quantifiable, with half directed toward processes/capability evaluation and the other half toward outputs/uti-

Table 2. Evaluation Grid: Types of Measurement Criteria and Classes of Evaluation Used in Sixty-two Annual Reports.

	Inputs/ resources	Pro- cesses/ capability	Outputs/ utilization	Impact/ benefits	Totals	
User opinion	0	0	9	0	9	1.1%
Expert opinion	6	145	8	0	159	20.5%
Standards/formulas	0	2	0	0	2	0.2%
Comparison to others	4	10	1	0	15	1.9%
Quantifiable measures	4	231	227	0	462	59.6%
Costs	106	5	0	0	111	14.3%
Other*	16	0	0	0	16	2.0%
Totals	136	393	245	0	774	99.6%
Percent of total sample	17.5%	50.7%	31.6%	0%	99.8%	

\*Other includes buildings, building additions.

zation evaluation. In the sample, no example was located of use of a "newer" measurement criterion from the evaluation literature such as holdings rate, availability rate, satisfaction rate, success rate at the catalog, response time, performance index or document exposure index. For output evaluation, 89% of all criteria used were circulation totals, reference questions, and attendance figures. The other 11% were also tallies—of exhibits, on-line searches, publications, photocopies, and audiovisual productions.

*Costs.* Total costs, costs by category, and rising costs constituted 14.3% of all criteria cited in the annual reports. Surprisingly, only one instance of unit cost was located. Not so surprisingly, no example was located of cost-effectiveness or cost-benefit.

Library managers use only a few types of measurement criteria. Managers in the sample used an average of 2.1 types of criteria to evaluate processes; 1.2 types to evaluate outputs; 1.5 to evaluate inputs. As already noted, about 60% of criteria used were classed as quantifiable, 20% were expert opinion, 14% pertained to costs. User opinion, standards, comparison to others were each used less than 2%.

Measurement criteria tend to focus on process evaluation rather than on outputs, inputs, or impact. Slightly over half (50.7%) of all criteria used in the annual reports were concerned with evaluating processes; 31.5% focused on outputs; 17.6% focused on inputs. No example was located of impact.

### **Recommendations**

The findings from this study of measurement criteria used in library annual reports give rise to several recommendations. First, it is recommended that managers recognize more explicitly the classes of evaluation towards which they are directing their criteria. This would tend to lead a manager toward a primary focus on outputs for the evaluation purposes of the annual report; currently the primary focus is on processes. Second, it is

recommended that managers use additional types of criteria. Any criterion tends to indicate in only a limited or approximate way the actual performance of the unit being evaluated. The present use of only one or two types of measurement criteria suggests that feedback on performance may be misleading for some managers. Use of several types of measures would increase probability of a balanced appraisal. When managers select additional criteria they may wish to consider the following measures.

- *User opinion.* Users' perceptions of the performance of the library would seem to be one of the types of feedback desired routinely by managers. Its infrequent use seems surprising; managers may wish to begin sampling users' opinions as one part of the library's evaluation program.

- *Expert opinion.* Use of outside expert opinion can provide stimulating and constructive feedback on programs and procedures, yet this use was cited in only one instance. More managers may consider bringing in an outside expert or even a panel of outside experts for evaluation and planning purposes.

- *Standards.* One opinion on standards can be stated as follows:

There can be little doubt . . . that the overall effect of standards has been to upgrade libraries, providing substandard institutions with yardsticks by which to measure their deficiencies (11).

Typically, library standards have focused excessively on inputs rather than effectiveness and, additionally, have been based only on expert opinion. But, even with weaknesses, standards may be usable by more managers as one type of measurement criterion.

- *Comparison to other organizations.* Even recognizing that some comparisons may not make their way into an annual report because they are unfavorable, it still seems that this criterion is underused. Comparison can draw attention to strengths or to areas needing correction; many managers may wish to select it for greater use.

• *Quantifiable Measures.* It seems time for more managers to try some less traditional measures. Circulation, reference questions, and attendance are fine but how about experimenting with a satisfaction rate, holdings rate, success rate, availability rate, measurement of response time, or other recommendations which abound in the literature?

• *Costs.* Cost-effectiveness is difficult and cost-benefit seems beyond the state of the art. However, unit costs permit helpful feedback and seem to deserve greater use by managers. Only one example in sixty-two reports is too few.

Studies indicate that the process by which new information is actually perceived, internalized, and used in-

volves five stages: awareness, interest, evaluation, trial, and adoption (12). Librarians are probably at the "interest" stage in their adoption of new measurement criteria. Managers are aware of excellent studies on measurement and evaluation and are interested in measures which will show more effectively the strengths and limitations of their units' performance. The immediate requirement for managers is to become more involved in the active selection of criteria to be used on a trial basis. The requirement for library school teachers and writers is to make measurement and evaluation more understandable and usable. By working together, those involved can help to surmount the criterion problem.

---

#### Appendix. Listing of Library Annual Reports

1. Fulton High School, Knoxville, Tenn.
2. Nichols School, Lenoir City, Tenn.
3. Webb School, Knoxville, Tenn.
4. Central High School, Knoxville, Tenn.
5. Bearden Jr. High School, Knoxville, Tenn.
6. Tuscola High School, Tenn.
7. University of South Carolina, Columbia
8. University of North Carolina at Greensboro
9. University of British Columbia, Vancouver
10. University of North Carolina, Chapel Hill
11. University of Pennsylvania Libraries, Philadelphia
12. Duke University, Durham, N.C.
13. Johns Hopkins University Library, Baltimore, Md.
14. University of Michigan, Ann Arbor
15. Wayne State University, Detroit, Mich.
16. Texas A&M University Libraries, College Station
17. Pennsylvania State University Libraries, University Park
18. Massachusetts Institute of Technology, Cambridge
19. Johns Hopkins University Library
20. Ohio State University, Columbus
21. University of Colorado Libraries, Boulder
22. Northridge Library, California State University
23. State University of New York, Albany
24. University of Wisconsin, Madison
25. University of Michigan, Ann Arbor
26. University of Maryland, College Park
27. University of Georgia, Athens
28. University of Houston, Tex.
29. University of Tennessee at Chattanooga
30. University of Tennessee at Knoxville
31. Cornell University, Ithaca, N. Y.
32. Columbia University, New York City
33. Yale University, New Haven, Conn.
34. Louisiana State University, Baton Rouge
35. University of California at Los Angeles
36. Wichita State, Kan.
37. Princeton University, Princeton, N.J.
38. Tulane University, New Orleans, La.
39. State University of New York, Buffalo
40. Dartmouth College Library, Hanover, N.H.
41. University of Virginia, Charlottesville
42. Northwestern University, Evanston, Ill.
43. University of Minnesota, Minneapolis
44. Indiana State University, Terre Haute
45. University of California at Davis
46. University of Kansas, Lawrence
47. John Crerar Library, Chicago, Ill.
48. Knoxville-Knox County Public Library, Tenn.
49. Chattanooga Public Library, Tenn.
50. Memphis Public Library and Information Center, Tenn.
51. Brooklyn (N.Y.) Public Library
52. Wichita Public Library, Kan.
53. Portland Public Library, Ore.
54. Buffalo and Erie County (N.Y.) Public Library
55. Jefferson Parish Public Library, Metairie, La.
56. Ft. Loudon (Tenn.) Regional Library
57. Indianapolis-Marion County Public Library, Ind.
58. Haywood County, N. C., Public Library
59. Madison Public Library, Wisconsin
60. Carnegie Library of Pittsburgh, Pa.
61. Anderson County, Campbell County, Claiborne County, Morgan County, Scott County, Union County, Tenn.
62. Highland Rim Regional Library Center, Murfreesboro, Tenn.

## Literature Cited

1. Orr, R.H. / Measuring the Goodness of Library Services: A General Framework for Considering Quantitative Measures. *Journal of Documentation* 29 (no. 3):315-332 (Sep 1973).
  2. DeProspero, E. R. et al./*Performance Measures for Public Libraries*. Chicago, Public Library Association, 1978.
  3. Hamburg, M. et al./*Library Planning and Decision-Making Systems*. Cambridge, Mass., MIT Press, 1974.
  4. Evans, Edward, Harold Borko, and Patricia Ferguson/Review of Criteria Used to Measure Library Effectiveness. *Bulletin Medical Library Association* 60 (no. 1):102-110 (Jan 1972).
  5. Lancaster, F. W./*The Measurement and Evaluation of Library Services*. Washington, Information Resources Press, 1977.
  6. Kates, Jacqueline R./One Measure of a Library's Contribution. *Special Libraries* 65 (no. 8):332-336 (Aug 1974).
  7. Saracevic, T., W. Shaw, Jr., and P. B. Kantor/ Causes and Dynamics of User Frustration in an Academic Library. *College and Research Libraries* 38 (no. 1):7-18 (Jan 1977).
  8. Odiorne, George/Some Comments on Input-Output Relations in Nonprofit Bureaucracies. In *The Management of Nonprofit Organizations*. Richard M. Cyert, ed. Lexington, Mass., Lexington Books, 1975, p. 123-128.
  9. Swanson, Rowena/Design and Evaluation of Information Systems. In *Annual Review of Information Science and Technology*. Carlos A. Cuadra, ed. Washington, D.C., American Society for Information Science, 1975. p. 43-102.
  10. Clapp, V. W. and Jordan, R. T./Quantitative Criteria for Adequacy of Academic Library Collections. *College and Research Libraries* 26:371-380 (Sep 1965).
  11. Downs, R. B. and Heussman, J. W./Standards for University Libraries. *College and Research Libraries* 31:28-35 (Jan 1970).
  12. Rogers, Everett M./ *Diffusion of Innovations*. Glencoe, New York, Free Press, 1962.
- Manuscript received Feb 28, 1978. Revised manuscript accepted for publication Jan 22, 1979.*



John J. Knightly is assistant professor, Graduate School of Library and Information Science, The University of Tennessee, Knoxville.

---

## Looking Back at the Microfilm Decision: Expectations and Experiences

*Gloria J. Zamora and Martha C. Adamson*

Air Force Weapons Laboratory, Technical Library, Kirtland Air Force Base, N.M. 87117

---

■ A technical library in a physics and nuclear science research laboratory replaced its bound journal collection with commercially produced microfilm cartridges in order to relieve a space shortage. Cost figures, microfilm availability, and space savings are discussed.

---

THERE WAS NO DOUBT in 1976 that the Air Force Weapons Laboratory Technical Library would replace its bound journal collection with microfilm. Both the library's staff and its parent organization recognized a critical space shortage and its inescapable remedy. Librarians and administrators at all levels were grateful for such unanimous agreement, which permitted the planning process to proceed swiftly.

In addition to the space shortage, memoranda at the time also spoke of several other reasons for undertaking a microfilm acquisition program. For example, during a past budget cutback, subscriptions to some key journals had been discontinued for a one- or two-year interval. Some backfiles remained unbound because issues were missing and replacements proved too costly. In addition, photocopying hastened the deterioration of existing bound volumes.

The microfilm acquisition program proposed to commit \$250,000 over a five-year period to the replacement of bound journal backfiles with commer-

cially produced microfilm cartridges. The \$250,000 figure was derived from discussions with a nearby research library that recently had undertaken a similar conversion. Microfilm cartridges were chosen over reels because it was felt that they are less subject to deterioration in both handling and storage. The most recent five years of each journal were to be kept in hard copy in accordance with the commonly held principle that scientific literature is most heavily used during its first five years. Removal of bound journal backfiles was expected to alleviate but not solve the space shortage.

### Equipment and Instruction

In an effort to ease the user's transition to microfilm, the library gave particular attention to the selection of dry-process reader/printers, deciding upon the 3M Model 500CT. Two machines were made available at no cost to users or their project fund. The machines were placed in the same room in which the noncirculating microfilm cartridges were housed. Clients were urged to use



the unsupervised machines to read articles and to freely print anything which might prove useful to them. Any user who expressed an interest was given individual instruction on the use of the machines. Topics covered were loading cartridges, focusing, printing, and rewinding. Cautions about the fragility of lenses and film were avoided since it was believed that this might inhibit the user. When introducing clients to the system, special emphasis was placed on the completeness and ready availability of microfilm backfiles. It was the library's opinion that the conversion would be accepted by users if they could be convinced that the library's microfilmed backfiles were just as accessible as bound journals.

Unanticipated funding facilitated the substantial completion of the microfilm acquisition program within a two-year period. The project cost \$158,209 including reader/printer and storage equipment to convert 248 journal titles to microfilm cartridge backfiles, or an average of \$638 per title. Some backfiles were purchased only as far back as the library had hard copy holdings (usually from the library's founding in 1947), while others were purchased in their entirety. This choice was greatly dependent upon the form of the "package deal" offered by the manufacturer. To date, 248 of the library's 464 journals, or 53% of the holdings, have been purchased. An additional twenty-seven journals which have recently become available are presently under consideration for purchase.

### **Positive Results**

The library's staff feels that the choice of microfilm cartridges over reels was a good one. Deterioration from dust and fingerprints is minimal. It has been necessary to splice eight to ten broken films during the two years in which the system has been available. Without exception, the broken films were damaged by improper rewinding or improper removal from the machine.

In converting to microfilm backfiles, 3,275 film cartridges have replaced 3,365 bound journal volumes and some unbound back issues. In evaluating this almost one-for-one exchange ratio, it should be noted that some partial runs of bound journals were replaced with complete runs on microfilm if the manufacturer offered an attractive price on the purchase of a complete set. The authors believe that most libraries undertaking a similar conversion project will find the "package deals" equally appealing and should plan for expanded holdings when purchasing storage cabinets.

The replacement of 3,365 bound journal volumes freed 696 running feet of shelving, or 16% of the total shelving available. In an effort to release even more shelf space, some bound copies of the most recent five years' issues are also being converted to film. This accelerated conversion has been favorably received by users who find the existence of both bound volumes and microfilm backfiles to be confusing rather than convenient. As one user expressed it, "[I] would like to see more journals added to microfilm . . . [and] would like microfilm to be more current . . . [It is] easier to use than both microfilm and bound or individual issues." Another commented, "[I] like microfilm because all the cartridges are located in one place and you don't have to xerox [photocopy] from thick books."

### **Photocopy Use**

A recent in-house survey disclosed that 68% of microfilm users only scan an article on the screen to determine its relevance before printing it in its entirety for reading at a later time. It seems likely that users who formerly photocopied articles from bound journals have simply transferred this action to microfilm. The 707 registered borrowers of the books and journals section of the Technical Library (the Technical Reports Section of the library maintains its own borrower files) made an average of 1,900 copies per month

during the last year. In the first six months for which copying statistics were kept, June through December 1977, an average of 1,485 copies were made each month. During the next six months, January to June of 1978, the average rose to 2,368 copies per month, an increase of 60%. The library expects the rate of copying to continue to increase and is budgeting accordingly.

In spite of heavy printing volume, potential conflicts with the 1978 Copyright Law have not materialized thus far. The microfilm machines fall in the "unsupervised copier" category of the copyright law; each machine carries the appropriate warnings. Observation indicates that the typical user makes one copy of an article for research use. Informal logs show that no one of the library's 248 microfilm journals receives extraordinary use, nor is one article repeatedly copied by different users. Since the purchase of microfilm files inherently carries with it the potential for blow-back copies, the library anticipates little difficulty in complying with the law.

### Conclusions

Replacing backfiles of bound scientific journals with microfilm can be a

successful method of recovering shelf space while maintaining an acceptable level of user satisfaction. The scientific library described in this article found that 16% of its shelf space was regained by conversion to microfilmed journal backfiles. The amount of recoverable shelf space is limited because only slightly over one-half of the library's journals are available on commercially produced microfilm.

Conversion to microfilm cartridges cost an average of \$638 per journal title. This figure includes the cost of acquiring complete sets of popular journals that the library previously owned only as partial runs.

When offered unrestricted printing from microfilm files, the majority of users prefer to print before reading. Libraries planning to offer unrestricted copying as one of their services should budget accordingly.

*Manuscript received Sep 18, 1978. Revised manuscript accepted for publication Feb 7, 1979.*

Gloria J. Zamora and Martha C. Adamson are librarians, Technical Library, Air Force Weapons Laboratory, Kirtland Air Force Base, New Mexico.

# Survey on the Use and Cost of Scientific Journals in the Soreq Library

*S. Weil*

Soreq Nuclear Research Centre, Yavne, Israel

---

■ A survey on the use of journals at the Soreq Nuclear Research Center Library was conducted to determine 1) whether the allocation of the largest share of the total library budget to journal subscriptions is justified and 2) which journals are in low use and could be discontinued in view of budgetary difficulties. In the analysis of the compiled data, the price/use of individual journals as an indicator for journal renewal or cancellation was also considered. Criteria for defining core journals are suggested. The limitations in the application of journal surveys are discussed with regard to the more general problem of price increases of subscriptions.

---

OF THE TOTAL library budget for the Soreq Nuclear Research Centre, the expenditure for journal subscriptions is constantly increasing. In the late 1950s about 60% of the budget was used for scientific journals, whereas now 85% or more is allocated to journals, leaving little for the acquisition of books, reports, and other library material.

This trend is due largely to a continuing increase in journal prices of at least 15% per year on the world market, coupled with the effect of the inflation of the Israeli pound against the U.S. dollar. Although the library receives an increased budget in local currency, it inevitably is insufficient to keep pace with rising prices. In addition, the amount of information published increases every year. For example, in 1960 *Physical Review* was published in four volumes, had approximately 10,000 pages, and cost \$160. Today the journal

is divided into four sections, each with two volumes; it totals approximately 30,000 pages and costs \$720 per year. Often, users require new journals on highly specific subjects, and the library is obliged to order these publications.

During the three-month period January-March 1977, the library staff conducted a formal survey of the use and costs of scientific journals in the library to determine to what extent the journal collection is in use and whether allocation of such a large part of the total library budget to journals is warranted. In addition, since increasing journal prices would eventually necessitate subscription cancellations, it was hoped that the results of this survey would serve as a guide in deciding which journals to retain. In the past, about 3% of the total journal subscriptions were cancelled every year, partly because new titles were requested and partly because budgetary allocations could not

keep abreast with price increases. These cancellations were based on proposals by the librarian which were discussed with and approved by the heads of research departments.

Many similar surveys have been conducted at various other libraries throughout the world (1-5). The results of these surveys are specific to the individual collections and user activities and therefore cannot be applied to the Soreq library. However, the present survey noted the conclusions and applied some of the methods of these other surveys in order to obtain the relevant data necessary for the evaluation of journal use in the library at Soreq.

### Method of Data Compilation

The data on the use of journals during the survey period were collected in the following ways:

1) The list of current journal subscriptions and the list of journals on exchange were sent to the 125 users of the library, with a request that they mark all journals they currently used and thought should be reordered based on their needs and interests. Half of the users returned their lists within two weeks; 95% of the other half returned them after one or two telephone reminders. All the replies were checked and any apparent discrepancies with

known user habits were discussed individually and clarified.

2) Use of journals in the library was studied in two ways:

- Current issues: During the survey, the users were requested to sign a slip attached to the most recent issue of each journal to indicate that they had used that journal. After three months the slips were detached from the journals, arranged alphabetically according to title, and the number of users were counted. If the same user signed the slip of several issues of the same journal, this signature was counted only once.
- Other issues: The readers were requested not to reshelve journals during the survey. All items left on the tables were counted every morning and recorded.

3) Requests for photocopies from users at Soreq and other libraries were recorded.

4) Loans and interlibrary loans of journals were recorded in the same way as photocopies.

Every use recorded was counted as one point. All the points were tallied on an alphabetical list of current journal subscriptions that served as the statistical record (Table 1). Each journal received a cumulative use number equal to the sum of points it received. Then the journals in the alphabetically

Table 1. A Sample of the Statistical Record of Journals in the Survey.

Title	Reader choice from list	Scanned in Library			Photocopy	Total—cumulative use number
		Current issues	Other issues	Loan		
Acta Chem. Scand.	6	3	3	6	3	21
Acta Crystallogr.	6	3	...	...	...	9
Acta Met.	4	1	...	...	...	5
Adv. Math.	4	4	...	...	1	9
Adv. Phys.	24	9	...	2	...	35
Aeq. Math.	1	...	...	...	...	1
Am. Ceram. Soc. Bull.	9	6	...	...	...	15
Am. J. Phys.	19	13	1	...	...	33
Analyst	8	5	5	...	1	19
Anal. Chim. Acta	11	5	4	1	7	28
Anal. Abstr.	13	...	...	...	...	13

Table 2. Journals Ranked in Order of Decreasing Frequency of Use. Subscription Cost and Cost/Use are Given for Each Journal.

Rank	Title	Frequency of use	Subscription costs (\$)	Cost/use (\$)
1	Phys. Rev.	156	476	0.76
2	New Sci.	116	32	0.07
3	J. Phys.	101	968	2.4
4	Phys. Rev. Lett.	100	182	0.45
5	Aviat. Week Space Technol.	98	45	0.12
6	J. Appl. Phys.	98	127	0.32
7	Appl. Phys. Lett.	96	68	0.18
8	J. Chem. Phys.	84	240	0.72
9	Appl. Opt.	83	110	0.33
10	Science	81	80	0.25
11	J. Opt. Soc. Am.	80	74	0.23
12	IEEE Trans. & Journals	79	1127	2.02
13	Sci. Am.	78	18	0.05
14	Nature	76	123	0.4
15	Phys. Lett.	70	484	1.72

arranged statistical record were re-arranged according to decreasing frequency of use (Table 2). Journals with the same number of cumulative use numbers were listed alphabetically. Since the data were treated according to frequency of use, the rank number was not relevant.

The cost/use was calculated by dividing one-quarter of the 1976 annual subscription price of each journal (since the survey covered only three months) by the number of times it was used during the period surveyed.

The following factors were not taken into consideration although they may have had an effect on the total picture.

- Use of the same journal several times on the same day. For example, abstract journals were mostly reshelfed immediately after use (since it would be uncomfortable to work at a table piled up with volumes), and so they were not counted. When a journal was found on a table it was assumed that it was in use only once during the day.

- No distinction was made between journals published at different frequencies, i.e., weekly, monthly, quarterly. Hence, during this time period, eleven to thirteen issues of weekly journals were surveyed, whereas only one issue of the quarterlies was included.

- The statistics are a mixture of two kinds of data, i.e., they combine the number of users with the number of times the journals were used (anonymously), where often one count represented several users (e.g., photocopy prepared for a project).

- The users of the library were cooperative and helpful. However, since these users were accustomed to helping themselves without signing slips and to reshelfing after use, some of the uses were not recorded. This means that those recorded are a minimum count.

Since these limitations applied to all the journals, they were not considered to have a significant influence on the results.

### Analysis and Interpretation of the Collected Data

The data on the frequency of use of all currently received journals and their costs are correlated in Tables 3 and 4. The total number of different journals in the Soreq library at the time of the survey was 444, of which 364 were ordered and the remaining 80 were received on exchange or as gifts. The annual cost of these subscriptions at 1976 prices was about \$51,000. A total of 7,762 usage points were recorded dur-

ing the period of the survey. Both tables demonstrate that the current journal collection is in full use.

It can be seen from Table 3 that 82.5% of the journals were in use five or more times during the survey and that they account for approximately 97% of the total annual subscription cost. The first 300 most frequently used (eight or more times) journals (68.1% of the total number) constituted 92.7% of all uses and accounted for 85.5% of costs. If all journals used less than eight times were cancelled, 14.5% of the expense for journals could be saved or used for other purposes.

The data on journals which were used seven times or less during the survey are given in Table 4. Of the 141 journals considered in this table, 71 are regularly received as gifts or in exchange for library reports. It can be assumed that if the library had to pay

for these journals, most of them would not be ordered. The 70 subscriptions in this low use category, which represent 14.5% of the total cost, were thoroughly checked. First, it was found that despite the relatively low use during the survey, some of these journals must be retained for various reasons. Fifteen of the 70 journals purchased are abstracting and indexing journals which are not available on loan from other libraries; furthermore, the low number of usage points that they received during the survey may not reflect their real use. Nine are on the subject of nuclear energy; since the Soreq library is one of the libraries in Israel responsible for this subject, it is obliged to retain them. Seven journals are needed by a small group of mathematicians. Second, only nine journals were not used even once. However, only one of these was ordered; the eight others are gifts.

• •

Table 3. Use and Costs of Journals.

Cumulative number of journals		Frequency of use (points)	Cumulative use of journals		Cumulative costs	
No.	%		Points	%	(\$)	% of total costs
25	5.7	49-156	1,965	25.3	5,576	11
50	11.4	35-48	2,980	38.4	14,312	28
100	22.8	24-35	4,466	57.5	24,459	48
150	34.2	18-24	5,528	71.2	29,897	58.5
200	45.6	14-18	6,145	79.1	36,360	71.3
300	68.1	8-14	7,211	92.7	43,643	85.5
363	82.5	5-7	7,594	97.8	49,450	96.8
444	100.0	0-4	7,762	100	51,080	100

Table 4. Use and Costs of Low-Use Journals.

Number of points	Number of Journals			% of total journals	Cost	
	Total	Subscrip.	Exchange		(\$)	% of total journal costs
0	9	1	8	2.0	57	0.1
1	26	10	16	5.9	212	0.4
2	12	3	9	2.7	293	0.6
3	15	8	7	3.4	369	0.7
4	18	11	7	4.1	699	1.4
5	19	15	4	4.3	1,548	3.0
6	20	12	8	4.5	1,757	3.4
7	22	10	12	5.0	2,502	4.9
Total	141	70	71	31.9	7,437	14.5

Actually, the 80 journals used four times or less account for only 3% of the total costs.

### Price/Use

As the "use" criterion did not suggest any possibilities for significant savings and the reality of budget restrictions still loomed, additional ways were sought to reduce expenses for journal subscriptions without severely affecting the needs of the users. From the data on frequency of use and the subscription prices, the price/use was calculated for each journal. This resulted in a set of lowest price/use (\$0.10-\$0.35/use) (Table 5) and a set of highest price/use journals (\$4.00-\$31.80) (Table 6) which were then analyzed as follows:

- Lowest price/use journals: All journals in this list were used at least ten times during the survey. The most expensive journal in this group was priced at \$127, while the average price was \$30 for an annual subscription. Fifteen were among the 25 most frequently used journals and all were among the first 250.

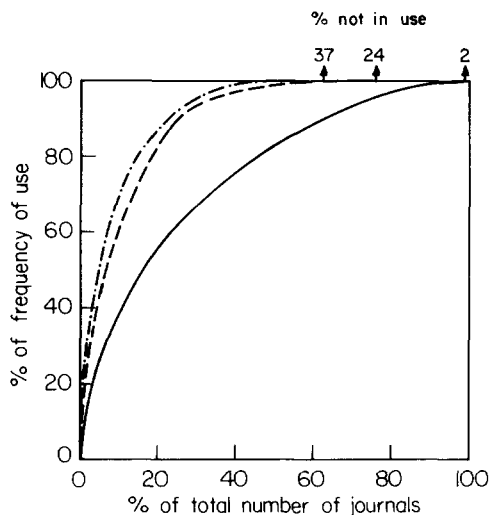
- Highest price/use: A list of the 50 highest price/use journals was prepared. Of the journals in this list only five were among the 100 most frequently used, while sixteen journals were used five to seven times. The cost of these sixteen journals was \$4,200 per year. This aspect of price/use gave an additional indication as to where costs might be cut.

### Discussion and Conclusions

The survey clearly showed that the journal collection is being fully used and that the allocation of a large part of the library budget for the acquisition of journals seems to be justified.

A study of the use patterns of 220 physics journals in the MIT Library (1) revealed that 37% of these journals were not in use even once during their 3½-month survey, while 22% of these journals accounted for 90% usage. In another periodical use study at the Educational-Psychology Library at

Figure 1. Use patterns shown by various surveys. - - - MIT Library (physics journals); --- Ohio State University, Educational-Psychology Library; — Soreq Nuclear Research Centre Library.



Ohio State University (2) it was found that among 804 journals surveyed 24% were not used at all, while 25% of these journals accounted for 90% usage. At the Soreq library during the survey period 98% of the journals were used at least once, while 63% of all journals accounted for 90% use. These findings are compared in Figure 1.

The high frequency and the more even spread of the use of journals at Soreq is noticeable because in the studies undertaken at the other institutes, highly specialized journal collections were surveyed (physics and psychology, respectively), while the Soreq survey covered all the journals in all scientific fields. In addition, due to budget restrictions in previous years at those libraries, all duplicate and many low use subscriptions had already been cancelled.

If budget limitations did not exist, the results of surveys on the use of journals would indicate which journals were not in use and could therefore be cancelled in favor of new subscriptions recommended by library users. How-

Table 5. Journals in the Lowest Cost / Use Range (\$0.10-0.35 / use).

Title	Subscription cost(\$)	Rank (Table 2)
New Sci.	32	2
Aviat. Week Space Technol.	45	5
Appl. Phys.	68	7
Science	80	10
J. Opt. Soc. Am.	74	11
Sci. Am.	18	13
Phys. Today	34	17
Rev. Sci. Instrum.	59	18
Laser Focus	35	19
Anal. Chem.	18	20
Chem. Eng. News	23	22
Rev. Mod. Phys.	45	23
Electronics	60	25
Can. J. Phys.	60	32
J. Appl. Phys.	127	36
Appl. Opt.	110	39
Phys. Rev. Abstr.	35	42
Wireless World	11.50	43
Philips Tech. Rev.	19	52
Am. J. Phys.	48	61
Mach. Design	40	62
Chem. Ind.	39	67
IBM J. Res. Dev.	10	68
Instrum. Contr. Syst.	25	73
Bull. Am. Phys. Soc.	29	75
Contr. Eng.	20	77
Mater. Engin.	36	78
J. Chem. Educ.	12	85
Ind. Res.	17	93
J. Irreproduc. Res.	2.50	96
MADA	8	97
Chem. Soc. Rev.	26	100
Electron. Eng.	21	101
Int. Defence Rev.	24	102
Philips Res.	18	113
RCA Reviews	6.50	114
Army Res. Dev.	7	118
Environment	20	119
Bull. At. Sci.	17	126
J. Res. A	13	128
National Defence	14	129
Plating Surf. Finish	25	150
Energia Nucleare	21	171
Nucl. Safety	21	175
Am. Ceram. Soc. Bull	14	179
Israel J. Med. Sci.	5.40	193
Plast. Eng.	20	196
Fusion	10	209
Mater. Eval.	18	215
Israel J. Technol.	10	230
J. Res. B	11	245
Calen. Forthcoming	4	250
Sci. Tech. Meetings.		



Table 6. Journals in the Highest Cost/Use Range (\$4.00-\$31.80/use).

Title	Cost/Use (\$)	Rank (Table 2)
Chem. Abstr.	31.8*	83
J. Electroanal. Chem.	29*	355
Coord. Chem. Rev.	19.87*	222
Metal Abstr.	19.32*	318
Dokl. Phys. Chem.	13.04	328
J. Diff. Equations	11.25	369
Optik	11.20	332
Sov. Radiochem.	10.08	335
Thermochim. Acta	10	358
Bull. Akad. Nauk USSR—Chem.	9.75	249
Sov. At. Energy	9.42	323
J. Nucl. Mater.	9.28	316
Sov. Electrochem.	9.28	303
Acta Crystallogr.	8.92	264
Chem. Phys. Lett.	8.90*	26
Rus. J. Inorg. Chem.	8.75	302
J. Radioanal. Chem.	8.65*	214
Acta Met.	8.25	346
Int. J. Heat Mass Transfer	8.20	352
J. Less-Common Metals	8.07*	212
Nucl. Phys.	7.70*	29
J. Magn. Magn. Mater.	7.70	329
J. Non-Cryst. Solids	7.27	269
Rus. J. Phys. Chem.	7.00	258
Ferroelectrics	6.81	292
Nucl. Eng. Design	6.63	187
Phys. Abstr.	6.58	200
Thin Solid Films	6.58*	115
Dokl. Chem	6.06	223
J. Chem. Thermodyn.	6.00	254
Bull. Akad. Nauk USSR—Phys.	5.96	207
J. Cryst. Growth	5.83	157
Surface Sci.	5.75*	107
Physica	5.68*	98
Radiat. Eff.	5.41*	130
Water Res.	5.27	282
Adv. Math.	5.1	265
Progr. Nucl. Eng.	5	198
J. Thermal Anal.	4.93	297
Mater. Sci. Eng.	4.78	140
J. Appl. Crystallogr.	4.72	268
Inorg. Chim. Acta	4.66	183
Mass Spectrosc. Bull.	4.46	317
J. Fluorine Chem.	4.42	315
Spectrochim. Acta	4.37	177
J. Solution Chem.	4.25	270
J. Magn. Resonance	4.13	219
Radiochim Radioanal. Lett.	4.06	189
Z. Phys. Chem.	4.02	164
Phys. Status Solidi	4.00*	36

\*Journals costing more than \$400 per year.

ever, as budget limitations do exist, each library must determine those journals which belong to the core collection and those which deal with peripheral subjects and are obtainable on loan or as photocopies from local scientific libraries.

The criteria (aside from frequency of use) for journals to qualify for our core collection were established as follows:

- abstracting and indexing journals which are never available on loan;
- journals dealing with nuclear science, since the library is specialized in this field;
- journals with low price/use;
- journals on subjects of interest to a small but specialized group of scientists.

Surveys on journal use can serve as a guide to eliminating the least needed material, as well as to establishing criteria for the core collections. However, surveys alone cannot be used in bridging the growing gap between increas-

ing costs of journals and decreasing library budgets.

#### Literature Cited

1. Chen, C.C./The Use Patterns of Physics Journals in a Large Academic Library. *Journal of the American Society for Information Science* 23 (no. 4): 254 (1972).
2. Perk, L.J. and N. Van Pulis/Periodical Usage in an Education-Psychology Library. *College and Research Libraries* 38 (no. 4): 304 (1977).
3. Subramanyam, K./Criteria for Journal Selection. *Special Libraries* 66 (no. 8): 367-371 (Aug 1975).
4. Langlois, D.C. and J.V. Schulz/Journal Usage Survey: Method and Application. *Special Libraries* 64 (nos. 5/6): 239-244 (May/Jun 1973).
5. Strain, P.M./A Study of the Usage and Retention of Technical Periodicals. *Library Resources and Technical Services* 10 (no. 3): 295 (1966).

*Manuscript received Sep 12, 1978. Accepted for publication Nov 22, 1978.*



**S. Weil is head, Library and Technical Information Department, Soreq Nuclear Research Centre, Yavne, Israel.**

---

## Information Management:

### Survey of Readership in Public Patent Libraries

**H. Bank**

Directorate General, Scientific and Technical Information and Information Management  
Commission of the European Communities, Luxembourg

---

■ An inquiry was made in 1976 among the users of 35 patent libraries in the member countries of the European Community. The results showed that, in most of the countries, the public is reasonably well served with patent libraries, but that most of these are underutilized. The study further suggests that one reason for this could be that the services of the libraries are not sufficiently promoted.

---

THE PRESENT STUDY of the readership of public patent libraries was made in September and October 1976. It covers most of the patent libraries and similar institutions within the member states of the European Economic Community (EEC), libraries connected with patent offices, as well as specialized patent libraries and public libraries with patent collections.

The study covers eight\* of the nine member states; Luxembourg was omitted. The results of the study were meant to substantiate recommendations for improving the access to and the promo-

tion of the use of patent literature as a source of technological information. This study included 35 libraries; the results of 31 libraries are reported.

The objective of the study was to provide information on the services offered to the public by public patent libraries. An important part of this information has already been published.† The present survey, therefore, was conducted to ascertain:

- how many people use the libraries, how frequently, and for how long each visit lasted;
- who uses the libraries;
- for what purpose the visits were made;
- whether the users are satisfied with the facilities provided by the libraries.

---

Extracted from Report EUR 5831/e-1977 for presentation at the IFLA Conference, Science and Technology Libraries Section, Štrbské Pleso, Czechoslovakia, Aug 27-Sep 2, 1978.

\*The eight countries are Belgium, Denmark, France, West Germany, Ireland, Italy, the Netherlands, and the United Kingdom.

---

†*Patent Information and Documentation. An Inventory of Services Available to the Public in the European Community* (Verlag Dokumentation, 1976).

The study was made through a short questionnaire which the users of the patent collections were requested to complete.

The libraries, in particular the provincial libraries, are organized in different ways in the various countries. In France they are in some cases directly owned or at least controlled by the Patent Office in Paris. In Germany, the Patentschriften-Auslegestellen are sponsored by local authorities and are fully independent of the German Patent Office. In the United Kingdom the patent collections are held by ordinary public libraries which are also fully independent of the United Kingdom Patent Office.

The patent office libraries are also quite different. Most hold extensive collections. The collections of the Irish and Italian offices are, however, rather small. In most countries the patent office library is a part of the patent office, but in the United Kingdom the Science Reference Library is independent of the Patent Office. It has a large collection of both patent documents and technical literature. In West Germany the main patent office is in Munich, but a subsidiary with its own library exists in West Berlin.

## Results

### *Sources of Users*

In general the majority of the users come from the city or agglomeration in which the library is situated; in nearly all cases more than 80% of the visitors come from within a distance of less than 50 kilometers. For the sake of simplicity the survey area has in most cases been defined as cities with more than 50,000 inhabitants within a distance of 50 kilometers from the library.

A statistical analysis shows that there is a strong correlation between the number of persons served by patent libraries and the number of persons employed in industry in the member states (Italy excluded). Both figures may



simply reflect the differences in the degree of industrialization in seven of the member states. Italy is, of course, an exception in that the only patent library is situated in Rome, far away from the concentrations of industry and population in the north of the country.

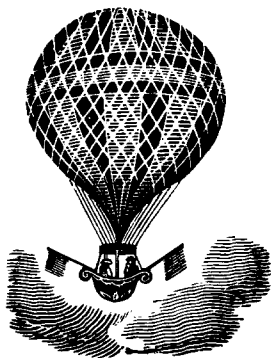
The results of the study suggest that certain patent office libraries have a high number of users simply because the library serves a metropolitan area with a large population.

### *Frequency of Visits*

There is, however, one factor that must be taken into account: the frequency of visits as indicated by the users themselves. In Munich, for example, 138 users stated that they visit more often than once a week and 75 said that they use the library every day. However, the provincial libraries have none or only a few such users. What is the consequence of this for our comparison?

It seems reasonable to say that persons who stay at the patent office every day for more than five hours a day obviously do not work for themselves only. They are, to a large extent, professionals who make searches on behalf of clients who may live outside the survey area.

If a conclusion can be drawn on the basis of the rather small sample obtained, it must be that the facilities of the patent office libraries are important only to a small part of the users of the patent literature. The most regular users constitute only about 15% of the total users. The rest of the 85% are well served by more limited collections of



documents, and whether they go to the patent library or not may be determined by other factors, such as the personal assistance they can expect from the library staff or the effort made by the library to "sell" its services to the public.

#### *Types of Users*

The fields of employment of the libraries' users can be grouped into three categories: patents; science, technology, and technical information; and others. The overall figures are as follows: patents personnel, 47%; science and technical information, 37%; others, 16%. There is a tendency for the percentage of patents people to be higher than average at patent office libraries and below average at provincial libraries. It is interesting to note that the patent office libraries in Dublin and Rome have a user distribution similar to that of provincial libraries. The collections of patent documents in those cities may be too limited to allow for the novelty searches needed by patent professionals.

The private sector represents by far the greatest user of the libraries. The only exception seems to be in Manchester, England, where the group "others" is relatively large. A closer look at the questionnaires, however, reveals that about 28% of the "others" are students searching for information.

There is a pronounced difference in the duration of the visits between patent office libraries and provincial

libraries. In the former long visits are dominant, while in the latter short visits are more frequent.

The purpose of the visits, as indicated by the users themselves, was also studied. In general, technical searches are more frequent than bibliographic ones; prior art searches are more important than searches for technical information.

#### *Specific Comments*

More detailed insights about the opinions of the users can be gained from the written comments made; 205 such comments were received. The most criticized point was the document collection itself and the availability of the documents (87 comments). More specifically, 56 were dissatisfied with the availability of foreign patent documents and 34 were dissatisfied with the domestic documents or with availability in general. Among other responses, 64 expressed dissatisfaction with the access they have or the means of access. Of these criticisms, 21 found access in general too difficult; 17 found classification inadequate; and 29 criticized the means of access in general, or specifically mentioned indexes, file lists, and so on.

The organization of the library was criticized by 51 users. Of these, 7 criticized the organization in general; 14 mentioned the long wait for ordered documents; 10 criticized library equipment, chiefly reading and copying machines for microforms; 19 complained about the accommodations; 6 said that collections were located in different buildings; and 3 felt that opening hours were too short. Among other comments, 37 mentioned the staff of the library. Specifically, 15 found the library understaffed; 15 found the staff incompetent; while 8 said that the staff was satisfactory. The often criticized microforms situation had only 7 adverse comments.

In the case of some libraries a single problem was considered so important that most comments dealt with it.

Examples are as follows: Poor availability of foreign patent documents: 16 out of 20 comments from one library, and 10 out of 13 comments from another library. Understaffing in one library provoked 10 out of 11 comments. In many, if not most, cases it would be difficult to decide which of the critical remarks are justified and which are not.

### *Fees for Services?*

The last item on the questionnaire attempted to determine whether the dissatisfied user would be willing to pay for improved services. The mere suggestion that this could be a possibility provoked a number of angry comments from hard-pressed taxpayers. In general, the users of the provincial libraries were the most positive; 47% (22 visitors) answered "yes" to the question, whereas only 35% (or 68) of the dissatisfied users of patent office libraries said they were willing to pay. One reason for this difference is that the collections of the patent offices are considered a public record with free access. Many of the written comments supported this feeling. In this connection it is interesting to note that there is only one library covered by the survey where an entrance fee is collected.

### **Conclusions**

A large proportion of the users of the patent libraries belong to the patents profession and use the patent literature for chiefly legal purposes. However, a significant proportion of the users come from circles outside the patent profession and, in particular, the provincial libraries seem to serve this category of user. In several libraries there is an unexpectedly high percentage of users who indicate that searches for technical information is one purpose of their visit—or the only purpose.

It was expected that there would be significant differences between the use and the users of the central (patent office) libraries and the provincial libraries, because the central libraries

normally have an obligation to make certain legal records available to the public. However, the results of the study show that even the simplest attempt to disregard the specialized users of the central libraries strongly reduces the differences between these and the provincial libraries. Therefore, a fair assumption can be made that the difference between the facilities of the two kinds of libraries are not very important to most users.

It is clear from users' comments that the most frequent complaint is the difficulty of access in libraries where the collections are mostly stored in numeri-



cal order. This indicates to a certain extent that if only one set of documents is available, the users would prefer it to be in classified order.

It is apparent that most of the differences in number of users are within what can reasonably be attributed to random effects and differences in the structure of industry in the survey area. But it is also apparent that the figures for Patentschriften-Auslegestelle in Nürnberg are significantly higher than for any other library except Munich. It would be interesting to see what is different about Nürnberg.

The industry in and around Nürnberg is diversified, but this is true also for other cities. The toy industry is, however, important and is reported to be interested in information on patents. The library is a special patents library with a rather large collection in classified order and housed in suitable rooms. The same could be said of the libraries in Lyon and Marseilles where

the number of users is much lower. It may nevertheless be a significant factor because, in their present form, the libraries of Lyon and Marseilles are relatively new and the numbers of their users are reported to be constantly increasing.

In the opinion of the director of Landesgewerbeanstalt Bayern, who is responsible for the Patentschriften-Auslegestelle, the most important factors are that the library has an adequate, competent, full-time staff and is adapted to serve as an active information center, not only as a passive library. A third factor mentioned is that a constant effort is made to make the library and its services known within the local community.

The conclusion must be that there is nothing peculiar about the Nürnberg area. Therefore, since the use of most

other patent collections is much lower than that of the collection in Nürnberg, we can conclude that most patent collections, if not all, must be under-used. The best remedy seems to be an activation of the libraries.

The results of the study also suggest that the facilities of some libraries are inadequate. It may become expensive to make significant improvements; a study of how EEC action could help, e.g., through creation of suitable EURONET services, should be conducted.

*Manuscript received Sep 18, 1978. Accepted for publication Dec 18, 1978.*

**H. Bank is principal administrator, Directorate General, Scientific and Technical Information and Information Management, Commission of the European Communities, Luxembourg.**

## **Actions of the Board of Directors Feb 1-3, 1979**

The Board of Directors, Special Libraries Association met Feb 1-3, 1979, at the Marriott Hotel, Tucson, Ariz. The Chapter and Division Cabinets met Feb 1 and 2. A Joint Cabinet meeting was held Feb 2. The following is a summary of actions taken by the Board.

**Memorial Resolution**—The Board approved a Memorial Resolution to be sent to the family of Dr. Frank E. McKenna, executive director of SLA from October 1970 until his death in November 1978. The text of the Resolution appears on p. 201 of this issue.

**Search Committee Announced**—The Board endorsed the president's appointments to the Search Committee for the new executive director. The five member committee is chaired by Elizabeth Usher and includes Mary McNierney Grant, Marie Dooling, Gilles Frappier, and Floyd Henderson. All inquiries should be sent to chairman, Search Committee, 235 Park Avenue South, New York, N.Y. 10003.

At the recommendation of the president-elect the Board decided that the employment of an executive director should be on a contractual basis. The exact terms of the contract will be determined by mutual agreement of the Board and the candidate.

A Special Committee of the Board formulated guidelines for the qualifications of the candidates for executive director. These

guidelines will be distributed to the Search Committee.

**Executive Committee Actions Ratified**—The Executive Committee of the SLA Board of Directors met on Nov 16, 1978. The Board ratified two actions of the Executive Committee:

Following the death of Frank E. McKenna, executive director, the Executive Committee authorized Richard E. Griffin, assistant executive director, to act as executive director until a new executive director assumes responsibility.

So that registration forms for the 1979 Conference could be ordered in time for the Conference mailing in March, registration fees had to be approved in November. Therefore, the Executive Committee approved the fees as they appeared in the tentatively approved Conference Budget.

**White House Conference**—The Board heard the report of the chairman, SLA Special Committee on the White House Conference on Library and Information Services (WHCLIS). The charge of this Committee is the preparation of materials for WHCLIS. The Committee intends to prepare position papers. The Board authorized the Executive Committee of the Board to review and approve the documents being prepared for WHCLIS (tentative publication date is late April).



Should outside sources of funding for this project not be available, the Board authorized the use of nonserial publications funds for the documents.

**National Library Agency**—Following the recommendation of the Joint Chapter and Division Cabinet, the Board endorsed the concept of a national lending library with equal access to all types of libraries and which would include all publication formats. As an intermediate step in this goal, SLA supported the concept of a National Periodicals Center.

However, it was felt both by the Joint Cabinets and the Board that it would not be appropriate to endorse a National Library Agency before the White House Conference on Library and Information Services is held.

**Honorary Member**—As recommended by the Awards Committee, the nomination of Helen F. Spencer, president, Kenneth A. and Helen F. Spencer Foundation, as an Honorary Member of SLA was unanimously endorsed by the Board. SLA members will vote on this nomination at the Annual Business Meeting, Jun 13, 1979.

**Conference Dedicated**—Because the First Worldwide Conference on Special Libraries was conceived and planned by Frank E. McKenna and because it was his idea that the SLA 70th Annual Conference be an international meeting of special librarians, the Board of Directors has dedicated the Conference to his memory.

A copy of the Dedication has been signed by the president and sent to McKenna's family.

**H. W. Wilson**—A grant of \$25,000 was received from the H. W. Wilson Foundation to help the Association cover the extraordinary expenses of the 1979 Worldwide Conference on Special Libraries. The Board authorized the president to write a letter of appreciation on its behalf to the Foundation.

**Conference Budget**—A "barebones" Conference Budget was adopted at the Fall Meeting (see Jan *SL*, p. 46). By the time of the Winter Meeting, a grant from the H. W. Wilson Company for \$25,000 had been received and other grant proposals were pending. With this knowledge, the Board approved the revised Conference Budget.

Included in the Budget were funds for simultaneous translators and interpreters, the added travel expenses for speakers and their housing, and the added transportation and shipping costs of the Conference. Other expenditures based on grant money received after the Winter Meeting will be recommended by the assistant executive director for approval by the Executive Committee of the Board.

**Conference Tapes**—The Board asked the Association staff to investigate the feasibility of having tape recordings made of the sessions of the 1979 Conference for sale at the Conference.

**Washington 1980 Conference**—The Board approved the theme "Realities of the '80s—Challenging the Individual" for the 1980 Annual Conference in Washington, D.C.

**Winter Meeting Dates Set**—The Board approved the site of the Winter 1982 Meeting at the Galt House Hotel, Louisville, Ky. The dates are Jan 27–29.

**Plenum Award**—Originally the Plenum Publishing Corporation Award was to be given for an original paper not previously published or presented covering any aspect of special librarianship. Unfortunately, suitable papers were not submitted to the 1976/77 and 1977/78 committees. Therefore, the 1978/79 committee was charged with suggesting an alternate use for the \$1,000 annual Plenum Award. The committee recommended and the Board accepted the idea of a named scholarship for a doctorate in library and information science. Although Plenum will fund the scholarship, the SLA Scholarship Committee will be the administrator of the award. The Scholarship Committee will develop guidelines to administer and implement the Plenum Scholarship. A report will be made to the Board at the Fall Meeting 1979.

The Plenum Publishing Corporation Award Committee was dissolved effective Feb 3, 1979.

**Chapter Activity**—The Board approved a petition from fifteen SLA members from the central section of Pennsylvania for establishment of a Central Pennsylvania Provisional Chapter. For approval as a full Chapter, a Provisional Chapter must have a minimum of twenty-five members. The boundaries of the Central Pennsylvania

Provisional Chapter are the eastern edges of Franklin, Cumberland, Dauphin, Montour, Columbia, Lycoming, and Tioga counties; the northern boundary of the Commonwealth; the western edges of McKean, Elk, Jefferson, Clearfield, Blair, Huntington, and Fulton counties; and the Mason-Dixon Line.

**Division Activity**—The Division Cabinet approved a resolution to establish a Standing Committee to consider “. . . 1) petitions for the formation of new Divisions and 2) mergers, name changes, and dissolution of existing Divisions. . . .” This committee will submit its recommendations to the Board. The Board agreed with this concept and asked the Division Cabinet Chairman and Chairman-Elect to rewrite the Division Guidelines. A report on the revision is due in June 1979.

**Chapter and Division Allotment Formula Changed**—In order to more accurately reflect the financial status of a Chapter or Division when issuing allotments, the SLA accountant recommended to the Board that the wording of the allotment formula be changed. The Board agreed to asking Chapters and Divisions to include information about their liabilities, as well as their assets. The new formula reads:

Each Chapter or Division which has a cash Net Worth (cash assets minus liabilities) at the end of a year in excess of \$8 per member (providing this sum is more than \$1,000) shall receive one-half of the allotment granted for that year. Any Chapter or Division wishing to receive any part or all of the other half of the allotment shall address its request to the Association office to the attention of the Accountant who will remit the amount requested.

This change should decrease the number of initial one-half allotments and thereby reduce the number of requests for the second-half allotments. The new formula became effective Dec 31, 1978.

**Statistics Committee**—In June 1978 the Board dissolved the Standards and Statistics Committee and established two separate committees [See *SL 69* (no.9):376(Sep 1978)]. The following definition of the Statistics Committee, as recommended to the Board by the Committee on Committees, was adopted at the Winter Meeting:

Three members appointed for overlapping terms of three years each, one of whom shall be the SLA representative to the ALA Statistics Coordinating Committee. The Committee shall: 1) survey the statistical needs of special libraries and information centers, and identify definitions useful for internal management and for comparative purposes; 2) inform the Association members of activities and developments in the field of statistics; and 3) serve as liaison with individuals and organizations engaged in collecting, compiling and evaluating library and information center statistics. (Association Office contact is Manager, Professional Development.)

**Standards Committee Contact Revised**—In drafting the definition of the Statistics Committee, the Committee on Committees realized that the Standards Committee and the Statistics Committee ought to have the same Association Office contact. Therefore, the Board approved the change of the Standards Committee contact to Manager, Professional Development. The definition of the Committee was approved at the Fall Meeting [see *SL 70*(no.1):48(Jan 1979)].

**Copyright Committee**—In June 1978 the Board dissolved the Special Committee on Copyright Law Practice and Implementation and instituted a Standing Committee to be known as the Copyright Law Implementation Committee. The Board reviewed the ConC definition which follows and accepted it:

Three members appointed for overlapping terms of three years each, the chairman of which shall be the Representative to the appropriate CNLA copyright committee. The committee shall: 1) monitor the developments stemming from copyright legislation; 2) represent the Association on matters of copyright law implementation; and 3) keep the Association members advised on new developments in the field of copyright. (Association Office contact is the Executive Director.)

**Continuing Education**—The Chapter Cabinet discussed continuing education at length during its meeting on Feb 1. Several recommendations of the Cabinet were approved by the Board for action:

Effective immediately the Education Committee and the Manager, Professional Development will give Chapters the option

of making local arrangements for Regional Continuing Education Courses.

So that the Chapters, the Education Committee, and the Manager, Professional Development can better understand their relationship to one another and to continuing education, the Education Committee is presently developing guidelines to clarify the various roles of those involved. A report will be made to the Board in June 1979.

The Education Committee and the Manager, Professional Development are also considering the feasibility of Chapter Presidents being informed each summer of the subject matter of the regional courses which will be made available during the ensuing year. The possibility of offering at least ten continuing education courses on separate topics at the Conference in 1980 and future Conferences is being investigated.

Finally, the Board, following a recommendation of the Chapter Cabinet, asked the Education Committee and the Manager, Professional Development to reconsider the offering of Regional Continuing Education Courses as carried out under the Education Committee's Pilot Program, that is, cooperatively sponsored with Chapter involvement at all levels and including at least a 70-30% split of the net income. Their report will be made to the Board at the Fall 1979 Meeting.

**Special Libraries**—In response to the concern expressed by the Chapter Cabinet that the membership listing would not be included in the 1979 Directory issue and that *Special Libraries* had cost more to produce in 1978 than expected, the Board asked the president to appoint a three-member special committee to investigate the desirability of putting *Special Libraries*, including the Directory issue, on a break-even basis. The Special Committee will report back to the Board at the Fall 1979 Meeting.

**Scholarship Awards**—The chairman of the Scholarship Committee reported that there has been a steady decline in the number of applicants for scholarships over the last three years. So as not to be forced into a position of having to award four scholarships, she asked that the wording of the Board resolution be changed to an approval of "up to four scholarships for 1979/80." The action passed.

**Reciprocal Courtesy Extended**—The SLA Representative to the National Federation

of Abstracting and Indexing Services asked the SLA Board to consider offering complimentary Conference Registration and a complimentary subscription to *Special Libraries* to official representatives of organizations that have a cross-representative relationship with SLA. The Board approved this recommendation with the condition that these privileges would be extended only if the representative is not an SLA member.

**Reports of Meetings of the SLA Board of Directors**—At the request of the Minnesota Chapter, the Board authorized the dissemination of the informal report of Actions of the Board to Chapter and Division Cabinet members. The informal report had previously been sent only to bulletin editors so that they might publish such sections as they wished. Every effort will be made to see that the report is mailed approximately one month after the meeting.

**Federal Library Committee**—At the request of the Guest Observer, Federal Library Committee (FLC), the Board endorsed the Committee's request for a prompt review of the present outdated Civil Service standards for the Librarian Series (GS-1410) and the Technical Information Series (GS-1412).

In addition, the SLA Board of Directors noted with interest the proposal of the FLC to establish an Information Management Series. The Board endorsed the recommendation of the Guest Observer that the standards for this series "not only include but clearly delineate a career path for librarians as information managers."

These two positions will be conveyed by the SLA president to the U.S. Office of Personnel Management.

**Endowment Fund Contemplated**—At the recommendation of the SLA president, the Board decided to consider the formation of an endowment fund. The assistant executive director will investigate the procedures necessary to establish such a fund and will report to the Board at the Fall 1979 Meeting.

**Association Positions on WHCLIS**—The American Society for Information Science has asked the National Science Foundation for funds to coordinate the positions of information science associations for WHCLIS. Three meetings are proposed for this purpose. At the recommendation of the

Joint Cabinets, the Board decided to support this project and to send an SLA representative to each of the proposed meetings. Immediately after the Winter Meeting, the president wrote to NSF on behalf of the Board to indicate the Association's support of the ASIS proposal.

**Bibliographic Exchange Format**—In December the SLA president received a letter from the executive secretary, Committee for the Coordination of National Bibliographic Control, seeking SLA's help in the development of a common bibliographic exchange format.

The Board asked the assistant executive director to contact the Committee to see how SLA can participate. In addition, the Board asked the Standards Committee to investigate the relevant materials on a common bibliographic exchange format with the assistant executive director and to make a report to the Board at the June meeting.

The Committee is supported by the National Science Foundation, the National Commission on Libraries and Information Science, and the Council on Library Resources. The project is being undertaken with the assistance of Unesco.

---

## Scholarship Fund Contributions Received Jan-Dec 1978

H. W. Wilson Foundation	\$ 5,000.00
Anonymous Trust Income	4,045.02
San Francisco Bay Region Chapter	720.00
Anita T. Goldstein	630.00
ICI Americas, Inc.	300.00
Heart of America Chapter	200.01
Standard Oil Company of California	200.00
Helen E. Iseminger	100.00
St. Louis Metropolitan Area Chapter	100.00
In Memory of Virginia Raynes (St. Louis Metropolitan Area Chapter)	100.00
Texas Chapter	100.00
In Memory of Jim Criswell (Texas Chapter)	100.00
In Memory of Isabelle Bronk (Evelyn Butler)	50.00
Joseph M. Dagnese	50.00
Thomas Heitz	50.00
In Tribute to Clara Stanton Jones on her Retirement and In Memory of Rose S. Sugar (Michigan Chapter)	50.00
John M. Connor	40.00
Alice E. Kingery	40.00
Virginia L. Duncan	35.00
Elizabeth E. Brown	25.00
In Memory of Linda Shear (Cleveland Chapter)	25.00
In Memory of John Connor (Judith Field)	25.00
Agnes O. Hanson	25.00
Carolyn S. Kirby	25.00
Margaret F. MacKellar	25.00
In Memory of F. E. McKenna (Rocky Mountain Chapter)	25.00
Frances J. Rugan	25.00
In Memory of F. E. McKenna (San Diego Chapter)	25.00
In Memory of Virginia Raynes (Southern California Chapter)	25.00
Mary Lee Tsuffis	25.00
Wendell Walker	25.00
Total Other Contributions Under \$25.00	<u>1,121.50</u>
Total Contributions Jan-Dec 1978	<u>\$13,331.53</u>

---

## SLA Award Winners Announced

The SLA John Cotton Dana Award was established in June 1978 to recognize "exceptional services by members of Special Libraries Association to special librarianship." The first award recipients are Ruth S. Smith, Institute for Defense Analysis, and Jessie C. Wheelwright, retired, formerly librarian, Hawaiian Telephone Company.

Frank E. McKenna, the late executive director, SLA, and Gretchen D. Little, retired, formerly librarian, Atlas Library, ICI United States, Inc., Wilmington, Del., have been elected to the SLA Hall of Fame/1979.

Details of the citations will appear in a summer issue of *Special Libraries*.

---

## NETWORKING NOTES

This column will appear irregularly in *Special Libraries* to help keep SLA members informed of activities in the field of networking that pertain especially to special libraries. Please send your comments and suggestions for items to include to the Networking Committee chairman. Members of the committee are Audree Anthony, Vivian Arterberry, Sharon Vipong, and James B. Dodd, chairman, Coordinator of Services to Business & Industry, Georgia Institute of Technology Library, Atlanta, Ga. 30332.

### Networking Programs at the Honolulu Conference

The Networking Committee has arranged the following program at Honolulu:

"The Nationwide Network and Special Libraries," by Dr. I. M. Klempler, School of Library and Information Science, SUNY/Albany, and SLA Representative to the Library of Congress Network Advisory Committee.

"The National Periodical Center—A Status Report," by Laura N. Gasaway, University of Oklahoma Law Library, and SLA Representative to the National Periodicals System Advisory Committee.

"The Place of the Private, For-Profit Library in the National Networks," by Frank H. Spaulding, Bell Telephone Laboratories Library Operations, Holmdel, N.J.

"The Metropolitan Transportation Commission's Automated Data Library," by Dian Gillmar, Information Coordinator, Metropolitan Transportation Commission, Berkeley, Calif.

The committee has also added its sponsorship to a program developed by the Library Management Division, Aerospace Division, Military Librarians Division, and Sci-Tech Division. This program includes the following papers:

"Slow-Scan TV—A Library Network Prototype," by Patricia W. Berger, Environmental Protection Agency, Washington, D.C.

"Shared Bibliographic Input Experiment—An Update," by Hubert A. Sauter, Defense Documentation Center, Alexandria, Va.

Programs of the Telecommunications Division and the Transportation Division will also directly pertain to networking interests.

### Library of Congress Network Advisory Committee

SLA is officially represented on this committee by Dr. Irving M. Klempler. There is one other SLA member on the committee, and three other SLA members are among the observers assigned by other organizations. The committee members and observers, with their affiliations, are listed as follows:

#### Members

California Library Authority  
for Systems and Services

Ronald F. Miller  
Executive Director, CLASS  
1415 Koll Circle, Suite 101  
San Jose, Calif. 95112  
408/289-1756

Special Libraries Association  
Irving M. Klempler  
School of Library and Information  
Science  
State University of New York/Albany  
1400 Washington Ave.  
Albany, N.Y. 12222  
518/457-8577

Association of American Publishers  
Sandra K. Paul  
SKP Associates  
565 Fifth Ave.  
New York, N.Y. 10017  
212/687-3145

#### *Observers*

American Society for Information Science  
Kieth Wright  
Dean, School of Library and Information  
Science  
University of Maryland  
College Park, Md. 20742  
301/454-5451

National Federation of Abstracting and  
Indexing Services  
Toni Carbo Bearman  
Executive Director, NFAIS  
112 South 16th St., 11th Floor  
Philadelphia, Pa. 19102  
215/563-2406

Networking is a communications job. Furthermore, a good library is a communications medium and should be considered as such right along with TV, radio, newspapers, and so on. Our job is to get the right information to the right people at the right time—even if they do not know they need it. Networking is just a new word for what we have been trying to do all along, using the electronic and other modern technologies of today to do it.

---

## SLA Memorial Tribute to McKenna

The Special Libraries Association Board of Directors released the following statement at the SLA Winter Meeting in Tucson, Ariz:

It was with profound sorrow that the Staff and the Board of Directors of the Special Libraries Association learned of the untimely death of Dr. Frank E. McKenna in his home on Nov 10, 1978.

Executive Director since 1970, he had been a member of the Special Libraries Association since 1953, coming up through the ranks in a variety of offices at the Chapter and Division levels. Before becoming Executive Director, he was Editor, *Special Libraries*. He was an able and exemplary President of the Association in 1966/67.

The personal qualities of determination, generosity, and humor which he brought to the demanding task of executive leadership of SLA, and which, together with his breadth of intellect and vision, based on a firm grasp of essentials, enabled him to make an outstanding contribution to the development of Special Libraries Association. His work in Oslo in 1974 toward the restructuring of the new IFLA statutes was outstanding. His understanding of the librarian's position on exceedingly complicated copyright questions and his participation in negotiations, ultimately resulting in the enactment of the U.S. Copyright Laws of 1976, must be recognized as the crowning achievement of an illustrious career.

His passing is a tragic loss to librarians and information specialists, nationally and internationally. His professional achievements are well

known not only in the United States but in the international information community as a whole.

The Association's 70th Annual Conference to be held in Honolulu, Hawaii, Jun 9-14, 1979 was a project that was very close to his heart. He conceived the idea for the Honolulu Conference in 1972 during his visit to Japan as a guest lecturer. His original conception was a joint meeting of the Japan Special Libraries Association (Sentokyo) and SLA, but because of the interest expressed by special library organizations in other countries, the Conference expanded to include the participation of the Special Libraries Division of the International Federation of Library Associations and Institutions and the special library associations of several Pacific Basin countries. The Conference has been designated by the SLA Board of Directors as the First Worldwide Conference on Special Libraries. The Staff and the Board of Directors are committed to dedicating the Conference as a living memorial to him. They are also committed to continue to carry on the affairs of SLA in the spirit of cooperation and the pursuit of excellence in the manner he would have expected. This, in the end, will be the best tribute we can pay to Frank McKenna.

BE IT RESOLVED, That the Board of Directors place on record its esteem for the deceased Executive Director, and its sorrow at his passing, and,

BE IT FURTHER RESOLVED, That a copy of this Memorial Resolution, signed by the President of the Association, be forwarded to his family as an expression of deep sympathy.

## Honolulu in June

### What to Expect of the Weather

### . . . and What to Pack

### *Travel Light! Hawaii is Informal and Warm*

Daytime temperatures in June average in the 80s, nighttime temperatures in the 70s. With tradewinds blowing in June, these temperatures are pleasant. There are about thirteen hours of daylight in summer, allowing for plenty of time for sightseeing.

Lightweight, easy-care, loose clothes are in order for both men and women. Bring about the same kind of light-colored resort wear one would take to Florida or the Caribbean, or to the East Coast in August. Shorts for men and women are fine. Comfortable shoes are best, especially

sandals, canvas shoes, or tennis shoes. Evening dress is basically informal. Women wear muumuus or other casual clothes with sandals, while white trousers and aloha or other open-neck shirts are popular with men. Several restaurants require jackets for men, but none require ties. Remember, even bankers and stockbrokers in Hawaii conduct business in aloha shirts.

*Don't Forget Bathing Suits and Sunglasses—and Save Space for the Muumuus and Aloha Shirts You will be Bringing Back.*

---

## IN MEMORIAM

---

### Beverly M. Knower

Beverly M. Knower, section chief, Library and Information Center of Suntech, Inc., Marcus Hook, Pa., died on Jul 30, 1978, in Media, Pa. of cancer. She is survived by a sister and two brothers.

Beverly, born in Genoa, Wisc., on Oct. 4, 1926, received her BS in chemistry and MS in food technology from the University of Wisconsin. She received her MLS from Drexel University in 1958.

The increasing responsibilities of her positions at Suntech, from junior chemist in 1954 to head of the large information resource at the time of her death, were a direct result of her hard work, long hours, and high intelligence. Her success was especially due to her concern and care for the needs of the individuals who used her library. Her ability to see problems from several viewpoints led to satisfying solutions for staff and executive alike. Her own problems were never more important to her than those of the newest staff member; the highest executives knew the information they needed would be carefully and completely prepared for their use. She was a librarian who put people first.

Her activities in Special Libraries Association followed the same pattern. She was active in the Philadelphia Chapter, holding various offices, including president (1965/66). She was chairman, Petroleum Section, Sci-Tech Division (1964/65). She served on the American Petroleum Institute's subcommittee on indexing and abstracting for seventeen years. She was also a member of the

American Chemical Society and the American Society for Information Science.

It is not surprising that she had many friends—friends, not acquaintances. Her interests were diverse and many of them were deep and lasting. She was a gourmet cook and a superbly gracious hostess; an oil painter whose works brought good prices in the market place; a true patron of the arts: music, theater, painting, ballet, crafts; and a world traveler. Best of all, she shared all of her wonder and love of life with her friends.

It was Bev's caring and her willingness to share that prompted her to such generous giving to Drexel Library School, and to the many students whom she quietly helped out in so many ways. This was an aspect of her activities that no one except the beneficiaries knew about, yet we were not surprised when we learned of it. She was truly concerned about library students and wanted them to be prepared to render the best service, the kind which she always provided.

Everyone at Suntech will miss her; she was involved in a truly creative process there as the library developed into an information center of great value. Her friends will miss her; there, too, she was creative as her great interests and talents and love touched and influenced our lives. We miss her, but memories live on to inspire and enrich us continually.

Elizabeth Tomlinson  
White Memorial Library  
University of Maryland  
College Park

## COMING EVENTS

**May 18-19. University of Chicago Graduate Library School, 40th Annual Conference . . .** Palmer House, Chicago. Theme: The Role of Libraries in the Growth of Knowledge. Contact: Dean, Graduate Library School, JRL 5-106, 1100 E. 57th St., Chicago, Ill. 60637.

**May 21-22. The American University, Third Annual Institute on Federal Information . . .** Washington, D.C. Contact: Melinda Beard or Lowell Hattery, Institute on Federal Information: Policies and Access, College of Public Affairs, American University, Massachusetts and Nebraska Aves., N.W., Washington, D.C. (202/686-2513).

**May 21-Jun 1. Seminar in Art and Museum Librarianship . . .** Syracuse, N.Y. Sponsored by Syracuse University School of Information Studies. Contact: Prof. Antje B. Lemke, School of Information Studies, Syracuse University, 113 Euclid Ave., Syracuse, N.Y. 13210.

**May 24-26. Ontario Association of Library Technicians/Association des Bibliotechniciens de l'Ontario, Sixth Annual Conference . . .** New College, University of Toronto, Ont. Sponsored by OALT/ABO Toronto Area Regional Branch. Contact: OALT/ABO, P.O. Box 527, Thornhill, Ont., Canada, L3T 4A2.

**May 29-Jun 1. National Archives Course in the Use of Primary Sources . . .** Archives Building, Washington, D.C. Topic: Going to the Source: An Introduction to Research in Archives. Fee: \$60. Contact: Elsie Freivogel,

Education Division, National Archives and Records Service, Washington, D.C. 20408 (202/523-3298).

**May 30-Jun 1. Critical Issues in Cooperative Library Development: A Conference on Networks for Networkers . . .** Indianapolis, Ind. Jointly sponsored by Indiana Department of Public Instruction, Indiana Cooperative Library Service Authority, Purdue University Library and Audiovisual Center, and Indiana University Graduate Library School. Contact: Jean Gnat, Indiana University-Purdue University at Indianapolis, 420 Blake St., Indianapolis, Ind. 46202.

**Jun 2-7. Medical Library Association, 78th Annual Conference . . .** Honolulu, Hawaii. Write: MLA, 919 W. Michigan Ave., Chicago, Ill. 60611.

**Jun 4-7. National Computer Conference . . .** Americana Hotel, New York City. Sponsored by the American Federation of Information Processing Societies. Preregistration cost: \$60. Contact: NCC '79, c/o AFIPS, 210 Summit Ave., Montvale, N.J. 07645.

**Jun 6-8. Institute of Information Scientists, Annual Conference . . .** Imperial Hotel, Torquay, England. Theme: Towards 2001: New Information Technology and Its Future Impact. Fee: £70 members, £90 nonmembers. Contact: Mike Allen, Head of Information Services Unit, Beecham Pharmaceuticals, Coldharbour Rd., The Pinnacles, Harlow, Essex, England.



**Jun 7-9. The International Flow of Information; A Trans-Pacific Perspective**, Institute . . . Makaha Inn, Hawaii. Sponsored by the Center for the Book in the Library of Congress, the U.S. International Communication Agency, and the University of Hawaii Graduate School of Library Studies. Contact: Sarah K. Vann, Graduate School of Library Studies, University of Hawaii at Manoa, Honolulu, Hawaii 96822.

**Jun 9-14. Special Libraries Association, Worldwide Conference on Special Libraries . . . Hilton Hawaiian Village and Ilikai, Honolulu, Hawaii.** Theme: Politics and Economics: Their Impact on Library/Information Services. Also participating: International Federation of Library Associations and Institutions Special Libraries Division and Japan Special Libraries Association (Sentokyo).

**Jun 11-13. Fourth Nordic Information and Documentation Congress . . . Uppsala, Sweden.** Theme: Information Support in the 1980s. Write: Swedish Society for Technical Documentation, Box 5073, 10242 Stockholm, Sweden.

**Jun 11-15. American Theological Library Association, Annual Conference . . . St. Paul, Minn.** Contact: Dr. Norris Magnuson, librarian, Bethel Theological Seminary, 3949 Bethel Dr., St. Paul, Minn. 55112.

**Jun 12-15. Office of Management Studies, Association of Research Libraries, Library Skills Institute . . . Chicago, Ill.** Fee: \$200. Contact: OMS, Association of Research Libraries, 1527 New Hampshire Ave., N.W., Washington, D.C. 20036 (202/232-8656).

**Jun 12-15. National Archives Course in the Use of Primary Sources . . . Chicago Historical Society.** Topic: Going to the Source: An Introduction to Research in Archives. Fee: \$60. Write Elsie Freivogel, Education Division, National Archives and Records Service, Washington, D.C. 20408, or call Robert Brubaker, Chicago Historical Society (312/642-4600).

**Jun 14-20. Canadian Library Association, Annual Conference . . . Ottawa, Canada.** Write: Business Manager, CLA, 151 Sparks St., Ottawa, Ont., Canada K1P 5E3.

**Jun 17-20. Association of Jewish Libraries, Annual Convention . . . Cincinnati.** Contact: Robert Singerman, 3101 Clifton Ave., Cincinnati, Ohio 45220.

**Jun 17-22. Twenty-fourth Seminar on the Acquisition of Latin American Library Materials . . . University of California, Los Angeles.** Theme: Caribbean Research and Resources in Europe and the Americas. Fee: \$25 members, \$35 nonmembers. Contact: Anne H. Jordan, Benson Latin American Collection, The University of Texas, Austin, Tex. 78712.

**Jun 24-30. American Library Association, Annual Conference . . . Dallas, Tex.**

**Jun 24-30. Theatre Library Association, Annual Meeting . . . Dallas, Tex.**

**Jun 25-27. Scandinavian Audiological Society, Annual Conference . . . Panum Institute, Copenhagen, Denmark.** Scandinavian languages only.

---

## **A Model Management Curriculum for Special Librarians**

The Metropolitan Washington Library Council is conducting a series of four management training courses in the spring of 1979 for special librarians in the Washington area. The Library Council has been conducting management courses for librarians since 1975. This is the first series designed specifically for special librarians. The program is being funded by the Library Education and Post-secondary Resources

Branch of the U. S. Office of Education and the Washington, D.C. Chapter of the Special Libraries' Association.

The goal of the program is twofold: 1) to develop and evaluate a curriculum for practicing special librarians designed to improve their managerial effectiveness; 2) to publish a description of the program which will include administrative guidelines and a series of specialized instructional materials

which can be used to develop similar workshops for other special librarians. The publication will also include suggested course modifications based upon evaluation data gathered from participants, project staff, and instructors.

In preparation for the project the Library Council conducted an in-depth needs assessment in July of 1978 involving over 100 Washington, D.C., area special librarians. Participants were asked to establish the priorities of their management training needs in an interactive problem-identification session. Based on the results of the needs assessment the following courses were selected for inclusion in the program:

- Human Resources Management
- Financial Management
- Management Communications
- Planning for Special Library Management

Participation is open to Washington, D.C., area special librarians in top and middle management positions with current management responsibility in the workshop topics.

One of the major outcomes of the program will be a publication which will include a curriculum guide describing the courses and a series of specialized instructional materials. Administrative guidelines will also be included. These guidelines may

be used by special library training administrators to develop similar programs. In addition, the curriculum guide may be used by their instructors to replicate the courses themselves. The publication will contain 1) an assessment from a practical point of view of the advantages and disadvantages of a management curriculum for special librarians; 2) suggested topics which have proved valuable; 3) an outline of procedures necessary to establish the program; 4) syllabi of instructional units tested; and 5) actual instructional materials specifically adapted to special libraries and guidelines for their use. The publication will be published by the Library Council in late summer of 1979 and be made available through ERIC and GPO.

The Library Council has published a similar report which outlines its previous experience in developing management courses for librarians. The report, entitled *Continuing Library Education: An Interdisciplinary Approach*, can be ordered in microfilm only for \$5.00, prepaid by contacting the Information Center, Metropolitan Washington Council of Governments, 1225 Connecticut Ave., N.W., Washington, D.C. 20036 (202/223-6800).

For further information about the management curriculum for special librarians contact Mary Sage, Library Planner, Metropolitan Washington Library Council, 1225 Connecticut Avenue, N.W., Washington, D.C. 20036 (202/223-6800).

---

## STAFF DEVELOPMENT

**Burack, Elmer H. and Miller, Edwin L.** / A Model for Personnel Practices and People. *Personnel Administrator* 24(no.1):50-56 (Jan 1979).

Human Resource Management (HRM), some of the factors which gave rise to its emergence, and its implications for personnel are described. HRM is characterized by increased involvement in the development of policy and guidelines, as well as the implementation of programs and techniques designed to put policies into effect. The emphasis of the model will be less on programs and techniques and more on the quality and quantity required to help the organization achieve its goals.

The First Job: Making the Transition to Manager. *S.A.M. Advanced Management Journal* 43(no.4):54-60 (Autumn 1978).

The role that goal setting and career planning should play in the plans of self-motivated

aspirants to top management positions is discussed. In an interview, a new young manager describes his experiences and ideas regarding the adjustments that must be made even in personal lifestyle and leisure activities if one intends to go up the management ladder.

**Johnston, Robert W.** / Seven Steps to Whole Organization Development. *Training and Development Journal* 33(no.1):12-22 (Jan 1979).

Presents a seven-step plan for development of a whole organization, applicable to groups of varying sizes. Steps include clarification of whole organization objectives, data gathering, diagnosis, prescribing interventions, commitment, implementation, and progress review. Five charts and the description of a case study help to clarify the steps in the process.

**Kramer, Otto P.** / Flexible Working Hours. *Journal of Systems Management* 29(no.12):17-21 (Dec 1978).

Gives rationale for flexible working hours and describes procedures that can be used. Points out advantages and disadvantages of such a system. Most organizations that have converted to the flexible hours system believe it has improved utilization of human resources and employee relations.

**McMaster, John B.** / Designing an Appraisal System That Is Fair and Accurate. *Personnel Journal* 58(no.1):38-40 (Jan 1979).

Describes a method of designing and implementing a personnel appraisal system that can be used to identify employees 1) who have potential for advancement, 2) who need additional training, 3) who perform well in their present position but have limited potential, and 4) who should, for one reason or another, be terminated. Eight specific components of the system are discussed.

**Michaud, Robert E.** / The Staff Development Function—Assessing Training Needs. *Training and Development Journal* 32(no.8):62-63 (Aug 1978).

Presents method for obtaining information needed for staff development program. Suggests questions that should be asked of program directors. Responses are categorized and arranged in an assessment form on which participants check items according to interest, level, and importance. When the items checked on the assessment forms are assigned priorities, a staff development program can begin.

A Manager's Guide to Successful Meetings. *Training and Development Journal* 32(no.10):12-16 (Oct 1978).

A down-to-earth article outlining in detail the steps one must go through in planning a successful meeting. The importance of walking throughout the entire sequence is stressed.

**Milk, Leslie B.** / The Key to Job Accommodations. *Personnel Administrator* 24(no.1):31-33,38 (Jan 1979).

Legislation requires that those firms or individuals doing \$25,000 of business with the federal government or institutions receiving federal financial assistance must take affirmative action steps in recruiting, hiring, and advancing in employment qualified handicapped individuals. Included in the legislation is the requirement to make reasonable accommodation for qualified handicapped individuals. The author points out that imagination in determining "reasonable accommodation" is more important than expense and that attitudes are a determining ingredient in an effective accommodation process.

Motivational Programs—Or How You Can Get More Out of You. *Administrative Management* 32(no.9):30-32ff (Sep 1978).

Describes motivational programs at various levels in different forms. Purpose of the programs is to strengthen the ability of people to do a better job, to face new challenges, and maintain a positive attitude. Suggests books and films that have helped to create successful programs.

**Watson, Thomas B.** / Making Negative Feedback Work. *Personnel Journal* 57(no.12):680-681 (Dec 1978).

Individuals need feedback to increase their job effectiveness. Negative feedback identifies areas where improvements are desired or necessary and specifies how these improvements can be made. In order for such feedback to be helpful, three things are necessary: an understanding of what is said, acceptance on the part of the employee, and an action taken. The author describes how these steps can result in better relationships in an organization.

**Lucille Whalen**

## REVIEWS

**The On-Line Revolution in Libraries; Proceedings of the 1977 Conference in Pittsburgh, Pennsylvania.** Allen Kent and Thomas J. Galvin, eds. New York, Marcel Dekker, 1978. 203p. ISBN 0-8247-6754-3.

More than 700 librarians, information specialists, managers of information services, information industry representatives, and so on, had gathered at the University of Pittsburgh to listen to a number of prepared papers and to discuss "The On-Line Revolution in Libraries." One wonders whether it

was truly a revolution that they were discussing or whether it was more likely an evolutionary process—the gradual introduction and integration of information technology—that was transforming modes of access, scope, speed, depth, costs, effectiveness, and even the overall philosophy of providing library services.

The list of 27 major contributors to the proceedings of this conference certainly includes many individuals who are well-known in the information field for their significant contributions. Five position papers dealt with: 1) the potential of on-line information systems (Allen Kent); 2) the impact of on-line systems on national infor-

mation policy and on local, state, and regional planning (Lee G. Burchinal); 3) the impact of on-line systems on library functions (Miriam A. Drake); 4) the impact of on-line systems on the clientele (Paul E. Peters and Ellen G. Detlefsen); and 5) the training and retraining of librarians and users (Elaine Caruso).

The position papers, the order of their presentation, as well as the scheduled reactor comments reflected, of course, the projected content and intended structure for the conference. Yet, having read the conference proceedings, it becomes apparent that certain underlying concerns manifested themselves at almost every conference session, regardless of the specifics of the papers presented. These concerns include: How will on-line services be paid for? Is the issue of user charges to be reduced to "fee or free"? Is the NCLIS assumption of "information as a national resource" to be undermined and eventually abandoned? Are on-line systems to be designed for intermediaries, or for direct user access? Are systems to be developed to meet the information needs of *all* our publics, or only for those publics that meet the test of the market place? Are on-line systems to encompass numeric data bases, current research data bases, i.e., are they to access the totality of stored information in machine-readable form or should they be confined to "bibliographic" data bases?

For the most part, the papers and reactor comments were well organized and highly informative. They tended, however, to emphasize information technology relevant to on-line systems without paying sufficient attention to the need of an improved intellectual apparatus essential for the attainment of quality retrieval and the reduction of redundant and irrelevant output. Should people really be awed by the technological achievement of having the entire text of *The New York Times* available to us on-line? How can one retrieve desired information without being flooded by a superabundance of false drops? Detlefsen's paper touched on this and similar issues.

By inference, Kent's paper may have given a hint at some possible solutions. Being revolution oriented, Kent deplored alphabetic thinking and its monodimensional search approaches by stressing on-line combinatory or correlative retrieval which is now made possible through use of modern, interactive systems. His paper amply emphasized that for certain types of

searches, correlative searching offers the most efficient and economic means of access.

Drake, from Purdue University, did a fine job of summarizing the applications of on-line systems in terms of their potential toward improving resource sharing, collection building, cooperative processing, speed of searching, provision of system management data, and similar factors. Martha Williams, director of Information Retrieval Research Laboratory, University of Illinois, thought that a revolution in information retrieval was indeed occurring. As an example, she referred primarily to the machine-readable data bases of abstracting and indexing services.

Burchinal discussed electronic means of transmission, frequently coupled with micrographic storage of large files, as offering the greatest hope of attaining the objectives of lowering unit costs, allowing for management of increasing volumes of information, and increasing its effective uses. Carlos A. Cuadra, buttressed by several other speakers, invoked the economic theories of Adam Smith. He noted that the federal government could be asked to step in; by taxing the entire public, the government could subsidize service for those who would like to use on-line service but presently cannot afford to do so. "But why just on-line information services?" he asks, "Why not ask the federal government to pay for all the costs of university libraries or public libraries?" Cuadra apparently refused to acknowledge that many university libraries, most public libraries, such as *Chemical Abstracts*, *Biological Abstracts*, and so on, are subsidized in whole or in part by public funds.

Several speakers provided the perspective necessary to counterbalance the more extreme views. In a cool-headed manner, Richard De Gennaro, Keith Doms, John G. Lorenz, and Susan K. Martin were able to assess the on-line revolution in terms of their own vast experiences as librarians and administrators of functioning library systems. On the whole, the conference papers, reactor statements, and audience comments represent a cross-section of the thinking and technology applications relevant to the state of the art of on-line systems—systems which are undergoing evolutionary, if not revolutionary, development.

**Dr. Irving M. Klempner**  
**School of Library and Information Science**  
**State University of New York/Albany**

## PUBS

(79-031) **Industry Analysts in the Federal Government.** Washington, D.C., Washington Researchers, 1978. 23p. \$10.00.

Names and phone numbers of over 100 Department of Commerce analysts who monitor activities within specific industries. Arranged by Standard Industrial Classification Codes (industry and product), with an alphabetical index. Available from: Washington Researchers, 910 17th Street, N.W., Washington, D.C. 20006. 202/452-0025.

(79-032) **Barrier-Free Meetings: a Guide for Professional Associations.** Redden, Martha Ross, Wayne Fortunato-Schwandt, Janet Welsh Brown. Washington, D.C. American Assn. for the Advancement of Science, 1976. 73p. \$4.00. ISBN 0-87168-229-X.

Explains how to make meetings accessible to the physically disabled.

(79-033) **Reference and Information Services: A Reader.** Katz, Bill, and Andrea Tarr, eds. Metuchen, N.J., Scarecrow, 1978. 466p. \$12.50. LC 77-20698, ISBN 0-8108-1091-3.

Thirty-seven recent essays dealing with the practice of reference/information service, and with the types of reference tools.

(79-034) **Library Searching: Resources and Strategies.** Morris, Jacquelyn M., and Elizabeth A. Elkins. New York, Jeffrey Norton, 1978. 129p. \$8.95 hardcover, \$5.95 paperback. LC 77-9214, ISBN 0-88432-004-9 hardcover, ISBN 0-88432-005-7 paperback.

A handbook of library research, originally developed for use in an academic library user-education program. Examples are drawn from the environmental sciences.

(79-035) **Evaluations of Micrographic Equipment** (Resource Report 12). Wolk, Sue, comp. Silver Spring, Md., National Micrographics Assn., 1978. 6p. \$2.00 to NMA members, \$3.00 nonmembers.

A bibliography of micrographic equipment evaluations. Available from: NMA, 8728 Colesville Rd., Silver Spring, Md. 20910.

(79-036) **A Basic Music Library: Essential Scores and Books.** Music Library Assn., comp.; Pauline Shaw Bayne, ed. Chicago, American Library Assn., 1978. 182p. \$5.00. LC 78-11997, ISBN 0-8389-0281-2.

Annotated list of 952 scores, books, and periodicals.

(79-037) **Federal Yellow Book.** Looseleaf service. \$95/year. ISSN 0145-6202.

Directory of the U.S. executive branch: names and phone numbers of 25,000 top administrators in the Executive Office of the President, departments, agencies, and regional federal offices. Published by The Washington Monitor, 499 National Press Building, Washington, D.C. 20045.

(79-038) **Supervision: An Introduction to Business Management.** Shapiro, Steven L. New York, Fairchild, 1978. 307p. LC 77-94514, ISBN 87005-213-6.

Introductory text. Topics discussed include general management theory, motivation, leadership, communication, selection, and training of employees.

(79-039) **Contemporary Art and Artists: An Index to Reproductions.** Parry, Pamela Jeffcott, comp. Westport, Conn., Greenwood, 1978. 327p. \$25.00. LC 78-57763, ISBN 0-313-20544-2.

Guide to locating illustrations of works of art produced since 1940, based on 60 books and exhibition catalogs. Each entry includes artist; title, date, material, and location of work; publications in which illustrations of the work appear.

(79-040) **Charging for Computer-Based Reference Services.** Watson, Peter G., ed. Chicago, American Library Assn. Reference & Adult Services Division, 1978. 49p. \$4.00 prepaid. ISBN 0-8389-6356-0.

Proceedings of a program organized by the RASD at the ALA Conference in Detroit, 1977. Three presentations—on the history of charging for services, on intellectual freedom issues, and on operational considerations—are followed by a discussion.

(79-041) **A Computer Network Protocol for Library and Information Science Applications.** NCLIS/NBS Task Force on Computer Network Protocol. Washington, D.C., National Commission on Libraries and Information Science, 1977. 90p. Single copies free from NCLIS, \$2.75 from GPO. GPO stock number 052-003-00601-4.

Describes a proposed computer-to-computer protocol for electronic communication of digital information over a nationwide library bibliographic network. Available from NCLIS, Suite 601, 1717 K Street, NW, Washington, D.C. 20036 (202/653-6252).

Marie Dooling

*special libraries*

## **German Chemical Abbreviations, 2nd rev. printing**

**Gabriele E. M. Wohlaer and H. D. Gholston, comp.**

1968/paper/68 pages/6 x 9/\$7.50/LC 66-13627/  
ISBN 0-87111-165-9

This specialized dictionary is designed for all who work with German chemical journals, books, patents, and other literature. Approximately 2,500 abbreviations with their German and English meanings are listed alphabetically in a three-column format. A few technical Latin and nontechnical abbreviations that are frequently encountered in German chemical literature have been included. Running heads on each page and a visible thumb index ease the task of locating specific entries.

**Order from:**                      **Order Department**  
**Special Libraries Association**  
**235 Park Avenue South**  
**New York, N.Y. 10003**



## **PERSONALIZED SUBSCRIPTION SERVICE**

Every customer is assigned an experienced "Home Office" representative. You correspond direct; any title needs, changes, cancellations or problems can be handled promptly by letter or phone. This makes your job easier and keeps you abreast of your subscription needs at all times.

With over 45 years experience, McGregor has built a reputation of prompt and courteous service on both domestic and international titles. We prepay subscriptions ahead of time.

Our customers, large and small, like the prompt attention we give them. We think you would too! Ask about McGregor's "Automatic Renewal" plan described in our new brochure. Write today for your free copy.

**MCGREGOR**

OUR 46th YEAR

*Magazine Agency*

**MOUNT MORRIS, ILLINOIS 61054**

# CA SEARCH

## CA SEARCH The Better Computer-Readable File From Chemical Abstracts Service

### CA Volume Index Entries & Bibliographic Citations in One File

CA SEARCH, issued weekly by Chemical Abstracts Service (CAS), is the most comprehensive computer-readable file produced by CAS. No other service provides such a convenient means of searching the CAS Information System... a system containing references from the hundreds of thousands of chemistry-related articles, reports, patents, and other published research material abstracted and indexed each year in CHEMICAL ABSTRACTS (CA).

CA SEARCH contains the same kind of references to chemical subjects and substances found in the printed semiannual CA Volume Indexes.

Also contained in CA SEARCH are bibliographic citations: Each document referenced in CA SEARCH is identified by title, author names, primary publication, CA section number, and other pertinent details revealing the abstract's source and scope. These citations make it easy for you to identify the original document, in case you must refer to it.

### CA SEARCH Offers Many Access Points

CA SEARCH can be accessed by means of: CAS Registry Number, CA Index Name, CA General Subject Terms, molecular formula, CA Index Name fragments which identify substructures, and Keywords ("natural language" terms for substances, concepts, etc. discussed in the abstracted document).

### CA SEARCH Will Simplify Your Information Problems

Whether you are a scientist, librarian, or information specialist... CA SEARCH will give you faster, easier reference to the wealth of chemistry-related information abstracted in CA.

Regardless of your location, CA SEARCH is available for your use through an Information Center licensed by CAS. For more information, send in the coupon below.

## CA SEARCH...A Fast, Convenient Way to Search CA References

Clip this Form or Mail a Photocopy

Please send me more information  
about searching CA SEARCH at  
a licensed Information Center.

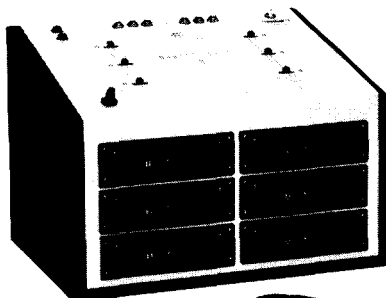
MAIL TO: **Chemical Abstracts Service**  
**Marketing Department - DGA**  
P. O. Box 3012  
Columbus, Ohio 43210

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## CA SEARCH

Inquiries from residents of the United Kingdom of Great Britain and Northern Ireland, the Republic of Ireland, the Federal Republic of Germany, Japan, and France will be forwarded to the organizations which distribute CAS services in those countries.

For the ultimate listening-learning experience:  
**P/H Wireless Library Broadcaster**



... transmits 2 to 12 separate programs simultaneously to unlimited numbers of students using wireless headphone/receivers. They can select, or be assigned, any program by turning the program selector knob on their headset to a specific channel. Consoles accommodate standard cassettes; an auxiliary input panel accepts sound from any source. Because the system is wireless, students may sit anywhere. For a dramatic, free, no-obligation demonstration, contact P/H Electronics ... manufacturer of MONI-COM™ II, the patented two-way wireless language laboratory.

**P/H ELECTRONICS**

A Division of Duncan Electric Company  
 117 E. HELENA STREET,  
 DAYTON, OHIO 45404  
 (513) 461-5898

**SWETS  
 MEANS  
 COMPLETE  
 LIBRARY  
 SERVICES**

SWETS NORTH AMERICA, INC. provides a FULL SUBSCRIPTION SERVICE for periodicals, serials, and continuations, both domestic and foreign — through our home office in North America and our offices in Europe, South America and Great Britain.

<p>SWETS Service for Monographs with Bi-Monthly Updated Reports on Order Status</p>	<p>SWETS Service for Continuations with Bibliographic Report Supplied Annually</p>	<p><b>FAST</b>®                  A Journal Delivery Service with Automated Kardex Check-In, Claim Control, and Air Freight or Surface Mail Options</p>
---	--	--

**Doesn't Your Library Deserve SWETS Service?**

CALL COLLECT (215) 644-4944  
**SWETS NORTH AMERICA, INC.**  
 BOX 517 • BERWYN, PA. 19312      TELEX 084-5392



## READY TO MEET MOST OF

### YOUR Microfilm Requirements

Serving Banks, Security  
Companies, Laboratories,  
Factories .....  
Over 1/4 century with

### VICON's TOTAL MICROFILMING SYSTEM

- Camera  
VICON buic 150, 230, 320
- Film Processor  
VICON MP-16
- Reader  
VICON RF-1, MR-16
- Reader Printer  
VICON KD-1, KD-2  
(Single lens, dual lenses)

Also available are Handy  
Portable Film Processor  
of film readers with attachments

AND

### A New Processor - Camera FD-230P

(Simplex/Duplex)

A Completely Novel Concept  
giving maximum economy  
and versatility



KD-1

\* Will accept requests for designing  
any models other than standard to  
meet your specific needs.



**VICON**  
**MOCHIZUKI SHOTEN, LTD.**

— Business Machines Division —

Daini Toyo kaiji Bldg. 24-8.  
Shinbashi 4-chome, Minato-ku.  
Tokyo, 105 Japan  
Phone: 03(437)5391  
TELEX: GENESPEC J24160

## PLACEMENT

"Positions Open" and "Positions Wanted" ads are \$3.50 per line; \$10.00 minimum. Current members of SLA may place a "Positions Wanted" ad at a special rate of \$2.00 per line; \$6.00 minimum.

In each membership year, each unemployed member will be allowed a maximum of two free "Positions Wanted" ads, each ad to be limited to 5 lines including mailing address (no blind box addresses), on a space available basis.

There is a minimum charge of \$14.00 for a "Market Place" ad of three lines or less; each additional line is \$5.00. There are approximately 45 characters and spaces to a line.

Copy for display ads must be received by the first of the month two months preceding the month of publication; copy for line ads must be received by the tenth.

Classified ads will not be accepted on a "run until cancelled" basis; twelve months is the maximum, unless renewed.

Special Libraries Association reserves the right to reject any advertisements which in any way refer to race, creed, color, age, or sex as conditions for employment.

## POSITIONS OPEN

**Science Librarian** - Wichita State University. Gives direct user assistance at a centralized reference desk, takes part in the library use instruction and collection development programs, provides computer searches, and serves as liaison with the Engineering, Physics, Chemistry, Mathematics, and Geology Departments.

**Requirements and Qualifications:** The ability to work effectively with both students and faculty is required. The successful candidate will be service oriented and committed to aggressively promoting informational services to the academic community. Must have a master's degree in library science from an ALA-accredited library school and backgrounds in engineering, chemistry, mathematics, physics, or geology. A second graduate degree is required for tenure.

**Salary and Benefits:** \$11,500 to \$16,000 for 12-month appointment, depending on qualifications. Tenure track appointment, TIAA-CREF, Blue Cross/Blue Shield. Send letter of application and résumé to: James C. Eller, Associate Director for Library Services, Wichita State University, #68, Wichita, KS 67208, by May 30, 1979. Finalists will be invited for expense-paid interview.

**Wichita State University:** WSU is an urban institution, with an enrollment of 16,000 that offers an outstanding opportunity for aggressive librarians. There are active library instruction and collection development programs, as well as other opportunities for relating the library to instructional programs. Librarians at Wichita State University enjoy faculty rank, privileges, and responsibilities.

Wichita State University is an Affirmative Action/Equal Opportunity Employer. Applications from minority persons and women are encouraged.

---

## POSITIONS OPEN

---

**Director, University of Minnesota St. Paul Campus Libraries**—Under the general direction of the Director of University of Minnesota Libraries, the Director of the St. Paul Campus Libraries is responsible for the administration of this Department, which includes a central library, which is undergoing major expansion, and six physically separate subject libraries. The collections total over 200,000 cataloged volumes, as well as substantial holdings in government publications and other materials, which support programs in agriculture, biological sciences, and veterinary medicine. There is an operating budget of \$770,000 including \$275,000 for acquisition and binding, and a staff of 41 FTE, including 12 professionals. As director of one of the seven major departments in the university libraries, the individual participates fully in university libraries-wide planning and program development. The library system serves as a regional (7-state) USDA document delivery center and includes its own collection processing department. Also, a library automation program is being implemented.

Applicants for this position must have demonstrated exceptional skills in leadership, administration, planning, and interpersonal relations. They must possess the MLS or an appropriate equivalent, as well as significant applicable experience in a major university library. An educational background in the agricultural, biological sciences, or supporting science is desirable. Knowledge of academic programs and the ability to work with faculty and academic administrators is essential. Individual must have a commitment to participate in national library professional association activities. Applicants should be able to meet the requirements of a university libraries faculty appointment with tenure at the rank of associate professor or professor.

The minimum starting salary for the position is \$25,000 which includes an administrative stipend. Closing date for receipt of applications: May 15, 1979. The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, creed, color, sex, national origin, or handicap.

Send application, detailed résumé, and names of three references to: Clarence Carter, Personnel Officer, 499 Wilson Library, University of Minnesota, Minneapolis, Minn. 55455.

---

**Reference Librarian**—University of Notre Dame. Responsible to the head of reference, Memorial Library. Provides general reference service with staff of other subject specialists in central reference department. Responsibilities include bibliographic instruction and collection development in business administration and economics. Qualifications: Graduate degree in library science from an accredited library school. A business degree or experience in a business library. Working knowledge of a modern foreign language. Twelve month contract, faculty status. Salary \$11,200. Application deadline Jun 1, 1979. Send résumé to: Dr. George E. Sereiko, Secretary, Appointments and Promotions Committee, Memorial Library, University of Notre Dame, Notre Dame, Ind. 46556. An Equal Opportunity Employer. Women and minorities are urged to apply.

---

---

## POSITIONS OPEN

---

**Information Scientist**—The Chemical Hygiene Fellowship of Carnegie-Mellon Institute of Research, a well-established and expanding research facility concerned with all phases of toxicology testing of chemicals, located 20 miles east of Pittsburgh, Pa., has an immediate opening for an Information Scientist.

The qualified individual must have advanced degrees or equivalent experience. Degrees should be in a biological science and in information science or library science. Experience in conducting literature searches, both manual and computerized, and familiarity with toxicology and its literature are required. Duties will include: conducting complete literature searches with minimal consultation and supervision, and providing a "current awareness" function which routinely monitors the current literature for areas of specific or common concern and directing this information to the appropriate individuals or groups. Submit curriculum vitae to: Carnegie-Mellon Institute of Research, R.D. #4, Box 60, Export, Pa. 15632, Attn: Mr. A. R. Ryrholm.

An Equal Opportunity/Affirmative Action Employer. A Division of Carnegie-Mellon University.

---

**Information Specialist**—Corporate Technical Library, The Upjohn Company. Provides information services on demand or as a continuing service to management and technical staff including: general factual information and answer services, retrospective literature searching, current literature altering (internal & vendor supplied data bases), user education/liason. Keeps informed of current Upjohn research activity; anticipates user information needs and helps plan and implement services designed to meet them; help increase visibility of the Corporate Technical Library and utilization of its information services; keeps informed of developments in information science, new information resources, and techniques for their utilization. The corporate Technical Library collection contains 20,000 books, 30,000 bound journals, and 1,300 current periodical subscriptions. It serves a research staff of 1,500 with a budget over 1½ million. The Upjohn Company is located in Kalamazoo, a medium-sized southwestern Michigan university city with excellent cultural/recreational opportunities.

Qualifications: BS/BA in science plus MA/MS in library/information science, or MS in science plus 1-4 years information-related experience (biochemical/biomedical environment). Requires: training and experience in searching scientific bibliographic data bases and in provision of general reference and information services; current knowledge of and ability to utilize medical, biological, and chemical reference tools effectively. Prefer chemistry degree.

Salary: \$17,064 to \$25,608 or \$19,692 to \$29,544 depending on level at which position is filled. Excellent benefits. An EEO/AA employer. Apply to: Don King, The Upjohn Company, 7171 Portage Road, Kalamazoo, MI 49001.

---

---

## POSITIONS OPEN

---

**State of Kuwait**—Kuwait Institute for Scientific Research, National Scientific and Technical Information Center. Four positions open in a modern, attractive, and dynamic scientific and technical research library supported by automated information systems and services for in-house functions and with on-line access to U.S. data bases (Lockheed/DIALOG and SDC/ORBIT). Future access to European data bases via EURONET DIANE is imminent.

**Catalog Librarian**—To catalog monographs, periodicals, book and nonbook materials in science and technology, using AACR, LCSH with and without LC cataloging copy. Qualifications: MLS from ALA-accredited school; minimum of three years' experience in cataloging scientific and technical materials; working knowledge of one European language; knowledge of Arabic desirable, but not mandatory.

**Science Reference Librarian/Information Specialist**—Reference activities; computerized literature search; development and maintenance of reference collection; bibliographic instruction; book selection and collection development; supervision of paraprofessionals. Qualifications: MLS from ALA-accredited school; MS or BS in physical sciences; minimum five years' experience in scientific or technical research library; knowledge of Arabic desirable, but not mandatory.

**Instruction/Librarian**—To plan, develop, train, and coordinate short-term training programs for junior librarians and assistant information specialists; to plan, coordinate, and develop regional seminars, training workshops and institutes. Must have library experience and subject expertise in scientific and technical literature, information science, and special librarianship. Qualifications: Ph.D. or MLS from ALA-accredited school; significant library and teaching experience (minimum 5 years); knowledge of Arabic desirable.

**Indexer/Abstractor**—Indexing and abstracting of articles in periodicals, patents, other nonbook materials, for information retrieval, with emphasis on scientific and technical materials. Qualifications: MLS from ALA-accredited school; minimum of three years' experience.

Conditions of Employment: Two-year contract, salary competitive depending on experience and qualifications. Furnished, air-conditioned housing; air travel, plus baggage and freight allowance, for appointee, spouse, and three children under 18, from place of origin and back upon appointment and termination; tuition paid at American School of Kuwait; annual 45-day paid vacation (round trip air tickets to place of origin for appointee and dependents mentioned above). Medical care is free in Kuwait; there is no income tax, and currency is freely transferable. All positions become available in August 1979; deadline for receiving applications is May 15, 1979. Send full résumé and three letters of reference to: Personnel Department, Kuwait Institute for Scientific Research, P.O. Box 24885, Safat, State of Kuwait.

---

---

## THE MARKET PLACE

---

**Back Issue Periodicals**—Scientific, Technical, Medical and Liberal Arts. Please submit want lists and lists of materials for sale or exchange. Prompt replies assured. G. H. Arrow Co., 4th & Brown Sts., Philadelphia, Pa. 19123.

---

**Foreign Books and Periodicals**—Specialty: Building Collections. Albert J. Phiebig Inc., Box 352, White Plains, N.Y. 10602.

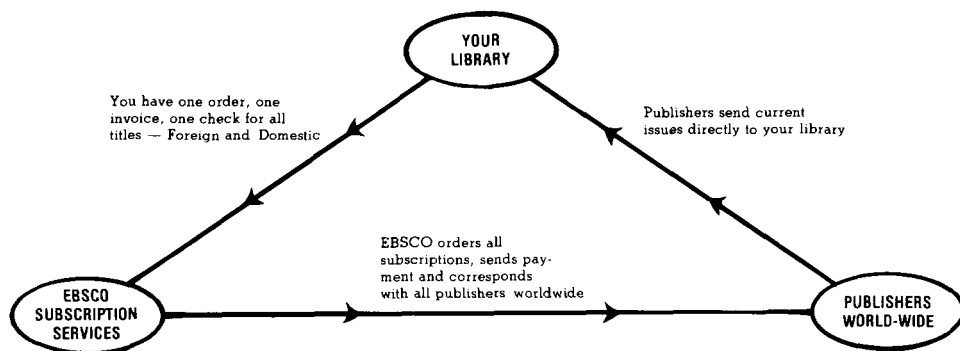
---



### INDEX TO ADVERTISERS

American Geological Institute .....	10A
American Psychological Association ..	12A
Capital Systems Group .....	4A
Chemical Abstracts Service .....	14A, 22A
Demco Educational Corporation .....	7A
Ebsco Subscription Service .....	Cover III
Engineering Index, Inc. ....	19A
Frank C. Farnham Company .....	7A
F. W. Faxon Company, Inc. ....	19A
Find/SVP .....	18A
Gale Research Company.....	Cover IV
Heyden & Son, Inc. ....	8A, 9A
Informatics, Inc. ....	5A
Information Resources Press .....	17A
International Labor Office .....	13A
Institute for Scientific Information .....	Cover II
McGregor Magazine Agency .....	21A
Mochizuki Shoten, Ltd. ....	24A
Noyes Data Corporation .....	16A
P/H Electronics.....	23A
Pergamon Press, Inc. ....	11A
Special Libraries Association.....	1A, 20A, 21A
Swets, N.A. ....	23A
United Nations Publications .....	13A
University Microfilms International .....	15A
Vacudyne Altair.....	2A
The H. W. Wilson Company .....	6A

# What can happen if you order foreign titles through EBSCO



- Your one order to EBSCO can include all foreign titles desired and all domestic titles — one listing to one source. (EBSCO lists more than 60,000 domestic and 40,000 foreign publications.)
- You receive one invoice covering all titles ordered — including both foreign and domestic titles.
- You make one payment only — payable in U.S. currency.
- All of your correspondence will be in English. There is no need to communicate in any foreign language.
- Your titles will be ordered direct with all publishers, world-wide. EBSCO handles all currency conversions and all service with foreign publishers.
- EBSCO's array of helpful serials management reports can include foreign titles too — consolidation to save you time.

For more information EBSCO is only a telephone call away . . .

(205) 252-9010

P.O. Box 2543 / Birmingham, AL 35201 / Telex: 5-9717



11 U.S.A. OFFICES / TORONTO / RIO DE JANEIRO / AMSTERDAM

**EBSCO SUBSCRIPTION SERVICES**

130,000 SERIAL LISTINGS FROM 47,000 PUBLISHERS WORLDWIDE

# RECENTLY PUBLISHED

## Reference Books from Gale

**RESEARCH CENTERS DIRECTORY**, 6th ed. Edited by Archie M. Palmer. Completely revised and updated, the new edition contains over 6,000 detailed listings—over 1,000 of them brand new—on university-related and other non-profit research organizations in the U.S. and Canada. 1,025pp. \$85.00. (SO) *New Research Centers* is the inter-edition supplement to *RCD-6*. Subscription, \$70.00. (SO)

**DICTIONARY OF LITERARY BIOGRAPHY**. The first two volumes in this Brucoli Clark Series are now in print. Vol. 1, *The American Renaissance in New England*. Edited by Joel Myerson. Contains 98 biographical-critical entries complemented by some 150 illustrations. 224pp. Vol. 2, *American Novelists Since World War II*. Edited by Jeffrey Helterman and Richard Layman. 80 entries plus numerous illustrations. 557pp. \$35.00/vol. (SO)

**YOUTH-SERVING ORGANIZATIONS DIRECTORY**, 1st ed. A convenient one-stop source of information about 850 U.S. organizations that serve today's youth, from early years through junior college. (Based on Gale's *Encyclopedia of Associations*, 12th ed.) 476pp. \$15.00. (SO)

**UFOs AND RELATED SUBJECTS**. Edited by Lynn E. Catoe. Cites over 1,600 books, journal articles, pamphlets, conference proceedings, tapes, original manuscripts, and other materials on this popular topic. (Reprint of 1969 ed., with a supplementary appendix, *Unidentified Flying Objects*, first published 1976.) 401pp. \$24.00.

**SPEAKERS AND LECTURERS: How to Find Them**, 1st ed. Edited by Paul Wasserman and Jacqueline R. Bernero. Provides details on booking agencies, college and university speaker bureaus, companies, government agencies, and professional and trade associations that handle some 4,200 speakers. Four indexes, including speakers and subjects. 464pp. \$38.00. (SO)

**BIBLIOGRAPHY OF BIOETHICS**, Vol. 4. Edited by LeRoy Walters. An annual key to print and nonprint materials on euthanasia, psycho-surgery, abortion, genetic intervention, and other major issues in bioethics. Vols. 1-4 in print: \$30.00/vol. (SO)

**INTERNATIONAL PORTRAIT GALLERY**. Three new supplements. IPG-6: Third General Supplement; IPG-7: Second Literary Figures Supplement; IPG-8: Media People Supplement. Each supplement contains 350 8½" x 11" portrait plates not included in the previous IPG units. Included with all orders is the Master Index to the 3,350 persons covered in the entire Gallery. \$90.00/supp. (SO)

**AFRICA SOUTH OF THE SAHARA 1978-79**, 8th ed. 1,150pp. \$69.00. (SO)

**FAR EAST AND AUSTRALASIA 1978-79**, 10th ed. 1,251pp. \$72.00. (SO)

**INTERNATIONAL WHO'S WHO 1978-79**, 42nd ed. Over 17,000 listings. 1,916pp. \$70.00. (SO)

**NATIONAL FACULTY DIRECTORY 1979**, 9th ed. Gives names and addresses of 480,000 members of teaching faculties at 3,000 U.S. and 180 selected Canadian junior colleges, colleges, and universities. 2,668pp. in 2 vols. \$125.00/set. (SO)

**BOOKMAN'S PRICE INDEX**, Vol. 15. Edited by Daniel F. McGrath. A basic price guide to rare and out-of-print books. Entries give author, title, publication date and place, condition, dealer, and price. 35-50,000 entries per vol. Vols. 1-15 in print. \$64.00/vol. (SO)

**FIRST PRINTINGS OF AMERICAN AUTHORS**. The publication of Volume 4 brings to 361 the total number of novelists, playwrights, poets, and essayists covered. Entries identify both the first American and the first English printing of each book. Profusely illustrated with reproductions of selected title pages, dust jackets, and bindings. Vol. 4 contains an index to the entire set. A Brucoli Clark Series. 4 vols. \$180.00/set. (SO)

### New Editions of Europa Publications Available from Gale

**MIDDLE EAST AND NORTH AFRICA 1978-79**, 25th ed. 936pp. \$60.00. (SO)

**WHO'S WHO IN SAUDI ARABIA 1978-79**, 2nd ed. Edited by M. Samir Sarhan. 272pp. \$45.00. (SO)

**WORLD OF LEARNING 1978-79**, 29th ed. 2,036pp. in 2 vols. \$84.00/set. (SO)

(SO) This symbol designates titles available on standing order.  
All Gale books are sent on 30-day approval.

## GALE RESEARCH CO. • Book Tower • Detroit, MI 48226

Customers in the U.K., Continental Europe, and Africa order direct from:  
Gale Research Co. • c/o European Book Service • P.O. Box 124 • Weesp, Netherlands