BIOLOGICAL SCIENCES DIVISION
SPECIAL LIBRARIES ASSOCIATION
NEWSLETTER

FALL 1975

IN MEMORIUM - DR. CARROLL F. REYNOLDS

This issue of the Biological Sciences Division Newsletter is dedicated to Dr. Carroll F. Reynolds who died September 3, 1975 at the Presbyterian University Hospital in Pittsburgh, Pennsylvania. He is survived by his wife Erma Lewis Reynolds and three daughters.

Dr. Reynolds was active in the Biological Sciences Division throughout the years, serving as Editor of the Reminder and as Chairman of the Biological Sciences Division, 1972-1973.

Dr. Reynolds held B.S. degrees from West Virginia University and Columbia University. A Master's and Ph.D. degree were earned from the University of Pittsburgh. He had been associated with the University of Pittsburgh since 1936, recently as Associate Professor of the History of the Health Sciences and was a member of the graduate faculty of the School of Dentistry and the School of Library and Information Sciences.

Dr. Reynolds was instrumental in the merger of several collections within the University of Pittsburgh to create the Maurice and Laura Falk Library of the Health Professions serving as Director from its inception in 1957. Due to his dedication the Historical Collection of Falk Library was consolidated in 1974 and placed in a newly constructed room made possible by the Maurice Falk Medical Fund.

Dr. Reynolds was a consultant for the Rockefeller Foundation and the Asia Foundation. He helped set up medical libraries in Bangladesh, Nigeria and Thailand. He held membership in the American Library Association, Medical Library Association, Special Libraries Association, American Information Specialist, and Pittsburgh Bibliophiles. Dr. Reynolds served all these associations well and will be missed.

A Memorial Contribution will be made by the Biological Sciences Division to the Historical Collection of Falk Library. Those individuals wishing to add to this Memorial may do so by sending your check made payable to SLA/Biological Sciences Division (make a notation that it is for the Carroll F. Reynolds Memorial) by December 15, 1975 to Rita Kane, Secretary-Treasurer, SLA/Biological Sciences Division, University of California-Berkeley, Biology Library, Life Sciences Building, Room 3503, Berkeley, California 97420.

James H. Parrish
Former Associate & Acting Director Falk Library
Chairman, Biological Sciences Division

Editor's Note

As I assume the editorship of the Biological Sciences Division Newsletter, I want to thank the members who have contributed to this issue. Your previous editor has done an outstanding job of successfully establishing a solid format for communication in the life sciences. All the columns expressly ask for contributions from BSD members. Help the newsletter grow; send your contributions to the column that interests you or the editor. If you have an idea for a feature article, library profile, or in-depth reports let us hear from you. I urge all BSD members to take an interest in the newsletter. Unfortunately, this issue is late, but delays including late contributions, new routines, change of printer at the last minute, etc. have contributed to this situation.

PUBLICATIONS BY LIBRARIANS

A new year and another opportunity! This is the second year for this place in the BSD-SLA "Newsletter" in which to announce your publication.

To start off, the following annotated guide may be useful to you since chemistry is a basic discipline in biological-medical studies. This publication was prepared by a chemist who became a reference librarian. It is intended to be useful to students and faculty who use the library holdings at the University of California, Santa Barbara and, therefore, refers to items in the UCSB collection.

(BSD-6-75) Chemistry Literature Guide by Arthur Antony. Santa Barbara, Sciences-Engineering Library, University of California, 1974. 69pp. $3.00. Available from: Librarian's Office, University of California, Santa Barbara, CA. 93106. Checks payable to : Regents of the University of California.

Your suggestions for items to be included in this column are urgently requested. Send a sample copy and/or the information about the item (title, author, publisher, date, pagination, availability and price) to me for inclusion in the next issue of the BSD "Newsletter."

Virginia Weiser
Life Sciences Librarian
Sciences-Engineering Library
Santa Barbara, CA. 93106

Persons wishing to contribute information or announcements for the next issue should submit material to: James E. Bobick, Editor, Temple University, Paley Library - Room 10, Philadelphia, PA 19122

Biological Sciences Division Newsletter supplied free of charge to members. Not available to non-members.

CONFERENCE HIGHLIGHTS

Systems and Networks: A Synergistic Imperative from the Biological Sciences Librarians' Perspective

It is clearly an impossible task to review an S.L.A. Annual Meeting any longer. The attendance reached nearly 2,500 members; the program itself was over 100 pages of small print concerned with large and pertinent presentations. Although I was primarily concerned with biological sciences librarianship and the Biological Sciences Division, the general total membership portion of the meeting remains of interest, and other presentations are becoming more relevant each year.

As an example of an expanding portion of the meeting open to all members, the Education Committee, chaired by Bio-Sci Division member Pauline Vaillancourt, presented "Update Sessions" on Interpersonal Relations, Introduction to International Business Sources, New Sources in Science Technology, Environmental Sciences, and many others to over 300 attendees. Any suggestions for this committee should be addressed to Dr. Vaillancourt, School of Library & Information Science, State University of New York at Albany, 1400 Washington Avenue, Albany, NY 12203, as they are now planning the 1977 New York sessions.

The four General Sessions brought to us Information Service: Society's Needs, with Edwin Parker and Marc Porat; How to Make the Most of Your Free Time in Chicago, with Jory Graham (author of "Chicago: An Extraordinary Guide..."); Alphonse Trezza, Director of NCLIS, on Information Service: The Network Response; and Edythe Moore, S.L.A. President, on Information Service: The Special Library Challenge.

Seven separate sessions over a two-day period allowed for contributed papers including: The Use of Software Packages in Libraries, A Design for a Mini-Computer-Based Serials Control Network, User Criteria for *Sellection of Commercial On-Line Computer-Based Bibliographic Services*, Building a Thesaurus for a Diffuse Subject Area, The Union Catalog: Its Cost Versus Its Benefit to a Network, Special Libraries and Interlibrary Cooperation: The Problems of Bibliographic Access, and The Special Librarian/Fee Based Service.

One also had the opportunity to visit over one hundred exhibitors to see new wares, test new equipment, and discuss various services and products. Among those of particular interest to this bio-science librarian were Ballen Booksellers, Bio-Sciences Information Service, British Medical Journal and Pharmaceutical Society of Great Britain, Chemical Abstracts Service, Institute for Scientific Information, Majors Scientific Books, Ohio College Library Center, Read-More Publications, Springer-Verlag, and System Development Corporation.

The program offered by the Bio-Sci Division was planned and coordinated by JoAnne Crispen, Lutheran General Hospital, Chicago, Illinois, and began, educationally, Monday afternoon with a presentation on "Cancer Information: Data Banks and Information Center," moderated by Marie Harvin. Each participant commented on the International Cancer Research Data Bank Program, established by the National Cancer Institute to carry out the collection, analyzation, and dissemination of all data useful in the prevention and treatment of cancer. Participants included B. J. Kolenda, University of Texas System Cancer Center, John Schneider, National Institutes of Health, National Cancer Institute, Ann Hutchinson, Roswell Park Memorial Institute Library, Edward Scanlon, Evanston Hospital Association and Northwestern University, and Ray Crispen, Institution for Tuberculosis Research, University of Illinois, each responding from their own particular involvement in the information process.

A second Bio-Sci Division function was the combined Business Meeting and Program on "Communication: An Imperative of Systems and Networks." Each participant approached the subject of communication with great enthusiasm and wit, focusing on those critical transactions between individuals leading to information service.

The highlight of the Business Meeting may well have been a strong show of support for the concept of inviting students to Bio-Sci Division functions in Denver, as our guests. All new officers of the Division were introduced, and much applause was directed to the Newsletter Editor Sue Gensel, Cold Spring Harbor Laboratory, New York, and Program Chairman JoAnn Crispen.

Two simultaneous "hands on" workshops were presented Wednesday afternoon. The first was a "Tutorial on the Products and Services of the Institute for Scientific Information and the ISI Data Base" presented by four of the ISI representatives. The second workshop was on the Use of Bio-Sciences Information Services Indexes, presented by Ann L. Farren (Bio-Sciences Information Services). Each was well attended, causing some overflow problems.

The final official Bio-Sciences Division function was a walking tour through bio-sciences oriented libraries in the North Chicago area, planned by James Parrish, the incoming Bio-Sciences Division Chairman. The tour began with an assembly at the American Dental Association Library, as guest of Don Washburn, over coffee and archives. After touring this library and learning of some of its unique services, we each went our own way to the libraries of our choice, thus enjoying the opportunity to sample each library program at our own pace. The group again assembled at the Playboy Club and Library by late afternoon.

It was during this tour, before and after each learning session and business meeting, that I became most conscious of the true value of th S.L.A. Annual Meeting and, of course, the Bio-Sciences Division portion of it. It was at this time we each had an extremely fine opportunity to meet with each other, to discuss various aspects of our programs, to test new ideas against someone with a different perspective, to learn of newly developing programs, and to generally absorb a sense of librarianship that cannot be gained any other way. From our initial contact at the Sunday evening Bio-Sciences Division open house providing good drink, fine food, and finer fellowship, to our tired exit from the Palmer House doors, I believe it was the contact with other professionals that must rank as the highlight of this meeting.

Another source of pride for the Bio-Sciences Division this year was that Susan Lynn Cisco, an employee of M. D. Anderson Hospital, Houstor Texas (Marie Harvin's library) won one of the five $2,000 S.L.A. scholarships. *She plans to attend the University of Texas at Austin,* Library School and return to health sciences librarianship.

An additional note of interest might be that of staff development, inasmuch as the recruitment and job board listed over sixty positions available. Over 160 resumes were posted. I not only came away with information from this S.L.A. Chicago Annual Meeting, but also with a new, highly qualified bio-sciences librarian and Bio-Sciences Divisior member.

Thos. G. Basler, Director of Libraries
Associate Professor of Health Communications
Medical College of Georgia
Augusta, GA 30902

SLA/ASIS SEMINAR

The Special Libraries Association and the American Society for Information Science announce a joint seminar to be held at the Roosevelt Hotel, New York City, on January 28, 1976. The theme of the full-day seminar is "Legal Aspects of Information." The program will begin with a discussion of the copyright issue from the three following points of view: librarians, publishers, and the Office of the Regist of Copyrights. Additional topics to be discussed include the Freedom of Information Act, Networks and Information Access, and Legal Problems of Microform. Complete details regarding speakers, cost, and exact time will be released in early December.

For further information, contact one of the following:

Charry Boris
Chairman, Publicity Committee
New York Chapter, Special Libraries Association

Life Office Management Association
100 Park Avenue
New York, NY 10017
(phone: 212-725-1300)

Louise Valuck
New York Chapter, American Society for Information Science

R. R. Bowker
1180 Avenue of the Americas
New York, New York 10036
(phone: 212-764-3387)

CONFERENCE PANEL REVIEW

At the 1975 Chicago conference of the Special Libraries Association the Biological Sciences Division met on Monday, June 9, to hear a panel on "Cancer Information: Data Bands and Information Centers." The panel was organized by Joanne Crispen, Lutheran General Hospital, Park Ridge, Illinois, and moderated by Marie Harvin, The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, Houston, Texas.

Mrs. B. J. Kolenda, from the Office of the President, The University of Texas System Cancer Center, Houston, gave some of the background on the development of the National Cancer Act of 1971 (PL 92-218) which created the International Cancer Research Data Bank. Dr. John Schneider from the National Cancer Institute outlined the work in progress to establish the ICRDB Program. It will include a center for the analysis of on-going cancer research; there will be a rapid scanning and initial processing of the biomedical literature for input to the Data Bank; and there will be several regional centers staffed by clinicians and investigators to review, select, and disseminate the more pertinent cancer literature and data.

Dr. Edward Scanlon, Chairman of the Department of Surgery, Evanston Hospital Association, and Professor of Surgery, Northwestern University, spoke of the urgent needs of the clinician for faster access to cancer information. Dr. Ray Crispen, Director, Institution for Tuberculosis Research, University of Illinois at the Medican Center, gave interesting insight into his research with BCG and discussed his own information retrieval system. Mrs. Ann Hutchinson, Director of the Library at Roswell Park Memorial Institute, Buffalo, gave some historical highlights on the establishment of RPMI, the oldest of the categorical cancer hospitals. She also described the operation of her own highly automated cancer information service.

There was a lively question and answer period following the program and most of the audience gathered at the speakers' table to talk to them individually and to pick up the variety of brochures made available by the speakers.

Marie Harvin
Research Medical Library
The University of Texas System Cancer Center
M. D. Anderson Hospital & Tumor Institute
Houston, Texas 77025

COMMUNICATION: AN IMPERATIVE OF SYSTEMS AND NETWORKS*

As librarians we have been aware for some time that the amount of information stored in one form or another is enough to boggle the mind. Computer technologies are making it possible to store for instant access more information than any one person can absorb. But of what use is this mountain-range of information if it is not disseminated to the person who wants it? Note that I said the information is disseminated, not communicated. Communication is a process; an interaction that is interpersonal and is only complete when understanding takes place; therefore, further note that I spoke of the person who wants the information. Without dissemination the information remains inert. It just lies there in bits. With dissemination but no communication, the information merely has been moved. But with communication, understanding can be reached. This is why communication is an imperative of systems and networks.

Because I am not an expert on systems, I shall confine my remarks to the communication aspects of only one system. The system I shall be referring to is exceedingly complex. Perhaps for that reason it is sometimes ignored and is probably misunderstood by some. I make no claims that I can fully describe this system's intricacies, but rather shall attempt to outline some parts of it in what I believe are understandable terms. I speak of LOD --L-O-D-- the acronym for "Librarian on Duty."

Before we look at this system, however, let us consider for a moment the classic model of communication theory as proposed by Claude Shannon in 1948, and refined by Warren Weaver the following year. The model consists of six parts: an information source, a transmitter, a communication channel, a noise source, a receiver and a message destination.[3]

I should like now to make application of this theory to the LOD system, both internally and as the system operates in juxtaposition to other systems. We shall take the components of the communication theory in the order I have given since LOD, when in good repair, usually works in orderly fashion. Parenthetically it should be stated that one of the elegant complexities of LOD is its capability of sometimes bringing order out of chaos when met with other systems which are irrational or lacking in communicative strategy.

So first we have an information source. A great amount of the informatio received by LOD is carried by electromagnetic radiation in the form of light waves that travel from a few inches, as when LOD scans a printed page, to a few hundred yards, as when LOD scans another complex system approaching, perhaps in a White Hat.[1]

Information is stored in an information sink, called by some earlier observers, the brain. Even a good LOD system is usually a bit uneven in its retrieval capability, the more frequent difficulties occurring on late Friday afternoons. In addition there appears to be a correlation between the age of the system and the retrieval component. As the age increases, the speed of retrieval decreases in most LOD systems. This is known as forgetfulness, and is measured in retirement time, not to be confused with down time. Input received in early years is less affected by age. The older models of LOD operate on a basic accounting principle, namely LIFO -- last in first out. While my statement that as age increases, retrieval capability decreases implies a simple correlation coefficient, the statisticians in my audience may be advised that the coefficient is really obtained through multiple regression analysis.

Next to be considered is the transmitter. Vocal cords serve as LOD's chief transmitting terminal, generating an acoustic signal. These signals may vary in pitch and in intensity, ranging from a bellow to a whisper. The more traditional LODs tend to whisper, but this mode is less in use today. However, when transmitting to a far distant White Hat system, print-outs, usually on sheets of white bond paper are used. Tinted paper is used on some more informal occasions, but such whimseys are beyond the scope of this paper. In transmitting to a computerized system LOD usually manipulates a keyboard with the digits of the upper extremities.[2] Specific LOD models differ somewhat in competence in this area, the slower systems using a quaintly phrased method known as hunt and peck.

As for channels, LOD is rather remarkably endowed. Internally, at any given instant, literally billions of impulses are traveling from the sense modalities, internal organs and muscles to and from the information sink at speeds up to 100 meters a second.[1] The channels may be further described as consisting of bands. These bands may be auditory, visual, vocal or kinesthetic.

Noise in the LOD system can be found sometimes at the interface with another system. "Noise can cause the received message to differ from the message the source wished to transmit."[3] Interestingly, LOD can transmit through the channel bands spoken of previously, certain types of signals by displaying various configurations. For example, by body cues and facial expression, LOD can convey boredom, insecurity, mockery, timidity, indifference, distaste, arrogance. These signals may very well affect the recipient. Should a White Hat system approach with a request for information and be met by a scowling, slouching LOD, this could cause noise in the channel. Even though a particular LOD's information sink be of the highest quality, because of noise, the message may be distorted.

LOD also has several receiving terminals -- the eye, the ear, the organs of smell, taste and touch -- all of which busy the information sink in interpreting the meaning of it all.

Then, at last we find LOD as a message receiver. The messages received cover a multitude of subjects, often being presented acoustically in the form of questions. We shall confine ourselves to such messages, for to gain some insight into the Librarian on Duty system in its communication stance, I believe it may be instructive to give some examples of messages received.

One Librarian on Duty has recently sent me some examples of messages received by him in the Sciences Library at Brown University. In my opinion the LOD system is unique among systems in its capacity to deal satisfactorilly with such messages. Here are four: 1) Dr. Roger Chillingworth was a physician in what famous novel? 2) What medical schools still administer the Hippocratic Oath? 3) What professional athletes have degrees in medicine or dentistry? 4) What is the size of a whale's heart?

A questioner asks, "Have you anything on calculus?" "It's a bad connection," LOD answers, "did you say calculus or the calculus? Is your interest in mineral salt concretions or in mathematics?"

Or perhaps the question concerns brucellosis. The alert LOD immediately ascertains whether of goats, cattle swine, rabbits, sheep, guineapigs or man, for LOD knows that an article on Bang's disease may be right on target, but may miss utterly if adequate communication has not gone before. So LOD must communicate in order to produce efficiently, accurately and rationally.

James K. Pierce writing in the September 1972, issue of Scientific American says, "Communication can take place only between people with a common aim, a common problem, a common curiosity, a common interest; in other words, something in common that is meaningful and important or fascinating to both. The process of communication is not one of imparting entire areas of knowledge or of drastically changing views. That is the process of education or training... Communication is a process of adjusting understandings and attitudes, or making them congruent or of ascertaining how and where they agree or disagree..."[3] In this context, communication is certainly an imperative to the Librarian on Duty.

One further quotation, this from an advertisement of a telecommunications corporation: "Modern technology has given us the means to move information farther, faster, and to more people than was ever dreamed possible. Communication, however, means more than just moving information. It also means moving minds. And technology, no matter how far it advances, will never be able to communicate for us." Our company is "in the business of moving information: across the street, around the world, even to the moon and back. Our job is maintaining and improving communication technology. The easy part. The hard part is shortening the distance between reception and understanding."[4] The LOD system -- the Librarian on Duty -- works on the hard part.

References

1. Busignies, Henri, Communication channels, Sci. Amer. 227:99-113, Sept., 1972.
2. Kretzmer, E. R., Communication terminals, Sci. Amer. 227:131-140, Sept., 1972.
3. Pierce, John R., Communication, Sci. Amer. 227:31-41, Sept., 1972.
4. United Telecom advertisement, Sci. Amer. 227:203, Sept., 1972.

* Read at a meeting of the Biological Sciences Division, S.L.A. Convention, Chicago, June 10, 1975.

Clara Louise Meckel
Formerly with the University of Illinois at the Medical Center, Library of the Health Sciences. Chicago, Illinois.
Current address: 2951 S. King Drive, Chicago, Illinois 60616.

Note: The next issue will contain the paper presented by Dr. James E. Vanderbosch who also participated in the BSD luncheon meeting.

Who was it that said:
"A library is the librarian—otherwise a vending machine would do..."

It is easier to make a scientific discovery than to learn whether it has already been made.

J. D. Bernal

ARBORETA AND BOTANICAL GARDENS OF THE UNITED STATES

There are over one hundred and fifty arboreta and botanical gardens in the United States today, ranging in size from a few acres to over two thousand acres. Programs and emphases vary among these institutions, but certain characteristics apply to all of them. Basically, arboreta and botanical gardens are living museums of plants. Arboreta specialize in collecting woody plants (trees, shrubs, and vines), while botanical gardens collect all plant forms. An attempt is made to display and evaluate either the best ornamentals or all ornamentals capable of surviving in an area. Providing information about the identity, care, and use of these plants is an important function for arboreta and botanical gardens, because they are in essense educational institutions. Some arboreta and botanical gardens are involved in basic or applied research in botany and horticulture, and many have a library and/or herbarium as part of their facilities. Along with universities and other research organizations, arboreta and botanical gardens serve as centers for distribution of plant science information.

One of the major botanical gardens in the United States is the New York Botanical Garden, located in the Bronx. It was founded in 1891 largely through the efforts of Nathaniel Lord Britton, a noted American botanist. Today the gardens comprise a collection of 15,000 kinds of plants, a herbarium of four million dried plant specimens, and one of the largest botanical and horticultural libraries in the United States. The extensive plant conservatory, constructed at the turn of the century, houses economic plants, a rain forest, ferns, orchids, cycads, cacti, and other succulents. In the middle of the botanical garden's 236 acres is an undisturbed stand of mature hemlock forest, a 40 acre remnant of the forests that once covered the area. In addition to formal plantings of roses, iris, herbs, perennials, and annuals, there is a rock garden and a native plant garden. Fine specimens of woody plants and collections of specific genera are available for study, and classes for both amateur and professional horticulturists are offered by the garden. Publications of the garden include Garden Journal and Economic Botany. The Cary Arboretum, *1800 acres of open and wooded land, is an important recent addition to the* research and collections of the New York Botanical Garden.

The Arnold Arboretum in Jamaica Plain, Massachusetts (near Boston), has one of the most extensive collections of mature woody specimens in the United States--over 6,000 kinds of woody plants in all. The arboretum land, 265 acres, belongs to the city of Boston, but is leased to Harvard University. It was the intent of Charles Sargent, director of the Arnold Arboretum for its first 54 years, to collect and grow in the arboretum every tree and shrub capable of surviving in that climate. The arboretum thus had an active part in introducing over 500 ornamental plants into cultivation. Some specimens on the arboretum grounds are the oldest of their kind in the United States. Many of the plants were found by Ernest H. Wilson, a naturalist and explorer in the orient, whose expeditions in search of new ornamentals were sponsored by the arboretum. On what 100 years ago was neglected farmland, today grow large collections of conifers, crabapples, lilacs, rhododendrons, and honeysuckle, as well as flowering shrubs, bonsai, and dwarf conifers. The arboretum library contains more than 90,000 volumes, and the herbarium one million sheets. Publications include Journal of the Arnold Arboretum, for scientific contributions, and Arnoldia, for horticultural information.

The Morton Arboretum, in Lisle, Illinois (25 miles west of Chicago) was founded in 1922 by Joy Morton on the grounds of his estate. His lifelong interest in trees was inherited from his father, J. Sterling Morton, the *founder of Arbor Day. Joy Morton consulted with Charles Sargent of the* Arnold Arboretum for advice in establishing this new arboretum, and from its inception, emphasis has been placed on building the collections, on education, and on research. It is the goal of the arboretum to grow and evaluate a specimen of every woody plant capable of surviving the climate of northern Illinois. On a site of 1500 acres there are over 4200 kinds of plants, including extensive collections of lilacs, conifers, and flowering crabapples. The cultivated plants are grouped botanically, geographically, by natural associations, or according to landscape use. Examples of landscape collections are the ground cover, hedge, shrub, and street tree collections. The arboretum, in fact, bills itself as a landscape arboretum, helping the public to know and use good woody ornamentals. Natural history is also of interest to the arboretum, as evidenced by nature trails through meadows and native woodlands, and a restored prairie. The arboretum library contains over 20,000 volumes, mostly botanical and horticultural, with supporting works in the general and natural sciences. The Morton Arboretum Quarterly and Plant Information Bulletin are published regularly by the arboretum.

The Missouri Botanical Garden was built on the site of its founder's country home. Henry Shaw founded the garden in 1859, when St. Louis was still a frontier town, and the garden is still known popularly as "Shaw's Garden." There are over 5000 kinds of plants on a site of 75 acres located in the center of the city. The best known feature of the garden is the Climatron, a half-acre geodesic dome accomodating in one room plants from different climates. Other features of the garden include a large Japanese garden, rose gardens, a herb garden, waterlily pools, and indoor collections of orchids, tropical plants, aroids, cacti, and other succulents. The Linnean House, now containing camellias, was one of the first greenhouses west of the Mississippi. The library at the garden is a center for botanical and horticultural research, having 75,000 bound volumes, *100,000 unbound pamphlets and reprints, and 100,000 manuscript* pieces. The extensive herbarium collection contains speciments dating from the 1700's. Education and research play an important part at the Missouri Botanical Garden, and fundamental discoveries about viruses, antibiotics, *and plant products have been made there.* A 2200 acre arboretum and nature reserve owned by the garden is located at Gray Summit, 35 miles southwest of the city. The diversity of plant and animal communities found there make it a unique site for outdoor education. The garden publishes Annals of the Missouri Botanical Garden and the Missouri Botanical Garden Bulletin.

Concentrations of arboreta and botanical gardens in the United States now occur in two general areas--in the northeastern states and in California. West coast arboreta and botanical gardens are generally smaller and younger than the institutions of the east and midwest. This is not to say, however, that they are of lesser importance or popularity. Rancho Santa Ana Botanic Garden in Claremont, California, for example, is a native plant garden devoted to the indigenous *California flora. With 1350 kinds* of plants on 83 acres, it is one of the most extensive gardens of its kind in the United States. The Strybing Arboretum in San Francisco was begun in the late 1800's by John McLaren, the Scotsman responsible for *transforming a barren sandy area into Golden Gate Park.* Over 3000 kinds of plants, ranging from subtropical to cold-temperate natives, are grown on 40 acres in the park. The University of Washington Arboretum in Seattle has one of the country's largest collections of rare woody plants. Among the 4500 specimens on the 200 acre site are sizable collections of maples, rhododendrons, camellias, coniders, and broad-leaved evergreens.

The arboreta and botanical gardens described here are but a few of the dozens of such institutions scattered across the United States. *Through their collections* and educational and research facilities, they serve as important sources for botanical and horticultural information. Because a large percentage of them are located in or near major metropolitan areas, they are also becoming centers for ecological and environmental study and interpretation. The value and importance of arboreta and botanical gardens is thus likely to increase in the United States and worldwide.

For further reading:

Columbia University. Institute for the Study of Science in Human Affairs. The Prospective Role of an Arboretum. Mentor, Ohio: The Holden Arboretum, 1972.

Fletcher, H. R., D. M. Henderson, and H. T. Prentice. International Directory of Botanical Gardens II. Regnum Vegetabile 63:1-206, 1969.

Hyams, Edward. Great Botanical Gardens of the World. New York: The Macmillan Company, 1969, 288 pp.

Logan, Harry B. A Traveler's Guide to North American Gardens. New York: Ch arles Scribner's Sons, 1974, 253 pp.

McGourty, Frederick, ed. Handbook on American Gardens--A Traveler's Guide. Brooklyn Botanic Garden Handbook No. 64, 1970, 105 pp.

Laura B. Parker
The Morton Arboretum

Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it.

Boswell

LIBRARY DISPLAYS AND ARCHIVES

Ms. Kay Barkley, Medical Librarian
Jewish Hospital
Cincinnati, Ohio 45229

Dear Ms. Barkley,

I am very interested in your column on library displays in the SLA Biological Sciences Division Newsletter.

As Curator of the Historical Collection of the Falk Library, I am responsible for preparing displays on topics of historical interest for the library, so I know how time consuming the preparation for a display can be.

One recent display which I prepared centered around Dr. Walter B. Cannon, the physician whose use of bismuth salts as a contrast medium for radiography was a medical "first". We were very fortunate in being able to display an original photograph of Dr. Cannon and some of his original drawings on fluoroscopy which were loaned to us by Dr. Alvin P. Shapiro, President of the American Psychosomatic Society which owns them.

Accompanying these fine original materials were the following books and journals from our collection:

Cannon, Walter B. Bodily changes in pain, hunger, fear and rage. New York, D. Appleton and Co., 1915.

Cannon, Walter B. The way of an investigator. New York, W. W. Norton and Co. [1945].

American Journal of Physiology 1:359, 1898; 6:251, 1902.

Another source used to gather information:

Morton, Leslie T. Garrison and Morton's A Medical Bibliography. 3d ed. London, A. Deutsche, 1970.

Signs (wording) were prepared, using an IBM selectric typewriter with large type. Some of the text of the display appeared as follows:

This first edition contains Cannon's description of measurable primitive experiences common to both humans and animals. In his preface, Cannon states that "The studies recorded in the present volume may be regarded as a natural sequence of observations on the influences of emotional states on the digestive process..."

Walter Bradford Cannon was born in Prairie du Chien, Wisconsin, in 1871. Harvard educated, he earned A.B., A.M., and M.D. degrees. Cannon held the position of George Higginson Professor of Physiology at Harvard from 1906 until his retirement in 1942 as emeritus professor. A World War I veteran, he served during World War II as chairman of the National Research Council Committee on Shock and Transfusion. The first edition of his autobiography, The Way of an Investigator, was published in 1945. He died later that year of leukemia.

Cannon's studies of the movements of the intestines in this article from the American Journal of Physiology, Volume 6, 1902, revealed a rhythmic and simultaneous segmentation of food in the small intestine and the strong contraction of the circular fibers of the colon, described as rings (Cannon's rings). He found that "Signs of emotions, such as fear, distress, or rage, are accompanied by a total cessation of the movements of both large and small intestines."

While still a student, Cannon introduced the "bismuth meal" showin that ingestion of small quantities of bismuth subnitrate allowed the investigator to study the digestive tract by means of Roentgen rays. An account of Cannon's experiments was presented to the American Phy*siological Society in 1897, by H. P. Bowditch; Cannon first published* his results in the American Journal of Physiology, Volume 1, 1898. Cannon remarked not only on the movements of the stomach but also on its "extreme sensitiveness to nervous conditions..."

We received several favorable comments about the display from interested faculty and students.

Sincerely,
Janet K. Sondecker, Curator
Historical Collection, Falk Libr
University of Pittsburgh
Pittsburgh, PA 15261

AAAS/APS Joint Committee for the Survey of Sources for the History of Biochemistry and Molecular Biology.

The American Academy of Arts and Sciences and the American Philosophical Society have announced their joint sponsorship of a twelve month preliminary survey of the sources for the history of biochemistry, molecular biology and related disciplines. A committee of historians, biochemists and archivists chaired by Dr. John T. Edsall, professor emeritus of Harvard University, will oversee the project which will be conducted from offices at the American Philosophical Society library in Philadelphia under the supervision of David Bearman, secretary to the committee.

The project will involve the identification and documentation of archival resources in universities, research institutes, hospitals, agricultural experiment stations, government agencies, professional societies and journals. While the primary focus of the survey is biochemistry and molecular biology its purview also includes those areas of biology, physiology, pharmacology, microbiology, genetics, immunology, agriculture and so on in which biochemistry has played a significant role in the twentieth century.

Besides identifying sources of materials for writing the history of biochemistry the survey will solicit biographical information from important living biochemists and document the shifting foci of biochemical research, funding, education and applications in this century. It is expected that the survey will be the first stage of a larger effort in collecting archival materials related to the recent history of these important areas of twentieth century science.

The survey of sources for the history of biochemistry and molecular biology will be issuing occassional resource reports which will be available free of charge to interested individuals. Other materials gathered by the survey will be preserved at the American Philosophical Society library where they will be available to scholars.

Kay Barkley
Medical Library
Jewish Hospital
Cincinnati, Ohio 45229

TRANSLATIONS

Unesco announces, in its Jan-Feb. 1975 bulletin for libraries, the publication of

Index translationum - International bibliography of translations, v. 24 (1971) 994p.
The compilation lists almost 43,000 translated books published in 1971 in 71 countries. The entries, arranged by country, are presented under the 10 major headings of UDC, followed by an author index. Price: 184Fr (about $54) for the clothbound copy; the paper copy costs $10 less. Available: Unesco Publications Center, P.O.Box 433, New York City, New York. 10016.

According to Information news and sources, May-June 1975,

Soviet scientific and technical information processing journal is being translated into English by Allerton Press, Inc., 150 Fifth Ave., New York, New York 10011.
"The journal contains reports on the latest developments in both manual and machine methods for storing and retrieving scientific and technical information." Price: 4 issues per year, $100.

The List of books received from the USSR and translated books, briefly mentioned in our last communication, is a monthly publication of the British Library Lending Div., Boston Spa, England (BLL). Another one of its contributions to the pool of translations is

BLL announcement bulletin. A guide to British reports, translations and theses.
Both of them can be ordered from NTIS.

Please send your contributions on this subject to:

Erhard Sanders 151K
Tech. Info. Specialist
V. A. Hosptial
Hines, IL 60141

JOURNALS AND MORE JOURNALS

With so many new journals being published each year, and more than a few of them worthwhile, what are you doing about selection when budget cuts seem to be the way of life for librarians everywhere?

Are you cancelling subscriptions to infrequently-used journals, sharing, or have you found some other way to acquire what is most recent and valuable in your field?

We would also like to hear from you regarding any new journals you have come upon, with brief annotations and recommendations. Also, any "tricks of the trade" you may be using that are proving successful in processing, prevently losses, retrieving long-overdues, etc.

Selective Journals

Addictive Behaviors, Vol. 1, 1976 - Pergamon Press, q. $45.00.
"Designed to publish original research, theoretical papers and critical reviews in the area of substance abuse. It will focus on the problems of alcoholism, drug abuse, smoking and obesity in which psychological and/or physical dependence exists. Articles will represent interdisciplinary endeavors with research in the fields of biochemistry, psychology, sociology, psychiatry, neurology and pharmacology."

Aerospace Psychology, Vol. 1, 1975 - D. Reidel Publ. Co., q. $66.00.
"While focusing its major interest upon the interaction between man and his environment above the earth, this journal is also concerned with a wide range of topics in economics and occupational psychology relating to aeronautical engineering and design, support services for civil and military aircraft, airline customer services, flight planning and control, air traffic control, ground transport and airport management. While focusing on reports of empirical research, the editors also wish to provide authoritative general reviews, detailed specialized reviews, annotations and bibliographies as well as individual case histories."

American Journal of Therapeutics and Clinical Reports, Vol. 1, 1975 - Alan R. Liss, Inc., q. $30.00.
Focuses on the interrelated fields of medicine, pathology, pharmacology, and therapeutics. Published reports are concerned with established drugs employed in the usual manner, established drugs employed for new indications or in new ways, and investigational drugs tested in Phases I, II, and III of clinical trials, but particularly in Phase I.

Aquatic Botany, Vol. 1, 1975 - Elsevier, q. $37.95.
This publication is concerned with "fundamental studies on structure, function, dynamics and classification of plant-dominated aquatic ecosystems." It is also intended as an outlet for papers dealing with applied research to aquatic plants which will include reports on the consequences of disturbance of ecosystems, the use of aquatic plants, conservation of resources and aspects of production and decomposition.

Biofeedback and Self Regulation, Vol. 1, 1975 - Plenum Press, 4 issues, $36.00.
An interdisciplinary journal which covers topics such as "biofeedback techniques in the modification of animal and human physiological activity, clinical applications of biofeedback and self-regulation techniques, self-control procedures evolved from behavioral therapies, child development studies as they relate to the self-regulation theme and autogenic training, progressive relaxation, meditation and related therapies." The editor is Johann Stoyva, Ph.D. of the University of Colorado School of Medicine.

Biosciences Communications, Vol. 1, 1975 - S. Karger, b.m. $54.00.
Focus is on communication (group and intra-personal) as applied to research, health care and education. New advances in bioscientific research and recent developments in the field of biomedical communications are presented. Approach is both multidisciplinary and interdisciplinary.

Blood Cells, Vol. 1, 1975 - Springer-Verlag, 3 issues, $43.35.
Each of the issues concentrates on one topic and the 1975 titles are: Unclassifiable Leukemias, Red Cell Form and Deformability, and Stress Erythropoiesis. They may be purchased separately, in soft cover, for $20.70 each.

Cancer Letters, Vol. 1, 1975 - Elsevier, b.m. $40.50.
An international journal which "provides a forum for original and pertinent contributions in cancer research. The results of clinical research have been combined with evidence from toxicologists, environmental scientists and geneticists among others in an attempt to find mechanisms and cures."

Clinical Oncology, Vol. 1, 1975 - Academic Press, q. $24.50.
The Journal of the British Association of Surgical Oncology. The journal acts as a forum for the publication of new data derived from hospitals and laboratories devoted to the study of the causes, prevention and treatment of oncological diseases. Also included are abstracts of papers presented at the biennial meetings of the Association as well as book reviews, courses and conference notices, and international correspondence.

Environmental Geology, Vol. 1, 1975 - Springer-Verlag, b.m. $59.00.
Concentration is on the geologic hazards and processes that affect man; the management of geologic resources, natural and man-made pollutants in the geologic environment and environmental impact studies. The coverage is broad and multidisciplinary. Interaction between man and the earth is its chief concern.

The Journal of Antimicrobial Therapy, Vol. 1, 1975 - Academic Press, q. $24.50.
Presents papers on all aspects of those antibiotics and chemotherapeutic substances used against microbes. Focus is on the medical aspects of antibiotics even though the journal is essentially interdisciplinary in nature. Results of current research keep clinicians and scientists updated on newest information in the field.

Journal of Thermal Biology, Vol. 1, 1975 - Pergamon Press, q. $35.00.
Publishes results of work in which the central theme is the mechanisms by which temperature affects living organisms. It is wide in scope and includes studies at the biochemical and physiological level and also at the level of the organism.

Molecular Aspects of Medicine, Vol. 1, 1975 - Pergamon Press, b.m. $40.00.
The primary objective of this new journal is to encourage the "bridging of the gap between the clinician and the biochemist by selecting a spectrum of topics in medicine to illustrate not only the molecular insights that derive from the application of biochemistry, but also the variety of challenging problems that medicine is able to offer the biochemist."

Neuroscience, Vol. 1, 1975 - Pergamon Press, b.m. $75.00.
Published for the International Brain Research Organization and incorporating IBRO News, this is an international journal for the "rapid publication of the results of research in all of the neurosciences." Papers describe the results of original research on any aspect of the scientific study of the nervous system. Included with each issue of the journal will be a newsletter giving current information about international meetings and other matters of interest to neuroscientists throughout the world.

New Too!!!

American Journal of Therapeutics and Clinical Reports
v. 1, 1975 - Alan R. Liss, Inc. $30.00.

Cancer Letter
v. 1, 1975 - Reston, Va., w. $100.00.

Child's Brain
v. 1, 1975 - S. Karger, b.m. $59.00.
Offical journal of the International Society for Pediatric Neurosurgery.

Current Practice in Pediatric Nursing
V. 1, 1976 - C. V. Mosby. PNA.

Current Prescribing: The Journal of Practical Therapeutics
v. 1, 1975 - Medical Economics, m. $14.00.

Drug Development Communications
v. 1, 1974/75 - Dekker. PNA.

Engineering in Medicine
v. 1, 1975 - Springer-Verlag. PNA.

European Journal of Behavioral Analysis and Modification
v. 1, 1975 - Munchen, Urban and Schwarzeberg. PNA.

European Journal of Intensive Care Medicine
v. 1, 1975 - Springer-Verlag, $44.10.

European Journal of Microbiology
v. 1, 1975 - Springer-Verlag, $30.95.

European Urology
v. 1, 1975 - S. Karger, b.m. $74.00.
Official journal of the European Association of Urology.

Health Literature Topics
v. 1, 1975 - World Health Organization. PNA.
Supercedes WHO Library Acquisitions. Text in English and French.

Journal of Chemical Ecology
v. 1, 1975 - Plenum Press, q. $35.00.

Journal of Cyclic Nucleotide Research
v. 1, 1975 - Raven Press, m. $40.00.

Journal of Family Practice
v. 1, 1975 - Appleton-Century-Crofts, q. PNA.

Neuropsychobiology
v. 1, 1975 - S. Karger, b.m. $59.00.

Oncologica Clinica
v. 1, 1975 - Il Penserio Scientifico, Italy, q. PNA.

Ostetrica E Ginecologia Clinica
v. 1, 1975 - Il Penserio Scientifico, Italy, q. PNA.

Did You Know About These?

Acupuncture Research
v. 1, 1973 - Orlando, Fla. PNA.
Official publication of the International Acupuncture Society.

Artery
v. 1, 1974 - Hubbard Industries, P. O. Box 33, Leonidas, Mich., b.m. $10.00.

British Journal of Clinical Pharmacology
v. 1, 1974 - Macmillan, London. PNA.

Canine Practice
v. 1, 1974 - Veterinary Practice Publishing Co., Santa Barbara, Calif. PNA.

Chronobiologia
v. 1, 1974 - Text in English. PNA.
Official organ of the International Society for Chronobiology, Il Ponte, Milana, Italy.

Journal of the International Academy of Preventive Medicine
v. 1, 1974 - PNA. Single copy sales only. Subscriptions not available.

Ann LeClaire,
Director of Library Services
The Miriam Hospital
Providence, Rhode Island 02906

DUPLICATE EXCHANGE

The duplicate exchange list issued by the Southern California Chapter was so successful that it has been decided to issue another one. Those who participated in the first one are urged to revise their lists and send them in as soon as possible. An effort will be made to mail the next list before the Christmas rush.

At the International Federation of Library Associations annual conference in Oslo, Norway, this August, Mr. A. Allardyce presented the following format for listing items.

Recommended Format for International Exchange Lists of Publications:

1. Each list should have a distinctive number, e.g. a serial number.

1.1 This number should be clearly displayed on each page

2. Each item should have a distinctive number. If these numbers are not in one series, each section should be numbered so that list, section and item numbers together identify an item.

3. Each list should have a descriptive title, e.g. of the subject.

4. The method of allocation, e.g. on a system of priorities or first come first served, and if applicable, a closing date should be given, to enable libraries to judge the time available for checking.

5. The recommendations, where relevant also apply to cards offering material.

This format is recommended by the IFLA Standing Advisory Committee on the Exchange of Publications. Suggestions and criticisms for the Committee's attention should be addressed to: Mr. A. Allardyce, British Library Lending Division, Boston Spa, Wetherby, West Yorkshire, United Kingdom, LS23 7BQ.

In addition, the Southern California Chapter Committee makes the following suggestions:

1. List v., no., month, day, and year.
2. Try to verify entry in some authorized source and indicate that source. Medical libraries enter under "Journal" frequently while technical libraries use corporate body, etc. If initials are used please explain in brackets whether they stand for the American Management Association or the American Medical Association. Since this is a volunteer enterprise there is little time for editing.

Any suggestions will be welcome.

Margaret Cressaty
1401 North Holliston Avenue
Pasadena, California 91104

REFERENCE QUESTION EXCHANGE

1. What has been written on the kinds and disadvantages of restraining harnesses for primates undergoing experimentation?

2. How much radiation therapy can a patient absorb before vomiting?

3. Can it be proved that breast-feeding is all the nutrition an infant will need? If so, to what age?

4. Will umbilical cords grow in vitro?

5. What are the special techniques for intravenous injections in infants?

Nannette M. Pope, Head, Library Services
Defense Nuclear Agency
Armed Forces Radiobiology Reseach Institute
Bethesda, Maryland 20014

The following questions and requests are representative of those that came to me since the publication of the last column in the Spring issue.

1. Was John Dalton really color blind?

2. Dr. Paul Dudley White was one of the two original cardiologists in the United States. Who was the other one?

3. Information on current status and treatment of herpes simplex employing acridine and other heterocyclic dyes and light.

4. Who are the leading authorities on ribosome structure?

5. What concentration of maytansine inhibits cleavage in sea urchin eggs?

6. Information on "frisbee finger."

7. When and who coined the term "intersexuality?"

8. What are flashlight fish?

9. What compound(s) is responsible for the characteristic odor in urine of humans after they have eaten asparagus?

10. Is brucine toxic?

11. Articles documenting contagiousness of Hodgkin's disease.

12. What company produces an antivenin against the black widow spider venom?

13. Mode of action of saxitoxin?

14. What is the generation time of Myxococcus xanthus?

15. Incidence of acute lymphoblastic leukenia terminating as histiocytic medullary reticulosis?

16. Time-space case clusters have been described for what diseases?

17. What substances induce pinocytosis in Amoeba proteus?

18. How effective is adenine arabinoside as an antiviral agent?

19. What was the basis of the enmity between Robert Koch and Louis Pasteur?

20. What are the six stages of flirtation?

21. Physicians who employed poisons have been implicated in what famous murders?

22. When and who first used the Rorschach test in the United States?

23. What is "trendscription?"

24. An estimate of world production last year of neomycin.

25. Who did the original descriptive study of the development of Dictyostelium discoideum?

There has been some correspondence including questions about this column. The questions and requests listed are those that were asked by users of the Sciences Library at Brown University. I like to think I "answered" each query to one degree or another depending upon availability of resources, time available for each request, urgency of question, etc. In some instances, a minimum of information was provided with instructions to a user on what he could do. For others I tried to be as exhaustive as possible. Another question asked by a newsletter reader was what types of questions do other biological sciences and medical librarians get and to what degree are they answered? Someone mentioned that perhaps questions could be listed for which answers were not found -- similar to the "exchange column" in RQ. In any case, I'm asking you to submit your answered and/or unanswered questions to me for inclusion in this column. Furthermore, since my base of operations has moved from biomedical reference to coordinating departmental science libraries, I need a volunteer to take over this column. How about it Beth?

Editor

DIVISION PROJECT

Each Division is urged by the Association to select a project that will provide professional stimulation and more unity in the Division as well as a product that will be useful and profitable. In the Spring 1973 Newsletter a proposal to publish a guide to veterinary drugs was discussed but this project was not undertaken for several reasons. It was also stated that "it is hoped that other proposals will be made."

Most of us are familiar with the CUEBS (Commission on Undergraduate Education in the Biological Sciences) Publication No. 32 entitled "Guidelines and Suggested Titles for Library Holdings in Undergraduate Biology." I would like to propose that the BSD members update, expand, and annotate this publication. It was published in April 1971 and edited by Joan G. Creager. In an attempt to generate interest in such a project I have written to Ms. Creager and this is the text of her reply.

"Your letter of August 28 has finally reached me. As you will note I am now editor of The American Biology Teacher and am also teaching at Northern Virginia Community College.

The Commission on Undergraduate Education in the Biological Sciences, as you may know, was an NSF grant supported organization for which the grant expired several years ago. As Dr. Edward J. Kormondy was the last director of the commission, perhaps you should get his views on what, if any, permissions are needed. He is currently Vice President and Provost of The Evergreen College, Olympia, Washington.

I feel that a new publication on library resources for undergraduate biology is definitely needed. Because there is no possibility that the commission could update the publication, I would encourage your division of the Special Libraries Association to prepare a new publication and not a third edition of the CUEBS publication.

The CUEBS publication is out of print and was prepared entirely at government expense. I would think that a simple acknowledgement of the source of any materials taken from the CUEBS publication would be sufficient.

I hope my comments will be helpful to you. Please let me know if I can be of further assistance. We would certainly want to review your publication in The American Biology Teacher."

At this point it might be wise to ask for suggestions, ideas, etc. from the BSD members on such a project before contacting Dr. Kormondy. I believe there are sufficient subject specialists within the BSD to divide the work quite nicely in such an undertaking. I will act as a clearinghouse for correspondence until a committee on the division project is functioning. Let me hear from you.

Editor

LIBRARY PROFILE: COLLECTIONS AT BERKELEY IN THE LIFE SCIENCES

More than four million books, plus periodicals, pamphlets, documents, maps, sound recordings, newspapers, microfilms, and other library materials are available in the libraries on the University of California Berkeley campus. The University Library is not one library but a conglomerate composed of the Main Library, with primary emphasis on the Humanities and Social Sciences; the Moffit Undergraduate Library, with a similar emphasis for undergraduate needs; and 21 special libraries serving the pure and applied sciences, professional fields such as law, and including the Bancroft Library whose collection documents the history of Western North America, especially California and Mexico. In addition to the General Library, there are ten specialized libraries attached to various research institutes on the Berkeley campus. Some infrequently used materials (approximately 750,000 volumes) are housed eight miles from the campus at the intercampus library facility in Richmond.

Library resources for biological research are housed primarily in two groups of libraries - the Biological Sciences Libraries Group, headed by Rita Kane, which includes four units: Biology, Public Health, Biochemistry, and the Health Sciences Information Service; and the Natural Resources Libraries Group, headed by Lois Farrell, which includes four units: Agriculture, Entomology, Forestry, and Forestry Products. Additional material is housed in non-general library collections - Lawrence Radiation Laboratory, Donner Library, and Water Resources Center Archives.

Biological Sciences Libraries

BIOLOGY LIBRARY. The Biology Library is one of the largest branches, with a collection of 170,000 bound volumes and 3,842 current serial subscriptions. The library has 190 study spaces, a user population of 500 faculty, 800 graduate students, and 1,000 undergraduate majors. The annual circulation is 97,000, with an additional 60,000 volumes used in the library. The staff includes four librarians (3 FTE), eight library assistants, and 3.5 FTE student employees.

The botany collection has an excellent representation of floras, both historical and modern. There is a strong collection of modern material covering systematics of both vascular and non-vascular plants and all aspects of plant physiology. The collection supports a varied program of research in botany, including control of photosynthetic processes, studies of aging in chloroplasts, hormonal control of DNA and RNA synthesis in plants, biosynthesis of polysaccharides, cell wall formation, pollen development, embryogenesis, comparative morphology of flowers, interactions between plants, studies on red, brown and green algae, and studies of branching mechanisms. The botany collection in the Biology Library is supplemented by material in the Natural Resources Libraries.

The Biology Library has a strong zoology collection, with special emphasis on mammals, reptiles, and birds of the western Americas. Research interests supported include systematics, animal behavior, marine biology, comparative physiology, embryology, ecology, and population dynamics. Additional resources are available in the Entomology and Natural Resources Libraries.

In addition to botany and zoology, the Biology Library collects material to support teaching and research carried on in the departments of Anatomy, Physiology, Embryology, Immunology, Virology, Genetics, Biochemistry, Molecular Biology, and Medical Physics. Some of the departmental research programs supported include: the process of aging, hormonal control of nervous system activity, mechanism of the auto-immune response, a broad range of cancer studies, fundamental research on genes and chromosomes in relation to growth and development, as well as a broad range of biochemical studies. Additional material to support these areas of research is housed in the Biochemistry Library and in the Public Health Library.

Rare Books Collection. A 9,000 volume collection of rare and classic works from the 16th, 17th, 18th, and first half of the 19th centuries is housed in temperature-controlled quarters in the Biology Library. This collection is notable for its editions of Darwin, Linné, and Leeuwenhoek, for rare copies of major floras, faunas, and systematic works, and is rich in historic works in physiology and medicine. The strength of the rare books collection in the Biology Library is due in large part to the generous gift of Professor and Mrs. Charles Atwood Kofoid. Dr. Kofoid was a distinguished professor of zoology and a dedicated book collector. During the 1940's, he gave the library over 30,000 volumes, of which 7,000 went into the Biology Library rare books collection. Dr. Kofoid's extensive reprint collection fills 125 shelves in the Biology Library stacks. An author card for each item is filed in a special reprint collection catalog.

Reference Collection. The Biology Library reference collection includes a great many abstracting and indexing publications. The ones that are used most heavily are the following: Biological Abstracts, Bio-Research Index, Oceanic Abstracts, Zoological Record, Wildlife Reviews, Index Medicus, Chemical Abstracts, Science Citation Index, and Current Contents: Life Sciences. Since a high percentage of reference questions involve identifying journal abbreviations or finding a location for a particular journal file, the Biology Library maintains an extensive collection of serials lists.

PUBLIC HEALTH LIBRARY. The Public Health Library has 2,000 journal subscriptions and a total of 57,000 volumes. The scope of the collection reflects the needs of programs in the UC Berkeley School of Public Health and those of the California State Health Department, which contracts with the Public Health Library for services. The staff includes four librarians, four library assistants, and 2.5 FTE student employees. Areas of collection strength include: health care administration, epidemiology of acute and chronic diseases, immunology and bacteriology, parasitology, maternal and child health, health education, quantitative measures of health care evaluation, and ethics of biology and medicine. Some of the currently funded research projects illustrative of the scope of the collection include: analytic review of cross cultural studies of alcohol; development of stochastic models for the design and analyses of long-term care projects; ecology and control of arboviruses; hypertension education in a low-income community; factors in youth predisposing to chronic diseases; decision analyses for current medical review. With the increasingly interdisciplinary nature of public health research, we find that faculty and students must be referred to the Education/Psychology Library, Social Welfare Library, and Government Documents Collection.

BIOCHEMISTRY LIBRARY. The Biochemistry Library is a small duplicate collection containing about 120 core journal subscriptions and about 3,000 non-circulating books. The demand for biochemical material is so heavy on the Berkeley campus that we feel some duplication is warranted. This collection is staffed with a half-time library assistant.

HEALTH SCIENCES INFORMATION SERVICE. The Health Sciences Information Service is funded by a $93,000 three-year grant from the National Library of Medicine. The Health Sciences Information Service is located in a highly visible spot close to the health sciences program target group. Through this service point flow requests for all manner of help in obtaining either physical or bibliographic access to informational materials. The HSIS staff serves as a link between the strong but scattered library resources on campus and the equally scattered faculty, students, and physicians involved in the health sciences programs. The emphasis is on providing clientele with an integrated approach to information via existing libraries, media centers, or computer terminals.

The HSIS staff does not have on-site library resources other than *finding lists and access to computer literature search facilities*, but they are dedicated to getting whatever is needed. The HSIS librarian and her bibliographic assistants use existing collections and facilities to prepare bibliographies, verify citations, perform computer literature searches, give formal and informal instruction to students, help students determine which library would be most profitable for them to use, maintain a file of audio-visual catalogs and provide cataloging for AV software purchased by the health sciences program.

Natural Resources Libraries

The four Natural Resources Libraries add an extra dimension to biological research resources on the Berkeley campus. The collections number 125,000 bound volumes, 9,000 serial subscriptions, a large portion of these being national and international exchange items, and upwards of 43,000 pamphlets. The four units have a combined annual circulation of 84,000 and in addition have heavy on-site use of materials.

AGRICULTURE LIBRARY. The breadth of the Agriculture Library collection often surprises biologists, since it encompasses materials for many biological science areas - cell physiology, genetics, plant nutrition, plant pathology, plus interdisciplinary areas such as ecology and land use, environmental pollution, and conservation of natural resources - as well as general agriculture. The outstanding feature demonstrating the depth of the collection is the large number of foreign serials, most of which are received on an exchange basis or through official government channels. An extensive index of California agricultural publications is maintained, with about 650 new titles added each year. Some of the specialized research interests are malnutrition, photosynthesis, trace elements in plant nutrition, proteins in legumes, soil microbiology, and biological or integrated control of plant pests (insects, nematodes, weeds, and plant pathogens). Although the collection does include a great many pamphlets, reprints and individual conference papers are usually sent to departmental collections. The Plant Pathology Department collection is particularly noteworthy because it includes over 70,000 reprints which comprise an important supplement to the general collections. Doctoral dissertations also are retained in the individual departmental collections.

ENTOMOLOGY LIBRARY. In addition to rare taxonomic tomes, the Entomology Library collection includes extensive holdings on insect physiology and behavior, ecology, pesticides, biological control, mites, parasitology, and even recordings of insect "songs." All pamphlet materials are fully cataloged locally. The major emphasis is on insects of economic importance, except for commercial beekeeping which is more fully represented in the agriculture collection on the UC-Davis campus.

FORESTRY AND FOREST PRODUCTS LIBRARY. The Forestry and Forest Products Libraries together cover all the applied biology areas of forestry and wildlife management. Special research interests include freshwater ecology, silviculture, dendrology, vegetation dynamics, forest and range management and the protection and preservation of both forests and forest products. Participation in Calfornet (California Forestry Network) and new Pacfornet (Pacific Forestry Network) has made these collections more readily available to anyone interested in the world's forest resources and utilization, incluing recycling of forest products. Pacfornet's Monthly Alert is published by the U. S. Forest Service's Pacific Southwest Forest and Range Experiment Station, with input from the Forestry Library staff. A worldwide direct exchange program is handled through the Forestry Library and the School of Forestry and Conservation. Special collections include maps, a large collection of photographs, and a growing microfilm collection. The Monthly Alert, routing of journals, and other specialized services such as computer current awareness printouts help the faculty and graduate students keep up with the literature even when extended field work means library visits are infrequent. Researchers working in the area of remote sensing as applied to forestry and agriculture also use the special collection of the Forestry Remote Sensing Project.

WATER RESOURCES CENTER ARCHIVES. The Water Resources Center Archives collects research material to support a wide range of studies in the scientific engineering, environmental, socio-economic, and legal aspects of water and water use. These specialized collections - probably the finest of their kind in the nation - serve the entire University of California system and the public. Some of the special topics that would be of interest to biologists are: fish and fish toxicology as related to water quality, algae and algal control, thermal pollution, eutrophication, and evapotranspiration. Important manuscript collections include the donated papers of persons prominent in water engineering, law, management, and related special fields. The Berkeley Archives publishes Archives Series Reports, an irregular series of bibliographic studies, and a bi-monthly listing, Selected Recent Acquisitions.

Services Available

Reference. A full range of reference services are offered in the life sciences libraries from 8 a.m. to 5 p.m. Monday through Friday. The librarians answer informational, factual, and bibliographic queries from both on and off-campus users, and take referrals from other campuses and the Bay Area Reference Center (BARC). In some of the smaller units, the librarians scan the new journal issues for manual selective information dissemination notices to faculty. During the past two years, computer literature searching and instructional activities have become a normal reference function.

Computer Literature Searching. The librarians are able to offer retrospective on-line literature searches and current monthly awareness searches on data bases such as Chemical Abstracts, Biological Abstract

MEDLINE, TOXLINE, Psychological Abstracts, Social Sciences Citation Index, CAIN, and ERIC.

The on-line service started with MEDLINE in October of 1973. At that time there was one librarian who was a trained searcher. In October of 1975, two years and 2,800 MEDLINE searches later, the Biological Sciences Libraries have seven active MEDLINE searchers on the staff and MEDLINE requests are accepted at any reference desk. The University of California has recently signed a contract with both Lockheed Information Services and System Development Corporation for on-line access. The librarians are eagerly anticipating retrospective searche on the data bases available from these vendors. Requestors will be charged for on-line connect time, communication costs and printout costs.

The current-awareness service on data bases provided by the University wide Center for Information Service (CIS), started in January 1974 and will continue along with the on-line retrospective services from Lockheed and SDC. The monthly current-awareness service has been very popular with Ph.D. candidates and research-oriented faculty. Threehundred and forty search profiles have been formulated by Berkeley librarians since January, 1974.

Instruction in the Use of Libraries. Our instructional program is in its developmental stage. Currently different branch librarians are trying various methods such as taped tours of the library for general orientation; "point-of-use" cassette tapes with specific directions for using Index Medicus, Chemical Abstracts, and Science Citation Inde specially prepared lectures given at the request of an instructor for seminar classes or groups of new students in a particular department or school; and scheduled orientation tours offered at specific times in the different libraries during the second and third week of the Fal Quarter.

Book Delivery Service. To alleviate user inconvenience due to the scatter of material among the many library locations on the Berkeley campus, the library started a retrieval and delivery system for facult The faculty member calls an easily remembered phone number, "BAKER" (2-2537) to order the book or journal article he wants. The "BAKER" service staff identifies the material, retrieves it from any library unit and sends it to the departmental office of the requestor. This service has been operating for approximately two years on the Berkeley campus and has met with enthusiastic response from both the faculty and librarians in the life science area.

Interlibrary Loan Service. Biologists on the Berkeley campus constantly amaze us by turning up citations to material that we lack. Biologists can request this material through a centralized Interlibrary Loan Service. There is heavy borrowing among the nine campuses of the University of California system facilitated by exchange of serial holdings lists and an inter-campus free photocopy agreement. Biologists on the Berkeley campus benefit from access to the Davis campus resources in agriculture and veterinary medicine, the San Francisco campus biomedical resources, and the UCLA resources in botany, zoology and biomedicine. Berkeley collections lend about five times more than they borrow.

In October 1974 the Berkeley campus issued its monumental 10 volume, 7,683 page Serials Key Word Index. This work indexes over 125,000 serial titles by each significant word in the title or corporate autho fields. Its publication gives libraries around the world access to th rich serial holdings of the Berkeley and San Francisco campuses. The index is available for $175.00 from the Library Systems Office.

In closing, we would like to issue an invitation to our readers: whenever you get to the Bay Area, give us a call and we will be pleased to arrange a visit to our libraries.

Rita Kane
Lois Farrell
University of Californi
Berkeley

AV SECTION

For those of you who have experienced problems using the Singer Caramate, for manually advanced programs, the following may be of interest. First, the problem lies in the fact that an audio cassette with program material recorded on both sides causes the slides to advance in a *rapid, erratic, and uncontrolled manner. What happens is that* the program on the second side occassionally stimulates the synchronizing signal receiver which normally responds to an inaudible tone or pulse placed on the second side.

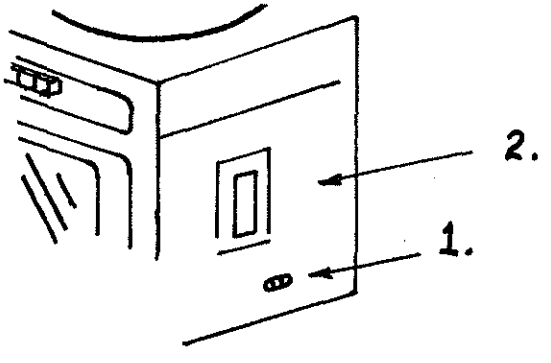
The Department of classroom services at the University of Texas Health Science Center, San Antonio, has solved our problem by inserting a toggle switch which allows us to turn off the synchronization feature. This allows us to use both synchronized programs and those that are manually advanced.

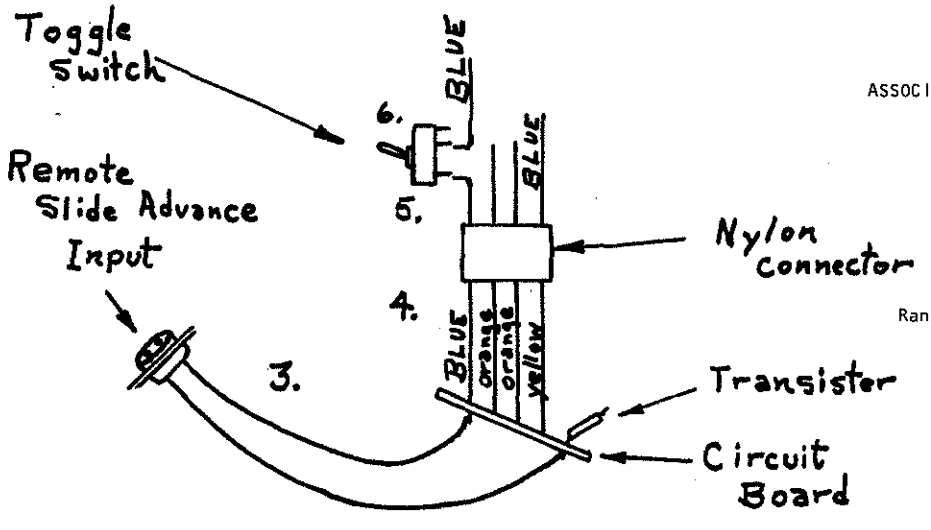
The following is for the do-it-yourself center:

1. Locate the point where you plug in the remote slide advance cord. This will be our starting point inside the machine.
2. Next remove this entire side panel; it also holds the cassette deck.
3. Trace the wires in from the remote input (number 1 above); one wire will connect with a blue wire at a circuit board while the other connects to a transistor at the same board (ignore this second wire.)
4. Trace the blue wire to a nylon connector. Pick up the same blue wire on the far side of the connector. (Two blue wires leave the connector *on the far side, do not get the one which is a continuation of* the yellow wire from the circuit board.)
5. Break this blue wire just past the nylon connector.
6. Insert the toggle switch. This becomes your synch on-off switch.

Physical placement of the switch can be anywhere. Class Room Services placed our switches on the rear wall of the machine. This involves drilling a small hold and mounting the switch to give an accessible cut off point. The drawing below may be of assistance.

Please do not attempt this if you do not feel secure in your tinkering ability. It will require some soldering and drilling. However, since you now know that it is possible to locally modify the caramate, contact your equipment repair people and explain your needs.





Please direct questions or material for inclusion in this column to:

Royden R. Jones, Learning Resource Center Library
University of Texas Health Science Center at San Antonio
7703 Floyd Curl Drive, San Antonio, Texas 78284

DIVISION OFFICERS 1975-1976

CHAIRMAN:

James H. Parrish, Assoc. Professor and Coordinator
for Extramural Programs
Library of the Health Sciences
U. of Illinois at the Medical Center
P. O. Box 7509
Chicago, Illinois 60680

VICE CHAIRMAN/CHAIRMAN-ELECT:

John A. Timour, Librarian
Scott Memorial Library
Thomas Jefferson University
11th & Walnut Streets
Philadelphia, Pennsylvania 19107

IMMEDIATE PAST CHAIRMAN:

Thomas G. Basler, Librarian
Division of Health Communications Library
Medical College of Georgia
Augusta, Georgia 30902

SECRETARY-TREASURER:

Rita Kane, Biological Sciences Librarian
Biology Library
Life Sciences Building - Room 3503
University of California
Berkeley, California 94720

DIVISION DIRECTORS:

Mary E. Feeney, Director (1976)
New England Regional Medical Library Service (NERMLS)
The Francis A. Countway Library of Medicine
Harvard Medical School
10 Shattuck Street
Cambridge, Massachusetts 02115

Susan Crawford, Director (1977)
Archive-Library Department
American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

BULLETIN EDITOR:

James E. Bobick, Coordinator of Science Libraries
Paley Library - Room 10
Temple University
Philadelphia, Pennsylvania 19122

ASSOCIATE BULLETIN EDITOR:

Ann LeClaire, Director of Library Services
Medical Library
The Miriam Hospital
164 Summit Avenue
Providence, Rhode Island 02906

Ranganathan's Five Laws of Library Science:

1. Books are for use.
2. Every reader his book.
3. Every book its reader.
4. Save the time of the reader.
5. A library is a growing organism.

Office of the Coordinator of Science Libraries
Paley Library - Room 10
Temple University
Philadelphia, PA 19122