

TECHNICAL COMMUNICATIONS

ISAD ANNOUNCEMENTS

Please note a change of address for the editor of *Technical Communications*: Send all future news releases, technical communications, and announcements to Don L. Bosseau, Director of Libraries, Emory University, Atlanta, GA 30322.

TECHNOLOGICAL INROADS

Artificial Intelligence

Transistors and other circuit elements of the new generation of computers are so tiny and fitted so closely together that it becomes feasible to combine thinking circuits and memory units on a single chip. Thus, one cell in the computer's memory bank can both remember and reason. This is a major step closer to artificial intelligence.

In July 1971, the Japanese government earmarked \$100,000,000 for an eight year study of artificial intelligence. Japanese industry accepts the conclusion that it could be increasingly dependent on "intelligent" computers.

A technical report dated February 1971 reads: "The development of these tiny chips presages a time when the electronic brain will rival the human brain in complexity and memory. The identity of the fully educated computer may become blurred with that of its programmer-teacher! It may exhibit esthetic and artistic judgments of an interesting degree of subtlety. Responses akin to feeling and emotion need not be excluded from its training if they may enhance its performance."

Along with artificial intelligence will come electronic voice recognition. Voice recognition by the computer—in other words, a computer that will respond to

oral command—is making significant engineering progress. RCA reports that its voice command machine responds to twenty-eight of the basic sounds in the English language.—(Extracted from *Advertising Age*, March 19, 1973).

CBS Laboratories Invents Way to Produce Microfilm Pictures by Laser

Dr. William E. Glenn, Jr., director of research at CBS Laboratories, a division of Columbia Broadcasting System, Inc., has been granted a U.S. patent for an improved method of recording and reproducing information from microfilm. By means of a splitbeam laser, pictorial or printed information is transferred to a metal master. This metal master disk is similar to the type used in the record industry and, from this disk, duplicates can be stamped at low cost.

"The market potential," Dr. Glenn stated, "will not only include the cassette and film industry, but it can be an asset to libraries and government printing as well. This system," he further stated, "is designed for recording and reproducing picture information. It uses diffraction gratings that are modulated in accordance with the picture information. Reproduction is effected by directing light through the medium. The zero-order diffracted light is modulated in accordance with the picture information."

The patent, assigned to Columbia Broadcasting System, Inc., will offer reduced costs for recording on microfilm. It has potential for use in the motion picture film industry, libraries, and cassette recording. CBS Laboratories has made other outstanding advances in laser technology which include the Laser Color Film Recorder, Holography, and the Holographic Scanner.

Microimagery—Solution to the Information Explosion

Tomorrow's busy businessman will have the information necessary to do his job right at his fingertips, due to the growing acceptance of microimagery as the solution to the information explosion.

"In every area of business today, the need for information is increasing faster than any individual can keep up," says Walter Steel, Bell & Howell's vice-president of microimagery marketing. "University courses are now teaching kids to be generalists and how to find the information on what they need to know. They're learning that *the vehicle to the access of information* sometimes is more important than the knowledge," Steel says.

The seventies will be known as the decade of microfilm, just like the sixties for the copier and the fifties for the computer, according to Steel. Microfilm is half-way between the computer and the copier as a support to business, because it includes copies and peripherals to the computer. Soon the copier will become peripheral to microfilm, Steel states.

Steel calls microimagery, "the immediate communication tool." It's the new media that fits the new world of business. Soon companies will be saying to their customers, "We'll send you our computer once a week." Technical journals will simply send their subscribers a paper newsletter that hits the high spots, along with a deck of microfiche and a new index, plus a retrospective new index each month, Steel forecasts.

"Microfilm won't ever totally replace paper," says Steel, "but it will replace file cabinets and storage areas, plus it will simplify the filing system in any size office."

Steel says that the potential for microfilm is greatest in the business records market. The bank market was the base for the microfilm business, but it's no longer predominant, according to Steel. "The basic unique value of microimagery is that it saves money. Our goal at Bell & Howell is to be able to provide a complete microfilm system for the small office market for under \$1,000. That would include a

camera, microfilm processor and viewer," he stated.

In light of increasing postage costs, many publishers are actively investigating microimagery. Ten pounds of printed matter are reduced in microforms to an ounce or less. With the development of microfiche having a 50 to 1 ratio (i.e., 510 images on a 4 x 6 inch fiche), 90 percent of the books published could be available on a single microfiche each. The book of the month club could become the fiche of the month club.

In every profession there's new technology that the successful manager must have access to in order to continue his success. Microimagery can put that knowledge at his fingertips.

REPORTS—REGIONAL PROJECTS AND ACTIVITIES

New UC Library Automation Office Established

Berkeley—Coordination of multicampus automation projects serving the University of California's libraries has been placed in a central office under a director of the University-wide Library Automation Program (ULAP). Jay L. Cunningham, a project manager in UC's Institute of Library Research, has been appointed to the director's position.

Library automation has been underway for several years at the University of California, which is considered one of the pioneers in this field. Each of the nine campus libraries has specialists for automation on its staff, and a central staff has been also working on such problems in the university-wide Institute of Library Research (ILR).

With growing emphasis on automation, coordination of the various campus projects becomes increasingly important to insure that applications are compatible. UC also maintains close contact with similar efforts at the California State University and Colleges. Coordination of a number of library functions by these two segments of public higher education may be greatly facilitated by automated procedures.

In recent years, such coordinating tasks have fallen more and more on ILR, an organized research unit directed by a professor in Berkeley's School of Librarianship, Charles P. Bourne, who also served as acting ULAP director for the past eighteen months. Since the primary task of such units is research in support of the university's educational function, the responsibility for development and operation of university-wide automated procedures has been made into a full-time assignment, with Cunningham taking over as ULAP director from Professor Bourne. A close working relationship will be maintained between the two groups.

Among projects well under way are the following:

University of California Union Catalog Supplement. The Berkeley and UCLA catalogs published in book form in 1963 have been recently supplemented by a forty-seven-volume set showing all monographs cataloged by all nine campuses during the five years 1963 through 1967. Preparation and printing of the more than 750,000 titles was done by semiautomatic methods.

Union List of Serials. All serial publications, including book series and scholarly journals, to which UC libraries subscribe are entered in another list that is to be continually updated, a task greatly simplified by the computer. Scholars and other library users will be able to determine immediately which UC campus subscribes to any serial and how complete its holdings are.

Bibliographic Center. In addition to housing the above two projects, this center helps in processing newly acquired books by printing catalog cards by computer at the ULAP headquarters. Cards can be ordered by a UC library in full sorted sets, including multiple sets if needed for branch libraries. The new system supplements the present method of ordering cards separately from outside vendors or producing them on each campus.

Among projects envisaged for the future are automated circulation procedures, under which each borrower would be given a machine-readable card and the charge slip

in the back of the book would likewise be machine-readable, such as a punched card. This method would speed the checking out of books and facilitate statistical studies. Other projects include a clearinghouse that would indicate instantaneously whether a new book recommended for purchase has been already ordered by another campus; and the streamlining of library accounting procedures.

Cunningham is a graduate of Cornell University and holds the Master of Library Science degree from Berkeley. Before joining the ILR staff, he served as a library systems specialist at the Library of Congress, and as a U.S. Air Force officer for four years.

The new director will report directly to Vice-President—Academic Affairs Angus E. Taylor, a university-wide official.

Committee Undertakes Implementation of Program Which Will Afford University-Wide "Direct Access"

State University of New York students will soon benefit from more direct access to the 7.5 million books and 6.2 million slides, films, recordings, and other research materials contained in libraries on the university's thirty-four state campuses.

That the university is moving to provide faculty and students with walk-in privileges at any of the libraries at the twenty-nine state-operated campuses and the five statutory colleges at Alfred and Cornell Universities, was announced recently by University Chancellor Ernest L. Boyer.

The proposed system, which has the endorsement of the Faculty Senate of the university, will greatly improve upon the university's current interlibrary loan program under which books at cooperating libraries can be borrowed through the mails.

Working in cooperation with State University librarians, Chancellor Boyer has announced the formation of a committee of librarians and administrators to develop a timetable and procedures to implement the program. The committee will be chaired by Willis Bridegam, director of libraries at the University Center at Binghamton.

The other members of the panel are Dr. Philip Sirotkin, vice-president for academic affairs at the University Center at Albany; Don Cook of the University Center at Stony Brook; Mary Cassata of the University Center at Buffalo; George Cornell, College at Brockport; and Henry Murphy of Cornell University.

In addition to developing a program timetable and procedures, the committee will also explore the future possibility of extending access privileges to the faculty and students at the thirty-eight locally-sponsored community colleges.

The expanded library access policy is seen as an essential step in the university's efforts to use its library resources more effectively, particularly since the cost of acquiring books and periodicals has grown at an extraordinary rate in recent years. Some publications costs have increased at the rate of 15 percent per year.

State University of New York is the first major multicampus system to introduce such a reciprocal program on so wide a scale, although the library system of the State University of Illinois has a similar policy, limited to faculty and graduate students.

The growing use of modern computer and data processing techniques is another cost control program the university has implemented in administration of its libraries. Shared cataloging techniques and the compilation of lists of university-wide locations will be developed to enable library users expeditiously to locate books and reference tools.

The policy will be particularly beneficial to students of the University's Empire State College, since they are not campus-based and must rely heavily on library collections near their homes or places of employment.

The policy will also make it much more convenient for students and faculty to conduct research and complete reference assignments in other parts of the state during vacation and intersession periods.

Collectively, the libraries at the university's state campuses comprise one of the greatest collections of titles and reference

materials in the world. Holdings for the 1971-72 academic year included 7,551,333 volumes, 237,428 microfilms, another 5,115,584 units in other forms of microtext, 20,587 slides, 71,007 recordings, 86,662 maps, 90,694 periodical titles, 29,334 additional serial titles, and 541,007 printed government documents—for a grand total of 13,743,636 entries.

POT POURRI

U.S. Experts Study Soviet Science Information System and Services

Eight United States information specialists from government, universities, professional societies, and private industry participated in the first U.S.-U.S.S.R. Symposium on Scientific and Technical Information, organized under the U.S.-U.S.S.R. Agreement on Cooperation in the fields of Science and Technology, in Moscow, June 18-19. The group led by Dr. Lee G. Burchinal, head, Office of Science Information Service, National Science Foundation, also spent ten days in the Soviet Union visiting key information organizations in Moscow, Novosibirsk, Yerevan, and Kiev.

The purpose of the symposium and subsequent site visits was to give the U.S. group an opportunity to learn more about the Soviet system for providing science and industry with needed scientific and technological information, and to explore feasible areas for possible future cooperation. In addition to Dr. Burchinal, members of the group included William T. Knox, director, National Technical Information Service, Department of Commerce; Melvin S. Day, deputy director, National Library of Medicine; Dale B. Baker, director, Chemical Abstracts Service; Scott Adams, Science Communications Division, The George Washington University; Dr. Vladimir Slamecka, director, School of Information and Computer Science, Georgia Institute of Technology; Bart Holm, manager, Systems Development Section, Information Services Division, E. I. duPont de Nemours & Co.; and Jerome Luntz, senior vice-president, McGraw-Hill Publications Co. The group was hosted by En-

gineer N. B. Arutiunov, director of the Information Directorate, State Committee for Science and Technology (SCST), Council of Ministers of the U.S.S.R.

The symposium featured four presentations by Soviet specialists on the following topics:

1. State scientific and technical information system of the U.S.S.R. (Dr. O. V. Kedrovskiy)

2. VINITI's integrated information system for the U.S.S.R. (Dr. A. I. Chernyy)

3. Specialized system of scientific and technical information services in instrument making (Dr. V. A. Rukhadze and Dr. V. M. Baikovsky)

4. Psychological aspects in charting the pathways of scientific and technical information development (Prof. Dr. G. T. Artamonov)

On June 20-23, the U.S. group visited the All-Union Institute for Scientific and Technical Information (VINITI), the All-Union Scientific and Technical Information Center (VNTITsentr), the All-Union Research Institute of Medical and Medico-Technical Information (VNIIMI) and the State Public Library of the U.S.S.R. for Science and Technology (GPNTB-SSSR).

On June 24-29, the U.S. group visited the Siberian Branch of the U.S.S.R. Academy of Sciences and the Novosibirsk Center of Scientific and Technical Information, the Armenian Research Institute of Scientific and Technical Information and Technico-Economic Studies (ArmNIINTI), the Ukrainian Research Institute of Scientific and Technical Information and Technico-Economic Studies (UkrNIINTI), and the Institute of Cybernetics of the Ukrainian Academy of Sciences.

Although about five years behind the U.S. in applications of technology, especially computer and microform systems, Dr. Burchinal said, the Soviets have established a strong base for rapid future growth. Reflecting their style of centralized, national planning, the Soviets are well advanced toward development of an integrated national information system embracing both science and technology.

The major components of the emerging

integrated national system are (1) centralized policy, planning review, and methodological guidance provided by the State Committee for Science and Technology (SCST); (2) concentration of national backup resources in all-union (national) institutions; (3) eighty-two "branch" information networks established by the industrial ministries; (4) development by the fifteen republic and regional information institutes of "interbranch" or interdisciplinary dissemination services to serve local industries and planning bodies. A major feature of this national information system is emphasis on the active dissemination ("propaganda") of information about technological innovations throughout the Soviet economy.

The U.S. group, D. Burchinal said, was particularly struck by the importance attached to information services by the highest levels of scientific and technological management in the U.S.S.R. and in the constituent republics. Their commitment is reflected in the resources being assigned to development of improved information services. Four new buildings are being constructed in Moscow alone for All-Union scientific and technological information services; staffs are being expanded; third-generation computer systems will be installed at numerous sites beginning in early 1974; and new buildings are underway or were recently completed for nearly a dozen republic and interbranch services.

In short, the Soviets know where they want to go, and they are devoting considerable resources to achieve their national objectives.

The second half of the symposium begun in Moscow was held in Washington on October 1-2. At that time U.S. and U.S.S.R. representatives sought agreement on areas of continued cooperation which will be reported to the Joint U.S.-U.S.S.R. Commission on Cooperation in Science and Technology when it meets in Moscow.

A report of the June visit by the U.S. team to the U.S.S.R. will be available through the National Technical Information Service.

PERTINENT PUBLICATIONS

ISAD Cable TV Information Packet

Now available from the American Library Association's Information Science and Automation Division is a thirteen-piece packet of materials on Cable Television. Included in this information kit of articles, bibliographies, policy statements and suggestions are the following:

- Annotated Bibliography on Cable Television for Librarians, Brigitte L. Kenney and Susan Bunting
- CATV: Visual Library Service, Brigitte L. Kenney and Frank W. Norwood
- Cable Television—A Bibliographic Review, James Schoenung
- Cable Television: State-of-the-Art and Franchise Recommendations, Advisory Memorandum by Nowell Leitzke
- A Glossary of Terms for Cable Television and Other Broadband Communications, Merry Sue Smoller
- Guidelines for Planning a Cable Television Franchise, Sidney Dean, Jr.
- Letter to Joe Fischer, Jr., from C. Lamar Wallis, Director of Libraries, Memphis Public Library and Information Center
- Metropolitan Library Service Agency (MELSA) Position Paper on Cable Television, Jon Shafer
- Planning for Urban Telecommunications, Kas Kalba
- Public-Cable, Inc. Statement
- A Report on Cable Communications and the District of Columbia Public Library, Lawrence E. Molumby
- San Francisco Public Library Video Center Policy Statement
- Video/Cable Activities in Libraries, Brigitte L. Kenney and Susan Bunting

Packets are available for \$2.50 each. Send order to: Cable TV Packet, Donald P. Hammer, ISAD, American Library Association, 50 E. Huron St., Chicago, IL 60611. Please make checks payable to the American Library Association.