

Technical Communications

ANNOUNCEMENTS

ISAD Institute on Bibliographic Networking

Information Science and Automation Division (ISAD) of the American Library Association will hold an Institute in New Orleans on February 28-March 1, 1974 at the Monteleone Hotel in the French Quarter. The subject of the institute will be "Alternatives in Bibliographic Networking, or How to Use Automation Without Doing It Yourself." The seminar will review the options available in cooperative cataloging and library networks, provide a framework for identifying problems and selecting alternative cataloging systems on a functional basis, and suggest evaluation strategies and decision models to aid in making choices among alternative bibliographic networking systems.

The institute is designed to assist the participant in solving problems and in selecting the best system for a library. Methods of cost analysis and evaluation of alternative systems will be presented and special attention will be given to comparing on-line systems with microfiche-based systems.

The speakers and panelists are recognized authorities in bibliographic networking and automated cataloging systems and will include: James Rizzolo, New York Public Library; Maryann Duggan, SLICE; Jean L. Connor, New York State Library; Maurice Freedman, Hennepin County Library, Minneapolis; Brett Butler, Information Design, Inc.; and Michael Malinconico, New York Public Library.

The cost will be \$60 for ALA members and \$75 for nonmembers. For hotel reservation information and a registration blank, write to Donald P. Hammer; ISAD; American Library Association; 50 E. Huron St.; Chicago, IL 60611.

P.S. Mardi Gras is February 26!

ISAD Forms Committee on Technical Standards for Library Automation (TESLA)

The Information Science and Automation Division of the American Library Association now has a Committee on Technical Standards for Library Automation (TESLA).

TESLA, recently formed with the approval of the ISAD Board of Directors, will act primarily as: a clearinghouse for technical standards relating to library automation; a focal point for information relating to automation standards; and a coordinator of standards proposals with appropriate organizations, e.g., the American National Standards Institute, the Electronic Industries Association, National Association of State Information Systems.

The committee's initial work will be to formulate areas and priorities in which standards are required, to document existing standards sources, and to develop a "library" of applicable standards to be drawn upon by the membership of ALA.

According to the new committee's chairman, John Kountz, California State Universities and Colleges, "It is auspicious that this time be selected for the implementation of a standards committee for library automation. With the current introduction en masse of production library automation systems and the fading of research and development activities, such standards will come into good use as they may be developed for library automation. In addition, the close linkage with new developments such as the Information Industries Association and the availability of standardized data bases, hardware, and communication standards are becoming requirements. The standards which shall be emphasized in the committee activities are those relating to areas of interest for administrators and automators

alike. These standards are intended to fill the void for future library automation operations."

The committee efforts should be measured in terms of facilitating the automation of library functions as required on an individual library basis. Information relating to the standards committee activities and its scope, or general information relating to library information technical standards, should be addressed to: ALA/ISAD Committee on Technical Standards for Library Automation, John Kountz, Chairman, 5670 Wilshire Blvd., Suite 900, Los Angeles, CA 90036.

Formation of an Ad Hoc Discussion Group on Serials Data Bases

As a result of an informal meeting held during the ALA Conference in Las Vegas to discuss the problems associated with the establishment and maintenance of union lists of serials, an Ad Hoc Discussion Group on Serials Data Bases was formed, with Richard Anable acting as interim coordinator. The Council on Library Resources agreed to fund a meeting of the group's steering committee on September 21, 1973 at York University in Toronto, Canada. Many of the major union list activities on this continent will be represented as well as the National Libraries and ISDS National Centers from both Canada and the United States.

A list of the subgroups that have been formed gives a good idea of the individual problem areas which the group is tackling:

- a. Record format comparison
- b. Minimum record data element requirements
- c. Cooperative conversion arrangements
- d. Organizational relationships and grant support
- e. Holding statement notation
- f. Bibliographic standards
- g. Authority files
- h. Software evaluation and exchange

A detailed description of the history and activities of the Discussion Group can be found on page 207 of this issue.

For further information contact: Richard Anable, York University, Downsview,

Ontario, Canada, M3J 2R2, (416) 667-3789.

TECHNICAL EXCHANGES

File Conversion Using Optical Scanning: A Comparison of the Systems Employed by the University of Minnesota and the University of California, Berkeley

By this time most large libraries in the U.S. have converted into machine-readable form at least some of their files. Most of them, however, have used relatively inefficient techniques (such as key-punching) or relatively expensive ones (such as on-line data entry). It was with pleasure, then, that I read Ms. Grosch's recent article ("Computer-based Subject Authority Files at the University of Minnesota Libraries," *Journal of Library Automation*, Dec. 1972) describing a conversion technique that she, like the library at the University of California at Berkeley, has found to be extremely cost effective, namely optical character recognition using a CDC 915 scanner.

Berkeley has used (and still is using) this technique in its efforts to create what will soon be among the largest machine-readable serials files of any university in the world. That file currently contains records for over 50,000 serials (in the MARC structure). It is expected to contain records for about 90,000 unique titles (approximately 30 million characters) before the end of the current fiscal year. Based on our experience in this undertaking, I would like to offer the following comments on the use of the CDC 915 scanner as it is used in Minneapolis and in Berkeley.

Costs—It should be crystal clear that the main reason for using the scanner is cost of the *keyboarding* device. That is, the keyboarding device for the CDC 915 scanner is an ordinary ten pitch Selectric typewriter which can be purchased for under \$500.00 or rented for from \$11.00 to \$30.00 per month. When not used as a computer input device the machine functions as a normal office typewriter. A

device like an MT/ST that rents for about \$110.00 a month costs about \$.60 an hour for every hour it is used, or ten times as much.

Keyboard operators for a typewriter are easily obtained since there is no need to train an operator in the idiosyncrasies of keypunch cards, CRT terminals, magnetic or paper tape devices, etc. Keyboarding is fast and easy, especially when compared to a key punch. Mistakes are easily corrected by, for example, merely crossing out the character(s) in error.

Keyboarding on a Selectric for a scanner and keyboarding on a device like the MT/ST both require a "converter" (the scanner itself or the MT/ST-to-computer-tape converter). These "converters" are equally available and the decision to use one keyboarding device over another should not hinge on the "availability" of such "converters," as is usually the case.

In addition to selecting a cost-effective keyboarding device, Minnesota has also operated a system that delivers the data to the keyboarding device in an efficient manner: the typing is done from the source document itself, rather than from a copy of that document that has been transcribed onto a "coding sheet" or a photocopy of that document. Ms. Grosch points out that photocopying the source document would have raised the project costs by about 50 percent. In addition, keyboarding from photocopied documents would probably have been much slower and less accurate. The Berkeley typists also keyboard from the original document, even when that document is a public catalog card that must be temporarily marked up in order to resolve ambiguities for the typists.

Supplies—It is true that the ordinary Selectric typewriter (without the pinfeed platen) performs satisfactorily. Thus, one does not need continuous forms for the typewriter. Indeed, it is not necessary even to use a "stock form"; plain 20 pound white long grain paper will do. We use Zellerbach's Hammermill Bond S20, which costs \$2 a ream. At Minnesota, using this paper instead of the "stock form" would probably have reduced the supplies cost from \$400 to less than \$25.

Had a keypunch been used, the operation would probably have required about \$150 worth of IBM cards.

Scanner Throughput—Careful design of the format of the data on the typed sheet can substantially improve throughput on the CDC 915 scanner. With double spaced typing (three lines per inch), the CDC scanner is capable of reading data at the rate of over a half million characters an hour, or about twice as fast as was actually achieved at Minnesota. Thus, with altered design of the input format, about half of the cost of the "converter"—the scanner—could have been saved, representing an additional savings of \$500.

The principle applied to maximize throughput on a scanner such as the CDC 915 is to enter as much data as possible on a line and as many lines as possible on a page without crowding the data so much as to cause the machine to misread. (The machine enforces stricter tolerances as its capabilities are pushed to their limits.) One wants to get as much as possible on a line for the same reason that one wants to get as much as possible onto a punched card: there is a fair amount of machine overhead involved in advancing to the next line and/or page.

The Berkeley system uses a sheet of paper that is 8½ x 14 inches in size, and the typists type each line a full 6½ inches long. Typing is double-spaced (even though the machine is capable of handling single-spaced typing) because this increases the vertical skew tolerance from ¼ of a character height to a full character height. Figure 1 is an example of a page typed at Berkeley.

At Berkeley, more than one field may be placed on a line, each field being separated by the "fork" character (∇). Like Minnesota, typists identify each field by a one-character code at the beginning of the field (A for Author, T for title, H for holdings, C for call number, B for branch library location, etc.). Typists are instructed to type until the margin locks. The beginning of each logical record is identified by the "chair" character (†) plus the typist's initials at the beginning of the line. Thus the entire line is utilized, and the

HSSYA=FAOYTPROCEEDINGS OF A SYMPOSIUM ON MAN MADE FORESTS AND TH
 EIR INDUSTRIAL IMPORTANCE, CANBERRA, 1967YH1-3, 1967//YCS0118.F5
 HSSYA=FAOYTREPORT ON A SURVEY OF THE AWASH RIVER BASIN YH1-5, 1965//
 HSSYA=FAOYTETUDES PEDROHYDROLOGIQUES, TOGOYH1-3, 1967//YCS599.C7F6

Fig. 1. Berkeley Optical Scanner Input.

machine is not required to read a large number of blank spaces at the beginning of the line (which, as Ms. Grosch points out, it has trouble doing since it cannot readily tell whether six blanks may, in fact, be really five or seven blanks).

We generally do not proofread the sheets after they are typed. We have found that when proofreading is necessary (usually during training), it is not difficult to proofread data typed in the format that we use.

Data Element Identification—At Berkeley, as at Minnesota, the typist identifies the data element (e.g., the author or the title) rather than relying on a computer algorithm of the kind used by the Library of Congress or the Institute of Library Research (automatic format recognition). This approach was selected because it was felt (a) that the typist could perform this task better than the computer could, and (b) that the routine nature of the typing job necessitated the insertion of more meaningful tasks for the typists. The data presented to the typists for interpretation can be in a wide variety of languages and may be transcribed on the source document according to any one of the conventions used by the library during the past several decades.

Typing Throughput—The Berkeley conversion system includes the use of certain "super abbreviations" that typists may use in place of commonly occurring words or phrases. All such abbreviations are two or three characters in length and are preceded by an equal sign. For example, "=FAO" is translated into "Food and Agricultural Organization of the United Nations," by the computer software. Although this substantially improves key-boarding throughput, its chief advantage is the insurance that the long phrase is en-

tered into the file correctly and consistently.

I personally find the requirement that the typist at Minnesota type the "format recognition line" at the top of each sheet in order to avoid the necessity of a "complete rerunning of the job" to be not only wasteful, but playing brinkmanship with systems design.

Expanding the Character Set—Although the CDC 915 scanner is capable of reading only the OCR A font (an all upper case font), it is relatively simple to produce upper-and-lower case output from data input via the CDC 915. Two alternatives are:

1. Have the typist key a special character that means "next character is to be capitalized" before each upper case character (the technique used by typists throughout the Western world, in the form of the shift key). If, for the CDC scanner, the dollar sign were chosen to be that special character, the "\$JOHN" would represent "John" and "JOHN" would represent "john." This technique can be used to expand the keyboard to include diacritical marks. A Berkeley typist keys "ESPAN%EOL" to produce "español," since the computer translates %E into a tilde over the preceding character.
2. Do all capitalization by logic contained within the software. A primitive computer algorithm might simply say "capitalize the first word of every sentence plus the following proper nouns. . . ." The Berkeley library currently uses such a technique for the capitalization of words in serial entries. This has been done in order to print out the serial entries following standard rules of

CALL NUMBER	University of California - Berkeley - General Library	Serials Key Word Index	Page 372 HOLDINGS
	COMPUTER Continued		
	MATH	COMPUTER News	Current Only
	SOC	COMPUTER Operations Journal	1-2, 1967-68
QA76.A1C454	ENGI	COMPUTER Science and Applied Mathematics	1, 1968
QA76.A1C454	MATH	COMPUTER Science and Applied Mathematics	1, 1968-
	MAIN	COMPUTER Studies in the Humanities and Verbal Behavior	1, 1968-
QA76.A1C545	SOC	COMPUTER Yearbook and Directory	1, 1968-
Z699.A1H3	LIBR	Cornell University, Department of COMPUTER Science, Information Storage and Retrieval, Scientific	1-14, 1961-*
QA76.A114.R4	MATH	Illinois. University, Dept. of COMPUTER Science, Report	See Branch
QA74.A1165	REFE	International Directory of COMPUTER and Information System Services	1969-
QA76.A115549	MATH	International Journal of COMPUTER and Information Sciences	1, 1972-
QA76.A11555	ENGI	International Journal of COMPUTER Mathematics	1, 1964-
P307.15R848	MATH	International Organization for Ancient Languages Analysis by COMPUTER, Revue	[1966]-
QA76.A1156	ENGI	International Tracts in COMPUTER Science and Technology and Their Application	1-13, 1957-*
	MATH	International Tracts in COMPUTER Science and Technology and Their Application	13, 1967-
QA76.A1J6	ENGI	Joint COMPUTER Conference Proceedings	1962-
QA76.A1J6	MATH	Joint COMPUTER Conference Proceedings	1962-
QA76.A1J65	MATH	Journal of COMPUTER and System Sciences	1, 1967-
QA76.A1J65	ENGI	Journal of COMPUTER and System Sciences	1, 1967-
	MAIN	New York University, Institute for COMPUTER Research in the Humanities, Newsletter	[3] 1968-
CC75.A1N48	ANTH	Newsletter of COMPUTER Archaeology	1, 1965-
	LIBR	Ohio State University, Columbus, COMPUTER and Information Science Research Center, Technical Rep	1968-69-
NA2005.A1P43*	ZVIV	Pennsylvania, State University, Dept. of Architectural Engineering, COMPUTER-Aided Design and Simu	67, 1967-; 6*
TK7888.1.A1P7	ENGI	Princeton University, COMPUTER Sciences Laboratory, Technical Report	1, 1960; 2-*
QA.76.S96P7	MATH	Symposium on the Interface, Proceedings of COMPUTER Science and Statistics	5, 1971-
On Order	EART	U.S. Geological Survey, Geological Survey COMPUTER Contributions	On Order
	COMPUTERS		
QA76.A1A36	ENGI	Advances in COMPUTERS	1, 1960-
QA76.A1A36	MATH	Advances in COMPUTERS	1, 1960-
QA76.A1C56	ENGI	COMPUTERS and Automation	2, 1953-
RA409.5.A1C55	ENGI	COMPUTERS and Biomedical Research	1, 1967-
QC.145.2.C6	ENGI	COMPUTERS and Fluids	1, 1973-
TA641.C65	LIBR	COMPUTERS and Libraries; an Australian Directory	1968
	ENGI	COMPUTERS and Structures	1, 1971-
QA76.5.A1C65	MAIN	COMPUTERS and the Humanities	1, Sep. 196*
	UNDE	COMPUTERS and the Humanities	5, 1970/71-
On Order	MATH	COMPUTERS, Control and Information Theory	On Order
	BIOL	COMPUTERS in Biology and Medicine	1, 1970-
LB1028.5.A1C*	ENGI	COMPUTERS in the Undergraduate Curricula, Proceedings	1, Mar. 196*
TK5.C53	ENGI	Conference on Electronic COMPUTERS, Conference Papers	1, 1958-
TK7867.A1H65*	ENGI	Houston Conference on Circuits, Systems and COMPUTERS, Proceedings	1, 1969-
TK6540.155	ENGI	I E E Transactions on COMPUTERS	1:18, Dec. 1*
Z699.A1P76	LIBR	Progress News of COMPUTERS in Libraries	1, Mar. 196*
	ENGI	Quarterly Bibliography COMPUTERS and Data Processing	1, 1971-
QA76.A1JQ3	MATH	Quarterly Bibliography of COMPUTERS and Data Processing	1, 1971-
QA47.77	MAIN	Tracts for COMPUTERS	1, 1919; 2*
QA47.77	MATH	Tracts for COMPUTERS	[1-16]; 18-
	COMPUTING		
QA76.A1A125.*	MATH	A C N Symposium on Theory of COMPUTING, Proceedings	4, 1972-
QA76.A1A32	MAIN	Acta Polytechnica Scandinavica, Mathematics and COMPUTING Machinery Series	1, 1958-
QA76.A1A32	MATH	Acta Polytechnica Scandinavica, Stockholm, Mathematics and COMPUTING Machinery Series	1, 1958-
QA76.A1A78	ENGI	Association for COMPUTING Machinery, Communications	1, 1958-
	MATH	Association for COMPUTING Machinery, Communications	1, 1958-

Fig. 2. Berkeley's Serial Key Word Index: Sample Page.

style, rather than the traditional rules of librarianship, namely every significant word in the title is capitalized. (Did the library practice arise because early typewriters had shift keys that were hard to use?) Our computer algorithm says essentially "capitalize all words in the entry except the following insignificant ones. . . ." This technique has created an upper-lower case file without having typists use the shift key, or its equivalent, at least a half million times. Figure 2, a page from Berkeley's *Serials Key Word Index*, illustrates the results of this system.

The Real Problem—I do not mean to imply that everything is rosy in file conversion land. A file conversion is a messy, difficult and essentially unproductive task, no matter how well done, because it merely transforms existing data into another form and in so doing exposes, for all to see, the "many ancient errors" which

we do not want to see. It also exposes the "ambiguities" that were perhaps better left ambiguous, not to mention the inconsistencies that have cropped up as library practices varied.

I would suggest that any file conversion that works from files that have been built up over some time period requires *more* in the way of resources for the "cleansing" than for the conversion. That is, in the case of the subject authority files at Minnesota, I would guess that far more than \$5,296.21 (the total amount spent on typists, keyboards, computers, supplies, etc.) was spent resolving ambiguities (before the drawer was handed to the typist) and "cleansing" the data in the one year between the time when the data had been converted and the time that they were put to use. This has been our experience at Berkeley.

Stephen Silberstein
University of California, Berkeley

REPORTS—LIBRARY PROJECTS AND ACTIVITIES

Bucknell University Plans Entire Bibliographic File to Go On-Line

Bucknell University's already strong computer-usage program is expected to be strengthened in 1973/74 to permit students and faculty to conduct fast, accurate searches of the university library from any of thirty-five campus terminals. A \$28,000 grant to the Bucknell University library from the Council on Library Resources is supporting this program.

Seventy-five percent of Bucknell's students already use the campus computer in course work. And Bucknell's on-line library data base includes records of approximately 25,000 of the library's 200,000 books. The council grant will enable additional computer storage to be rented to permit the entire bibliographic file at Bucknell to go on-line. The complete file is already in machine-readable form.

While Bucknell's current system enables a search of the on-line files by author-title, title alone, and Library of Congress (LC) number, its enlarged plan calls for subject search capability as well. Using LC classification numbers, a user will be able to ask the computer to locate and display the authors and titles associated with the subject of interest, examine the near neighbors of his original hit in the file, or he may pick an author's name from the response and enter the system again on the author's name to see what else the author may have written.

Stanford University Data File Directory

The Stanford University Data File Directory, compiled by Douglas Ferguson, is available as an example of a library-produced access publication for computerized data files on a university campus. The directory lists and describes collections of social, economic, political, and scientific research data on punched cards, computer tape, and disk, located on the Stanford campus. Each file description directs the user to documentation and pub-

lished research in the university library collection or elsewhere. Access to each data file is controlled by the owner and is listed in each file description. The directory is available, for prepayment of \$4, from the Financial Office, Stanford University Libraries, Stanford, CA 94304.

STANDARDS

Editor Note: The recent flurry of activity concerning standards which affect library automation, data bases, etc., is pointed up in the several actions reported in the last issues of TC. Perhaps the futility of keeping up with standards and the need for a clearinghouse type of operation is best recognized by noting a sample of some recently adopted standards which now have or will potentially have ramifications in library automation.

The following list does not represent a complete accounting of all pertinent standards due to lack of a comprehensive source.

Selected ANSI Standards

Many ANSI Standards published in the ANSI categories of "Information Processing Systems" and "Information Systems" may be of interest to ISAD members.

Selected items are listed below. The new American National Standards Institute (ANSI) catalog is available free of charge from the Institute's Sales Department at 1430 Broadway, New York, NY 10018. The catalog lists "ISO Standards" and "ISO Recommendations" as well.

X3.14 RECORDED MAGNETIC TAPE FOR INFORMATION INTERCHANGE (200 CPI, NRZI) (REVISION OF ANSI X3.14-1969)—Provides the standard technique for recording American National Standard Code for Information Interchange (ASCII), X3.4-1968, on magnetic tape at 200 characters per inch (CPI) using nonreturn-to-zero-change on ones (NRZI) recording techniques. Approval date: December 12, 1972.

X3.38 COMPUTER CODE FOR STATES—X3.38-1972 provides two-digit numeric codes and two-character alpha-

betic abbreviations for both the states and the District of Columbia. The numeric codes will allow the states and the District of Columbia to be sorted into alphabetic sequence.

ANSI X3.38-1972 may be obtained from the American National Standards Institute at \$1.25 per copy. It was developed under the secretariat of the Business Equipment Manufacturers Association.

X3.31 STRUCTURE FOR THE IDENTIFICATION OF THE COUNTIES OF THE UNITED STATES FOR INFORMATION INTERCHANGE (NEW STANDARD)—Identifies a three-digit numeric code structure for the counties of the states of the United States, including the District of Columbia. Supersedes the listing which appeared in the March 26, 1971 issue of Standards Action. Approval date: March 14, 1973.

X3.39 RECORDED MAGNETIC TAPE FOR INFORMATION INTERCHANGE (1600 CPI, PHASE ENCODED) (NEW STANDARD)—Presents the standard technique for recording the coded character set provided in American National Standard Code for Information Interchange, X3.4-1968 (ASCII) on magnetic tape at 1600 characters per inch (CPI) using phase recording techniques. Approval date: March 7, 1973.

X3.40 UNRECORDED MAGNETIC TAPE FOR INFORMATION INTERCHANGE (9-TRACK 200 AND 800 CPI, NRZI, AND 1600 CPI, PE) (NEW STANDARD)—Presents the minimum requirements for the physical and magnetic interchangeability requirements of ½-inch wide magnetic tape and reels between information processing systems, communication systems, and associated equipment using American National Standard Code for Information Interchange, X3.4-1968 (ASCII). Approval date: March 5, 1973.

BSR X3.41 CODE EXTENSION TECHNIQUES FOR USE WITH THE 7-BIT CODED CHARACTER SET FOR ASCII (ANSI X3.4-1968) (NEW PROPOSED STANDARD)—Provides means for augmenting the standard repertory of 128

characters of American National Standard Code for Information Interchange, X3.4-1968 (ASCII), with additional graphics or control functions, by extending the 7-bit code while remaining in a 7-bit environment, or increasing to an 8-bit environment in which ASCII is a subset.

Order from: Business Equipment Manufacturers Association; 1828 L St., NW; Washington, DC 20036. Single copy price: Free.

BSR X3.47 IDENTIFICATION OF NAMED POPULATED PLACES AND RELATED ENTITIES OF THE STATES OF THE UNITED STATES, STRUCTURE FOR THE (NEW PROPOSED STANDARD)—Provides the structure for an unambiguous, five digit code for named populated cities, towns, villages, and similar communities and for several categories of named entities similar to these in one or more important respects.

Order from: Business Equipment Manufacturers Association; 1828 L St., NW, Washington, DC 20036. Single copy price: Free.

BSR XII.6 OPERATIONAL DATA PROCESSING APPLICATIONS CONTAINING CONSTITUTIONALLY PROTECTED DATA, DOCUMENTATION REQUIREMENTS FOR (NEW PROPOSED STANDARD)—Provides all those involved with operating electronic data processing applications, involving constitutionally protected data, with a list of minimum documentary requirements which apply to such applications.

Order from: Society of Certified Data Processors, 38 Main St., Hudson, MA 01749. Single copy price: \$2.00.

BSR XII.1 CATEGORIES OF ERROR-CREATING CHARACTERISTICS OF VARIOUS DATA STORAGE SYSTEMS USED WITH ELECTRONIC DATA PROCESSING APPLICATIONS (NEW PROPOSED STANDARD)—Provides the consumers of electronic data processing applications and the suppliers and implementors of such applications with a technique for defining the error-generating capabilities that exist in the data storage system used to hold the consumer data. It is one of a series of data storage stan-

dards being prepared by the Society of Certified Data Processors Technical Standards Committee, to provide a method whereby the application implementor and the application consumer may communicate easily, allowing the application consumer to take the responsibility for the accuracy of the maintenance of the data base by electronic data processing systems.

Order from: Society of Certified Data Processors, ATTN: Chairman, Technical Standards Committee, 38 Main St., Hudson, MA 01749. Single copy price: \$2.00.

BSR X11.2 DATA ITEMS STORED IN GENERAL DATA BASES, CLASSIFICATION OF (NEW PROPOSED STANDARD)—Provides the suppliers of data to a general data base with a means of communication with the operation of the base regarding the characteristics of the data items being supplied.

Order from: Society of Certified Data Processors, ATTN: Chairman, Technical Standards Committee, 38 Main St., Hudson, MA 01749. Single copy price: \$2.00.

BSR X11.3 DATA BASE PROCESSING ACTIVITIES BASED ON DATA ITEMS USED, CATEGORIES OF (NEW PROPOSED STANDARD)—Provides the application designers of data base applications and the operators of several data bases with a means of describing the characteristics of the data items stored in the data base.

Order from: Society of Certified Data Processors, ATTN: Chairman, Technical Standards Committee, 38 Main St., Hudson, MA 01749. Single copy price: \$2.00.

BSR X2.3.4-1959 CHARTING PAPERWORK PROCEDURES, METHOD OF—This standard was one of the original input documents considered in the development of American National Standard Flowchart Symbols and Their Usage in Information Processing, X3.5-1970 (originally ANSI X3.5-1966). However, ANSI X2.3.4-1959 was not considered sufficiently useful to serve the needs of the community which now uses ANSI X3.5, nor at that time did X3 have responsibility for ANSI X2.3.4 or feel that it should initiate action to modify the older standard. The subject standard was subsequently as-

signed to American National Standards Committee X3 for review and revision, reaffirmation or withdrawal. Current review finds no interest in this standard, either in the form of users of the standard or of an organization desiring to assume its maintenance.

Order from: American National Standards Institute, Dept. BSR, 1430 Broadway, New York, NY 10018. Single copy price: \$1.00.

SC/20 STANDARD SERIAL CODING—The American National Standard Identification Number for Serial Publications, Z39.9-1971 is available from ANSI at \$2.25 per copy. In June 1970, ISO/TC 46/WG 1 accepted the system as outlined in Z39.9-1971 as the basis for the international standard numbering system. A final ISSN standard was presented to the Plenary Session on TC 46 in October 1972 at the Hague. The International Center (IC) of the International Serials Data System (ISDS) is responsible for the administration of the ISSN as a central authority. The IC-ISDS was established with headquarters in the Bibliothèque Nationale with financial support being shared by the French Government and UNESCO.

The National Serials Data Program (NSDP) has been selected to serve as the United States National Center and as such is the sole agency responsible for the control and assignment of ISSN in the U.S.

(Note—The ANSI ISTAB (Information Systems Technical Advisory Board) rejected the proposed ANSI Z219.1-1971, Use of CODEN For Periodical Title Abbreviations. This proposal had been submitted to ANSI by the American Society for Testing and Materials in 1971 for approval as an American National Standard; Z39 members were asked to comment on it during the public review in July and August 1971. After considerable discussion the ISTAB came to the conclusion that the proposed standard was in conflict with Z39.9-1971, the ANSI Identification Number for Serial Publications.)

SC/2 MACHINE INPUT RECORDS—The members of SC/2 have agreed that this standard cannot be written at this time. The purpose of the proposed

standard was for general information interchange at the interface between data processing terminal equipment (such as data processors, data media input/output devices, office machines, etc.) and data communications equipment (such as data sets, modems, etc.). The decision was based on the fact that the problem of designing a format is not being addressed here (that standard already exists, namely Z39.2-1971) but rather the problem of network protocol. Therefore, the transmission of the bibliographic record itself, taken in this context, is only a small part of the total picture.

Subcommittee 2 has concluded, however, that in the light of future developments in network protocol, bibliographic data should be transmitted in the Z39.2-1971 interchange format standard. In order to further this recommendation, the present Z39.2-1971, the American National Standard for Bibliographic Information Interchange on Magnetic Tape, will be revised by SC/2 to reflect a broader scope, i.e., information interchange in digital form, with appropriate sections in the document describing the existing standards for different media (the first of these would be magnetic tape since this standard already exists). This should have the effect of using the standard format in future systems via telecommunications as well as via magnetic tape. The additional sections discussing various media will aid the user of the format regardless of the media involved.

INPUT

To the Editor:

Say it isn't so. Tell me that, as editor of *Technical Communications*, you are not responsible for the item on page 65 of vol. 6, no. 1. I refer to the squib headed "Tomorrow's Library: Spools of Tape." I am particularly offended to see this kind of outdated foolishness promoted after noting two pages earlier that the new directions for Technical Communications will involve *pertinent information* about technical developments. How could a

publication entitled *College Management* possibly contribute technically significant information about such a specialized and sophisticated area as library automation?

In general, I think blue sky articles are inappropriate for TC.

Carl M. Spaulding
Council on Library Resources

The new format and content of Technical Communications is expected to evolve, and thus no step function change was anticipated. In the meantime, while operating on an accelerated publication schedule I have attempted to find pertinent (if not completely appropriate) articles for TC. I would like to see more contributions of hardcore technical communications from the field, but until people accept the new design for TC and contribute to it, the selections will be scarce.

Incidentally, I have received some comment to the contrary, that perhaps a "Blue Sky?" category of news notes in TC would serve the useful purpose of providing another perspective, or putting "far out" items into context. Certainly, contributions of the type submitted by Stephen Silberstein in this issue and Justine Roberts in the last issue of TC represent the directions envisaged for TC's content.

In most technical fields there's a place for the proposed TC type of forum, and I'm confident library automation and technology have a similar need. I would appreciate more readers' comments, and more importantly, brief write-ups of the technical aspects of your accomplishments and findings which would be of interest to ISAD members.—DLB

POT POURRI

UNISIST International Serials Data System

The International Serials Data System (ISDS) as established within the framework of the UNISIST program, is an international network of operational centers, jointly responsible for the creation and maintenance of computer-based data banks.

The objectives of the ISDS system are:

- a. To develop and maintain an international register of serial publications containing all the necessary information for the identification of the serials.
- b. To define and promote the use of a standard code (ISSN) for the unique identification of each serial.
- c. To facilitate retrieval of scientific and technical information in serials.
- d. To make this information currently available to all countries, organizations, or individual users.
- e. To establish a network of communications between libraries, secondary information services, publishers of serial literature, and international organizations.
- f. To promote international standards for bibliographic description, communication formats, and information exchange in the area of serial publications.

The ISDS is designed as a two-tier system consisting of:

- an International Centre (IC)
- National and Regional Centres

The ISDS-International Centre is established in Paris by agreement between Unesco and the French Government. It is temporarily located at the Bibliothèque Nationale.

The ISDS-IC will establish an international file of serials from all countries. This file will be limited, initially, to scientific and technical publications, and will be gradually extended to include all disciplines.

Each serial will receive an International Standard Serial Number (ISSN), which has been developed by the International Organization for Standardization (ISO).

Products which could be derived from the International Serials Data System are as follows:

Titles Index; ISSN Index; ISDS Register of Periodicals (Register); Classified Titles Index (CTI); New and Amended Titles Index (N & AT); Cumulated New Titles (CNT); Permuted Index; Microform Reference File (MRF).

A magnetic tape service will be provided of the current master file, and of the new and amended titles.

The responsibility for the establishment of National or Regional Centres belongs to Unesco member states, and associate members who wish to participate in the UNISIST program.

Upon establishment each National Centre will obtain a block of ISSNs from the International Centre and will gradually take over the responsibility for the registration of serials published in its territory.

A regular information exchange program will be established between the national centers and the international center.

The international register will thus be a regularly updated cumulation of the initial file established by the IC and the National or Regional files.

Serials published in countries with no National or Regional Centres will be registered by the International Centre, which will endeavor to obtain the necessary information.

The relationship with users of ISDS is primarily through National or Regional Centres, but this general rule does not exclude direct contact with the International Centre.

The building of a consistent international file of serials implies close cooperation between all members of ISDS.

The work in all countries will be based on a common set of rules concerning: bibliographic description, communication format, character sets, abbreviations, transliteration, etc.

Coordination between all members of the system is one of the main tasks of the International Centre.

Close cooperation has also been established with various international organizations, the objectives of which are closely related to those of ISDS.

In November 1972 the Director-General of Unesco informed member states of the creation of the International Centre and has invited them to cooperate in ISDS by establishing national or regional centers. To assist in the creation of these national or regional centers provisional

guidelines were made available. These guidelines are at present being finalized and will shortly be widely distributed in English, French, Spanish, and Russian.

The response of member states was most encouraging and to date the following countries have set up or are in the process of setting up national or regional centers: Argentina, Australia, Austria, Canada, Colombia, Dahomey, France, Federal Republic of Germany, Guatemala, India, Italy, Malta, New Zealand, Nigeria, Philippines, Union of Soviet Socialist Republics, United Kingdom, and United States of America.

For further information and ISSN assignment contact ISDS-International Centre, Bibliothèque Nationale, 58 rue de Richelieu, Paris 2ème, France.

ADL to Conduct Study of the Data Base Publishing Industry

Arthur D. Little, Inc., the Cambridge, Massachusetts, consulting firm, is launching a major study of the data base publishing industry. The study, which will be available on a subscription basis, will cover present and future technology utilization, economics, markets, and business and competitive structure. More specifically, the study will:

- Characterize typical data base publishing activities in terms of markets, products, sales strategies, methods of data base collection, distribution, etc.;
- Identify the current and expected roles of private industry sectors, government, and professional associations;
- Analyze existing and latent markets for data base publishing ventures and estimate market growth over the next five years;
- Describe criteria for analyzing the economics of data base publishing services and pricing them;
- Review hardware, software, and developments likely to affect the industry in the next five years, including emergence of lower-cost switched data networks;
- Describe the probable impacts of

public policy and regulatory developments, including copyright legislation, patentability of software, and concern over protection of confidentiality of personal information, and

- Characterize the reasons for past failures of certain data base publishing ventures and propose strategies for successful involvement.

The study will be directed by Vincent Giuliano and Robert Kvaal. Dr. Giuliano has extensive experience working with major information dissemination systems, ranging from libraries to telecommunications-based computer systems. He has led a variety of systems development, systems analysis, evaluation, and market research projects at ADL.

Mr. Kvaal has focused his recent work on strategic planning issues facing computer services companies, and on assisting computer users in financial institutions, retail and distribution companies. This work has included operational and management audits, planning and implementation assistance, management information systems development, and the overall design of a nationwide teleprocessing system.

According to Giuliano and Kvaal, data base publishing enterprises tend to evolve through well-defined stages of automation and business development: maintenance of manual data bases (reports, clippings, etc.) and the manual preparation of conventional printed products; partial computerization of the data base and some computer usage in preparation of conventional printed products; considerable automation of the data base and output process; offering of information retrieval and specialized search services on an overnight or phone call basis; and offering direct access to the data base via remote computer terminals. "But," Giuliano and Kvaal note, "the growing tendency of data base enterprises to evolve along this scale is creating dislocations in many of them, while at the same time, offering new opportunities for participants and suppliers. This uncertainty makes a study such as ADL's especially useful at this point in the industry's development."

The results of ADL's study will be presented to clients in published form and in group meetings held in appropriate locations. The cost to each subscriber is \$2,000. Additional information may be obtained from Philip A. Untersee (617-864-5770).

PERTINENT PUBLICATIONS

New 1973 ACM Publication Catalog

The new expanded thirty-four page Publication Catalog of the Association for Computing Machinery has been released. The catalog covers technical publications in over thirty major segments of the computing and automation field. Copies are available upon request by writing to: Publication Services Department, Association for Computing Machinery, 1133 Avenue of the Americas, New York, NY 10036.

Proceedings of 1973 National Computer Conference

The Proceedings of the 1973 National Computer Conference & Exposition are now available from the American Federation of Information Processing Societies, Inc. (AFIPS).

The Conference Proceedings, Volume 42, contains more than 160 technical papers and abstracts covering a wide range

of topics in Computer Science & Technology and Methods & Applications featured at the recent '73 NCC, June 4-8 in New York. The price of the 920 page hard-cover volume is \$40. A reduced rate of \$20 is available for prepaid orders from members of the AFIPS' Constituent Societies stating their affiliation and membership number. Copies of the Proceedings may be ordered from AFIPS Press, 210 Summit Ave., Montvale, NJ 07645.

Computerized Serials Systems

The LARC Association announces a new publication series entitled *Computerized Serials Systems*. Each volume in the series will consist of six issues published at bimonthly intervals in both paperback and hardbound editions. Each issue will be authored and edited by a person directly affiliated with the project reported, and each issue will be devoted to papers relating to an automated serials project undertaken by a specific library. The format of the new series is designed to promote understanding through clear narrative description and extensive illustrative materials.

For details concerning the purchase of individual issues or a subscription to the complete volume contact LARC Press, 105-117 West Fourth Ave., Peoria, IL 61602.