Three New Directors to Join NISO Board

In the 1990 election of NISO officers, Shirley Baker, Connie Greaser and Mike McGill were elected to serve on the NISO Board of Directors; Susan Vita and Karen Runyan were elected to second terms.

Shirley Kistler Baker, Dean of University Libraries at Washington University, St. Louis, MO, was elected to serve as a Director representing the library community. Baker was a member of the NISO Standards Committee that developed the interlibrary loan data elements standard (Z39.63-1989) and is currently a member of the ARL Committee on Bibliographic Control. Continuing as a Director representing libraries will be Susan H. Vita, Coordinator of the Whole Book Cataloging Project and Chief, MARC Editorial Division, of the Library of Congress. Vita has been a member of the NISO Board since 1987 and was chairperson of the NISO Futures Committee.

Michael J. McGill was elected to a three-year term as a Director representing information services. McGill is Vice President, Systems Sales and Library Systems for Ameritech in Columbus, OH. Formerly with OCLC, Inc., McGill served as OCLC’s Voting Representative to NISO and was responsible for standards activities at OCLC.

Connie Greaser and Karen Runyan were elected to serve as Directors representing the publishing community. Greaser is the Director of the Commercial Book Program at The Rand Corporation, Santa Monica, CA and has been a member of the NISO Standards Development Committee since 1987. Greaser has served on the Board of Directors of the Society of Scholarly Publishers and is active in the Society for Technical Communication and the
Council for Biology Editors. Karen Runyan is the Assistant Manager, Trade and Business Sales Support Division, for Houghton Mifflin Company, Burlington, MA, and is the current chairperson of BISAC.

Continuing to serve on the NISO Board of Directors are: Paul Peters, Chairperson; John Regazzi, Vice-chairperson; Heike Kordish, Treasurer; Mary Ellen Jacob, Past chair; James Rush; Lois Ann Colaianii; Bill Bartenbach; and Peter Paulson. Retiring from the NISO Board of Directors are Toni Bearman, Charles Bourne and Carol Risher. Our thanks, appreciation and gratitude to all for their dedicated service to NISO. And, to those just elected, congratulations and welcome!

NISO Board Report

The NISO Board of Directors met on June 6, 1990, and took the following actions:

• On recommendation of the Standards Development Committee, endorsed the migration of NISO acquisition standards to the formats of Accredited Standards Committee X12 and, ultimately, UN/EDIFACT. As a result of this action, all existing, proposed and approved NISO standards pertaining to transactions by which library materials are acquired and purchased will be aligned with the X12 formats. To ease this transition, the Board recommended that NISO compile a unified, comprehensive dictionary of all data elements used in such transaction. [Because of this action development work on Z39.55, Computerized Serials Orders, Claims, etc., has been suspended.]

• Approved a benefits plan for NISO employees.

• Approved a preliminary plan for input to the 1991 White House Conference on Libraries and Information Science.

• Received reports from: Mary Curtis (Vice President of Transaction, Inc.) on NISO’s publications program; John Regazzi on development needs and financial status; Pat Harros on the NISO/BISG Conference on Acquisitions Standards; Heike Kordish, NISO Treasurer; and Carol Risher on NISO’s balloting procedures.

Convergence and Globalization—Implications for Standards Developers: The 1990 NISO Annual Meeting

Plan to join your NISO colleagues on Monday, September 10, in the Bartos Forum of the New York Public Library, for NISO’s 1990 Annual Meeting.

Speakers for the session, which begins at 10 a.m. and will end by 5 p.m., include Manuel Peralta (President, American National Standards Institute); Karen Hunter (Elsevier Science Publishers, New York); Dick Gibson (chair, Accredited Standards Committee X13); Vinton Cerf (chair, Internet Activities Board) and Kathleen Bales (chair, NISO Standards Development Committee).

The program agenda includes a first look at NISO’s proposed Master Technical Plan for Standards Development and will conclude with the annual business meeting.

Lunch is included in the registration fee: $100 for NISO Voting Members and Information Associates, $150 for all others. Contact the NISO office at (301) 975-2814 for registration forms.

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Editorial contributions, articles, news releases and letters should be sent to Walt Crawford, The Research Libraries Group, Inc., 1200 Villa Street, Mountain View, CA 94041-1100; (415) 691-2227. BITNET: BR.WCC@RLG.BITNET FAX: (415) 964-0943.

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American National Standard Z39.50, Information Retrieval Service Definition and Protocol Specifications for Library Applications, is to be used to search remote systems without knowing the particular syntax and "character" of each remote system. The protocol is designed to be implemented on a computer system and to act as an intermediary between users of that system and other systems, possibly those of disparate vendors running on disparate software and hardware platforms. The idea is that the user will be insulated from the vagaries of a multitude of library systems. The local system will be responsible for the user interface. In this way, a remote system appears to the user as another local database.

The protocol is designed to handle more than just bibliographic data. In fact, the protocol itself is independent of the structure of the data being searched and retrieved. It provides a mechanism for two systems to negotiate such metrics as the maximum number of items that a retrieval set should contain, the limits of small, intermediate, and large retrieval sets, whether or not the searched system will maintain multiple (or any) retrieval sets for the searching system and mechanisms to inform the searching system that a search will consume significant resources.

In the broader sense, a title search might be meaningless. How do you define a generic search? How about a generic return? The answer is that you don't. You step up one level and look at the mechanism of the communication without regard for the structure or content of the data being communicated.

The protocol also provides mechanisms to identify and negotiate the types of data elements to be searched, the format of the search and the types of data to be retrieved. This information is not specified by the standard. What the standard does specify is a mechanism for defining these parameters and passing the values between systems that have agreed on meanings for the values passed. There is a standard search format, in Reverse Polish Notation, which an implementation is required to support in order to conform to the protocol standard.

When you first dive into the standards world, you are immediately struck by the odd way that documents are written. I think that this is due to the preconception that a "standard" will tell you how to do something in a very specific way. This is true and yet not true. Standards are very concrete and very specific. However, they don't necessarily tell you how to do what you think they are going to. Usually, they are one level above what you expect. In that sense, communications standards are a metalanguage. Much as linguistics has attempted to formulate rules of communication without specifying all the specific communication streams that are possible, standards attempt to specify the mechanism of electronic communication.

An example can be drawn from the subject area of Z39.50. On first acquaintance, you might think that it will specify something like:

To do a title search, put a "t" in the first character of the message and follow it with the title being searched for. Follow that with a binary zero to terminate the string.

The problem with this approach to standards-making is that it is far too limiting. Suppose the system to be searched doesn't identify titles uniquely? Can the target handle a truncated search? If so, how do you specify truncation? Can the searched system (or the searching system, for that matter) accept "wildcard" characters in the title string? If so, how do you identify the wildcard? And so on...

Z39.50 is supposed to handle search and retrieval. This is not limited to bibliographic data. In the broader case, a title search might be meaningless. How do you define a generic search? How about a generic return? The answer is that you don't. You step up one level and look at the mechanism of the communication without regard for the structure or content of the data being communicated. What you find is that a search and retrieval conversation consists of something like the following:

Source: Hello there. I want to search your data. My name is Foobar. Don't send me more than N unique results. If there are fewer than M results, send them all to me immediately. If there are more than M, send me the first J immediately and I will ask for more later.

Target: Go away and leave me alone. [or] I don't recognize you. Go away. [or] Give me
a password to prove you really are who you say you are. [or] Ok, you can search. [or] I've started your search and have already found 1,000 items. Do you wish me to continue?

A great deal of work is being done here, yet we have not spoken of what a search looks like nor what the retrieved items look like. The protocol provides for the communication of this information, given that both systems have prior knowledge of the various search types and retrieved record types.

For instance:
Source: I want to use a Type 1 Query. I want to search using author, title and ISBN.
Target: I'll use Type 1 but I don't support ISBN.
[or]
Source: I want MARC bibliographic records returned to me. I also want MARC holdings records.
Target: You can have MARC bibliographic records but I don't support MARC holdings.

Everything that is defined by Z39.50 is defined very specifically, but it is a definition of the mechanism of the conversation, not the content.

Implementers Agreements
This is where implementation agreements or “Implementation Profiles” come into play as does the “Maintenance Agency.” The standard’s maintenance agency serves as a central clearinghouse for the meaning of metrics used in Z39.50 conversations. Examples are query types, retrieved record types and data elements that can be used for searching or that can be retrieved.

Implementation agreements are agreements arrived at by two or more implementers as to the various elements that they will use, or at least accept gracefully even if they don't support them. Agreements must also be reached on the various options of the underlying telecommunication and networking protocols that together provide the pathway over which Z39.50 conversations take place. Since standards, especially international standards, are promulgated in an intensely political atmosphere and since American standards are voluntary in nature, the most common solution to an impasse is to accept and include both sides’ proposals. Some speak of the “International Non-Standards.” Yet, the only alternative seems to be no standards at all.

Given this reality, implementation profiles are a necessity. Profiles are often formed along national boundaries. So, for instance, you have the U.S. Government’s GOSIP (Government Open Systems Interconnection Profile), which specifies quite exactly the values that may be taken at the many decision points in implementing OSI standards. Failure to conform means that you won’t be able to sell to the Feds. Some states have also adopted GOSIP. The United Kingdom has an equivalent profile as do Germany and Japan.

The informal nature of profiling groups is traditional. After all, a profile is just a bunch of peoples’ decisions to which they agree to conform.

Profiles may be industry-specific. For instance, the MAP (Manufacturing Automation Profile), championed and largely developed by General Motors, has gained broad acceptance in the manufacturing community. TOP (Technical Office Protocol), spearheaded by Boeing, is used in industries that have a large amount of technical documentation, blueprints and so forth.

The Z39.50 Implementers’ Group
On March 12, 1990, a group of people met at the Library of Congress to discuss Z39.50 and their implementations of it. The goal was to begin the process of defining a Profile. This was, and is, an ad hoc group, assembled by word of mouth. The group includes academic institutions, bibliographic utilities, LC and vendors. While the meeting was open to all, we encouraged attendance only of those actually in the throes of implementation or teetering on the edge.

While we would have preferred the group to be more formally structured and sponsored, time constraints prevented this. Any number of decisions must be made by each implementer yet those decisions are critical as to whether they will be able talk to any other system. Also, the informal nature of profiling groups is traditional. After all, a profile is just a bunch of peoples’ decisions to which they agree to conform. At the same time, we recognized that the group would be breaking new ground and in that sense would be setting de facto standards, so a real attempt was made to identify all organizations actually implementing Z39.50.

Since we only had two days to meet and the amount of material to cover seemed
enormous, we chose to emphasize the working nature of the meeting. We assumed that all those in attendance would have significant familiarity with the protocol and would bring specific questions to the table.

After a brief organizational meeting, Ray Denenberg (Library of Congress) discussed the upcoming revision of the protocol to make it compatible with the ISO Search and Retrieval protocol, ISO Draft International Standard (DIS) 10162 and DIS 10163. He also discussed the role of a maintenance agency and the structure of the PICS (Protocol Implementation Conformance Statement) Proforma, a document in which an implementer indicates conformance (or non-conformance) with the protocol. PICS Proformas, registered by the maintenance agency, provide a single point of availability of all Z39.50 implementations' conformance with the standard and with various profiles.

You have the U.S. Government's GOSIP (Government Open Systems Interconnection Profile), which specifies quite exactly the values that may be taken at the many decision points in implementing OSI standards. Failure to conform means that you won't be able to sell to the Feds.

One of the first discussions of the meeting was the underlying communications standards. About half the implementers were using (or intend to use) TCP/IP (Transmission Control Protocol/Internet Protocol), the U.S. Department of Defense-developed protocols currently used on the Internet. The other half opted for a pure OSI stack. Most indicated a desire to support both in the long run. Since the Internet is committed to migration to OSI, the first step of which will be coexistence of both sets of protocols, this will hopefully become a minor concern. Of course, there is a long hard path between a statement of direction and actually running both protocol stacks peaceably together on the same network.

TCP/IP users all indicated a desire to use OSI upper layers, based on the ISODE (ISO Development Environment), which is available for UNIX machines. Given this, we agreed to let the two groups work independently on the lower layers for now and to deal only with the session, presentation and application layer options. These turned out to be well-defined and in many cases the options were already chosen by the Z39.50 standard. Other more complex choices such as checkpointing and synchronization were judged unnecessary, given the application.

Two major questions surfaced during the meeting and in true standards tradition we assigned them to a subcommittee. The first question deals with the types of records that should be retrievable. The second question is, assuming that MARC bibliographic records will be transmitted, should an abstract representation be defined or is the concrete representation sufficient? (A discussion of abstract and transfer syntaxes and the presentation layer services implementing abstract syntaxes is beyond the scope of this article.) These two issues remain undecided. On a positive note, they appear, at this point, to be the only significant questions that came out of the meeting unresolved.

Future

We recognized that a single meeting would be insufficient to settle every issue. We also recognized that unforeseen questions will arise both as implementations progress and the technical environment changes. We also felt that new applications for Z39.50 will be forthcoming. Therefore, we agreed to ongoing occasional meetings. We also established an electronic mail server on the Internet for use by the attendees. This list is open and several people have since requested subscription.

To subscribe, send electronic mail to me at FCLA@NERVM (BITNET) or FCLA@NERVM, NERDC.UFL.EDU (Internet) including your electronic mail address, your name, and your organization. Meeting schedules and agenda are decided on the mail server.

The next major milestone will be interoperability testing. Plans are that testing will be performed among members of the TCP/IP group and, separately, among members of the OSI group. Cross-stack connections may require an application-level bridge. That is, one or more implementers may have to develop the ability to run on both TCP/IP and OSI protocol stacks. They could then act as a switching center passing Z39.50 messages across their stacks. This bridging function is not a part of the standard and at this time no implementer has committed to this work.

The implementers' group has agreed to support an "Information Service" that can be queried to provide information about the system to be searched. Information provided by this service will include, but not be limited to, the searchable elements available or the system and the databases available.
There is still a great deal of work to be done. The implementers' group will continue to meet for the foreseeable future to work out the many minor details that make up a successful and useful profile.

From the NISO Executive Director
Pat Harris

I have never been a great fan of economics. In college I tended to agree that indeed it was a dismal science, and for me, in particular, a dismal subject in my undergraduate career. Dismal, yes. But, as I have since learned, also inevitable. What does this have to do with NISO? Lo and behold, NISO has received its first royalty for sales of NISO-developed standards and, accompanying the check, a very fine report on sales of NISO standards. For the first time we can see which standards are selling and which ones are shelf sitters. What's hot and what's not, as they say. As expected, Z39.50 was hotter than hot—it took off like a small rocket and promises to keep soaring. This is good news for NISO.

Paling in comparison are the other NISO titles—standards that are just as important to keeping the fabric of information services together in a seamless cohesive entity. What I see is that we now have some facts at our command, but the picture of a standard's effectiveness and value will never be measured solely by supply and demand, balance sheets, and bottom lines. There is more to the equation of information standards.

While I am on the topic of economy, NISO can offer many of you a little money savings and a way to serve your constituents. NISO is ready, willing and able to offer significant discounts (starting at 25%) on bulk orders of Information Standards Quarterly. If you are a consortium or network or a standards committee you should consider putting the latest news on standards in the hands of your members. ISQ will keep them informed and aware about standards. Providing ISQ to your members is another tangible service you can give your supporters. And, for no charge I will be happy to supply, on request, single or multiple copies of the just-revised brochure listing all the NISO standards and the latest edition of NISO's general information brochure. Call me or Robin at (301) 975-2814 for more details.

Hot Off the Press

Contact the NISO office (PO. Box 1056, Bethesda, MD 20827, fax (301) 975-2128) for a newly-revised brochure and price list, including all published NISO standards.

Voluntary Standards Work for the United States: NIST Hearing Reveals Support for Existing System

There is no need to replace or duplicate the existing U.S. private sector-administered voluntary standards system coordinated by the American National Standards Institute (ANSI). This was the general outcome of hearings held April 3-5, 1990, in Washington, D.C. by the National Institute of Standards and Technology (NIST).

More than fifty representatives from large and small corporations, standards developing organizations, professional societies and other groups appeared during the hearing, offering overwhelming support for the existing system. “ASAE strongly cautions against government imposition of any fundamental change in the present voluntary consensus standards system,” stated Robert Lanphier of the American Society of Agricultural Engineers. Morgan Cooper of the Air-Conditioning and Refrigeration Institute (ARI) commented that “the establishment of a new organization to supplant ANSI as the accreditor of national standards developers would create confusion and inefficiency within a system that is functioning satisfactorily.”

Groups such as the National Fire Protection Agency (NFPA), Society of Automotive Engineers (SAE), National Association of Manufacturers, Computer and Business Equipment Manufacturers Association (CBEMA) offered similar statements. Wayne Davison offered testimony at the hearing, speaking for The Research Libraries Group, Inc., a NISO Voting Member. (Davison's testimony follows this article.)
A proposed government-controlled Standards Council of the United States of America (SCUSA), which would duplicate work currently being done by the private sector, found little support. The U.S. Department of Defense (the largest user and developer of standards) testified that the current infrastructure is sound and that there is no need to attempt to superimpose government control in its place or over it.

Testimony reaffirmed the need for better cooperation between the private sector and the Department of Commerce, to strengthen and improve participation in international standardization and to increase U.S. competitiveness globally. Government can help by directing its efforts at promoting the private sector-administered voluntary standards system and by greater participation by government technical experts in standards development committees.—Adapted from an ANSI press release.

Testimony of The Research Libraries Group, Inc.

Wayne Davison, Associate Director, Development

Unlike the vast majority of organizations represented at these hearings, RLG appears here today as a user rather than a manufacturer. RLG exists to serve the information needs of the higher education and research community in the United States. RLG is a not-for-profit, private-sector consortium whose membership is comprised of over 100 universities and research institutions in the U.S. working together to maintain quality and increase productivity. The governing members of this consensus-based organization include, among others, such universities as Columbia, Johns Hopkins, New York University, Princeton, Stanford, University of California at Berkeley, University of Michigan, University of Pennsylvania and Yale.

In facing increased competition from the post-1992 European Community and the Pacific Rim as well, the community served by RLG represents an important set of resources for the U.S. Higher education is one of the U.S. strongholds. This position will be challenged. The front page of The New York Times (Tuesday, April 3, 1990) quoted Hans-Jorg Rudloff, Chairman of Credit Suisse-First Boston: “The European challenge is to restore the Europe of 1914, when Europe was the biggest economic power in the world and had the best educated population.” There is a direct relationship between education and economic strength.

Both the information resources—including some of the largest databases in the country—and the associated body of expertise in information management are key elements in the “information economy.” It is essential to ensure open access to information worldwide if the U.S. is to maintain its dominance. Since standards can either facilitate or impede information access and interchange, standards are of great importance to RLG and its constituency.

RLG has special interest in standards relating to libraries, publishing, information science, paper and microfilm in particular, and in standards relating to information processing in general. As a result, RLG is a member of the American National Standards Institute (ANSI), the National Information Standards Organization (NISO) and various X3 Committees. RLG supports active staff involvement at both the national and international levels. RLG staff members are currently serving as: chair of the NISO Standards Development Committee, which oversees the work of all NISO standards committees; member of the NISO International Relations Committee, which acts as the U.S. Technical Advisory Group for all matters of ISO TC 46; member of X3L2 (coded character sets) and the U.S. delegation to ISO/IEC JTC 1/SC 2; vice-chair of X3T5.5 (upper layers of Open Systems Interconnection [OSI]); member of X3T5 and the JTC 1 TAG (overall OSI); and Convenor of ISO/IEC JTC 1/SC 21/ WG 6.

Efficacy of the Current Organization of Standards Activity in the U.S.

RLG is here today to go on record in support of ANSI and the current voluntary standards infrastructure in the United States.

• ANSI and its accredited committees are doing an adequate job. RLG has had considerable experience with ANSI and a number of its committees. We have been satisfied overall with the staff and performance of these organizations. Under the new leadership of Mr. Peralta, ANSI is becoming an even stronger organization that is particularly alert to the changing nature of the international standards arena.

As participants and officers in the work of ISO we have had an opportunity to work with several national standards bodies that act as secretariats for various committees; ANSI is second to none in its support. As convenor of JTC 1/SC 21/WG 6, I certainly enjoy a higher level of sup-
port from ANSI than do any of my fellow convenors from their national organizations.

- **ANSI is a fair and neutral party.** This is a key point. One of the primary advantages of the current voluntary standards infrastructure in the U.S. is the fact that ANSI does not itself have a vested interest in the technical issues in individual standards. ANSI can be, and is, a fair and neutral party with an excellent record of assuring due process, openness, and fair representation for all interested parties in the standards process.

- **Even small organizations such as RLG are well served.** There has been some concern expressed that small organizations may be at a disadvantage in the current U.S. structure. This is not true. RLG, with approximately 100 employees, is certainly a small organization within the information processing industry as represented by X3, but we have been able to effectively further our interests. From our experience it is clear that if an interested organization is willing to commit, expert personnel to standards activities, it can be effective regardless of size.

- **Interested organizations can quickly respond to standards issues.** The current infrastructure allows and encourages interested organizations to participate actively in the standardization process. These are the proper organizations to man standards activity because they have the greatest motivation and incentive, and are able to quickly respond to issues with additional resources when necessary.

### Inadvisability of Federal Government Control of Standards Activity

- **The federal government is not a neutral, disinterested party.** Unlike ANSI, the federal government is not a disinterested party regarding the technical content of many standards—nor should it be. As a major user of many products and services affected by standards, it is essential that the federal government promote its interests. And the federal government is the supplier of services affected by standards. In both these situations, the federal government is but one member of a community of interested suppliers and consumers. It is not appropriate for any one member to hold overall responsibility. The referees should not be members of one of the teams playing.

  For example, the Library of Congress has performed a great service in promoting and supplying machine readable cataloging (MARC) data. However, to achieve an effective working relationship among the Library and other members of the community, it was necessary to create a forum on neutral ground, the Machine-Readable Bibliographic Information Committee (MARBI) of the American Library Association, to deal fairly with matters of common interest. This need did not arise from any fault or shortcoming of the Library of Congress, but rather from the structural necessity for a neutral forum where all parties could fairly and responsibly argue their interests.

| The federal government is but one member of a community of interested suppliers and consumers. It is not appropriate for any one member to hold overall responsibility. The referees should not be members of one of the teams playing. |

- **Federal organizational and budgetary processes cannot respond quickly.** The political and bureaucratic processes by which federal agencies must operate are not conducive to quick response to changes in direction and levels of effort. This is particularly true when the reduction of the federal deficit is an overriding priority. We have recently seen a major dislocation in the standards effort of the U.K. as a result of a precipitous reduction in government funding.

- **Models from other countries are inappropriate.** The current voluntary U.S. standards infrastructure has evolved within the societal and economic framework of the U.S. It is uniquely suited to our culture. The organization of standards activities in other countries may be appropriate to their cultures, but not to ours. I have discussed the notion of a "Standards Council of the United States" (based on the Canadian model) with a number of my colleagues in Canada. Their universal reply was "Why would you want to do that?" Not a single one of them recommended this model as a preferable alternative to the current U.S. organization. Indeed, dependence on governmental standard organizations can sap the strength from the private sector participation that has been a hallmark of the U.S. standards effort.

### Shortcomings of Current U.S. Standards Activity

- **Lack of coordination within individual organizations.** The primary problem we have encountered in effective representation of U.S. interests internationally is the lack of coordination of U.S. positions. This is due to the fact that all too often, organizations send different personnel to various overlapping standards groups (such as CCITT and ISO) and argue opposing positions. Such behavior is both embarrassing and ineffective for the U.S. This is not a structural problem, and actions of the federal government cannot fix it. It is the responsibility of individual organizations to identify their own enlightened self interests and to argue them consistently.

- **Lack of meeting facilities.** Particularly for large groups, such as JTC 1/SC 21, that require many breakout rooms for 400 or more people, it is often
Proper and Necessary Role of the Department of Commerce

In addition to the acknowledged duties of various federal agencies in dealing with issues of trade policy and agreements (e.g. GATT) and issues of transborder data flow, the Department of Commerce, and NIST within it, have a very important role to play in coordinating the activities of the federal government as a participant in standards.

- Commerce should encourage federal participation in the standards process as it exists. Commerce should continue and increase its role in representing federal interests in the standards arena and in encouraging other agencies of the federal government to participate.

- Commerce should coordinate positions of federal agencies. The problem of coordination of organizational positions, mentioned earlier, is also found among agencies of the federal government. The Department of Commerce should continue and increase its role in such coordination.

An example that affects our community is the conflict between the OSI and DARPA networking standards. While many government agencies have embraced the GOSIP (Government Open Systems Interconnection Procurement) specification, the National Science Foundation continues to support activities using the old protocols developed for the Department of Defense in the early 1970s. If our universities are forced to use the DARPA protocols to participate in NSF activities, either they will be cut off from the information-sharing initiatives of the European Economic Community (all of which are solidly based on the OSI protocols), or they will suffer the difficulties and unnecessary costs of supporting multiple networking standards.

Conclusion

In conclusion, The Research Libraries Group, Inc., wishes to encourage the Department of Commerce to perform an active role in fostering the interests and coordinating the positions of the federal government in the standards arena. We want to leave no doubt that such federal participation should be within the framework of the current voluntary standards infrastructure so ably administered by the American National Standards Institute.

We thank you for this opportunity to present our position.
NISO and the whole area of standards for libraries and publishing. He also calls for a reduction in the number of standardizing agencies and rationalized publishing policy—but recommends calling together 400-odd chief executive officers of standardizing bodies to begin such an effort, suggesting that each contribute $5,000 to create a $2,000,000 pot. The discussion does not mention ANSI, which seems to be the logical body to coordinate and rationalize standardization (that, after all, is its function). Since he does not explicitly suggest that ANSI is somehow incapable of serving its role, the call for action takes on a curious tone.

If you don’t know anything about standards before reading this book, you’ll wind up assuming that ANSI is unimportant and fails to take an active role in ISO. It’s tempting to say that the book will provide a useful introduction to standards for audiences outside the library and information science field—but Batik and ASTM both specifically target librarians and library school students. A library school student reading this book won’t be aware that the library field is actively involved in national and international standardization, and will learn nothing about NISO or ASC X3—not even that they exist!

The book does not lead to further reading and does not allow the reader to check sources or in any other way go further, except possibly to write to some listed standards agencies. The reader is assured that standards are Good Things (for engineers), and not very much else.

I enjoyed the book in some ways—but, looking back at it, I can’t honestly recommend it. I wish I could; the price is right, and the brevity could be a good thing for an introductory work. It is fast and easy, but there’s just not enough substance to leave a lasting impression.—Walt Crawford, Editor, Information Standards Quarterly.

Missionary Work

Even while I was working with NISO headquarters to get action on revision of the standard, I realized I had some missionary work to do with my ASI constituency. Many indexers are not convinced of the relevance of NISO standards to their work, and they have a point. Typically, a freelance indexer works with several publishers, each of which has its own style, which may conflict with or simply ignore the standard. An employed indexer also follows house style; unless he or she is in a managerial position, opportunities to introduce the idea of conformity with standards are likely to be limited.

Also typically, an indexer tends to assume that the publisher’s style is cast in concrete. Therefore, the missionary work had as much to do with assertiveness training as with standards. The assertiveness training comes in persuading freelance indexers in particular that they are—or can be—seen by the publisher as expert professionals whose advice merits attention. An indexer can use the standard as backup in negotiations with the publisher to improve the style; sometimes the most grievous gaps in a publisher’s style for indexes have nothing to do with a formal style sheet.

Indexers and NISO

Jessica Milstead

About a year ago, the new president of the American Society of Indexers, Nancy Mulvany, appointed me as ASI’s Voting Representative to NISO and herself as the alternate. She may have thought that anyone who would quarrel with her so fervently about the present ANSI standard for indexes must know something about standards—but also that serving as my alternate would help her keep me in check. I
but simply with the way they are in the habit of setting up pages.

Unfortunately, the freelance indexers who claim the index standard is not relevant to their work aren’t entirely wrong. The members of the subcommittee that prepared the standard were all representatives of large index publishers, and the standard reflects that bias. Most of its content is at least partially useful to indexers specializing in other material, especially back of the book indexes, but many of their concerns simply are not addressed. For example, one of the publishers’ “bibles” for indexing is the Chicago Manual of Style, yet the standard for indexes does not make it easy to translate between its recommendations and those of Chicago. (And remember—I chaired the subcommittee that wrote the standard.)

Do Standards Matter?

How important are standards to an indexer’s work? Of course, it depends on the standard. I do not try to convince ASI members that they should care about a standard for computerized serials claims, important though that standard is to libraries and similar organizations—and to the departments of index publishers that must assure that all the issues of every serial are available for timely indexing. On the other hand, indexers’ interests go far beyond the standard for indexes itself. For example, Bella Hass Weinberg, the chair of the committee that is developing the revised thesaurus standard, is Past President of ASI.

In the presentations on standards that I make to indexers, my list of relevant standards contains thirty-two items on information content of records, standard numbers and codes, electronic information interchange and romanization, as well as an assortment of miscellaneous topics. Any single indexer will never need to use all of these standards, but some indexer somewhere will need to use any one of them at some point. Many indexers today submit their work in electronic form; they need to use standard proofing symbols; they may need to include standard codes as access points in their indexes, and so on.

ASI and NISO

Just before I was appointed ASI’s representative to NISO, the question of what ASI was getting for its membership, and whether we should continue, was discussed in a meeting of the ASI Board. My overall goal is to assure that that question does not arise again for awhile!

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Have I made any progress in my missionary work? Perhaps a little, with some people. The ASI membership can no longer claim to be uninformed about standards; in every bimonthly issue of the organization’s newsletter they get a report on my votes as their representative. I plan to add to this a report on standards that have been finally accepted or published. In addition, they hear about progress on revision of the standard for indexes (glacial, thus far), and sometimes some motivational writing about how important standards are to their work.

ASI is also taking an active role in work on revision of the standard for indexes, and has had some input to the draft standard for thesauri. The situation is entirely different from what it was for the earlier standard for indexes. Members of ASI were involved in its development, but ASI as a society had little or no input. That is all different today, and both indexing and standards will be the better for the change.

Electronic Interchange Standards Report Available

The report on Electronic Interchange Standards that was distributed at the NISO/BISG conference on acquisitions standards is now available for purchase from the NISO office.

The 150-page report, prepared by Elaine Woods, presents a survey and comparison of the formats, structures and data elements specified by X12, ISO, UN/EDIFACT and NISO for electronic purchasing. It also includes formats being considered by the Book Industry Systems Advisory Council (BISAC), SISAC, and the MicroLIF protocol. Also included is a summary relating these formats to various communications techniques such as OSI, fax, mail, electronic mail, etc.

The cost is $25 for orders within the U.S., $40 for Canada and foreign orders. Only pre-paid orders will be accepted. Send orders to NISO, P.O. Box 1056, Bethesda, MD 20827.
TC 46 Meeting Week Report

Technical Committee 46 (TC 46) of the International Organization for Standardization (ISO) develops standards for libraries, archives, information agencies and documentation centers. It is NISO’s counterpart at the international level. During the week of May 14-18, 1990, four ISO TC 46 committees and ten separate working groups met in Paris to deliberate, develop and revise international standards for documentation, library services and publishing practices. The reports that follow summarize the deliberations of these committees.

Over the past eight years the program of TC 46 has increased substantially, measured by both the number of work items on the TC’s agenda and the involvement and interest of member bodies. Larger delegations of national experts attend the meetings and we are seeing increasingly active participation from the Soviet Union, the Peoples Republic of China, Japan and Korea.

The TC’s work falls into two broad areas: reviewing and maintaining the thirty-two standards now finalized, and developing and finalizing new standards. The TC’s work is distributed among six subcommittees and one permanent working group, which maintains the international standard for country codes (ISO 3166). The work of the subcommittees is assigned to ad hoc or permanent working groups. The U.S. participates in all the TC 46 Subcommittees except SC 2 (Conversion of written languages) and SC 3 (Terminology).

The 1990 meeting week was hosted by AFNOR, the French standardization organization. The AFNOR offices are located in the area of Paris known as “La Défense,” a contemporary complex of office, commercial and residential buildings shadowed by “La Grande Arche,” a breathtaking thirty-five story open cube. The Arche, startling in its simplicity and beauty, was, in the words of one delegate, “a constant reminder that our mission is to build standards for the future.”

Delegates from 18 countries attended the TC 46 meetings. In addition, there were observers from Yugoslavia and liaison organizations such as UNESCO, IFLA, FID and the ISDN Center.

The following reports cover the meetings of Subcommittee 9, SC 4 Working Group 1 and Working Group 7, Subcommittee 10 and the joint TC 46 / TC 37 Working Group on language codes. The U.S. delegation to the meeting included Sally McCallum, Patricia Harris, Carolyn Morrow, Margaret Morrison, Karen Smith-Yoshimura, John Byrum, Lenore Coral and Arnold Broido.

To obtain copies of any document noted in the reports contact the NISO office.

Meeting Summary

Six working documents to be registered as Committee Drafts (CDs), to be circulated for review or ballot by December 1990

- CD 999 Establishment of Indexes
- International standard music number
- Citations to electronic documents or parts thereof
- Extension of the Cyrillic coded character set for non-Slavic languages for bibliographic information interchange
- Arabic and extended Arabic coded character sets for bibliographic information interchange
- International phonetic character set for bibliographic information interchange

Eight items approved for registration and ballot as Draft International Standards (DIS)

- DIS 832 Bibliographic description and references—Rules for the abbreviation of typical bibliographic terms
- DIS 10324 International Holdings Statements
- DIS 10444 International Standard Technical Report Number (ISRN)
- DIS 10445 Preparation of manuscripts or computerscripts for publication
- DIS 10585 Extension of the Latin alphabet coded character set for bibliographic interchange
- DIS 10586 Georgian alphabet coded character set for bibliographic information interchange
- DIS 5426-2, Latin characters used in minor European languages and obsolete typography
- DIS 8459-3 Data Elements for Information Retrieval

One technical report to be balloted

- TR Bibliographic description and references—Abbreviations of typical bibliographic terms

Six new work items to be balloted:

- Revision of ISO 4 (Abbreviation of title words and titles of publications) Proposer: ISDN agency
- Standard for representation of numerical data on properties of substances and materials in scientific-technical documents. Proposer: USSR/GOST
- Holofiche headers. Proposer: USSR/GOST
TC 46 Meeting Reports

Subcommittee 9: Presentation, Identification and Description of Documents

Most of the weeks' meetings related to the work of SC 9. The following individual reports detail meetings of SC 9 ad hoc working groups on topics of particular interest to the NISO community.

SC 9 met in two plenary sessions to progress work being advanced by the working groups and discuss items recently balloted. In addition to the SC 9 work handled by ad hoc working groups, the following work items were discussed and acted on in the SC 9 plenary sessions. SC 9 will meet next in May, 1991, in Copenhagen.

International Standard Technical Report Number [ISRN] (DIS 10444): This proposed standard was balloted as a CD before the May meeting; a number of suggestions proposed in the balloting required discussion. The main points to be resolved included placement of the country code within the ISRN and whether the country code should be optional or mandatory. After discussion, the group decided that the country code should be an optional suffix to the ISRN. The proposed standard will be balloted as a DIS in 1990-91.

Revision of R30, Bibliographic Strip [BIBL-ID]: Nominations are being sought for a project leader, to be responsible for the revision of R30. If a project leader is not found, there will be a letter ballot to withdraw ISO R30.

Citations to Electronic Documents

The ad hoc working group developing an international standard for Citations to electronic documents or parts thereof met Monday, May 14, to discuss comments received on the working draft that had been circulated to TC 46 member bodies before the meeting. Comments centered on three issues: the definitions presented, particularly the term "electronic document"; lack of clarity in the proposed citation format; and the need for more varied examples to illustrate the application of the standard.

It was agreed that the definitions need additional review and that more definitions may be needed as the draft develops. In discussing the definition of electronic document, it was agreed to meld various ISO definitions. As a result the following definition emerged:

International Holdings Statements (DIS 10324): Voting on CD 10324 closed in June, 1990, with eight votes to approve (including the U.S.), two disapprovals (Canada and Germany) and one abstention (Poland). The proposed standard describes a holdings statement format at the summary level for both serial and non-serial publications. Key issues discussed in resolving comments included the use of commas as punctuation to indicate holdings gaps and a method to indicate missing issues within a volume. SC 9 members decided that the comma should be the recommended punctuation; incomplete volumes should not be indicated at the summary level. A method for indicating missing issues will be addressed if, later, this standard is expanded to the detailed level. The project leader, Sally McCallum, will revise the text in accordance with SC 9's decisions; the revised text will be balloted as a DIS in 1990-91.

New Work Items: Several New Work Items were introduced, to be balloted for inclusion in the SC 9 program of work in 1990-91. The ISDS has prepared a draft revision of ISO 4, Rules for the Abbreviation of Title Words and Titles of Publications, for consideration by SC 9. In addition, the USSR/GOST presented five new topics for consideration (see summary, page 12). The NWI to create a standard for "Holofiche headers" captured the interest of a number of delegates unfamiliar with holofiche technology. Holofiche, commonly used in the USSR, is microfiche carrying document images recorded by the Fourier method. Unlike microfiche, a holofiche image cannot be damaged or removed mechanically. A single holofiche can represent 2,400 document pages, as compared to 208 pages on a standard microfiche.
Electronic document—document existing in an electronic form to be accessed by data processing facilities.

To clarify the citation format, additional optional elements for dates and language will be included. An optional medium designator will also be incorporated into the format, so that users of the citation will know without a doubt if the source is an online file, a CD-ROM or an interoffice memorandum, for example. A list of suggested designators is being created and additional examples will be included in the next draft of the document.

It is expected that the revised draft will be registered as a CD by September 1990 and reviewed by the TC 46 member bodies before the group’s May 1991 meetings. U.S. representative: Margaret Morrison.

Abbreviations of Typical Words (DIS 832)

Balloting on ISO DIS 832 ended in late October 1989. Of twenty-four responses, twenty member bodies approved and four (including the U.S.) disapproved. An ad hoc working group met in Paris on May 15 to resolve the problems.

Several comments pointed out inconsistencies among the abbreviations in DIS 832 and between the DIS 832 abbreviation and the abbreviations used in ISO 4 (Rules for the Abbreviation of Title Words and Titles of Publications). As ISO 4 outlines rules for the abbreviation of title words only, it was felt that there would not be too much conflict. To clarify the differences, the scope statement of DIS 832 will be reworded.

The ad hoc group also agreed to omit “non-bibliographic” words such as mister, junior and department, also units of measure, which are already covered in other ISO standards.

The major inconsistencies noted in the ballots arise from differing national practices and are consequently resistant to change. Different cataloging codes for example, prescribe different abbreviations. Because of the complexity of this issue the ad hoc group agreed to divide DIS 832 into two parts: a standard presenting the rules for abbreviation and a technical report containing a list of abbreviations.

It was agreed that the Lenin State Library will remain as the agency responsible for maintaining the lists of abbreviations in the proposed technical report. The revised DIS 832 will be circulated for a two-month ballot in 1990. U.S. representative: Margaret Morrison.

Preparation of Manuscripts or Computerscripts for Publication (CD 10445)

Voting on CD 10445 ended in March 1990. Three member bodies voted to approve the CD, eight member bodies (including the U.S.) recommended approval with comments and two voters (Belgium and France) recommended disapproval.

As a result of the working group’s deliberations the title of the standard was changed to Preparation of Manuscripts or Computerscripts for Publication. Editorial changes were agreed to as well as a number of additional references to other ISO standards.

The group was fortunate to have present a liaison from ISO/IEC JTC 1 Subcommittee 18, Mr. James Mason (Mason also serves as the Society for Technical Communication’s Voting Representative to NISO). Mason was helpful in clarifying several issues relating to ISO 8829 (SGML) and ISO 8613.

The revised draft will be registered as a Committee Draft and distributed for ballot in 1990. U.S. representative: Margaret Morrison.

International Standard Music Number (SC 9/WI 126)

Participating in the meeting were twenty delegates from eight member bodies and the International Association of Music Librarians. The purpose of the Paris meeting was to define the universe of music materials to be numbered by the proposed numbering system and to further define the components of the proposed number.

After some discussion, it was agreed that the number would consist of ten characters: an M in the first position (to clearly differentiate the number from the ISBN), 8 digits divided between a variable-length publisher identifier and an item number, and a 10th check digit based on Modulus 11.

Some discussion centered on whether the music number should be assigned by the publisher or the copyright holder. This issue was settled amicably in favor of the publisher. The working group recommended that the International ISBN Agency be approached to serve as the international registration authority and that regional or national agencies be established for the administration of the system on the local level. It is expected that a first Committee Draft (CD) will be distributed for comment and ballot in June 1990. U.S. representative reporting: Lenore Coral.
Subcommittee 4 Working Group 1: Character Sets

The meeting of WG 1 held on May 14, 1990 was well attended and highly productive. Eighteen persons representing eight national bodies attended. The group recommended that three CD’s be advanced to the DIS stage (Armenian character set, Georgian, and Latin characters used in minor European languages and obsolete typography).

Two working drafts are expected to be registered as CD’s before the close of 1990: Arabic and extended Arabic coded character sets, and a phonetic character set.

The WG’s most spirited discussion centered on the 2nd DP 10646 (Multiple Octet character set) developed by ISO/IEC JTC 1/SC 2, which is to be progressed to the DIS stage. The second DP was balloted in late 1989. TC 46/SC 4 had submitted lengthy comments. Among the items at issue are the removal of floating diacritics and the standard’s support for redundant encoding of common characters used in East Asian countries, as specified in the respective national standards. As a result of the WG 1 discussions, it was recommended to the TC 46 Advisory Group that TC 46 request that the ISO Central Secretariat convene a high-level meeting of JTC 1, TC 46, and other application-oriented technical committees of ISO before DP 10646 is progressed. Next meeting: May 1991. U.S. representatives: Karen Smith-Yoshimura, Sally McCallum.

Subcommittee 4 Working Group 7: Data Elements

TC 46/SC 4/WG 7, the Working Group responsible for data element dictionaries, met for two days during the ISO TC 46 meeting week. The meeting was well attended, with representatives from Germany, China, France, Italy, Japan, Denmark, the USSR, Canada, UK, Yugoslavia and the U.S. Two major items dominated the agenda: review of comments on the draft proposal ballot for DP 8459, Part 3 (the data dictionary for information retrieval applications) and efforts within ISO to coordinate the data element work being carried out in various ISO and ISO/IEC Technical Committees.

The first two parts of ISO 8459, Bibliographic Data Element Directory, covered interlibrary loan applications and acquisitions applications. The ballot on Part 3 resulted in no disapprovals, but five approval ballots contained comments that had to be evaluated against the draft standard. All were success-
Swedish paper scientist Per Olof Bethge, attended the Paris meeting to report on progress. The current ISO draft is closely aligned to the draft revision of ANSI/NISO Z39.48, Permanence of Paper for Publications and Documents in Libraries and Archives. Both standards will specify minimum strength as measured by tear resistance or tear index, minimum content of alkaline reserve, maximum content of easily-oxidized material (lignin) as measured by Kappa number, and a maximum and minimum pH value measured by cold extraction. Actual values for these measures are still under discussion. Also still to be resolved in the ISO draft is whether to include the requirement for an accelerated aging test. The U.S. standard will not include this test. WG 1 will decide on inclusion of accelerated aging following parallel testing of twenty different papers, performed in paper laboratories in eight different countries. The work is expected to be completed by Fall 1990. WG 1 will meet again in London in November, 1990. A third draft is expected in January 1991.

The Secretariat of SC 10 distributed a revised document N29, Strategy for the Future Work of ISO/TC 46/SC 10. This document was discussed at length at the Paris meeting and includes a list of possible new work items. Discussion centered on developing consensus as to which topics are most urgent. The top two choices now are environmental standards for storage of documents and requirements for binding.

Although no new working groups were established in Paris, three proposals for new work items will be balloted in the coming year:

- Durable (archival) paper. Proposer: Denmark.
- Requirements for storage of documents. Proposer: USSR.

No formal work item for binding was proposed, but delegates from Denmark and the U.S. will discuss the content of such a standard and may submit a formal proposal this fall.

The liaison from TC 171 (Micrographics and Optical Memories for Document and Image Recording, Storage and Use) informed the group that their charge had been expanded to include optical memory. New work items include quality control for scanning office documents and microfilm; development of test cards; input of documents for electronic imaging; and legal acceptance of optical memory. In addition, WG 3 (convened by Suzanne Dodson, Canada) will circulate a draft document on the permanence of the optical image for comment in Fall, 1990. The working draft is based on a French proposal.

The SC passed a resolution to establish a new liaison with TC 130, Graphic Technology. SC 10 will meet in Copenhagen during the last week of May, 1991. U.S. Representative: Carolyn Clark Morrow.

This report was prepared by Pat Harris based on reports provided by the U.S. representatives to SCs and Working Groups, as named after each section.

### Abstracting & Indexing: Where Have All The Standards Gone?

*Lois Granick*

This is an excerpt from Lois Granick's Miles Conrad Memorial Lecture, "Laying the Foundation for an Informed Society: A Critical Role for the Secondary Information Sources," delivered at the 32nd annual meeting of the National Federation of Abstracting and Indexing Services (NFAIS) in Philadelphia. The complete text appears in the NFAIS Newsletter, vol. 32, no. 4 (April 1990). Copyright © 1990 by the National Federation of Abstracting and Indexing Services; reprinted by permission. Headings added for this publication.

### Information, Organization and Cooperation

Whatever specific information the informed society of the future will need to access, it will undoubtedly need to be organized—classified, indexed, and much of it probably abstracted. Abstracting and Indexing organizations have been performing the organizing functions for over a century, learning and improving all the time. As new organizing principles are introduced, I am confident that secondary services will incorporate them and continue to lead the way. When each organization works alone, striving to improve its service to the discipline whose knowledge base it nurtures and responding to the needs of that discipline and its members, I believe that we deserve to be a model for future information collections.

However when interorganizational cooperation and joint effort are needed, we have little to offer by way of example. The ASIS 2000 report speaks at some length about the need for new classification schemes that are at once more flexible and more generic—classification schemes that provide improved means for accessing sec-
ondary sources. Who, among the secondary sources, is even thinking of these matters? Will others who perceive the need generate these classification schemes? I fear so. Where we have failed is in acting collectively, and in spite of the efforts of organizations like NFAIS, we have not developed habits of cooperative effort nor commitments to long term goals that transcend our single services. Without collective effort, it is difficult to imagine how to even begin to frame a plan for achieving the informed society.

Missed Opportunities

There have been many opportunities for the Abstracting and Indexing community to work jointly and cooperatively and I know we have done so, occasionally. We have also failed to respond to available opportunities and have begun, then failed to follow through on others. Perhaps it is this history that inhibits the long-range thinkers from assigning us an active role in future developments. The one very specific mention in the ASIS 2000 report (Williams, 1989) comes across as a negative one. In the section on Computer Science and Engineering, under the subheading of Bibliographic Retrieval, the paragraph reads as follows: “There will continue to be a need to standardize the bibliographic citations and provide them online in a consistent, upper/lower case canonic format.” It sounds a bit weary; it’s been said before, many times. No one seems to expect any more result this time than in any of the previous repetitions.

I believe this is a very serious error of omission on the part of the A&I community, one that has handicapped each of our individual services, delayed and increased the costs of progress in assuring access to information and is responsible for the lack of a secure foundation beneath our present information infrastructure.

Duplication and Idiosyncrasy

Verner Clapp, in 1950, characterized the international bibliographic publishing scene since the 1930’s as having no interrelation and no coordination among the services. Instead, he saw duplication, overlapping, gaps and uncontrolled duplication of evidence. Marianne Cooper, writing in 1982, found that the new technologies of the 70’s had made no change in these areas.

Mel Day, in his 1975 Miles Conrad lecture from this platform, while urging the sharing of resources in A&I, noted that steps were begin-
ity in the face of a steadily increasing growth in the amount of material to be reported, this area must be one of the first to be given a close look.)

As long as the user of our information can know with confidence that such duplicates as exist in the retrieved set can be easily located and dealt with, the harm, if such it is, is minimal. But can that user easily identify duplicate references? Possibly, even probably, since the online vendors are once again, in order to satisfy users of our information, bringing another level of standardization to the unchanged and unaltered babble of formats, punctuation, spellings, abbreviations and representations in our databases by generating specialized software to identify duplicates. I don't think that was the best answer the first time and I don't think it is today.

Failing to Standardize: The Consequences

I believe that the secondary service community has failed to participate in the electronic dissemination of its products, continues to refuse to do so, and has significantly reduced its potential to influence its own future development, as well as the structured growth of information handling in general. We may even be in danger of being considered so unable or unwilling to change as to be irrelevant to future developments, even in our own field of abstracting and indexing. The facts are that any new media, or existing media that a particular database is not presently employing, is helpless to deal with our information without a significant investment in software—software to convert our hodgepodge to something computers can work with. We do not even adhere to the most common of practices, long established and codified in national and international standards, of punctuation in common fields, such as author names, source journal names, volume, issue and page number.

It is not rare for the relatively straightforward addition of a single new data field to require software changes to the database load program, the retrieval software, the display and even the accounting software, as well as a full reload of the archival file. All that for each of the vendor systems involved with that database. Is this efficient? Does this make economic sense? Of course not.

Twenty years ago the A&I community understood that moving their products from print media to computers required some action on their part. We worked in standards groups and participated in the finalization of ISO 2709 in 1973. Some of us went further and represented our colleagues when NFAIS, ASIDIC, EUSIDIC and ICSU-AB cooperated in reviewing and substantially revising the UNISIST-sponsored Reference Manual for the exchange of machine-readable bibliographic data on magnetic tape. That task was completed in 1976. Since then, nothing. If any service uses one of these standards, they don't mention it and the vendors report that if they had over a hundred "independent" databases in 1980, they now have thousands. They don't see any standardization except that which they, themselves, must impose.

While it is clear that the vendor-imposed standardization expedited the establishment and growth of the online industry, it may ultimately prove to be less of a benefit for either the vendor or the database producer than was originally thought. The present situation is unbalanced in both the allocation of costs and the responsibility for the delivered product and is unlikely to survive as an effective model for the information age.

The Way It Wasn't

Let's return to 1973 for a moment. Imagine that the then-existing secondary services had agreed to implement a standard format and representation for their data. The organizations that conceived the vision and generated the reality of online access to information now approach a hopeful publisher. "Put your information into the standard format and then we'll negotiate," says the vendor. (It would also be reasonable for the vendor to propose a price for that one-time piece of conversion software.) The publisher would have been forced to understand the difference between "machine readable" and "computer processable." The resulting database would have author names recorded both in signature form and index form, or the segments of the name identified so that the computer could accurately generate either form when needed; would have a distinction at the field or subfield level between volume number, issue number, and title of the journal, rather than one long text string that grouped them all together; would have forced a decision, for instance, about which standard for the abbreviation of country names would be used. It would not have permitted ad hoc punctuation in the data elements critical for identification of the source material, or if it did, the vendor
could have reasonably charged a penalty price for correction software. Then, with the new entry into the online family prepared in the standard format, the vendor could concentrate on the software enhancements to store, retrieve and present that unique information. The online industry would have gotten off to a faster start, on a more secure financial footing, and with relationships and responsibilities between the players clearer and cleaner.

A standard makes provision for all known or reasonably imagined permutations of the thing being standardized. Thus in the case of bibliographic information for A&I service use, new requirements for any particular database will probably have been included in the standard, even if not previously employed by that database. A regular occurrence in our business is the addition of new and user-valued enhancements. These may include adding abstracts to a citation collection, beginning to collect and record previously uncollected data, such as current author address, research funding or sponsoring organization name, a new or revised classification scheme, a translator’s name—anything the specific discipline, users, or A&I service feels would add value to the database that wasn’t there before.

Whatever the desired enhancement, with a standard interchange record format and conventions for data representation, the database producer need only consider the costs to collect and record the new information. The online vendor need only consider the costs to activate software options already implemented in its overall system. Should a new dissemination outlet or a new media application emerge those who enter the business of applying it will have incorporated into the application design an implementation of the standard format.

The Way It Is

Consider now the actual situation in 1990. Every database producer employs a unique and individualized record format and scheme for representing the information. Each new enhancement desired by the database’s producer and users is likely to generate several different implementations, depending on the number of online vendor systems that distribute it; and costs, negotiated by the producer and vendor, can be extremely high for one or both parties. It is not rare for the relatively straightforward addition of a single new data field to require software changes to the database load program, the retrieval software, the display and even the accounting software, as well as a full reload of the archival file. All that for each of the vendor systems involved with that database. Is this efficient? Does this make economic sense? Of course not. The economic burden is frequently borne by the vendor, but ultimately the user. The lack of an agreed upon format and conventions for representation of data elements has increased the economic burden for the natural process of growth and change and skewed it to rest on others than those whose decision it must be to continue to grow and change. This state of affairs can not serve as a secure foundation for the even greater growth in available information and the increasingly sophisticated retrieval systems and access methods that must develop on the way to an informed society.

Taking Responsibility

We have no one but ourselves to blame. It is pointless to carp at those who have tried to make up for our delinquency in this area. No, they’re probably not doing the job the way we want it done, the way that is best for us. Yes, the costs are painfully high and we are the big losers. For instance, we are unable to effectively deal with interdisciplinary research now, and unless we can build bridges between those disciplines’ knowledge bases soon, the projected increase in such research will overwhelm us with further duplication costs. Additionally, new media applications are being hampered, opportunities for mission focused, multi-disciplinary collections and products are being delayed or shelved until the federal government’s deep pockets can be tapped, and soon-to-be-united Europe is gearing to increase the competitive pressure.

The responsibility has always been ours and today’s database producers must rectify the past omission and work together to define the optimum standard for interchange of their data. NFAIS is the appropriate body to encourage and lead this activity, publicize it, and point out both the value of participation and the costs of nonparticipation. The cooperation of all the affected organizations is itself the most desirable model for dealing with the obstacles to achievement of the informed society goal.
1990 Balloting and Review Calendar

Things happen; the road to NISO ballots is not always a smooth one. This calendar updates the calendar published in ISQ v. 2, no. 2.

June
No standards will be circulated in June.

July

September
Z39.7: Library Statistics. (Revision of Z39.7-1983.)
Z39.58: Common Command Language for Online Interactive Information Retrieval. (New draft.)

October

November
Z39.66: Durable Hard-Cover Binding for Books. (New draft.)

Standards Development Committee

NISO's Standards Development Committee is hard at work creating a Master Technical Plan that will lay out directions for NISO standards activities over the next two years. Committee members are considering specific areas for development as well as overall improvements for the standards-making process. The Plan will be presented to the NISO membership at the annual meeting in September; after any revision needed as a result of member comments, it will be presented to the Board of Directors.

The SDC welcomes suggestions from the membership concerning new standards efforts, standards that should be revised or have outlived their usefulness, and methods for streamlining the process of creating and revising standards. It is important to maintain a balance between efficient management of subcommittee work and gathering and considering opinions and expertise from all affected constituencies.

Other matters that occupy SDC time and energy are the ongoing monitoring of standards subcommittee work and tracking standards activity in other organizations. The SDC particularly needs expertise in the areas of electronic publishing and abstracting and indexing; volunteers are urged to submit a letter of interest and a resume to Pat Harris.—Kathleen Bales, Chair, NISO SDC

Editor's Notebook

Walt Crawford

Spreading the Word

Many more than ten thousand libraries benefit from Z39.2 and the USMARC formats that are based on it. Almost every publisher, book jobber, bookstore and library benefits to some extent from Z39.21 and Z39.9, ISBN and ISSN respectively. Those are the most obvious examples of the ways that NISO affects libraries, publishers and related agencies; there are many others.

Near the end of his article in ISQ v. 1, no. 4, Jim Michael commented that “Not all libraries subscribe to Information Standards Quarterly—and they need to.” The same could be said for publishers, and certainly for agencies serving the library and publishing fields. That’s a dream; the resulting subscription base would be more than fifty thousand copies.

A more modest goal might be ten percent penetration: that is, at least the largest ten percent of American libraries, publishers and related agencies should subscribe to Information Standards Quarterly. For library automation vendors, of course, the figure should be one hundred percent: I don’t think a vendor can be considered serious about the field if it isn’t a voting member of NISO, and a subscription to ISQ is a modest start toward that goal.

We’re not there yet, on either count. Of library automation, CD-ROM and related vendors, more than a dozen are NISO Voting Members, including CARL, CLSI, DRA, Dynix, Ebsco, Faxon, Gaylord, OCLC, RLG, Unisys,
Utlas, VTLS and H.W. Wilson. But if you’re a customer of one of the dozen or more vendors that aren’t on the list, you should ask them why they don’t support standardization actively, with NISO Voting Memberships.

Every college and university library should maintain at least one subscription to Information Standards Quarterly, as should every public library of any size. So should many special libraries. Ask about it at the libraries you use; urge them to consider a subscription. Larger libraries need at least two subscriptions, one for staff information and one for patron use. More people need to be more aware of NISO and its standards. Subscriptions to ISQ are one good way to start.

Incidentally, for large organizations who need to spread the word and for vendors who might like to follow DRA’s lead in keeping their customers informed, NISO offers steep discounts on bulk subscriptions to ISQ, that is, ten or more copies sent to a single address. Contact the NISO office for details.

Getting the Word

What’s happening out there? ISQ readers should be able to rely on this publication to let them know—not only the milestones in standards activity (balloting, etc.) but also the triumphs and tribulations of standards development and implementation.

Two standards committee submitted reports for this issue. None of the others did, although (as usual) the chairs all received letters reminding them of the deadline and of this issue’s annual focus on standards development. I know that standards development is difficult and sometimes frustrating—which is all the more reason to keep ISQ readers informed about the process. This is an open plea: let us know what’s going on! If you’re not up to preparing a polished report, send me rough notes—even copies of SC minutes, with slashes through the sections that you don’t feel should be publicized. I’m perfectly willing to turn notes or minutes into articles, but I can’t make reports out of nothing.

Mark Hinnebusch has been working with other Z39.50 implementers to make sense of the process; he set up a Bitnet LISTSERV to keep the process going between occasional group meetings. When I asked him for a few comments on his work, he prepared the excellent article that begins this issue. There’s some hot stuff going out over the LISTSERV; I hope to see future updates, both formal and informal.

What are you doing in terms of standards implementation that others might find interesting? Have you decided not to use a NISO standard for reasons that bear consideration? This issue includes the first—and so far, the only—response to my request to hear from NISO members interested in writing about their experience with standards. My thanks to Jessica Milstead and the American Society of Indexers; who else will volunteer?

What’s the Good Word?

Let’s say it’s late 1991. We have a circulation of five thousand, building toward ten thousand. Standards developers turn in regular updates, maintaining a lively flow of information about the development and revision process. Implementers and members keep us all informed and aware that standards are controversial, interesting (sometimes) and worthwhile.

Now: what else do you want to see in ISQ? Where would you like to see more or less emphasis? What standards-related areas need greater coverage? Should ISQ include formal articles (possibly refereed) and, if so, who will volunteer to serve on an editorial board? What do you like and dislike about the format, style and content of ISQ?

Information Standards Quarterly is the publication of record for NISO. It will always include up-to-date information on standards status and activity and on events within the organization: it will always serve the “newsletter” functions, if you will. But ISQ already includes more than that. Newsletter doesn’t appear in the title, intentionally. NISO does not have two distinct periodicals with sharply delimited functions; ISQ, as the only periodical, can become whatever the organization wants, needs and can support.

The questions above are not rhetorical. The vision of late 1991 may be a dream, but ISQ is growing (in content and in circulation) and, to some extent, constantly being reinvented. Your insights and opinions about its future will help us plan for that future. Let me know what you think, either directly or through the NISO office. As always, the address, fax and Bitnet address are on page 2, in the small-type masthead.
# Standards Status: June 1, 1990

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Standards Activity

These notes summarize the status of all standards committees as of June 1, 1990. Note that a new category has been added, "Standards Activity Suspended." This is labeled Suspended in Standards Status.

Standards Being Balloted

- **Z39.5-1985**: Abbreviations of Titles of Publications. This standard is being balloted for reaffirmation. The balloting period is April 2-July 2, 1990.

  **Partial Results as of May 28, 1990:**
  - 17 Yes
  - 1 No (ASI)
  - 2 Abstain


  **Partial Results as of May 28, 1990:**
  - 17 Yes
  - 0 No
  - 3 Abstain

- **Z39.47-1985**: Extended Latin Alphabet Coded Character Set for Bibliographic Use (ANSEL). This standard is being balloted for reaffirmation. The balloting period is April 2-July 2, 1990.

  **Partial Results as of May 28, 1990:**
  - 17 Yes
  - 0 No
  - 3 Abstain

- **Z39.49-1985**: Computerized Book Ordering. This standard is being balloted for reaffirmation. The balloting period is April 2-July 2, 1990.

  **Partial Results as of May 28, 1990:**
  - 11 Yes
  - 1 Yes with comments (CLSL)
  - 0 No
  - 4 Abstain

- **Z39.56-199x**: Serial Item Identifier. This proposed new standard is being balloted May 1-August 1, 1990. More information on this standard appears on page 26.

  **Partial Results as of May 28, 1990:**
  - 4 Yes
  - 0 No
  - 3 Abstain

Standards Recently Balloted

- **Z39.2-1985**: Bibliographic Information Interchange. This standard was balloted for reaffirmation March 1-June 1, 1990. The standard will be revised.

  **Partial Results as of June 1, 1990:**
  - 23 Yes
  - 3 Yes with comments (Engineering Information, ACS, LC)
  - 2 No (DRA, STC)
  - 5 Abstain

- **Z39.16-1979 (R1985)**: Preparation of Scientific Papers for Written or Oral Presentation. This standard was balloted for reaffirmation March 1-June 1, 1990. The Standards Development Committee will review ballot results.

  **Partial Results as of May 28, 1990:**
  - 18 Yes
  - 5 Yes with comments (AJL, ACS, ASI, Gaylord, NLM)
  - 1 No (ARL)
  - 4 Abstain

- **Z39.27-1984**: Structure for the Representation of Names of Countries... This standard was balloted for withdrawal January 29-April 30, 1990. A default ballot will be issued in August, 1990.

  **Partial Vote as of May 28, 1990:**
  - 41 Yes
  - 3 Yes with comments (AJL; Council Biology Ed., U.S. DOE)
  - 1 No (NIST)
  - 1 Abstain

- **Z39.62-199x**: Eye-Legible Information in Microfilm Leaders, etc. This standard was balloted December 1, 1989-March 31, 1990. Ballots and comments have been referred back to the SC for review and resolution.

  **Final Vote:**
  - 37 Yes
  - 5 Yes with comments (AAP, AIIM, AAUP, LC, Music LA)
  - 4 No (AJL, ASI, NLM, RLG)
  - 1 Abstain

Standard Circulated for Comment

- **Z39.19-199x**: Guidelines for Thesaurus Construction, Structure and Use. This draft revision was circulated January 29-April 30, 1990. As of May 28, 1990, 36 comments had been received. See page 25 for notes on this revision.
Work Item Recently Balloted

SC XX: Abbreviations of Captions for Holdings Statements. Balloting to establish this Standards Committee took place January 29-March 1, 1990. The committee is now being formed.

Final Vote:
36 Yes
1 Yes with comments (AIL)
2 No (ASIDIC, NFAIS)
3 Abstain

Standards Approved

Z39.23: Standard Technical Report Number (STRN). All comments and negative votes have been resolved, and the ANSI Board of Standards Review (BSR) has approved the standard. Z39.23 will be published in 1990-91.

Z39.41-199x: Printed Information on Spines. All negative votes on this standard have been resolved. It has been forwarded to ANSI BSR and will be published in 1991.

Standards Being Revised


Z39.7: Library Statistics. This revision of Z39.7-1983 will be circulated for comment beginning September 1, 1990.


Z39.29: Bibliographic References. This committee met most recently in June 1990, and expects to circulate a draft revision for comment in early 1991. See page 26 for notes on this revision.


Z39.35: Romanization of Lao, Khmer and Pali. No recent activity reported. Last ISQ report: v. 1, no. 2.


Z39.48: Permanence of Paper. SC II has been very active; the new standard should go out for balloting in October, 1990, if the results of additional paper testing are received in time. Reports on this effort appeared in each of the last four issues of ISQ.

Z39.58: Common Command Language. The SC hopes that the last remaining changes can be balloted beginning in September 1990.

Z85.1: Permanent and Durable Library Catalog Cards. This revision is scheduled to go out for balloting in October, 1990.

Note: Previous issues have included continuing work on new standards under this heading, following initial balloting. These reports will now appear under Standards Development.

Standards To Be Revised

Z39.4: Basic Criteria for Indexes. As reported in ISQ v. 1, no. 4, the January 2-March 31, 1989 reaffirmation vote resulted in six no votes (ASI, NFAIS, AJL, ASIDIC, DOE-OSTI, ACS) and six yes with comments (Univ. of Pitt., Music LA, Amer. Psych. Assoc., LC, RLG, STC). The committee to revise this standard is being formed; see page 10 for related comments.

Z39.10: Directories of Libraries and Information Centers. As reported in ISQ v. 2, no. 1, the results of the June 1-August 31, 1989 balloting (which resulted in two no votes [AJL, Medical LA] and ten yes with comments [AAP, ACS, Council of Biology Editors, DRA, Faxon, Music LA, NFAIS, NLM,
OCLC, Ohionet] were to be reviewed by the Standards Development Committee.

⇒ Z39.13: Advertising of Books. As reported in ISQ v. 1, no. 3, the reaffirmation ballot (February 1-April 28, 1989) resulted in three no votes (AJL, AAP, OCLC) and three yes with comments (RLG, ASIS, LC). No recent activity reported.

⇒ Z39.31: Format for Scientific and Technical Translations. As reported in ISQ v. 1, no. 3, the April 1-June 30, 1988 ballot resulted in one no vote (AJL) and five yes with comments (OCLC, SLA, ACS, ASIS, AT&T). No recent activity reported.

⇒ Z39.45: Claims for Missing Issues of Serials. As reported in ISQ v. 1, no. 3, the May 1-July 31, 1988 ballot resulted in two no votes (AAP, RLG) and six yes with comments (U. Pitt., NLM, LC, AJL, NFAIS, Faxon). No recent activity reported.

⇒ Z39.46: Patent Documents—Identification of Bibliographic Data. As reported in ISQ v. 1, no. 3, the May 1-July 31, 1988 ballot resulted in one no vote (ASIDIC) and two yes with comments (U.S. DOE-OSTI, SLA). No recent activity reported.

Standards Development


⇒ Z39.66: Durable Hard-Cover Binding for Books. As reported in ISQ v. 2, no. 1, the September 1-November 30, 1989 ballot for this new standard resulted in two no votes (NLM, RLG) and six yes with comments (AJL, BMI, DRA, Music LA, NFAIS, U. Pitt.) A new draft is scheduled to go out for balloting in September, 1990.

⇒ Z39.67: Computer Software Description. This draft standard will be circulated for ballot in August, 1990. See page 26 for a report on this development activity.

⇒ Z39.68: Related Standards for CD-ROM and Other Optical Media. This draft standard will be circulated for comment in 1991.

⇒ SC LL: Exchange of Circulation Systems Data. See page 27 for a report on this activity.

⇒ SC QQ: Physical Preparation of Theses and Dissertations in Printed Form for Long-term Retention by Libraries and Archives. No recent activity reported.

Standards Committee Formation

⇒ SC MM: Environmental Conditions for the Exhibition of Library and Archival Materials. As reported in ISQ v. 2, no. 2, Cathy Henderson (Harry Ransom Humanities Research Center) will chair this committee. The committee will begin work this year.

⇒ SC RR: Adhesives Used to Affix Labels to Library Materials. This committee is being formed.

⇒ SC SS: Information to be Included in Ads [etc.] for Products Used for the Storage, Binding or Repair of Library Materials. This committee is being formed.

Standards Activity Suspended

⇒ Z39.55: Computerized Serials Orders, Claims, Cancellations and Acknowledgments. In light of recent developments relating to Electronic Data Interchange (EDI) and ASC X12, development of this standard has been discontinued. See the NISO Board Report on page 2.

Thesaurus Construction

The official deadline for submission of comments on the revision of Z39.19 was April 30, 1990, but NISO granted its usual grace period of one month. The comment forms are mailed to NISO headquarters, but some reviewers have sent courtesy copies to the chair of the committee.

As mentioned in the last report (ISQ vol. 2 no. 2, p. 13), reviews have been very favorable, but almost all reviewers have suggested at least twenty changes—mainly of an editorial nature—to the text of the 113-page draft standard. At last report, some fifty comment forms had been received at NISO headquarters. Multiplying that number by twenty, the committee may have to review 1,000 proposed amendments to the standard.

Given that comments will only be mailed to the committee members at the beginning of June, the consensus was that we would not be prepared for a meeting in mid-June, as had originally been proposed. The new dates that seem acceptable to all are Sunday and Monday, July 29-30, 1990.
Serial Issue and Contribution Identifier

Proposed standard ANSI/NISO Z39.56-199x, Serial Issue and Contribution Identifier, is being balloted through August 1, 1990. The standard defines requirements for a variable-length code that provides a unique identification of serial issues and individual contributions within issues. The standard should serve all members of the bibliographic community who use or manage serials.

We feel we have now satisfied the charge to our committee by providing a means for uniquely identifying the component parts of serials in a form useful in the recording, communication and storage of information about them.

According to Frederick Schwartz (Faxon), chair of SC CC (which is developing this standard), “In the years since NISO began work on this standard, the practical relevance of a unique serial issue and contribution identifier code has increased. We feel we have now satisfied the charge to our committee by providing a means for uniquely identifying the component parts of serials in a form useful in the recording, communication and storage of information about them.”

Contributors to the development of Z39.56 include Wendy Riedel and Julia Blixrud (Library of Congress), Brett Butler (In-Four), Ron Gardner (OCLC), Syd Jones (Utlas), Diane McCutcheon (National Library of Medicine), Scott McFarland (R.R. Bowker), Kris Nordlie (CLSI), Sandra Paul (SKP Associates), Minne C. Saxe (Graduate School and University Center of New York), John Tagler (Elsevier), Louis Ventola (Constron Information Services), Richard Willes (Microplotter), James Wood, and George Wright, IV (PIPS, Inc.).

Computer Software Description

Standards Committee FF met on April 29 and 30, 1990 to consider comments received on the draft standard Z39.67-199x, Computer Software Description.

The SC worked very successfully; Chair Edward Swanson believes that all comments...
have been accounted for and has issued a new
draft to the subcommittee for review. He is con-
fident that the new draft can go to the NISO
membership this summer.

Exchange of Circulation
Systems Data

Standards Committee LL met in Cambridge,
Massachusetts in February, 1990, to review the
patron communications format and make final
revisions to the content of the standard and to
the mapping of existing vendors’ patron re-
cords into the proposed format. After that
meeting, the draft was updated and distribu-
ted to the vendors that had participated in the
sample mapping for their comments. These
comments will be reviewed and the standard
will be made ready for balloting.

SC LL will meet on the morning of June
23, 1990 during the ALA Annual Conference in
Chicago. The committee will work on the draft
of the interactive transaction communications
format during that meeting and will begin
work on the batch circulation format. The
chair will review the committee’s work during
the AVIAC luncheon on June 25.—Deborah K.
Conrad.

News and Events

Notes on meetings, non-NISO standards and other
items that may be of interest to ISQ readers.

Standardization in the 90s:
Success in a Global Market

This year’s ANSI Public Conference featured
speakers from Europe and the U.S. discussing
how U.S. industry can effectively respond to
and benefit from developments in the
European community. Speakers included Gor-
don Gaddes (President, CENELEC), John Far-
nell (Chief of standards and certification,
European Commission), Michael Farren (Un-
der Secretary of Commerce for International
Trade, U.S. Dept. of Commerce) and C. Thomas
Castino (Chief Operating Officer, Underwrit-
ers Laboratories).

The Honorable John A. Betti (Under Sec-
retary of Defense for Acquisition, U.S. Dept. of
Defense) presented a DOD perspective on the
department’s need and ability to use and adopt
international standards and DOD’s willing-
ness to have its personnel actively participate in
ANSI, ISO and the IEC.

ANSI Global Standardization
News

The second volume of this series, now availa-
ble from ANSI, includes information on getting ready for EC’92; a description of the stan-
dards development liaison among CEN/CENELEC, ISO and the IEC; a draft pro-
cedure for forwarding U.S. comments on
CEN/CENELEC projects; and study reports
including allegations of CEN/CENELEC dup-
ilication of ISO/IEC standardization efforts.

Information Processing: ASC X3

Two items of particular interest from Ac-
ccredited Standards Committee X3, Information
Processing Systems:

- The Convergence of Open Systems Interconnection
  and Data Management Standards, Proceedings of the
  Second Joint Meeting is now available for $15
  (single copies; $10 each for five or more). Sixty-
  seven participants met January 22-23, 1990, in
  Orlando, Florida to begin meaningful discussion
  among OSI and DM standards developers, inves-
tigate interoperability issues and determine how
database systems can take advantage of OSI fea-
tures. For copies of the report, send check or
money order (payable to X3) to Barbara Bennett,
X3 Secretariat—CBEMA, 311 First St., N.W.—
Suite 500, Washington, DC 20001.

- Public review and comment for X3.190-199x, Con-
 formance Testing for Standard Generalized Markup
  Language (SGML), continues from May 18
  through September 17, 1990. The standard
  addresses construction and use of test suites to
  verify conformance of SGML systems. Its provi-
sions assist those who build test suites, those
who build SGML systems to be tested and those
who examine the results of such tests. Copies can
be purchased for $25 domestic, $32.50 inter-
national from Global Engineering Documents,
Inc., 2805 McGaw Ave., Irvine, CA 92714; (714)
261-1455, (800) 854-7179. Comments should go to
the X3 Secretariat, Attn: Lynn Barra, 311 First St.,
N.W. Suite 500, Washington, DC 20001-2178, with
copies to American National Standards Institute,
Attn: BSR Center, 1430 Broadway, New York, NY
10018.
Scientific Research on Preservation

The Commission on Preservation and Access recently published a Directory of Information Sources on Scientific Research Related to the Preservation of Books, Paper and Adhesives. Copies have been mailed to several hundred preservationists, librarians and archivists on the commission’s mailing list. While supplies last, additional copies are available at no cost from the Commission on Preservation and Access, 1785 Massachusetts Ave., N.W. #313, Washington, D.C. 20036; (202) 483-7474; Fax (202) 483-6410; Bitnet CPA@GWUVM. Recipients are encouraged to reproduce the directory, and it has been submitted to the ERIC Clearinghouse on Information Resources to be made available in microfiche and hardcopy.

ISBN Bar Coding on Book Covers

Books published in 1990 and later may now carry the eye-readable version of the ISBN in any eye-readable font above the Bookland EAN bar code, not necessarily in the Optical Character Recognition Font A (OCR-A) previously requested.

This revision and minor modifications to Bookland EAN bar code symbology are described in the April, 1990 revision of Machine-Readable Coding Guidelines for the U.S. Book Industry. These guidelines specify by market (e.g., bookstores, drug and grocery stores, mass merchandisers) whether books should carry Universal Product Code (UPC) or Bookland EAN bar coding. They show the appropriate content and correct location of the bar code for each market and include printing recommendations and additional sources of information.

Books published in 1990 and later may now carry the eye-readable version of the ISBN in any eye-readable font above the Bookland EAN bar code, not necessarily in the Optical Character Recognition Font A (OCR-A) previously requested.

The publication is available for $7.50 from the Book Industry Study Group (BISG), 160 Fifth Avenue, New York, New York 10010; (212) 929-1393; Fax (212) 989-7542.