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Sharing Museum Information?

Suddenly museum information sharing is in the air. In this issue alone, Jane Sledge reports on CIDOC's Reconciliation of Standards Project; the Common Agenda Database Task Force reports on its progress in defining repository and artifact data elements for history museums; the standard facilities report is unveiled; a Museum Documentation Association conference on national and international data sharing projects is announced; and the continuing interest of museums in MARC formats is discussed.

What has often been missing in these efforts, commitment based on expected benefits, is now emerging in some projects. The biodiversity act legislation (p. 20) provides an economic incentive for natural history data exchange. The prospect of reduced workload in arranging for exhibits drives the standard facilities report. MARC has always been appealing because it provides for portability of data between systems, but museums have not looked closely at why it seems inadequate for their needs. Now they are doing so. Common data models promise to provide systems designers with more powerful frameworks for representing museum information, thereby improving systems design for everyone.

What is needed now is a working group representing all types of museums - art, history, natural history - and all types of collections, to document the entire range of museum data, and to develop protocols for the exchange of any or all of this information according to the needs and interests of specific communities and consortia. It is a shame that the fabulous shared databases constructed by the Canadian Heritage Information Network, or the data in shared formats built following the standards of the Museum

Documentation Association, are no more available for exchange than data managed by idiosyncratic systems here in the U.S. I hope this situation is about to change. The Board of Directors of the Museum Computer Network has agreed that MCN should coordinate efforts to establish an information interchange standard consistent with ISO 2709, as recommended by CIDOC. As MCN President, I will be chairing the MCN working group on Computer Interchange of Museum Information (CIMI). The MCN will invite representatives of the major museum networks and databases to participate, and will include museum software vendors as observers and technical task force members. Hopefully we will be able to report progress in the next and subsequent issues of this journal.

David Bearman, Editor

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Data Models for Museums

by Jane Sledge

Background

The International Committee for Documentation (CIDOC) is one of thirty specialized committees and affiliated organizations of the International Council of Museums (ICOM). The objective of CIDOC, which meets annually, is to provide better methods and standards for the recording of museum information. All CIDOC members belong to one or more CIDOC working groups which address specific issues or problems. (See the description of active CIDOC working groups beginning on this page.) The newest CIDOC working group is called Reconciliation of Standards. This group seeks to develop a logical data model to provide a context for the many different systems developed for museum information.

The work of the Reconciliation of Standards Working Group builds upon that which began at a 1965 meeting of CIDOC in New York, where recommendations were made to standardize museum documentation and mechanical equipment. Paulette Olcina notes, "By 1967, CIDOC felt that it was essential to coordinate existing systems on both a national and an international level, if an optimum use were to be made of computer techniques in museums. It formed the Working Group on the Documentation of Collections to study the problems and to meet the objectives set by the Committee." (Olcina, 1986) These objectives were:

- 1) to study new documentation techniques and their optimal application;
- 2) to study the classification, codes, and nomenclature of museum collections for research purposes;
- 3) to coordinate existing schemes at national and international levels;
- 4) to assist, in liaison with the UNESCO-ICOM Documentation Center, museum staff and researchers concerned with these problems. (*cont'd. on p. 3, col. 2*)

Active CIDOC Working Groups

In addition to the Reconciliation of Standards Working Group which is the subject of Jane Sledge's report, the active CIDOC working groups are:

Terminology Working Group, which produced the Dictionarium Museologicum containing over 1800 equivalent museological terms in 20 European languages. Work is continuing on the production of Japanese, Estonian, and Catalayan equivalents;

Handbook on the Documentation of Museum Collections Working Group. Now in pre-publication, the handbook will be a practical guide on the aims and methods of museum documentation;

Bibliography Working Group, which assists the UNESCO-ICOM Documentation Center in compiling an annual museological bibliography;

Pictorial Archives Working Group, which acts as a clearinghouse for information on computerization of photographic and iconographic images;

Documentation Centers Working Group, which is concerned with the management and use of museological literature. The group coordinates activities for national and international museum libraries and documentation centers;

Terminology Control Working Group, which was recently formed to survey activity in terminology control and to review and reconcile work already completed. The group will compare work undertaken by the Art and Architecture Thesaurus with similar work done by the Ministry of Culture in France, and is preparing a bibliography for distribution to museums;

Data Base Survey Working Group, which is undertaking a world-wide survey of computer use for museum collections documentation. Museums across the United

States, Canada, Denmark, France, England, Switzerland, The Netherlands, Austria, Israel, Japan, and West Germany have responded to a questionnaire. The results will be published and a summary report issued at the next ICOM/CIDOC meeting;

Documentation Standards Working Group, which originally coordinated the integration of standards projects from the different disciplinary and national committees.

The Documentation Standards Working Group was reconfigured into three new groups. The first, which retained the name Documentation Standards Working Group, produced a standard fine arts documentation card and is now building a standardized record for archeological information, focusing specifically on defining norms in Egyptology. The Compact Disk Working Group, the second group to evolve from the original Documentation Standards Working Group, is developing a CD-ROM disk of Dutch and Flemish self-portraits from international collections. The Reconciliation of Standards Working Group, the subject of Jane Sledge's report, is the third group to grow out of the original Documentation Standards Working Group.

How to participate in ICOM/CIDOC

The next general meeting of ICOM and CIDOC will be held in The Hague, The Netherlands, August 26 to September 6, 1989. CIDOC membership is open to any ICOM member. To join ICOM/CIDOC in the United States, contact the American Association of Museums (AAM), 1225 EYE Street Suite 200, Washington, D.C. 20005. The ICOM membership fee is \$38.00 and one must be a member of the AAM to join.

For more information about the Reconciliation of Standards Working Group, contact its chairman, Richard Light, through The Museum Documentation Association, Building O, 347 Cherry Hinton Road, Cambridge, CB1 4DH, United Kingdom.

The next meetings of the Documentation Working Party in 1969 and 1970 received reports from existing and proposed computer projects in museums. The similarities between projects became so obvious that the working group proposed to create a common method of organizing information for the exchange of data, to establish conventions and record formats, to establish a minimum list of categories for museum records and to investigate further requirements for compatibility.

The work of CIDOC relies upon the contributions of individual members, with little external funding. As a result, working group progress is slow and dependent upon museums supporting key staff members to attend the yearly meetings. It appears that between 1970 and 1976 little progress was seen at the international level.

The reconciliation of data standards at the international level was taken further in the late seventies by an article written by Robert Chenhall and Peter Homulos (Chenhall, 1978; UNESCO 1977) which described the minimal information necessary to support the exchange of information between museums. This widely published article was used as a starting point for discussion by a CIDOC working group in Julita, Sweden in 1978. In 1979 CIDOC published a minimum list of data categories in support of documentary research for museum collections.

A small working group took the idea of international data exchange quite literally. The Museum Documentation Association of the United Kingdom presented a report entitled International Museum Data Standards and Experiments in Data Transfer at the 1980 CIDOC meeting in Mexico City. (Light and Roberts, 1981) This report is a major source for the historical context of CIDOC. The scope of the international museum data standards project was to review a number of data standards used by CIDOC members in the hope that a single unified standard could be developed, and that a practical demonstration of its benefit could be

provided. The report's authors note:

"It was then intended to apply the unified data standard in a practical demonstration of its use. A number of magnetic tapes containing museum or bibliographic records were received from Sweden, Canada, and the United Kingdom. These records were processed using a single computer storage format conforming to the data standard, and a number of catalogues and indexes produced from the resulting file. The exercise proved invaluable in demonstrating the function of the data standard and some of the problems inherent in transferring data between different systems." (Light and Roberts, 1981)

This work was taken further by a Technical Standards Working Group which met between 1981 and 1986. This group achieved agreement on the use of existing international standards for museum purposes, established relationships with other standards bodies, and prepared a paper about data standards. The Technical Standards Working Group endorsed the use of the following International Standards Organization (ISO) definitions:

- 1) ISO 03788 and ISO 1001 to control the physical exchange of data on magnetic tape;
- 2) ISO 646 and ISO 2022 to control the character set;
- 3) ISO 2709 to define the logical structure of a record in machine readable form. (Roberts, 1986)

When a Documentation Standards Working Group met in Cambridge in 1987, it began to review the efforts of the Technical Standards Working Group, focusing on its draft article on data standards. The Documentation Standards Group's new members also were impressed to discover the work done by The Museum Documentation Association in the area of international documentation standards, and the 1981 document was taken as a starting point from which to integrate and develop a common data framework.

During the 1987 meeting it became evident that museums were continuing to develop individual data structures with little external contact. When the working group considered what would make a difference after almost twenty years of struggle to develop an international data standard, it discovered similarities of design in the development of logical data models for museum information. As representatives from England and the United States contributed information concerning data modelling techniques, group members were able to place their own data dictionary structures within a single frame of reference. The working group decided that the use of a data modelling methodology provided the opportunity to develop a common data structure for museums that is not machine or software dependent, and that would benefit all museums. A decision was made to research on-going work in this area using information generated by the Database Survey Working Group and others.

Reconciliation of Standards

In 1988 the new working group named Reconciliation of Standards established long-term goals to:

- 1) create a framework for developing, analyzing and comparing museum data standards, and to put this forward to the ISO as a draft international standard for museums;
- 2) determine where common standards are evolving internationally through the use of this framework;
- 3) use the framework as a basis for practical data exchange projects, and potentially as the basis of a data exchange standard.

To encourage faster progress, the working group established a core group that would attempt to meet twice annually. Core working group members include representatives from the Central Cultural-Historical Archive, the Inventory Project on the National Museum, and the Danish Art

Index (Denmark); the National Museum of Natural Sciences and the Canadian Heritage Information Network (Canada); the Institut für Museumskunde, Berlin; the Common Agenda Project, the Museum Computer Network, and the Smithsonian Institution (USA); the Victoria and Albert Museum and The Museum Documentation Association (United Kingdom).

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Machine Readable Views

by Tom Brown

The University of British Columbia awards a Master of Archival Studies degree for which Catherine Aileen Bailey submitted a thesis entitled "Archival Theory and Machine Readable Records: Some Problems and Issues" in August 1988. To the best of my knowledge, this is the first graduate level thesis or dissertation devoted entirely to archives and computerized records. As such, it marks something of a milestone in the evolution of the archival administration of machine-readable records. Its acceptance by a respected academic program in archival studies is another indication that electronic records are being brought into the mainstream of the profession.

Bailey attempts to deal globally with the application of archival theory to automated records, rather than with a single archival function or with practical solutions to specific problems. Her conclusion is that archival theory remains valid for the archival administration of all records regardless of physical medium. Differences in approach are a result of practical application of theory; "Archival science does not, therefore, need to be redefined, but merely expanded."

The thesis provides the occasion for some interesting comparisons of the differences between U.S. and Canadian approaches to machine readable records. The author candidly admits that in her work, "emphasis is placed on the Canadian archival scene, and particularly on the work of the National Archives of Canada." This understandable focus highlights some differences in the approaches of the two National Archives on different sides of the 49th parallel. Before I comment on these differences, I should point out that I am a staff member of the U.S. National Archives, involved with the program and policies regarding automated records, so that my analysis is bound to be subjective.

Bailey's thesis begins with a literature review that reveals an extremely interesting

pattern in the path breaking studies which have emanated from the United States and Canada. The pattern, as I see it, is chronological. Basically, the United States contributions to the literature on archival administration of machine-readable records ended in about 1982. In contrast, the inventive works from Canada begin about that time. One might even argue that the Boston meeting of the Society of American Archivists in 1982 was the watershed.

At that meeting, Trudy Peterson first presented her thoughtful work, "Archival Principles and Records of the New Technology," (published in 1984). At the same meeting, John McDonald first outlined his innovative systems overview approach to the scheduling of electronic records. Since then, most of the creative material on management of automated records has come from Canada.

However, it seems to me that my colleagues south of the 49th have made significant progress since the literature review for the thesis was completed. As reported in this column in previous issues, the Archival Research and Evaluation staff at the U.S. National Archives has produced some provocative and interesting works. In December 1988, NARA proposed for public comment new regulations for the management of electronic records. Charles Dollar's RAMP study on the management of electronic records was published in 1986, and Alan Kowlowitz's creative Appraising Online Information Systems was published last year. Let's hope that this latest study is a harbinger of things to come and that John McDonald's introduction to it marks the beginning of collaboration between Canadian and American archivists.

"Archival Theory and Machine Readable Records" opts for the Canadian approach to administration at two critical points. First, Bailey endorses John McDonald's systems overview approach to the identification and scheduling of electronic records. While some American state archivists are emulating the Canadian model, the U.S. National Archives has not yet done so. Clearly, this

methodological difference is in part rooted in the legislative authorities. However, which approach will become the professionally accepted procedure will probably be determined by which proves to be the more effective in bringing automated records under archival control.

Second, Bailey differs from American practice in rejecting the life cycle as the model for the management of any record system. In its stead, she adopts Jay Atherton's provocative concept of a continuum. Her analysis not only argues that the continuum construct applies to machine-readable records, but also implies that automated systems more perfectly conform to the concept than do paper-based systems. It's too early to see what new practices and procedures will result from the continuum model. But the effectiveness of those practices will determine whether, as Bailey asserts, "more and more archivists and records managers are switching from the life cycle to the continuum model of record keeping."

Since the thesis focused on theory and not on structure, it did not address the different organizational approaches which the U.S. National Archives and the National Archives of Canada have taken toward machine-readable records. In a reorganization two years ago, the Canadian repository integrated the archival programs for administration of paper-based records and of electronic records into one structure. As I see it, the change was a response to the fact that contemporary organization records systems integrate textual materials with automated materials, so that it is becoming increasingly difficult to deal with them separately. An integrated organizational structure allows the archives to focus on administration of the information, regardless of the media base.

In contrast, the U.S. National Archives has always had a separate organizational entity to deal with automated records. The reorganization last fall, which created the Center for Electronic Records, only served to intensify this separation. The NARA

approach is rooted in a management technique that establishes a separate organizational structure to deal with a difficult area so as to dedicate resources to it. In other words, a separate unit is intended to prevent electronic records from being overwhelmed by an avalanche from the paper mountain. Which structure is more effective? Since the staff of both programs are probably too close to offer any dispassionate judgments, the answer must come from an analysis by someone not associated with either institution. Maybe this could be the topic of the next thesis or dissertation devoted exclusively to the archival administration of computerized records?

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SUBMISSIONS

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Proposals for 100-200 page manuscripts are invited for publication in **Archives and Museum Informatics Technical Report**. Contact David Bearman, Editor for terms of publication.

Real Archivists Don't Use MARC by Frank Burke

When I was recently in San Juan, Puerto Rico, waiting for a flight home, I realized that my cash was running low and I had a longish layover in Miami. Fortunately, I had an American Express Card, had sent off for a personal identification number, and there was a cash dispensing machine at the airport. I put my card in, responded to the prompt for my personal identification number, and peered intently at the little instruction screen, which immediately displayed the greeting, "Buenos Dias, Senior Burke!" "That's funny," I said to myself, "I didn't know that my card knew Spanish!"

That little incident brought to my full consciousness the realization that in automation what you see is not necessarily what you get, and that if I had put my same dumb card in a machine in Frankfurt it probably would have flashed, "Guten Tag, Herr Burke!" Whatever it was that was coded into that card was being decoded to fit the local situation, and the variety of decodings or outputs could be as numerous as the situations that required it.

This manifestation of information in output, regardless of what the coding scheme is underneath, naturally made me ponder the current situation with the MARC format, and especially the activities of my colleagues who were all busily engaged in mastering the MARC:AMC, or Archives Manuscript Control format.

I have been associated with archival automation for a few years, and I teach courses in the subject. Students who have attended my classes, may recall that when they begin fretting and press me for more details about the USMARC:AMC format, my general advice to them is to learn the basics, and the rationale, and perhaps actually code something in MARC:AMC once or twice, but not to make a career of it or worry about it - it's not their problem. And the advice is valid. Whether they are librarians or archivists, MARC should not

be one of their concerns. It is a programmer's problem.

This seemingly negative attitude in no way denies the validity of USMARC:AMC. It is an appropriate, if somewhat outmoded, structure, in which to standardize the entry of data for transmission to another system or systems. It assures - within limitations - that transmitted data will be properly interpreted by the receiving facility, and, combined with the application of AACR2 cataloging rules for manuscripts and archives, it encourages a greater level of standardization than the archival community has been able to attain since its beginnings. But that is irrelevant to the question of why archivists should learn - which implies to use - MARC.

Computers are wonderful devices that permit us to have our cake and eat it too. They can be large filing cabinets in which we can store data, and retrieve or "pull" it in numerous structures and configurations. We can build massive data bases and retrieve from them a piece at a time, with pre-selected or ad hoc data configurations. In that process we can change the physical location of the information and even change the data element names. Let us suppose that we build a file (using mnemonic data element tags for illustration) that looked like this:

TITL
DTES
SIZE
FORM
SORC
DESC
INST
NUCM

Then let us say that we performed a little program that would, on request, select portions of that data base, arrange the elements differently, and change the names of the description tags, as follows:

COLLECTION: Washington, George,
1732-1799
FORM: Papers DATES: 1750-1812
SIZE: 32,000 items

or, eliminating the tags:

Washington, George, 1732-1799
Papers 1750-1812 32,000 items

or

Library of Congress. Manuscript Division
Washington, George, 1732-1799
Papers
MS60-1422

From our simple, 11-element data base we have many possibilities for selecting, arranging and displaying the information on a screen or printed page. If we wished, the descriptive tags could be in Spanish, German or any other language that our computer system could display or print.

The important fact is that in its original entry construction the information has to meet some rigid standards if it is going to be transmitted to, read by, and fully accepted into another system, or systems. That is where MARC comes in. But USMARC:AMC, in the words of its "biographer" Nancy Sahli, "is not a program, because it in itself does not contain any instructions to a computer telling it how to work." [Nancy Sahli, MARC for Archives and Manuscripts: The AMC Format, (Chicago: Society of American Archivists, 1985) p. 2] But, you may well say, if it sets strict standards for data entry, then we cannot ignore it. That is not really true. Someone cannot ignore it, because if it is ignored it cannot transfer information. The question then becomes: "who is that someone?" And the answer is - the programmer.

If MARC is not a program, someone must program the institution's computer so that it knows how to export and import MARC-formatted data. If the programmer can do that then he or she should be able to go a step or two further and present on the screen at both input and output time either a mnemonic or plain language version of MARC that can be easily understood. Such a conversion is, indeed, in the manual where the tags are described. What one has

to do is collate the Sahli "SAMPLE USMARC AMC FORMAT INPUT RECORD" and her "TAG/FIELD" list on a different (unnumbered) page. A portion of such a collation is presented here:

Control number: NP0001-85
Libr. of Cong. Control No:
MS61003623
Local Sys. Control No: 1939-0001
Main Entry - Name: Provenance,
William Fonds
Main Entry - Dates: 1897-1938
Title Statement - Form: Papers
Title Statement - Incl Dtes: [ca. 1917-1937]
Physical Descr. - Extent: 15 cubic feet

On the page this could look quite different, both in the input document and in the output or product. The prompts might resemble the following:

CONTROL NUMBER
LIBR. OF CONG. CONTROL NO.
LOCAL SYS. CONTROL NO.
MAIN ENTRY-NAME DATES
TITL STATEMENT - FORM INCL DATES
PHYSICAL DESCR. EXTENT

Why anyone would want to confront a display of numeric codes instead of these simple statements in plain English is puzzling, and the automation mystique would probably disappear altogether if the archival data entry screen appeared as shown here, with appropriate blinking cursors and prompts.

It is easy to perceive that the plain language (not even using mnemonics) choices given to the person doing data entry are, in reality, MARC data element descriptors. Each of these prompts can be mapped to a MARC tag, and, indeed, underneath this template there is a USMARC:AMC structure, with the data elements so structured that they can be readily exported at will.

There are, of course, even simpler ways of doing things.

Let us say that the subfields are not

sufficient - the Main Entry-Corporate Name (110) tag, for instance, has a possible thirteen subfields. Why not, instead of cluttering up the screen with all thirteen, have an arrangement whereby when the 110 tag is activated, a window, or "pop-up" screen appears, providing each of the options, worded in plain language as in the Sahli manual. And, if that isn't clear enough, why not provide a "Help" key to bring out the explanations of those subfields, again in plain language? Such a process is standard procedure with many programs. The word processing program with which I am creating this paper has a "help" at any stage to bring to the screen the page of the word processing manual that applies to the situation that I am facing or the decision that I must make. One could, therefore, put the Sahli manual in "Help," modified so that instead of all of those 3-digit groups, dollar or cent signs, alphabetic letters and other such codings, there would be simple alternatives of perhaps a mnemonic or plain language tag or, as we see in the Presidential Libraries PRESNET system, a multiple choice in plain language.

The MARC concept in the first place was designed in the mid-sixties based on the technology of the time, which offered off-line, batch processing with card-fed, tape-driven mainframe computers. There was little storage capacity for complex programs, and the lateral nature of tape access meant that there had to be some specific codes on the tape to help determine the location of data. The information could not be "sectored" as on disks; access was not random, and could be in only one direction; and information had to be presented and accessed serially. If one took a tag-oriented data base and laid it out serially, with a map, tags, internal codes and data, a portion of it might look something like this:

0001 2 NPI04250
2180E0006016180FLAGSTAFF

00001 AT NPI04250520
3100E0080110E0096120E0129130E0143140E
0163394E0211400E0230410E024440E028690

00101 OE029501610042250-520
033110MUSEUM OF NORTHERN
ARIZONA 014120LIBRARY
020130FLAGSTAFF AZ 048140ROUTE
00201 4, 804 7204110FLAGSTAFF AZ
86001 019394NUCMC, 1973.

Disk operating systems, random access, phenomenal internal program storage capacity, and access speed have really made the tagging structures of the sixties obsolete, but as a colleague recently said to me, unfortunately we have a lot of data in such formats, and most systems are geared to receive or transmit in those formats, so we are stuck with it. My response would be that we, as archivists, are not stuck with it - the programmers of our systems are. Let them do whatever they want with numeric tags and transmission or reception of data, but don't bother us with all of those obscure codes; we want plain language or at least codewords that are meaningful. Archivists need to know USMARC:AMC about as much as they need to know COBOL or PL1.

There are a few, of course - the Nancy Sahlis and Max Evanses and Lisa Webers - who monitor the systems and oversee their precision and response to archival needs, and we need them, but we need them as technical colleagues, specializing in the esoterica hidden below the surface of what we are doing. If they tell us that the Cumulative Index/Finding Aids Note (555) should have subfields for "Availability source," "Degree of control," and "Bibliographic reference," and if we trust them and can find out (from the "Help" key) what it is they mean by all that, then we should be able to perform as expected and have our data in a format that will zip it to RLIN or OCLC or wherever we want it to go that can receive it. But they should present us with the terms "Cumulative Index/Finding Aids Note," and not with the mysterious "555." The Presidential Libraries Network example alluded to earlier has shown that such an approach is possible.

In addition to all of this sub-strata conversion and pop-up screens and help messages, it should be very possible to add

a few other enhancements. I have on the little machine and program on which I composed this the ability to turn on an 80,000 term dictionary to check my spelling. It's all in there someplace, and all that I have to do is punch the Ctrl/F7 keys to activate the dictionary. Why not include as background the LC Subject Headings or the Name Authority file so that it can either automatically or on command check what we are doing? Talk to your local programmer to see how possible that is.

What this all boils down to, of course, is that archivists should be archivists and not programmers. A good part of the Library profession has gotten itself all tied up in dealing with the computer, and the library literature is getting further and further away from substance, and more and more towards form. But then professional librarians were always interested in form - in the classification of information, in structuring all areas of knowledge into a set number of categories, whether it was the eight classes of knowledge of Callimachus, the forty-four of Jefferson, or the confusing array of the present LC classification scheme. I find it not surprising that many of the archivists who are deeply involved in the MARC and AACR2 programs today hold the MLS, and their work reflects their library classification training. There is nothing wrong with that, but we should not confuse what they are doing with what archivists are, or should be doing. Through shared cataloging and the on-line availability of OCLC and RLIN, librarians have centralized much of their intellectual process, at least that part dealing with description. Boston Public Library was distributing cards as far back as 1856, and the Library of Congress began to do so early in this century. The MARC format developed as an extension of the physical distribution of cards to permit the electronic distribution of the card image. The librarian off site was therefore relieved of the task of cataloging or classifying the materials at hand, and instead turned to mastering the methods for finding and communicating and even analyzing the cataloging data being created and stored centrally.

Archivists face a different problem. As we all know, information described about records at one repository has value only for reference purposes elsewhere, and is not a labor-saving device for archival description at another. Archivists, therefore, must still concentrate their efforts on analysis and description of the material at hand, and for the most part, they do so for the clients at their own institution. External sharing of that descriptive information is a secondary function. While librarians and various information specialists are moving into the field of information processing, archivists are now and for a long time will remain information analysts and describers.

Therefore, archivists should worry about the accuracy and comprehensiveness of the information that they are providing, and not the techniques of providing it. We can be excellent publishers without knowing the workings of a linotype machine, and we should be able to network without worrying about what is happening to the data in various invisible configurations. MARC:AMC is an important step forward in establishing standardization and the ability to communicate information, but more important is that it is part of the archival automation revolution, and that revolution permits the users to operate without even being cognizant that underlying the information formats on the screen before them is a MARC format, ready to go into action when needed, which may be infrequently. A properly instructed programmer, operating on the basis of a properly conducted systems analysis, can produce prompts that practically prevent mistakes from happening at input - in effect, creating forms for the archivist to fill out, but also sensing when something is wrong or incomplete or misplaced. All of that structuring, therefore, is removed from the archivist's duties, freeing the professional to make professional decisions, about contents and precision.

There is always the danger, of course, that we get so tied up in the technology that we are using to facilitate what we are doing that we forget what we are doing. We

are archivists because of our training and experience in dealing with significant historical documentation. We tout ourselves as being able to evaluate evidence from the past and determine whether it will be useful, or even valuable for the present and the future. We are archivists because we have a perception of what researchers require today and may require tomorrow. In that sense we do not follow the historians and other researchers, we lead them. Without archives there would be no material for the historian to work on, and it is up to us to perceive what the future will demand. That in itself is no easy task, and we must constantly practice honing our skills.

It is true that we are also here to make the information that we gather available to researchers in a variety of configurations - we must advertise and explain our holdings. We have always done that in one fashion or another - through calendars, repository guides, reports to Hamer's Guide to Archives and Manuscripts in the United States, and later to NUCMC. Are not these new reporting mechanisms, the national data bases, merely extensions of the old national guides and catalogs? Not quite.

Hamer's Guide, NUCMC, Womens History Sources, and even the unfortunate American Literary Manuscripts guide were passive instruments for the archivist, who merely filled out a form or sent in some information, which the editors then molded to fit their requirements. Completing a data sheet for NUCMC did not imply any commitment on the part of the submitter to conform to the system. The institution's own collections might be described in a manner completely different from that of NUCMC, and the two different systems could live on the same planet together. This condition does not exist with automated national data bases. A supporting institution must make a commitment to adopt as an internal standard the structure, format and requirements of the external data base. It is unthinkable to perceive of an institution voluntarily agreeing to join RLIN or OCLC and then having two separate data base standards, one for internal use and one for

export. What this has generated is a number of archivists who have become increasingly involved with the intricacies of the external requirements to the point where their careers are becoming devoted to the study of those requirements. If more than 50% of their time, writings, and public lectures are spent on the subject of MARC tags, communication protocols, and data formats, I would say that they have left the company of REAL archivists and have joined the ranks of what we might label technarchivists. As I said earlier, we need them, but we do not all have to join them or feel insecure that we do not have the intricate knowledge of the technology that they do.

Fortunately, our days can still be spent concerned about development of acquisition policies, scheduling of company records, appraisal of complex records series, and appropriate arrangement of disorganized fonds; about literate description that will lead the befuddled researcher to the holy grail that we have neatly filed away in a Hollinger box; and about that certain perception that a good archivist has of a question previously asked, and a response previously given, that will once again provide the questioner with the desired information so critical to the development of a thesis or the discovery of a long-dead ancestor. Archivists are the discoverers of history before it becomes history; they are the protectors of the past from the ravages of the present and future; they are the proclaimers of significant and memorable human events; they are the eternal salvation of heroic deeds and lost causes; they provide solace to the living through the lessons of the dead; they are the keepers of the flame.

That is the role of the REAL archivist. REAL archivists don't need to know, or use MARC.

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CONFERENCES

ELECTRIFYING MUSEUMS!

The Hawaii Museum Association sponsored two intensive days of conference preceded by a one day workshop on "electrifying museums" by automation, March 30-April 1. The pre-conference workshop, taught by David Bearman of Archives & Museum Informatics, was devoted to planning for automation of a museum. Following a brief introduction to the state of museum automation, Bearman broke the group into pairs to elicit initial statements of requirements, and then worked with increasingly larger groups throughout the morning to refine the requirements statements, identify categories of missing requirements, and develop strategies for weighing requirements. In the afternoon Bearman lectured briefly on the methods of procuring systems, and the group worked on constructing an RFP. The workshop concluded with a lecture on implementation planning and on overall automation project budgeting, management and evaluation. (A revised version of this workshop is being offered to AAM members as a preconference option in New Orleans on June 17. Register through AAM or MCN).

Bearman also introduced the conference itself, with a keynote address on the implications of emerging home and office technologies for museum programming and planning in the 1990's. He emphasized the evolution of a culture that expects individuated and experiential learning, delivered through interactive video, and the potential that offers museums to be a source of concrete evidence for educational programming. Afternoon demonstrations by Sony, Apple and IBM of interactive video products underlined Bearman's message and gave participants a concrete sense of these opportunities.

Larry Osborne and Carol Tenopir of the University of Hawaii School of Library and

Information Science provided the instructional component of the conference. Dr. Osborne lectured on systems analysis methods, stressing the common sense character of systems analysis while emphasizing the dependence of good systems plans on more rigorous documentation than we are often in the habit of writing. Dr. Tenopir introduced the issues involved in selecting information retrieval software. She emphasized the difference between retrieval oriented software, which accommodates variable length, variable occurrence, and textual fields and supports full text and contextual retrieval, and off the shelf database management packages. Using this distinction, she directed attendees through a museum oriented needs analysis, attending to the characteristics of museum data that call for these software capabilities.

Bearman followed Tenopir with a talk on commercial software for museum applications from membership and development and point-of-sale registers, to events management and ticketing, collections management, and cataloging and information retrieval. He stressed the availability of acceptable commercial systems in these areas and urged participants to purchase them rather than to try to save money by acquiring "vanilla" database managers and designing their own solutions, a course which he predicted would prove more costly over the long term as well as much less likely to produce an acceptable result. In a final tutorial session of the conference, Bearman provided a basic introduction to optical media and discussed the kinds of applications that have been made of videodisc in museums.

CALENDAR

May 15-17 Ottawa, CANADA.
"Converging Disciplines in the Management of Recorded Information" [Winston Gomes, Symposium on Current Records, International Council on Archives, P.O.Box 3162 Station D, Ottawa K1P 6H7, CANADA]

May 15-18 Jerusalem, ISRAEL.
"Value of Research Data for Government and Business," IFDO/IASSIST 89 [Lucy Blaser, Social Sciences Data Archive, Hebrew University, Mount Scopus, Jerusalem 91905 ISRAEL; fax 972-2-826249]

May 18-20 London, ENGLAND.
"IMAGE: An International Meeting on Museums and Art Galleries Image Databases" [University of London Audio-Visual Centre, North Wing Studios, Senate House, Malet St., London WC1E 7JZ UNITED KINGDOM]

May 21-24 San Diego, CA.
"The User Interface," 18th ASIS Mid-Year Conference, \$160-285 [ASIS, Ben Franklin Station, P.O.Box 554, Washington DC 20044-0554; fax 202-462-7494]

June 5-8 San Francisco, CA.
"Discover the Power of Imaging," 1989 Association for Information and Image Management Show and Conference [AIIM, c/o First American Bank, 740 15th St. NW, Washington, DC 20005, attn. Lock Box Dept.]

June 5-10 Toronto, CANADA.
"Dynamic Text Conference," Combined 16th International ALLC Conference & 9th International Conference on Computers and the Humanities, together with software fair "Tools for Humanists" [Registration Officer, Dynamic Text Conference, 158 St. George St., Toronto M5S 2V8 CANADA; fax 416-978-5673; CAN \$225-295 depending on category and date of registration]

June 17 New Orleans, LA.
"Workshop on Planning for Museum Automation," \$125 [Museum Computer Network, Information Studies, Syracuse University, Syracuse NY 13244-2340]

June 18-22 New Orleans, LA.
American Association of Museums Annual Conference [Maureen McCarthy, AAM, 1225 Eye St., NW, Suite 200, Washington DC 20005]

July 13-15 Austin, TX.
"Microcomputer Applications in Visual
Resource Collections" \$325, [Fine Arts
Continuing Education, Fine Arts Building
2.4, University of Texas, Austin TX 78712]

July 26-29 Seattle, WA.
National Association of Government
Archivists and Records Administrators [Jeff
Jagnow, Council of State Governments, Iron
Works Pike, P.O. Box 11910, Lexington, KY
40578; 606-252-2291]

September 6-9 Seattle, WA.
American Association for State and Local
History [AASLH, 172 Second Ave. North,
Nashville, TN 37201]

September 15-18 York, ENGLAND.
Annual Conference of the Museum
Documentation Association [1989
Conference, MDA, Building O, 347 Cherry
Hinton Rd., Cambridge CB1 4DH
ENGLAND]

October 2-5 New Orleans, LA.
"Building Bridges of Professionalism" 34th
Annual Conference of the Association of
Records Managers and Administrators,
\$465-585 [Conference Dept. ARMA
International, 4200 Somerset, Suite 215,
Prairie Village, KS 66208]

October 12-14 Chicago, IL.
Museum Computer Network Annual
Conference [Deirdre Stam, MCN,
Information Studies, Syracuse University,
Syracuse NY 13244-2340]

October 23-28 St. Louis, MO.
Society of American Archivists Annual
Meeting [Conference, SAA, 600 S. Federal
St., Suite 504, Chicago, IL 60605]

October 30 - November 2 Washington, DC.
American Society for Information Science
Annual Conference [ASIS, Ben Franklin
Station, P.O. Box 554, Washington, DC
20044-0554; fax 202-462-7494]

INBOX

REPORTS

Application Portability, PSC-ARC003-1 [A
report prepared for the National Archives of
Canada.] Ottawa, Ontario: Protocol
Standards and Communication, Inc., 28
December 1988, 40p. + append.

Archivists are becoming aware that their ability to manage electronic records archivally may translate directly into their ability to move applications from one computing environment to another with minimal changes. The objective of application portability is also important to business and government computer users who need to preserve investments in systems over shorter time periods. This report, which defines the concepts and examines the state of standards and approaches that support application portability, will be of great interest to managers of active and inactive records. In my opinion, the strategy it suggests for archivists is the only possible one.

Durance, Cynthia J. "Strategic Planning Framework Study for the Disposition of Government Records." Ottawa: National Archives of Canada, January 30, 1989, 48p. + append.

Cynthia Durance, Assistant Director General of the Government Records Branch, National Archives of Canada, makes a bold proposal for active, delegated, disposition authorization, intended to make it possible for the National Archives of Canada to carry out its records disposition mission within its present resources. The proposed departure from current practice begins with the honest recognition that the Archives "is losing vast quantities of records now because it cannot cope with the current workload using current procedures." The failure of previous strategies was particularly evident in the context of the automation and growing departmental autonomy of the Canadian federal government, a context for which the

new strategy is best suited. The study calls for automated control mechanisms and delegation to Federal agencies of responsibility for records disposition, while retaining authority and responsibility for advice and training.

Hill, Richard. Metropolitan Toronto Time-Space Retrieval System: Feasibility Report. Toronto: Time-Space Systems Inc., December 1988, 60p. incl. appendices.

The concept of a user interface that retrieves using time and space referents is extremely attractive to most cultural repositories. Noting such precedents as the Domesday project and hypermedia, some existing Toronto geographic reference systems, and other databases, Hill makes a case for prototyping, and then building a time-space based front-end for the archives and eventually extending it to other agencies with active records. This kind of contextual, associative, retrieval would be attractive to any archive or museum, if implemented. If users could identify artifacts and documents associated with locations on a map, or with a date, or could browse database objects collated on maps of time or space, many kinds of research would be greatly facilitated. Such access could be implemented, but Hill's study is somewhat weak on specifics and convincing technical frameworks, despite a plethora of technical details in appendices A-M and the impressive list of people consulted in preparation of the report (Appendix N).

National Academy of Public Administration. The Effects of Electronic Recordkeeping on the Historical Record of the U.S. Government. A Report for the National Archives & Records Administration. [Washington, D.C.]: National Academy of Public Administration, January 1989, vol.1, 69p.; vol. 2, Technical Appendices 128p. [Available from NTIS, 5258 Port Royal Rd., Springfield, VA 22161 for \$15.95 plus \$3.00 shipping & handling]

The National Academy of Public Administration (NAPA) was asked by NARA to examine the influence of electronic

recordkeeping practices in the Federal workplace on the retention or loss of records. The Academy convened a panel of experts whose deliberations and studies appear in the technical appendices to this report. The report itself concludes that because most records are still being copied onto paper, "wholesale" loss of documentation has not yet occurred, but that NARA must seize the initiative soon in order to prevent widespread loss of historical evidence.

The recommendations are largely bureaucratic and specific to NARA's organizational context, except for the requirement that records management should be introduced as a "mandatory design component" in major electronic records systems. While all of us who are in any way involved with electronic records would concur, I find this recommendation problematic in the NARA context because it assumes: 1) that electronic records should be transferred physically to NARA, and 2) that (though the report also calls for additional research) NARA knows what to do about electronic records and what advice to give if all the agencies that are requested to give NARA the lead role would only agree. On both scores I believe the report is fundamentally wrong.

In addition, I have some quibbles: why were records of the White House and "routine documents and large statistical and scientific databases" excluded from the study when both are currently the focus of much of the literature and considerable dispute over appropriate tactics? In light of the exclusion, it seems irresponsible to me to assert that "very few, if any, important policy and decision-making records have been lost due to the widespread use of electronic technology" (p.38).

The authors believe that "NARA has some promising technological frameworks within which to operate," citing expert systems, hypermedia tools, optical storage and high performance workstations, but they fail to explain why any of these "frameworks," which look like technologies

to me, would be useful. They call on NARA to examine and refine the legal definition of a record (a task that it has not proved able to do convincingly) and to "formulate realistic, practical guidance for federal agencies," but acknowledge that "such guidance will not be easy to conceptualize, formulate or transmit." In addition, they admit that to date NARA guidance seems to have little impact. Would their vague guidance be followed if it was incorporated into ADP manuals, systems development procedures, and procurement regulations?

Miller, Page Putnam.

Developing a Premier National Institution: A Report from the User Community to the National Archives. N.p.: National Coordinating Committee for the Promotion of History, 1989, 39p. [Single copies free from Dr. Page P. Miller, NCC, 400 A St. SE, Washington, DC 20003]

Page Putnam Miller, Director of the National Coordinating Committee for the Promotion of History (NCCPH), has authored a concise catalog of recommendations for NARA and its clientele to follow in order to build the National Archives into a first class research institution. Greater attention to user needs, including in the design of access systems, is one of the four major categories of improvements urged.

The Associated Audio Archives Committee. "Audio Preservation: A Planning Study," Final Performance Report, NEH Grant PS-20021-86, [1988], 860 p. incl. appendices. [Available from Elwood McKee, 118 Monroe Street #610, Rockville, MD 20850; \$42.95 payable to the Association for Recorded Sound Collections.]

"Audio Preservation" is both a report and a working reference document, the result of a two year project to research the current state and future needs of conservation, preservation and restoration of sound recordings. The investigation was conducted by the Associated Audio Archives Committee (AAA) of the Association for Recorded Sound Collections (ARSC).

Participants included the ARSC; the Library of Congress; the New York Public Library; Stanford, Yale, and Syracuse Universities; and the Universities of Missouri (Kansas City) and Kansas.

The study's objective was to produce conclusions and recommendations that could be used to develop a long-range plan for a preservation program for sound recordings. Three approaches were used: frequent meetings to discuss research results and refine research strategies; research and analysis projects conducted by project participants and individual volunteers; and a survey of major sound archives in the United States and abroad.

The project findings, summarized in the first ten pages of the report, and again in Appendix I (pp. 11-31), present a sobering picture of the needy state of audio preservation. Participants agreed that a national agenda must begin by addressing the following objectives:

- creation of an infrastructure and program for preservation of sound recordings;
- development of an archival storage medium for sound recordings;
- development of an education program for sound archivists;
- resolution of the artifact and content access problems of archival collections;
- resolution of the storage and handling problems of archival collections;
- development of a body of standards and recommended practices related to the preservation of sound recordings.

"Audio Preservation" is a reference tool as well as a call to action, and anyone responsible for the curatorial care of sound recordings will find its lengthy appendices helpful. The report includes a glossary (pp. 265-313) of terms used in eighteen reference works; a list of terms used in audio technology (pp. 314-450); the tabulated results of the survey of audio archives (pp. 451-534); a bibliography of works related to the management of sound recording collections (pp. 535-860); and shorter discussions of specific management issues.

The findings of this planning study have implications beyond the immediate concerns of audio collections for the larger archives, library, and museum communities. The persistent theme of the report is that those responsible for the management of these materials "have no mature apparatus for investigating, verifying, and disseminating opinion, conclusions, research, standards, or guidelines (p. 39)." The situation appears parallel to that of photographic preservation and collection management a little more than a decade ago. Now the problems of managing photographic materials are far from resolved, but networks for tackling the challenge have been created within existing professional organizations. A similar response to the problems detailed in this report is warranted so that audio archivists, librarians and curators will have the support they need to investigate the specialized needs of the collections in their care. (*Lynn Cox, Managing Editor*)

BOOKS AND ARTICLES

Brathal, Don. "Variety in Document Management: Format follows Function." IMC Journal 24(Sept/Oct 1988): 19-21.

This report from the 3M company, which sells microform and optical systems, on which files they retain on paper, which in microfilm and which are targeted for optical systems, contains sensible advice about how to evaluate storage media appropriate to any application.

Book Research Quarterly 4(Fall 1988):1-71, is devoted to "Technical Standards for Books and Journals." In spite of the books/serial focus of the title however, archives and museum personnel will find much of interest here in discussions of the national and international standards scene, information and telecommunications standards, and future directions.

Eastman, Charles M. "Is a standard format possible for engineering data? Not yet says FORMTEK." INFORM 2(October 1988):19-21.

This short review of the problems confronting archival retention of vector based images in machine readable form should convince anyone facing such issues that microform remains the only viable medium.

Kelly, Kevin ed. SIGNAL: Communication Tools for the Information Age. Sausalito, CA: Harmony Books, n.d. (ca. 1988) [\$15 postpaid from Whole Earth Catalog, 27 Gate 5 Rd., Sausalito, CA 94965]

This special volume of the Whole Earth Catalog is devoted to identifying tools for the electronic age, just as earlier catalogs were devoted to tools for less automated life styles. Infuriatingly unorganized and poorly indexed, the volume is nonetheless full of fascinating software descriptions, publication reviews, and technology interpretation for the layman.

Ogdon, Bob and Jim Palma. "Multi-media: Expanding CD-ROM Horizons." CD Data Report 5(March 1989):12-20.

This is the best technical discussion of the ins and outs of using CD-ROM for multimedia data storage I have read. It includes the details necessary to produce such CD's and the perspective required to decide whether to bother. The tools section describes four very interesting products.

Skupsky, Donald S. Recordkeeping Requirements. Denver, CO: Information Requirements Clearinghouse, 1988, 311 p. + index [\$25.00]

This volume is designed to inform managers, and records managers, of the legal requirements for records retention under the Code of Federal Regulations, IRS regulations, various state laws and rules of evidence. It examines issues that define record retention periods, looks at specific types of records for businesses, and describes how to establish a legally acceptable records program. To me the sections on record media based requirements, including requirements for microform, computer records and electronic

images, were most informative. They were comprehensive, from a legal point of view, and made useful, operational, distinctions that most managers will have little difficulty translating into policy. The appendices, containing federal and state codes and laws, were especially valuable.

"Portable Records Update - 1989." The Records & Retrieval Report 5 (January 1989):1-15.

This issue is a crisp but solid report devoted to intelligent cards employing a variety of technologies and their current and potential uses. It should prove of value to museums, which are expressing growing interests in such cards for membership, conservation records and other purposes.

NEWSLETTERS & JOURNALS

ACCIS Newsletter (ISSN 0254-3133) is the bi-monthly publication of the United Nations Advisory Committee for the Coordination of Information Systems, available from ACCIS Secretariat, Palais des Nations, 1211 Geneva 10, Switzerland. It reports on UN publications, databases and information systems projects rarely covered elsewhere.

CD-ROM EndUser (ISSN 1042-8623) is a new publication, available free to qualified subscribers from DDRI, the publishers of CD-Data Report (6609 Rosecroft Place, Falls Church, VA 22043-1828). The premier issue contains 68 pages of informative articles, book reviews, product announcements and the like. Advertising pays the way here, but the ads are a useful source of information too. Linda Helgerson, Editor and Publisher, has a well deserved reputation as the leading authority in this field.

CHART Newsletter (ISSN 7081-0239), published by Computers and the History of Art, 43 Gordon Square, London WC1, is a triennial publication now entering its fourth year. Issue #9, Winter 1988/89, includes reports on the MDA terminology control conference, building computer models of Leonardo's drawings, and computerization of the art historical resource volumes

"Buildings of England," and an interview with Kirk Martinez, Lecturer in Computing and the History of Art at Birkbeck College and University College, University of London. Back issues, which are available for one pound sterling each, include reports on systems of subject classification, videodisc and digital imaging projects, database systems reviews and the like.

Instruction Delivery Systems (ISSN 0892-4872) is free to qualified subscribers from Communicative Technology Corporation, Magazine Subscription Dept., 50 Culpepper St., Warrenton, VA 22186-3207. Directed at users and developers of interactive learning technologies, its articles are popular in orientation. The July/August issue contains an annual "Guide to Interactive Videodisc Products and Services" (authoring systems, developers and consultants, delivery hardware, overlay & interface products, production facilities, publishers and courseware sources, and workshops and information providers) which is of incalculable value to anyone in the field. Newly appointed editor Roberta Binder is familiar to those in museums and interactive video for her work in both communities.

Information Standards Quarterly (ISSN 1041-0031), vol.1 #1, January 1989, is a new publication of NISO, edited by Walt Crawford, which consolidates information available to NISO members from other distributions and makes it available to general subscribers. The first issue contains an interesting article on implementing the Common Command Language for an OCLC database and notes on the publication of a patent application standard, both by contributing editor D.L. Rings, in addition to information on recent ballots, and the status of all pending NISO actions.

1989 Travelers Guide to Museum Exhibitions (ISSN 1041-0724) reprints the 1989 forward exhibition schedules of 110 major museums nationwide in order by city. While this is obviously valuable to a traveler, an online database that could

generate such a publication would be even more exciting to museum professionals since it could produce a calendar, forward and back in time, and generate reports on whose works were exhibited where and with what.

Library Systems Newsletter (ISSN 0277-0288) reports on PC-based software packages for libraries in its March 1989 issue. Included for the first time is a package, CASPR, for the Apple Macintosh. As usual, the February issue is a round up of the larger systems vendors.

Museum Studies Journal has announced its suspension of publication after six years for financial reasons.

Museums Computer Group Newsletter 5 (March 1989). This informal group has an equally informal newsletter (lacking an ISSN). This issue reports on the October 7-8 meetings on computing at the British Museum (Natural History) and the Science Museum (London), and on the October 26-28 meeting of the Museum Computer Network in Santa Monica, CA.

EPHEMERA & PREPRINTS

Archives Library Information Center (ALIC, National Archives Library, NARA, Washington, DC 20408) is providing its quarterly list of additions and annual list of periodicals free to requesters. Author and subject indexes to the first year of acquisitions are also available. The actual lists are, however, very disappointing. They consist of fewer than 150 books and periodical articles, many with only tangential relationship to archives, and most easily available elsewhere.

"Bureau of Canadian Archivists, Directory of Archival Education Opportunities in Canada 1989-90," is a pamphlet describing the three degree granting programs in Canadian universities (British Columbia, Montreal and Laval), as well as twenty-one other programs in five provinces. The courses taught in each program are listed, usually with instructors, frequency, and pre-requisites.

"Exhibition Catalogues on 20th Century Artists" (Art Catalogues, 625 N. Almont Dr. Los Angeles, CA 90069). This latest book order catalog, complete with more than 1600 awful bibliographic citations, made me think once again how useful it would be to incorporate information about exhibition catalogues into shared databases.

Janice Honeyman (Drexel University) has published a short article entitled "Forms Based Systems for Offices" in the ASIS Office Information Systems SIGnews March 1989 (a virtually inaccessible source). The article explores the potential of forms based systems (an almost invisible software category) and suggests that these will soon be to offices what word processors are to individuals. Follow her work - it should pay off.

Irene Travis (Policy and Strategy Staff, Information Technology and Facilities Department, The World Bank, 1818 H St., NW, Washington, DC) has written an internal briefing paper entitled "Document Management Technology Survey" that has been distributed to some people outside the institution. It is an exceptionally lucid sixteen page summary of the varieties of electronic document formats, the methods of creating and converting documents from one format to another, and the means of distribution, display, printing and disposition of such documents. It would be useful reading for any archivist.

FROM THE EDITOR

With this issue, Archival Informatics Newsletter (ISSN 0892-2179) is retitled **Archives and Museum Informatics**, and Archival Informatics Technical Report (ISSN 0894-0266) receives the new title **Archives and Museum Informatics Technical Report**. Both changes reflect dual the emphasis in these publications on issues facing archives and those confronting museums. In addition, the new title of the newsletter reflects a plan to carry more technical articles reporting research and analysis for which there are not other publication outlets.

NEWS

EQUIPMENT GRANT AVAILABLE

Apple Computer, through its Community Affairs department, has announced a new computer grants program directed at museums. In February, the department issued a Request-for-Proposals, with a due date for proposals of May 1 and an award date of June 1. Beverly Long, Program Grants Officer (408-974-2974) is anxious to elicit museum ideas about how to use Apple equipment, and will provide such equipment to grantees in return for the rights to publicize the results of their efforts. Directions for applications and forms required with proposals will be sent to any museum on request.

GETTY GRANT PROGRAM

Deborah Marrow, newly appointed Director of the Getty Grant Program (401 Wilshire Blvd., Suite 1100, Santa Monica CA 90401-1455), has released new grant guidelines for that program along with a list of all projects funded between October 1, 1984 and June 30, 1988. She plans annual updates to the funded projects list.

BIOLOGICAL DIVERSITY

In 1988, James Schuer (D-NY) Chairman of a Science, Space and Technology Subcommittee of the U.S. House of Representatives, introduced the National Biological Diversity Conservation and Environmental Research Act. The bill would establish the conservation of biological diversity as a national goal, require biological diversity impacts to be incorporated in environmental impact statements, require a coordinated federal program for maintaining and restoring biological diversity in the United States, and create a National Center for Biological Diversity. Hearings held last year indicated considerable support for the legislation, but the act died in the 100th congress in the face of elections. This year observers feel

that the act stands a good chance of passage, and if it does its implications for natural history museums are substantial. In anticipation of its possible passage, the National Science Foundation has already earmarked substantial funding for studies aimed at determining how to implement the act.

If such an act passes, it would join U.S. systematists with an international community devoted to biological diversity. It would require unprecedented information exchange concerning all known species of flora and fauna and the ecological contexts of their discovery. This kind of information, the sources for which are largely held by museums, has not previously been exchanged in machine-readable form or on this scale. Overnight Congress could create a need to exchange this data and provide simultaneously the wherewithal to realize these objectives, because the act would authorize appropriations of \$10 million per annum, largely to be distributed through grants. Natural history museums are urged to watch this bill carefully, and may want to lobby for it.

FUND RAISING STUDY

The Fund Raising Institute has published a survey documenting the impact of the 1987 stock market crash on the non-profit community in the January 1989 issue of FRI Monthly Portfolio. For a free copy, write to; Fund Raising Institute, Box 365, Ambler PA 19002-0365.

WRITE CD'S LOCALLY

CD Data Report, January 1989, features Optical Media International, which has introduced TOPiX CD-R Spectrum System, a facility for local mastering of CD-A, CD-ROM and CD-ROM XA formats. The system currently costs \$150,000-200,000 and uses discs costing \$160 each, but OMI expects prices to fall rapidly. The important point is that now CD's do not absolutely require a mastering facility, but can be made locally, in effect changing our whole definition of the technology.

STATE ARCHIVISTS SUMMER SCHOOL

A summer program for fifteen state archivists, funded by the Council on Library Resources and organized by the University of Pittsburgh School of Library and Information Science, will be held from June 5-16 in Pittsburgh. The program is devoted to strategic planning for automation, with instruction focused on what is happening in automation and on how to conduct and implement strategic plans. The outline for the summer course was approved at a meeting in March attended by organizers Ed Bridges, Larry Hackman, and David Hooper, and by Toni Carbo Bearman, Dean of the School, Richard Cox, Lecturer in Archives, and M.K. Biagini, Associate Dean and Director of Continuing Education Programs. Also in attendance for some or all of the meeting were Edie Hedlin, John McDonald, and David Bearman, as well as numerous University of Pittsburgh faculty who will assist in the presentation.

PROFS RECORDS SUIT

In December, the National Archives published a proposed new rule on Electronic Records Management in the Federal Register. The rule, which has subsequently gone into effect, was intended to "effectively deal with the issues associated with data base management systems and office automation technologies." The new regulation "requires agencies to establish an administrative structure to deal with electronic records, to implement procedures for the selection and maintenance of electronic storage devices, and to follow legal requirements for the disposition of such records." Among other things the rule requires agencies to keep a complete inventory of all electronic records systems on mainframes, mini's or microcomputers, and to schedule all records in such systems. It establishes standards for office automation systems "which maintain the official file copy of documents on electronic media" but ignores systems in which administrative guidance is provided to maintain official file copies on paper or microfilm.

In January, Scott Armstrong, journalist and Director of the National Security Archive [NSA, 1755 Massachusetts Ave., NW #500, Washington, D.C. 20036], brought suit against the National Security Council (NSC), the White House and the Archives to prevent the destruction of all of the tapes of the PROFS electronic mail system at the NSC that was planned to coincide with the end of the Reagan administration. The National Archives, in its defense against the suit, argued that the White House staff was given instructions to copy all records onto paper and that any information remaining only in the PROFS system was not substantive. Armstrong, citing Oliver North and others, noted that staff never copied records onto paper and that in the past many such transient documents were found to be substantive, indeed some were of critical national security interest. My view of the NARA position is that the Archives utterly abdicates responsibility for establishing which electronic records need to be retained or how, and ignores both its own new regulations and the advice of the NAPA panel (see page 15).

SUBSCRIPTIONS AND SINGLE ISSUE PURCHASES:

Subscriptions are offered on a calendar year basis only: \$40 for **Archives and Museum Informatics** alone; \$160 for **Archives and Museum Informatics Technical Report**, including **Archives and Museum Informatics** to addresses in the U.S., \$180 airmail to foreign addresses. Single issues of technical reports for 1988 and 1989 are available for \$35 each. 1987 issues, while available, will be provided for \$20 each.

An additional \$5 charge applies to all billed orders. Payment must be made in U.S. currency.

Subscriptions and orders for individual reports should be addressed to Lynn Cox, Managing Editor.

PROJECTS & PROPOSALS

MARC FOR MUSEUMS

A variety of projects are underway to explore the suitability of MARC for museums.

-- Deirdre Stam, Executive Director of the Museum Computer Network, and staff at Syracuse University have received funding from the Council on Library Resources to examine the problems in using the existing MARC formats for Syracuse University museum holdings. [Deirdre Stam, Museum Computer Network, Information Studies, Syracuse University, Syracuse, NY 13244-2340]

-- Linda Evans, Archivist at the Chicago Historical Society, recently sent me copies of proposed artifact records, created as part of an internal planning effort, that reveal some under-developed areas of the current MARC-VM format. [Linda Evans, Chicago Historical Society, Clark St. at North Ave., Chicago, IL 60614]

-- Last fall, Rachel Allen of the National Museum of American Art reported on the use of MARC formats for building a national database called the Inventory of American Sculpture. [Rachel Allen, Visual Resources, National Museum of American Art, Smithsonian Institution, Washington, D.C. 20560; 202-357-1626]

-- Occasionally I hear from someone who has obtained a copy of a report that I wrote two years ago for the Architectural Documents Advisory Group (now the Foundation for Documents of Architecture) that explored the potential for "mapping" ADAG data into MARC.

These efforts are useful insofar as they help us define the kinds of data that the museum community needs to exchange, but we should be wary of any temptation to "adopt" MARC first, and then try to make it work. What all these studies indicate is that

there is considerable interest in finding an external data standard of use for information interchange purposes. They show that MARC content designations established by the library, archives and visual materials communities do not yet meet the needs of museums. It would be surprising if they did!

In my view, what the museum community needs to do is define what data it wants to have incorporated into such an external information interchange standard (remembering that communicating to one's own next generation system is a major desiderata), and then negotiate with the library and archive communities to get such data represented in a content designation either within MARC, or within the broader family of ISO 2709 formats already embraced by CIDOC.

OPTICAL IMAGING PROJECT

The Kellogg Project at Syracuse University has announced that Plexus Computers Inc. has installed Phase II of its image and text retrieval system. Over the next year the staff will be scanning more data for the system and developing training materials for researchers as well as extending the experimental artificial intelligence front end. [Beth Oddy, Kellogg Project, Syracuse University, 113 Euclid Ave., Syracuse, NY 13244-4160; 315-443-1095]

UNESCO-ICOM DOCUMENTATION CENTRE

Susanne Peters, Director of the Unesco-ICOM Documentation Centre, describes the status of the Centre and its plans in *ICOM News* 41(#3, 1988):14-15. She sees the development of a museum documentation thesaurus around which the holdings of the Centre can be retrieved as a critical first task. [Susanne Peters, Head, UNESCO-ICOM Documentation Centre, International Council on Museums, Maison de l'UNESCO, 1 Rue Miollis, 75732 Paris CEDEX 15 FRANCE]

GOVERNMENT RECORDS PROJECT

In preparation for its organizational meeting April 1, the working groups of the RLG Government Records Project prepared statements of objectives and activity plans for the project steering committee. The Appraisal Working Group proposed as its objectives to:

1. Continue to test cooperative appraisal models for specific classes of federal, state and local government records.
2. Evaluate the utility of including record schedules, both specific and general, in the RLIN database.
3. Collaborate with the National Archives and Records Administration to provide a vehicle for testing a shared approach to managing interdepartmental records.

Among the specific activities planned by the Appraisal Working Group are:

- to identify in April 1989 data elements to be included in appraisal and retention schedules, and to develop guidelines and standards for the presentation of the appraisal data by May;
- to use the guidelines in July to assess the value of the current LDAS/LDB format and to design and conduct a test to run in three to six functional areas over the next year;
- to analyze by June 1989 the current standard for reporting record schedules and to conduct a test of new methods by September 1989;
- to identify two to four activities that produce records at the federal, state and local level and evaluate the utility of sharing appraisal data for them across jurisdictions (no date).

The Descriptive Practices/Search Strategies Working Group established as its objectives to:

1. Assess the need for standardization of descriptive practice among government records repositories, and to identify areas in which to develop standards and guidelines.
2. Identify extant standards or guidelines applicable for use in description of government records, or to establish such standards/guidelines as needed.
3. Test the viability of controlled vocabularies for function and form of material as they relate to descriptive practice and access.
4. Identify common search strategies to ensure access to government records online.

The Vocabulary Working Group defined objectives for form of material vocabulary definition and functions vocabulary definition. In both cases they will define the need and uses for such vocabulary, review candidate vocabulary, implement the vocabulary and assess the experience.

Frank Evans, Marie Allen and Mike Miller of NARA contributed to the discussion of all committees with a memo dated February 16, 1989 discussing "proposed terms and procedures for representing intergovernmental relationships in RLIN". This thoughtful piece examines common subject terms, form terms, sharing of agency history records, note field references in 544 and 535 fields, and future prospects for faceted indexing as tactics for representing intergovernmental record relationships.

VISUAL RESOURCES TECHNOLOGY SURVEY

Sandra Walker is conducting a survey of the use of computers and videodiscs in visual resources collections. She plans to present the results at the CIHA/VRA conference in Strasbourg France in September. [Sandra Walker, Art Department, University of Tennessee, 1715 Volunteer Blvd., Knoxville, TN 37996-2410]

USER STUDY CONDUCTED

On March 15, archivists and curators at a dozen brave institutions around the country conducted a study of the query language employed by users of their repositories. Using data collection forms designed by David Bearman of Archives & Museum Informatics, staff at these institutions recorded as close to verbatim as possible in-person inquiries, phone inquiries, written inquiries and online database searches made by the public and staff. While the results have not yet been tabulated (they will be reported in the summer issue), a superficial review suggests that we will learn a great deal from the study, both about how to conduct such studies in the future and about the actual search strategies of users.

KENTUCKY SCHEDULES ELECTRONIC RECORDS

According to Clearinghouse vol.4 no.1, the Kentucky Public Records Division has submitted a general records schedule for disposition of electronic records to the State Archives and Records Commission.

UNIVERSITY AUTOMATED RECORDS

The College and University Section of the SAA has formed an Automated Records Planning Committee. The Committee is charged to identify college and university organizations and associations whose members create and maintain machine-readable records, and to develop guidelines with these organizations for preserving archival documentation. The Automated Records Planning Committee will analyze the activities of selected higher education organizations through review of their mission statements. Record series scheduled by appropriate administrative units within Committee members' universities will also be reviewed to identify records and/or data elements in records systems which support longterm institutional accountability and scholarly research. Members of the Committee are: Leon Stout (Penn State), Laura Thomforde

(U. of Pa.), Mark Duffy (Harvard) and Frank Boles (Michigan). Nancy Kunde (Wisconsin) and Carla Kemp (Florida) are co-chairs. [Carla Kemp, University Archives, University of Florida Libraries, Gainesville, FL 32611]

SOFTWARE

MINARET SHIPS

Cactus Software Inc. (850 N. State St., Suite 2F, Chicago IL 60610-3352) is shipping its long awaited collections management package, MINARET. President Geoff Mottram reports brisk sales of the \$595 single user version and even heavier distribution of demonstration packages (\$50 credited towards purchase). Our copy arrived last week and will be reviewed in the summer 1989 issue.

ISS BUYS MARCON

Interactive Support Systems (Suite 1400, 575 Eighth Ave., New York, NY 10018) has purchased MARCON, the full text retrieval and indexing package created by AIRS Inc. ISS intends to market MARCON aggressively for electronic archiving, electronic publishing, electronic database services and as specialty software. The acquisition comes as good news to MARCON customers who have been worried about support from AIRS, which was an ailing firm. At a New York City users group meeting in April, AIRS founder Ted Durr announced he will become President of ISS this summer.

THE INDEX PRODUCTION SYSTEM

Innington Computer Systems Inc. (Two Pennsylvania Plaza, New York, NY 10121) is shipping The Index Production System, originally designed for IBM mainframe computers using CICS Command Level COBOL, and used to generate The New York Times Index, in a version for IBM PC/AT, PS/2 Model 50 and compatibles. Output of the program can be sent to video

composition machines or into PageMaker and Ventura Publisher. Indexes for each issue or edition can be kept separately and merged into cumulations. The system maintains a thesaurus of valid entries, forms cross references, and provides for control of sorting for terms like 43rd St. under FORTY THIRD.

ORG PLUS

Banner Blue (P.O.Box 7865, Fremont, CA 94537) has released ORG PLUS Advanced (\$129.95) permitting the construction of organization charts, and other similar kinds of tables and some simple graphs. The product allows you to customize charts on the screen, print sideways, import data from comma delimited ASCII files, and support up to 600 positions per chart. Archivists and records managers will find it very valuable to maintain agency history databases.

CIN

Since my review of the Conservation Information Network in the last issue of this newsletter, CIN has announced the streamlining of its opening menus, which I criticized. They are better.

ARGUS

Since my review of ARGUS in the last issue, Questor Systems has provided me with an updated System Manual for release 6. It is a very nitty gritty technical document having to do with equipment connections and trouble shooting, but still leaves QUESTOR without a manual that describes the data structure of the system or its overall capabilities in a non-tutorial fashion.

FUND-MASTER 6.0

Master Software Corporation (8604 Allisonville Rd., Suite 309, Indianapolis, IN 46250) announced the release of version 6.0 in January.

STAR

Cuadra Associates (11835 W. Olympic Blvd. Suite 855 Los Angeles, CA 90064) has announced the release of a new "C" language version of STAR. In addition, a recent version of STAR permits the AlphaMicro host to tie into a PC network and to DECNET running on a VAX.

STANDARDS

DATA EXCHANGE STANDARDS AND ARCHIVES

Charles Dollar and Ted Weir (NARA) have been circulating a paper entitled "Archival Administration, Records Management and Computer Data Exchange Standards: An Intersection of Practices," which identifies the reasons archivists and records managers, even more than active records data processing managers, need to be concerned with data exchange standards, and discusses numerous existing and proposed standards and their inter-relationships. They invite colleagues to request, and readers to comment on this work in progress. Write the authors at: Archival Research & Evaluation Staff (NSZ), NARA 14-N, Washington DC 20408; fax 202-523-5523.

ARCHIVAL DESCRIPTION STANDARDS

Vicki Walch, Project Coordinator for the Working Group on Standards for Archival Description, issued a report in February and a summary of the discussions at the group's December 3-4 meeting in College Park, MD. The two documents together constitute the best analysis available of the potential significance of standards in archival activity and of the nature of different kinds of standards and their implications. Readers of this newsletter are strongly urged to write Vicki at 65 N. Westminster St., Iowa City, IA 52245 to get copies, and to comment on the work of the group prior to its next meeting, scheduled for June 3-4.

MARBI, JANUARY 1989

Lisa Weber's report on the January 1989 meeting of MARBI was reprinted in the February SAA Newsletter. Archivists got most of what they hoped for from this meeting - deferring the merger of 850, 851 and 852, gaining acceptance for the use of 9999 in field 008/07-14 to indicate open record groups, resolving a solution to leader byte 6 that will permit textual archives and visual materials to be reported without having to (insidiously) choose one or the other description convention, and making important points in a discussion about record linkage strategies.

NISO STANDARDS PUBLISHER

Transaction Publishers, Rutgers - the State University, New Brunswick, NJ 08903 have become the official publishers of NISO standards and now provide a full catalog of all NISO publications. Draft standards are available from NISO, P.O.Box 1056, Bethesda, MD 20817.

PHILADELPHIA AUTHORITY FILE COOPERATIVE

The Philadelphia Authority File Cooperative, a working committee of the Philadelphia Area Consortium of Special Collections Libraries, has completed its fourth cycle of updating and distributing a shared authority file of local personal and corporate names. Updates are available from Elizabeth Fuller, Rosenbach Museum and Library, 2010 DeLancey Place, Philadelphia, PA 19103.

CIP FOR CD'S

A NISO sub-committee chaired by Dan Iddings of RMG Consultant Inc. (P.O.Box 5488, Chicago, IL 60680), is beginning to define the content of several ISO 9660 standard files including: Publisher ID, Data preparer ID, Copyright file ID, Abstract file ID, and Bibliographic file ID. The effect will be to create the equivalent of cataloging in publication data for CD's.

COMMON AGENDA PROJECT

The Database Task Force of the AASLH Common Agenda Project completed its work on defining data elements for description of artifacts within history museum collections and description of the scope of collections in the aggregate at a meeting early in April. Chairman Jim Blackaby reports that the product of the Task Force effort is expected to be published by AASLH, probably as a technical leaflet in History News, before the end of 1989.

The published product will include the draft scope of collections description that some museums involved in the project received early in March. The test form was designed to describe both the total collections of a repository and any given collection that is recognized as a subset of total holdings. Blackaby reports that when the Task Force evaluated responses to the test form at its April meeting, it felt that the framework would work, but chose not to pursue its implementation at this time.

The meat of the Task Force report will be an edited version of a draft circulated late in January. That draft definition of data in an artifact description, based on the survey conducted in the fall of 1988, identified three categories of data: management, descriptive and historical. Management data consists of an object ID, and information concerning the object's legal status, monetary value, location, and conservation. Descriptive data includes object names, descriptive texts, the number of objects in a group, material, dimensions, and inscriptions. Historical data includes for all associations the name, relationship, descriptor, location, date and qualifier of the association. A brief (ten page) description of these data, including some examples of entries, has been prepared and is expected to be made available when the product is ready. The published version will contain examples of records and forms that could be employed by a museum that wished to use the framework.

It is not yet clear what "standardizing"

role this kind of publication might have. A museum that collects this data and much other information besides cannot use the limited forms, and institutions other than museums that hold historical artifacts are not given any guidance on how to report such holdings. Nor is the relationship between these guidelines and standards of the library and archives community yet specified.

Mary Alexander, Coordinator of the Common Agenda project, reports that the AASLH is pursuing funding for a two phase project, led by Philadelphia historical organizations, to test the Task Force data elements. The first phase of this project, proposed to the Pew Charitable Trust, would be "to determine how Philadelphia museums maintain information on their collections in forms usable by staff and by outsiders with research or public program interests," culminating in a meeting that would define goals for phase two. Phase two is envisioned as the "testing of standard categories for history collections," culminating in definition of strategies for "extending this experience to other museums and cultural communities across the country."

The Common Agenda project has also tentatively scheduled a meeting with representatives of the NHPRC and NEH and professionals from other types of museums to discuss its overall strategy on June 5. I will attend that meeting on behalf of the Museum Computer Network and will report on it in the summer issue.

STANDARD FACILITIES REPORT

The Registrars Committee of the American Association of Museums is now distributing the standard facilities report adopted at its June 1988 meeting. The twenty page report is intended to serve in place of institution specific forms, so that a museum may complete the report once and use it repeatedly with all cooperating institutions, thereby saving considerable effort. The next step is to maintain these in a national database - any takers?

LC NAMES ON CD

CDMARC Names, representing 2.5 million personal, corporate, series and title authorities, has been issued on three CD-ROM discs and is available as of early April, according to the Library of Congress Cataloging Distribution Service (Washington DC 20541), for \$300. The CD can be used on any IBM compatible PC with 640 K ROM, DOS 3.1 or higher, a CD-ROM driver using Microsoft extensions, and a CD-ROM reader conforming to ISO 9660 (High Sierra) standards.

AAT NEWS

The Art & Architecture Thesaurus has released update #17 and a new version of the Visual Genre hierarchy, now retitled Image and Object Genres (March 1989). The update offers singular forms as alternate terms and includes terms proposed since the previous updates. The image and object genre hierarchy is closely related to the Document Types hierarchy, which contains very similar terminology for informational media. [Toni Peterson, Director, Art & Architecture Thesaurus, 62 Stratton Rd., Williamstown, MA 01267; 413-458-2151]

ICONCLASS

Visual Resources 5 (Autumn 1988) is devoted to a report by Catherine Gordon on the Getty sponsored workshop on ICONCLASS held in November 1987. The report, with many examples and explanations of rules, will not convince everyone about the viability of ICONCLASS, but it serves as a valuable documentation of the system.

Archives and Museum Informatics (ISSN 1042-1467) is a quarterly newsletter published by Archives & Museum Informatics, 5600 Northumberland Street, Pittsburgh, PA 15217, (412-421-4638). It is edited by David Bearman, whose authorship can be presumed for all items not otherwise attributed.

ARCHIVAL METHODS

by David Bearman

Archives and Museum Informatics Technical Report Vol.3 No.1, Spring 1989

The professional practices developed by archivists over the past century have been refined to work within repositories but little attention has been paid to their practicality in the larger cultural context. This study makes an extensive review of the professional literature to identify generally accepted archival methods. It then asks: Are the methods used for appraising archives resulting in the identification and accessioning of an appropriate cultural heritage? Are the practices of archival preservation resulting in saving of a record of adequate size and scope? Are the approaches archivists have adopted for the intellectual control and description of archival materials providing adequate access? Are the programmatic objectives of archives sufficient to assure their continuity as cultural institutions?

This report asks these questions of contemporary archival practices, and finding that our methods are not achieving the intended objectives, it asks how far short of professionally accepted goals do current methods fall? In finding that the gap between problems and solutions in each case is measured in more than one order of magnitude, the essay examines the implications of such significant shortcoming in our methods and proposes, through a combination of redefining the problems, revolutionizing the methods and reassessing the goals, a way to bring our means into balance with our intentions.

Available in June 1989 from Archives & Museum Informatics, 5600 Northumberland Street, Pittsburgh, Pennsylvania 15217 (412) 421-4638 for \$35 pre-paid, \$40 billed. Includes postage.