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A Dynamic, or Chaotic, Market

Preparing the *1990 Directory of Software for Archives and Museums*, which will be available in February, has been an exciting experience, with some important lessons for anyone in the market, whether potential buyers or vendors.

The good news is that there are at least twice as many software packages available today than there were in 1988, when the first edition of the directory was published, and that the products are, on the whole, considerably improved. The bad news is that a substantial number of vendors, and even more software products, have disappeared. In some cases these vendors or products are confirmed dead, but a substantial number are simply missing. They don't market, their mail is returned by the post office, and their customers are abandoned. Some probably never actually had a product, but beware - in a two year period address changes took place for almost half of the active vendors!

Products confirmed to be no longer offered since 1988 include DARIS, Index Editor, MILAM, Pick-RMS, Reformation and STIPPLE. Vendors that can no longer be contacted include the firms Museum Computer Systems, Shelby Systems, Image Management Corporation and CompuCorp. Some vendors, such as Village Systems Workshop (ReCollect, ReCount, ReMember Plus, ReServe) and the Williamson Group (ARTIS-Collections Management, ARTIS-Fund Accounting and ARTIS-Membership and Development) appear to have effectively withdrawn from active marketing of their products, but won't confirm it.

Because of the dynamism, or chaos, of the market, I decided to ask vendors to list the names of customers to whom they had made sales since 1988 when they reported for the 1990 edition of the Directory. While this information will not be published, it would enable us to validate sales claims and to follow up on user satisfaction. Unfortunately many vendors refused to provide the information, saying that they wished to protect customer confidentiality.

For the benefit of the market as a whole, I would urge potential customers to make it clear to vendors that they want to know who else uses the product, and encourage customers to be willing to have this information released. Until the market is more open about who uses what system, all archives and museum clients will be penalized by their inability to compare vendor satisfaction, evaluate vendor market presence, and validate vendor sales claims.

DAVID BEARMAN, Editor

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Letter to the Editor

We at Questor Systems want to express our appreciation for your comprehensive and thoughtful review of ARGUS and MUSE in the Winter 1988/89 issue of *Archival Informatics Newsletter*. We would like to take this opportunity to tell you about some new features, several of which address concerns you had, and to clear up one or two misunderstandings.

First, an exciting new feature: ARGUS and MUSE now run under UNIX. This enhancement significantly increases the already wide variety of software and hardware available to our clients....

Another feature, which you were not alone in suggesting, is a prebuilt Lexicon. Soon, we will provide a Lexicon of approximately 40,000 terms with every system. Although the publishers of many authority files refuse to make them available to vendors, we have seen, as you have, the need for a pre-built Lexicon. Therefore, we are in the process of culling important terms from the Lexicons of our many diverse users.

Let us address a couple of misunderstandings: first, we are happy to bid on data conversion, both from manual records and from magnetic media. We offer several types of assistance with data entry from manual records: one option is for us to take over the project completely for the institution; another is for us to provide a supervisor experienced with data entry projects; a third is for us to provide training for data entry personnel and advice on appropriate methods. With 20 clients and well over 1 million records on-line from both manual and magnetic media, we probably have more experience with data conversion than any other vendor. *[Ed.- I reported what Steve LeBlanc told me and am pleased to see an apparent change in policy.]*

There seems to be some confusion regarding functionality, specifically the ability of users to alter screens. In ARGUS, users may view data in any format they wish. *[Ed.- I noted this capability in the review.]*

ARGUS stores dates in an extremely efficient manner. Date fields are stored according to earliest as well as latest possible date, and a field is provided into which one may enter dates in a number of formats. In this way, it is possible to print out information like "c.1840", "1930's", or "Mesozoic Era", as well as to have complete search capability.... *[Ed.- The criticism was based on where approximate dates are posted in the index.]*

ARGUS accommodates many different types of dimension conversion, such as dress size, shoe size, etc. as well as component part measurements. In addition, component parts are accommodated with a sophisticated feature that keeps track of whole-part relationships and related objects. *[Ed.- The criticism was based on apparent absence of separate component part measures and failure to calculate based on measurements field; I may have been wrong.]*

ARGUS was the first system to provide advanced collections management features such as scheduling and assignment of tasks, as well as the tracking of completed tasks. This facility is controlled and customized by the user, since different institutions have different patterns for dealing with collections. It can be used for conservation or location reporting, as well as a host of different functions relating to accessioning and loaning.

ARGUS provides sophisticated look-up and indexing abilities on artist as well as constituent names ("entities"). When entering an artist, a user may look up the exact name and spelling of an artist, or may merely enter the name of the artist. When the system asks for the name of a person who is connected with the collection such as, for example, a donor, the system requires an ID number and automatically fills in the name. The user may look up the name of the person, using a "sounds-like" (Soundex) look-up. This feature has a number of advantages: it requires much less indexing of names, thereby making searches much faster, it speeds data entry, and it eliminates duplicate records referring to constituents.

With respect to performance: most significantly, museum tests show that it usually takes less than three seconds to enter a new Lexicon term. You visited our office and used the office system, on which we do much of our development....

The capacity for multiple parenting is one of the most powerful and unique features of the Lexicon. You mention a situation in which the relationship between the term "work horse" and its grandparent "transportation" is tenuous. However, this possibility is mitigated in searching. While searching under the term "transportation", when the term "work horse" appears, the user has the choice of whether or not to include the term "work horse" in the search. When it is clearly irrelevant, the user can eliminate it from the search. In this way, ARGUS allows the user to think of terms as relating upwards in a hierarchy in more than one direction, more closely imitating human thought patterns and simplifying searches.

Another standard search capability of ARGUS is the ability to search Lexicon fields and Lexicon terms using wildcards and/or truncations. However, the power of the Lexicon, from look-up capability to multiple relationships among terms, often makes such searches unnecessary. *[Ed.- When I asked to search the Lexicon using these features I was explicitly told that this was not possible.]*

Thank you for taking the time to review the system and give us some excellent feedback. We are grateful for the opportunity to tell you about our latest enhancements, and hope that you are as excited about them as we are.... we hope to see you and your readers at the AAM convention this year, where we will be available to demonstrate the full range of features available with ARGUS and MUSE.

JEFFREY MAYEM
V.P. Marketing & Sales
Questor Systems

User Presentation Language in Archives

DAVID BEARMAN

In November of 1988, I published an invitation to public services colleagues to participate in a study of "user presentation language," to be conducted in cultural repositories nationwide on March 15, 1989. In an explanation of the study sent to those who responded to the published invitation, I stated that "it has become painfully clear to me that one of the problems we are having in designing archives and museum information systems, is that we are not very sure of the use to which such systems are actually put. We don't know what kinds of questions they must answer, the use of the answers, or the criteria for success." Two problems with past studies were identified. They ignored the large number of questions that are posed by staff, and they recorded profiles of users, but not the contents of their questions, thus leaving us with some knowledge of who users are, but only prejudice about what each category of user might want.

To address these two specific deficiencies, I proposed a snapshot of all the questions received in participating archives in one day, based on a protocol I developed, which was refined following testing by Kathleen Roe at the New York State Archives. The protocol would provide for capture of all written, oral and computer inquiries from patrons and staff in as close to verbatim form as possible. The study would have the advantages of being non-obtrusive, but it would have some weaknesses as well. The process of question negotiation, important as this is, would deliberately not be examined; neither would the research objectives of the users. The study itself was presented as experimental; if it succeeded, further studies along the same lines could be conducted to examine initial presentation language on a broader scale, to be linked more directly to individual patrons, and to explore presentation of questions in question negotiations.

The Study

Prior to March 15, institutions intending to participate in the survey received forms, instructions, and an institutional profile questionnaire. Questionnaires sought general descriptive information on the nature of the repository, the size and date range of its collections, the format and source of its holdings, and on typical levels, loci and purposes of collection use. Forms for data recording were enclosed with suggestions of several ways in which they could be used. Only public service questions related to archival collections were to be recorded in this test, although several institutions participating in the study held museum artifacts as well as archives.

On March 15, reference services staff at eighteen repositories in nine institutions participated in the study. The participants included eight governmental, two non-profit/private, and eight university repositories. These

were located in three universities, three state archives, and three research institutions. No religious or corporate archives participated in the study.

Though the number of institutions which participated represents too small a subset of the universe of archives to be statistically valid, the diversity of the participants provides a good basis for confidence in the results, particularly insofar as the data suggest the direction of future research. In size of holdings, the institutions ranged from over one million cubic feet to less than 10,000 feet, with a modal range of 100,000 feet that was greater than the holdings of five repositories and was exceeded by four others. The range of formats held by these repositories was quite broad. Fifteen reported that over 10% of their holdings were in text. Nine held more than 10% in photographs, three in maps, two in artifacts and audio records, and one in machine-readable records.

Twelve of the eighteen repositories held more than 10% personal papers. Half had received more than 10% of their collections from their parent institution. Six held other corporate and four other public records as more than 10% of their holdings. The earliest date of holdings of the repositories participating in the survey ranged from 1300 to 1896; the latest dates ranged from 1914 to 1989. Bulk dates (defined as over 70% of the collection) fell between 1830 and 1980 with an average bulk date range of 80 years. All the repositories held more than 10% unpublished materials. Five also held more than 10% in monographs, four held more than 10% in internal publications and periodicals, and one reported more than 10% of its holdings in newspapers.

Prior to participating in the study, repositories estimated their users as consisting of:

staff	27%
scholars	27%
general public	14%
student	13%
records creators	12%
professionals	7%

They reported the purpose of use as:

general	23%
publication	21%
staff research	9%
family history	8%
collections management	7%
legal/professional	6%
creators	5%
conservation	5%
photography	5%
administrative	3%

Most of the use took place in the reading room (57%), but a substantial portion (31%) was conducted in staff areas. In addition, records were studied in creating agencies (6%) and were occasionally used in loans (4%) and exhibits (1%).

Table 1

Questions that could not be answered by any database

	# of Queries	% of Responses
Policy questions	31	2.0
Visual recognition	16	1.0
Mental states	14	.9
Polite lead-ins	35	2.2
Gossip	13	.8
Professional methods	11	.7
Retrieval	13	.8
Computer methods	26	1.7
Instruction/permission	49	3.1
TOTAL	208	13.3%

Representative questions by category

Policy: How do we handle the distribution of sales tax on yesterday's book sale? May I be considered as a summer intern? Would you be interested in acquiring a 1904 photograph of the Harvard band?

Visual: Are these the ones they couldn't find? What is this? Is that Francis Willard?

Mental states: Did I just make it worse? Why did I just do that?

Polite lead-in: Are you busy? May I interrupt you? Can you help me?

Gossip: What's being built back there? How did we do yesterday? Did you hear that X is retiring?

Professional: Do you think that alphabetical order will do to arrange these subject files when there is no apparent order? What are you doing with architectural drawings?

Retrieval: May I have 5 more reels from the WCC Collection? Could I have box 2 again today?

Computer: How can I create a template for user statistics on word processing software?

Instructions/permissions: May I go on break now? Do you have time to talk to a patron about a gift?

Findings

A total of 1559 inquiry forms were returned from the survey, with each form recording one question posed by a specific user. To begin analysis of the data, the questions were sorted according to whether they were relevant to the design of information retrieval systems for archives. Of the inquiries received, 13% represented questions that would not be answerable by any database because they dealt with policy judgments, staff directives or requests for permission, mental states, visual recognition, polite lead-in questions or gossip. Table 1 provides an analysis of these questions and some examples.

Another 36% of the questions dealt with procedures and services. A large number of these might have been answered by better signage, additional staff training or different phone systems. For the purposes of this study, however, these questions were not very informative, so they were not analyzed in depth. Table 2 provides a breakdown of these questions and some examples.

About 5% of the inquiries recorded by respondents in the study were unclassifiable or related to the survey. Many I found unintelligible, though they may have been understandable to those who received them. Others were clearly specific to circumstances I was not in a position to understand, or were follow-on questions to earlier conversations and thus unintelligible in isolation but not in context.

Table 2

Questions about procedures and services

	# of Queries	% of Responses
Procedures:		
by visitors	165	10.6
by staff	88	5.6
Is X in?		
by phone	105	6.7
in person	48	3.0
I'm X; do you have my y?	47	3.0
Hours/repository location	28	1.8
Schedules	26	1.7
Facilities locations	25	1.6
Equipment location	20	1.3
Do you do x?	16	1.0
TOTAL	568	36.4%

Representative Questions by Category

Procedures (public): How do I get a death certificate? Can I order files from you?

Procedures (staff): How can a foreign country pay for services? Who annotates the list of new registers maintained at the reference archivist's desk?

Is X in?: Is Roger there? Where's Pat? Hello, may I speak to Karen? Is George in today?

I'm X; do you have my y?: Has my photocopy order been completed?

Hours/location: What are your hours? How do I get there? Do you close at 5? Hi. What time do you open?

Schedules: Are any researchers scheduled to be in today? Can we reschedule the records survey?

Specific facilities: Is there a ladies room here? Where is the slide library?

Equipment: Do you have a stapler I could use? Are there other lenses for the reader?

Do you do this sort of thing?: Can you help me find a way to copy my nitrates? What kind of records do you have here?

The remaining 697 questions, representing 45% of the returns, were substantive queries. Each was initially examined to identify access points presented by users and to determine whether the user was seeking a specific item or would be satisfied by a class of items. Eighteen different access points were offered by users; of these, form, personal name, title, citation or call number, and corporate name each occurred in more than 10% of queries. Form and personal names were each provided by users in more than 35% of all questions. Interestingly, place, topical subject and date of subject occurred in just under 10%, 9% and 7.5% of queries respectively.

Users do not provide very many handles to their questions. In their first statement of the question, fewer than 1.65 access points are given. At times, of course, a single access point is fully adequate, as in the 12% of the queries that use a citation or call number to identify what is wanted, but even when we remove these from the sample, the number of access points only rises to an average of 1.73.

One result that was not anticipated from the literature on archival reference is that in 56% of all questions about holdings, the user is seeking a specific item. In defining "specific item searches" for these purposes we determine

Table 3

Substantive questions about repository holdings

	# of Queries	% of Responses	
	697	44.7%	
	# of Queries	% of Queries	% of All Terms
Form	274	39	24
Personal name	245	35	21
Title	148	21	13
Citation/Call #	83	12	7
Corporate name	78	11	7
Place	67	10	6
Topical subject	63	9	5
Date of subject	52	7	5
Action	29	4	3
Medium/format	28	4	3
Field help	17	2	1
Pub. or acc. data	16	2	1
Patron name	14	2	1
Series	12	2	1
Repository name	8	1	1
Request reports	7	1	1
Course name/number	6	1	1
Language	1	-	-
TOTAL	1148	163%	101%

not whether the question is specific or whether it is even well enough stated to find the desired item, but rather whether the user could be satisfied by a body of evidence or only by a specific, known item of information. "I'm looking for my mother's birth certificate" is considered a specific item query, but "I'm looking for the date of birth of Heather J. Smith of Tuscaloosa" is not. In the first example, only a specific document will do; in the second, the fact might be found in any number of documents. Authority searches are never for specific items, and many queries are for authority data. A complete breakdown of the responses in terms of the preliminary analysis of access points and specific item query is provided in Table 3.

Preliminary Analysis

Because the study was a first for archives, it was designed to be both suggestive and instructive. Some of the results of the preliminary analysis can assist us in the design of future studies. First is the finding that 56% of the queries received by or initiated by staff were not for collections. The percentage of substantive questions is, therefore, about the same or slightly higher than has been found in library user studies over the years. This suggests that future studies should probably focus exclusively on the substantive, collections oriented questions, unless the studies have as their purpose improvement of administrative procedures, signage, or staff training.

In examining the substantive questions in more detail, future studies will need to be sure to capture all the sources of questions, particularly those logged into automated systems, which most of the repositories in this study were unable to capture. Since the number of terminal transactions and written queries was too small to be analyzed statistically, this prevented detailed comparison of the number of access points. Written queries seemed to have more access points than queries received by phone, while those received by phone had more than those received in person, which in turn exceeded those (few) submitted to computers. The written queries were, of course, anticipating the remaining question negotiation. The greater tendency to indicate in the question the overall purpose of the research is the most notable attribute of written inquiries, and seems to be entirely lacking in face to face communications. Phone inquiries fall somewhere in between on both scores, so it is disappointing to find that our user interfaces to computers are so rigid and off-putting that they extract neither multiple access points nor a reason for the research visit from users.

Because the methodology emphasized non-obtrusive measures, and precluded linking individual researchers with questions, the profiles of repositories were obtained in order to be able to identify any patterns of response based on type of repository. However, the amount of data does not support such conclusions. If a future study on a larger scale found that results are broadly comparable across institutions, then in depth studies in several institu-

tions could substitute for more expensive large scale cross institutional studies.

In the design of this study, research questions about the differences between the way in which repeat users ask questions and the way in which first time users pose questions were left unanswered, because it was determined that the questionnaire should be used unobtrusively. One participating institution noted "many of our patrons come back again and again...Accordingly the questions from these repeat users have change in anticipation of what we can provide. They ask not the question they would like answered, but the questions they know we can answer."

Further Analysis and Additional Research

Further analysis of the results of this type of study should focus on semantic analysis of the queries as stated. The purpose would be to determine whether there are cues in the way a problem is stated that can be used to profile the query so that the computer can prompt the user for additional access points or greater specificity of terms. Users tend to pose oral questions to reference staff in a dialog in which only limited information is provided in the initial question. How can online public access terminals be designed to elicit further articulations of the question?

I hope that this data will help us to define techniques for automatic parsing of queries that will be useful for follow on studies. Future studies should lay the groundwork for development of user interface strategies based on the types of dialogs users have and the kinds of searches they conduct. Understanding user discourse should assist us to develop more friendly front-end processors that engage users in a dialog about their query and suggest additional access points based on common dialog frames.

Further research of several kinds is required. First, we need at least one study with a broader institutional base, possibly a statistical sample, in order to help answer the question about the impact of different venues for user queries. Second, we need studies that document the results of a question negotiation process, and possibly which document the process itself, so as to discover what facts are available to a user for the fullest expression of a question and how these facts can best be elicited. Third, we need studies that analyze in some detail the difference between user queries and staff queries. Fourth, we need studies that include enough questions from each of the sources (in person, phone, written and terminal transactions) to explain their differences. Finally, studies are needed that correlate the purposes of the users search, the desired degree of precision and recall and the place of the request within the user's research process, with the way the query is stated.

CONFERENCES

Museum Computer Network Annual Conference October 10-14, 1989

This year's MCN Conference in Chicago attracted 150 participants to three days of varied programs and one day of workshops. Each of the four workshops offered prior to the conference was filled to capacity. These included an all day workshop on planning for automation by David Bearman and Nigel Elmore, and three half-day workshops on relational database design for collections management and research (Jane Stone, Metropolitan Museum of Art), cataloging museum objects using the AAT (Cathy Whitehead and Marguerite d'April-Smith, AAT), and introduction to museum computing (Ron Kley, Museum Research Associates).

On the first day of the conference, traditionally the "Vendor's Day", the exhibits were open all day, a series of tours of automation were conducted at local Chicago museums, and an all day "marathon" session of vendor presentations took place adjacent to the exhibit area. In spite of terrible facilities (which were additionally being re-wallpapered as we met!), both the exhibits and the vendor marathon were well attended. Some of the vendor sessions packed standing room only crowds in a room for about 40 people. Interestingly, but perhaps predictably, the crowds were thinner for the newer entrants, because these vendors were the less well known. Although the exhibit area was smaller this year (only 10 vendors in attendance) all the major firms were well represented so participants were able to spend time with each vendor.

The second day of the meeting consisted of an all day, four session long symposium on electronic imaging, and a second track consisting of two morning sessions on hypertext and networking followed by two afternoon sessions devoted to a wide range of case studies.

The final day of the conference began with concurrent sessions on archives and museum parallels and solutions to common problems. These were followed by meetings of MCN's newly formed Special Interest Groups devoted to Art Museums, Natural Science Museums, Small Museums, Administrative and Membership, Vendors & Consultants, Visual Information, and Museum Bulletin Boards & E-Mail. In addition to organizational matters, including nominations of a newsletter liaison, these groups conducted substantive discussions of issues of concern to them and the organization.

The conference concluded with a session on Improving the Systems Acquisition Process, in which a panel of vendors, users and consultants faced the most lively and spirited audience discussion of the entire meeting.

Each year for the past several years the content of the annual conference has been improving. This entire meeting raised the standard further, but I would be remiss if I did not explicitly report on the extra-ordinary conference within a conference, Electronic Imaging for Museums, organized by Alan B. Newman, Executive Director for Photographic Services of the Art Institute of Chicago. Unlike so many meetings on this topic, this seminar was of great value both to those without prior exposure and to those with extensive experience, because it was focused on concrete applications and real implementation concerns. The structure of the day was to present a series of papers on new research and applications in the morning, and to follow these with discussions of implementation issues in the afternoon.

Newman's own paper on "Tools for Prototyping Electronic Image Libraries" set the practical tone for the meeting with a discussion of the advantages and disadvantages of chemical photographic processes and optical digital processes. Newman then showed and discussed a wide range of state of the art equipment from a variety of vendors and reported on his tests of them. The next paper, by Howard Besser (University of Pittsburgh), examined the line oriented user interfaces currently offered by commercial museum collection management systems, and contrasted these with the visual interfaces possible in workstation based systems, such as the prototype developed by Besser at the University Art Museum in Berkeley. Besser was followed by Jane Stone (Metropolitan Museum of Art), who reported on her work on three-dimensional modeling of material culture artifacts and natural science specimens, completed while a member of the faculty of the State University of Montana.

Michael Ester (Getty Art History Information Program) next presented the results of his research on image quality requirements conducted with groups of art historians. The conclusions, that low resolution images may have reference uses but that higher resolutions are required for research purposes were to be expected, but the discovery that even art historians are unable to accurately perceive increases in quality when resolution exceeds 1500x1500 pixels per inch or to discriminate dynamic range for color images above 6 bits per pixel and gray scales above 5 bits per pixel was surprising. Of course, such resolutions and dynamic range requirements would be extraordinarily data intensive.

In light of Ester's findings, it was especially exciting to have Russell Kirsh (retired, ex-National Institute of Standards) follow with a description of research he is conducting with his wife to define the "grammar" of paintings, by reducing Dierbenkorn's and Miro's to minimalist mathematical expressions, and using the abstractions of these painters' works to generate new paintings in the styles of the artists that are virtually indistinguishable from the real things. The audacity of the endeavor itself was breathtaking!

In the second morning session of the imaging conference, Ben Davis (MIT Project Athena), Paul Kahn (Brown University IRIS Project), and Kathy Wilson (Museum Educational Consortium Interactive Video Project) presented overviews of their multi-million dollar toolsets and described the problems that are becoming the focus of collaborative research in their respective settings. Projects by Jim Sheldon (Addison Museum) on the photographic heritage of Eadweard Muybridge, and by Dag Bergman (University of Uppsala) on the construction of an electronic image base of Egyptology, rounded out the presentations on technologies and applications.

The afternoon session, which I chaired, was opened by Marilyn Schmidt (Getty AHIP), who spoke to the potentials (cheap, powerful, visually attractive tools) and pitfalls (institutionally specific solutions, limitations on numbers who can access such systems either because of information illiteracy or cost) of electronic imaging systems. She made a fervent plea to all those involved in the field to respect tenses in their use of language; vendor hype and overenthusiasm, she noted, produce claims that an imaging system "does" x when in fact "x" has only been thought of, and no specifications has even been written. James Druzik (Getty Conservation Institute) and William Leisher (Art Institute of Chicago) next addressed the potentials of electronic imaging systems in conservation, emphasizing that it is first necessary to ask the correct question. Just what role is envisioned - diagnostic, curative, replacement of the original by an image? They were followed by Kent Lydecker (Executive Director for Museum Education, Art Institute of Chicago), who reflected on the potential of imaging to change the total character of a museum, alter its social role and its self-image. He also asserted the virtues of simplicity in the design of educational programs, and warned against getting carried away with bells and whistles. By the conclusion of the imaging symposium, participants and audience alike were exhausted by the wealth of presentations and new information. A brief formal discussion soon adjourned to the nearest bar.

Papers from the electronic imaging conference will be published in *Visual Resources*, probably early in 1991, while those from the other track have already begun to appear in *SPECTRA*, the journal of the Museum Computer Network, and will continue to be published there in 1990.

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**Society of American Archivists
Annual Conference
October 25-29, 1989**

The 1989 annual conference continued in the tradition of recent SAA meetings with an increasing emphasis on automation and on issues of information retrieval and description practice. Computer users group meetings, such as that for NOTIS which was attended by more than 40 users at 7:30 am., were among the fastest growing sessions at the annual meeting. Vendors of automated systems saw considerable traffic at their exhibits, which were well situated this year.

Unfortunately many of the sessions devoted to automation issues were of very uneven quality, perhaps because the larger number of institutions now involved with automation means a larger pool for case studies, which tend towards show and tell. We heard about implementing AMC in several local settings, and about how library technical services staff helped. We heard about developing software for mini-computers in a couple of institutions. And we heard about a variety of problems with using NOTIS in different institutions. While these case studies were not utterly uninformative, their authors too often lacked a set of questions, so the presentations neither lent themselves to comparisons nor told us much about the potentially important distinguishing features of each system, implementation, or user environment.

On the description front, Avra Michelson, Richard Smiraglia and Jackie Dooley presented excellent papers on subject access to archival materials. Jackie Dooley opened with a paper that broadened what many archivists have thought to be the parameters of subject access, from "access by topical subject term" to access by any descriptors of the subject of records, such as date, place, or names. In my view, her inclusion of genre and form, which are attributes of records but not descriptors of their subject, and of function, which is an attribute of organizations that create records but not of records, was unfortunate. Richard Smiraglia gave a good introduction to the concept of aboutness and the problems of subject analysis, though I believe his bias towards subject analysis as a method of providing access to archival materials is inherently mistaken. In her commentary on the papers, Avra Michelson reflected on a number of different ways that exploring technology and research on retrieval effectiveness, rather than expanding the numbers of subject experts (as proposed to NARA by the National Coordinating Committee), could improve retrieval. Following the talks, there was a highly spirited debate over the premises and arguments advanced in the session, something which happens all too rarely at SAA meetings.

In the session on Electronic Records Management Frameworks, Sara Kadec discussed the findings of the National Academy of Public Administration report to NARA; Lee McDonald examined the framework for policy in Canada suggested by the new Canadian policies on information holdings management; and I reviewed the conclusions of the United Nations Technical Panel on

Electronic Records Management investigation of guidelines for policy development. At the Reference, Access and Outreach Section meeting, I presented the results of my 1989 study of user presentation language.

**Museum Computer Network Meeting on
Planning for Computerization of Museum
Collection Records**

Metropolitan Museum of Art, November 9, 1989

This invitational conference, funded by the New York State Council on the Arts, was designed to serve two purposes. The first was to define the form and content of guidance to the museum community about how to plan for automation. The second objective was to assist the staff of the New York State Council on the Arts, which attended the meeting, in formulating criteria by which to evaluate applications for funding for automation projects. Both objectives required that a group consisting of museum professionals and automation experts meet together to identify what museum administrators need to know in order to manage successful automation projects, and how that information can best be conveyed to them.

Of the twenty five participants, the museum professionals were drawn largely from New York State institutions. The automation experts included Robert Baron (Consultant), David Bearman (Archives and Museum Informatics), Steve Bergman (Metropolitan Museum of Art), Andrew Eskin (Eastman House), Geoff Mottram (Cactus Software), Kathy Speiss (National Museum of American History), Jane Stone (Metropolitan Museum of Art), and Mary Sullivan (Virginia Museum of Fine Arts). During the morning session participants each had an opportunity to introduce those issues which they felt were most important to address, both in a large group session and in breakout groups devoted to "General Museums", "Art Museums" and "History Museums."

In the afternoon, the breakout groups agreed that what was needed was a document, intended both to create educated consumers and to be used as a needs analysis tool, which would frame the management issues and contain resource lists. The publication might address such management concerns as how to establish automation objectives, express requirements, evaluate a vendor, select and deploy consultants, and coordinate an automation project, as well as give examples of contracts, needs analysis worksheets, lists of standards, glossaries, and critical reviews of existing literature and systems. The meeting expressed the (contradictory?) hopes that the resulting product would be very basic, with key questions at the end of every chapter; be written in clear, non-technical English; and be sufficient in itself. The model of a disaster preparedness manual was often cited.

CALENDAR

February 21-23 Kissimmee, FL
Society for Applied Learning Technology, Hyatt Orlando
[50 Culpeper St., Warrenton, VA 22186; 800-457-6812]

March 26-28 Cambridge, ENGLAND
Acquiring an Automated Museum Documentation System, Museums Association Seminar, University Centre
[Museums Association, 852 Melton Road, Thurmaston, Leicester LE4 8BN ENGLAND]

March 29, 1990 Washington, DC
Exhibits and Conservation: A Delicate Balance, National Archives and Records Administration Fifth Annual Preservation Conference, National Archives Building Theatre [National Archives Conference Coordinator, 202-523-1546]

April 20-21 Sturbridge, MA
3rd Museum Archives Institute, Old Sturbridge Village
[Theresa Rini Percy, Director of Research Library, Old Sturbridge Village, 1 Old Sturbridge Village Rd., Sturbridge, MA 01566; 508-347-3362]

April 30-May 3 Ottawa, CANADA
Documents that Move and Speak: Managing Moving Images and Recorded Sound Documents in Archives, National Archives of Canada [Symposium on the New Media, International Council on Archives, P.O. Box 3162 Station "O", Ottawa, K1P 6H7, CANADA]

May 2-4 Winnipeg, CANADA
CHIN Users National Conference: Museums and Information - New Technological Horizons, Holiday Inn [Doug Leonard, Manitoba Museum of Man & Nature, 190 Rupert Ave, Winnipeg, MB R3B 0N3 CANADA; 204-956-2830]

May 9-13 Chicago, IL
American Association of Museums, Chicago Hilton & Towers [1225 Eye St., NW Suite 200, Washington, DC 20005; 202-289-1818]

May 13-17 Fort Lauderdale, FL
American Society for Information Science, Semi-annual conference: Micro-computing in the 1990's, Bahia Mar Hotel [ASIS, 1426 16th St., NW, Washington, DC 20036]

May 30-June 2 Victoria, CANADA
Association of Canadian Archivists, University of Victoria [Registrar, Learned Societies Conference 1990, P.O.Box 1700, Victoria, BC V8W 2Y2, CANADA]

May 30-June 3 Poughkeepsie NY
International Association for Social Science Information Systems and Technology, IASSIST [Sarah Cox-Byrne, Data Archives, Box 20, Vassar College, Poughkeepsie, NY 12601]

PUBLICATIONS

Book Reviews

National Archives of Canada. "Archival Holdings Business Area Analysis Report." Ottawa: SHL Systemhouse Inc., August 1989, 79pp. + c.500 pp. of appendixes.

This functional specification of the information system requirements for management of the archival holdings of the National Archives of Canada is probably the most important document yet published in the field of archival informatics. The staff of the National Archives of Canada, with the contractual support of SHL Systemhouse Inc., and the technical assistance of an automated information engineering tool, have produced a rigorous, complete and detailed definition of the data, activities and information flows in an archives.

Because the National Archives of Canada is a comprehensive program, collecting private papers as well as accessioning public records, managing audio-visual, cartographic, machine readable and other formats in addition to text, and serving a broad constituency both in person and remotely, a functional specification that adequately encompasses its programs can serve as an archetypical description of the informational environment of any archival repository. While this report is much more thorough and grounded in the practices of a specific institution, it was developed using the same top-down functional decomposition approach employed in a draft specification I prepared for the National Information Systems Task Force of the SAA in 1982 ("Functional Specifications of an Integrated Information Management System for Administering a Program of Active, Archival or Manuscript Records", NISTF Report, August 1982, 39pp.).

The Archival Holdings Business Area Analysis Report represents the completion of the third stage of a systematic corporate information resources planning process at the National Archives of Canada which began in 1985. In 1986, the NAC published its Long Range Information Plan, which led to a Long Range Information Technology and System Plan, and then to the analysis of one information systems business area identified by that plan, that of archival holdings, in 1988. The National Archives selected Information Engineering Methodology (IEM) and the team based analysis technique known as Joint Application Development (JAD), both of which were supported by Systemhouse, and the Information Engineering Workbench (IEW) Computer Aided Software Engineering (CASE) tools. The analysis defined goals, business functions, entities and data elements, and was intended to serve as a functional specification for a system, and to make recommendations for a feasibility study for such a system.

The resulting model identified the following subject areas:

- Acquisition/Appraisal
- Archival Holdings Description
- Conservation
- Other Records
- Response
- Holdings Awareness
- Policy Planning

The processes identified by the analysis, each of which constitutes a module of the system and is detailed in a separate appendix, were:

- Acquisition
- Description/Cataloging
- Conservation
- Reference
- Circulation and Tracking
- Promotion
- Planning

For those who want an overview of the process with a taste of its various products, a paper by Dr. Sreekaanth S. Isloor (SHL Systemhouse Ltd.) and Chris Seifried (National Archives of Canada), which was presented at the SAA Meeting in St. Louis, entitled "Information Planning: Key to the Collective Memory of the Nation" serves as an admirable summary. For the brave and for systems designers, I would urge a careful reading of the entire report.

DAVID BEARMAN

JoAnne Yates. **Control Through Communication: The Rise of System in American Management.** Baltimore: Johns Hopkins University Press, 1989, xxii + 339 pp.

The period 1850 to 1920 witnessed remarkable change in the internal communication systems which supported American business management. **Control Through Communication** attempts to describe and explain the turn-of-the-century shift from predominantly oral, informal and undocumented communication to the many formal modes of communication which characterize modern business environments. Yates presents these communication changes by examining managerial methods, communication technologies, and the varieties of communication forms, and by reviewing three historical case studies of American businesses and their use of internal communication.

In the first chapter, Yates compares early ad hoc management with the emergence of "systematic management" at the end of the nineteenth century. Systematic management, neglected in comparison to the many studies on the "scientific management" of Frederick Taylor, was an effort to manage via the development of standardized procedures throughout the workplace. Systematic

management stressed dependence on systems rather than on individuals, and the need for managers to track and evaluate work performance at all levels. Such management required a new emphasis on formal communication and documentation.

Yates clearly demonstrates how this requirement drove the development of new communication genres such as circular letters, policy and procedure manuals, forms, in-house magazines, reports, statistics and graphs. For example, the use and regularization of such things as circular letters reflected "an attempt to transcend the individual and create an organizational memory" (p. 71). Similarly, the increased use of the telephone, typewriter, duplicating methods, and filing systems occurred because of this shift in management philosophy, needs, and objectives. In other words, it was not the new communications technologies which caused the change in management philosophy and operation, but the choice of management to appropriate relevant technologies.

The three organizational case studies were chosen to allow comparison of the rise and impact of systematic management in different types of companies. The Illinois Central Railroad was, in its day, one of the largest American railroads, and as such shows the tremendous change forced upon leaders' management styles by having to administer an expanding, geographically dispersed system. At first, the railroad was managed rather crudely through rules and regulations printed on the backs of timetables. Growth led to the adoption of more complex communication and documentation formats. Additionally, the passage of the Interstate Commerce Act in 1887 created an outside demand on the company for detailed financial and managerial information, and promoted the creation of new systems to capture statistical and other documentary information. By the comparative example of the family run Scovill Manufacturing Company, Yates shows the internal struggles which resulted as management lessened the autonomy of foreman in favor of a company-wide system.

The third example is provided by another family run company, DuPont, which remained extremely conservative, even as it adopted modern communications technologies. With DuPont, the family's connection in the operation was traditionally more important than the effective management of the company. Yet, in the early twentieth century DuPont shifted to systematic management, and communication and documentation became more important, even leading the company to establish a "Hall of Records." In all three cases, Yates points out, a "formal communication system simultaneously emerged as an important control mechanism" (p. 271) even though all three had different chronological developments. She notes "in all three cases, the single factor most immediately related to the emergence of communication as a managerial tool was the intervention of a strong manager championing the new theories" (p. 273). The point in all of this, Yates concludes, is that "advances in communication technology by themselves were equally incapable of forcing systematization" (p. 271).

Control Through Communication is one of a growing number of studies that have examined the nature and origins of institutional information and recordkeeping systems. The one that most bears a comparison is James R. Beniger's *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge: Harvard University Press, 1986). Beniger's book is clearly deterministic in its argument, stressing that the modern information age is the result of society's effort to resist entropy, and of its success at creating mechanisms that control economic and related features with enhanced speed. Beniger states that as the "crisis of control spread through the material economy from the 1840s to the 1880s, it inspired a stream of innovations in information processing, bureaucratic control, and communications" (p. 220). Yates directly challenges Beniger, characterizing him as one of the "commentators [who] tend to focus solely on the technology, seeing it as the driving force causing changes in other parts of the organization.... Technologies were adopted, not necessarily when they were invented, but often when a shift or advance in managerial theory led managers to see an application for them.... The technology alone was not enough - the decision to use it in new ways was needed as well" (pp. 274-75). It is informative to read the two books together; Yates provides the detail of communications and recordkeeping changes within three companies, while Beniger gives a broader catalog of communications and other control trends.

Archivists and records managers will find **Control Through Communication** of great value in several ways. First, the study is a valuable resource for teaching about the nature of recordkeeping and organizational information systems. It covers a key period of the historical evolution of office recordkeeping, and reveals the dynamics that affect the manner in which organizations decide to utilize information for management. Second, Yates' findings have implications for archival appraisal. The author has elsewhere discussed these implications [see "Internal Communication Systems in American Business Structures: A Framework to Aid Appraisal," *American Archivist* 48 (Spring 1985): 141-58] in an essay worth reading in conjunction with this book.

Finally, **Control Through Communication** is a model of one kind of study that archivists and records managers ought to be contributing to the information and historical professions. Archivists have repeatedly speculated about where their contribution to scholarship should be made, and have often concluded that it should be in administrative history or a related field, but have generally failed to make a sustained contribution to any field. With this description of recordkeeping and information systems in the period 1850-1920, historian Yates has made a worthwhile contribution to the literature of several professions, and set a challenging example for archivists and records managers.

RICHARD J. COX
School of Library & Information Science
University of Pittsburgh

Deirdre Stam and Ruth Palmquist. "SUART: A MARC-based information structure and data dictionary for the Syracuse University Art Collection." Syracuse, NY: Museum Computer Network, 1989.

SUART is the final report of a research project intended to map the data requirements of one art museum against the existing content designation of the MARC formats for bibliographic control, and to develop an application using the SPIRES DBMS at Syracuse to support the needs of the Syracuse University Art Museum. The entire undertaking was fraught with political and technical sandpits and this report falls into many of them.

The first is that MARC is a standard communications format, not an information system, and that SPIRES is an application development environment. Very different questions must be put to each, but the report frequently confuses the two. It concludes illogically that a major shortcoming of the communications formats is that "user friendly presentation screens that draw together elements of interest to museum staff must be developed as a front-end for information in the MARC format" (p.3), even though this is clearly a requirement for the application and not for the format. At the same time, the report concludes that "the /008 field does provide a position for Type of Material which includes a code "a" for art original, but as all items to be included in the SU Art Collection system will be art originals, this designation seems unnecessary" (p.9), thereby suggesting that a communications format need not explicitly carry information that is implicit in the originating system, although the point of communication is that this is not evident to the receiving system!

Even if the report could keep its communications format and applications concerns distinct, it often draws invalid conclusions because the authors either misunderstand technical facts about MARC or present them in a way that is misleading. For example, the body of the report begins: "About one third of the entire length of UFBD (USMARC Format for Bibliographic Data) is composed of the Leader, the Directory and the Control fields. These fields make up the data dictionary for USMARC." It is not at all clear what the authors were trying to say, since these three categories of fields are, in fact, the only kinds of fields in MARC. What the authors should have done to introduce the report is to explain the three segments of the MARC record and the purposes of each following the principles established by *USMARC Formats: Underlying Principles* (Chicago: LITA, 1989). Had they done so, it would have been clearer why the proposed use of leader byte 08 to describe different kinds of art objects violated the purposes of the Leader and should have been reserved for control fields. Additionally, the authors frequently stray into the domain of cataloging rules, and confuse them with the MARC format, as in their discussion of Title (p.23).

The principal problem is that this report is not a conceptual discussion paper but an implementation. It fails to discuss why and where it was decided to place certain elements of information in a pseudo-MARC, or MARC-like

format, and it makes local usage decisions that are not required by MARC, but often blames the format for them. If the report was a conceptual discussion paper, it would not matter as much that the authors are often wrong about small technical matters [subfield codes are not marked by \$, but by a hexadecimal indicated in some documentation by the dollar sign; subfield 6 is not the only subfield to have consistent meaning across all fields - all the numeric subfields do (p.11)]. Nor would it matter that they proposed dubious conventions for content (using the field for corporate name to record tribes, studios and cultures, for example), or that they suggest elaborate schemes to avoid arbitrary format limits, such as the non-repeatability of field 100, rather than simply proposing to remove the Procrustean limit.

A more conceptual discussion would have avoided the introduction of numerous subfields in the general note field 500, and proposed a new field for the many kinds of marks and inscriptions the authors believe it is necessary to describe. A broader view would also have demonstrated the need for more detailed biographical data without suggesting that this authority information should be recorded in the bibliographic, or object, format in a note field. And a discussion might have avoided an embarrassing misunderstanding of the structures introduced into the MARC AMC format for reporting repository actions, which makes proposals for an elaborate local field 590 and for the shoe-horning of exhibit history data into a subfield within a field for provenance.

SUART should be treated as an indication of the continued attraction of standard communications formats for museums, and as raw material for the deliberations of the recently established Art Information Task Force (AITF). Hopefully the report's shortcomings will also be taken to heart by the AITF, which will have to keep issues relating to content standards (fields) and value standards (cataloging rules) separate, and to restrict itself to saying what information must be exchanged and how it will be used, rather than proposing a specific implementation.

DAVID BEARMAN

Subscriptions to **Archives and Museum Informatics** are offered on a calendar year basis for \$40, including postage, to both U.S. and foreign addresses. An additional \$5 charge applies to billed orders. Payment must be made in U.S. currency. Subscription orders should be addressed to Lynn Cox, Managing Editor.

In-Box

Reports

Electronic Public Information and the Public's Right to Know. A collection of background papers prepared for a conference sponsored by the Benton Foundation and the Bauman Family Foundation, October 23-24, 1989.

The premise of this meeting was articulated in the background paper for the first session in which Jerry Berman of the ACLU asserted that, "The public's right to know about the business of government is a fundamental principle of our democratic government and open society. In the present era of computerized government information, the right will only be ensured if public law and policy guarantee and expand citizen access to electronic public information." In his paper, Berman goes on to identify the financial, legal and practical barriers to access to a variety of public data, ranging from the census to environmental information.

Subsequent sessions of the conference were devoted to reviewing the adequacy of existing "public law and policy," about which there was considerable debate. Patti Goldman, of the Public Citizen Litigation Group, which has been in the forefront of pressing for access, argued that the Freedom of Information Act does not need amendment, and reviewed emerging case law from a wide variety of cases to support her conclusions. Others sided more with a recent report from the Administrative Conference of the United States (ACUS), which urges some amendments to FOIA for electronic records in order to make policy clear where it is currently vague. The confused situation in agencies is detailed in an exceptional paper by Bill Burr and Tom Blanton of the National Security Archive, based on responses by 55 Federal Agencies to a Justice Department survey of existing practices. Other useful background papers include a side-by-side analysis of the clauses of the recently expired paperwork reduction act and the bills introduced by Conyers and Bin-gaman. Hopefully these background papers and the conference proceedings will be published soon.

Constance C. Gould and Mark Handler. **Information Needs in the Social Sciences: An Assessment.** Mountain View, CA: Research Libraries Group, 1989, 56p., free.

This is the second of three reports from the Research Libraries Group PRIMA project. Like the earlier report on information needs in the humanities, it is based on interviews with practicing scholars, in this case in the disciplines of economics, political science, sociology, psychology, and anthropology. The interviews concerned the directions of research in these fields and the kinds of evidence that would support the most exciting progress in each science. I found the implications for archives and

museums to be significant, but not as surprising as the findings of the humanities study. Economists need access to more numeric databases and government agency data, especially in its most disaggregated form. Political scientists asked specifically for electronic access to the data of the National Security Archive, a DC based non-profit organization that uses FOIA to collect documentation of recent US foreign policy decision-making. Sociologists are seeking greater access to data archives, especially through indexing by the questions in surveys. They additionally want more access to corporate records, although how this could be achieved remains unknown.

Psychologists expressed minimal interest in new data sources, while anthropologists were interested in sharing increasingly rare field research data and in gaining access to documentation systems for the range of material culture artifacts, photographs and sound recordings found in museums.

Sharon L. Caudle, Donald A. Marchand, et. al. **Managing Information Resources: New Directions in State Government.** Syracuse, NY: Syracuse University School of Information Studies, August 1989.

This report, prepared for the National Association for State Information Systems Inc., with support from a dozen computing and telecommunications firms, examines information management policies and practices in state government. It covers overall IRM trends and specific areas of practice such as information technology procurement, human resources management, state library functions and records management. It identifies lack of recognition for records management as a major issue for the 1990s, because it views the prospects for management of electronic public records as tied to the stature of the records management profession. The chapters on records management, based on responses from 47 states, are the most complete and up to date summary of state electronic records management initiatives currently available, although the authors detail the efforts of only a few states. Unfortunately this report is unlikely to receive much attention because it is written in a nearly impenetrable style, contains few citations and no bibliography or index, and is disseminated from an unusual source.

The Canadian Museum of Civilization Optical Disc Project, A Report by Frederick Granger and Stephen Alford. Ottawa: Canadian Museum of Civilization, 1988.

Although published only last year, this report of a project initiated early in 1985 is already dated. Its strength is in the discussion of the applications envisioned for optical discs in the museum, because these have changed much less than either the literature on other projects or the technologies themselves. The process which the museum used to define its needs and explore potential means of satisfying them remains valid.

A Statewide Archives and Records Database and Services: Background and Issues. Albany, NY: State Archives and Records Administration, [1989], 16pp.

This paper lays out a strategic vision for the implementation of TRAILS, a Total Records and Archives Information and Liaison System, for the State of New York, built on the foundation of the decade old Historical Documents Inventory and the current cooperation of New York repositories in RLIN.

Technology and Access: The Electronic Doorway Library; An operational plan to complement Libraries & Technology. Albany, NY: New York State Library, 1989, 38pp., including the full text of the 1987 report Libraries & Technology.

This is a detailed implementation plan for a project whose goal is to provide equal access to information for every New Yorker by the year 2000. Its emphasis on standards and cooperation are noteworthy.

Newsletters

ACCIS Newsletter (ISSN 0254-3133) reports on the information management activities of United Nations organizations, which are rarely reported elsewhere. [Free from ACCIS Secretariat, Palais des Nations, Geneva 10, SWITZERLAND]

Multimedia Computing & Presentations is a new, relatively expensive newsletter. The September issue which was sent for review contained a technology forecast by Creative Strategies Research International, which owns the newsletter and MCC, and a review of a disc on steelmaking. These didn't impress me enough to subscribe yet. (\$295 p.a.; \$125 for non-profits from Multimedia Computing Corporation, 290 Gordon Ave., Suite 100, Santa Clara CA 95051)

NIDS Newsletter US is a listing of archival accessions and openings from the more than 220 institutions associated with the National Inventory of Documentary Sources in the United States publishing project. While essentially an advertising vehicle, issue 4, August 1989 of the newsletter contains interesting reports on a variety of archival projects nationwide. [Free from Frank G. Burke, Editor, c/o Chadwyck-Healey Inc., 1101 King St., Alexandria VA 22314]

PICA Newsletter is a publication of the Public Interest Computer Association, 1025 Connecticut Ave., NW, Suite 1015, Washington, DC 20036. Associate membership in PICA, available to non-profits outside the DC area for \$50 per year (DC members pay \$145), entitles an organization to the newsletter (no great shakes) and to 10 free "technical notes" on such topics as "hardware and software donations", disk back-up procedures, and digital scanning, which are quite valuable. Several new "technical notes" are published annually.

Registrar vol. 6, no.2 contains an article by Leonard D. DuBoff on copyright for photographers and the first part of an article by Nicholas Ward on copyright in museum collections. This and back issues of *Registrar*, and its predecessor, *Registrar's Report*, are available from Deborah Cooper, The Oakland Museum, 1000 Oak St., Oakland, CA 94607.

The Review: Trends in Government Disclosure is a compilation and analysis of statutory, regulatory, and legal decisions in Massachusetts affecting disclosure of government information. Volume 7, August 1989 contains a cumulative index to the series (going back to 1983) which illustrates, from "abandoned property lists" and "abortions, names of doctors" to "water tested for nitrate contamination" and "worker's compensation, identity of recipient," the extraordinary range of social issues affected by policies on disclosure of information. (Division of Public Records, Office of the Secretary of State, 1 Ashburton Place, Boston, MA)

Conference Proceedings

Art Documentation 8 (Winter 1989) includes the proceedings of a symposium on "Implementing the Art and Architecture Thesaurus: Controlled Vocabulary in the Extended MARC Format" held at the 1989 ARLIS/NA annual conference. It includes papers by Mary Dykstra, Cathleen Whitehead, Murray Waddington, Toni Petersen, Kathleen Bales and Marilyn Snow, which cover a range of theoretical, vocabulary related and implementation specific issues and will be necessary reading for those trying to use the AAT.

G. Stansfield and P.T. Harding. **Biological Recording: The Products**. Cambridge, England: National Federation for Biological Recording, December 1988.

A conference held in Bristol in 1987 produced a dozen papers on practical issues of what is documented and who pays for documentation in biological field research in England. The publication tells much more about specialized literatures (badgers and butterfly recording) than about documentation issues.

D. Andrew Roberts, ed. **Collections Management for Museums. Proceedings of an International Conference held in Cambridge England, 26-29 September, 1987** Cambridge, England: Museum Documentation Association, 1988.

This is an uneven volume consisting of numerous, too superficial surveys of collections management practices in different countries and institutional settings, with little reliance on the literature, and a few very valuable articles. Two articles on information systems issues stand out as useful. Richard Light makes a clear and well supported case for the defining characteristics of collections management systems. Lenore Sarasan provides a useful checklist, which is also available from Willoughby Associates, for evaluating the features of such systems. The volume is greatly enhanced by a couple of case studies, which, in retrospect, might have been a better way to illustrate national differences than the survey articles. Toshio Yanamoto examines the close inter-relationship between collections management and risk management in a case study and essay based on his experience at the Royal Ontario Museum. Richard Foster and Philip Philips provide an insight into the use of collections management data in applications within the National Museums and Galleries of Merseyside.

Books and Articles

Hugo Caduff, Bernhard Fluckiger, and Christoph Graf. "Informatik im Dienste von Forschung und Verwaltung Elektronische Datenverarbeitung in Schweizerischen Bundesarchiv." *Schweizerisches Bundesarchiv Studien und Quellen* #15 (1989):213-272.

Reviews the automation project at the Swiss National Archives and details the functions of the system they developed on Oracle.

Richard J. Cox. **Archives and Manuscript Administration: A Basic Annotated Bibliography**. *AASLH Technical Report* #14, 36p.

This intelligently annotated bibliography of over 300 recent and classic works in all areas of archives and manuscript administration is exceptionally well selected. It is presented in sections with useful introductions by an editor who is not afraid to make critical judgements or to include mention of only some of the chapters of a compilation. Unfortunately the author name oriented index is not very useful for topical access.

George Martin Cunha. "Mass Deacidification for Libraries, 1989 Update." *Library Technology Reports* 25 (1):5-81.

Perspectives on mass deacidification are changing so rapidly that the May/June 1987 issue of *Library Technology Reports* and the 1988 OTA study of Book Preservation Technologies are dated. Cunha explains the new emphasis on paper strengthening in a report that is essential reading for those involved in paper conservation.

Janet Gertz and Leon J. Stout. "The MARC Archival and Manuscripts (AMC) Format: A New Direction in Cataloging." *Cataloging & Classification Quarterly* 9 (4, 1989):5-25.

A solid, if somewhat unimaginative, overview of AMC. It doesn't identify or stress the aspects of the format that make it unusual, in a large part because the description focuses on what is being used.

Michael Greenhalgh. "Videodisks and Their Future in Art History." *Visual Resources* 6 (2, 1989):141-164.

A confused discussion of technical issues married to an odd faith in salvation.

Carolyn Havens. "Cataloging a Special Art Collection." *Cataloging & Classification Quarterly* 9 (4, 1989): 27-49.

A discussion of the problems encountered in cataloging the work of the artist Anne Ward Huey, whose original silkscreen prints require substantial extensions to AACR2 and present the ultimate challenge in "multiple versions".

John R. Hensley. "Computers in Exhibits: Criteria for Application and Evaluation." *SPECTRA* 16 (Winter 1989): 1-4.

A useful introduction to the issues involved in using computers in exhibits, together with a good bibliography of evaluation literature. Originally a paper given at the 1989 Museum Computer Network meeting.

Peggy Ann Kusnerz, ed. *The Architecture Library of the Future: Complexity and Contradiction*. Ann Arbor: University of Michigan Press, 1989, \$27.95.

This volume is the product of a conference funded by Thomas S. Monaghan, owner of Domino's Pizza, who is a collector of Frank Lloyd Wright materials. Unfortunately, the publication doesn't live up to its promising title. The essays it contains are well grounded in the practices of the present, but rarely look beyond these. The most advanced technologies introduced into the discussions are videodisks (Margaret De Popolo) and optical discs (Mary Ison), but both envision only raster images. Nowhere is there any mention of vector images, CAD, or the true integration of design tools into the analysis and research process. This vision of the future contains too little detail for complexity and too little courage for contradictions.

Carole Elizabeth Nowicke. "Managing Tomorrow's Records Today: An Experiment in Archival Preservation of Electronic Mail." *Mid-Western Archivist* 13 (#2, 1988): 67-75.

Reports on a pathbreaking effort by the Naval Laboratories History Program under David Allison to appraise the electronic mail of the Navy Laboratory community. Nowicke has made an important contribution by opening discussion of what is about to become the primary challenge of the archival community. The issues she faced will confront us all, and although she provides no firm answers, the approaches she documents are valuable and should be considered.

Deirdre Stam. "Public Access to Museum Information: Pressures and Policies." *Curator* 32 (#3, 1989): 190-198.

Dr. Stam, Executive Director of the Museum Computer Network, has done a valuable service in identifying some of the information policy issues confronting museums. These issues will grow in importance in the coming years, reflecting both the growing demand by society for accountability of its institutions, and the increasing significance of information as a museum asset. This article is a useful framework in which to understand issues ranging from disclosure of donor sources to the revision of accounting principles and the capitalization of collections.

Elaine Svenonius. "Design of Controlled Vocabularies." In *Encyclopedia of Library and Information Science* Vol. 45, Supplement 10. New York: Marcel Dekker, 1989, pp. 82-109.

This is a stupendous overview of the issues involved in the development and use of controlled vocabularies. For archivists and museum professionals who are largely newcomers to the development of vocabularies, it cannot be recommended strongly enough. It is clear, concise, and authoritative. Read it!

George R. Thoma, Susan E. Hauser, and Frank L. Walker. "Managing an Archive of Electronic Document Images." In *Managing Information and Technology, Proceedings of the 52nd Annual Meeting of the American Society for Information Science*. Medford, New Jersey: Learned Information, 1989, pp.59-65.

This summary of research undertaken at the Lister Hill Center for Biomedical Communications at the National Library of Medicine addresses a wide range of practical issues in data capture, storage and retrieval that will prove important to anyone considering implementing an optical disk system.

Ephemera

Annual Review of OCLC Research, July 1988-June 1989. Dublin, OH: OCLC Online Computer Library Center Inc., 1989, 68pp., free on request.

Each year, the OCLC research report reaffirms the important role OCLC plays in conducting, stimulating, funding and disseminating high technology research in libraries. Research this year focused on automatic recognition, improving online retrieval, and integrating services, all three areas of great interest to archives and museums.

Lynn Ann Catanese. **Guide to the Records of the Court of Quarter Sessions, Chester County Pennsylvania, 1681-1969.** West Chester, PA: Chester County Historical Society, 1989, 67pp. plus index. \$25 from Chester County Archives, 117 West Gay St., West Chester, PA 19280; \$40 if purchased with companion guide to the Common Pleas Court.

This product of an NHPRC funded project is a valuable addition to the description of court records throughout the country. A generic approach to description, combined with elaborations of the contents of various records series, segregates the archetypical from the particular in a way that other archives can then use to identify their own records. The substantial scholarship that went into the definitions, the excellent glossary, the bibliography and the considerable index will have a value to the profession far beyond that which they will have to researchers using Chester County's archives.

David Hooper. "How to purchase computerized ticketing." 1st ed. Kansas City, MO: Scholarship Services, November 30, 1989. \$24.95 from Scholarship Services, P.O. Box 22633, Kansas City, MO 64113-2633.

This slim (58 pages double spaced) spiral bound manual on purchasing computerized ticketing systems contains good, common sensical advice. Its focus, quite properly, is not on hardware or software, but on the application. Unfortunately, the advice is not grounded in a very systematic analysis of the ticketing business, so it often fails to make direct connections between the requirements of the application and the functions of a system. Hopefully the next edition will tighten these links, which could be made explicit by using tables and lists more effectively.

State Government Records Programs: A Proposed National Agenda. NAGARA Government Records Issues Series no. 2, 4pp.

This paper, an eleven point proposal for improving government records programs, is not a study, but a call to arms.

The Videodisc Compendium for Education and Training. St. Paul: Emerging Technology Consultants Inc., 1989. \$15 from Emerging Technology Consultants Inc., P.O. Box 12444, St. Paul, MN 55112.

The 1989-90 edition of the *Videodisc Compendium* includes over 600 discs and software produced by 94 companies, listed alphabetically by title within broad subject categories. Each disc is described briefly and apparently objectively. The cost and phone number (but not address!) of the source are indicated. This edition includes a new section on authoring and presentation software as well as listings for software sold separately from discs. One page of the publication lists professional organizations and publications. I had two criticisms: the index, by title only, is not very useful and the advertising accepted by the publisher, while not extensive, does pose potential conflicts of interests.

Managing Cartographic, Aerial Photographic, Architectural and Engineering Records. Washington, DC: National Archives and Records Administration, 1989, 26pp. plus appendixes, free.

This handsome instructional guide is a quick survey of management concerns related to these kinds of records and of appropriate Federal regulations, rather than a manual of practice. It contains some useful pointers about care and maintenance and makes distinctions between kinds of records that will be useful in any setting.

NEWS

NARA Strategy for Electronic Records

The U.S. National Archives and Records Administration has formulated an internal draft responding to the National Institute of Standards and Technology report "Framework and Policy Recommendations for the Exchange and Preservation of Electronic Records". The response, entitled "A National Archives and Records Administration Strategy for the Creation, Transfer, Access and Long-Term Storage of Electronic Records of the Federal Government" lays out a comprehensive strategy for data administration, database transfer, document transfer, and the development and implementation of standards. It is a well conceived, carefully structured, program for coming to terms over the medium term with the challenges presented by electronic records. Although I would have preferred to see the transfer of databases and documents de-emphasized as the primary strategy for archiving government information, in preference to a decentralized management approach, and still believe in the potential of automatic identification of document formalisms and parsing of retrieval keywords by their document location, I find myself in broad agreement with the plan and wish NARA the best in its implementation. [Charles Dollar, Archival Research & Evaluation, NARA, Washington DC 20408]

AIIM to Develop Optical Disk Standards

The NHPRC has awarded a grant to the Association for Information and Image Management to produce a technical report containing guidelines for government archives on optical digital imaging systems used for storage of public records. The guidelines are to address the use, backup and application of such systems. [AIIM, 1100 Wayne Avenue, Suite 1100, Silver Spring, MD; 301-587-8202]

FOREMOST Specification Tests at NAC

The National Archives of Canada, together with the Canadian Workplace Automation Research Centre (CWARC) and Provenance Systems Inc. announced the launching of the IMOSA (Information Management & Office Systems Assessment) Project in December 1989. The IMOSA project, which will be completed in December 1990, is intended to design, build, implement and evaluate a prototype software application based on the FOREMOST functional specification (described recently in a paper by Bruce Miller in the Proceedings of the 34th ARMA International Conference). It will also evaluate the effects of introducing this technology into the host organization (NAC) and develop guidelines for incorporation of such technology configurations into the workplace. Twenty-two employees of the Government Records Branch of the National Archives of Canada will be involved in the design, implementation and use of the prototype. CWARC will evaluate the experiment, while the staff of Provenance Systems will be responsible for the software development. The project will also be closely monitored by the Treasury Board Information Management Division, Office Systems Standards Working Group. [John McDonald, Director, Automated Information Systems Division, Government Records Branch, National Archives of Canada, 395 Wellington Street, Ottawa K1A 0N3 CANADA]

NHPRC Tackles Electronic Records

At its June 1989 meeting, the Records Committee of the National Historical Publications and Records Commission charged its staff with developing a paper exploring issues in electronic recordkeeping as a framework for expanding its future project funding in this arena. A draft, by Lisa Weber, was discussed by the Records Committee in October and distributed for comment to State Historical Records Coordinators and others in December. It is being revised in preparation for presentation to the full Commission at its February meeting, after which the paper will be available to interested persons. [Lisa Weber, NHPRC, NARA, Washington DC 20408; 202-523-5386]

Florida to Study Local Electronic Public Records

The NHPRC has awarded the Florida Bureau of Archives and Records Management a grant to study the status of local government electronic information management policies and practices, and to recommend actions that can be taken to assure the appropriate retention of such records. The project will address how archival and records management requirements can best be introduced into systems design to realize immediate operational and economic advantages. The results of the study will be published as a primer in 1990.

MARS Goes Public in North Carolina

In January 1990, the North Carolina State Archives opened a new era for archival researchers when it inaugurated public access to its online Manuscript and Archives Reference System (MARS). As far as I am aware, this makes MARS the first Online Public Access Catalog (OPAC) in a major archival repository in the United States. The experience in North Carolina deserves to be studied closely; hopefully we can learn from this implementation so that future archives OPACs will benefit from this pioneering effort.

Automated Finding Aids

The International Council on Archives has commissioned Christopher Kitching, Assistant Secretary of the Royal Commission on Historical Manuscripts, to write a report on the state of the art in automated archival finding aids. The report is to address the types of automated finding aids that already exist and the directions of research in progress on methodology and technology in the field. Mr. Kitching has invited comments on the current state of research or applications, on particular problems in using or designing such systems, or on issues in need of further discussion. [Quality House, Quality Court, Chancery Lane, London WC2A 1HP, England; fax 01-831-3550]

Optical Digital Technology at NARA

U.S. Archivist Don W. Wilson announced the completion of the first phase of testing the Optical Digital Image Storage System (ODISS) developed under contract with the Unisys Corporation. The testing was based on more than one million military service records from the Confederate Army of Tennessee, pension and bounty land records and other 18th and 20th century materials. A forthcoming report will evaluate image enhancement, document conversion from paper and microform, efficiency of reference and retrieval, and preservation issues. The Archival Research and Evaluation program at the National Archives will assess the feasibility of employing practical digital technology at NARA and propose a final course of action. [Bill Hooton, NARA, Washington DC 20408]

A similar optical digital system at the Kellogg Project, Syracuse University, has just gone operational after three years of development and testing. [Beth Oddy, Kellogg Project, 113 Euclid Ave., Syracuse NY 13244]

StorLord EDP Preservation at NAC

After an intensive investigation of ways of improving the preservation of data on magnetic tapes, including study of magnetic cartridge tape, optical tape and optical cards, the National Archives of Canada has installed an optical disk system for preservation of its EDP data. The StorLord system consists of an IBM PC/AT running MS-DOS, and uses 12" glass digital WORM discs. Developed for NAC by Control Data Canada Ltd., one of the specifications of the system is that it transfer data quickly to new formats in order to accommodate the anticipated obsolescence of even the newly implemented disk system. [Philip Sylvain, Optical Disc Advisor, NAC, 3895 Wellington St, K1A 0N3 CANADA]

Databases

ArtQuest is an online database of over one million auction sales since 1970, which permits searching by names of painter and sculptor, price ranges, dimensions, title or words in title, media, period of art, auctioneer, and date and place of sale. The database displays price in dollars, sterling and currency of actual sale, and dimensions in inches and centimeters, and indicates whether or not the item was illustrated in a catalog. [Art Sales Index Ltd., 1 Thames St., Weybridge, Surrey KT13 8JG, England]

BAM-BAM (Book Alert: Missing Books and Manuscripts) reports lost or stolen books and manuscripts. [American Book Prices Current, Bancroft Parkman Inc., P.O.Box 1236, Washington, CT 06793; 212-737-2715]

BidNet, a company of The Dun & Bradstreet Corporation, is offering access to state and local government bidding opportunities via Dialog. File 585 provides summaries of current bidding opportunities and File 584 contains summaries of all past opportunities from January 1989. The full bidding documents are available on request. [Dun's Marketing Services, 800-223-1026]

Information Exchange Database is jointly sponsored by the Manuscript Society and Arizona State University. The database currently provides access to 2,000 privately held manuscripts, chiefly those owned by Manuscript Society members. Items are described by document type, personal name of author and recipient, number of pages, date, place of origin, first phrase of text, and subject. Each search costs \$25 plus handling. [Ed Oetting, Department of Archives and Manuscripts, Arizona State University, Tempe, AZ 85287-1006, 602-965-3145]

Photographic Conservation Association Ltd. maintains a free computer bulletin board at 312-262-6173 for anyone involved in preservation. The system, which is dedicated to the exchange of ideas, knowledge and information within the preservation community, is offered as a public service. The service should not be confused with that of the Conservation Information Network.

From the New York Times...

September 29, 1989 - Tandy Corporation introduced a 4.5 lb., \$2800 computer, called Gridpad, that accepts handwritten input from data entry forms held on its clipboard like face.

October 23, 1989 - McGraw Hill Inc. demonstrated the ability to print customized versions of popular textbooks for orders of 10 or more copies, shippable to college bookstores within 48 hours. The system, co-developed with Kodak, was introduced at the EDUCOM meeting. Custom versions of texts can have chapters in any requested order, delete certain sections and add supplemental materials.

November 5, 1989 (*NY Times Book Review*) - In "Where does a Writer's Family Draw the Line?" Janna Malamud Smith, daughter of Bernard Malamud, sparked a lively controversy over numerous issues of the *Book Review*, by setting forth the case against making public her father's private letters and journals. It is an intelligently written, sensitive article, that should be of great interest to archivists.

AAM Studies Collections Capitalization

The American Association of Museums has formed a Task Force to examine the ramifications of the proposal by the Financial Accounting Standards Board (FASB) to require museums to capitalize their collections. The task force, co-chaired by Stephen Weil of the Hirshhorn Museum and Daniel Herrick of the National Gallery of Art, was already opposed to the idea before its appointment, and is surveying AAM institutions in order to acquire information about the anticipated impact of such a ruling. Personally, I find myself favoring a phasing in of capitalization requirements, in order to realize the attendant requirements for greater informational control over collections. Properly handled, this could be the greatest boon to collections information systems ever.

Free Software from Aldus

Aldus Corporation, makers of Aldus PageMaker and other desktop publishing products, are offering complimentary copies of PageMaker and some other software to 501(c)(3) organizations including cultural agencies (but not religious organizations). Those who qualify will receive free technical support for 45 days, a monthly newsletter and product upgrades. The program is being coordinated for Aldus by Gifts in Kind Inc. [Susan Kay, Gifts in Kind Inc., 700 North Fairfax St., Suite 300, Alexandria VA 22314]

SOFTWARE

Review

CataList. Runs on IBM PC compatible with hard disk and 640K, DOS 2.1 or higher. Written in Clipper. Designed to be used with a 132 column printer. First released, 1989. \$799. Demo program available, \$10. Thirty day money back guarantee. Price includes 1 hour free telephone assistance from Lane Coddington Consulting, the development firm. Marketed by the Historical Museum at Fort Missoula, Building 322, Fort Missoula, Missoula Montana 59801, 402-728-3476.

CataList is a very basic museum cataloging system intended for the small cultural history repository using Chenhall's *Nomenclature* (new or old edition). The minimalist cataloging record consists of a single screen with fixed length and format fields for Accession #, Date or estimated date, Description (150 characters), Nomenclature codes, Dimensions, Provenance, Source, Insurance value and valuation date, Location, Photo (Y/N) and Association. A subsidiary screen permits the museum to record name, address, etc. for sources. Up to 10 associations (keywords) can be assigned to any object along with a history of 5 locations. Nomenclature codes are viewable with a function key and may, along with locations, sources, and associations, be entered (as codes) from the look up table using a point-and-shoot approach. **CataList** comes with five predefined reports: a full record, a table defined by a range of records, dates, locations, etc., a valuation report, a history of locations report (past 5 locations for any item), and a report on all the coded values in the database. The program can be password protected.

There is little more to say about this program (even its manual is only 28 pages). If **Catalist** sounds like something you could use, the demo disk provides a slide show walk through of the system in about 15 minutes, but with a money back guarantee on the full system, you may as well test the real thing.

Demo Packages Received

Accession. OakTree Software Specialists, 515 East Altamonte Drive, Suite 250-9A, Altamonte Springs, FL 32701; 407-339-5855. Runs on Macintosh Plus, SE, or II with at least 1 MB of memory and a hard disk. First released 1990. \$795 for single computer site + 30% for each additional computer on site. Comes with template for one "collection" (history/ethnography; natural history; archeology; geology are mentioned in the literature). \$395 extra per additional "collection". Demo disk \$20.

Inexpensive systems don't have to be primitive, and **Accession** may well be the proof. This demo disk is a fully

functioning pre-release version of a system (limited because it is a demo for only 50 records), which I look forward to reviewing when it is available in its first release.

Each "collection" is built around a one screen cataloging record with links to up to two donor records. Collection names, geographical names, and collection specific name fields such as genus/species for natural history collections, are controlled by easily extensible interactive authority files. An open ended, free text, searchable remarks field is provided along with a "specific locality" note for field collection data. The data in **Accession** may not be particularly noteworthy, but the system's intuitive user interface is. **Accession** exploits the best aspects of the Macintosh to deliver a simple but powerful application. It is easy to use yet gently reminds the user of possible errors, and has well conceived facilities for records copying, authority list maintenance and prompting.

Inform. HWA International, Data Processing Consultants, 1694 Shelby Oaks Drive North, Memphis TN 38134; 901-388-6120. For IBM PC, System 36 and AS 400. Separately priced per module at an average cost of \$5700 per module for PC versions and \$11,700 per module for System 36 & AS 400.

Inform describes itself as a records management system, intended to be used in the office creating records (describing records at the file folder level) and in a records center, controlling "cartons" of inactive records. Of the five modules - active records, inactive records, magnetic media, financial management and barcode - only the inactive records management functions are operational on the demo disk, but the menus for the other modules suggest a basic similarity. Likewise, the documentation states that "the only visual difference between the active records module and the inactive records module is the ability in the active file to index individual files. All other menus and entry screens in the Active Module correspond to those in the Inactive Records Module." None of the reporting works at all in the demo, so I cannot comment on how well it functions, but the sample reports are simply columnar summaries with simple arithmetic support for column sums.

Based on the demo disk, this is a very thin system. In the course of regular use, retrieval is by the carton number key only and no browsing is available. Dates are checked, but no other data appears to be code validated. Only 40 characters are provided for description; too few are provided for my address, many names, or many location codes. Today's date is automatically entered in "Date entered," but, on the same data entry screen, records can be destroyed before they are created, and created after they are recorded without error messages. One character codes describe types of cartons, types of destructions, and other actions. Searches listed on the menu are restricted to carton number, location, record title, or description, apparently without the ability to use multiple criteria.

The fault may lie with the demo disk, but you couldn't convince me to pay a tenth of the \$28,500 list price for five modules for a PC based system with the functionality I found here.

PROLOGUE and CAMPAIGN. Prologue Systems, 4210 Shawnee Mission Parkway, Suite 100A, Shawnee Mission, KS 66205; 913-432-2008. These two systems, **PROLOGUE** for ticketing and **CAMPAIGN** for membership and development, run under UNIX. They have been compiled in "C" under UNIX system V, Xenix, System 4.2 BSD, and SCO-Xenix for Intel 80286/386 (IBM PC), Motorola 68020 and AT&T WE32000 machines. A free demo disk contains a slide show for both programs.

PROLOGUE consists of a patron database, a performance database, seating charts and transactions (sales, billing and payments) knitted together in a way that fits into the process of selling tickets, in person or by phone, to individuals or groups, for single events or subscriptions. **PROLOGUE** permits up to 52 discounts for 9 price ranges for each seat for any performance, locates contiguous seats in various ranges, and constructs an account record for them. It allows several addresses for a patron, coded recording of how the patron heard about the program, and cash, billing, vouchers, or credit card payment with direct online verification. It prints receipts and/or tickets, in batch or at the time of transaction. The system can also make "quick sales" without patron data. It provides for releasing tickets, exchanges, and refunds according to organizational policy (including account credits and donations). **PROLOGUE** has a variety of standard reports and housekeeping functions for management. From the demo, it would appear to deserve serious consideration.

CAMPAIGN consists of a contributor database with transactions, addresses, donor profile information and an "anniversary/birthday" date tickler linked to support fund raising procedures. The documentation I have is not explicit about the link to **PROLOGUE**, but the similarity of the address and the "birthday" date structures suggest some connectability. Several notes of up to 360 characters in length are provided, but the demo does not make it clear whether they are free text searchable, nor does it indicate what functionality, if any, is associated with the anniversary date field. Transaction records and their summaries allow for reports of projections, pledges, and actual contributions, and individual payments may be posted against any number of organizational accounts, drives and/or donor pledges. The reporting features permit significant modification of existing reports and saving of customized report profiles. The mailing functions include basic list processing with mail merging. The demo is not as complete as that for **PROLOGUE**, and the system seems less fully developed, but **CAMPAIGN** also deserves a full evaluation, especially if the two products work closely together.

Software News

Cactus Software, makers of **Minaret**, have moved to 15 Kary Way, Morristown, NJ 07960-5604; 201- 540-0980. In the fall they issued Vol.1 #1 of **The Cactus Journal**, a newsletter full of advice to users.

Conservation Information Network (4503 Glencoe Ave., Marina del Rey, CA 90292-6537) announced in **Network News** vol. 2, Fall 1989 the beginning of a major cleanup project for the BCIN (bibliographic) databases, which will involve merging duplicate records, verification of journal titles, resolution of upper/lower case problems, addition of abstracts and keywords to all records, and better retrieval.

Cuadra Associates Inc. (11835 W. Olympic Blvd. Suite 855, Los Angeles, CA; 213-478-0066) have released a "C" language version of their STAR software to run under UNIX on Sun Microsystems computers as well as under AMOS on its existing installed base of Alpha Micro equipment. The new version, which includes additional features, will be installed on the present customers sites over the coming year.

Exhibit Technology, Inc. (31 East 28th St., New York, NY 10016), a designer of multimedia interactive exhibits whose clients include the California Museum of Science, the Chicago Museum of Science and Industry, EPCOT Center, the LBJ Presidential Library and Museum, the Mariner's Museum, Ontario Science Center, St. Louis Sports Hall of Fame, and Virginia Museum of Marine Sciences, has recently installed several new exhibits at the National Geographic Society in Washington and the IBM Gallery of Science and Art in New York. **Geographica**, at the National Geographic Society, includes Earth Station One, a 74 seat interactive theater, a rotating 11 foot globe, and a variety of sound and motion effects. One element in the new exhibit is a photobooth which takes a picture of a visitor and places it within a selected National Geographic cover. At the IBM Gallery, a new technique called "Through-the-Glass" enables passers by to interact with the exhibit through the display window at the front of the gallery by touching lights focussed on the window, making the front of the museum a giant touch monitor.

Explorer Technology (6475 Christie Ave., Suite 510, Emeryville, CA 94608; 415-658-5700) has signed contracts with the Science Museum of Minnesota and the Children's Museum of Indianapolis for 1990 implementations of its ticketing, marketing, group sales and fund raising system.

Inmagic Inc. (2067 Massachusetts Ave., Cambridge, MA 02140-13380 announced the release of its **Multi Adaptor** data conversion program which permits any field tagged or comma-delimited files, including DBase records, to be loaded into Inmagic databases. Inmagic was recently selected by the Environmental Protection Agency to manage records of Superfund hazardous waste cleanup sites.

Institutional Data Systems (2 Hamilton Ave., New Rochelle, NY 10801) has enhanced IDS System One release 3.0, its non-profit accounting system, to include a vendor tracking system within the accounts payable module. In the September 1989 issue of *The Meeting Manager*, Judith Mathews, president of Meeting Tech, gives the product a rave review for the assistance it can give to meeting planners based on this new feature, and its general suitability for non-profit accounting. A demonstration diskette is available from IDS.

The growing number of fund accounting packages and non-profit oriented financial management systems makes the selection of a system both easier and more difficult. There are more products that do meet the needs of non-profits, and of course they have different features. In addition to IDS, major providers of accounting software for archives and museums include:

- **Access International**, 208 Union Wharf, Boston MA 02109
- **Blackbaud MicroSystems**, 160 E. Main St., Huntington NY 11743
- **Executive Data Systems**, 1845 The Exchange, Suite 140, Atlanta, GA 30339
- **MicroCore**, 599 Broadway, Suite 800, New York, NY 10012
- **Milestone 1**, 2625 N. Meridien St., Suite 430, Indianapolis, IN 46208
- **Stelwagon Management Systems**, 114 Forrest Ave., Narberth, PA 19072

Master Software Corporation (8604 Allisonville Road, Suite 309, Indianapolis, IN 46250) has a new phone number: 317-576-6100.

NOTIS Inc. made several announcements of interest to archivists at the fall meeting of the SAA. NOTIS President Jane Burke revealed that the new merged headings index feature will generate headings dynamically, rather than in batch, and create reciprocal cross references. An enhanced facility allows for unlimited length fields and lifts the limits on the number of subfields. With release 4.6, tag 245 subfield "k" for form of material will display in the online public catalog, tests of records transfers for archival records have now succeeded, and multiple catalogs may be created on the same processor.

SofTech Inc. (5329 McKenna, Montreal H3T 1V2 Canada; 514-733-6143) has announced **PC-PRECIS**, a microcomputer implementation of the Preserved Context Indexing System. **PC-PRECIS** was developed for the National Film Board of Canada where it is used to produce subject indexes for video products catalogs.

Vernon Systems Ltd. (P.O. Box 6909 Auckland, New Zealand; 649-302-3147) announced five installations in its June 1989 newsletter. These are the Cincinnati Art Museum, Getty Conservation Institute, Museum of Contemporary Art (Sydney Australia), National Museum of Australia, and Friends of the Auckland City Art Gallery.

STANDARDS

APPM, 2nd Edition Available

The Society of American Archivists is now distributing **Archives, Personal Papers and Manuscripts: A Cataloging Manual for Archival Repositories, Historical Societies, and Manuscript Libraries**, compiled by Steven L. Hensen (Chicago: SAA, 1989, 196 pages). The new edition includes a thirteen page index, a table of US-MARC equivalents for descriptive elements, an extensive appendix of tagging examples and an appendix of complete USMARC AMC records. **APPM** now covers such matters as choice of access points, headings for persons, geographic names, and corporate headings and uniform titles, which users of the previous edition had to seek out within appropriate chapters of *AACR2*. With this edition, American archivists have in hand a volume that can be a complete cataloging manual. It even takes some steps towards resolution of differences in cataloging practices of archivists in special materials collections, fitting in more closely with manuals by Betsy Betz-Parker and Wendy Hensen. [Available from the Society of American Archivists, 600 S. Federal, Suite 504, Chicago, IL 60605; \$19 to SAA members, \$26 to non-members]

Criteria for Describing Manuscripts

The Manuscript Society Criteria Committee has prepared a draft standard for the description of manuscripts which departs from *AACR2* and *APPM*, while using some conventions from the former and fields from the latter. They intend to finalize these criteria and recommend their use in the description of individual manuscript items, but are inviting comments from the professions.

The general format of data proposed is:

Name (dates of birth and death). Biography. Terminology Code, dimensions in inches, number of pages, place, date, Address. Grade. Defects. Description.

For example,

Lincoln, Abraham (1809-1865). President of the United States (1861-65). ALS, 6"x9", 1p, Washington, D.C., Oct. 2, 1863. Addressed to Edwin Stanton. Fine. Slight foxing blank right margin. Concerns military appropriations.

For details, including a full list of abbreviations, definitions, and formatting conventions, contact Norman F. Boas, M.D., Chairman Criteria Committee, 6 Brandon Lane, Mystic CT 06355.

NARA Establishes Descriptive Standards Committee

Don Wilson, the Archivist of the United States, has appointed a committee to "identify agency-wide needs for descriptive standards and recommend methods for meeting those needs; evaluate existing descriptive practice for adequacy and continued relevance; confirm the relevance to NARA of descriptive standards adopted by the archival profession; and exchange timely information about NARA's role in the development, implementation, and evaluation of descriptive standards." The committee, chaired by Ray Moseley and consisting of the deputy heads of all NARA offices, is charged with meeting quarterly and reporting its findings to the Archivist. It is to be assisted in its deliberations by a working group initially consisting of Bob Bohanan (chair), Lynn Bellardo, Larry Hines, Sharon Thibodeau, Lisa Weber and Ted Weir. [Ray Moseley, Descriptive Standards Committee Chair, NARA, Washington, DC 20408]

Standards for Museum Education

The American Association of Museums Committee on Education recently adopted a Statement on Professional Standards for Museum Educators, published in *Museum News*, January/February 1990, p.78-80. The statement defines museum education as an obligation to a "multi-faceted public", and calls for the definition of educational policies and plans and for community involvement in the definition of educational needs.

Archives and Museum Informatics carries news, opinion and reports on information technologies, techniques and theories relevant to archives and museums. Submissions of notes, letters to the editor and articles are welcomed, and should be addressed to Lynn Cox, Managing Editor.

Copy is preferred typed, double-spaced. Longer articles may be requested in machine-readable form if accepted for publication. Authors assume full responsibility for accuracy and for any opinions or judgments expressed.

Deadlines for submissions are the 15th of March, June, September and December.

Multiple Versions Standards Debated

Participants in a Council on Library Resources funded meeting held at Airlie House in Warrenton, Virginia, December 6-8 1989, including Steven Hensen (RLG) and Lisa Weber (NHPRC) representing the interests of archivists, discussed a variety of approaches to the cataloging of multiple versions of bibliographic items.

The meeting opened with a session defining multiple versions. Each of three likely approaches to the representation of multiple versions was discussed: the recording of all versions in one composite record, the recording of differences between versions in records linked hierarchically to a single reference record, and the recording of each version in separate physical records as is currently practiced.

Several hundred pages of background papers were prepared for the meeting. Patrick Wilson's paper, "Taking the Second," presents a strong case for shifting the emphasis from the fundamental purposes of the library catalog which have been accepted by the American library community for the past century. A paper by Glenn Patton of OCLC on the differences between the requirements of three environments - internal local, internal network and communications - develops the importance of differences between requirements for data representation in different application environments. The end user needs to see all versions of a work displayed together, but the communications network will not serve its purpose if a cataloger must copy the composite record for every version of a work when only one version is in hand, or first identify whether the item in hand is a version, without knowing what the linked record looks like. Other papers were commissioned to deal with much narrower technical questions.

While reading these papers will not be high on the agenda of many archivists or museum professionals, they are an excellent source for the study of how description standards are established in the library community. It was no surprise that the meeting concluded with a compromise between the existing approach of creating separate records for each version and the hierarchical approach. I wasn't at the meeting and haven't seen the formal result yet, but it struck me before the meeting began that the fundamental problem was that libraries haven't accepted that there is an abstraction we colloquially call a "work", that is not identical to a particular bibliographic manifestation, but which is an "authority" entity. If this "work" is identified, "versions" of it can be linked to the record for the work; without such a "work" record, any other approach breaks down.

The final report on the meeting (exclusive of the background papers) is now in draft, and will be available at the end of February from Sally McCallum, Chief, Network Development and MARC Standards Office Services, Library of Congress, Washington, DC 20540.

TECHNICAL REPORT SUMMARY

1990 Directory of Software for Archives & Museums

Archives and Museum Informatics Technical Report #12
(ISSN 1042-1459)

DAVID BEARMAN

This expanded and revised edition of the directory first published by Archives & Museum Informatics in 1988 includes detailed descriptions of over fifty products, and extensive comparative tables of applications and utilities.

Two page profiles of each product describe the vendor, hardware environment, terms of availability, market history, product support (training, maintenance, upgrades and releases, vendor services), costs for products and services, system limits, general application characteristics, hardware integrated in existing installations, software integrated with the application, standards supported by the product, utilities, applications and the number of systems installed or sold since January 1988.

Readers may compare products making similar claims by consulting tables that list specific functions and features of applications: cataloging and description, collections management, event management and ticketing, membership and development, and records management. Software listed in these tables are additionally described in a second set of tables for the utilities and sub-systems - authority control and data validation, data entry, query and information retrieval, reporting - which support the application.

The product profiles and each of the tables are prefaced by explanations of terms used and advice on how to interpret the information recorded. An introductory essay to the entire report analyzes the direction of software developments and gives strategic considerations for archives and museum managers considering the purchase of software in the current marketplace.

Available in March 1990 for \$45 prepaid including postage; \$50 billed. Orders should be addressed to Lynn Cox, Managing Editor, Archives & Museum Informatics, 5600 Northumberland Street, Pittsburgh, PA 15217, 412-421-4638.