
The Museum Prototype Project: A View from the Library

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INTRODUCTION

THIS PAPER FOCUSES on the Museum Prototype Project (MPP) which was formed and funded by the J. Paul Getty Trust in 1983 (participating museums were the J. Paul Getty Museum; Solomon R. Guggenheim Museum; The Museum of Modern Art; the Metropolitan Museum of Art; Museum of Fine Arts (MFA), Boston; National Gallery of Art; The Art Museum, Princeton University; and The Hood Museum, Dartmouth College). Specifically described will be the development and outcome of this collaborative effort. Being a member of the MPP team for the Museum of Fine Arts, Boston, allowed this author to work within the parameters of the project as well as to speculate about the role of librarians in the development of art history information systems.

BACKGROUND: THE J. PAUL GETTY TRUST AND THE PROTOTYPE PROJECT

By 1979, trustees of the J. Paul Getty Museum showed a keen interest in understanding the needs of specialists in the field of art. They began to realize their responsibility for administering what then promised—and subsequently proved—to be an enormous endowment set up by J. Paul Getty to support the museum he built for his personal art collection. Given the physical limitations of the Getty Museum building in Malibu, California, they realized it would be impossible to expend enough endowment income annually on the museum alone to maintain the nonprofit status of the trust. During the 1980 annual

meeting of the American Association of Museums meetings in Boston, representatives of the J. Paul Getty Trust interviewed museum curators, conservators, and educators in order to broaden their knowledge of the field of art and test the potential of program and project ideas. They were clearly aware of the possible deleterious effect the Getty Trust's buying power might have on the international art market, yet their ideas were conceived on a grand scale. The trustee who interviewed this author raised an extraordinary question: How would the creation of a world-class art library on the west coast benefit and/or detract from art historical research? From my perspective, this was a naïve proposal because great libraries are not the result of massive book buying alone; there is no substitute for decades of carefully orchestrated collection development. In less than ten years, however, the great scope and depth of the Getty Library has proven that the author, not the trustee, was naïve (Failing 1984; Loomis 1985; Stevens 1984).

J. Paul Getty died in 1976 but the bequest was not settled until March 1982, shortly after Harold Williams, a former head of the Securities and Exchange Commission, was named president of the trust. He and fellow trustees began immediately to expand the trust's operations, planning, as he said, to "develop programs going beyond the reach of others and addressing needs not otherwise likely to be met" (Failing 1984, p. 66). Part of the impetus to expand activities beyond those of the Getty Museum alone was certainly the need to expend annually, as an operating trust, 4.5 percent of the market value of its endowment. In 1982, with the endowment at \$1.4 billion, the spending requirement was \$60 million (Englander 1982).

Within the next two years, John Walsh was hired to direct the J. Paul Getty Museum, Kurt Forster was selected to head the new Center for the History of Art and the Humanities, and the Art History Information Program (AHIP) was formed. The aim of AHIP was the development of an integrated computerized information system to support international art historical research. According to Nancy Englander, then director of program planning and analysis, the Getty Museum was "the only institution in a position to take an international overview of common problems and discover what might be possible in terms of integration" (Hannon 1985, p. 4).

AHIP, which became an interdivisional unit of the trust, began to support several existing documentation projects including the Avery Index to Archeological Periodicals, the Art and Architecture Thesaurus, The Art and Architectural Technical Abstracts, the Census of Ancient Art Known to the Renaissance, the Provenance Index, and RILA (International Repertory of the Literature of Art) (*The Getty Art History Information Program Newsletter* 1985; *The J. Paul Getty Trust* 1986).

One of the programs initiated by the Getty Trust, the Museum Prototype Project, was established to provide a broader forum for the discussion of issues pertaining to computerization of art museum col-

lections. This project was officially announced by Nancy Englander in the fall of 1982 at the annual conference of the Museum Computer Network in San Francisco, California. Six U.S. museums were initially invited to participate in this unique cooperative computerization effort, with two university museums soon added to the project.

MPP FORMULATION AND GOALS

Each museum was free to assign staff to form the core museum personnel for the project, and the number and positions of team members varied from institution to institution. Between two and five people were involved from each museum with a total of approximately twenty-five working on the project at any given time. Included were administrators, registrars, curators, data processing managers, and, in the case of the Museum of Fine Arts, Boston, a librarian. The time commitment required by the project caused museum staff and administrators to realize the need for additional support staff for the project, a request granted by the Getty Trust. Each institution individually tailored the job description and interviewed and selected its own Getty staff member. Professional qualifications varied widely but most job descriptions required a background in art history rather than data processing. Salaries for the positions were separately negotiated between each institution and the trust depending on the level of staff sought; most but not all of these MPP staff members were employees of the Getty Art History Information Program.

Marilyn Schmitt, program officer, became the Getty Trust coordinator of the MPP; her doctorate in medieval art history gave her the background to formulate the scholarly expectations for the project. William Y. Arms, vice-provost of computing and planning at Dartmouth College, became the part-time project director in fall 1983, to handle administrative and technical matters. His experience included the development of a sophisticated academic and library computing environment for Dartmouth College. His technical experience complemented the art historical and museological strength represented by the Getty staff and MPP members.

Arms visited each museum to assess the unique characteristics of its collection. By spring 1984 the MPP structure was in place and the group began meeting regularly every other month. Meeting locations rotated among each participating institution. From the assigned staff, a primary contact was identified by each museum to facilitate communication and serve as an official institutional spokesperson. Agendas for meetings were established by Arms in consultation with these primary contacts; minutes were taken by one of the MPP Getty-funded staff members. An outside consulting firm, Willoughby Associates, was hired to assist in preparing the data fields for the project.

In September 1984, Arms presented a paper on the history and status of the Museum Prototype Project at the Second International

Conference on Automatic Processing of Art History Data and Documents held in Pisa. The original aim of the MPP was to build an integrated research system which merged various Getty Trust-sponsored projects with selected external databases. In Pisa, more realistic goals were presented. These goals were:

1. To establish a standard cataloging format for paintings.
2. To provide a merged, shared catalog of Western paintings.
3. To build a database of artists represented in that catalog (Arms 1984, p. 28).

By mid-1984, participating museums had drafted specific project goals and refined the scope of the project. The goal statement was never endorsed which was due less to disagreement among MPP members than to the group's recognition of the enormity and complexity of the document. However, the refined goals, which follow, elaborated upon those announced in Pisa and still served as guiding principles for the project.

Computer Record Formats

1. To develop a standard for exchanging information on Western paintings.
2. To strive for agreement on record formats with other art history and museum automation projects.
3. To define data elements capable of containing information normally found in the files of museum curators and registrars.
4. To consider extension of these data elements to other types of objects.
5. To plan for flexible retrieval of information.

Content

1. To coordinate the content of catalog records to facilitate data entry and retrieval.
2. To develop or adopt controlled vocabularies or thesauri for descriptive cataloging and proper names.

Shared

1. To enter into a shared catalog all data about Western paintings in registrarial and curatorial files of a nonconfidential nature.
2. To mount the shared catalog on a system selected for ease of data sharing, maintenance, and searching.

Collections Management System

1. To develop automated collections management systems as needed by each institution.
2. To analyze links between shared catalog and automated collections management systems.

DEVELOPMENT OF THE PROJECT

Work progressed simultaneously on many aspects of the Museum Prototype Project. Considerable energy was devoted to the group's general education about computers including the basic concepts of word processing, data processing, report generation, and relational

databases. This helped to eliminate confusion over standard computer terms and concepts which formed the vocabulary of the discussions. Concurrently, a survey of certain existing art documentation projects began. This was accomplished by visits from key personnel of major art information systems. Greg Spurgeon, database manager of the National Gallery of Canada, described his institution's participation in the Canadian Heritage Information Network (CHIN) and David Bearman of the Office of Information Resource Management, Smithsonian Institution, discussed the design and structure of the institution's automation program. Data dictionaries and other types of project information were frequently circulated which also helped familiarize members of the MPP with the issues relating to automated art documentation (*Humanities Data Dictionary* 1984).

Occasionally, short, informal papers or presentations were prepared by individual members of the MPP group. This author discussed the Art and Architecture Thesaurus (AAT) in June 1985. The AAT is a hierarchically structured vocabulary with potential for use in cataloging bibliography, archives, visual resources, and art objects as well as indexing and abstracting art information. This report proved to be an introduction to the concepts of authority control for some MPP members and to the process of building a controlled vocabulary for others. Another paper, presented by Phyllis Floyd, art historian and MPP research curator at Dartmouth College, explored the problems of establishing the conventions for dates in an automated system.

Lenore Sarasan, president of Willoughby Associates, Ltd., presented a paper on computerized collection management which provided both a philosophical and practical view of the topic. She identified the need for two basic types of files. One, a queryable data file, contains data on the individual objects and can be searched and sorted to provide reference information. In 1983, according to Sarasan, most of the 600 automation projects underway in American science, natural history, and art museums were this type of file. The second type of file, according to Sarasan, is the collection management system which integrates and tracks such day-to-day functions as acquiring, accessioning, cataloging, locating, and loaning works of art. Her experience led her to question three of the basic assumptions about computerization of museum collections: that comprehensive amounts of information need to be entered about each object; that museum information is static and unchanging; and that curators spend the majority of their time answering research questions. For those contemplating computerization she recommended: Identify a small number of fields of information for phase one of a project; if carefully selected they will answer the majority of reference questions and provide experience with querying and manipulating data which can prove to be indispensable in planning later project phases. Select a system which offers easy correction and maintenance features because object information is dynamic and changing. Focusing

on computerization of collection management functions which constitute much of the time-consuming, repetitive work for curators and collection managers (Sarasan 1984, pp. 58-66).

The MPP group indeed recognized that collections management issues were a high priority within each institution but grew to appreciate that it was perhaps a more difficult component to standardize than an object record itself. Collections management involves information about the acquisition, storage, loan, insurance, exhibition, conservation, and, occasionally, deaccessioning of art objects. A computerized collections management system could produce forms, labels, and reports which would automatically add greater speed and efficiency to daily operations while reducing the amount of clerical and repetitive work in museums, but the museums varied widely in their controls and paperwork surrounding these functions.

In spring 1985, each museum began to examine its own collections management practices. The process of documenting in detail each step of every collections management procedure was a laborious one for the registrarial members of the MPP. Comparison of the different types of forms alone demonstrated how difficult it would be to develop a prototype system which also provided support for widely varying local requirements. Automated collections management was put aside as a realistic goal for the MPP, but by the spring of 1986 the J. Paul Getty Museum had developed a preliminary system independently. (Collections management systems have been released by several commercial computer vendors including ARGUS by Questor Systems, 844 Colorado Boulevard, Los Angeles, CA 90041; ARTIS developed for the Art Museum Association of America by the Williamson Group, 129 Mt. Auburn Street, Cambridge, MA 02138; ERROS by Stipple Database Systems, Ltd., Warren Farmhouse, Thame Lane, Culham, Nr. Abingdon OX14 3DT, England, and MILAM and MIMSY developed by Willoughby Associates, Ltd., 2800 Sheridan Place, Evanston, IL 60201.)

DATA DEVELOPMENT

Work on identification and definition of the data fields—the information elements to be included in the system—was a major focus of the MPP. In spring 1984, Willoughby Associates distributed a Data Field Compendium to be studied by the group. MPP members also looked at the data fields of existing projects such as the Data Dictionary of the Canadian Heritage Information Network (CHIN). Lists of potential fields were drawn up, reviewed by MPP members with their institutional colleagues, and revised at MPP meetings. Many problems relating to semantics surfaced. For instance, what one institution might refer to as the materials of a painting were referred to by another as medium and support. Also, in order to search on date ranges for artists or works of art without exact known dates, the date fields needed breaking down into earliest known date and latest known date.

During the laborious data discussions, plans for mounting the information on an existing database were also considered. William Arms suggested using the Research Libraries Group (RLG) database, the Research Libraries Information Network (RLIN). While he recognized this was unlikely to provide a long-range answer to the computerization of museum information, he felt it had potential for the prototype project because it was a tested database which was successfully managing several million bibliographic records. This suggestion proved unsatisfactory to the curatorial members of the MPP because they were convinced that a library system, using the Machine-Readable Cataloging (MARC) format, could not accommodate the complexity of the museum catalog records in spite of the fact that Arms had produced a MARC mapped version of a preliminary set of data fields in February 1984.

THE PC PROJECT

During summer 1984, as the deliberation over computer systems continued, the group decided to launch a scaled-down, test phase which was referred to as the PC Project. The data field lists were examined and sixty-three basic, most significant, fields were selected for the test (see Appendix A). Willoughby Associates, Ltd. was contracted to implement the PC Project. After months of evaluating the capabilities of various software packages, the MPP chose Informix software to run on IBM-XT personal computers. The plan was for each museum to have a separate database of its Western paintings collection structured by the limited fields of the PC Project and maintained by its own IBM-XT. The Metropolitan Museum and the Museum of Fine Arts, Boston, contributed information about their European paintings collections only.

To enter the information into the computers, Willoughby Associates proposed their method of data conversion called "rapid data entry" (Sarasan 1984, p. 4). Willoughby prepared for data capture by visiting each museum and examining the existing manual files to identify the best file from which to gather the information required to produce a record. Working with AHIP Systems Analyst Paul Lowe, they used software for the data capture process which allowed information from certain fields to be repeated from record to record. Thus if inputting records for twenty paintings from one donor, the donor's name, method of acquisition, and date of gift did not have to be re-entered for each record. In addition to the obvious time savings, this method decreased the number of typographical errors. The inputting was done by high level staff—Sarasan and Sunderland—rather than by clerical workers. Sarasan maintained that their expertise with museum data would allow them to build consistency into the data where minor discrepancies of syntax or punctuation appeared in the manual records. They worked intensively often inputting 1,000 painting records in as little as one day. This speed did not, however, compromise the accuracy

of the data. They employed a method of proofreading by which errors could be spotted easily. They worked from vocabulary frequency lists which put in alphabetical order all the terms for a specific data field along with an indication of the number of times each term was used. Thus if the name Picasso were misspelled it would appear twice on an alphabetical printout of all the names in the Artist Last Name field and could be easily corrected. In some instances, rapid data entry was done off site. Such was the case with the Museum of Fine Arts, Boston, where information was input from a recently published catalog of its European paintings collection rather than from card files in either the registrar or curatorial offices (Murphy 1985).

DATA ANALYSIS

In 1985, comparative analysis of data was identified as a preliminary step to merging the paintings records of all eight museums. Completion and installation of the European paintings PC database phase of the project in fall 1985 allowed the Museum Prototype Project to focus on this process. Teams of two to three people studied the problems and issues surrounding the data in the following fields: inscriptions/markings, medium/support/materials/technique, dates, nationality and school, names, and painting titles. Vocabulary frequency lists from each of these fields were printed out from the PC databases and supplied to the appropriate team. The cataloging manual of each museum was also supplied to help interpret why and how each museum applied terms and followed certain conventions for recording information. Each team was to make a detailed comparison of the similarities and differences in the data. The results of these separate analyses are being combined into a single study by Patricia Harpring, Getty research associate at the National Gallery. The final result is to be a report that includes the results of these analyses and a history of the Museum Prototype Project written by Marilyn Schmitt (at the time of this article's writing, the publication schedule for the book is unknown).

Monique van Dorp, Getty research associate for the MPP at the Museum of Fine Arts, Boston, wrote the paper on medium, support, and technique. First, the fields under discussion were defined as follows using the MPP Data Dictionary—Material(s): The applied media used in the creation of the work. Support(s): That to which the elements listed in the Material field are applied. Medium for Display: The materials, technique, and support of a work as defined and used by the institution.

Before doing comparative analysis, the data of each museum had to be examined from a number of views. What was the source of the information in the MPP database? The varied answers included individuals with the responsibility of documenting objects and the authority to resolve vocabulary matters, the object records themselves located in the Registrar's Office and/or the curatorial department, and, all too infre-

quently, authority files maintained by the institution to help attain and maintain vocabulary consistency.

Using alphabetical printouts of the four data fields under consideration, certain conventions could be grasped immediately. These included punctuation, word order, and connectors such as “and” and “or.” Although it was clear that rules and standards had been followed, the printouts in many cases also revealed inconsistencies within institutions as the following examples demonstrate:

Punctuation:

“Oil colors, freely mixed with turpentine, on canvas”

“Oil colors freely mixed with turpentine with traces of watercolors and pastel over pen-and-ink drawing in paper, mounted on canvas”

Singular and plural forms:

“Pastel on paper”

“Pastels on paper”

Prepositions employed to indicate the relationship of terms:

“Fresco, mounted on canvas”

“Fresco, transferred to canvas”

“Fresco, transferred to canvas and attached to wood panels”

“Tempera and gold transferred to canvas, laid down on wood”

Different terms used synonymously:

“Oil on composition board”

“Oil on composition panel”

“Oil on pressed board”

Proper nouns interspersed with generic terms:

“Oil on canvas with Weber Picture Cobal Varnish, Wax Finish”

“Tempera with oil varnish glaze on masonite”

Proper nouns displayed in both upper and lowercase:

“Oil on incised Plexiglas”

“Oil on masonite”

Uncertainty expressed in various manners:

“Oil on copper?”

“Oil, perhaps over tempera, on wood”

“Tempera and/or oil and silver on wood, gold ground”

“Watercolor [gouache?], and charcoal on paper”

Spelling variations:

“Casein”

“Cassein”

Levels of specificity:

“Oil on panel”

“Oil on walnut panel”

The next phase of the work focused on a comparative analysis of the data across the eight museums of the project. The work was supported by the merger of the eight PC databases on the AHIP Intelligent Database Machine (IDM) (Levine 1985, p. 3). Term sheets were created for each separate word with a list of which institutions used the term. The

sheets were then sorted with synonymous terms grouped together. This process did not, however, demonstrate whether or not any given term was used consistently by the institutions. Some identical terms did not carry the same meaning across all the museums. Although spot checking of this phenomenon was possible, it was impossible to verify every term against the actual object. Even if that could be done, identifying variations in usage would not provide license to change the vocabulary of any museum whether it was assigned on the basis of scientific analysis or scholarly speculation.

The synonymous terms were compared in the next phase of the analysis and the term most frequently used within any synonymous group was identified. Further study of vocabulary was limited by time, but, to extend this analysis beyond the eight museums, comparison to usage in scholarly literature could have been undertaken. Further, the thoroughly researched Art and Architecture Thesaurus stands ready to serve as the controlled vocabulary for art automation projects whether they be cooperative or individual initiatives.

Conclusions about data drawn after compilation of all the data analysis reports await publication of the project by the Getty Art History Information Program. However, the exercise of data analysis on the medium, support, and technique fields does confirm that the greater the consistency within an institution in selecting terms and applying cataloging conventions, the greater the possibility of consistent retrieval of information in a shared environment.

THE PROJECT CONCLUDED

In January 1985, Michael Ester became the first director of the Getty Art History and Information Program. In October 1985, he announced that the MPP would cease operation as an active consortium in December 1986. Although issues central to information sharing such as project goals, record structure, cataloging conventions, and data standards were actively discussed throughout the duration of the MPP, the group's geographical dispersion and cumbersome size were identified as impediments to progressing beyond the PC phase. Ester observed that: "As presently defined and constituted, the Museum Prototype is not serving the purpose for which it was designed" ("Museum Prototype to End in '86" 1986, p. 7).

Although the MPP fell short of the ambitious goals identified in its early phase, the project is viewed enthusiastically and appreciatively by the Museum of Fine Arts, Boston. Valuable professional contacts were established with colleagues within the MPP as well as with those working on automation projects at other institutions. The members of the MPP team from the museum received an education on issues surrounding computerization of works of art. The bimonthly meetings offered a forum to discuss the needs of our own institution in an outside setting uninterrupted by the demands of daily museum business. This

opportunity to learn from one another and to share our knowledge of newly published information and developments in museum automation in both the commercial and nonprofit sector has been continued within the MFA. Short meetings of an informally organized computer committee (CC), held twice a month, are attended by the MPP team and others in the museum eager to prepare for the inevitable automation of the vast and varied collections of the institution. In the tradition of the MPP, presentations on other projects, specially designed software, and hardware developments which improve storage of visual documentation are arranged. Visits to projects within the area are made by the Computer Committee and necessary travel outside New England for one member of the CC offers the impetus for formal visits to projects in other cities for both that member and others on the CC.

On a more specific level, the Museum Prototype Project PC database proves its worth in the MFA in various ways. As a model, it demonstrates to the museum family of curators, administrators, support staff, and trustees some basic capabilities of computerized management of art information. Because the database contains records of our own collection, it better captures the imagination of both the uninitiated and the computer skeptics among us. The reinstallation of the museum's Evans Wing painting galleries after renovation began shortly after the PC database was installed and the data proofread. Although our database consists only of information from a published source, the ability to manage that information on a computer provided invaluable time savings. A report format was created which sorted specific fields of information in the database in the standard format for gallery labels. This information was provided to the printer on diskette which eliminated the need to spend time typing label copy or on the labor intensive work of proofreading the text for the European paintings. The time expended on these same tasks for the American paintings provided a telling comparison of the costs of manual *v.* electronic production of labels. The PC database has also been utilized in the preparation of grant proposals. Lists of portions of the collection can be quickly created, printed, and appended to funding requests without proofreading, saving both curatorial and clerical labor.

Perhaps the single most important and tangible benefit of the Museum Prototype Project to the museum was the impetus it provided to create a new position—that of computer documentation coordinator. The responsibilities of this position include the development, implementation, and maintenance of existing and future computerized art information systems. Monique van Dorp, Getty MPP research associate at the MFA accepted the position in January 1987. Her experience on the MPP and leadership capabilities will form an important component in helping the museum reach its long-term commitment to computerize museum records and object information.

Although the active phase of the Museum Prototype Project has ended, the commitment to support art historical scholarship through the development and maintenance of computerized database projects worldwide continues at the J. Paul Getty Trust. Clearly there is need for the trust, or some other cohesive body, to offer assistance in the study of some of the most critical issues of museum automation—i.e., systems management, vocabulary and cataloging standards, interrelationships of information, methods of capturing both scholarly inference and debate, and national and international communication and cooperation.

CONCLUSION: OBSERVATIONS ON MUSEUM AND LIBRARY AUTOMATION

As a museum librarian, issues of automation in both library and art collections are this author's constant focus of attention and study. Is there a relationship between computerizing libraries and museums? What might the role of the librarian be in documenting works of art on computer?

In the arena of art information systems, the Getty Art History Information Program has established an office of vocabulary coordination to examine the vocabularies used across six of its documentation projects. Presumably this will help provide consistency to the vocabularies and links between the various terminologies, a process very similar to (in library language) authority control. In the arena of bibliographic networks, the Research Libraries Group has established the Program for Research Information Management (PRIMA) to "explore areas of research information valuable to scholars, not currently managed by libraries...." A vast array of information resources critical to scholarly research could be targeted by the program including archaeological field notes and museum objects ("The Program for Research Information Management" 1987, pp. 11-12). Are the worlds of art and bibliographic automation converging?

While I have no answers to these broad questions, experience on the Museum Prototype Project has led this author to identify certain points of comparison between library and museum automation which are summarized in Appendix B. The points include the purpose of automation, the difference between books and objects, cataloging formats, and controlled vocabularies. Whether correct or incorrect, the observations will serve well if they cause librarians to consider both the parallel and divergent aspects of library and museum automation and if they encourage librarians to lend the benefit of their expertise in handling bibliographic information to the challenge of automated management of art documentation.

APPENDIX A*Museum Prototype Project Getty Art History Information Program Proto System Data Fields***MUSEUM ACRONYM**

The name of the institution responsible for the object, the holding institution. Not necessarily the owner.

ACCESSION NUMBER FOR DISPLAY

The identification number assigned to an object by the institution responsible for it.

YEAR OF ACQUISITION/ACCESSION

The year an object was acquired by or accessioned into the collection of the institution.

ACCESSION SEQUENCE NUMBER 1

The order in which an object, or a group of objects, was received into the collection in a particular year.

ACCESSION SEQUENCE NUMBER 2

A subsidiary sequence number used when more than one object is accessioned in a particular lot.

PART(S)

This field indicates that the object has multiple parts or is part of a larger work.

LETTER CODE DESIGNATOR

An alphabetic character(s) in an accession number having specific coded significance to the institution.

LONG TERM LOAN

This field indicates that the object is on long term loan to the institution.

PREVIOUS ACCESSION NUMBER

A previous accession number assigned by the responsible institution or by a previous owner to the object, but is no longer in use.

INPUTTER INITIALS

The initials of the inputter.

DATE OF ENTRY

The date of entry or the date of the most recent change to the record.

NUMBER OF ARTISTS

This field identifies the total number of known artists who worked on an object. Although only two may be identified by name in INFORMIX.

ARTIST DATES ACTIVE FLAG

This field indicates that the years recorded in the ARTIST EARLIEST DATE fields reflect dates of activity rather than known birth and death dates.

ARTIST RELATOR

This field indicates the relationship of artist to object if more than one artist is involved.

TITLE

The title of the work as used by the institution for reports, lists, etc.

LONG TITLE FLAG

Flag indicating TITLE exceeds 150 characters.

DATE OF EXECUTION

The date of the work's execution as determined by the holding institution.

EARLIEST DATE OF EXECUTION

The earliest date of execution of the work, whether known or approximate, expressed in a form that is range searchable.

LATEST DATE OF EXECUTION

The latest date of execution of the work, whether known or approximate, expressed in a form that is range searchable.

APPENDIX A (Cont.)

Museum Prototype Project Getty Art History Information Program Proto System Data Fields

MEDIUM FOR DISPLAY

The materials, technique, and support of a work as defined and used by the institution.

LONG MEDIUM FLAG

Flag indicating MEDIUM exceeds 150 characters.

MATERIAL(S)

The applied media used in the creation of the work.

LONG MATERIAL(S)/SUPPORTS FLAG

Flag indicating MATERIAL(S) or SUPPORT(S) exceeds 60 characters.

SUPPORTS

The support(s) to which the elements listed in the MATERIAL field are applied.

DIMENSIONS

The dimensions of the object, including shape if not rectangle or tondo, as defined and used by the institution.

LONG DIMENSION FLAG

Flag indicating DIMENSION exceeds 200 characters.

ARTIST DISPLAY

For unknown artists, can include name variations. For known artists, the ARTIST DISPLAY NAME may include nationality, school, and life dates or active period. This field intended for display purposes.

LONG ARTIST NAME FLAG

Flag indicating that the ARTIST DISPLAY NAME field exceeds 80 characters.

ARTIST BIOGRAPHY FOR DISPLAY

The artist's nationality, school, and life DISPLAY dates or active period as defined and used by the institution. For display purposes.

LONG ARTIST BIOGRAPHY FLAG

Flag indicating ARTIST'S BIOGRAPHY FOR DISPLAY exceeds 80 characters.

ARTIST LAST NAME

The name under which the institution in its records indexes or alphabetizes the artist. This would be either the artist's last name, or where appropriate, the name by which s/he is commonly known—the index name.

ARTIST FIRST NAME

The artist's first and middle names.

ARTIST TITLE

Any personal title or title of rank normally part of an artist's name.

ARTIST QUALIFIER

A word or phrase qualifying an artist's name and usually prefixing it.

ARTIST NATIONALITY

The nationality of the artist as defined by each institution.

ARTIST SCHOOL

The school of the artist as defined and used by each institution as part of the artist's identification.

ARTIST EARLIEST DATE (YEAR OF BIRTH)

The year of birth, first recorded date, or earliest date of approximation for an artist's active period.

ARTIST LATEST DATE (YEAR OF BIRTH)

The year of death, last recorded date, or latest date of approximation for an artist's active period.

APPENDIX A (Cont.)*Museum Prototype Project Getty Art History Information Program Proto System Data Fields***SIGNED FLAG**

Flag indicating that the maker of the object has signed the work.

DATED FLAG

Flag indicating that the maker of the object has dated the work.

INSCRIBED FLAG

Flag indicating that the work bears an inscription or inscriptions other than the artist's signature and/or date.

INSCRIPTIONS

A display field for the transcription of all inscriptions on the work, whether by the artist or by others, with locations of inscriptions designated.

LONG INSCRIPTION FLAG

Flag indicating INSCRIPTION exceeds 200 characters.

DIACRITICS FLAG

Flag indicating that diacritics appear in the record.

CREDIT LINE FOR DISPLAY

The credit line maintained by the institution for the object.

LONG CREDIT LINE FLAG

Flag indicating CREDIT LINE FOR DISPLAY exceeds 200 characters.

METHOD OF ACQUISITION

The method by which the object was acquired.

NUMBER OF DONORS

This field indicates the total number of donors giving a work, whereas the names of up to three donors only can be recorded in the available DONOR NAME fields.

DONOR LAST NAME

The last name of the person, organization, or group which donated the work to the institution.

DONOR FIRST NAME

The first name of the person, organization, or group which donated the work to the institution.

DONOR TITLE NAME

The title part of the name of the person, organization, or group which donated the work to the institution.

NUMBER OF FUNDS

This field identifies the total number of funds used to purchase a work.

FUND NAME

The name of the fund from which the work was purchased. The system can record only up to three FUND NAMES.

LOCATION

The location of the object, either within the museum or outside it.

FLAG 1 - Execdate

Flag indicating that the source inscribed date for the date of execution is the date inscribed by the artist on the work.

FLAG 2 - Object has parts

Flag indicating the object has more than one part, whether or not reflected in the format of the Accession Number.

FLAG 3 - Record contains special characters

Flag indicating that the record contains special characters (besides diacritics) which cannot be transcribed in INFORMIX.

APPENDIX A (Cont.)

Museum Prototype Project Getty Art History Information Program Proto System Data Fields

FLAG 5

Flag undefined at present. For local use.

FLAG 6

Flag undefined at present. For local use.

FLAG 7

Flag undefined at present. For local use.

FLAG 8

Flag undefined at present. For local use.

COMMENT

Field used in ENTRYPOINT to record questions or problems during initial data entry.

APPENDIX B*Comparison Between Automation of Library and Museum Collection*

LIBRARY	MUSEUM
HISTORY OF COOPERATION	
Strong tradition of cooperation and adherence to models established at Library of Congress	No model for standard manual cataloging format or technical cooperation
PERSONNEL	
Professional degree from accredited graduate school provides some common background	Variety of museum professionals with scholarly qualifications including art historical degrees scientific training, professional experience and/or training in museum registration, design, publications, development
HISTORY OF AUTOMATION	
Networks supporting shared cataloging (OCLC, RLIN) tended to precede local systems which merge cataloging with other standard library functions of acquisition serials maintenance, fund accounting, and circulation	Development has tended to be in separate institutions establishing isolated systems rather than in cooperative networks within U.S.; notable examples of networks outside U.S. include: Canadian Heritage Information Network; Museum Documentation Association in the United Kingdom; and The Inventaire Générale des Richesses Artistiques de la France in France
PURPOSE OF AUTOMATION	
Automated systems developed to offer benefits of shared cataloging and on-line access to authorities information	For unique objects, shared cataloging is not applicable and much of the community sees cooperative authorities as unnecessary or undesirable
Primary purpose is bibliographic access	Automation supports research, education, conservation and management
SYSTEM CHARACTERISTICS	
Professionals undaunted by bibliographic networks which tended to be "unfriendly" and cumbersome; local, integrated systems increasingly "friendly" allowing direct patron access	Professionals are visually oriented user group which required from the start systems with high degree of accessibility
RECORD CHARACTERISTICS	
Books have title pages which provide information in written form	Objects generally lack self-evident information; cataloging relies on scholarly interpretation
All information in traditional manual records is maintained in standard automated systems	Manual files contain descriptive factual and narrative information; replicating such records is an impractical goal

APPENDIX B (Cont.)

Comparison Between Automation of Library and Museum Collection

Bibliographic records are seldom a means to an end; they are primarily a finding aid

Art records are often a surrogate for the object itself; some research can be done directly from the database

RECORD MAINTENANCE

Generally, once cataloged there is relatively little maintenance

Object records undergo constant change after acquisition for such operations as location changes, loan, insurance variations, exhibition, and conservation; title, attribution, medium, and date of works also change

STANDARDS: CATALOGING RULES

Anglo-American Cataloging Rules-AACR developed in 1967; AACR2, 1978

No tradition of standardization

STANDARDS: COMMUNICATION FORMAT

Machine-Readable Cataloging-MARC; study initiated in 1964; implemented at Lib. of Congress, 1970

No standardization

STANDARDS: VOCABULARY CONTROL

Library of Congress Subject Headings, 1898

No tradition of standardization; developing vocabularies include Art and Architecture Thesaurus and vocabularies growing out of manual and computerized projects

FUTURE

Using standardized communications format, MARC, library systems can/will communicate with one another

Absence of any standardization makes system to system communication improbable; following the model of CHIN communication could occur for selected, limited data with bulk of information cataloged and maintained on local, nonstandard systems
The vendors of off-the-shelf systems, rather than art historians, may provide the standards

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