Daniel Starr was a member of the committee charged with selecting and implementing a collection management system for the Museum. He had previously implemented a library system for the MOMA library. He observed that there was a basic difference in the way curators and librarians consider access to their collections. Librarians are trained to serve the public, curators are not. He noted that during the meetings, he was generally the lone voice in favor of making as much information as possible public.

Elizabeth O'Keefe described the key factors which influenced the Pierpont Morgan Library's choice of a single system, Endeavor's Voyager, to manage all the Library's collections. One factor was the nature of the collections, which are preponderantly textual (rare and reference books and manuscripts), although the Library also owns important collections of drawings, prints, seals, and art objects. Textual collections require a system which can deal with and differentiate among many different types of titles (e.g. uniform, transcribed, spine and binder, key titles), and which can handle non-sorting characters and symbols such as initial articles in titles. The ability to manipulate data which is not in English is particularly important; the system must be able to import, store, and display a wide variety of diacritics and special characters.

A single database was also desirable because there is so much overlap between textual and non-textual collections in terms of periods, names, place names, etc. For example, the Library may own the drawings created to illustrate the first edition of the literary work for which it also possesses the autograph manuscript, plus correspondence between the author and the publisher about the illustrations, and related secondary material.

Another consideration was the nature of the existing data. Although creation and maintenance of descriptive and collection management information has always been decentralized, being done on the departmental level, there has always been a fair amount of agreement on common standards for data quality and consistency, especially for textual material, since all text-based collections were represented by cards filed in the same public catalog. For rare and reference books, there was an strong commitment to and a major investment in a particular data standard (MARC/AACR2). The curatorial departments in charge of non-textual collections (Drawings, Ancient Near Eastern Seals) maintained separate catalogs, and had developed their own cataloging guidelines. But there was sufficient common ground--especially in the overlap of author and artist names between drawings and textual material--to make a single MARC-based database feasible. The Head of Cataloging and Database Maintenance is responsible for overseeing data consistency. The task is made easier because inconsistencies are so obvious in an online catalog. Liberal use of "See" references can also appease curators. But there has been compromise on some issues, involving the use of non-standard terms or fields (e.g. using "drawing" in the 245$h, although this term is not included in the list of general material designators).

The Pierpont Morgan Library has always been fairly decentralized. The Registrar manages loans; but curatorial departments and the reference collection manage their own collections, working in conjunction with museum and library services departments, who create and maintain their own records for patrons, conservation treatments, photo orders, etc. The Library has now moved towards a centralized catalog, but data entry continues to be done at the departmental level, with the degree of active participation in the new system varying. Some curators are creating new MARC records from scratch, others just revise existing records. This requires more staff licenses than is usually the case for a library or museum system.

The Library is currently considering options for how to handle collection management functions. The library system will be used for virtually everything. Individual service departments will continue to be responsible for data relating to specific areas, but the data will be shareable across the institution.

Technological factors that influenced the Library's decision include a very small IT department, and funding which was geared towards purchasing a turnkey system; not towards supporting ongoing customization. Library staff did a fair amount of customization of displays, labels, additional indexes, but all customization was within the limits of what is allowed by the system, and what can be retained from upgrade to upgrade. It required understanding the data and data standards rather than technical expertise.

Financial constraints also played a role. The Library was not in a position to purchase two independent systems, especially when one system (the
library system) would be used for all cataloging, public access, tracking movement, and acquisitions, while the other system (the museum system) would be used chiefly for exhibition planning, conservation reports, and possibly photo rights (maybe?). The data conversion costs for getting the existing records into the museum system would have been staggering, as would the ongoing cost of licenses, training, and upkeep for two separate systems.

The Morgan Library's dual identities as museum and research library also influenced the choice of a system. Both functions are equally important in terms of mission; in terms of the number of transactions, though, the number of items consulted by scholars every year (ca. 9,500) far outweighs the number of items lent or borrowed (ca. 500). The system had to be able to track circulation for museum and library collections, as well as acquisition of current books and periodicals, and the OPAC had to function as a truly public catalog, with almost all information accessible to scholars and non-curatorial staff as well as to curators. Although certain types of information, such as the estimated current value of collection items and the movement of items outside the institution, must remain under tight security, the institution is committed to sharing collection information freely.

Pedro Figueredo was charged with selecting and implementing an integrated system for the Cuban Heritage Collection. He chose a museum system, KE Emu. He noted that there are some fundamental points to keep in mind during the decision-making process: a) collections differ; b) primary audiences differ; c) available expertise differs.

When thinking about collections, you must consider both collections as a whole and individual items within collections. It is important to have an idea of how much nonbook material there is and how difficult it may be to integrate this material with the book collection. Cartographic materials, audiovisual material, and electronic resources all present special problems.

It is also important to know your audience. This will consist of staff (curators, librarians, and administrators, including media relations and public programming staff) and non-staff. For the Cuban Heritage Collection, the latter category includes researchers, students (graduate students who consult primary material, undergraduates who may use surrogates only), genealogists, and media (film and television documentaries). One question they had to answer was what Fidel Castro looked like when he was younger.

When assessing functionality, you must consider collection development, processing, cataloging, reference, maintenance and preservation of the collection (temperature fluctuation, rebinding, etc.), and exhibitions. It is also important to understand the organization of your institution: how many layers do you have to go through to get something done? What is the intended output: OPAC, web, EAD or MARC? Do you want to support mainly research, or do you want a public presence (e.g. virtual exhibitions)? Where is your data coming from: cards, word-processing files, Access or Excel databases? There may also be contextual material about the object in paper files. Can the information be made more accessible with the aid of controlled vocabulary and shared descriptive tags?

Nancy Allen was in charge of selecting and implementing both a library system and a collection management system for the Museum of Fine Arts, Boston. She noted that many of the decisions were driven by timing, rather than pure functionality. Funding for library automation was available long before funding for museum automation, so the library system pre-dated most computer applications for museum objects. The choice and implementation of the system was a consortial effort, with decisions based on the needs of the consortium, most of which were not museums. The technology department had certain requirements which had to take precedence over the preferences of the librarians.

The planning process for acquiring a museum system was similarly dependent on timing. In the mid-90s the Museum experienced major financial difficulties which resulted in cutbacks in the registrar's office, in the area of visual resources, and in the library. In order to save staff positions, the library dedicated its efforts to working on the collection management system, which was intended to serve all the curatorial departments and the different media centers, and to support every step of the museum workflow. The library system already in place could not have met the requirements they had for the collection management system. These included:

Support for both MACS and PCs (this was crucial at the time)

Open system technology

Scalability. Originally they were planning for about 1 to 1.5 million items. They quickly discovered that collections shrink as a result of generational escalation of figures (curators aren't sure how many items they own, but they know they have acquired some items since the last estimate, so 25,000 becomes 30,000)

Ability to support controlled vocabulary

Web access for staff, in order to cut back on the number of licenses required for viewing collection information (the question of public access was set aside for later)

A web interface independent of the vendor
They set up a ranking system to help evaluate the various systems. It consisted of the following criteria:

25% - standards compliance, availability of locally controlled vocabularies.

20% - data modeling, flexibility in renaming fields, portability of data (with hindsight, they should have weighted this more highly)

15% - automation of activities, workflow issues, including accessioning, cataloging, exhibitions, bibliography, rights and licenses, digital imaging, photo studio, location tracking (this, too, should have received a higher priority)

15% - ease of use, navigation

15% - public accessibility, including a web module (in the end, he Museum developed its own web interface)

10% - vendor relations, including pricing, support, documentation, attitude of partnership (they would now weight this factor at about 40%)

One major lesson learned in the planning was the key issue of sufficiency. No one vendor is perfect; you must consider the overall performance, keeping in mind that if one vendor has an outstanding feature now, the others will have caught up in a couple of years. It is more important to have a reliable vendor you can work with than one that offers bells and whistles (which you may not even want). An example of the importance of vendor attitudes: the library system does not handle images well, and the vendor was unwilling to work with them on changes that might have helped. The museum ended up buying a third system, LUNA-Insight; the vendor of the collection management system, which offers ongoing support, and gives lots of opportunities for input, was willing to work closely with Luna to set up the images.

**DISCUSSION**

Daniel Starr: It is very important to be in on the decision making process, and to learn as much as you can about other standards (there is never going to be a single standard). Approach these standards with an open mind; if the curators want to use the Chicago Manual of Style, figure out how that can be accommodated. But remember that over time, the stated priorities may change. Early discussions centered on issues such as how to reproduce the typeface curators are used to. But eventually the committee members learned that it's possible to generate output from a system and reformat it. There are still some workflow issues, such as who is going to input the information in the catalog: the catalogers in the library, or the curatorial departments (in which case, the records may not be done for months or years).

Question from the floor: Who designed the MFA's web interface?

Nancy Allen: They hired staff to do it in-house. They had to deal with many different types of data. For example, the museum previously used 17 different forms for incoming objects. As a result of their project, they developed a smoother workflow. They have reached the point where the core cataloging has been completed by the time the trustees vote on acquisitions.

Question from the floor: Nancy mentioned that there were layoffs at MFA. Were people retrained or recycled in any way?

Nancy Allen: The library director was pulled out to work on collection management. It took time to reinstate the position. The experience proved that librarians have much to offer in setting up collection management procedures.

Elizabeth O'Keefe: When librarians move into museum collection management activities, there is a loss on the library side. The Reference Collection at the Morgan Library lost a full-time cataloger. The art library is not as glamorous as museum collections. In any competition for staffing, the library suffers.

Question from the floor: How do the two systems support archival finding aids?

Pedro Figueredo: It is generally true that MARC falls short when it comes to hierarchical relationships. EAD should be considered as a possible delivery method. For the Cuban Heritage Collection, they may end up shoehorning individual items into artificial collections to fit them into EAD.

Question from Milan Houston (MOMA): How was it to work with the IT department?

Elizabeth O'Keefe: Not being attached to a larger academic institution, the Morgan Library can afford only one full-time person who is the network administrator as well as the help desk. Consequently the library had to purchase a turnkey system. Beyond what they can do in-house with existing resources, they will pay for consultants.

Nancy Allen: The Museum of Fine Arts has a larger IT staff. Their head IT person came from retail. Nancy spends a fair amount of time cajoling support from IT.
Daniel Starr: Nancy brought up the idea of sufficiency, i.e. looking not for what is ideal, but what works out to be sufficient. Liz voted for a turnkey system. It's hard to juggle all the different factors. At MOMA, the implementation committee spent two weeks discussing how the labels should read, then they decided to go with the vendor labels.

Pedro Figueredo: There was no understanding of controlled vocabularies or data standards. The person who scanned the images appeared in the catalog as the "author". The librarian played a major role translating what the IT staff and the curators had to say to each other. The web packaging of the data was another major issue.

Linda McRae to Nancy Allen: What standards were used for the data structure?

Nancy Allen: They had to bring 23 existing databases into one system—it was a major accomplishment just to do that. The system allows them to map to just about anything.

Linda McRae: How about data content standards?

Nancy Allen: A lot of effort was put into normalizing data and improving the consistency of data. It is enormously difficult to bring everybody together.

Tony Gill (RLG): Museum system vendors are a lot more active now in standards compliance.

Floyd Sweeting (Frick): Would like to get clarification on the web packaging remark.

Pedro Figueredo: The out-of-the-box interface is simply not sufficient. A lot of work has to go into a good web interface.

Question from the floor: How are visual resources handled between the two types of systems?

Nancy Allen: When they got to the issue of visual resources, they realized that there existed a continental divide between stuff they owned and stuff they did not. It was a big conceptual leap to start tackling the issue of loans from other collections, or visual images of items in other collections.

Daniel Starr: The process will shake out other collections you never knew existed. At MOMA they found videotapes about photographers, and various study collections.

**Core Issues or questions for the Never the Twain session**

(to accompany Elizabeth O'Keefe’s remarks)

Nature of the collections:

- Museum/Library/Archives/Slide Library (or all of the above)

Characteristics of the collections:

- Size (number of items/number of existing records/number of new records needed)
- Formats
- Language(s) of metadata

Overlap among collections in terms of format/names (personal, corporate, geographic)/vocabularies

**Technological Issues:**

What level of technical support does your institution offer? (Help desk and network admin only? Database support? Programming? Digital resources?)

What type of ongoing support can you count on for the system(s) you select? (one-time, project-driven, to get the system up and running? Ongoing support for changes/upgrades?)
Network and operating system issues (is a UNIX-based system ruled out for you because your support staff don't know UNIX?)

**Money Issues:**

One system or two (costs of purchasing, maintaining, training staff in use of, and managing one system versus two systems). If two, how many people will need to have licenses for both systems?

Turnkey system versus extensively customized turnkey system versus system designed in-house

What type of ongoing financial support can you count on for the system? (One-time, project-driven, to get the system up and running? Ongoing support for changes/upgrades?)

**Data issues:**

Data types for the library, archives, and museum collections:

- Descriptive information (author or creator, title, place and time of creation, dimensions, etc.)
- Collection management information (circulation or loan/acquisitions/preservation history)
- Images

Who is responsible for creating and maintaining each of these data types?

- Completely centralized (one central department in charge of museum and library collections)
- Semi-centralized (Registrar in charge of data for museum collection, Technical Services in charge of data for Library collection)
- Decentralized (curators/librarians/conservation dept./registrar/etc. all maintain their own records)

Who is responsible for overseeing data quality and consistency?

**Administrative Issues**

Is management of the institution’s holdings centralized? Split between library/archives/museum collection management? Completely decentralized (managed on a curatorial department level)?

Are some collection management functions centralized, others not? (e.g. the Registrar manages loans, Conservation Dept. manages preservation information)

**Access and Use**

Primary/secondary users of information on the library/museum collections"

- Staff
- Scholars
- Curators and other museum professionals from other institutions
- General public?

Limits on access to information about the collections:

- Security (exact location of objects; when an object will be in transit)
- Privacy and confidentiality of certain types of information (e.g. purchase price; opinion of a scholar about an item)
- Institution lacks space/staff/money to provide access
Is access limited on the basis of:

- Staff versus non-staff
- Categories of staff (curators can see information that e.g. Development Office cannot)
- Scholars versus general public
- Onsite versus remote users

If it were technically feasible, would your institution want to be able to offer your users (or a subgroup of your users) a way to search information on all collections using a single interface? If yes, would you also want to be able to limit searches to library collection only/museum collections only?

Would your institution be willing to embrace certain data standards in order to make integrated access work? (E.g. use of common vocabularies, common guidelines for data entry, etc.)

Would you like to share information about the collections more freely with the outside world?

Would you like to be able to pool your collection information with collection information from other libraries/museums?

**System Functions**

Which of these function do you need to perform for the museum collection? the library collection? the archives?

- Acquire new items, deaccession unwanted items
- Identify each item by providing an appropriate description
- Be able to retrieve the description using many different criteria
- Be able to retrieve the physical item
- Monitor the item's condition and record preservation/conservation treatment
- Track the item's movements within and outside the institution
- Provide surrogates of the item (images/full-text) for various purposes
- Track movement of items owned by other people in and out of the institution (loans/ILL)
- Plan exhibitions

Where a function is common to all collections, are there differences in the way it would be performed?

- Example: acquiring a reference book versus acquiring a collection object
  - Cataloging a reference book versus cataloging a collection object

Rank these functions in terms of:

- how many transactions per year?
- Importance of the activity (is your institution exhibition-driven? acquisitions-driven? driven by research needs?)