Technical scale and high-level detail: Vanderbilt’s award-winning Eskind Biomedical Library

By T. Mark Hodges
Director

The Annette and Irwin Eskind Biomedical Library
Vanderbilt University Medical Center
Nashville, Tennessee 37232–8340

With its opening in March 1994, the Annette and Irwin Eskind Biomedical Library at Vanderbilt University in Nashville, Tennessee, launched a new era at the university’s medical center. The new building is the culmination of much effort, involving the time and talents of many dedicated individuals. Because of its advanced technological features and its modernistic design, the building might be regarded as a model library for the twenty-first century.

HISTORICAL BACKGROUND

The medical library at Vanderbilt University in Nashville, Tennessee, dates back to 1906. Until 1925, the School of Medicine was separate from the university campus. When it moved there in 1925, it occupied a newly completed building that accommodated the school, its classrooms, its laboratories, the hospital, the clinic, the dispensary, and the library. A separate building housed the School of Nursing.

Eileen Cunningham was appointed director in 1926. She compiled the classification that bears her name and initiated MLA’s international programs. The library developed and flourished under her leadership. By the time of her retirement in 1956, the library had outgrown its space and needed larger premises. Cunningham and her successor, Eleanor Steinke, convinced the administration of this need. In 1964, when an extension was added at the northeast corner of the 1925 building, it incorporated space for a larger library. However, the resulting facility was not ideal, due to the size and nature of the addition. From the beginning, staff offices were cramped, room for growth was limited, and reader space, while adequate, was unattractive. The library lacked natural light in most areas. There was much vertical separation of staff, services, and collections; all were spread throughout six small floors, including the basement. The top two floors were unfinished space during the entire life of the facility. Rudimentary shelving, fluorescent lighting, and air conditioning were later installed there for the storage of earlier runs of journals and other materials.

The author, who became director in 1972, recognized these deficiencies and began pressing for larger and better quarters. In 1976, the library was rehabilitated. Fresh paint, carpeting, and new or renovated furniture made the place a little more attractive. There were minor expansions in 1989. But all these were modest and cosmetic, and the basic problem remained. It was exacerbated by massive expansion of the medical center, which began in 1977 and continues to this date. Until 1977, expansion had taken the form of additions to the 1925 building. Subsequently, there was construction of new buildings to the south. The center of gravity shifted, and the library became increasingly isolated from the main body of users.

The medical center administration recognized these drawbacks, and planning for a new facility began as far back as 1978. It continued at intervals. However, other priorities delayed serious efforts until Irwin Eskind, M.D., a Vanderbilt alumnus, and his wife, Annette, announced their gift for the construction of a new library.

BUILDING PLANNING AND CONSTRUCTION

With funding ensured, planning for a new building started in 1989 with the writing of a general program plan. There were several revisions. Its main statement was that the new building was to be a library for the twenty-first century. This was easy to say but difficult to present in a detailed plan, given the rapidly changing role of libraries and information management in the 1980s. “What kind of building would be used in an era of the virtual library or the library without walls?” was a question we had to ask ourselves. Another question was voiced more than once: “Do we even need a new library?” The answer was yes. The role of the library as a gathering place for scholars and as the point where guidance and assistance in
the quest for information, no matter how it is stored, was reaffirmed. Our guiding philosophy was that the building should be technologically advanced but warm and inviting. Making the building adaptable to whatever might lie ahead would be a paramount consideration. Moreover, we would not duplicate facilities available elsewhere in the medical center, such as classrooms and computer rooms.

Location was an important consideration. Everyone wanted a central site. However, the most central spot was a confined area with numerous problems. Conduits, cables, pipes, and roadways would have to be relocated or realigned. Some consideration was given to alternative sites. Ultimately, the central area was chosen (Figure 1).

Available funding, site constraints, and other considerations governed the size of the building. Some tradeoffs were necessary. In the early design stage, we decided that the new building would not house little-used material. Instead, comfort and convenience for readers and employees would be emphasized. To provide storage capacity and additional office space, we retained the stack areas of the former library, and the collection is now divided on a chronological basis. Journals before 1966 and books before 1970 are shelved in the former library, and requested older materials are brought over twice daily. Other parts of the former library have been converted for other uses.

A pedestrian tunnel and corridors connect the old library with the new. They expedite travel to and from each facility and helped us at the time of the move. Marcia Epelbaum, head of access services, coordinated the efforts of the library staff and the Graebel moving company and accomplished this over a weekend.

Davis, Brody and Associates of New York were chosen as design architects. They worked with Thomas, Miller and Partners of Brentwood, Tennessee, the architects of record and civil engineers. To obtain ideas, we made a team site visit to the library at Washington University School of Medicine in St. Louis, Missouri, and individual visits were made to other libraries. We also used the various Internet listservs.

Planning for the new building involved consultation with individuals and groups. Those consulted included administrators, architects, contractors, faculty, library staff, the Office of Space and Facilities Planning, and the Office of Planning and Analysis. External consultants included Thomas L. Lincoln, M.D., from the University of Southern California, Los Angeles, and Robert M. Braude, Ph.D., Cornell University Medical Center, New York, New York.

Another major player was William W. Stead, M.D., following his appointment in 1991 as director of the Informatics Center. His appointment arose from a major commitment by Vanderbilt to develop an Integrated Advanced Information Management System (IAIMS) program at its medical center. The Informatics Center would be responsible for that effort. Coming under its jurisdiction would be Medical Center Management Systems, now the Department of In-
formation Management, located in the hospital; and the medical center library. An academic division of biomedical informatics, with a program of education, research, and development in this new discipline, was subsequently established. With the administrative offices of the Informatics Center, this division would be located on the fourth floor of the new library.

During his earlier years at Duke University, Dr. Stead had accumulated considerable expertise in computer technology, which he brought to bear on the design of the new building. His experience was invaluable as we planned for the library’s role in the medical center's electronic information network. For example, standard technologies for wiring a building did not give the level of flexibility desired, so the building was custom designed with unobtrusive open trays in the ceilings and vertical spaces through the height of the building to allow for placement of the needed fiber-optic cables. At convenient and strategic locations throughout the building, there are recessed outlets in the floors that are easily and quickly accessible. Upon his arrival at Vanderbilt, Dr. Stead applied for and received an IAIMS grant from the National Library of Medicine (NLM) [1]. This has subsequently been renewed, and, at the site visit for the renewal in July 1994, the library was remarked on favorably.

Site preparation began in August 1991, and formal groundbreaking ceremonies took place in October. The building opened on March 7, 1994. All services were fully operational from the moment of opening. Cheryl Chisnell, the library's information systems specialist, and her assistants worked long hours in the days immediately preceding the opening to ensure that all workstations were activated.

Following a half-day symposium on April 25, 1994, the library was dedicated. Speakers at the symposium included NLM’s director, Donald A. B. Lindberg, M.D., and distinguished members of the Vanderbilt medical faculty. They spoke on the role of the library, Vanderbilt’s contributions to medicine, and the importance of communication.

BUILDING DESCRIPTION

The building is impressive and distinctive (Figure 2). Whereas other medical center buildings are of red brick and limestone and some glass, the new building is constructed entirely of white precast concrete panels and glass. The longitudinal axis is east to west. The entire north face is a curved glass curtain wall, which permits much of the interior to be suffused with light. This wall is held in place by a hybrid system of quarter-inch stainless-steel tension rods and conventional vertical steel trusses. It is reputed to be the largest of its kind in the country. The view to the north is of the sylvan part of the main campus, so staff and readers have a pleasant view as they study and work. The front of the library, facing east, is also largely of glass.

The interior decor is of white or aqua walls, white precast concrete panels, cherry-wood mill work, brushed stainless-steel trim, aqua carpeting, and polished carnelian granite countertops and wainscots. Furnishings and fittings, including the stack ranges, are mainly mallard, black, gray, or cherry. Complementary colors are used for lounge chairs. Ergonomic considerations governed the choice and design of the chairs. Furniture is open and modular and quite spare.

A narrow fifty-five-foot atrium, the height of the building, separates the reading areas from the core of the building. It is crossed by a series of bridges. These afford spectacular views and serve a practical purpose: users can easily and quickly sense the layout of the building from them.

The building has four floors, a basement, and a penthouse. Each floor and the exterior and entrance are described below. All areas comply with the provisions of the Americans with Disabilities Act.

EXTERIOR AND ENTRANCE

The north and east facades are largely of glass. The east facade also has masonry pillars and beams and a polished granite fascia bearing the name of the building (Figure 3). The south and west walls are almost solid masonry, except for some small windows. Those on the south have exterior slatted shades projecting out at right angles. There are also adjustable internal screens at those windows facing south, east, and west.

The building is well landscaped. To the north and west are lawns with shrubs and slender trees. Garland Avenue approaches the building from the west, curves around it on the north, and ends with a turning circle next to the main entrance. There is no delivery entrance on the ground level. Deliveries must be made, via the tunnels, to the basement. A broad walkway fronts the building. Beyond is a garden terrace and a sloping lawn with shrubbery and floral borders. A footpath leads to the street below.

The main entrance is at the northeast corner. Along the remainder of the east front is an open arcade. The double glass doors are specially equipped to assist the handicapped and to open automatically in emergencies. Through these glass doors, the user enters a lobby that runs the width of the building. The outer walls are of glass, and the white plaster inner wall is embellished by tapestries. The floor is of unpolished granite. At the south end of this lobby, stairs lead down to a passageway, which connects with the pedestrian tunnel that links the several medical center
buildings. Readers may use it for convenient, all-weather passage to and from the library.

FIRST FLOOR

After passing through the lobby, the reader enters the library proper through a second pair of doors (Figure 4). In the vestibule beyond are easy chairs and a public telephone. Turnstiles of stainless steel govern access to and from the library’s secured area. A card reader at the entrance turnstile determines eligibility for access to the library and records usage by patron categories. Persons without cards may discuss their status at a point on the circulation desk outside the turnstiles and be admitted through a special gate if necessary. This gate is also used for persons with disabilities and special visitors. The exit turnstile incorporates a sensor. Next to it is an emergency exit gate.

The core of this level houses access services (circulation and document delivery) at the east end and information and education services (reference) at the west end. Between them are a prominent information desk, a row of six stand-up workstations for browsing or quick look-up and a “forest” of twenty sit-down workstations for more extensive or in-depth searching. All of the workstations are connected to the medical center network, and users have access to any authorized service or database. These workstations strike
Figure 3
Eskind Biomedical Library: east front, showing open arcade and main entrance (first level); windows of offices and work room (second level); and terrace and glass wall of conference room (third level)
Hodges

Figure 4
Eskind Biomedical Library: first floor

The reader on entering the library and emphasize its futuristic outlook. Their use is high and expected to increase. More are on order. Perhaps of greater importance, there has been a concomitant increase in the use of the medical center network. This is ever expanding.

The remainder of this floor contains the reference collection, which includes permanent reserve textbooks. It is accommodated on waist-high or full-height shelves. There are no index tables, Index Medicus and similar works being consigned to regular shelves. Pull-out trays beneath some of these shelves allow browsing.

South of the core are the access points to utilitarian functions and other spaces. They include fire stairs, elevators, lavatories, water fountains, copying rooms, offices or study rooms, and closets for janitors and telecommunications. This pattern prevails on the floors above. Patrons appreciate the convenient location of the copying and restroom facilities on each floor. The two elevators are large, and in each car there is a directory panel.

North of the core, in three "cubes" that project from the glass curtain wall, is a lounge area for browsing new books and journals (Figure 5). Easy chairs, magazine tables, and small tables with upright chairs complement the wooden racks and shelves that display recent books and journals. Throughout the building are works of art selected by the cultural enrichment coordinator of the medical center. All art in the library is contemporary, and the building will not be used as a portrait gallery. A grand staircase with open, unpolished carnelian granite treads leads from the northeast corner to the floors above. It rises from a plinth, adjacent to a freestanding directory panel. There are also two sets of fire stairs, southeast and northwest, with alarmed fire doors on the ground level.

The suite for information and education services (IES) at the west end of the building provides a large private office for the head of IES and smaller semi-private offices for each of the professional staff. All are glass panelled. There is also a storage and copying area.

The circulation desk enclosure is spacious, and there are glass-panelled offices for the three principal officers. An adjacent room is used as a work space for copying, faxing, and other activities. It also serves as a departmental meeting area and coat room. The closed reserve book collection is in this enclosure and is administered from it, as is the copying service. In addition to the circulation desk staff, the enclosure also houses the document delivery service assistants and public counter. This arrangement allows the two staffs to cover for one another. Also on this floor, along the south wall, are a staff lavatory, an IES meeting room, and an audiovisual room where patrons may view or listen to audiovisual materials.
Figure 5
Eskind Biomedical Library: view from the west of atrium and bridges and of browsing area (first level) and of study areas (second and third levels)
SECOND FLOOR

The core is a solid stack block, housing most of the journal collection (titles A-M) (Figure 6). The fluorescent lighting in the stack is unusually good. It is bright but glare free and mounted on the cross ties that brace the stack ranges. This and much of the lighting in public spaces is regulated by a timer according to locality, time of day, and time of year. An override switch permits adjustment as circumstances dictate.

Alongside the stacks on their north side is a long counter with ample seating; workstations are included (Figure 7). These seats are very popular, both for the quick look-ups intended and for extended study. Across the atrium are individual study carrels, each with its own task light, electrical outlet, and network jack. A small lounge area is located at the western end of the floor. In addition to club chairs and small tables, it contains a public telephone with a flashing light rather than a bell. Similarly placed public phones are on the floors above and below.

At the eastern end of this floor are two suites. To the north is the administrative suite. This consists of three private offices, a conference room, and a secretarial and reception area. The director and the associate director's offices have picture windows; the third office houses the library's administrative assistant. The secretarial and reception area has desks for the secretary and clerk, full-height and low-level filing cabinets, and concealed work spaces for equipment and appliances. Two easy chairs and a magazine table are provided for visitors. The conference room, which comfortably seats eight around the center table and additional persons around the wall, is used for staff meetings of various kinds. A glass wall separates the suite from the atrium.

A connecting door leads to the technical services suite. Here, a large work room is divided into a number of cubicles for clerical and support staff. The modular furniture was transferred from the former library and reconfigured for the new space. A picture window provides natural light. Three private rooms along the south side of this suite provide offices for the professional staff. A fourth room is open and contains a sink.

Immediately to the west of these suites are four group-study rooms, and there are two more along the south wall. All are very popular. Each room is equipped with a table, chairs, and a white board, as well as electrical outlets and network jacks. Although some degree of privacy is ensured, these rooms have glass panels so that library staff may observe the interior. Between the study rooms and the stack block is a broad transverse aisle linking the grand staircase and the elevators.
THIRD FLOOR

The western half of this floor, largely a replica of the one below, is mainly a stack area and contains the remaining journals (titles N-Z) and the monograph collection (Figure 8). The stacks on either floor can be easily removed should the need arise to accommodate more seating and workstations. Across the atrium is a reading area similar to though somewhat smaller than the one below.

The other half of the floor has two discrete entities. Easternmost is the medical center administration conference room, which serves as a meeting room for high-level boards, councils, and committees, as well as a dining room for catered events. It has a fully equipped kitchen immediately adjacent. Scheduling is wholly under the jurisdiction of the vice-chancellor's office. There are solid glass walls on the north and east sides, with doors on the east leading to an open terrace. The other two walls are wooden panels. The room contains elaborate equipment for presentations and projections, including electrically powered shades. Clothes closets are in the outside vestibule.

From this same vestibule, one enters the Historical Collections Room. It is perhaps the most impressive room in the building, with solid cherry wood floors, antique Heriz carpet, a sofa and two arm chairs up-
holstered in velvet, two Arts-and-Crafts-style study tables in cherry wood, and a black marble magazine table. The upholstered furniture is of Josef Hoffmann design and was manufactured by Wittmann of Vienna.

The shelving on the four walls contains approximately 5,000 rare volumes on the history of medicine and science, along with a collection of old microscopes. On the north and south walls are two fitted cabinets, specially designed for miniature volumes. Fixed and hinged parts provide a face-to-face arrangement of narrow shelves. This ensures that small books do not get lost.

On the east side are two alcoves, each with a display counter. On one is the Nobel Medal in Medicine and Physiology and its accompanying certificates, awarded in 1971 to Earl Sutherland, M.D., of the Vanderbilt faculty. Beneath the counters are pull-out shelves for folios. Among the shelves on the west side are wooden filing drawers to accommodate photographs and folders.

Two identical private offices abut the east wall: one is for the librarian, the other for an assistant. A clothes closet is located between the two office entrances. Across a passageway to the south is a work room and storage area.

FOURTH FLOOR

This level was planned as the Informatics Center, and serves as the “control tower” for information management at the medical center. Within its precincts are the Informatics Center administrative offices, the Division of Biomedical Informatics, and the Active Digital Library (ADL). The ADL is a bridge between medical informatics and the users of the library, and it serves as the library’s research arm. It promotes the testing of new computer applications and their development into production-quality tools. It also looks into new approaches to assembling educational software, cultivates new information repositories, and evaluates commercial software packages. The ADL is a place where faculty, staff, and students may consult with information and instructional specialists and have access to educational software, specialized databases, and multimedia hardware and software.

The fourth floor is reached by elevator or the grand staircase. From the latter, one crosses a single bridge at the east end of the atrium, which offers a magnificent vista of the entire library.

There are fourteen private offices around the periphery of the floor and a series of partitioned work areas in an open area in the center. Most of the offices
are on the north side and look over the atrium. Principal officers occupying these rooms include the director of the Informatics Center, who is also an associate vice-chancellor, the chair of the division of biomedical informatics, and the head of the ADL. On the south side are the remaining offices. There are thirty-two partitioned work areas. As the division of biomedical informatics and the ADL develop, these work areas will be occupied by support staff, students, research fellows, programmers, and technicians. Several of the areas are already occupied; two of them are used for demonstrations and tutorials.

In the northwest corner is a small meeting room and a break area; in the southeast corner is a conference room with an adjacent break area and pantry.

BASEMENT

The basement is bisected by the pedestrian tunnel. The western half is for electrical and mechanical equipment. The other half is unfinished space, which will eventually contain compact shelving and a staff room. The telecommunications room is also in this area. Running around the basement on the east and north is the public passageway that connects the pedestrian tunnel with the stairs leading to the entrance lobby.

A shipping and mailing room with access to the pedestrian tunnel is located at the base of the elevators. All deliveries must be made here, via the tunnels, and a direct telephone by the tunnel door alerts the staff to incoming deliveries. This same entrance may be used by staff for entrance and exit, especially when the library is closed. There is also a staff door on the ground level at the rear, southwest corner, of the building. This doubles as a third alarmed fire escape. Both doors are controlled by magnetic card readers, programmed to regulate who may use the doors and when. The two elevators are similarly equipped. This arrangement permits nonlibrary staff who work on the fourth floor to reach their offices at all times but denies them access to the library proper when it is closed.

PENTHOUSE

On the roof of the building, approached by the fire stairs, is a penthouse containing additional heating and air-conditioning units. The winding gear for the elevators is also located here. The penthouse is unobtrusive and incorporated into the overall building design. There are no unsightly projections or mechanical apparatus on the roof.

DISCUSSION

The building is quite stunning and has already won an honor award in the American Institute of Architects' Gulf States Regional Design Awards Competition. It was described in these words:

[It is architecture at a high level. The scale of elements carries across the adjoining buildings. The context is excellent, with great attention to detail. The whole building demonstrates a high level of technical scale and detail.*]

The architecture has been described in some detail, with full color illustrations, in the prestigious professional journal, Architectural Record [2].

Many persons have made special visits to see the building, and the library was featured at a symposium held at the National Library of Medicine in Bethesda, Maryland, April 7–8, 1994, with the author making a presentation. Entitled “Building the Library/Information Center of the Future,” the symposium dwelt mainly on case studies in new construction, in renovation, and in planning future libraries[3]. We are gratified by this interest in the architecture.

More important, however, is the reaction of the readers and the staff. Here we can report evident satisfaction. Within minutes of the library’s opening, all the network workstations were operational and their use continues unabated. The number of end-user searches rises continually and is now approximately 8,000 a month. Monthly figures generated by the access control system show a 50% increase in the use of the building over corresponding months of the previous year when we were still in the old library. Similarly, if the shelving statistics are a guide, there has been a great increase in the use of library materials. In some months, the amount is almost double what it was in the corresponding months before opening.

Comments of readers, expressed orally or in writing in our “Constant Comment” book, suggest or indicate complete satisfaction and high praise for the building and what it has to offer. Ease of use is greatly welcomed. Most would like longer hours. Everyone likes the convenient location. Patrons appreciate the repose that the library affords and enjoy being able to retreat to a separate building to escape pressures and distractions. All seem to delight in the vistas and the creature comforts provided.

The popularity and success of the library has been one of its problems. Large numbers of non–health sciences students have discovered the building and use it as a study hall because of its superior accommodations. This has led to restricting usage to medical center personnel during certain hours. The popularity of the group-study rooms has previously been mentioned.

The staff certainly enjoys the new building. After

* This award citation inspired the title of this article.
years of being cooped up in small offices with no windows, they enjoy space and sunlight. Distances, however, are greater, and the staff have to do much more walking in their daily rounds. Some miss the "coziness" of the former facility.

There are disadvantages and drawbacks. However, they are not unsurmountable, although they may incur a cost. The amount of glass requires more window washing at more frequent intervals. The changing of light bulbs is complex, and the areas to be cleaned are greatly expanded. As this paper is being written, just a year after opening, we have already discovered some areas of wear. More durable paint should have been used in many places, and phased repainting will be necessary.

With the benefit of hindsight, certain parts of the library might have been better designed or located. For example, the wide separation of the information desk from the offices of Information and Education Services is unfortunate. Overall, however, the design of the building is still one about which there are no regrets, and all look forward to many happy years working in this magnificent new facility.

ACKNOWLEDGMENTS

Many persons were involved in the building project and in the compilation of this article. Some are named in the narrative, others in the appendix; the remainder are not. To attempt to list them is to risk offense through omission. Contributors know who they are, and their efforts are collectively acknowledged with gratitude and appreciation. I do, however, express special thanks to my associate, Frances Lynch, who has worked closely with me throughout, and to my secretary, Marge Cochrane, for her patience and forbearance.

REFERENCES


Received January 1995; accepted February 1995
APPENDIX A

Credits

Architects
Davis, Brody & Associates, New York, New York

Architects of Record and Civil Engineers
Thomas, Miller & Partners, Brentwood, Tennessee

Construction Manager
Turner Construction Company, Nashville, Tennessee

University Agencies
Space and Facilities Planning (Medical Center)
Campus Planning (University)

Steven Davis
Shirley Dugdale
Frank Michielli
Margaret Sedlis

Donald Miller
Lawrence Hart

James Beckelhymer
Stephanie Elliot
Roger Conley
Kenneth Savage

Dan Buxbaum
Cyril Stewart

Judson Newbern
Edward Tucker
Pamela Sevy

APPENDIX B

Statistical data

Project cost: $13,500,000
Construction cost: $11,731,000
Equipment cost: $550,000

Square-foot cost: $150.40
Size:
78,000 square feet (gross)
73,000 square feet (net)

Floors:
Four, plus basement and penthouse

Occupants:
Library (including ADL)
Informatics Center
Division of Biomedical Informatics
Medical Center Conference Room

Current shelving:
19,500 linear feet

Total volume capacity:
217,000 (when basement completed)

Holdings:*
Monographs 1970 to date: 38,000 vols. (approximately)
Journals, 1966 to date: 59,000 vols. (approximately)

Network workstations: 34 public
56 staff

Additional public network connections: 98

Current staff:
42 (Library)
13 (Other)

Patron seating:
239 (at counters, in carrels, in lounge seating and in group study rooms)

* Earlier works (totalling approximately 83,000 volumes) are in the former library, which has been retained as a storage annex.