Louis Kahn

The Philips Exeter Academy Library
New Hampshire

Location
Exeter/Squamscott River, New Hampshire

Area of Building
14,000 sq ft
55,000 volumes
serves a population area of 50,000

Collections
Fiction
Non-fiction
Biographies
Large print
Audio cassettes
Video
Music CDs
Popular paperbacks
Periodicals
Newspapers
Reference collection
Genealogical collection

Structure
Concrete Floor System
"Jack Arches"
Masonry
Poured-in-place concrete

Bibliography
Martin, William
"Within the Folds of Construction"
Architectural Forum, 139, Oct 1973 p.33

Paz, Artemio
"Essence in Architecture as Understood by Louis I. Kahn"
1986, p.132-35

Roth, John Paul
"Structures of Thought: Forms from the Works of the Architect Louis I. Kahn In Relation to Psychological Principles of Integration"

Magazines
Architecture the AIA Journal, 1985
Feb Issue, p. 74-79
Architectural Record, 1997
May Issue, p. 94-96

Website
http://www.designlab.com
http://www.nh.unet.com/~devey/

"Exeter began with the periphery, where the light is. I felt the reading room would be where a person is alone near a window. And I felt that would be a private carrel, a kind of discovered place in the folds of construction. I made the outer depth of the building like a brick doughnut, independent of the books. I made the inner depth of the building like a concrete doughnut, where the books are stored away from the light. The center area is a result of the two contiguous doughnuts; it's just the entrance where the books are visible all around you through the big circular openings. So you feel the building has the invitation of books.

Louis Kahn The Mind of Louis Kahn page 77

Kahn felt that there were five issues that needed to be understood of a building, which included: site/context, spatial composition, structure, light, and materials. (Paz p. 44)

"So Exeter is not a library, either. It is a searching out of library, its spirit; of what it stores, imparts; of the accumulated wisdom it stewards; of the needs of the people who may because of its presence gain presence."

-William Marlin
Site / Context

"Many people have criticized Kahn's decisions concerning the placement of the library on the site and its relationship to its site. All sides of the building are identical. This is in response to the fact that the library "stands in the middle of a large yard and is observed (and approached) from all four sides." (Roth p.156) "No point of entrance is distinct from a distance". Rather, the structure is entered on the corners. (Roth p. 155)

These corner entrances lead to an arcade which runs around the perimeter of the building. This arcade leads to the main entrance which faces the main street running throughout the campus (Roth p. 154) Inside the entrance "an immense curved staircase makes a grand entry hall." (Roth p. 156) The staircase leads patrons into the innermost court of the library where they can easily see the book stacks on all levels."
Spatial Composition

The design of the programmatic elements of the library is heavily reliant upon the concept. The library is designed as a series of successive cubes, leading from the facade to the core. The innermost cube—the core—is an open court which connects the spaces in the library horizontally and vertically. Surrounding this court is a layer of book stacks. The study carrels are in the outermost cubes where the users of the library can be near natural light.

Structure

Each successive cube of Exeter Library is an independent piece that relates to the whole. The walls of the outermost cube consist of handmade brick. The brick columns taper to become very narrow at the top of the structure. This reflects the structural properties of masonry: it must become thicker at the base to support its own weight.

"Jack Arches"

The horizontal members of the brick walls are made with carefully shaped "jack arches" which distribute the load to the column. These bands become deeper near the top of the structure because they must span greater distances between the narrowing arches. Each wall is stabilized by the concrete flooring system, thus they do not need to meet at the corners for lateral stability.
Structure

The thirty-foot-deep book storage area is constructed of concrete. It is stabilized in the corners by square concrete towers which carry circulation and services. On alternating floors, the concrete platforms extend out to stabilize the exterior brick wall, thus creating double-heighted reading areas and corridors on the outside edge of the library. (Roth p. 155)

Space Between the Reading Carrels and the Book Storage Area

The grand space at the center of the library is formed by poured-in-place concrete. (Paz p. 70) Each of the four sides of the court have giant circle cut out of them. These circular openings reveal the rows of book stacks. This way, there's a visual connection across the space and between the floors. (Roth p. 156) The circular forms also serve a structural purpose: they brace the tall corner columns. Perhaps most importantly, these circular forms "create a strong image of space" (Roth p. 157)
Light

The design of the Exeter Library was based upon the idea of bringing books out of darkness and into the light. (Roth p. 152)

"Exeter began with the periphery, where the light is. I felt that the reading room would be where a person is alone near a window, and I felt that would be a private carrel, a kind of discovered place in the folds of construction." (The Mind of Louis Kahn p. 77)

"The reading areas equipped with comfortable oak carrels and open to natural light and a pleasant views could be considered answerable to sensation and to thinking" (Roth p. 156)
**Materials and Details**

The outermost layer of Exeter Library consists of handmade brick, and the facade is identical on all four sides. Kahn said of his decision to use brick, "I didn’t try to make something that stands out. I honored the buildings around me, and I chose brick to sympathize with them."

On the levels of the reading areas, Kahn detailed the window openings with wood panels below and glass above. (Roth p. 154) Behind these panels sit comfortable oak carrels, "open to natural light and a pleasant view...answerable to sensation and to thinking." (Roth p. 160)

The inner layers of Exeter Library are constructed of concrete. Louis Kahn had often spoken of his quest for the natural order of use inherent within a material. At Exeter, the natural order of concrete, as a plastic material, is fully realized.
Diagrams

**Form Z Rendering**

**Rock/Paper/Scissor** - the diagram show that the facade/skin of the building as the paper in the notion of rock/paper/scissor. The book stack as a settle object as rock and the middle atrium space as the scissor that puncture the building from the center.

**Circulation Diagram** - Red arrow show the horizontal circulation that occur inside the building and the blue arrow represent the vertical circulation which include staircase and elevator.

**Private vs Public Diagram** - the color red represent the most private space in the building such as staff offices and the study carrels that located at the outer rim of the building. The blue color show all the public space such as corridor and circulation areas. Green represent the semi private space which include book stack etc.