

A design thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in the partial fulfillment of the requirements for the degree of:

Master Of Architecture

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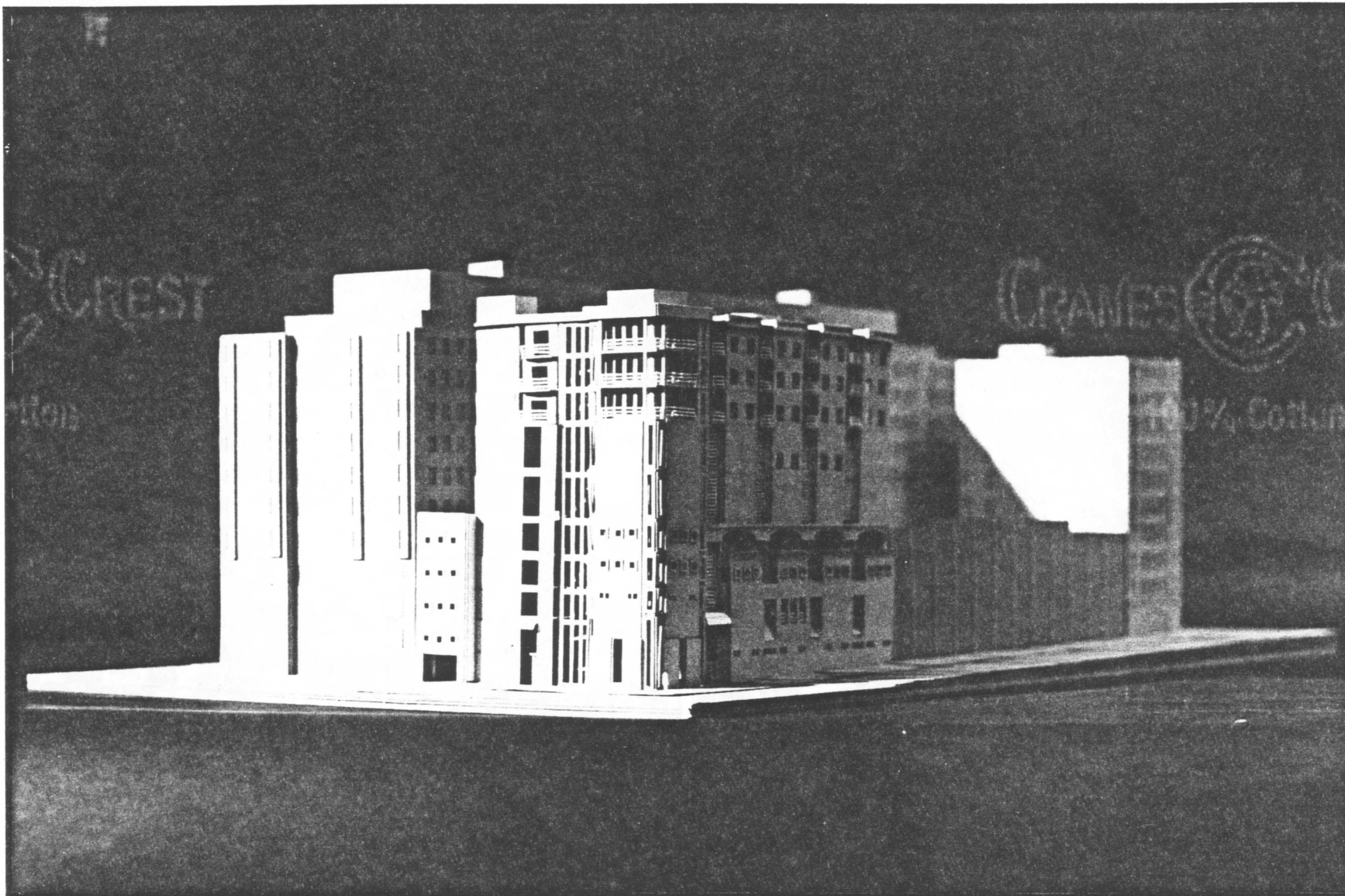
Susan Piedmont-Palladino  
Chairman

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Gregory K. Hunt

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Jaan Holt



## A Scholastic Center For Political Science Majors

### "An Indoor Street"

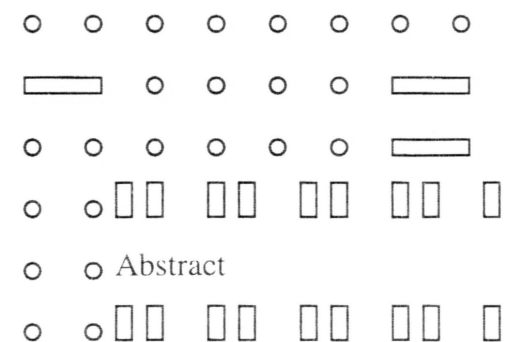
By Timothy J. Harlach

1996

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" A building is a small city,  
a city is a large building."  
Alberti

Even though Alberti wrote this quote hundreds of years ago, it still raises relevant design issues that can be explored in the architecture of today's buildings. The quote addresses a modern architectural question in the design of large scale mixed use buildings by offering an architect the similarities between city-building and building-interior spaces. These relationships all share design possibilities such as views, thresholds, passageways, public spaces, private spaces, places for activity, and places for rest. These are just a few of the physical and emotional ties that allow a city/building/interior space the opportunity to relate to its surroundings and ultimately create its surroundings.



Washington, D.C.

To my parents, \_\_\_\_\_, who taught me the values to begin my education and provided the support I needed to finish my thesis.

To my friends who helped me throughout.

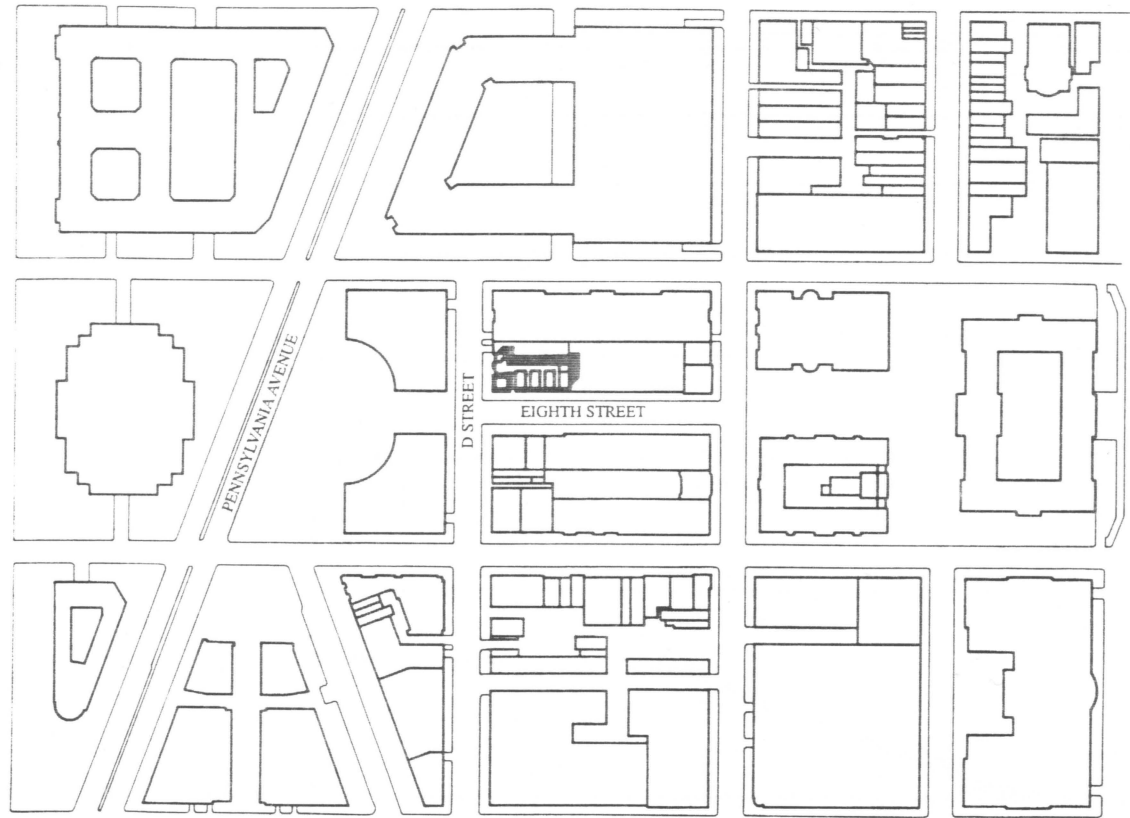
To PADC and NCPC for giving me the site information, and taking the time to respond to the questions I needed answered to begin my thesis.

To the Washington/Alexandria Center and The Virginia Polytechnic Institute and State University for providing the staff and facilities that I used to learn about, design, and present my thesis.

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Site Map

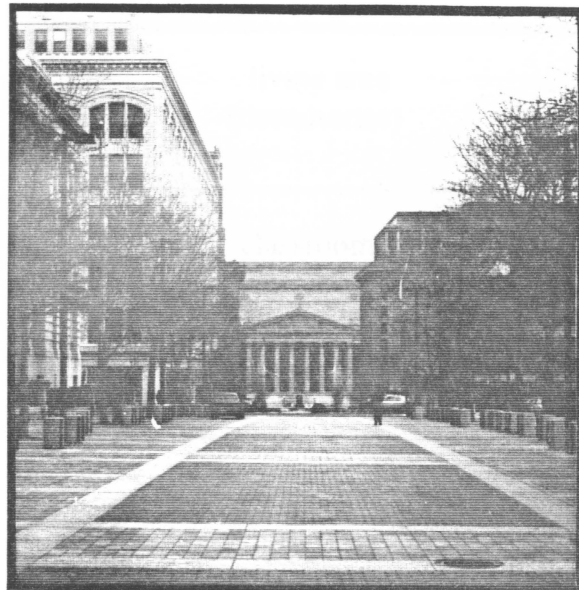


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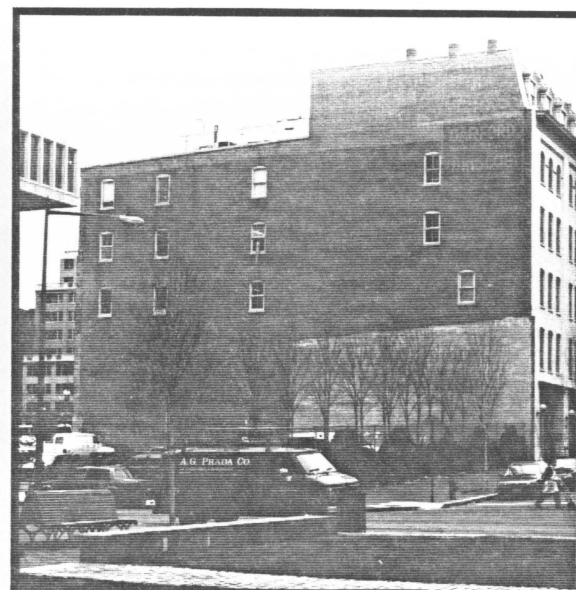
The site for the thesis is 8th Street and D Street in Washington, D.C. 8th Street is a prominent axis in L'Enfant's plan, and extends Southward from the Portrait Gallery to the National Archives and on through to the Mall. Along with the Portrait Gallery and the National Archives, the FBI building, a PEPCO power plant, Market Square and other mixed-use buildings all immediately participate in the character of this axis. The 8th Street axis intersects Pennsylvania Avenue at the midpoint between the Capitol and the White House, and together with the Mall, ties the 8th Street corridor to many of the monumental and governmental buildings that make up Washington, D.C.

Much of the immediate area is in a period of revitalization. With 7th Street recently zoned as an "arts corridor", the converting of a building on the 8th Street axis by the Smithsonian, and the potential site for a sports arena a few blocks North, all would add to an active 8th Street corridor.

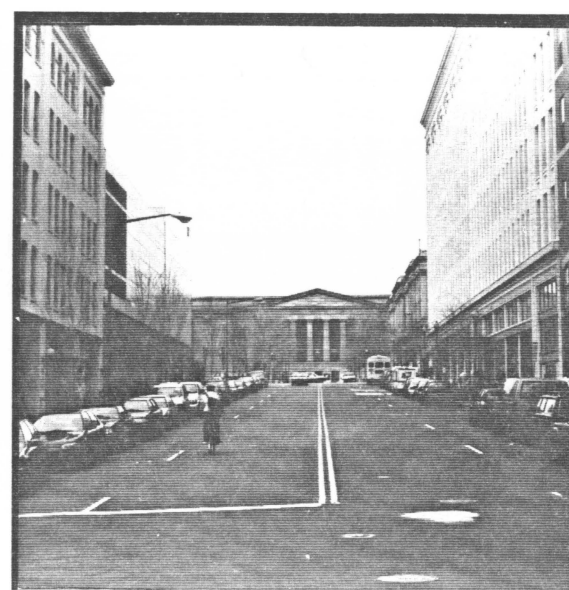
A school with its students and faculty would offer a welcome addition to the pedestrian streetlife and urban streetscape of the 8th Street corridor. In return, the school would gain the benefits of using a major city's resources and a sense of identity and recognition by participating on the 8th Street axis.



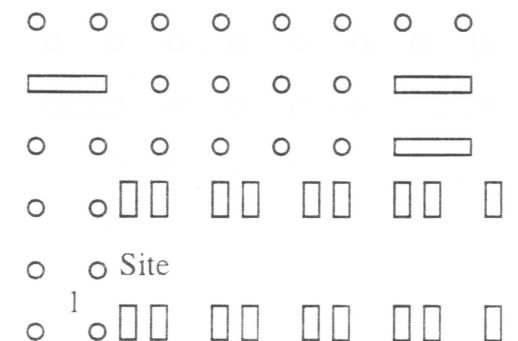
National Archives



Site



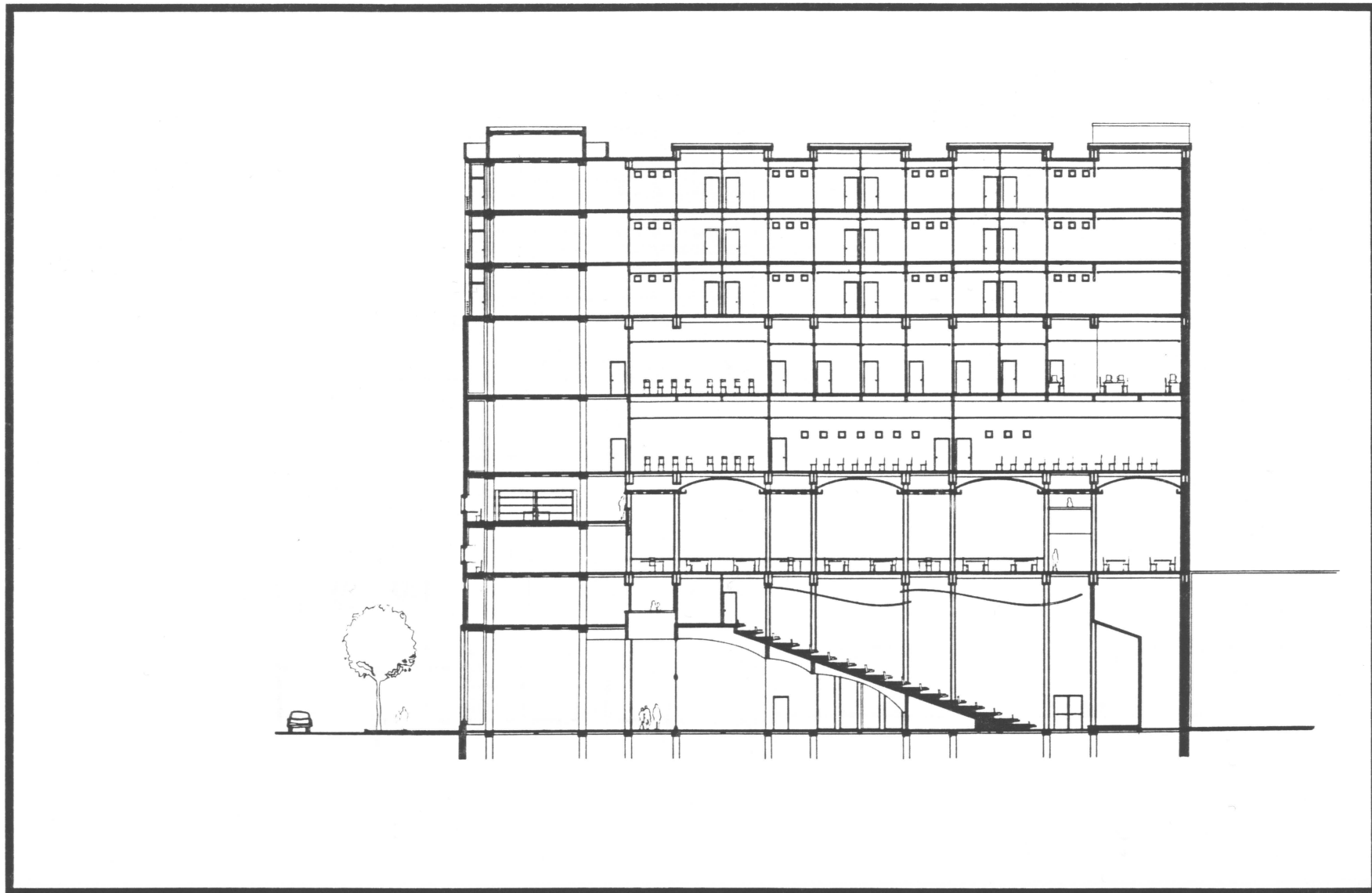
Portrait Gallery



The project is a school for visiting Political Science majors from the University of California. The school will act as a base for the students to learn about their major by using the resources of Washington, D.C. for a short time in their education.

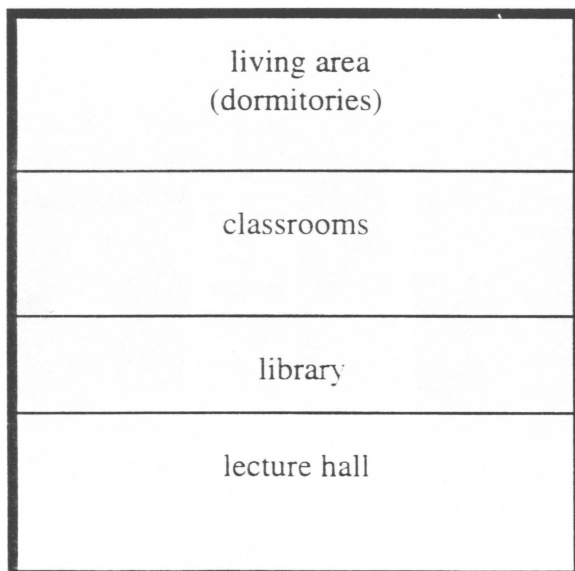
The first step was to break up the program into four main areas: lecture hall, library, classrooms, and a living area. This allowed me to begin the design by thinking of the spaces as different public/private zones within the school. The lecture hall with a large audience presented the most public aspect of the four areas, while the students' living arrangements presented the most private. The lecture hall(public), library(semi-public), classrooms(semi-private), and living area(private) were then arranged in a basic vertical diagram with the lecture hall accessible at street level and on through the library and classrooms to the living area on the uppermost floors.

The Section A-A shows the result of the diagram. These zones are defined by the large beams shown in cross-section on floors 3, 5, 7, and roof level. Space is broken up by columns, walls, voids, and floors to sub-divide the school within the zones.

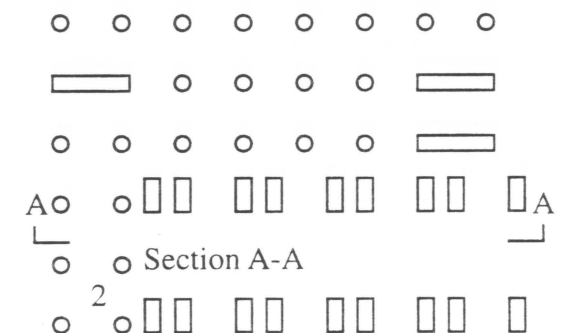


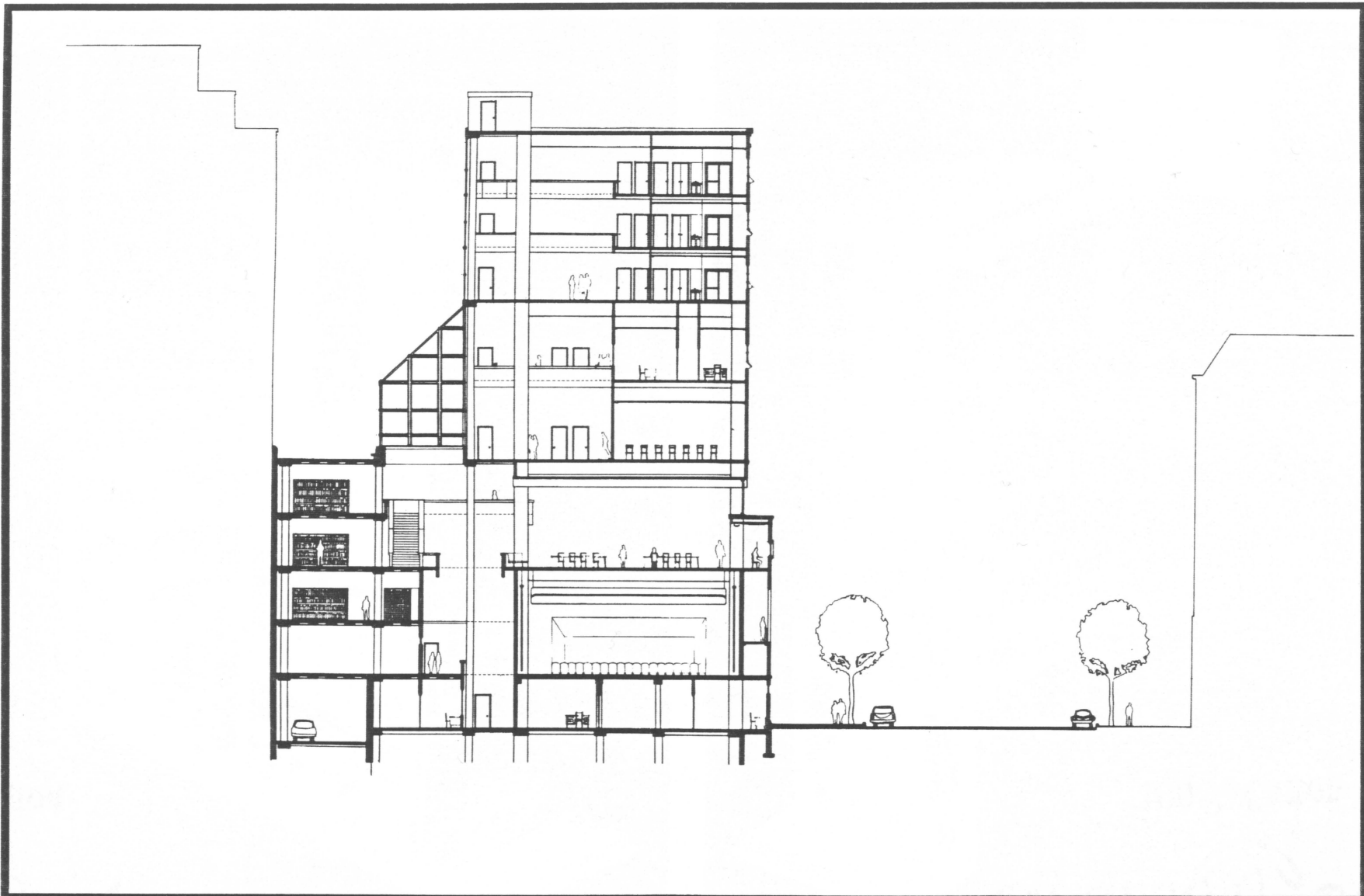
Section A-A

0' 10' 50'



Basic Zone Diagram





Section B-B

The idea of the four zones is the base for the design, yet still raises issues on how to handle the complexity of public/private issues within each zone and also a major question of how these zones relate to each other.

Alberti's quote, "A building is a small city, a city is a large building.", offered a solution into unifying the four zones by suggesting the similarities between building/city and in turn the relationship between interior passageways/streets. This led to unifying the school through the idea of an "indoor street".

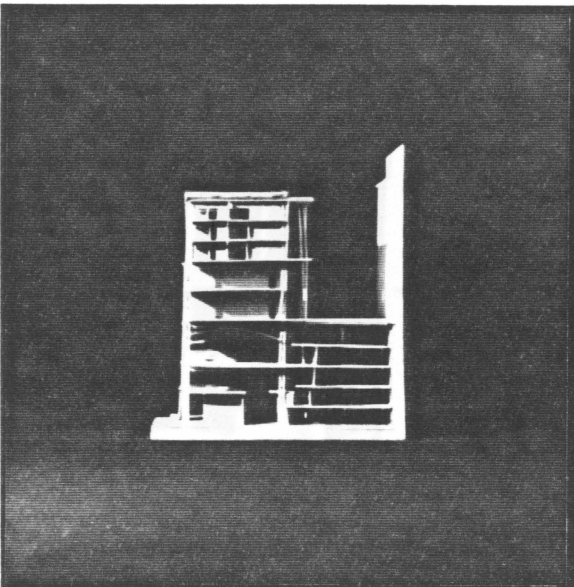
A street possesses views, thresholds, enclosure, glimpses, rhythm, sky...

A street is the main method of movement.

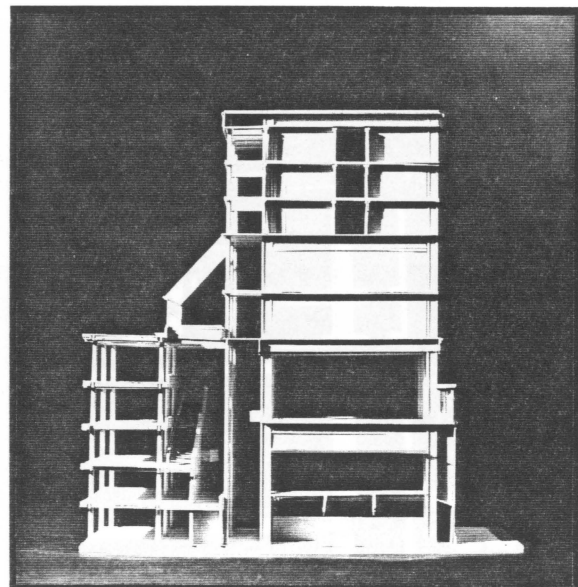
A street is a place to sit, to play, to socialize, to be.

A street can be used for public as well as private purposes: groups talk, people walk past on their way to an unknown destination, information is displayed and individuals relax.

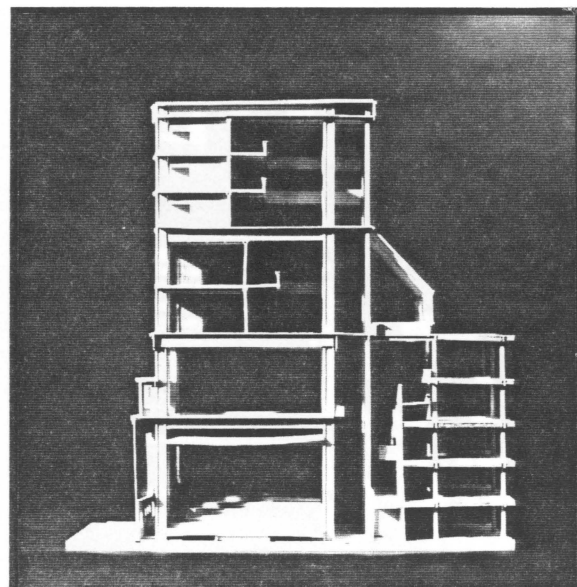
The "indoor street" is shown in Section B-B and in the Final Section Model.



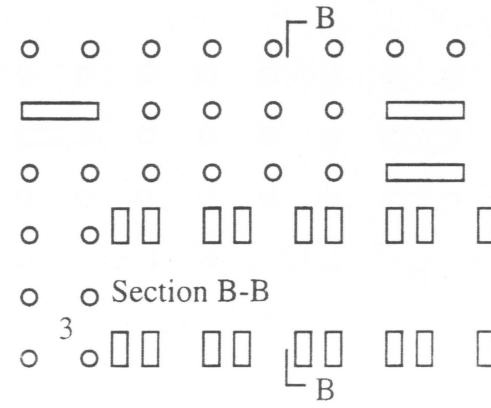
Study Section Model



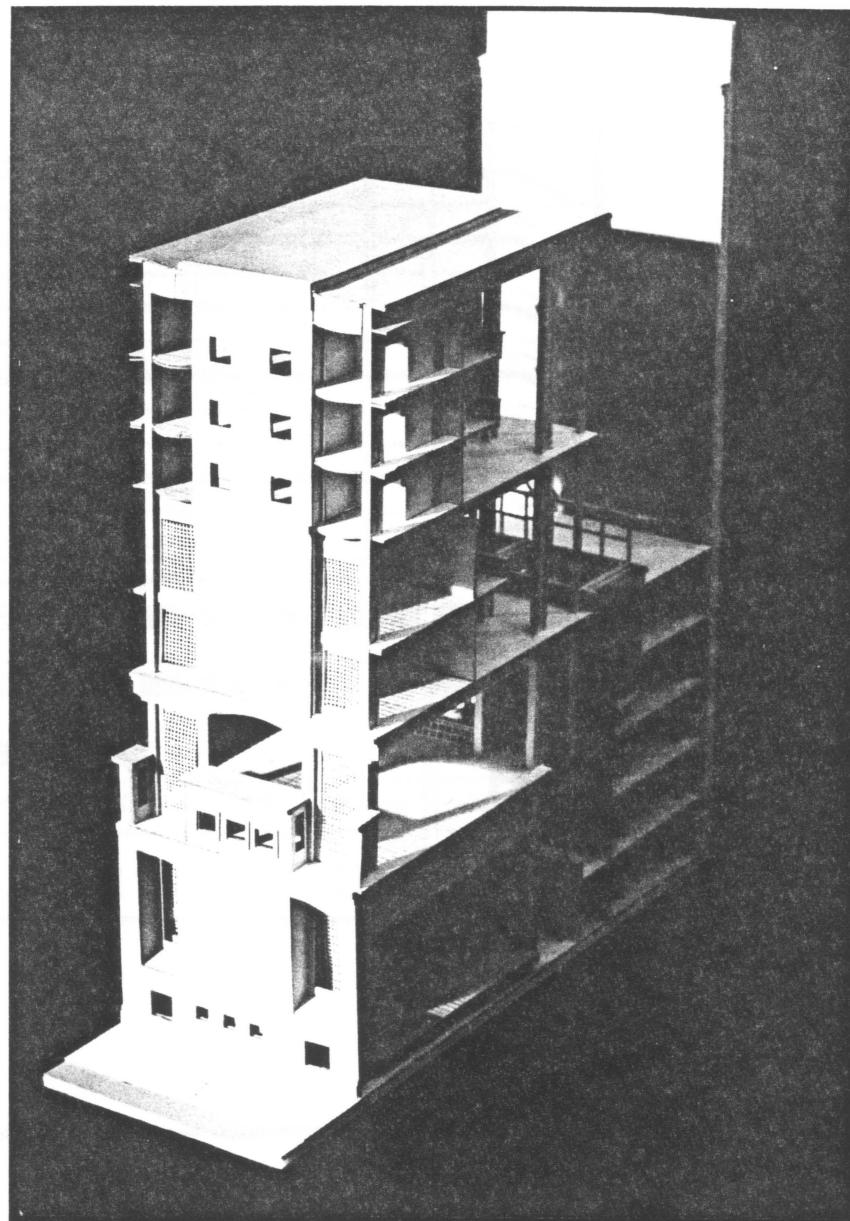
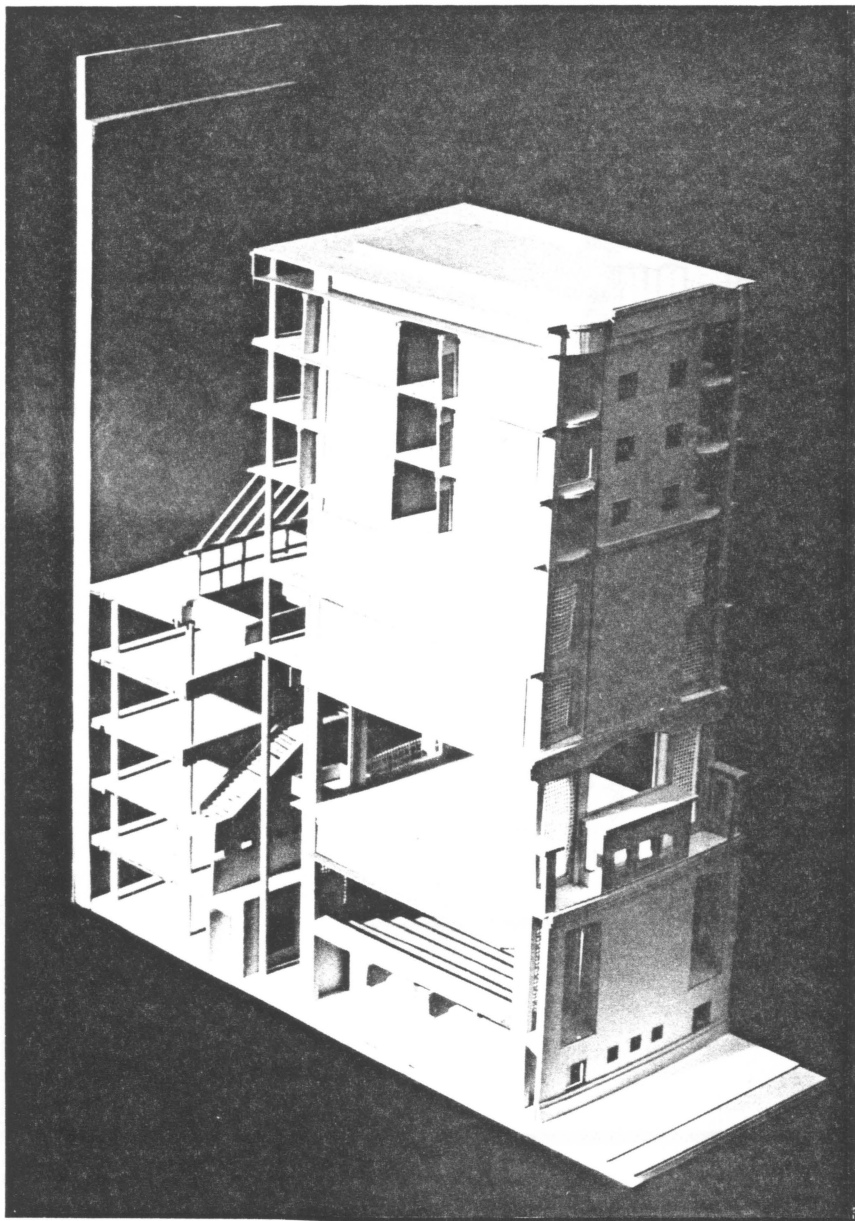
Final Section Model



Final Section Model



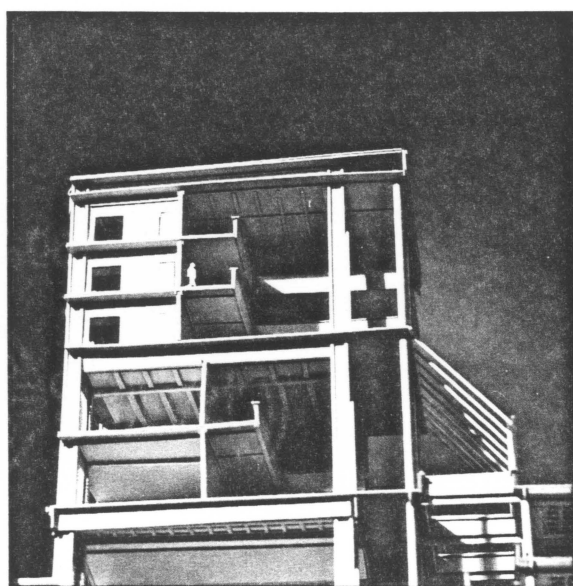
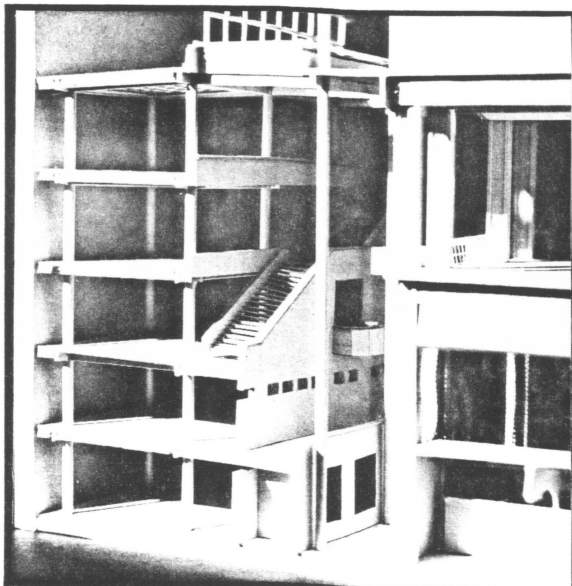
Section B-B



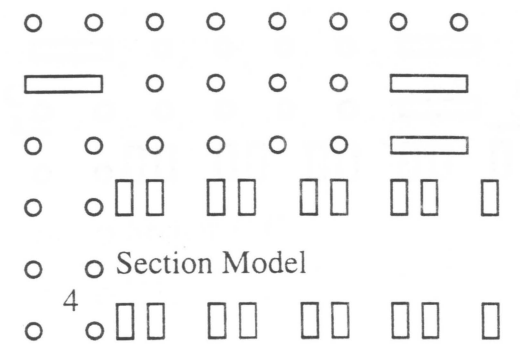
All of these ideas contribute to the "indoor street"- the most public, social, and dynamic aspect of the school. This sharing of the indoor street allows for an awareness of the whole building as well as a sense of identity on the small scale by providing special areas of semi-privacy which individuals and small groups can identify. This contrast in scale between the larger public spaces and smaller individual aspects gives a feeling of a city street pattern to the interior of the school.

The Final Section Model shows these varying scales and spaces that give the indoor street its life. Even with this variety, the indoor street ties the spaces together by providing a sense of community to the school.

Final Section Model: The "Indoor Street"

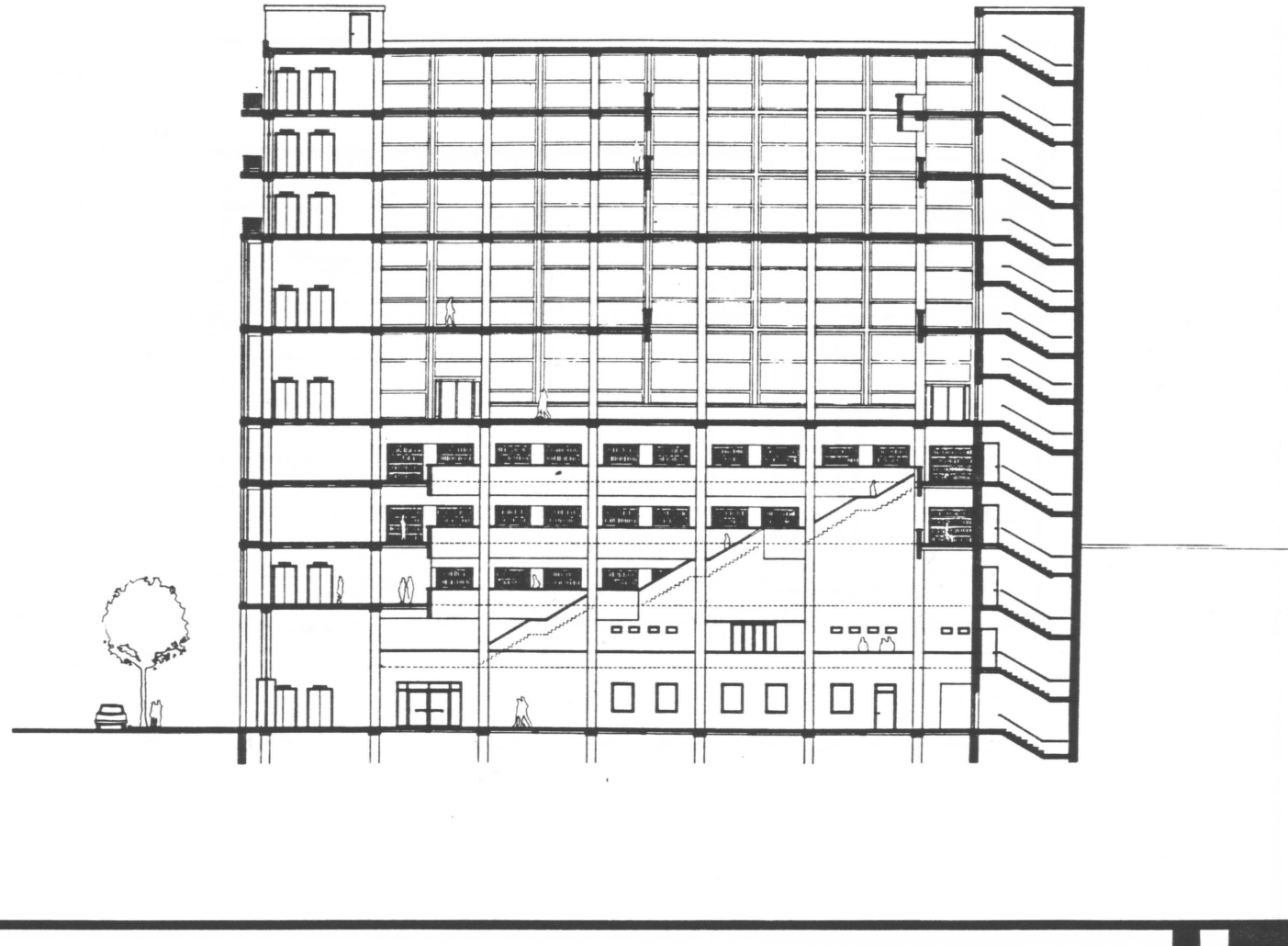


Final Section Model



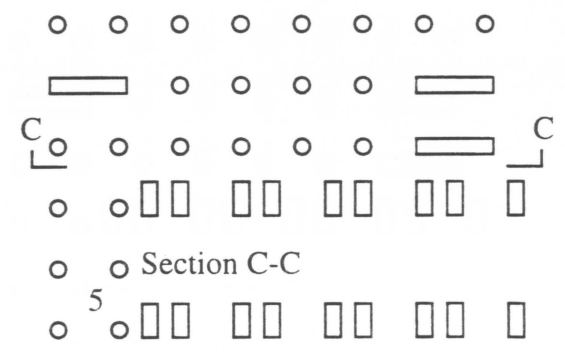


Section C-C shows the indoor street in section along its length. This illustrates the layering of the relationship between different interior spaces. Smaller individual areas can be seen as well as the larger public spaces that allow them to relate to each other, as well as the building as a whole.



Section C-C

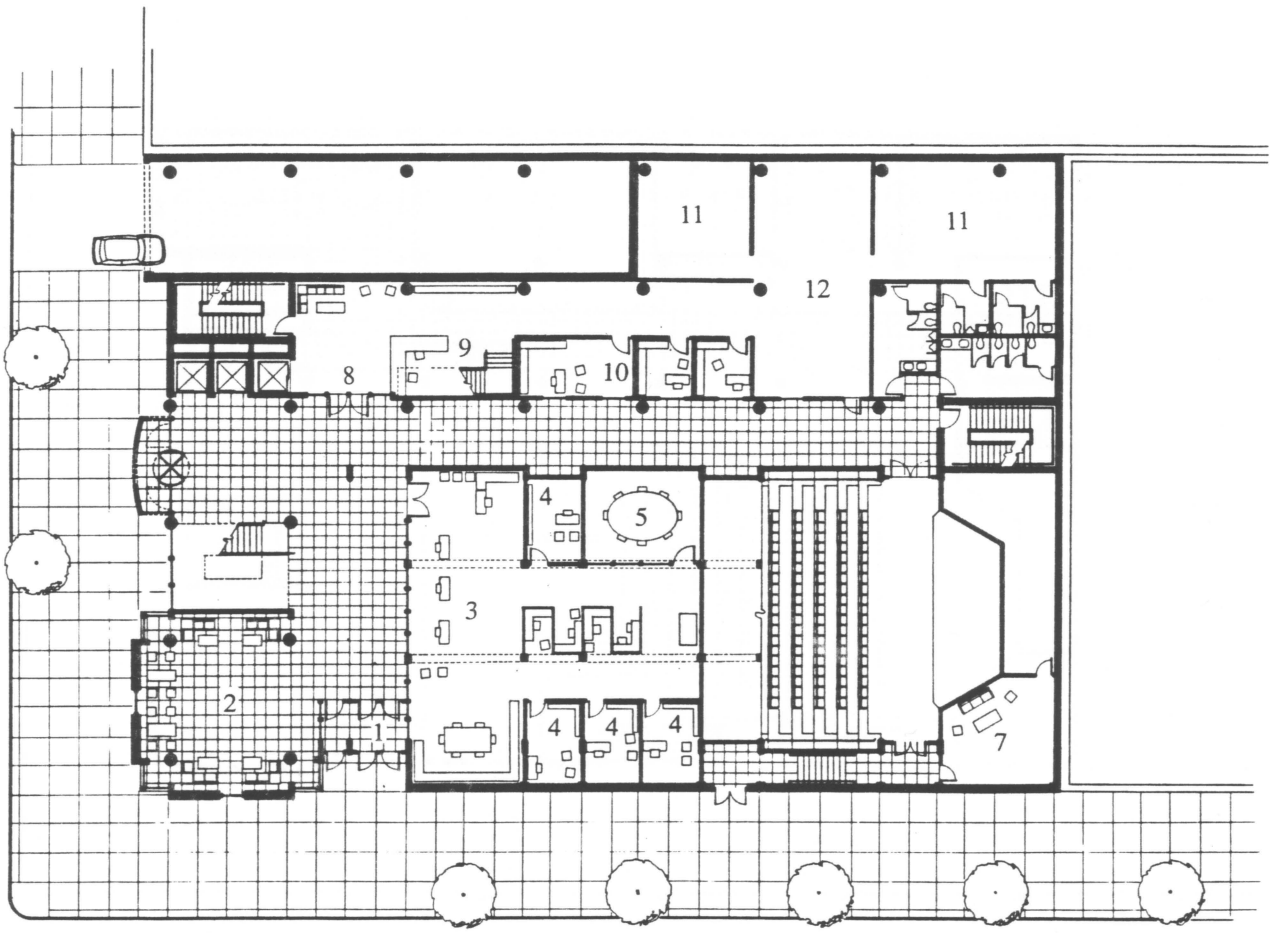
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The two entrances to the school are located on either sides of the tower in the South-East corner of the plan. The indoor street runs North-South from the D Street entrance to the far firestairs. The library, lecture hall stairs, and the entry to the lower seating in the lecture hall all are directly accessible along this axis of the indoor street. The Eighth Street entrance runs perpendicular to the indoor street, meeting it at the entrance to the library.

In the First Floor, the indoor street appears as a simple hallway, however, the section shows the indoor street beginning to open overhead. This allows the First Floor to relate to the floors above.

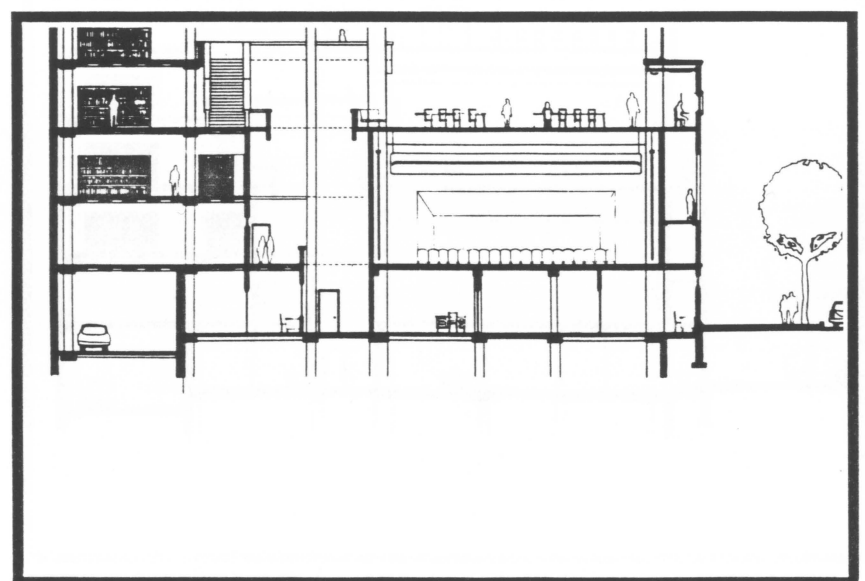
- 1 Entrance
- 2 Lobby
- 3 Administration
- 4 Office
- 5 Conference Room
- 6 Lecture Hall
- 7 Speaker's Room
- 8 Library Entrance
- 9 Circulation Desk
- 10 Librarian's Office
- 11 Circulation Workroom
- 12 Storage



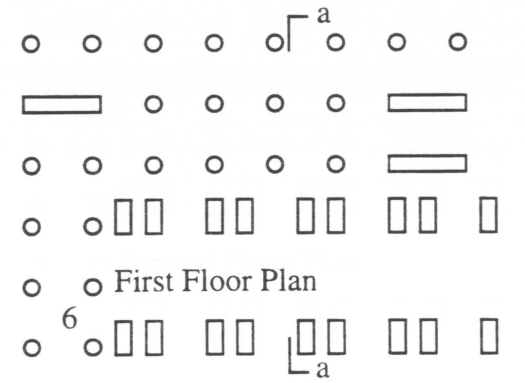
First Floor Plan



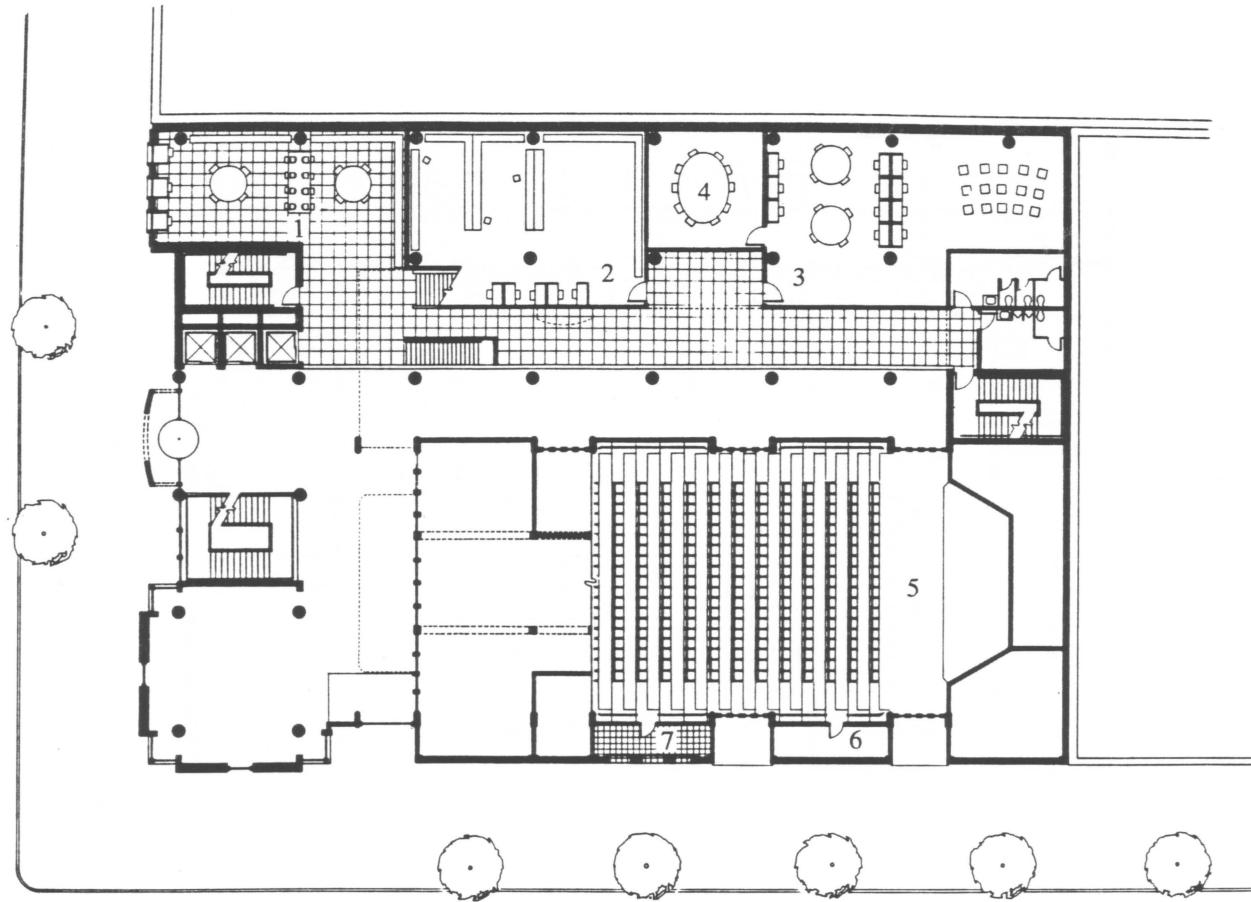
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Section a-a (Through First Floor Indoor Street)



The library's reference and audio-visual rooms provide most of the action of the indoor street on the Second Floor. The circulation of the library runs parallel to the indoor street. This circulation overlooks the first floor and separates the library from the enclosed lecture hall across the open space. The library's grand staircase begins on the second floor, running parallel to the indoor street.

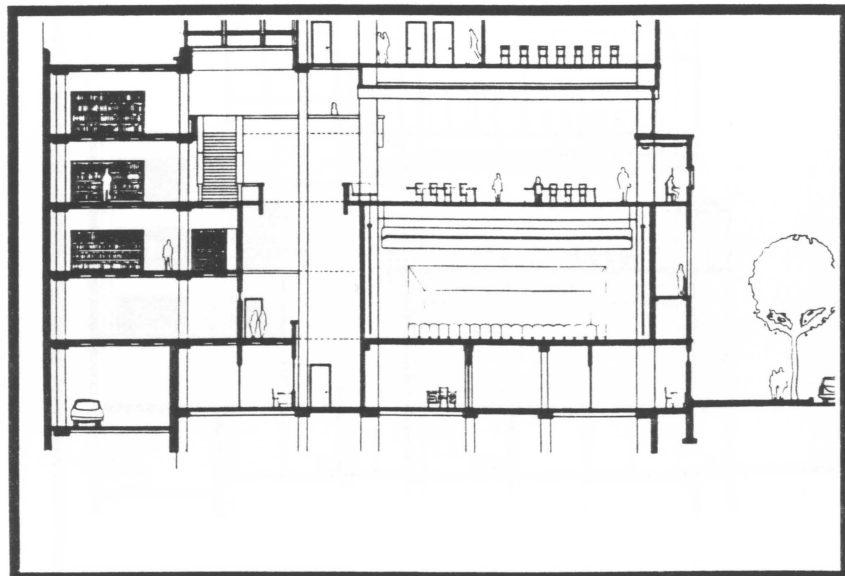


- 1 Library Reference
- 2 Audio Visual Archives
- 3 Audio Visual Viewing
- 4 Conference Room
- 5 Lecture Hall
- 6 Storage
- 7 Balcony

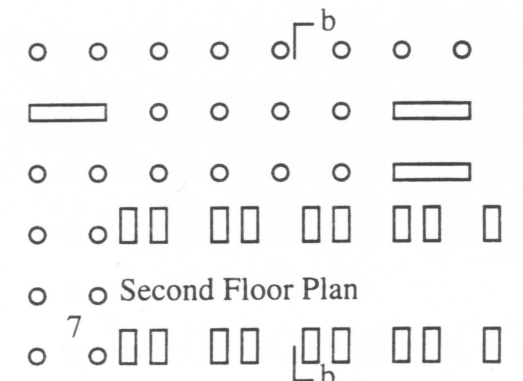
Second Floor Plan

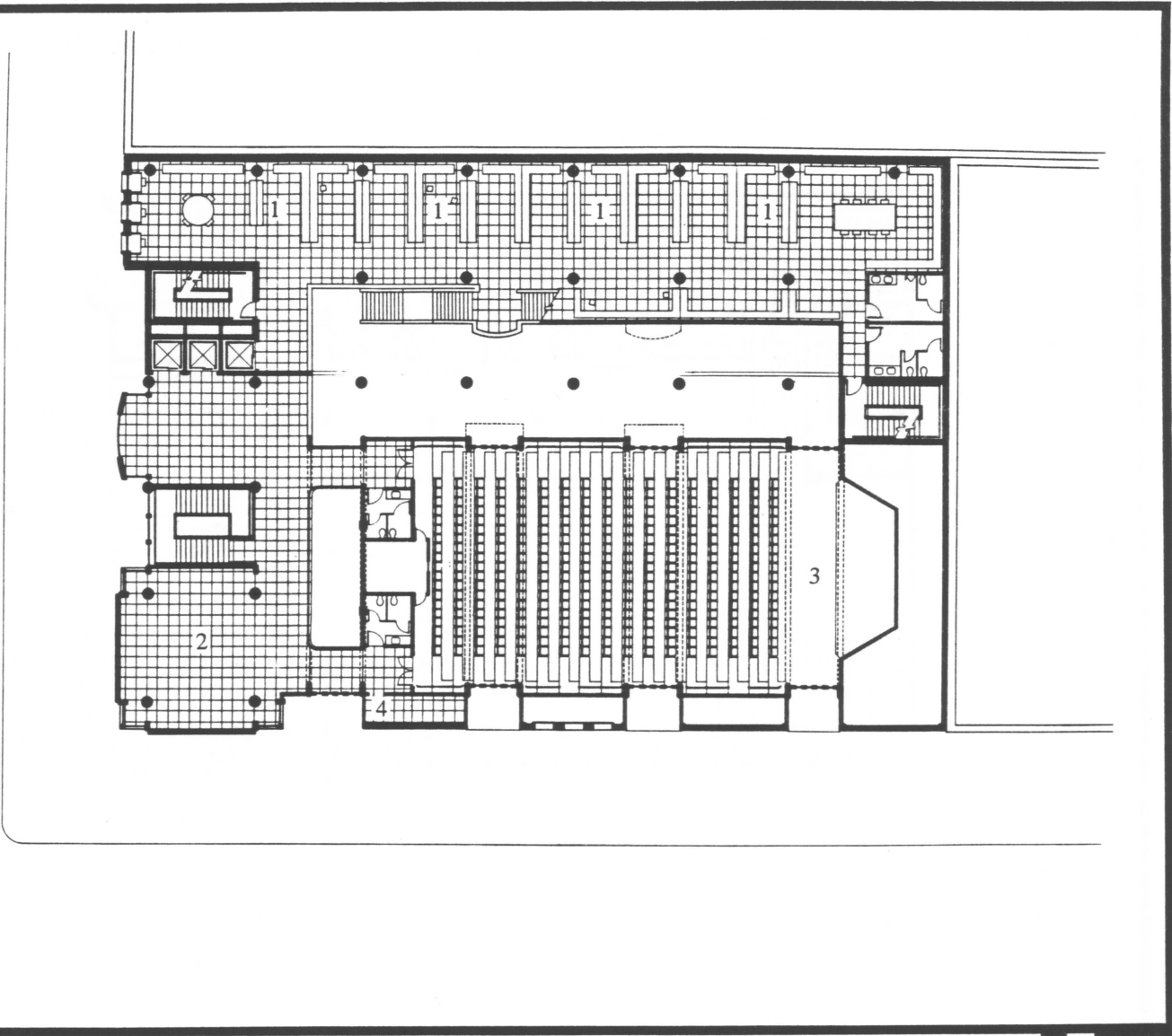


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Section b-b (Through Second Floor Indoor Street)





- 1 Library Stacks
- 2 Reception Room
- 3 Lecture Hall
- 4 Coat Room

Third Floor Plan

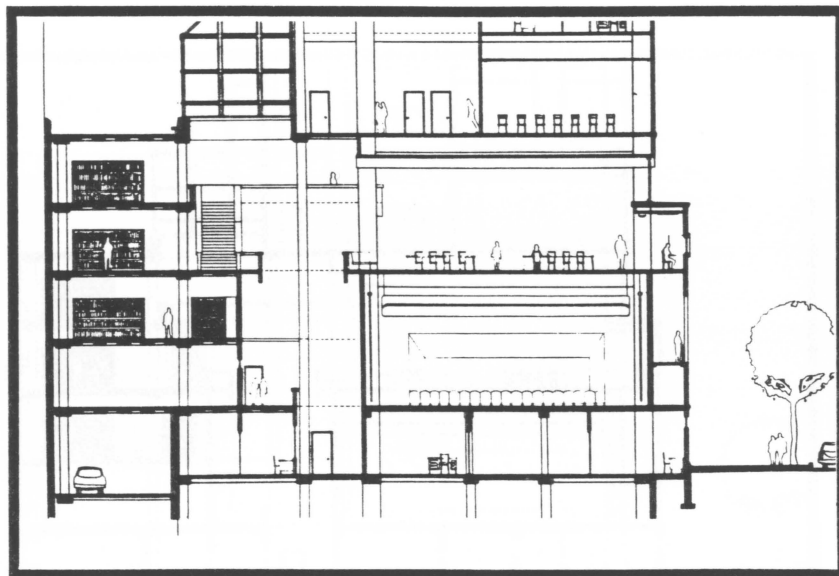


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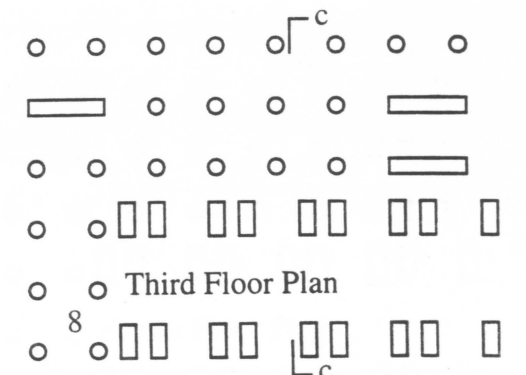
The Third Floor shows the open space of the indoor street that defines the relationship between the library and the lecture hall.

The third floor of the library houses part of the library's stacks. The library's grand staircase allows the stacks to connect to other library floors and interact directly with the indoor street. The walls of the library begin to open along the grand staircase as it rises to higher floors.

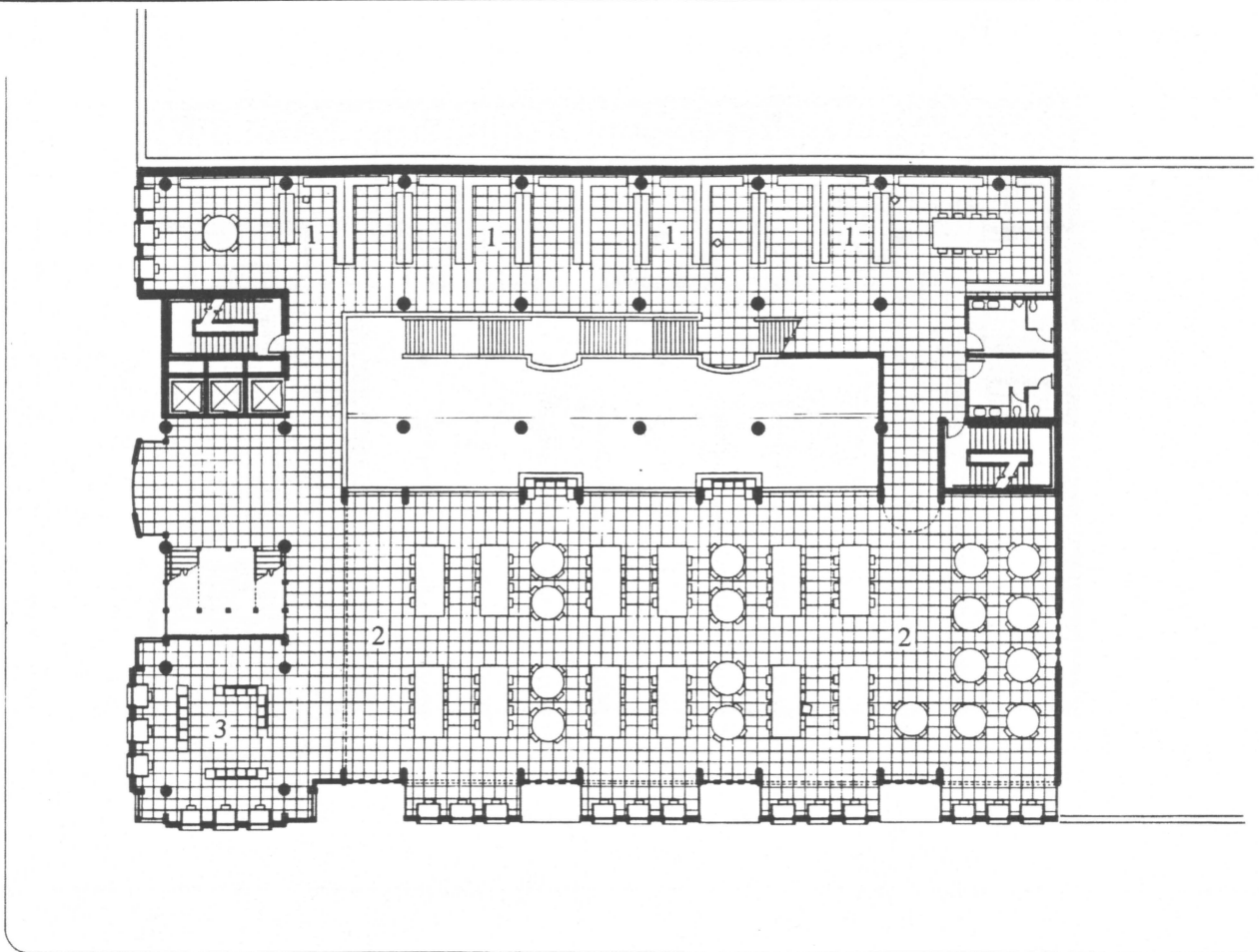
The lecture hall's circulation lobby and reception room are open to the indoor street and the library beyond. Two bridges cross an open space connecting the lecture hall to its circulation and lobby.



Section c-c (Through Second Floor Indoor Street)



The entire Fourth Floor is made up of the stacks and main reading room of the library. The circular columns provide the conventional support necessary for supporting the heavy loads of the books. The columns are free-standing, which allow for a wide variety of spaces, and often act as strong space defining elements. The rectangular columns carry the longer spans, enabling an open and well-lit reading room.

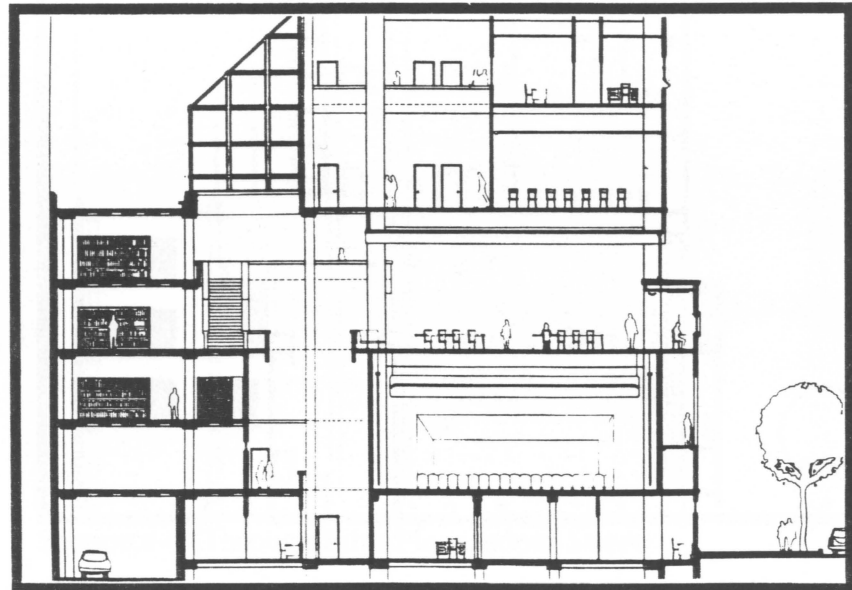


- 1 Library Stacks
- 2 Reading Room
- 3 Reading Lounge

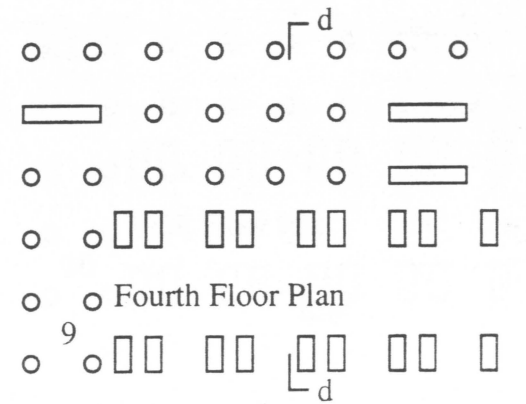
Fourth Floor Plan



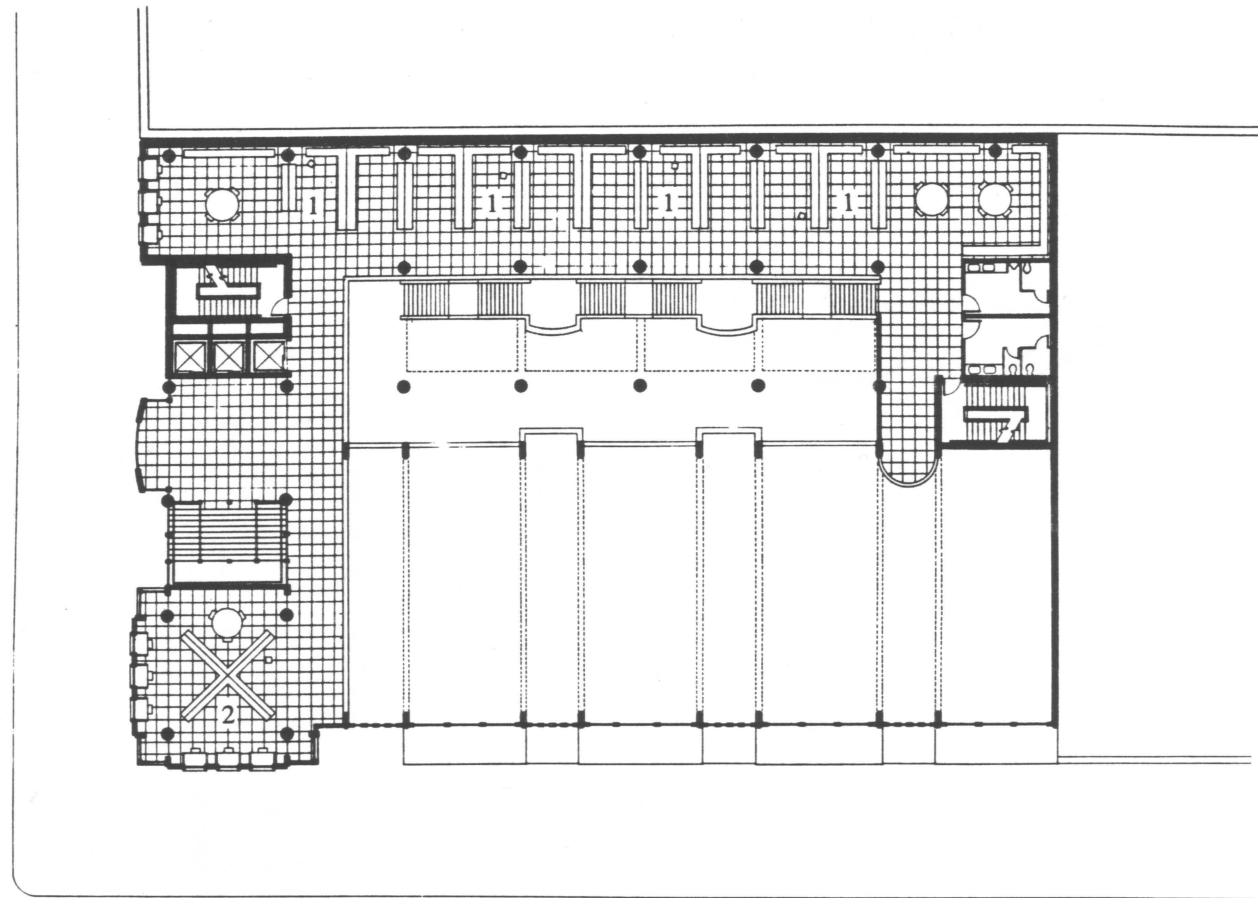
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Section d-d (Through Fourth Floor Indoor Street)



The Fifth Floor is made up of the final floor of stacks wrapping around the open space and the double story space of the reading room. The full run of the grand staircase can be seen connecting the fifth floor to the library below. Four skylights directly over the grand staircase and the open space provide the "sky" to the "indoor street".

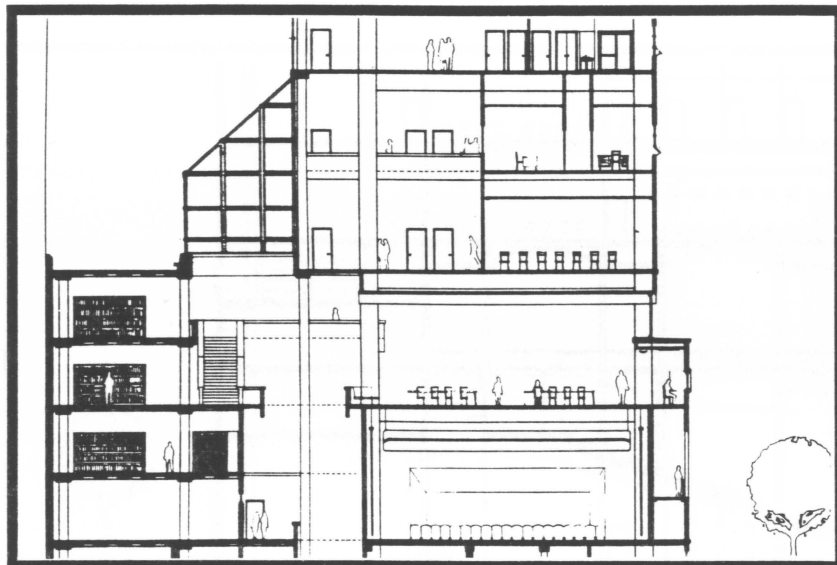


- 1 Library Stacks
- 2 Rare Book Collection

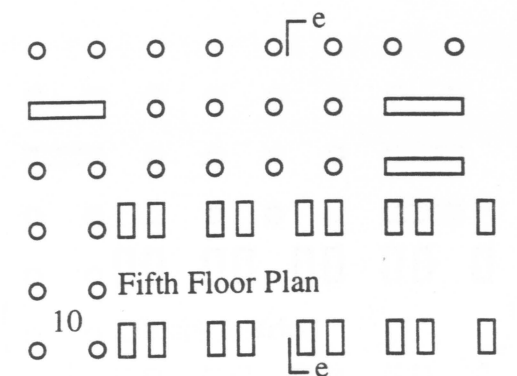
Fifth Floor Plan

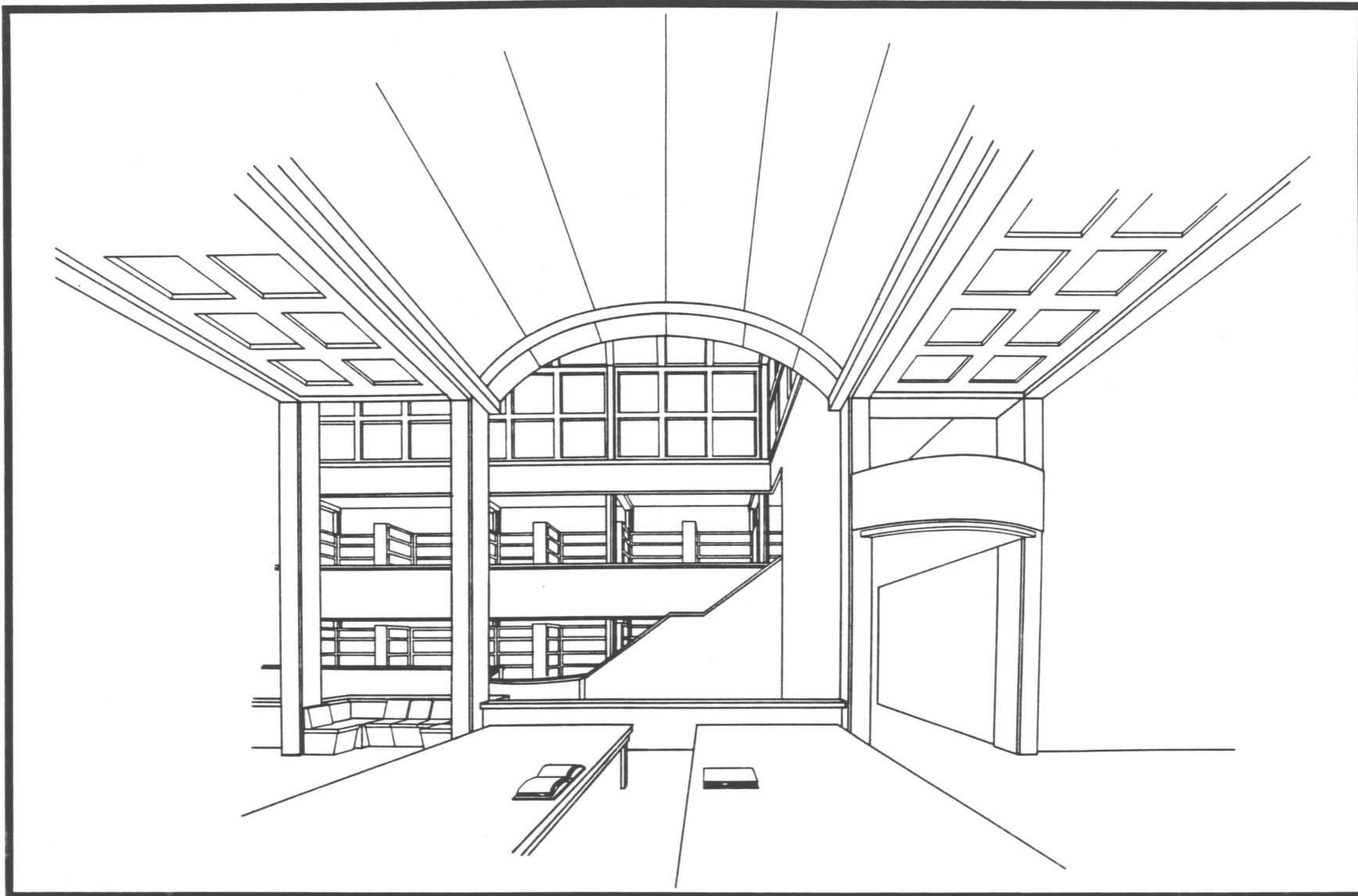


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Section e-e (Through Fifth Floor Indoor Street)



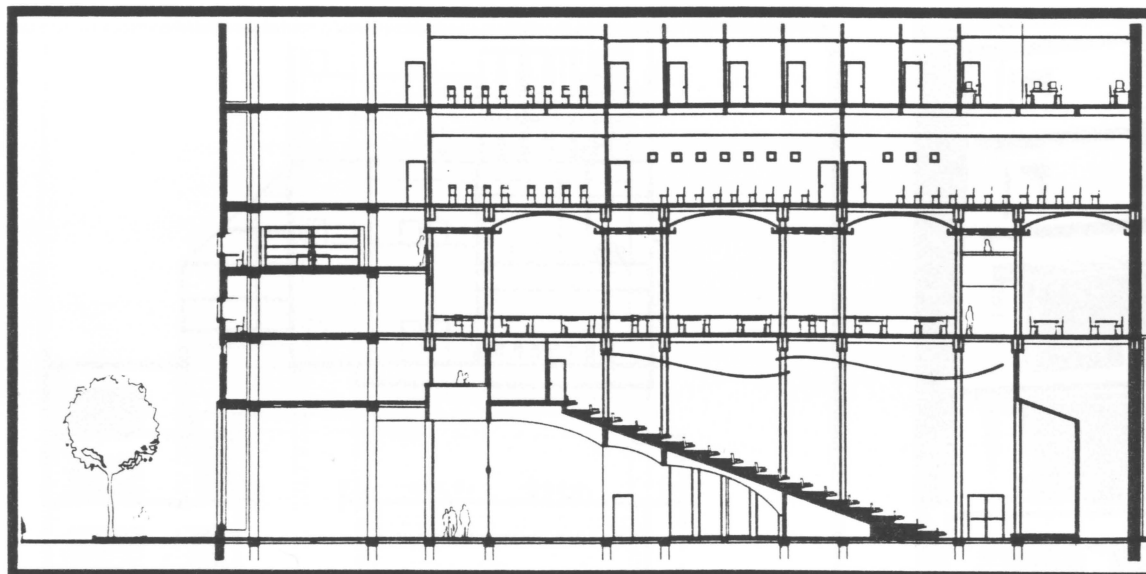


Library Interior

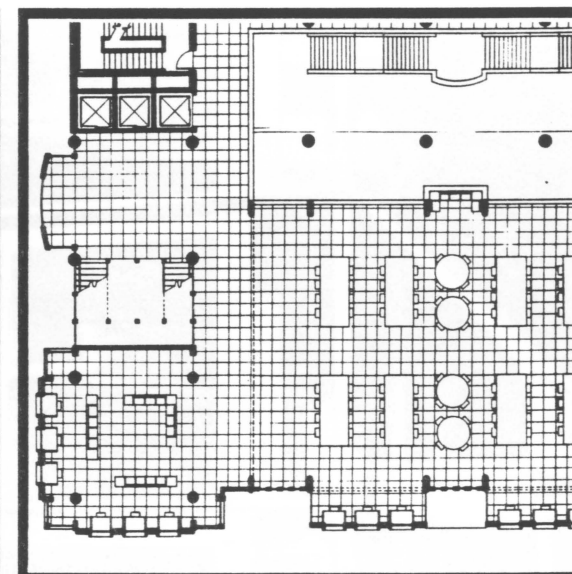
The perspective shows a view from the library's main reading room looking across the open space to the library's stacks. The interior shows the vertical elements that define volumes, serve as structural supports and control the visual and spacial continuity throughout the building. The large reading room is articulated by the columns and the vaults that the columns support. The larger reading tables are located below the vaults, while the smaller tables are placed under the lower ceilings between the vaults.

The section detail shows the vaults that span the length of the reading room and the spaces that the vaults create.

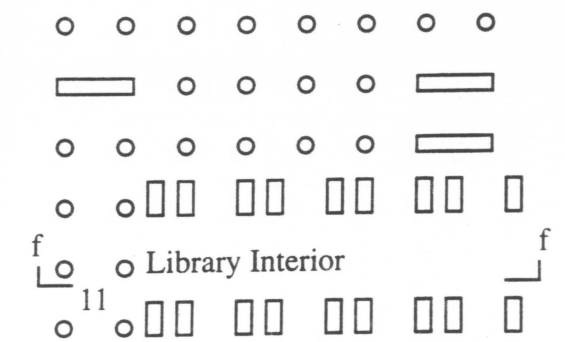
The plan detail shows the variety of spaces within the reading room. The plan illustrates the contrasting scales between the small parts and public spaces that occur throughout the entire building.



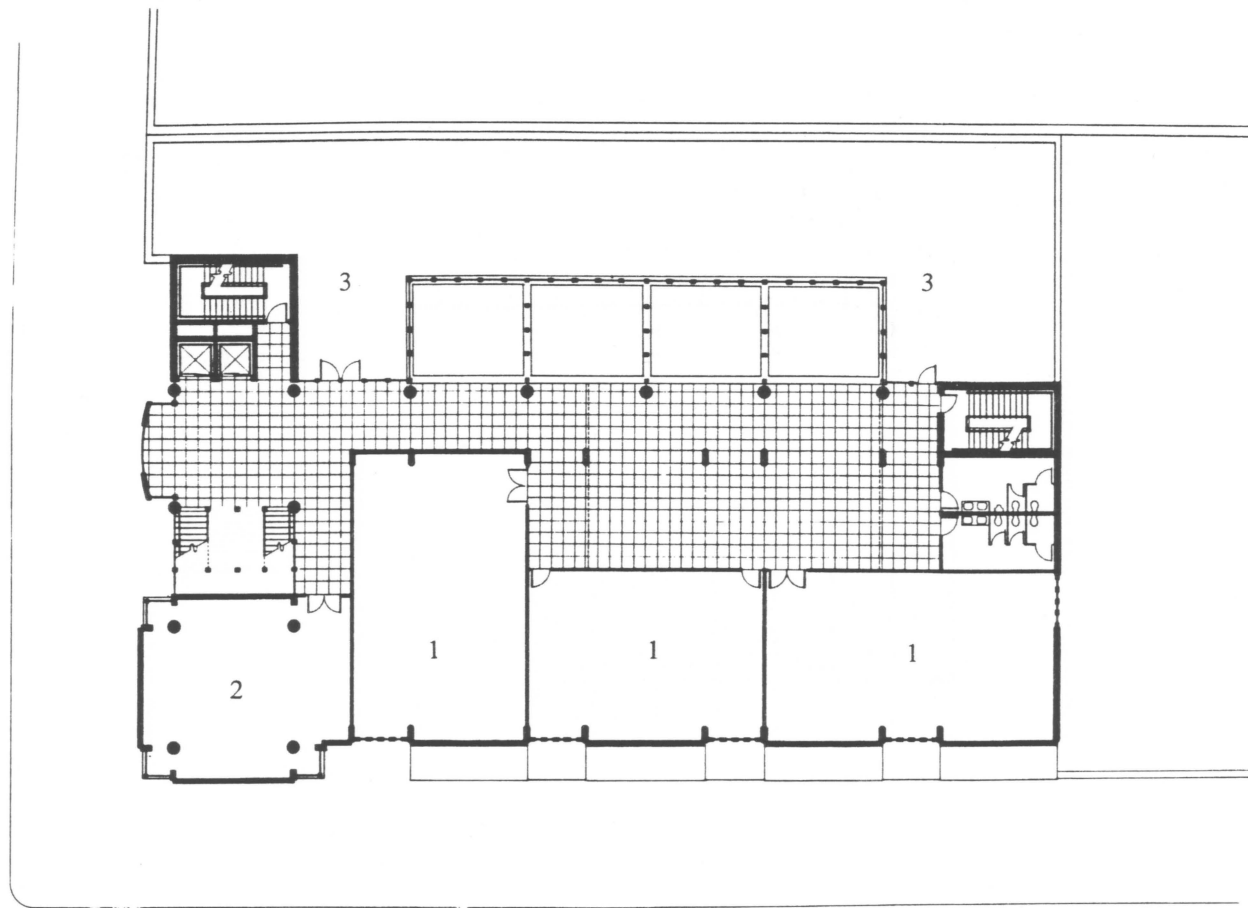
Section f-f (Through The Library Reading Room)



Reading Room Plan Detail



The Sixth Floor is made up of the school's classrooms and a debate room in the corner tower. The indoor street's circulation still runs from the South circulation lobby to the North firestairs. The four skylights provide the visual connection to the library and floors below.



- 1 Classroom
- 2 Debate Room
- 3 Roof Terrace

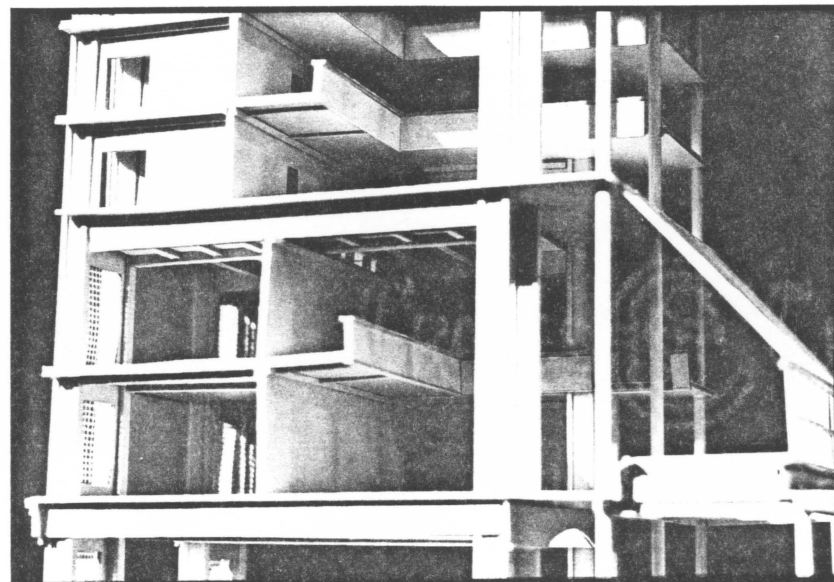
Sixth Floor Plan



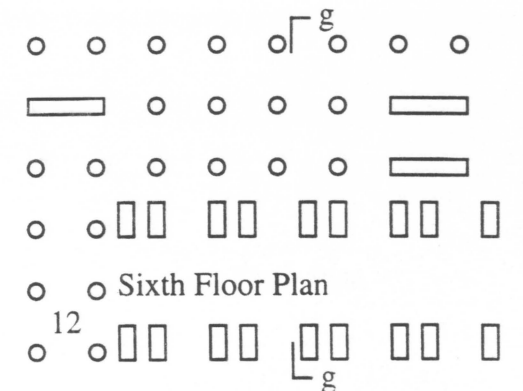
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Section g-g (Through Sixth Floor Indoor Street)

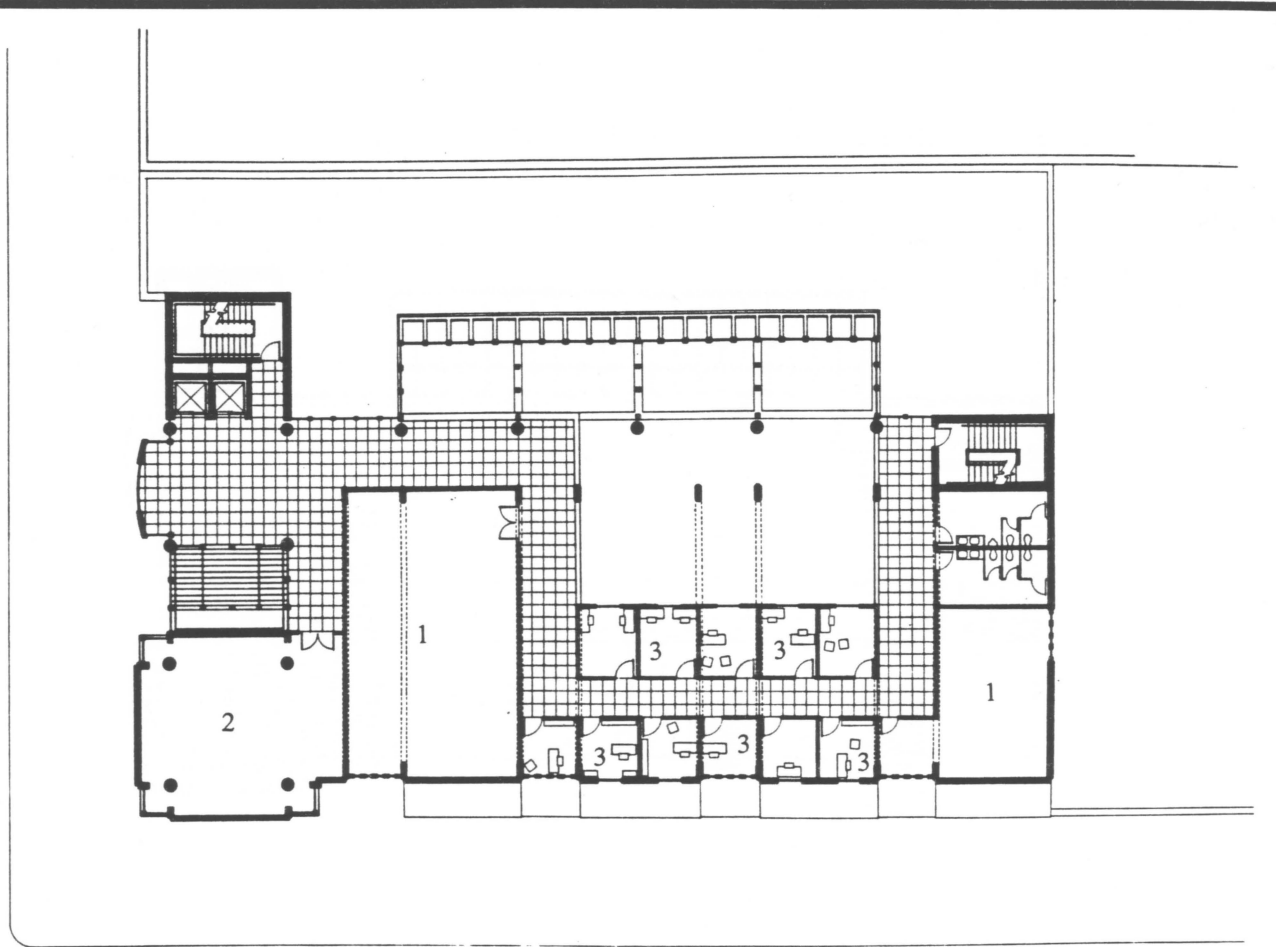


Final Section Model Showing Sixth/Seventh Floor Atrium





The Seventh Floor has classrooms, a debate room, and the faculty offices. These rooms are organized around an atrium connecting the Seventh Floor to the Sixth Floor below. This unites the similar functions on the two floors through the common atrium, while the indoor street unites the two floors to the rest of the school by running through the atrium.



- 1 Classroom
- 2 Debate Room
- 3 Office

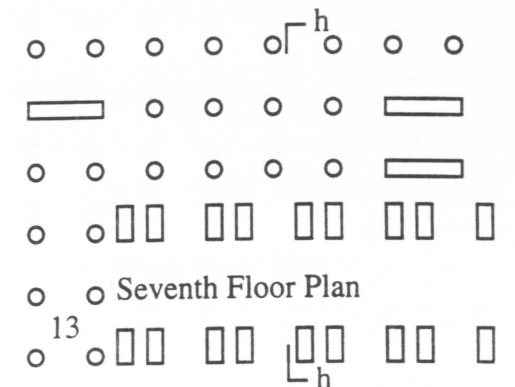
Seventh Floor Plan



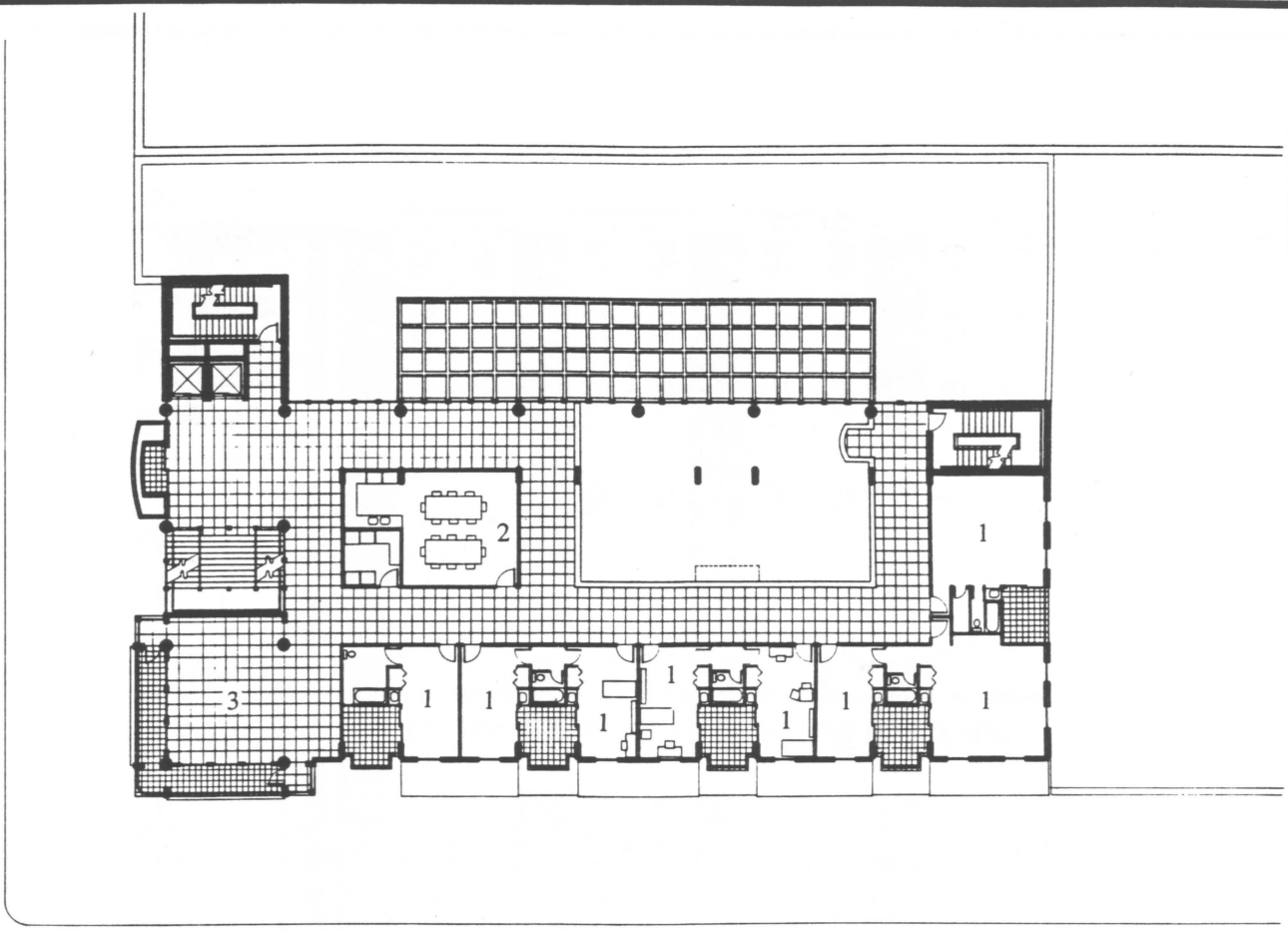
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Section h-h (Through Seventh Floor Indoor Street)



The Ninth Floor is a typical plan for the school's living quarters, and is repeated on the Eighth Floor and the Tenth Floor. Circulation still occurs along the indoor street, but is more private than on other floors. The Ninth Floor has an atrium which links it to the living units below on the Eighth Floor and above on the Tenth Floor. This gives the living units a sense of community with one another. This also continues the idea of the layering of relationships between the contrasting scales of public and private spaces present throughout the school. This occurs not only between the floors, but also between the apartments. The apartments are organized around a common balcony, creating a shared semi-public space.

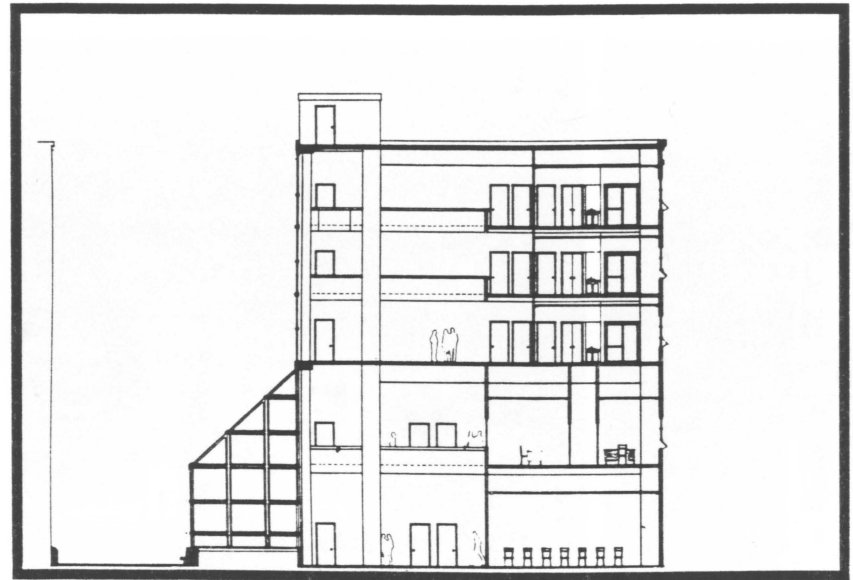


- 1 Apartment
- 2 Balcony
- 3 Common Room
- 4 Kitchen

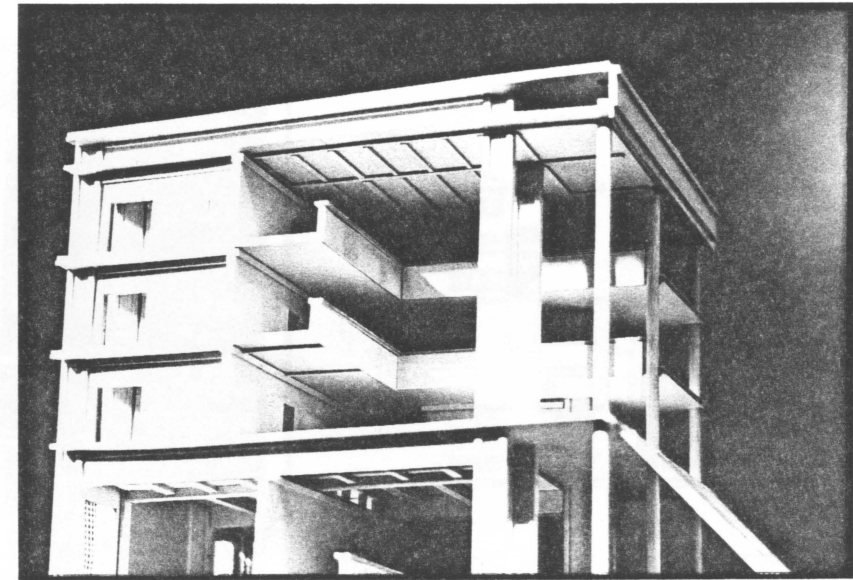
Ninth Floor Plan (typical living plan)



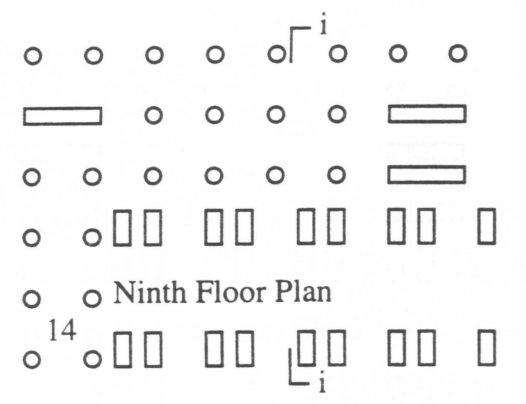
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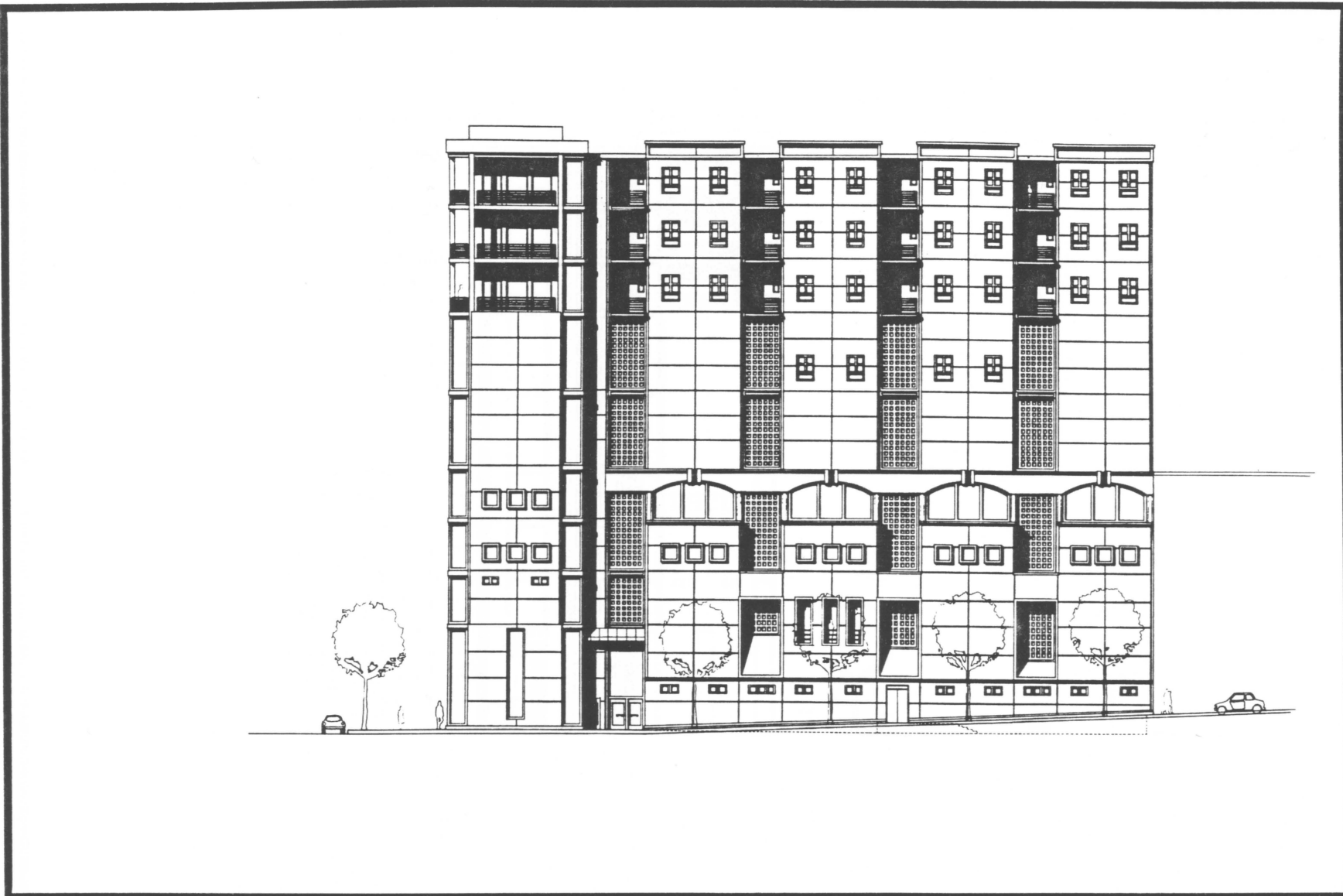


Section i-i (Through Ninth Floor Indoor Street)



Final Section Model Showing Eighth/Ninth/Tenth Floor Atrium





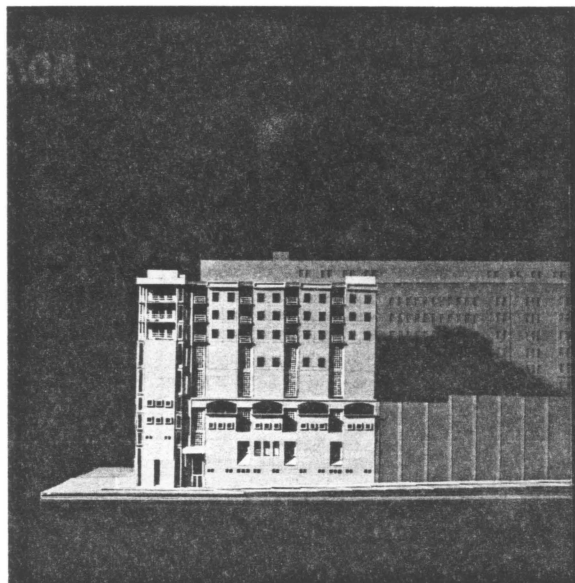
Eighth Street Elevation

The Eighth Street Elevation is the facade presented towards the formal axis. The elevation is organized vertically to relate to the pedestrian walking along the axis, and horizontally through the classical idea of base/middle/top, appropriate for a large building on the Eighth Street axis.

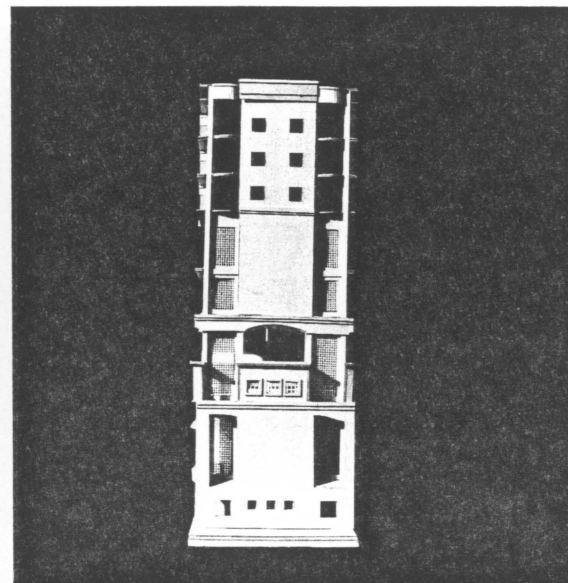
The vertical pattern of bays and tower reinforces the height and structural system of the facade. These bays and tower present a human scale along the axis.

The horizontal pattern unifies the facade through common openings, materials, and depth. This creates texture through shadow and material change interrupting the facade, yet unifying the elevation through a common rhythm.

The elevations express what occurs inside, illustrating the idea "form follows function". The lecture hall has solid walls. The library has large windows to illuminate the reading room, yet also has small windows for the personal study areas. The classrooms have walls for information display and side lighting. The living arrangements have balconies and small operable windows.



Final Model Elevation

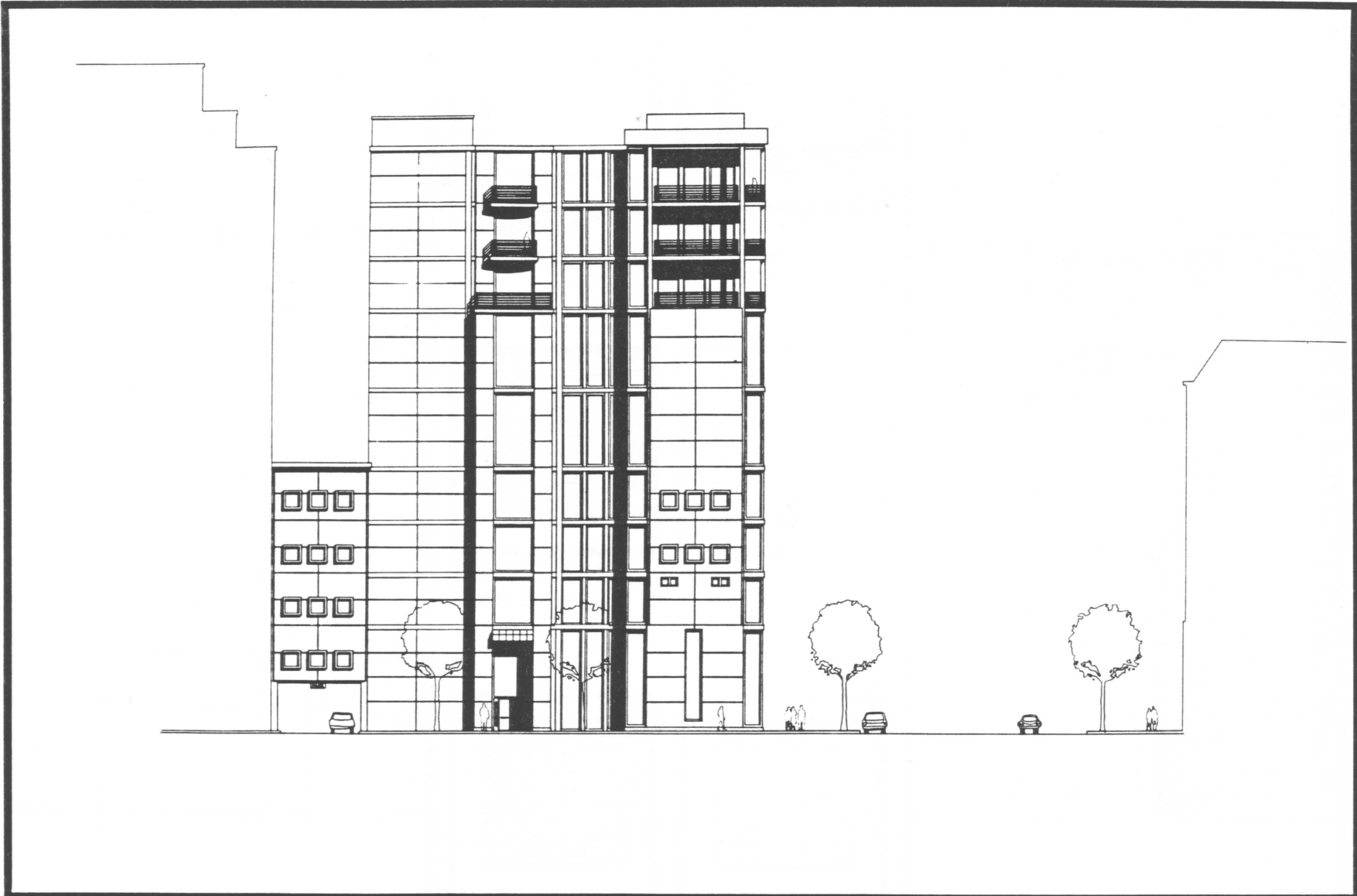


Final Section Model Elevation



Elevation Studies

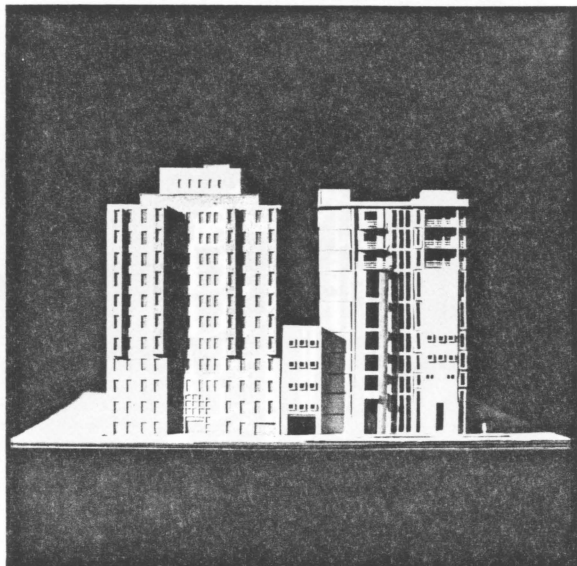




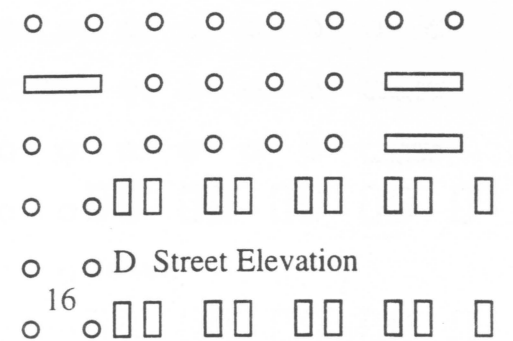
D Street Elevation

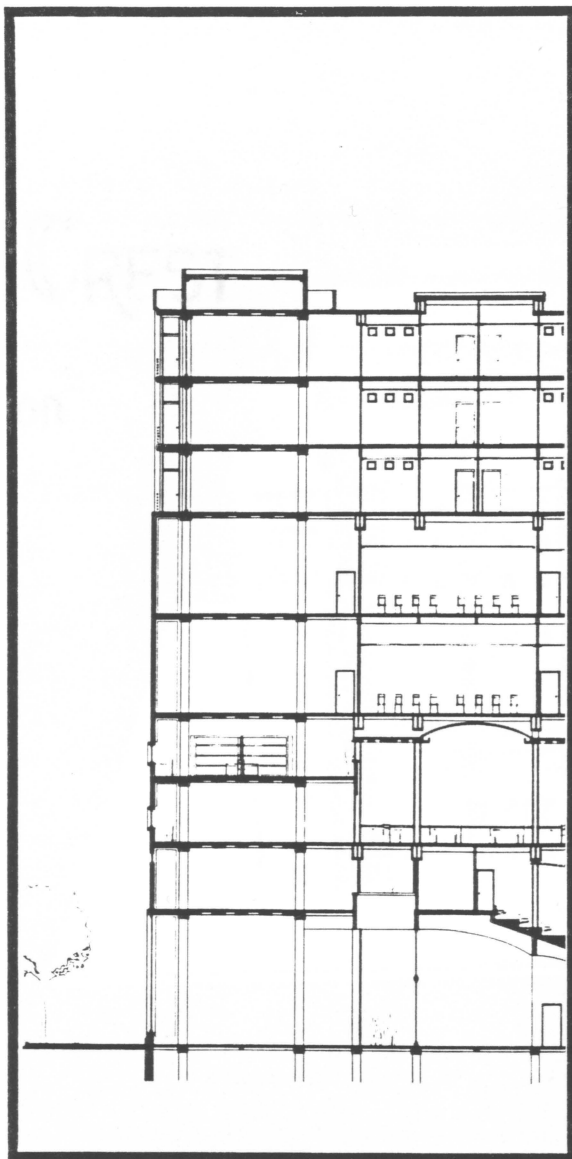
0' 10' 50'

The D Street Elevation uses the same language of horizontal bands and the vertical divisions as the Eighth Street Elevation. The main relationship between the two elevations occurs at the corner tower, which is shared by both facades. The tower uses the materials, square windows, and balconies of the D Street Elevation and Eighth Street Elevation. The tower turns the corner, and provides a special joint to unite the two facades.

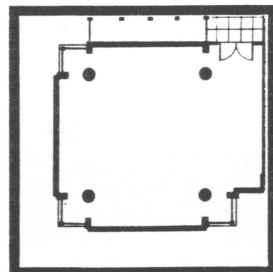


Final Model Elevation

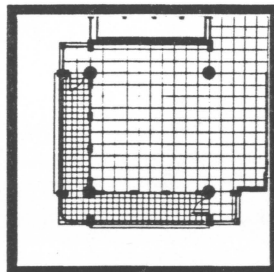




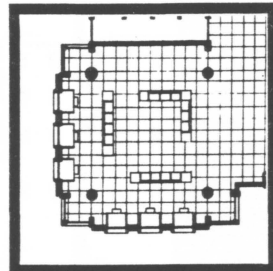
Tower Section



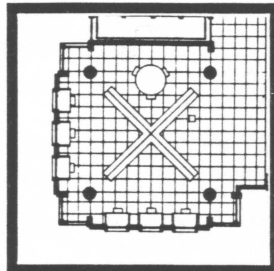
Debate Room  
Sixth Floor



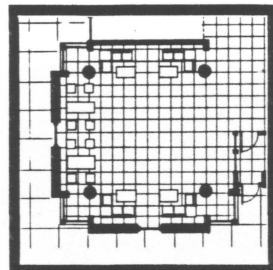
Common Room  
Ninth Floor



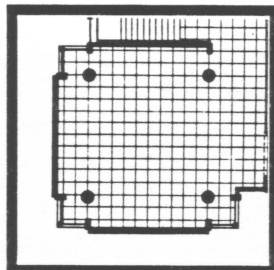
Reading Lounge  
Fourth Floor



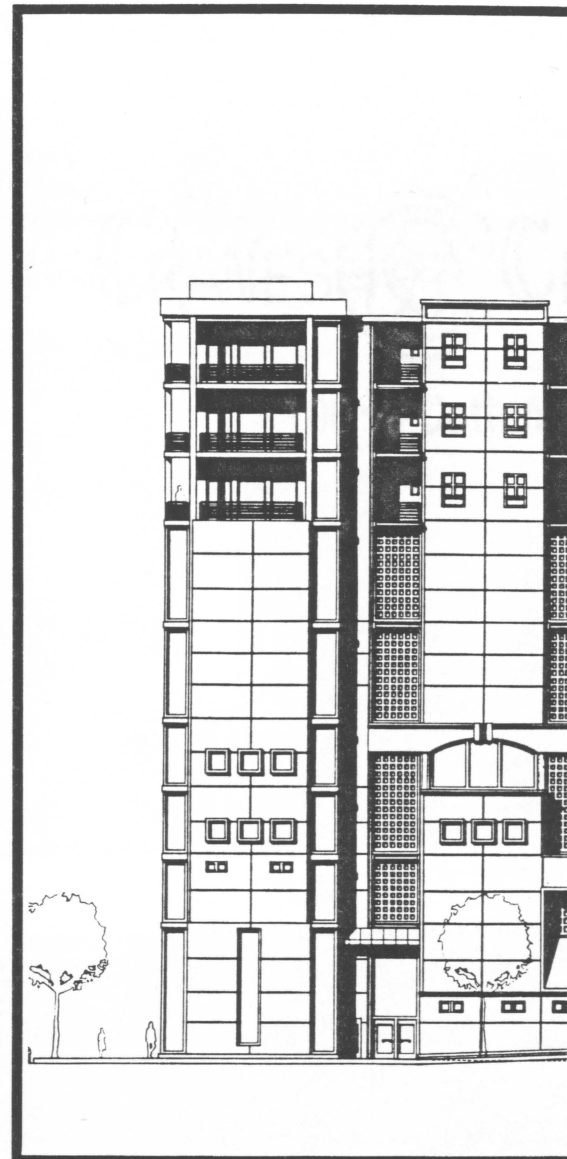
Rare Books  
Fifth Floor



Main Lobby  
First Floor



Reception Room  
Third Floor

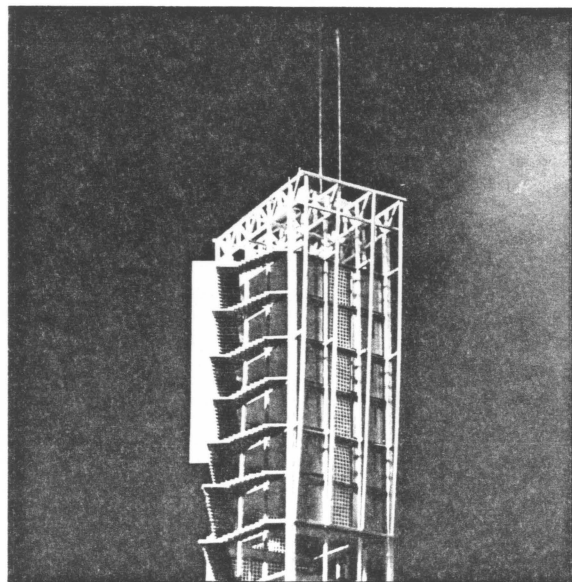


Tower Elevation

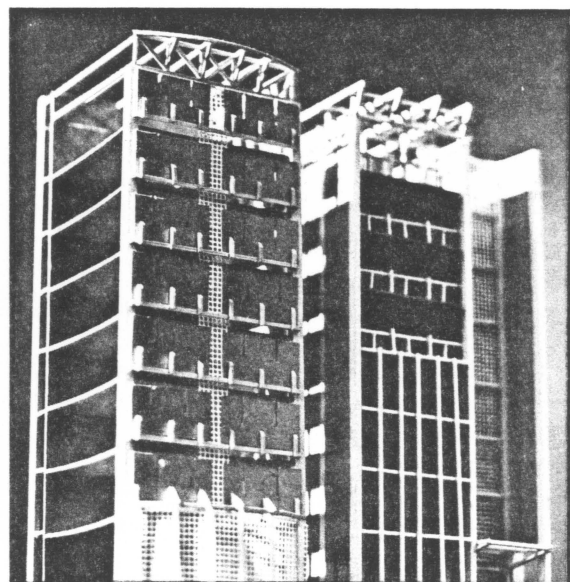
0' 10' 50'

The tower is symbolic of a school's bell tower, allowing for a sense of identity on the Eighth Street Axis. The tower is located on the South-East corner of the site, providing a strong presence that is necessary for a building along this important axis.

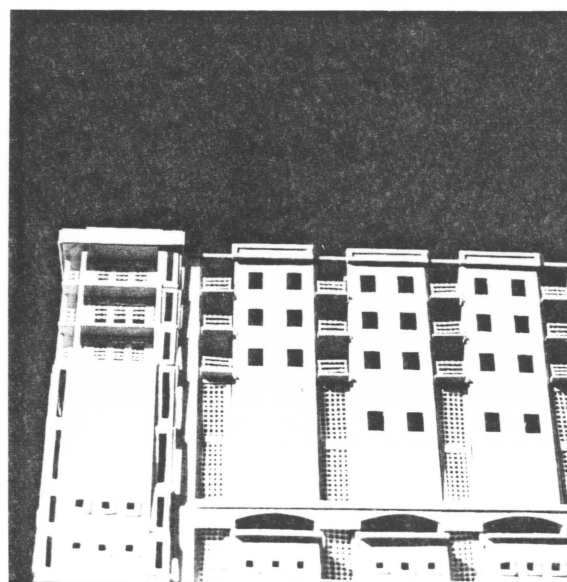
The tower's rooms are a special place on each floor. The living units share the tower through a common room, the classrooms have a debate room, the lecture hall has a reception area, the library has a rare book collection and a reading lounge, while the ground floor has the lobby for the whole school itself. These variety of spaces are linked vertically through the tower, and provide an important unifying element in the design.



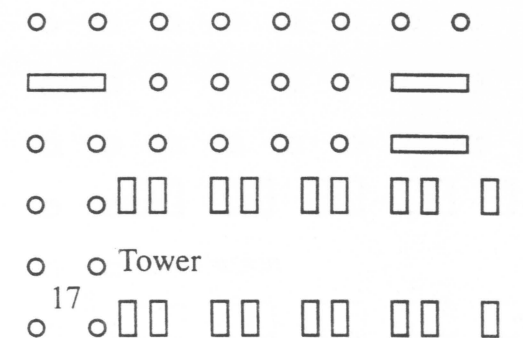
First Tower Study Model

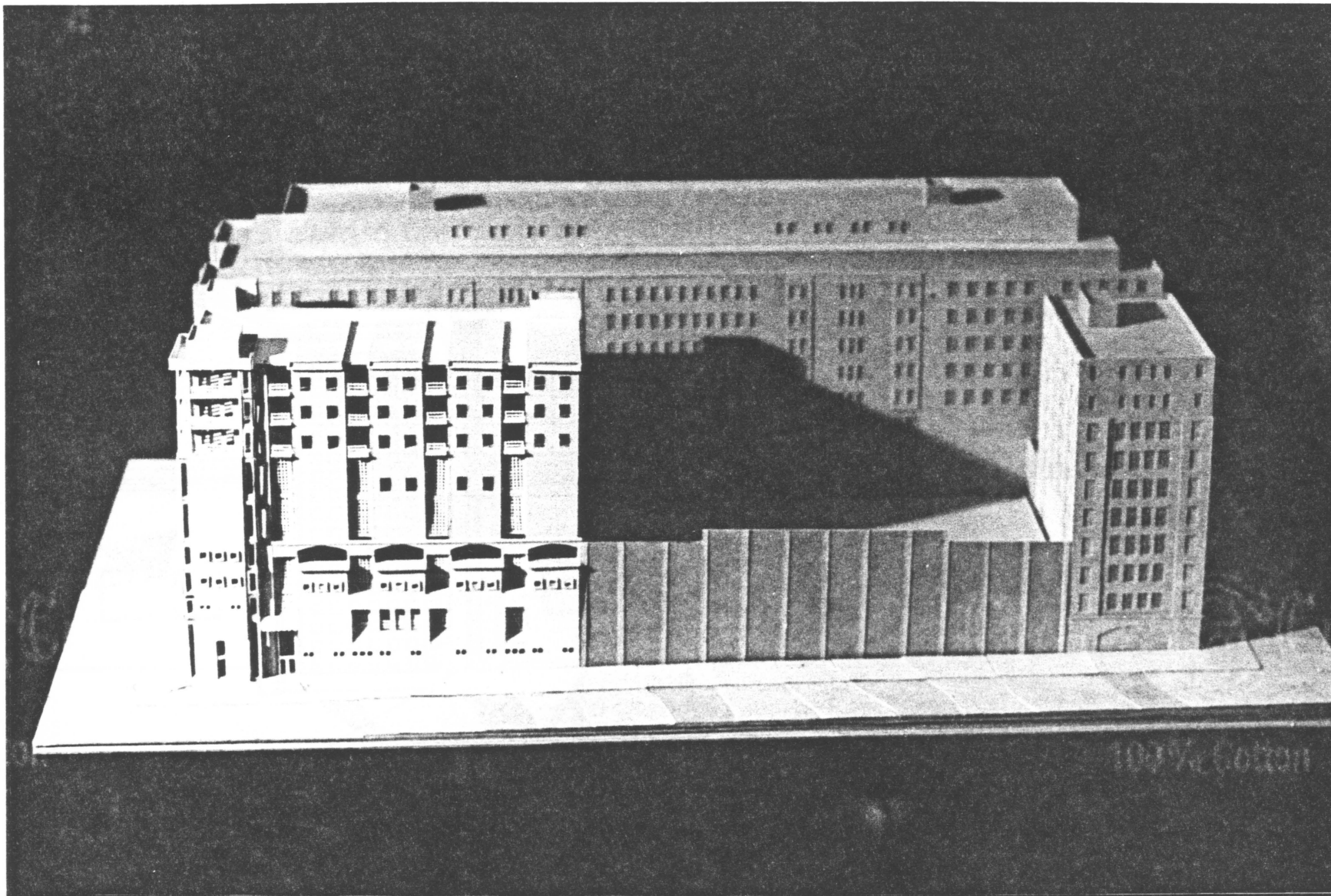


Second Tower Study Model



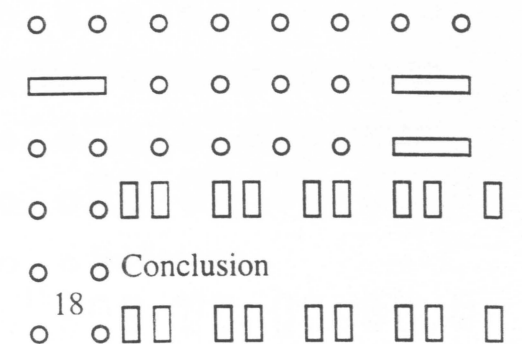
Final Tower





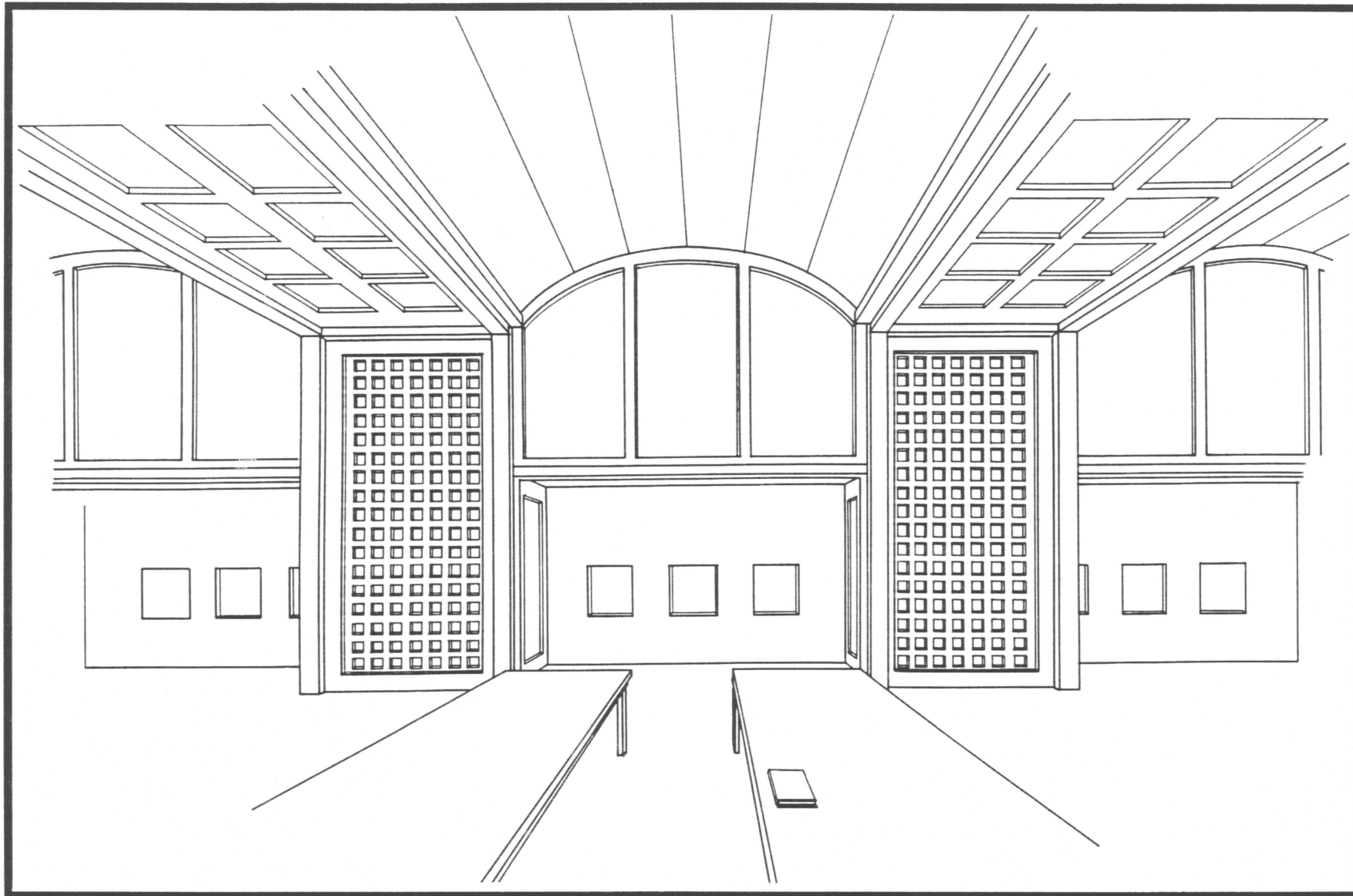
The School

The design of the school is based on the idea of layering public and private spaces around special interactive spaces. The interactive space of the indoor street gives the school its life, forming relationships between the individuals, the groups and the variety of interior spaces that make up the school. These connections between the human beings and the physical elements of the indoor street allow people and space to become one, inseparable as School.



Conclusion

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Library Interior

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