

APPENDIX
STUDENT UNION BUILDING

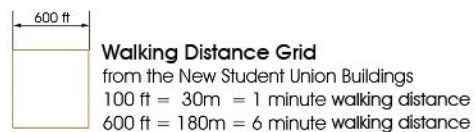


A. Student Union Building Design Process

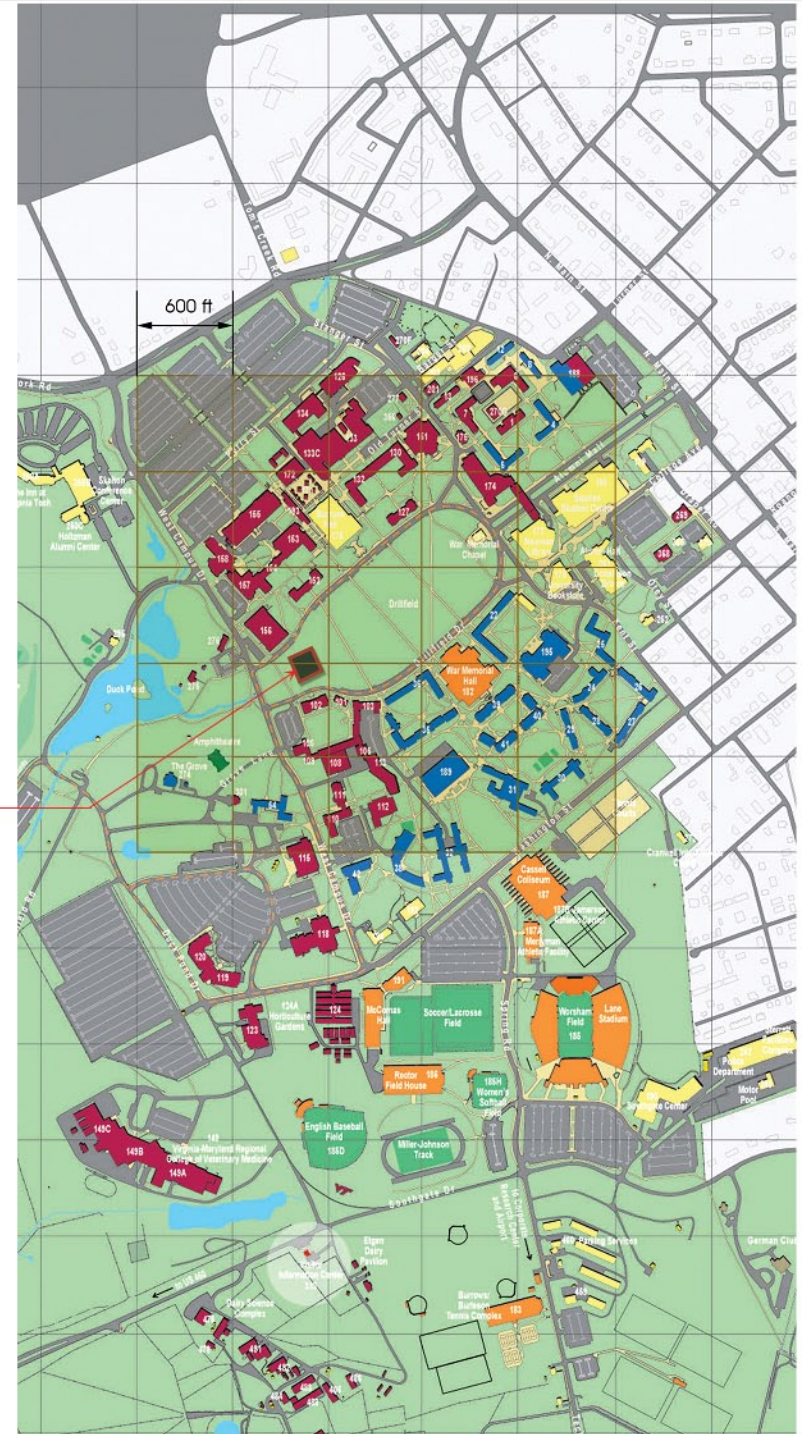
a. Project Site and its Programs

This program for this project was based on a competition for a Student Union Building. The required program elements were a theater, university store, meeting / dancing room, student administrative office, game room, post office, dining area with kitchen and other support areas such as a lobby, rest-rooms and mechanical room. As it should be a multi-purpose building for students, I chose a site which was near the center of the campus. So, students can easily get there by walking from their department offices, classrooms or dorms.

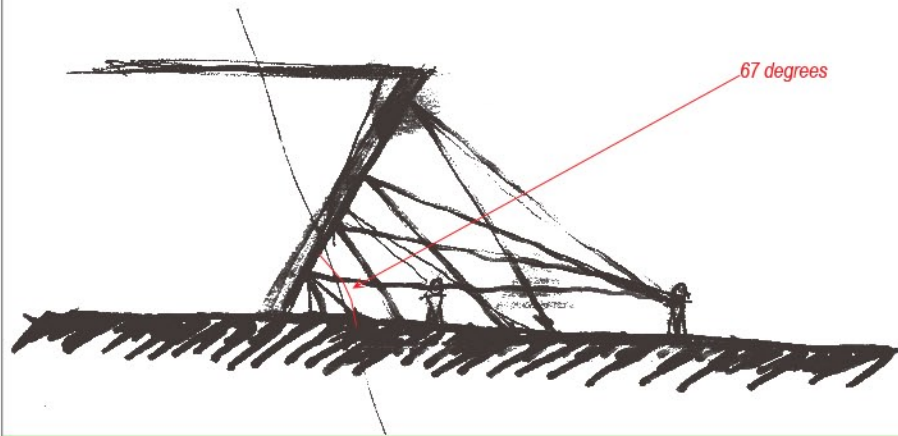
The New Student Union Building



Pic 18. Virginia Tech Campus Map

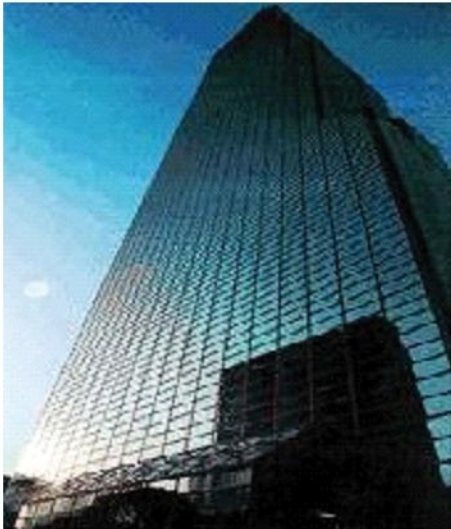


b. Initial Sketch : to use the reflection of the Drillfield to make metamorphic boundaries.



Highly Reflective 'Sunshade' Glass

When you see many high-rise buildings, mostly you cannot see inside, but when you are in the building, you can see outside. This is because of the reflective glass. One type of reflective glass, TE-15, is used for my Student Union Building Project, because it reflects a much higher quantity of incident light than other types.



Pic 19. Example of buildings with Reflective Glass

Kinds of Reflective Glass
: SS-08 / SSN 14 / TE-15

R : Reflection
T : Transmittance
Re-R : Re-reflection
Re-T : Re-transmittance

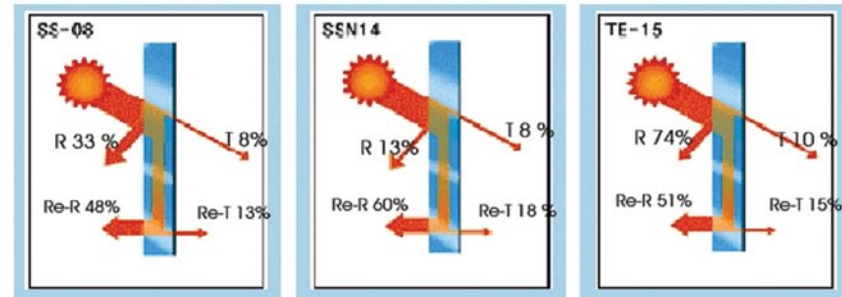
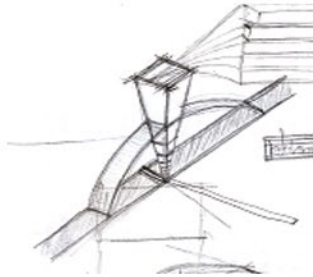


Figure 3. The Quantity of Reflected Light

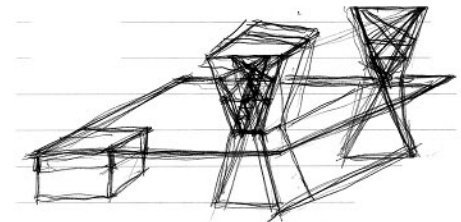
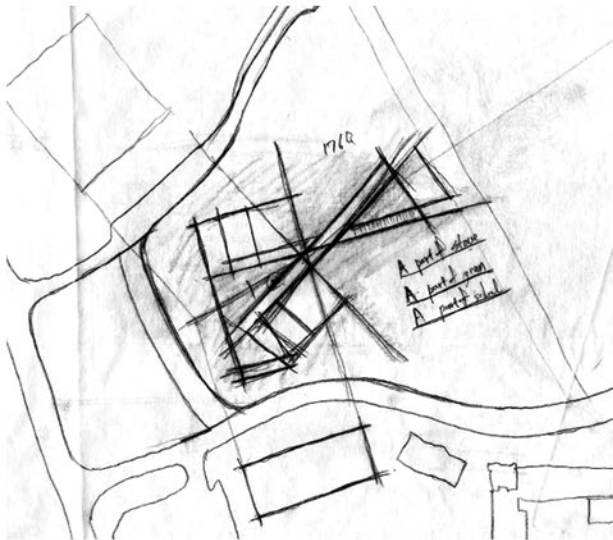
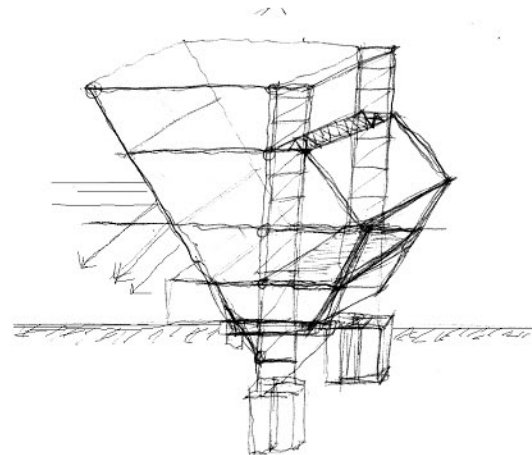
Pic 19-1. Examples of buildings with Reflective Glass



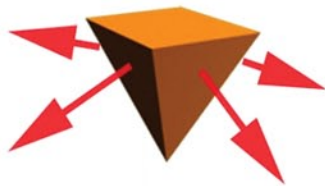
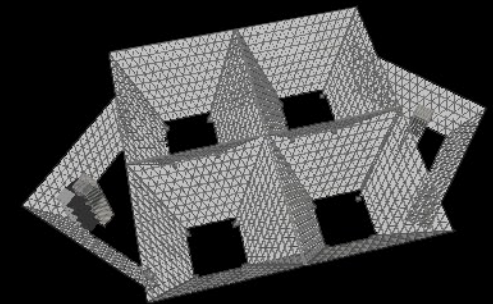
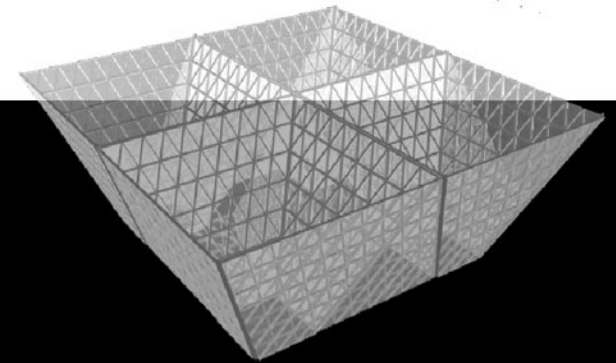
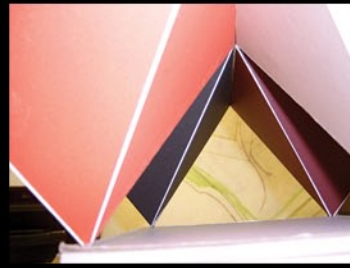
d. Space and the inclined wall



Preliminary design ideas with inclined wall



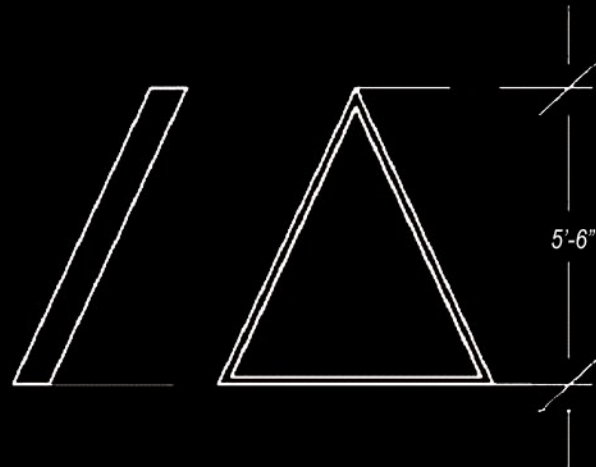
e. The Pyramidal Units

Unstable Forces*Stable Forces*

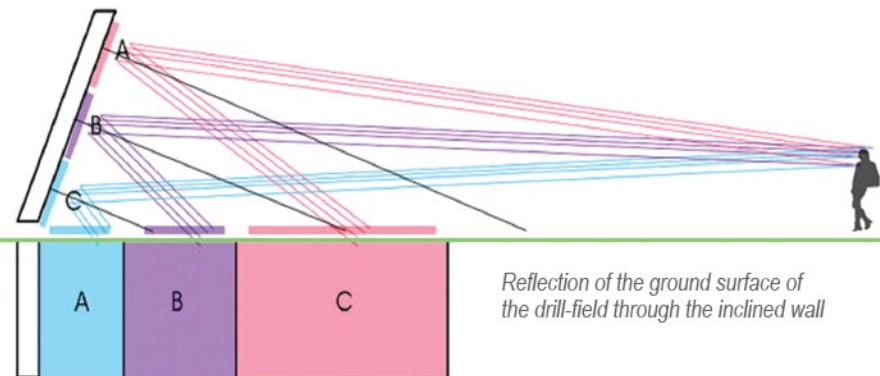
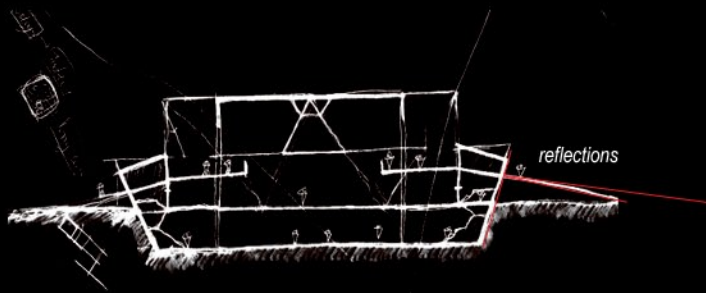
At this stage in design process, two half pyramids were attached at each end of the structure, providing places for entry without interrupting continuous approaches to the building.

However, the attached shapes defeated the main concept of the pyramidal units, so they were abandoned. This allowed a focus on the metamorphic spatial moments created by the inverted pyramids.

f. Reflection Area by Inclination of the Glass Wall



The interlocking triangular elements are the structural units.

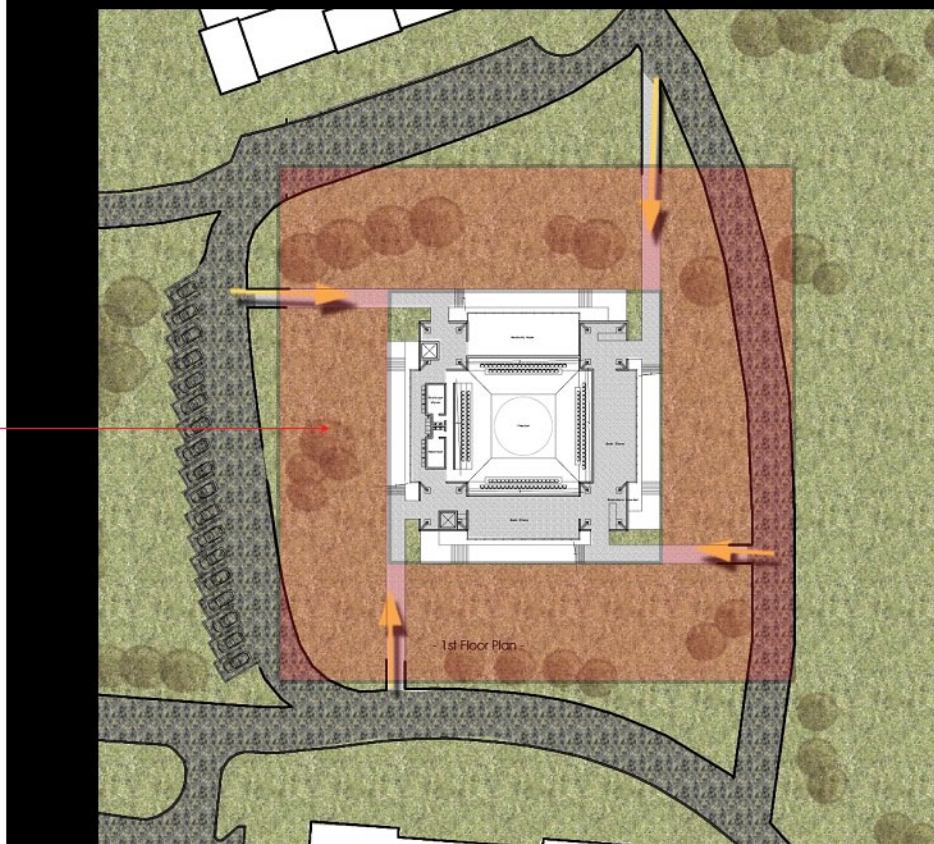


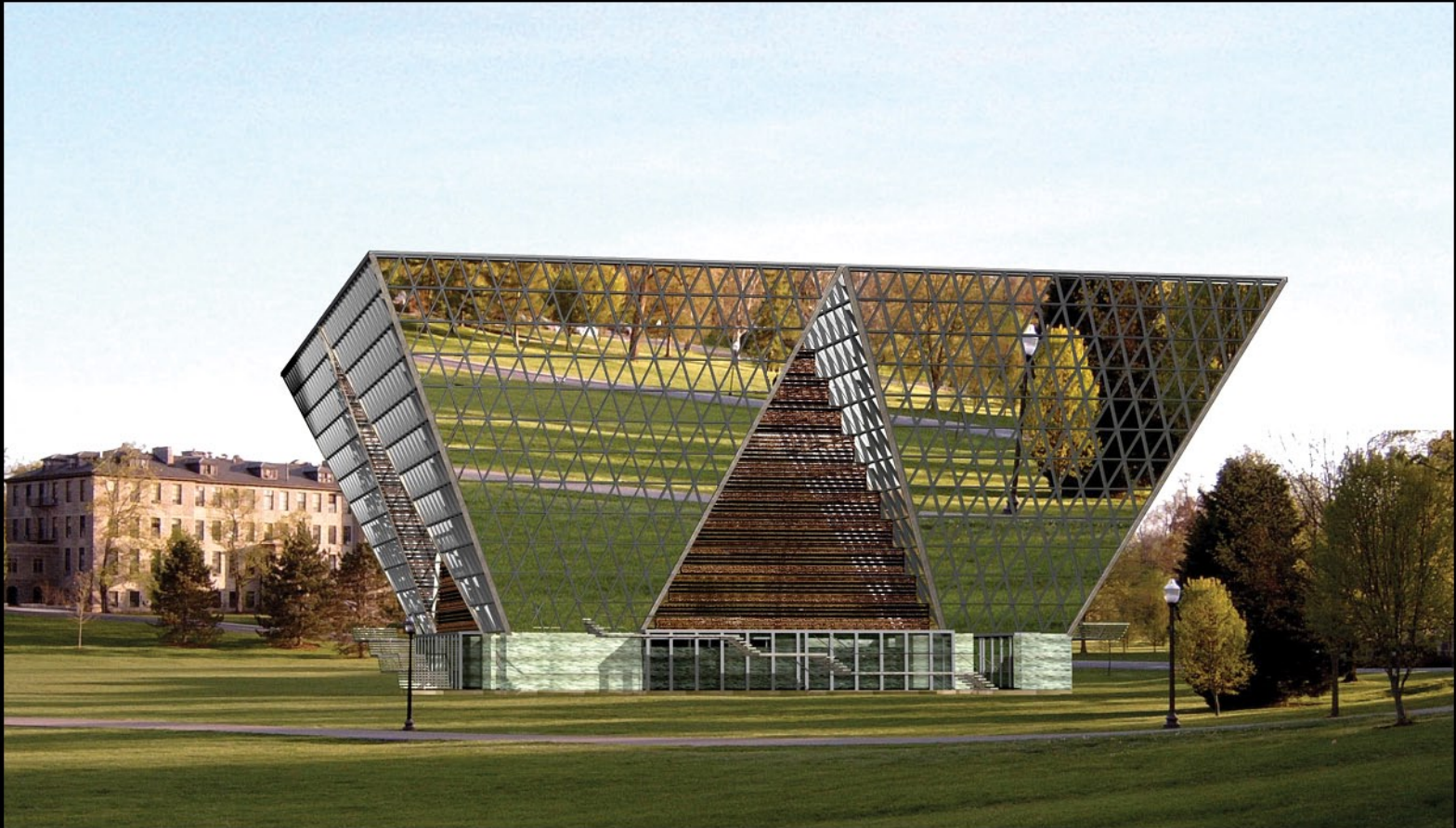
*Reflection of the ground surface of
the drill-field through the inclined wall*

B. Final Design with Metamorphic Boundaries

a. Metamorphic Boundaries through the Reflection of the Drill-field

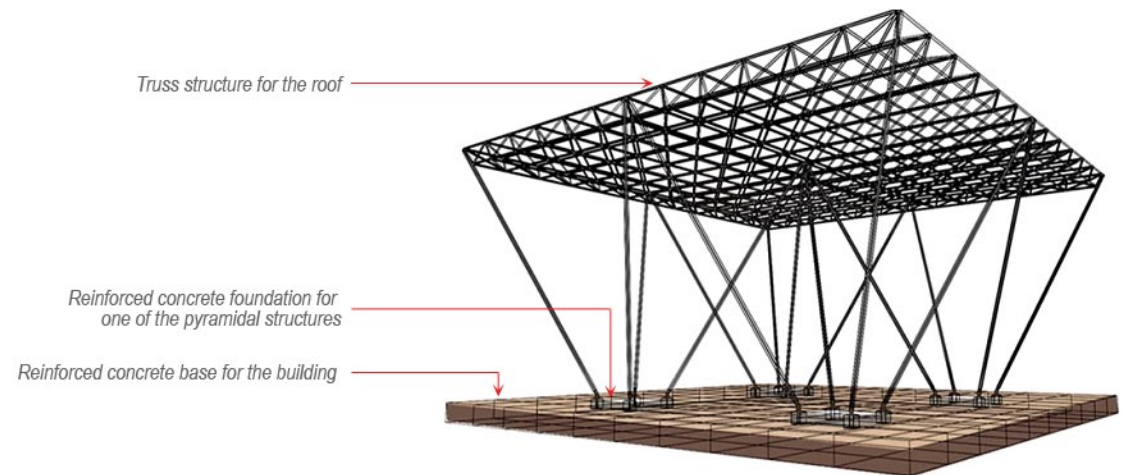
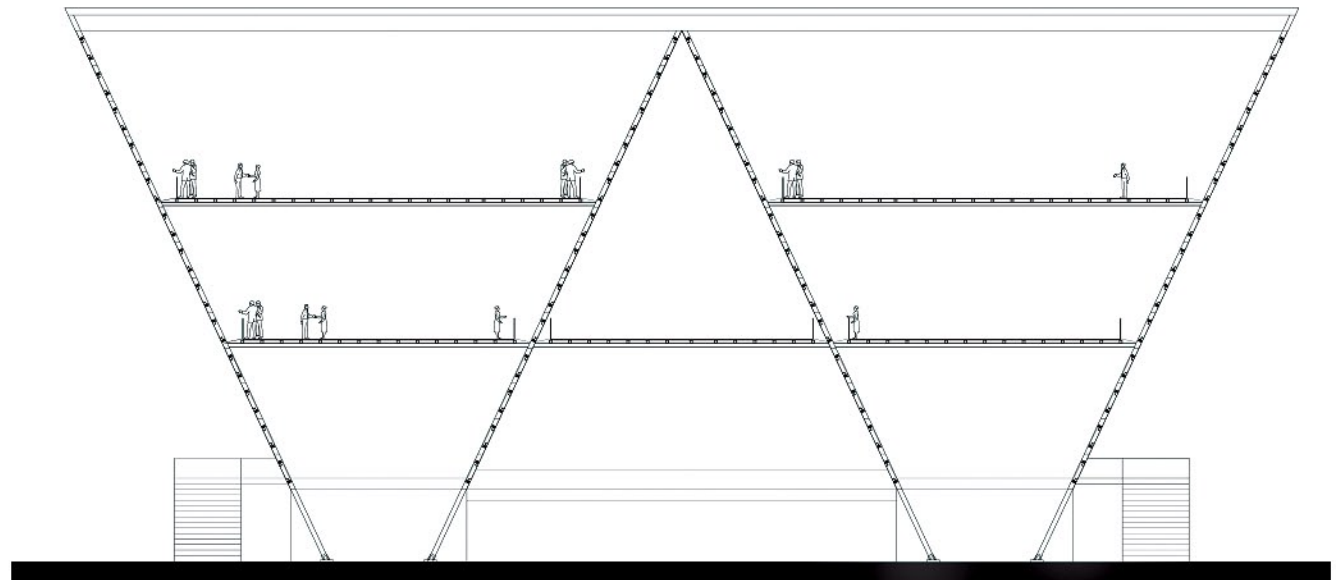
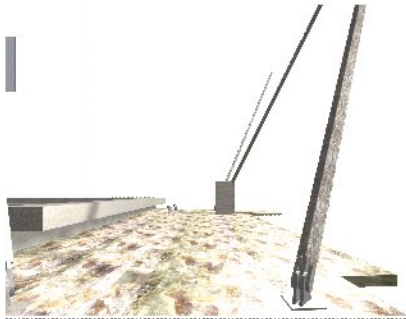
Reflection Area

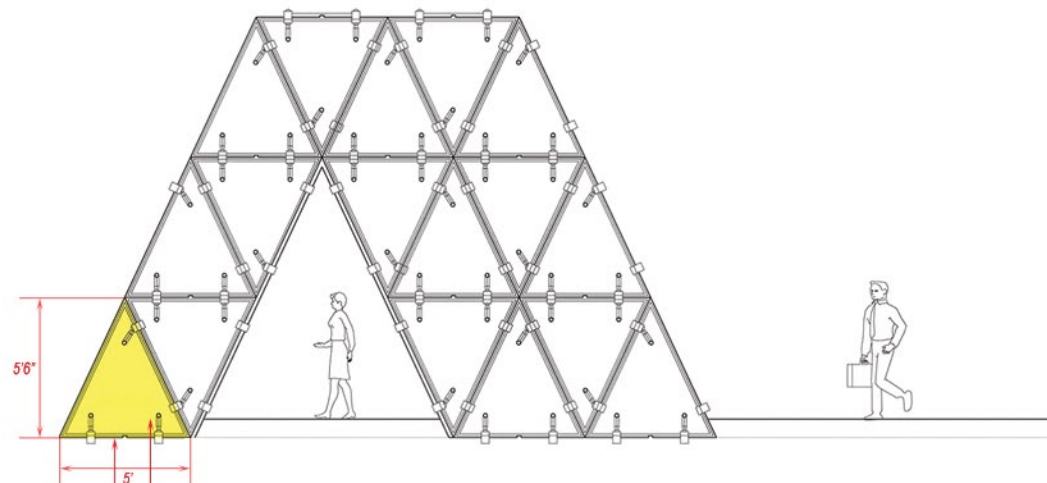
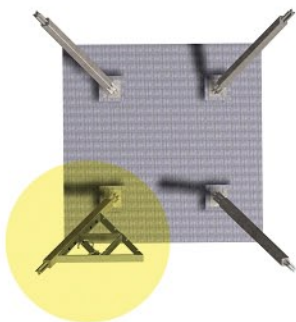




Student Union Building Perspective

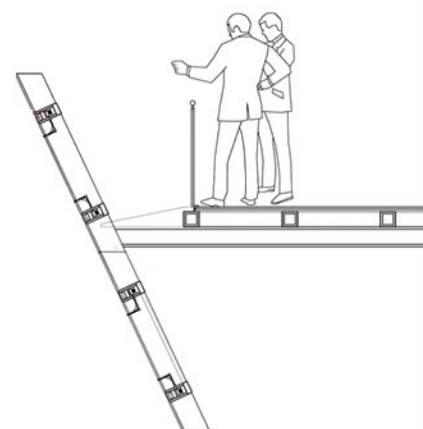
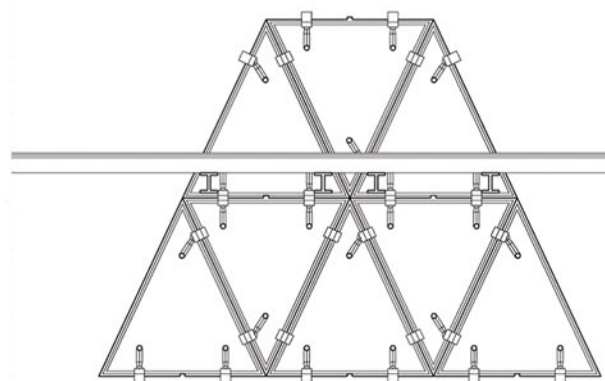
b. Structural Application

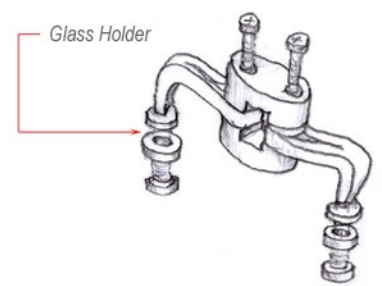
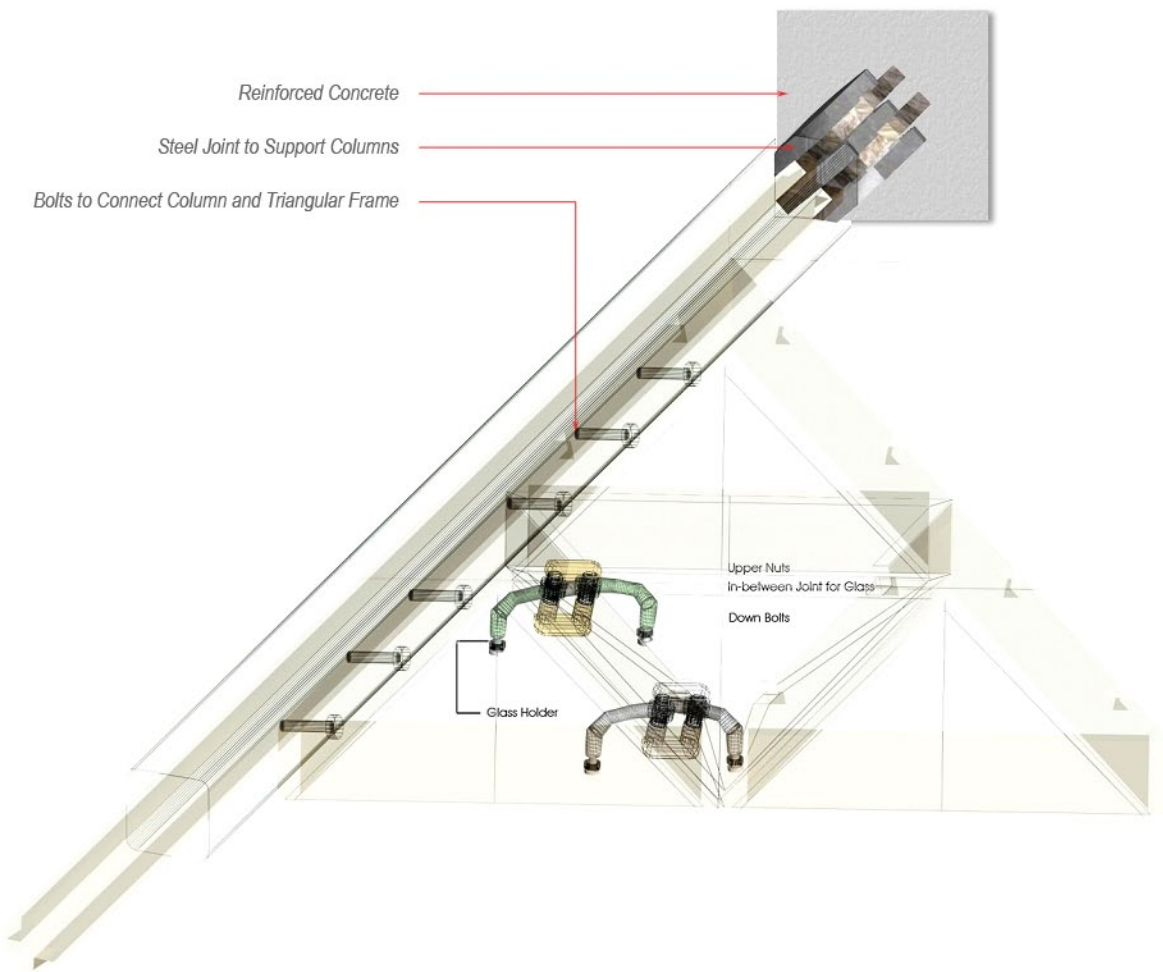
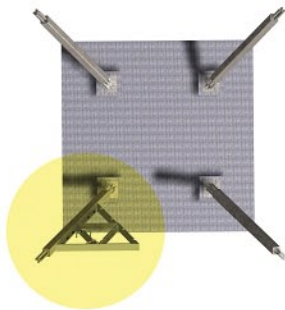




A Window Unit

Highly Reflective Glass





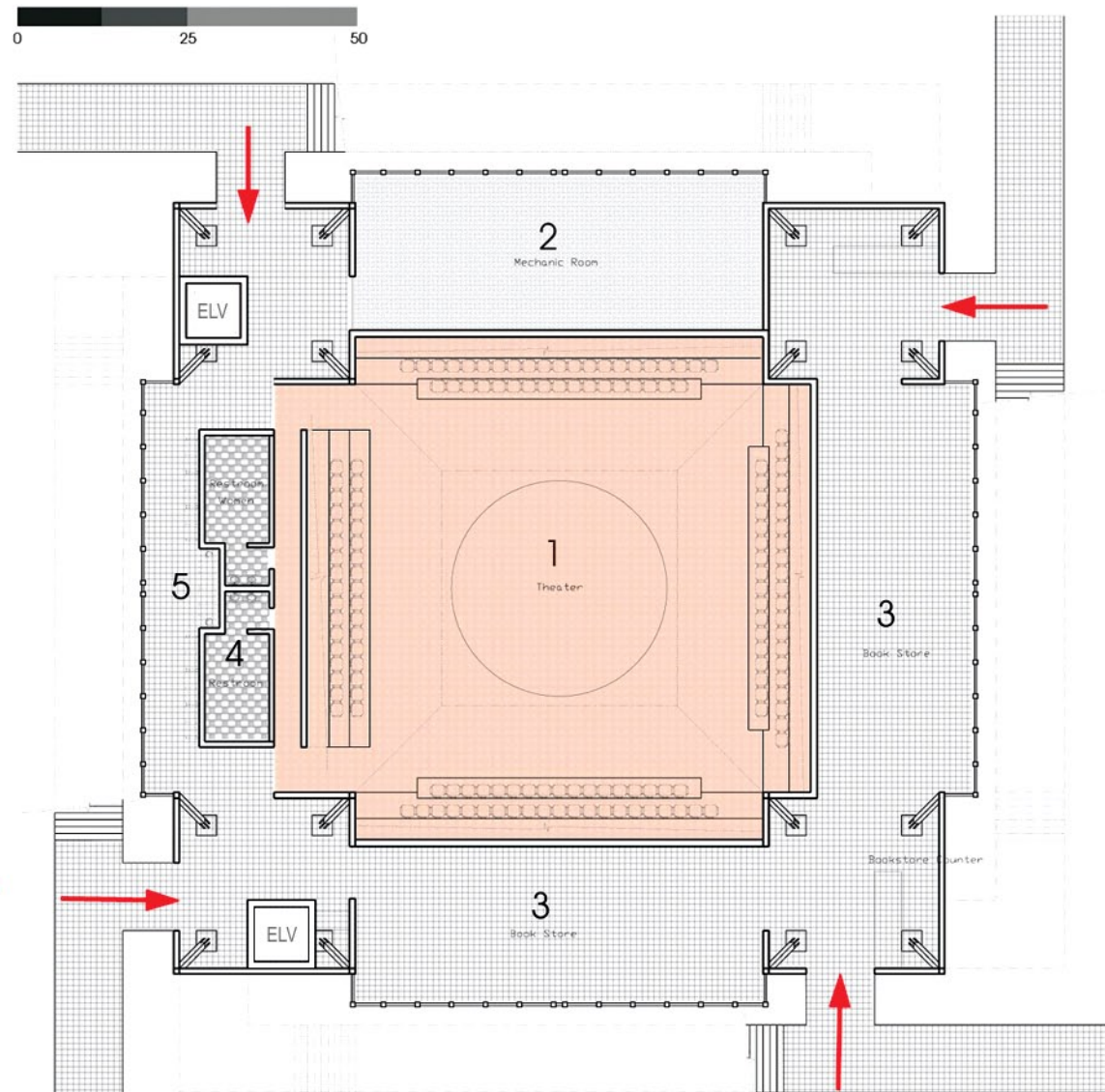
c. Metamorphic Boundaries in the entrances and the theater

*It is possible to approach the theater and university
store from all directions.*

1st Floor Plan

- 1. Theater
- 2. Mechanical Room
- 3. University Store
- 4. Restroom
- 5. Lobby

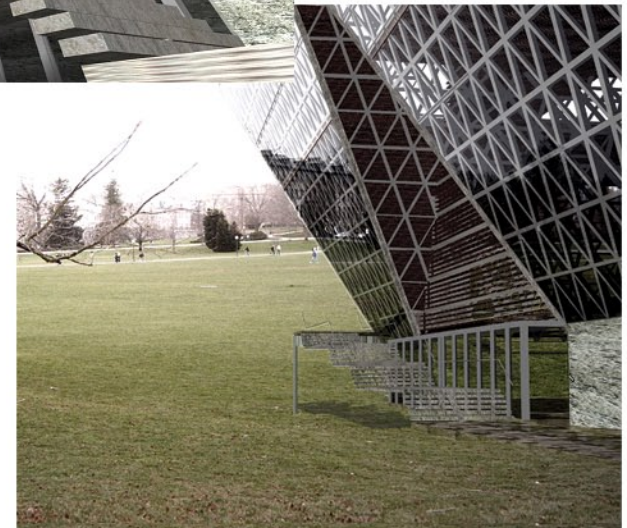
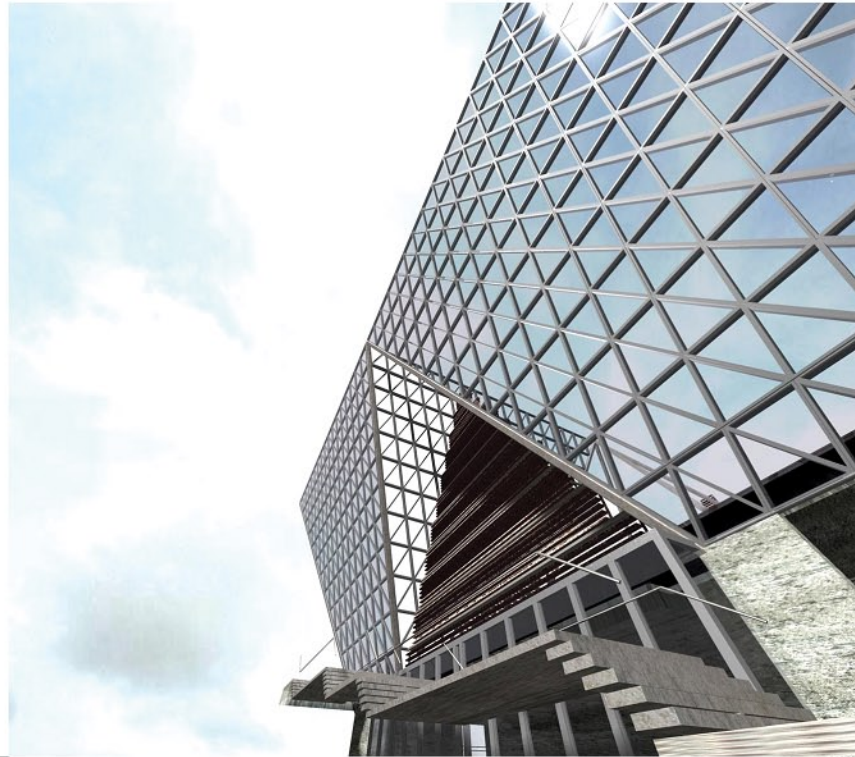
view A



The reflections

The glass wall does not produce undesirable reflections from the Sun because of its inclination. Its reflection is for the harmonization of the environment.

The view from A

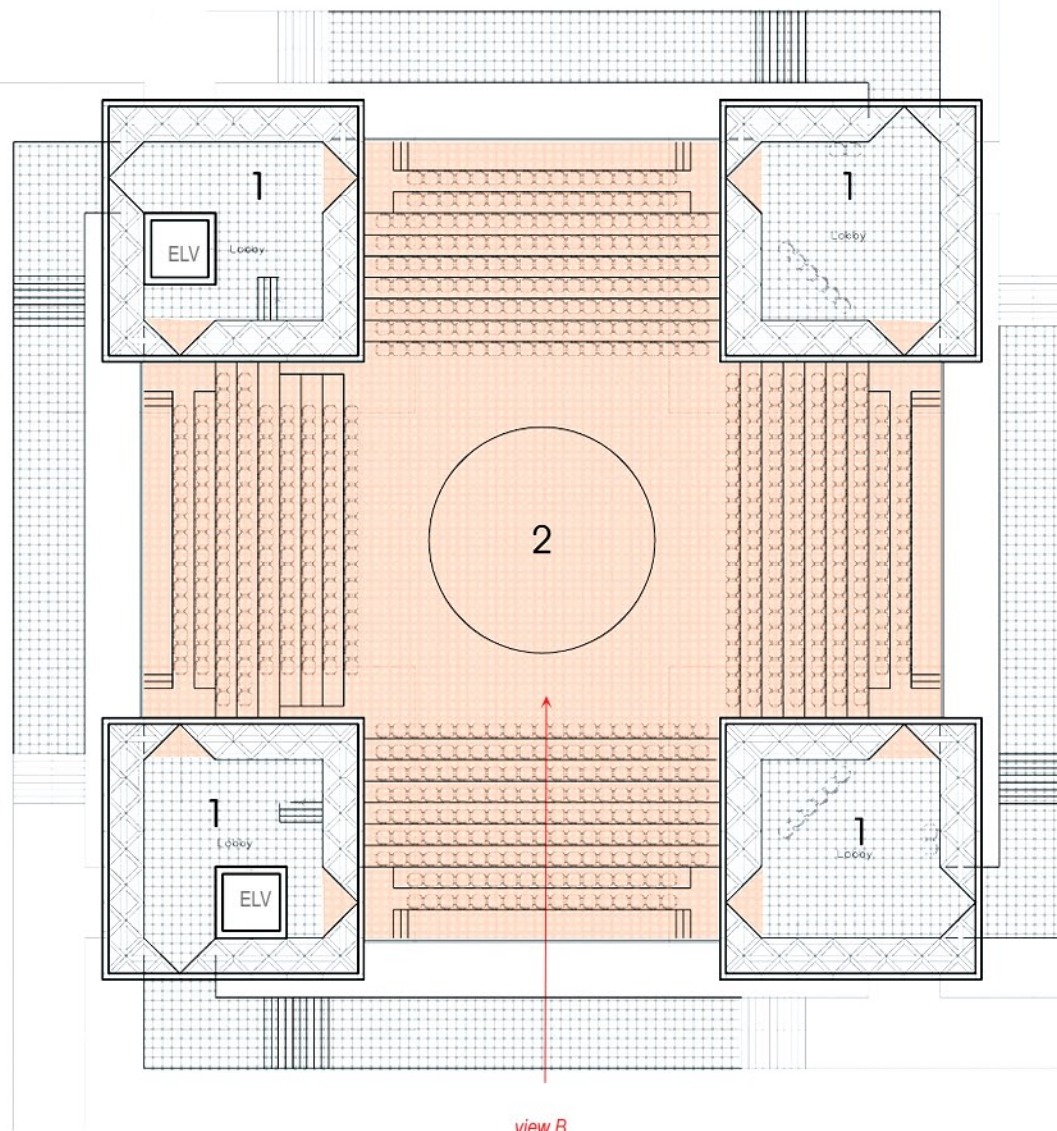


It is possible to enter the theater from all directions.

0 25 50

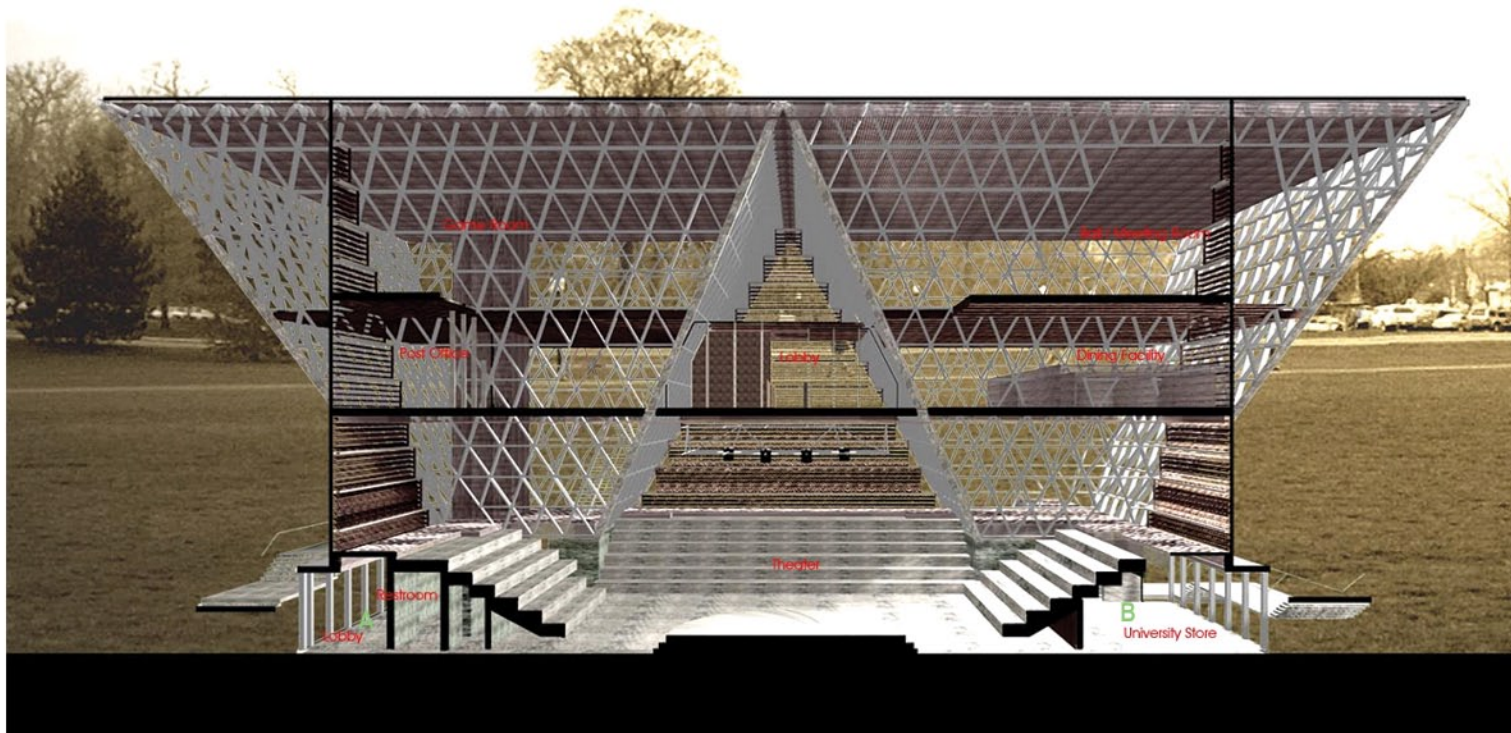
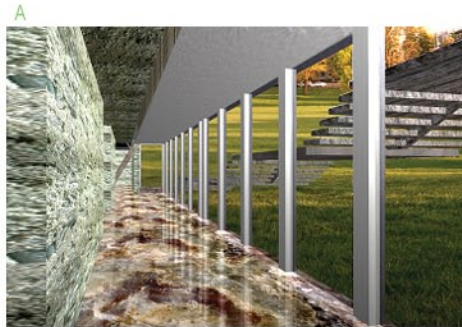
2nd Floor Plan

- 1. Lobby
- 2. Theater

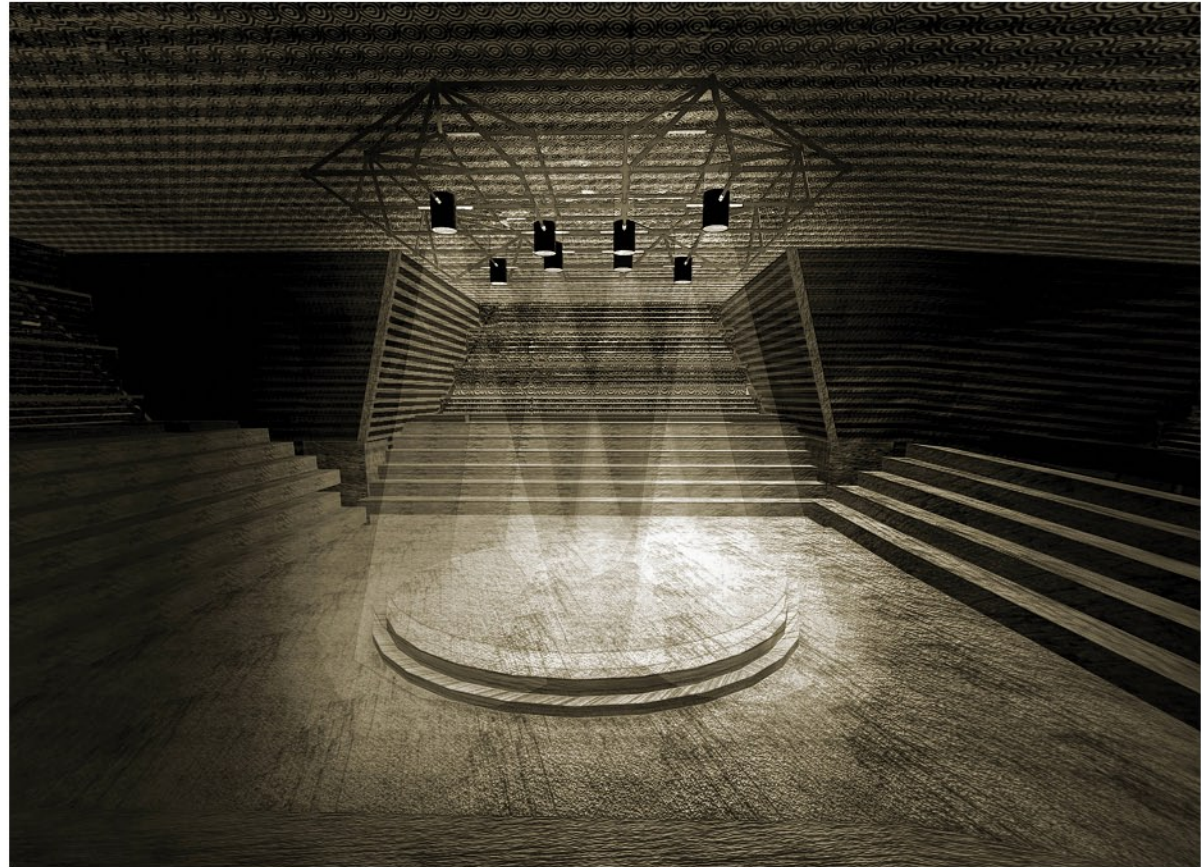


A : Lobby for Theater

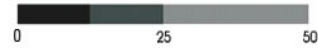
B : University Store



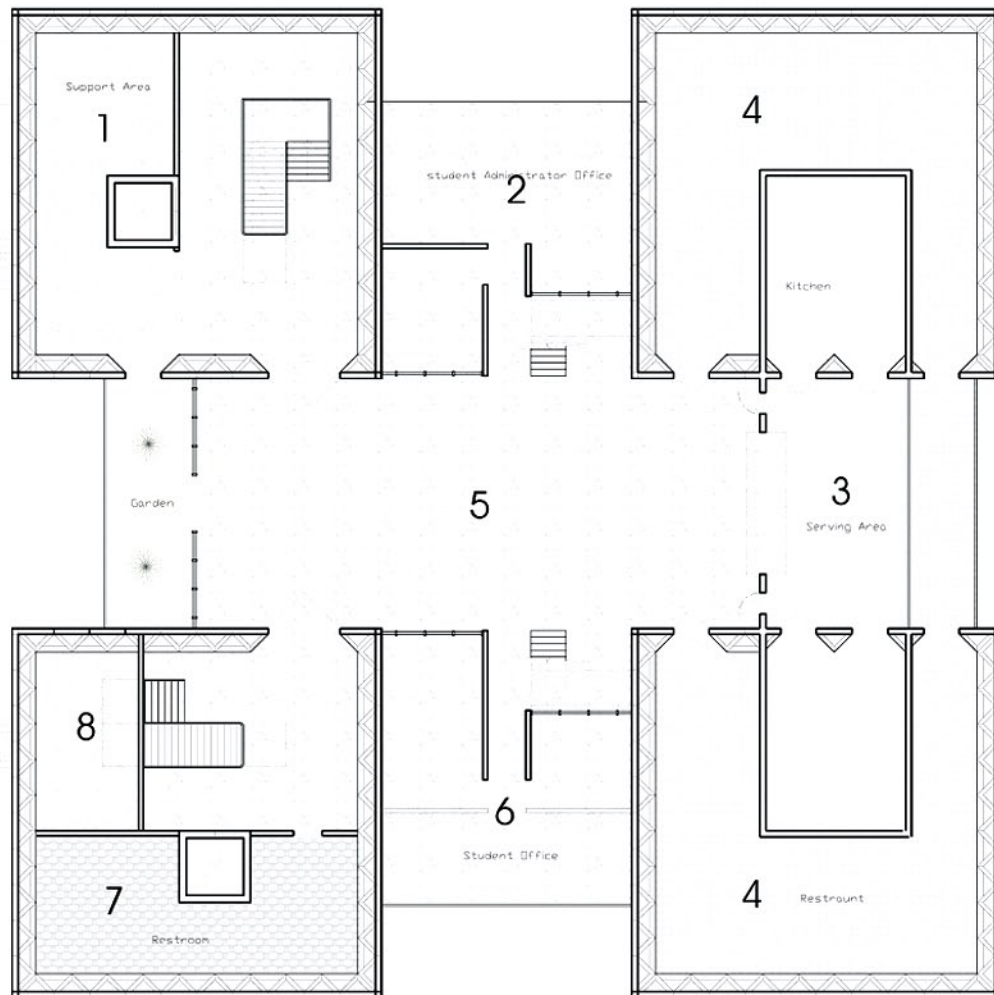
The view of the theater, which is created by the four pyramidal units.



The interior View 'B' of the theater



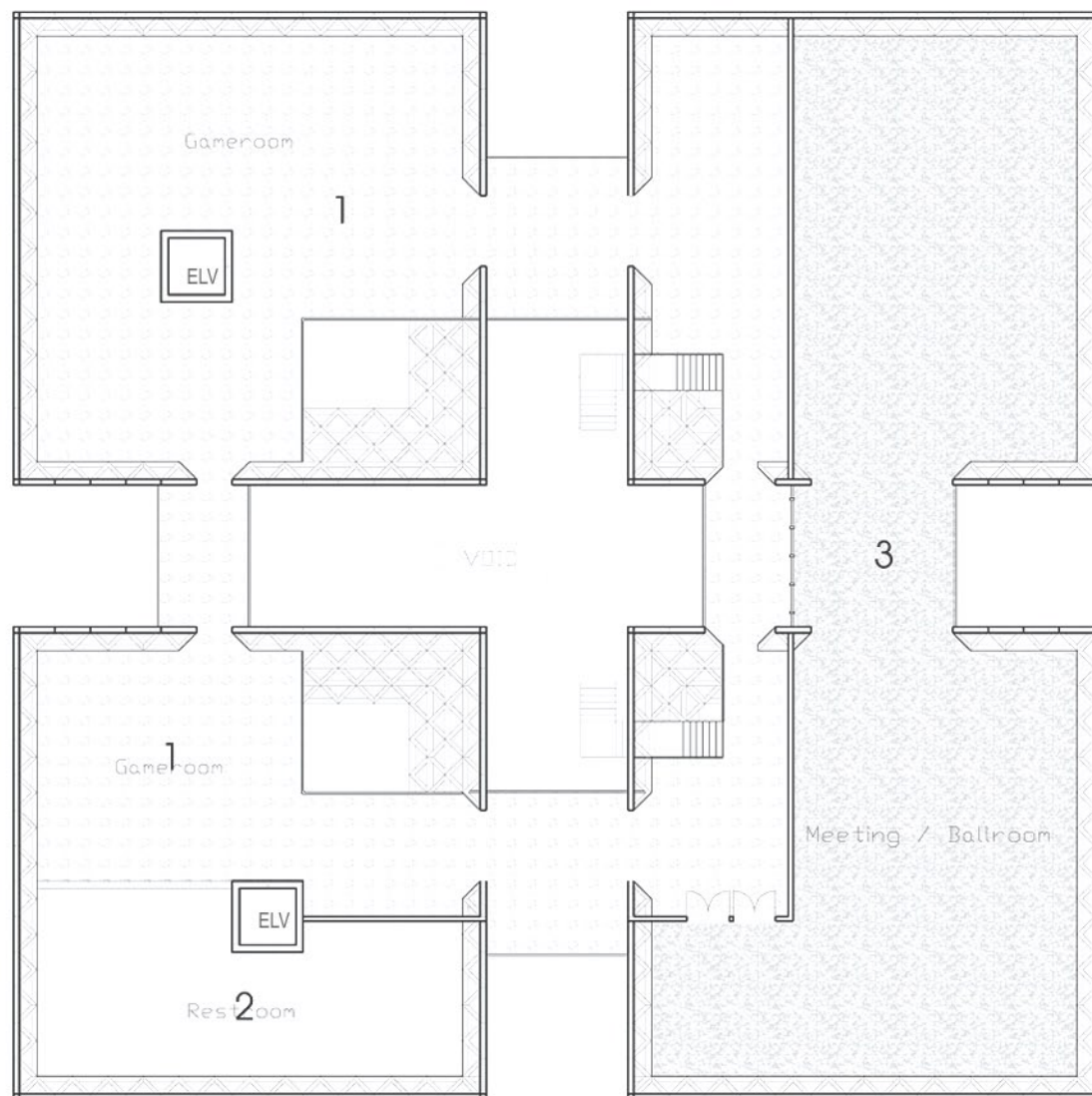
- 3rd Floor Plan**
1. Post-Office
 2. Administrative Office
 3. Kitchen
 4. Dining Hall
 5. Lobby
 6. Student office
 7. Restroom
 8. Storage



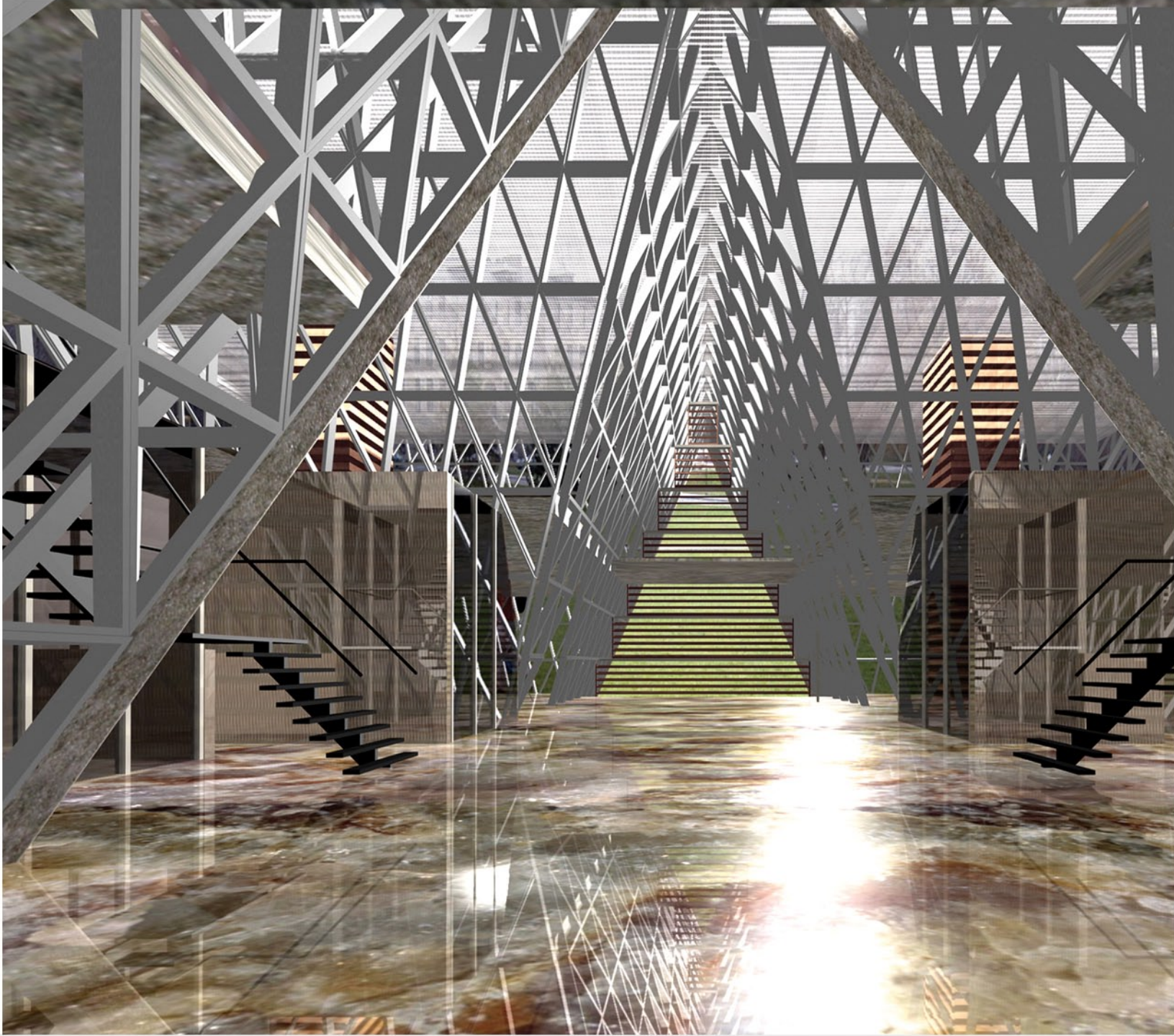


4th Floor Plan

1. Game-room
2. Restroom
3. Meeting / Ball-room



The view 'C' of the third floor lobby





VITA

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EDUCATION

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1994-01 *Bachelor of Engineering in Architecture, Yeungnam University, South of Korea.*

EXPERIENCE

- 2001-02 *Construction Engineer. Hana Construction Corp. Seoul, South Korea.*
- *Managed construction materials and structure applications for building sustainability.*
- 2001 *Service Works, JCWP 2001 Habitat for Humanity, Korea, 2001*
- *Translated, Ceiled and Sheathed.*
- 2000 *Intern, Daesang Architectural Office.*
- *Site inspections and constructing architectural models.*
- 1995-97 *Sergeant, Korea Air Force, Choongbuk, Korea.*
- *Redesigned military buildings and reconstructed runways.*

COMPETITIONS

- 2005 *AISC Student Union Building Competition*
2004 *C2C-Home, Student & Professional Competition*
2004 *AISC Student Wood Structure Competition*
2004 *Virginia Society Prize Student Design Competition, Virginia*
2003 *Solar House 1 week Competition*
2001 *European Competition. Renovation of Chiostrì di S. Corona, Vicenza, Italy.*
2000 *Student Competition, Daegu Architecture Association.*
1999 *Apartment Design Competition, The Metropolitan Development Corporation, Seoul.*
1999 *Interior Design Competition, Daegu Gyeongbuk Interior Design. (DGID)*

PRIZES

- 2000 *The Honorable Prize, International Church, Daegu Architectural Association Design Competition*
1999 *The Selected Prize, Dok-do Art Gallery, Daegu Gyeongbuk Interior Design Competition*
1998-9 *Scholarships, University Services, Department of Architecture, Yeungnam Univ*

SPECIAL THANKS TO

MY WIFE JIN, UNCLE BRUCE,

ADVISORS;

William U Galloway, Hans Christian Rott, Kay F Edge,

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Hernando C. Hernandez, Lin Quida, Dhruva Samal.

Wang Gang
