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

Master of Architecture

by

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towards a middle townscape

dedicated to my parents
Lilfi & Peter Mauch
for all the love and support you have given me throughout my life.

acknowledgments

I would like to express my sincere thanks to those people who helped me in undertaking this work.

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To my professor who supported me intensively during my studies in the United States to formulate and improve my thoughts and positions not only in architecture but also in life and profession. It is a great gift sharing his company.

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towards a middle townscape

Urbanism and its associated architecture not only takes place in designated city areas but also in the Realm of the Middle Landscape.

Although it is hardly possible to invent a new architecture, the necessity remains to think about questions of urbanism and its built structures in the context of history, technology and sociology.

One interpretation which challenges the current urban development, such as the issue of the sprawl of mid size towns, has the potential to direct planning tools and clarify intentions towards a more differentiated strategy of orientation.

This approach to design opens the possibility to develop a higher level of sophistication by articulating building elements within classical parameters such as proportion, geometry and composition. The filtering into a modern context which includes the knowledge of attributes of contemporary materials and technology will facilitate the process of transfer.
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Architecture is bound to a specific place. The context of urbanity, topography and the aspects of a built environment with its internal and external visual and functional relationships fuses with the situation of genus loci. In addition, the expression of scale, proportion, geometry, dynamics and composition have an impact on the experience of the urban texture.

The dialogues between the site and architecture, the interaction of space, light and passage inside and outside of a built artifact, have the potential to create a new vision of architecture and of memory in townscape (1). The ability to formulate this architectural position requires a reconsidered perspective which differs from the present language. In this context, the continuity and the process of architecture mandate a historical foundation. The reliance on history does not justify decisions in a design process. Moreover, its function serves primarily to critically analyze the status quo and, thus, to understand the dialectic of history.

The design of a theater, the project which exemplifies this thesis, contains the idea of providing a tectonic space for visual and performing arts, free from the immediate, trivial context of place. The exciting momentum inherent in the theater as an institution is the differentiation of the temporary world of performance and the permanent world of the building. Three issues which address the architecture will accompany the process of design and will have an influence on the product, the experience of space.

(1) A. Rossi  The Architecture of the City
urbanity and topography

the interaction of architecture and place

urbanity

A city is more than the sum of its inhabitants. It has the power to generate a surplus of amenity, which is one reason why people like to live in communities rather than in isolation.

Gordon Cullen: The Concise Townscape

The conglomeration of urban entities forms the potential of urban space which consists of elements such as the piazza, the street, and the buildings. The pattern of these elements creates the texture, scale, surface of materials, style, character, and personality, in short, the historical dimension of a town. In context with the people who enliven the purpose and idea of urbanity, there is the potential to create a kind of memory which is important for an orientation in the angle of the human viewpoint and horizon within three dimensional space. A fourth dimension is the passage of time, perceived through movement. Buildings forming urban space create different images when passed at four or thirty miles per hour.

fig. 1 Blacksburg from the air
fig. 2 Main Street with proposed theater, photomontage
fig. 3 building structure along Main Street Blacksburg (Dunay)
The presence of the large public Institution of Virginia Tech redefines the ideal of the archetype of 'Main Street-Mid Size Towns' significantly. The existing town conglomeration lacks expected infrastructural facilities because of the dominance of the University which generally is responsible for the pace of development. Most shops and restaurants depend on students; most major cultural events are organized and supported by the University.

Generally, questions remain of how much infrastructure a community requires in relation to its population, and to what degree the sprawling towards the periphery destroys the idea of a town and its street life. The traditional movement to the Middle Landscape seems to continue to prevail and even though there is ample space on the periphery, new tendencies should focus on the increase of density of the urban areas.

The situation around Blacksburg Main Street consists of a grid of four by four blocks. Main Street bisects the grid asymmetrically and isolates a strip of four blocks defining one edge of an urban development. The character of this edge is reinforced by the current topography which slopes down from Main Street. This situation, which appears to be imposed, forms the potential for an idea to reinforce the strip of Main Street with buildings on two sides, varying in density and type. The East side is currently occupied with mostly residential buildings and along Main Street with some commercial buildings. On the west side there are located the Town Hall, the proposed theater, a design proposal for a block including a bank, retail space and dwellings continuing to College Avenue. Beyond the urban form, the proposed theater aligns itself with Gordon Cullen's idea of "surplus of amenities" an important cultural contribution towards an urban identity.
Traditionally, architecture has engaged topography to support the primary ideas of design which are in this context mass, proportion and orientation. In this proposal, the combination of three historically different approaches exemplify and question the adaptation to the site.

A modern approach is depicted by Le Corbusier who differentiates at La Tourette between the massive block of the chapel set into the slope, the conjunctive block in the middle, oriented parallel to the slope and the side wing. Its concrete frame touches the ground only with the pilasters and let the slope flow under it. The building as a whole in its massive appearance creates a dialogue with the topographical situation as an act of conscious decision.

A classical approach can be seen in the Parthenon in Athens. Its clear base provides the architectonic independence from the specific topographical situation, thus concentrating on the precise setting of the various temples on the Acropolis. The base makes a platform for the temple itself which is an expression of grace for the Greek gods, intellectually in opposition to the natural topography.

It could be argued that Frank Lloyd Wright provides an example of a romantic approach with the Theodore Baird House in Amherst, Mass. The main orientation of the building in accordance with the slope reflects the desire to create a harmony with nature.

The primary intention in this thesis project addresses the formation of contextual intervention. Its challenge lies in the combination of aspects of the three approaches in order to achieve a renewed understanding of an urban reality.
elements of architecture

column & wall

Beauty will result from the form and correspondence of the whole, with respect to the several parts, of the parts to each other, and of these again to the whole; that the structure may appear an entire and complete, wherein each member agrees with the other, and all necessary to compose what you intend to form.

Palladio, Four Books of Architecture

Palladio's writings of the classical orders in architecture contain elements which focus on the correspondence of function and significance of building elements which create a tension and a dialogue between the building as a whole and its structural and non-structural members.

However, the focus of this research is to question the validity of classical formulations in architecture today, such as the desire for symmetry which is, according to the classical principles of theater design, still a mandate to control aspects of sight and acoustics. The challenge lies in the determining the degree to which this symmetry is maintained, its advantages regarding the heart of the theater such as the auditorium, orchestra pit, stage and backstage in contrast to the formulation of the exterior which stands in context with the urbanistic situation.

The principle of a colonnade as the main facade of the theater defines a space through the row of columns and the glass curtain at the inside. It visualizes a threshold between the temporary and permanent worlds of the theater, visible from each side, separating the spaces. The classical symmetry and the even number of columns create a harmony and an order as a part of the building. New circumstances, such as the movement and the integration into the urban context make it necessary to interpret the harmony with a new language.
The proposed theater design, shown on pages 17-31, is never approached on a centered axis but from the sides as a pedestrian or an observer from the street. The exploration of the building becomes more three-dimensional, implying that the axis of symmetry would not correspond to the vanishing lines of the object. The shifting of the vista suddenly corresponds to the gravity of the building or in other words, the symmetrical axis of the auditorium and stage is different from the axis of the body. The axis of the entrance is different from the axis of the facade, quoting classical elements by breaking their rules means a new reading of the typology. The shifting of the vistas is emphasized by the main entrance which is on a different plane than the glass curtain suggesting a perspective similar to Renaissance theaters such as the Teatro Olympico of Palladio which takes the perspective as a theme to create an illusion of depth.

Recognizing a structure and associating its typology implies knowledge which is constantly challenged and redefined. Hence, the function of a building is not contingent on its appearance but has the potential to develop new interpretations and new spatial experiences. The shifting of geometrical formalisms toward a perspective with the implication of the third dimension has a strong impact on architectonic elements.

Simplifying the tectonic language means also redefining the usage of materials by translating the historical references into the language of today. The transitions and the break of the order and proportion by shifting and replacing one steel column by an over dimensioned concrete column play with knowledge and expectation, but also with the idea of signs in architecture.
Two approaches to defining the wall as an architectonic element will be part of the thesis: first as a structural member of the building and an element which emphasizes the orientation of the building itself and the orientation in relation to the parts of the building; and the wall in the urban context, the screen which visualizes the topographical situation and the change in the direction of vista from the theater.

The orientation of the structural members of the theater follows a hierarchy which describes the order in harmony with the slope and its orthogonal. The orthogonal setting as a man made element in contrast to nature follows the principle of climax from a massive and closed wall plane to orthogonal elements which define the entrance to the auditorium, to a broken line of wall planes which filter light and indicate the additional building part behind it. The next layer is a frame of steel columns and concrete slabs which mark the orientation to the piazza between the theater and town hall as well as the orientation to the sun.

The direction of the building with the slope also implies the movement with the main elements of the theater, the office block, the auditorium and stage block and the wall. Different paths that follow the structure emphasize this main orientation such as the stairs of different angles which support the understanding of the slope. In addition with changing spatial situations. The choice of stairs which, according to Louis Kahn, are not "...something you can get out of a catalogue but are a very important event in a building...", aid in orientation in the building and make a distinction between each side of the auditorium.

The goal is to find a principle which eliminates the limitation of structural members to have a single functional origin: the choice of material, the way the light hits the elements and the relationship between members should create a harmony which meets spatial expectations and allows structural members to stand on their own.
History of the Theater

a reference to development

The search for images in history helps to support the formation of an idea, the process of visualization, not as a literally used example but to design more than a functioning assembly of structural and non structural members.

One aspect to base this hypothesis is the transformation of the abstract idea into a built world in combination with the technical knowledge, which has to be seen as the tool of architecture but not necessarily as architecture itself (see Appendix A). The degree of abstraction creates the tolerance for interpretation and imagination which is an asset in a world of predigested messages.

Another aspect is the knowledge of history which plays an important role in analyzing a process of design in the continuity of the past towards the future implying that we only see what we know (J. W. von Goethe).

The history of theater design could be described as a process of development which is mostly influenced by the character of performance. Beginning with the Greek theater, out of the motive of reverence for Dionysus and Apollo, it reflects on one hand the duality of the art of sculpture (Apollo) and the art of non-imagistic music (Dionysus) and on the other hand the parallel tendencies as two artistic media complementary to each other.

On the technical side, the Greek theater is built as an open space which adapts to the natural slope and provides an optimum of sight and acoustics in a semi circle of more than 180°, reinforcing the notion of being together and sharing the pleasure and excitement of performance.

Following the idea of the Greek theater, the Renaissance theater takes many elements of the design such as the curved seating rows. In
addition the theater is a permanent and covered building. A new development is the multiple vista theater which plays with the discovery of perspective.

Throughout the following centuries, the shape of the stage and of the auditorium changes within the classic preliminary Greek design. According to the type of performance, the U-shaped auditorium and proscenium stage of the Italian theater, or the polygonal-shaped Shakespearean theater with its surrounding auditorium, popular in the seventeenth century, or the Baroque theater, all reflect the influences of the Zeitgeist. For example, LeDoux exchanges the hierarchy of seats for aristocrats and the plebs by providing better seating and sight qualities for the less privileged people, an act inspired by the political situation of the French Revolution. Another new point is the fact that the performance of operas requires a place for the orchestra. In addition, the division of lobby, auditorium and stage-backstage approaches 1/3 for each part, visualizing the spirit of the theater as a place to see and to be seen (See Appendix B).

The Modern Theater follows the rules of the classical design. The three examples which follow quote historical elements; the Théâtre National de la Colline, Paris shows the aspect of urban Integration deriving from the Roman theater, which was, in contrast to the Greek theater, within the city limits and, thus, a part of urban and social life. The traveling theater designed by Tadao Ando reanimates the spirit of the Medieval Theater which reflects the focus on the message and contributes no Importance to the infrastructure, in favor of the temporary character. The third example, the Schaubühne in Berlin, exemplifies the flexibility of usage both classical plays or experimental performances are accommodated by the building of the expressionist Mendelsohn, which replaces 'natural' qualities of space by the employment of modern techniques. Also see appendix A.

**Théâtre National de la Colline, Paris 1988**
Architects Fabre, Perrotet, Catrani

A criterion worth highlighting in this theater, which is classical in its organization and design of the auditorium and stage, is the aspect of Integration. Even if the language of the facades is modern concerning materials and form simplicity, there is a high degree of Integration and dialogue of inside and outside, supporting the urban Integration. Another aspect is the organization, different spaces allow a multiple pur-
The design of the lobby is an optical invitation to pass over the threshold to reach a different world which stands for distraction and contemplation.

KARA-ZA, TRAVELING THEATER, 1987
Architect Tadao Ando

There is no connection to a specific place, the idea of the temporary world is taken literally. The definition of this world is characterized as the assembly of a very disciplined structure made of steel, wood and fabric. The entrance lifts the audience up to the other world and makes them focus on a central stage, the primary idea of the theater. Similar to Rossi’s "Teatro del mondo", flexibility is limited by the infrastructure but embodies a dialogue between the two worlds. The question remains if a building which seems to fit to any place is really universal.

THE SCHAUBÜHNE, BERLIN 1927/1981
Architect Jürgen Sawade

The ancient movie theater, originally planned in 1927 by Erich Mendelsohn, is an example of transformation of use of a building which is still a landmark on Kurfürstendamm in Berlin.

The internal organization has been changed completely; the auditorium is now a part of the stage and vice versa. The different kinds of configurations of the hall are significant for the development of theater in general but do not necessarily refer to a classical version. The decision which has to be made is between flexibility and preservation of quality of sound and sight and technical refinement.

The analysis of the attributes of a modern theater give an orientation but also ask questions about the possibility of evaluation of the quality and the danger of overemphasizing formulae which should help to create a new theater.

Concerning the desire for an architectural progress in design, there will always be a heritage of history, as long as the arts of music and theater and also our system of education, all refer to classic traditions which promote the hypothesis that architecture reflects the state of society.
The title of "Towards a Middle Landscape" takes elements of Le Corbusier's writings in "Towards a new architecture" which probes for analysis and approaches to a modern position in architecture. It also refers to the idea of Jefferson's ideal of the "Middle Landscape" which supports a societal desire for an appropriate condition of living. Finally, it quotes Cullen's "concise townscape" which analyzes the elements and the qualities of urbanism. The elements of these approaches were the base for the thesis, looking from a different viewpoint at some issues of urbanism and architecture.

The process of investigation and design of the theater consists of the idea to make no differentiation between rural or urban architecture concerning the formal aspects of a building.

One point is that architecture is a response to a societal and infrastructural situation and not a repertoire of typology to qualify different urbanistic conditions. Another position is that architecture is bound to a place as mentioned in the introduction which means that it creates and defines a place by supporting the dialogue and the context between different buildings and topography, be it spatial, proportional or infrastructural relationships which does not at all imply any kind of design application or iconography.

The spectrum of planning decisions implies the knowledge of all phases in history. The knowledge of the past and present helps to recognize the existing attributes and qualities but also the desire to interpret the future which is the key to indicate the sophistication of thoughts in architecture. The desire of architecture should be the elaboration of significance in progressive architecture that has the potential to stand in context with history as well as to stand on its own.
1. Thomas Connor House from east
2. Perspective Main Street from north
3. Perspective Draper Rd. from north
1. Perspective entrance Main Street from south
2. Main Street from south at Theater Block
3. Church Street with Palladian Motive
4. Perspective Lee Street from west
towards a middle townscape

References

2. Giorgio Lotti, Raul Radice: La Scala, New York 1979
7. Le Corbusier: Towards a New Architecture, London 1931
13. Friedrich Nietzsche, The Birth of Tragedy, New York 192
22. Louis Kahn: Light is the Theme, Kimberly Art Foundation 1975
The vita has been removed from the scanned document
The theater building contains 4 functions:

1. Main theater
2. Restaurant and bar
3. Independent functioning office space
4. Theater and ballet school, also music school

There is also the possibility to have exhibitions in the main lobby and having experimental performances at the outside on the plaza between the theater and Municipal hall. In addition the stage workshop and the costume workshop could be used independently for study groups.

The theater could work as a full time theater but also as a theater for travelling groups. The additional functions should provide a maximum of flexibility and enliven the building during the day time.

**Planning Specification**

The theater is located at South Main which is a well frequented street. Thus the main entrance is located 15 m from the street and has a separate driveway. The main doors are revolving doors to have an additional buffer. There is also an entrance from the plaza to devide the audience during breaks and before the beginning of the performances.

The auditorium itself is only accesible from the side to reduce the noise and to prepare for the play. Due the choice of that site, out of urbanistic reasons and the desire to densify the downtown area with relevant buildings there are no further possibilities to reduce the noise caused by the traffic.

**Program Blacksburg**

<table>
<thead>
<tr>
<th>spaces</th>
<th>level</th>
<th>area proposed, m²</th>
<th>area, actual, m²</th>
<th>notes</th>
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<tbody>
<tr>
<td>Foyer</td>
<td>0</td>
<td>100 m² (min)</td>
<td>450 m²</td>
<td>gallery, 300 m²</td>
</tr>
<tr>
<td>Ticket office</td>
<td>0</td>
<td>6 m²</td>
<td>42 m²</td>
<td>information, bookstore</td>
</tr>
<tr>
<td>Check rooms</td>
<td>-1,+1</td>
<td>25 m²</td>
<td>75 m²</td>
<td>placed over 2 floors</td>
</tr>
<tr>
<td>Restrooms</td>
<td>-1,+1</td>
<td>50 m²</td>
<td>100 m²</td>
<td>main restroom under auditorium</td>
</tr>
<tr>
<td>Bar</td>
<td>0</td>
<td>50 m²</td>
<td>125 m²</td>
<td>separate entrance</td>
</tr>
<tr>
<td>Restaurant</td>
<td>0</td>
<td>100 m²</td>
<td>125 m²</td>
<td>part of the bar, kitchen</td>
</tr>
<tr>
<td>Kitchen</td>
<td>0</td>
<td>125 m²</td>
<td></td>
<td>storage, shipping fl. street</td>
</tr>
<tr>
<td>Auditorium</td>
<td>0</td>
<td>450 m²</td>
<td>600 m²</td>
<td>conv.+contin. seating</td>
</tr>
<tr>
<td>Stage</td>
<td>0</td>
<td>350 m²</td>
<td>196 m²</td>
<td>flex. wall at the back</td>
</tr>
<tr>
<td>Stage manager</td>
<td>0</td>
<td>20 m²</td>
<td>40 m²</td>
<td>part of the backstage</td>
</tr>
<tr>
<td>Orchestra Pit</td>
<td>-1</td>
<td>100 m²</td>
<td>50 m²</td>
<td>movable floor</td>
</tr>
<tr>
<td>Workshop</td>
<td>-1</td>
<td>150 m²</td>
<td>196 m²</td>
<td>int. crane, same size as</td>
</tr>
<tr>
<td>Storage</td>
<td>-2</td>
<td>100 m²</td>
<td>400 m²</td>
<td>under workshop, elevator</td>
</tr>
<tr>
<td>Dressing rooms</td>
<td>-1</td>
<td>120 m²</td>
<td>275 m²</td>
<td>separate entrance</td>
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<td>Rehearsal</td>
<td>-1</td>
<td>60 m²</td>
<td>225 m²</td>
<td>stage, storage</td>
</tr>
<tr>
<td>Orchestra Pit</td>
<td>-1</td>
<td>60 m²</td>
<td>60 m²</td>
<td>theater</td>
</tr>
<tr>
<td>Rehearsal</td>
<td>-1</td>
<td>60 m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project room</td>
<td>0</td>
<td>20 m²</td>
<td>16 m²</td>
<td>back of aud.,</td>
</tr>
<tr>
<td>Spotlight booths</td>
<td>0,+1</td>
<td>20 m²</td>
<td>40 m²</td>
<td>2 sides</td>
</tr>
<tr>
<td>Administration</td>
<td>+1</td>
<td>50 m²</td>
<td>280 m²</td>
<td>separate staircase</td>
</tr>
<tr>
<td>Lounge</td>
<td>+1</td>
<td>708 m²</td>
<td></td>
<td>sep. entrance</td>
</tr>
<tr>
<td>Offices</td>
<td>+1</td>
<td>150 m²</td>
<td>200 m²</td>
<td>no vibration transmission</td>
</tr>
</tbody>
</table>

**Appendix A: theater design & acoustics**
structural system
principle of house in house, the separation of auditorium with proscenium and theater building itself.

4 structural components

1. main building
   - 1st order: cast reinforced concrete wall plains
   - 2nd order: pre cast concrete columns
   - 3rd order: suspended steel beams as roof construction

2. auditorium
   - 1st order: on-site cast reinforced concrete walls
   - 2nd order: wall fillings plywood on steel construction
   - 3rd order: steel frame construction

3. stage, back stage
   - 1st order: steel frame construction
   - 2nd order: concrete frame with glass blocks
   - 3rd order: on-site cast reinforced concrete

4. office block
   - 1st order: pre cast concrete columns
   - 2nd order: steel columns
   - 3rd order: free standing metal frame walls, covered with sheet rock

lightning system in the auditorium
1st situation: before and after play, breaks: down lights in the suspended ceiling, indirect light at the wall
2nd situation: during play: dimmed down lights from the ceiling

stage lightning
1. projection room
   - follow spot
2. box booms
   - integrated in the walls, also follow spot
3. Stage lightning
   - over state, parallel to curtains
4. Cat walks
   - two catwalks above the suspended ceiling in the auditorium
   - two catwalks above the stage

HVAC system
multi zone system 1 with three sectors

appendix A: theater design & acoustics
The appropriate reverberation time for the theater which is good for speech and music is between 1 and 1.5 sec. The two charts which compute the reverberation time in the ranges of 500 and 1000 Hertz are in the average of 1.17 sec. This value will be refined by changing the surfaces to reach 1.29 seconds.

**Chart 1: Reverberation Time at 500 Hz**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MATERIAL</th>
<th>W, L</th>
<th>D, H</th>
<th>A, sf</th>
<th>CH, ft</th>
<th>Hz = 500</th>
</tr>
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<tr>
<td>FW</td>
<td>Open stage</td>
<td>42</td>
<td>21</td>
<td>882</td>
<td>0.25</td>
<td>221</td>
</tr>
<tr>
<td>3</td>
<td>C.R.</td>
<td>39</td>
<td>45</td>
<td>1.755</td>
<td>0.04</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>C.R.</td>
<td>42</td>
<td>24</td>
<td>1.008</td>
<td>0.04</td>
<td>40</td>
</tr>
<tr>
<td>RW</td>
<td>C.R.</td>
<td>81</td>
<td>30</td>
<td>2.430</td>
<td>0.04</td>
<td>97</td>
</tr>
<tr>
<td>SWL</td>
<td>Plaster</td>
<td>84</td>
<td>40</td>
<td>3.360</td>
<td>0.06</td>
<td>202</td>
</tr>
<tr>
<td>19</td>
<td>C.R.</td>
<td>8</td>
<td>40</td>
<td>320</td>
<td>0.04</td>
<td>13</td>
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<tr>
<td>SWR</td>
<td>Plywood panel</td>
<td>48</td>
<td>72</td>
<td>3.456</td>
<td>0.17</td>
<td>588</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0</td>
</tr>
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<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FL</td>
<td>Ac.Board</td>
<td>48</td>
<td>24</td>
<td>1.152</td>
<td>0.83</td>
<td>956</td>
</tr>
<tr>
<td>54</td>
<td>Audience</td>
<td>48</td>
<td>72</td>
<td>3.456</td>
<td>0.80</td>
<td>2.765</td>
</tr>
<tr>
<td>53</td>
<td>Leather seats</td>
<td>48</td>
<td>54</td>
<td>2.592</td>
<td>0.56</td>
<td>1.452</td>
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<tr>
<td>34</td>
<td>Carpet</td>
<td>15</td>
<td>100</td>
<td>1.500</td>
<td>0.57</td>
<td>855</td>
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**Chart 2: Reverberation Time at 1000 Hz**

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**Appendix A: Theater Design & Acoustics**
ray diagram
History of the Theater

from the classical ancient to the modern theater
or
'The Theater as a Concentrated Form of Life'
Peter Brooks

Theater does not necessarily mean an architectural setting or a building. It becomes obvious, looking at the development from the Greek theatre which was integrated as an open space into the natural site and slope to the renaissance theatre in the garden of Versailles and finally to the open air theater of Tadao Ando.

It is about the transition from the place and the set into the imagination of spectators, about dialog of the "real", permanent and the temporary world of theater, of the stage and the auditorium, of exterior and interior or an expectation and spatial harmony.

The theater was generated out of a public or societal need for a certain type of event. This demand arose in Greek antiquity and became important in Roman times as a contribution to entertainment for election campaigns.

1. The Greek Theater 400 BC

The theater became the setting for religious ceremonies in honor of Dionysos where different types of plays, e.g. tragedy, comedy and satire were performed.

From the Greek "teatros", the name theater means originally the place from where one can see.

The Greek theater was located at a slope at the end of a sacred procession, as a semi-circle with more than 180°.

In the center there is the orchestra or chorus, surrounded by the auditorium, on the opposite side the skene, the stage.

2. The Roman Theater

The Roman theater was derived directly from the Greek theater, the difference being the Roman theater has exactly 180°, is located in the middle of the city as a building and is independent from the slope. The stage is closed and built as a facade of a palace.

The orchestra is a semi-circle and the performance has a new genre of work, the public declamatory recitals.

There are also hybrid shapes of the theater, such as the Greek-Roman Odeum.

appendix B: history of the theater
3. The Mediaeval Theater

The dark period of the Mediaeval age is described by the outlawing of the classical theater.

The kind of performance was limited to the play of the Passion, derived from Christian liturgy.

Thus, the theater became temporary with symbols for town, house, hell and paradise. The aim was to frighten the people; the church performed what would happen to people after death in order to have power.

4. Renaissance Theater

A new kind of theater was born in the beginning of the 16th century, after the publication of a book by Serlio about Perspective. Referring to the classical Roman theater, performances were held for well-read audiences on temporary stages. The milestone was the erection of a permanent theater by Palladio, as a multiple-vista theater with perspective effects, inspired by Vitruvius "Ten Books About Architecture".

5. U-shaped Auditorium in the 17th century

According to theater design which plays with the vanishing point, another advancement was the flexible stage with sliceable décor elements and the U-shaped auditorium to influence the perspective and concentrate the feeling of unity of the auditorium. Another impact was music and its interaction with the play.

6. Elizabethian galleries

The theaters which were built outside the city-limits had a roofless polygonal shape and a stage without a curtain which reached into the center of the "building". This model was later adapted to all theater concepts of this period, also by the Shakespeare Globe. The gesture to go into the middle of the auditorium fits to the kind of Shakespearean theater which has an intensive message and is performed by the actors in elaborate costumes. Thus, there is no necessity of décor which could divert from the essentials.
7. The Baroque Theater

Artistic and political reasons reflect the form of this kind of theater. Out of the trend to perform operas it was designed first in Italy combining the advantage of the ideal acoustic curve and the sight line.

There is also a new aspect of the theater not only to see but also to be seen. Thus, the lobby gets more and more importance, quality, and richness of the décor, which approaches to the division of 1/3 of each component of the theater: Lobby - auditorium and stage - backstage. The auditorium gets a vertical emphasis which concentrates a spatial feeling.

With modifications to the balcony, the Ledoux-Theater inverted the hierarchy of seats for poor and rich people, hinting to the French revolution. Nevertheless it relates its structure to the contemporary theater concerning the division of space and also the importance of the main elements of the theater. The space in front of the stage signifies the importance of the orchestra.

8. Contemporary Theater-Design

As a kind of revival of the classical amphitheater, the contemporary theater, in most designs, is derived from the classical image. With the invention of gas-lanterns around 1830, the auditorium was completely dark and the curved orientation of the seats, in combination with the contrast of bright and dark, had a deeper effect on the auditorium.

The fan-shaped auditorium gave the theater a horizontal orientation, the equality of seats and visual conditions unify the auditorium.

Concerning the building section, the stage-house takes a dominant part of the building. Looking at the “Grosse Schauspielhaus” of Poelzig 1919 the approach of design is similar, integrating technical features throughout the design.

It also emphasizes the “spatial dignity” of a theater as a witness of time and history.
1. Isometric bank block
2. Approach to design and position
3. Ground plan level 0.00

Appendix C: Bankblock in Blacksburg
1. north west elevation
2. north east elevation

appendix C: bankblock in blacksburg
 appendix C: bankblock in blacksburg
1. Schematic bank building office building
2. View from east
3. View from west
4. Site plan Blacksburg

Appendix C: Bankblock in Blacksburg
ground plans, sections, interior duplex apartment model photographs

appendix C: bankblock in blacksburg