To the Graduate Council:

I am submitting herewith a thesis written by Qi Jin entitled "Architectural Microcosm: From City to Building" I have examined the final paper copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture, with a major in Architecture.

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We have read this thesis
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Scott Wall

Barbara Klinkhammer

Accepted for the Council:

Vice Chancellor and Dean of
Graduate Studies

Thesis
2006
.J56

ARCHITECTURAL MICROCOSM: FROM CITY TO BUILDING

A Thesis Presented for the

Master of Architecture Degree

The University of Tennessee, Knoxville

Qi Jin

May, 2006

ABSTRACT

STATEMENT OF THESIS/HYPOTHESIS

This thesis explores the reciprocal relationship of the building and the city. I argue that the building can be a microcosm of the city, as Alberti has said: "...for if a city, according to the opinion of philosophers be no more than a great house, and on the other hand the house be a little city..."[1]

In demonstrating the interrelationship of building and city as reciprocals, I have analyzed three precedents, which will inform my design approach. Based on Kevin Lynch's analysis[2], I have identified five fundamental elements:

- District
- Path
- Edge
- Node
- Landmark

While these elements are common to most cities and buildings, I argue that specific design is developed based on transformative factors in two broad categories:

- Socio-cultural factors, arising from cultural tradition and social norms.
- Physical factors, arising from physical settings.

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[1] Leon Battista Alberti, *On the Art of Building in Ten Books,* The MIT Press, 1988

[2] Kevin Lynch, *the image of the city*, The MIT Press, 1960

Furthermore, I will demonstrate that a building with physical and spatial continuity to its city environment can be fully involved in the urban context. It connects the urban fabric physically and programmatically. In my design thesis, I will argue that the building can be interpreted as a microcosm of the city in this way.

I have selected Knoxville, Tennessee, because it is a typical example of 20th century American urbanism: a grid with a central business district, pockets of urban decay, and ambiguous sprawl.

I have selected a specific vacant site in downtown area, which is the best representation of Knoxville's urban fabric. I have decided to provide a multi-use Institute of Culinary School, because the programmatic and structural diversity of such a building represents the diversity of a city, in both physical and programmatic aspects. Through my design, I will demonstrate that a building can be a microcosm of its city context in a reciprocal way.

EXPLANATION OF MY HYPOTHESIS

A city is a network of spaces, in which Kevin Lynch identified the importance of paths, nodes, edges, districts, and landmarks. The city is defined by particular parts within it. A building, as one of the units of the city, has structural coherence with the city. The building is organized to some degree much like a city. In a building, "paths" are the circulation zones, "nodes' are more active areas within the building based on program or movement, "edges" define spaces, "districts" are differentiated areas in a building often for differentiated users, and "landmarks" are the critical focal points within a building. In this way, a building can be understood as a small city.

A city and its parts exchange their analogies of structure between the spaces, e.g. corridor/street, courtyard/square, etc. We can suppose that these two systems, a city and a building, can have the same geometrical characteristics of spatial forms, but at different scales. "They are differentiated only by the dimensions of the walls which bound them and by the patterns of function and circulation which characterize them."[3] We can picture this sort of unity by taking the logic of a public place into the interior of the building. Moreover, a building can also have the same diversity of functions. Both cities and buildings are platforms for events. Buildings are not isolated and self-contained sculptures. They play an explicit part in the continuity of the urban fabric and the urban social life. Thus a building can be a microcosm of a city by the similarity of physical structure and programmatic structure. I advocate that the city and its buildings form a reciprocal relationship. The more involved a building is with the form and content of its surroundings, the more those surroundings become appropriated by the building. And just as a building changes the image of its surroundings, so the surroundings will change the image of the building. This reciprocal relationship states that a city and its buildings reinforce each other and interact.

I will explore this hypothesis in three ways:

1. Through program (mixed use)
2. Through a design strategy which focuses on the utilization of path, node, edge, district and landmark
3. Through a design in which the building and its context are inextricably linked

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[3] Krier, R., Urban space, Academy Edition, London, 1979, pp. 15-17.

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CHAPTER 1: MICROCOSM

DEFINITION

Microcosm: as explained in Merriam-Webster Dictionary, the word Microcosm has two meaning: "a: A little world; especially: the human race or human nature seen as an epitome of the world or the universe. b: **A community or other unity that is an epitome of a larger unity.**" The second definition can be applied to describe the relationship of building and city. It speaks about the structural coherence. A similar logic of the organization of space can be found in a building as in a city.

SIMILARITY IN PHYSICAL STRUCTURE

Hierarchies of Physical Structures

"Fundamental Elements" and "Transformative Factors": Both cities and buildings are collections of elements. What are those elements in those two scales? How are they organized and shaped?

A. Fundamental Elements:

Kevin Lynch, in his book *The Image of the City*, states that: there are five elements (**Fig. 1**) in mental maps of cities: path, edge, district, node, and landmark. They clarify how one mentally utilizes one's perceived surroundings in order to oriental oneself. Actually, they can be used to describe all spaces perceived by man, not only the city space. Based on his descriptions, these elements may be defined as follows:

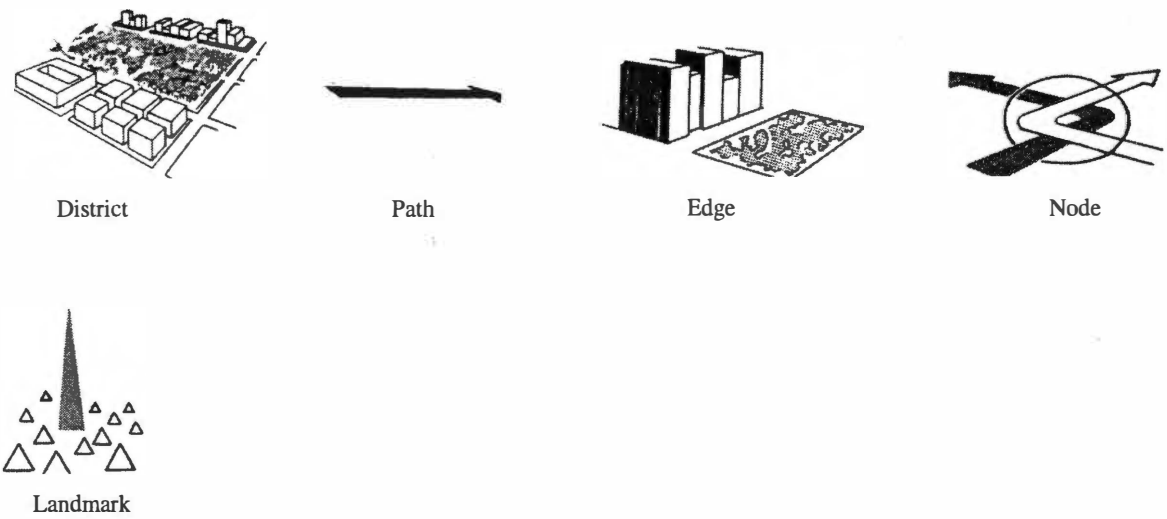


Fig. 1 Kevin Lynch's Diagrams of Elements of the City (Source: Lynch)

- **District** is area with a common, relative homogeneous, identifying character. According to Lynch, clues for integrity of the district are: pattern of building blocks, building types, topography, clearly defined boundaries or continuity of material. The more these characters overlap, the stronger the impression of a unified region. Often districts even include smaller districts. A district in a city can be an ethnic neighborhood, business district or a park, etc.

  In a building, "district" can be understood as a zone with similar or related functions. Different districts in a building are often separately organized horizontally or vertically in distinct zone. In addition, they are often defined by different materials and other physical or spatial characters.

- **Path** is the liner channel along which we move through: street, walkway, canal, highway, trail, etc. A path connects two locations in the city.

Therefore, it has a starting point and an ending point- both of which are distinct locations in the city. Along the path, there may be additional distinct locations, like crossings with other paths, squares of buildings, or sites of landmarks. The path is a continuous element. It is possible to stop on a path at every point.

In a building, a "path" is often the circulation. It is the vertical or horizontal channel for people to move among different spaces of the building. It can be corridor, ramp, staircase, elevator, etc. It is the connection of other elements of the building.

- **Edge** is a linear boundary that separates different areas. It may be solid or permeable, and marks a sharp change of character, can join and define the two bounded regions, or defines a sense of inside outside. In a city, edge can be an architectural volume, shore, exterior wall of the built structure, or highways, etc.). An edge may be more than a dominant barrier if some visual or motion penetration is allowed through it. Paths can become edges when seen from a different perspective. A person walking along a street sees it as a path, whereas a person trying to cross the same street will consider it as an edge because it is a movement obstacle.

  In a building, "edge" is the enclosure or indication, which acts as boundary that separates different programs. Edge is also a space-defining element that defines architectural space of varying degrees of enclosure, which form people's sense of public and private space, inside and outside space. This may be wall, plants, etc.

- **Node** is focal spot where activity or movements concentrate. It can be street corner, enclosed square, or intersection, etc. According to Lynch, nodes are often major elements in the city. It is important in locating points of origin and destination. They usually contain stops of public transport systems and thus are connected to a path. They sometimes contain landmarks. Nodes can be introverted or extroverted.

  In a building, "node" is movement concentration. It usually connects path, but node has a potential to have special spatial quality. A node can be a vestibule, lobby, foyer, alcove, atrium, or courtyard, etc.

- **Landmark** is physical reference point, external to the observer. It can be a building, landform, monuments, or sculpture, etc. The essential characteristic of a landmark is its singularity, its contrast with its context or background. Sometime landmarks can be a visual aid to orientation. Lynch defines landmarks as external to the observer as they are not entered but seen only from far away. For this work, this restriction is too rigid. This thesis defines landmarks as elements that can be entered.

  In a building, a "landmark" is a visual focal object or space. Often it provides information about certain functions or meaning of the building. Moreover, because of its special quality, it can act as aid to orientation. It can be a sculpture, painting or a space with special shape, etc.

According to above explanations, we can see that the ideas of five elements: path, edge, node, district and landmark, can also be applied to buildings. In the following analysis, I

will use names of these five conceptual elements in both city and building scale (**Fig. 2, Fig.3**).

B. Transformative Factors:

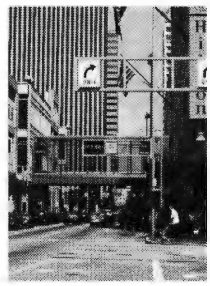
The Fundamental Elements are the basic components of structures of cities and buildings. They form the basis for spaces in these two scales. Nevertheless, in their physical realization and our actual experience of them, their configurations, combinations and the spaces they identify are modified. What make them different are influences of some other factors in the hierarchy of structures of cities and buildings. These factors are Socio-cultural and Physical Factor, which can be defined as Transformative Factors. They determine the physical forms of the material substance, which can inspire our perceptual sense. The choreography of these factors makes abstract spaces into meaningful places. It happens both in the city and building scale. Thus, cities and buildings are made extraordinary out of the five Fundamental Elements.

- **Socio-cultural Factors**: this is the organizational principle of the city and its parts. Because of diverse socio-cultural factors, different cities and different buildings present diverse spatial organization. The use of the Fundamental Elements is transformed by socio-cultural factors. These are diverse considerations, related to cultural traditions, societal pressures, government structures and policies, etc.

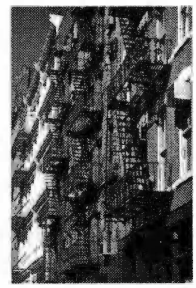
- **Physical Factors**: Natural environment, materials and technology are three main aspects. As manmade structural systems, cities and buildings are constructed to respond to the dictates of natural forces such as geography,



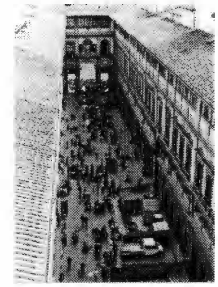
District



Path



Edge

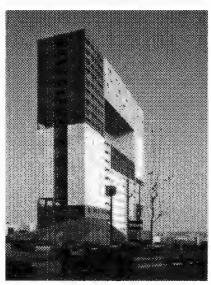


Node



Landmark

Fig. 2 Images of District, Path, Edge, Node, and Landmark in City Scale (Source: Author's files and www.ivanweb.net)



District



Path



Edge



Node



Landmark

Fig. 3 Images of District, Path, Edge, Node and Landmark in Building Scale (Source: Author's files, www. mokabreak.blogspot.com)

With the development of the technology, emersion of the new type of path dramatically changes the image of the city.



Fig. 4 Image of Modern City (Source: Trancik)

materials, climate, and technology. Physical Factors influence many channels of architectural creativity. They are ever-present, inspirational design tools. Physical Factors provide us opportunities to design and build new types and forms of cities and buildings. Large scale and more complex city and building forms can be created (**Fig. 4**).

Diversity of the City

Western cities tend to evolve as a formal response: Greek (**Fig. 5**) and Roman colonies were idealized grid patterns, while medieval cities responded to the topography in a more organic way. During the Renaissance, cities were "idealized" although few new cities were formed. The "New World" of the American included a range of "colonial plans"—some more inspired than others. Although many Chinese cities were also based on a grid pattern, compared to the abstract geometric space of American cities (**Fig. 6**) whose

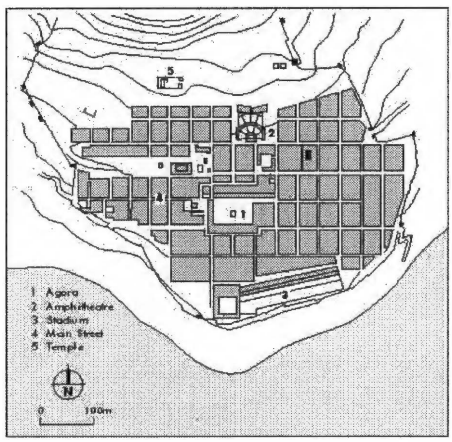


Fig. 5 Map of Priene Plan, Ancient Greece (Source: Eisner)

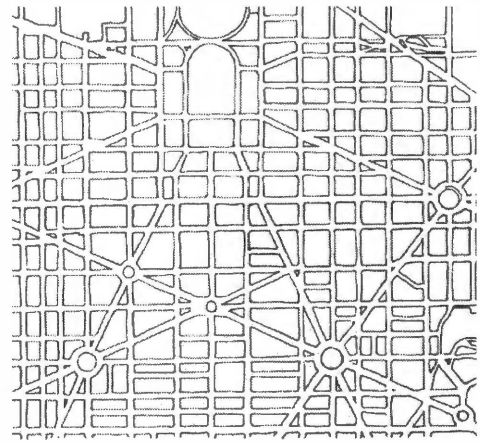


Fig. 6 Paths and Nodes of Washington, D.C. (Source: Passini)

An overlay of a rectangular and radial organization principle

geographical centers were usually occupied or surrounded by the public buildings, shops, and temple shrines, traditional Chinese cities (**Fig. 7**) used some cosmic model or prototype as the design rule to make habitable spaces. Philosophical attitudes of Confucianism and Taoism together with the geomancy rules of Fengshui are also the sources of influences. Traditional Islamic cities (**Fig. 8**) were organized on a hierarchy of three types of streets each with its particular physical expression and its particular function. Cities and buildings represent a mixture of complex forms of social organizations and institutions. In this regard, social order directs the spatial order, and the complex social fabric of cities finds expression in the built environment.

Diversity of the building

Socio-cultural Factors influence programs of the buildings and one's spatial experience, such as the sense of scale, privacy, sequence, and preference of orientation. Therefore,

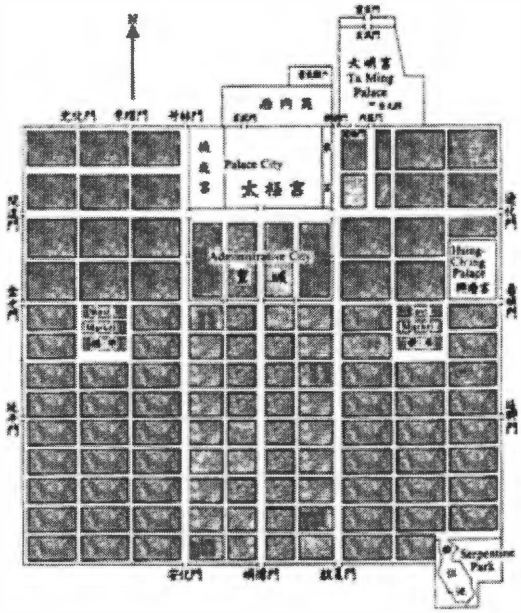


Fig. 7 Map of Ancient Chinese City, Chang'an (Source: www.cag.lcs.mit.edu)

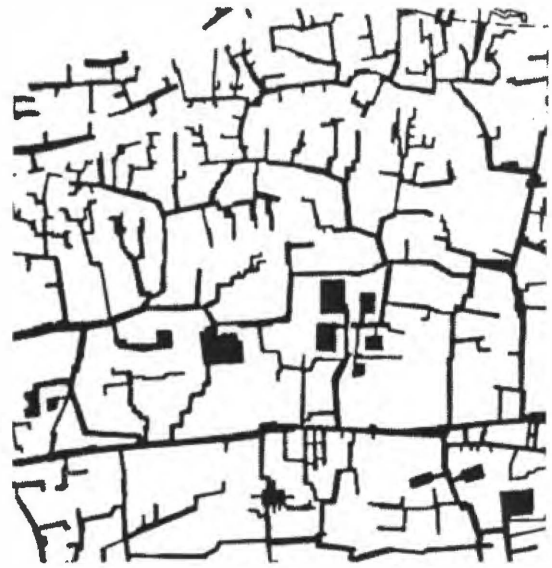


Fig. 8 Paths and Nodes of Cairo, Egypt (Source: Passini)

A hierarchical organization principle underlying the traditional Islamic city layout

combined with the specific natural environment, the same type of buildings could have diverse forms, such as courtyard house in Beijing, China and that in Pansa, Italy (**Fig. 9, Fig. 10**). Although both of them are belonged to the same prototype, which is courtyard house, they have very different layouts. Their layouts are corresponded to residents' specific Socio-cultural activities and physical situations on sites. For the courtyard house in Pansa, the commercial activities of the residents decide the pattern of shops around the living units. Moreover, no matter if it is because of the socio-cultural or natural effects, the invention of new building materials, from the roman invention of concrete to the increasing use of the iron and glass, can always shake up traditional construction methods, and create animating feats of enclosure or traversed space (**Fig. 11, Fig. 12**). It caused the emergence of diverse building forms, in another word, the various combinations of the five basic elements.

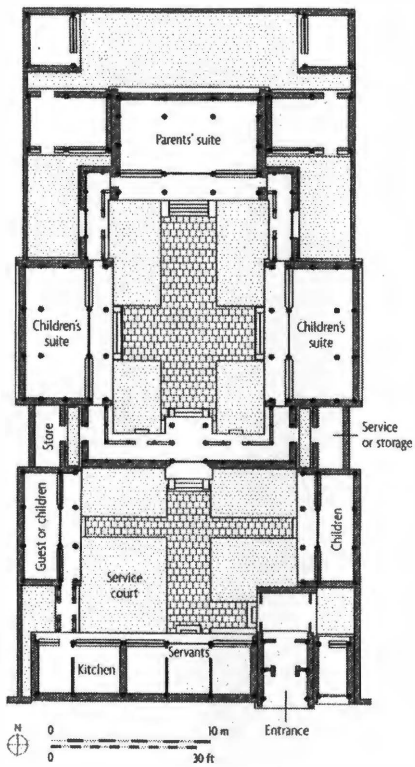


Fig. 9 House of Beijing, China (Source: http://depts.washington.edu)

Compare to the house of Pansa, the House of Beijing has no commercial components.

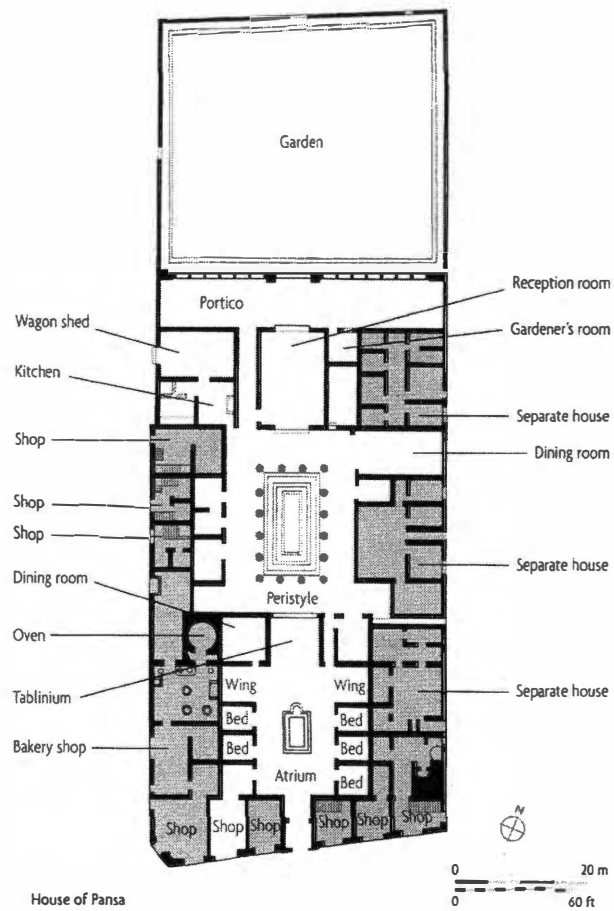


Fig. 10 House of Pansa, Italy (Source: Moffett)

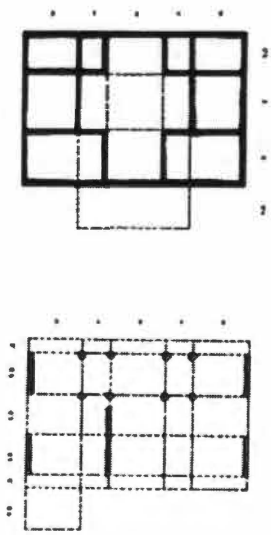
The shops surround the living units. All the windows and doors open towards the atrium and peristyle that could have sunshine and ventilation access.



Fig. 11 Providence Arcade, Rhode Island (Source: Moffett)

Since metal and glass made it possible to open up the entire ground floor and mezzanine to the outside with windows of plate glass and to have a central court with a glazed roof over it.

The walking experiences in covered shopping spaces like galleries, passages and shopping malls remind pedestrians' images of city streets, in both conceptual and spatial ways.



The free plan gives great flexibility to the organizations of the structure of the building, thus the path, edge, node, district, and landmark of the building can be organized in many ways.

Villa Malcontenta, Palladio (above)

Villa Garches, Le Corbusier (below)

Fig. 12 Diagrams of Different Structures of Housing (Source: Author's files)

Case Study

A. City and Housing, Old Beijing, China

The City

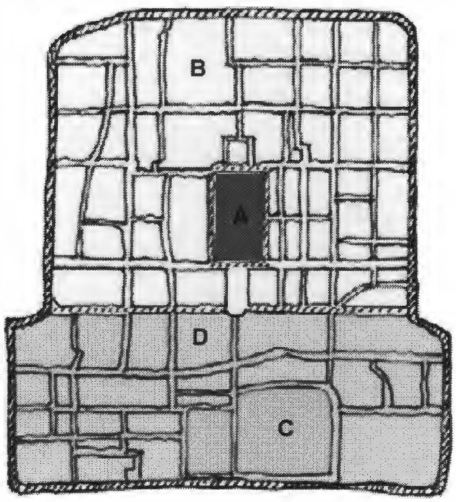
District: In the northern part of the whole city is the inner city for the palace. The north of the inner city is the government district for all of the supporting staff and administrators of the emperor. Inside of the inner city is the Forbidden City. The south part of the whole city is the area for other residents (**Fig. 13**).

Path: The layout of the paths is a grid pattern. There is a long axial street leading to the palace in the Forbidden City (**Fig. 14**).

Edge: The wall is a recurring theme of political nature of humans in Chinese spatial organization. The inner city was surrounded by the walls, and each neighborhood was contained in a walled ward as well. Then there were walls surrounding the traditional courtyard house itself. The city of Beijing was planned as walls within walls (**Fig. 15**).

Node: The Forbidden City is the core of Beijing. It is located near the center, along the north-south axis.

Landmark: The Palace for the emperor, buildings for royal ritual, and towers located in the passageway to the inner city are the landmarks of the old Beijing (**Fig. 16-18**).



A Forbidden City
B Inner City
C Royal Ritual
D Residential Area

Fig. 13 Districts of Old Beijing City (Source: Author's files)

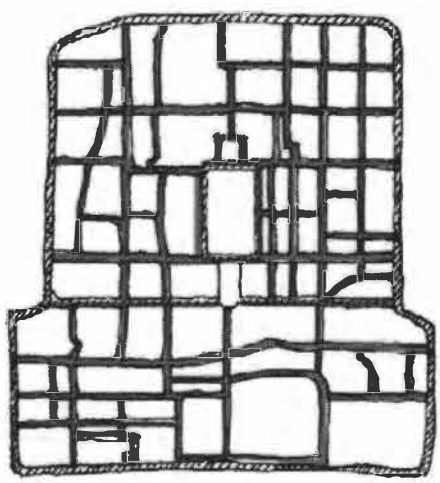


Fig. 14 Paths of Old Beijing City (Source: Author's files)

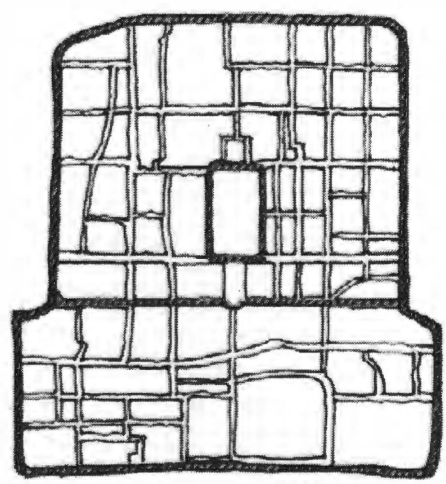


Fig. 15 Edges of Old Beijing City (Source: Author's files)

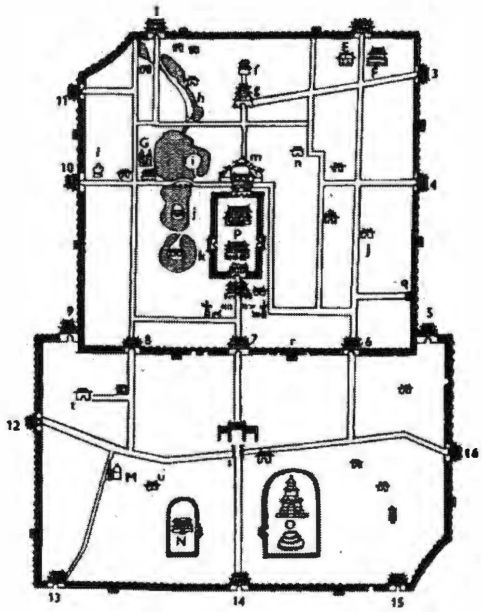


Fig. 16 Map of Landmarks, Old Beijing City (Source: muse.jhu.edu)

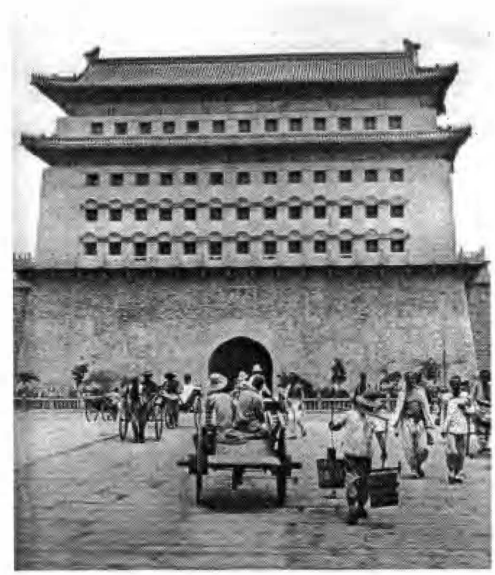


Fig. 17 Landmark: Zhengyang Gate, Old Beijing City (Source: www.cndfilm.com)

The Entrance to the inner city of old Beijing



Fig. 18 Landmark: Ditan, for Royal Ritual, Old Beijing City (Source: muse.jhu.edu)

The Housing

Traditional courtyard house in old Beijing city (**Fig. 19**) carries over the same rules of composition as the city. Social space occurs in physical space, the form of the physical space influenced by the social activities within it. Family hierarchy is followed in the courtyard layout.

District: The whole building represents the changeless order in the family. The Building at the rear, for the senior members of the family, is in the most private space of the courtyard home. The building facing the main gate also faces south, making it the warmest space during the winter months (**Fig. 20**).

Path: Following the sequence of gates, a corridor along the central axis is created (**Fig. 21**).

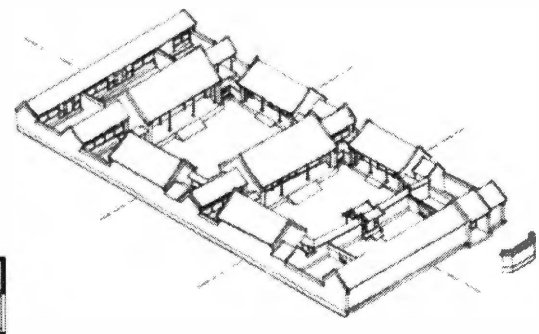


Fig. 19 Axon View of Traditional Two-courtyard House, Beijing, China (Source:http://depts.washington.edu)

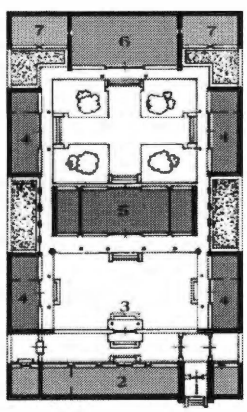


Fig. 20 Districts of the Courtyard House (Source: Author's files)

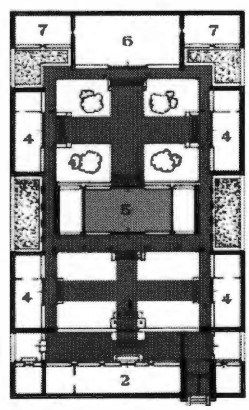


Fig. 21 Paths of the Courtyard House (Source: Author's files)

Edge: Like the walls of the old Beijing City, the walls of the courtyard house divide the house into different zones with different privacy (**Fig. 22**).

Node: The courtyards along the central axis. They are the places for family members meeting or for family members to meet guests.

Landmark: The gate of the entrance to the house is the symbol of the social status of the occupants (**Fig. 23**).

Uses of rooms in a typical two-courtyard house plan:

1. Main entrance
2. Rooms facing the rear. The rooms facing the back, those near the entrance to the courtyard were reserved for the servants if the family was well-off.
3. First courtyard. Cooking was carried out here, and the second courtyard was a living space.
4. East and west-side rooms, for the sons and daughters, or the sons' families.
5. Inner Hall. Where the members of the family greeted guests or where family ceremonies were held.
6. Main building. Living space for parents.
7. Small side rooms. These used for children and extended family members.

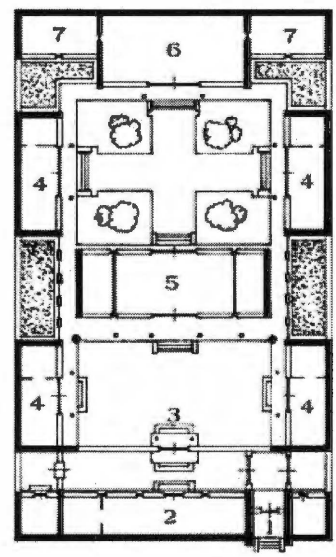


Fig. 22 Edges of the Courtyard House (Source:http://depts.washington.edu)



Fig. 23 Landmark of the Courtyard House (Source:http://depts.washington.edu)

B. The St. Peter's Piazza and the Piazza Navona, Rome, Italy

In Rome, the pattern of the city is clearly composed by the buildings, streets and urban open spaces. With the help of Nolli map, we can see that the physical and spatial structures of the St. Peter's cathedral and its piazza are similar to that of the Piazza Navona, which is a typical unit of the pattern of Rome. The difference between them is the built structure that defines the space. In the St. Peter's, the spaces inside and outside of the cathedral are conformed by the edges of the cathedral and colonnade which are connected as a complete building, whereas the Piazza Navona is conformed by buildings surrounding it.

The whole organization of paths, nodes, edges, districts and landmarks in St. Peter's are exactly the realization of the five basic elements in urban scale, which can be found in the Piazza Navona (**Fig. 24-30**).

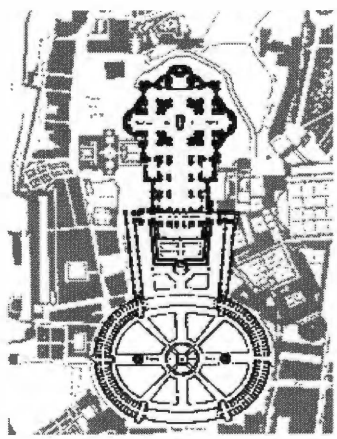


Fig. 24 St. Peter's, Rome, Italy (Source: Author's files)

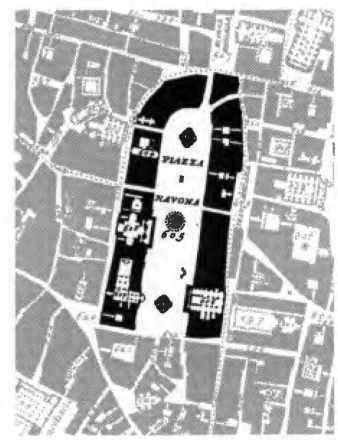


Fig. 25 Piazza Navona, Rome, Italy
(Source: Author's files)

Two diagrams show the edges that define the interior and exterior spaces, in both building and city scales. The spaces in two scales are organized in a similar sequence. Spaces in St. Peter's with different significance are just like districts in the city.

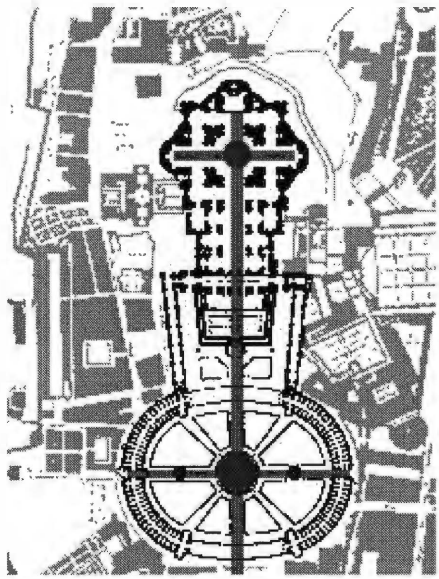


Fig. 26 Paths and Nodes of St. Peter's (Source: Author's files)

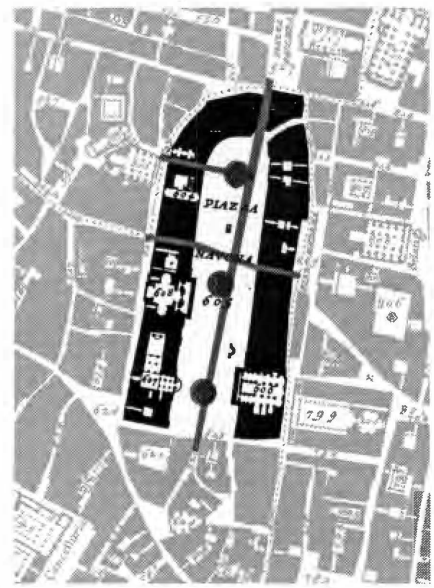


Fig. 27 Paths and Nodes of the Piazza Navona (Source: Author's files)



Fig. 28 Nodes and Landmarks outside of St. Peter's (Source: www.stpetersbasilica.org)



Fig. 29 Nodes and Landmarks inside of St. Peter's (Source: www.stpetersbasilica.org)

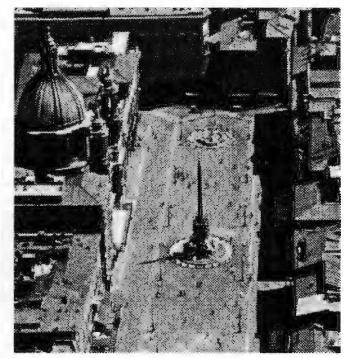


Fig. 30 Nodes and Landmarks of Piazza Navona (Source: www.stpetersbasilica.org)

SIMILARITY IN PROGRAMMATIC STRUCTURE

A city and a building are both made out of physical need and social desire. A building can be a microcosm of a city, not just because a building can represent its physical structures in a similar way as the city does, but also can be a platform of a variety of functions, which a vibrant city provides.

Main Functions of a Vibrant City

Living
Working/ Government
Entertainment
Commercial activities
Education
Culture

Functions that a Building Could Have

Residential Component
Office Component
Recreation Component
Retail Component
Educational Component
Cultural Component

CHAPTER 2: RECIPROCAL RELATIONSHIP

The above exploration of the structure in city and building scale demonstrate that a building can be a microcosm of a city. They are composed by similar Fundamental Elements, influenced by the same Transformative Factors, and both can provide the same diversity of programs. This supposes that both systems, the city and building, need to be well considered in the same time. The more involved a building is with the form and content of its surroundings, the more those surroundings become appropriated by the building. It speaks of a reciprocal relationship between the parts and the whole. Colin Rowe said that the urban pattern of streets, buildings, and open spaces is the fabric of the city. [4] To place a new building within an existing urban fabric without considering the components of that fabric is to deny the interactive nature of the built environment. The five Fundamental Elements, whether in a city or building scale, seldom occur in isolation. The coexistence and interaction of their elements can heighten the overall significance of that place enormously. They are the means of creating the thread of continuity between what was, what is and what will be. This thread of continuity of the physical and spatial experience protects the harmony of the city and buildings within it, establishes a relationship between the forms and activities on the site.

PHYSICAL CONTINUITY

Buildings as Units that Create Continuity of the Urban Form

The reciprocal relationships between the city and its buildings first can be approached by relationship of the building masses (figures) and open urban spaces (grounds). The Nolli

[4] Roger Trancik, *Finding Lost Space: Theories of Urban Design*, New York, Van Nostrand Reinhold, 1986, pp37

Map (**Fig. 31**) reveals the city as a clearly defined system of solids and voids. Without this critical land coverage ——the building density, the urban spatial continuity would be impossible. Urban open space is conceived as a positive entity in an integrated relationship with the surrounding solid.

Urban open space, street and square are defined by the configuration or congregation of building mass (**Fig. 32**). In this situation, buildings often act as defining elements of edges or landmarks. As edges, the degree of enclosure, the proportion and the surface ornament of the facades of buildings have a direct impact on the character of the urban space they define. As landmarks, these buildings are visual foci. They need to announce their presence and express their social and political significance. However, just as Venturi [5] observed, the contemporary city in fact contains more "open" than it needs-space that is too open to be perceived as space and that is often located away from

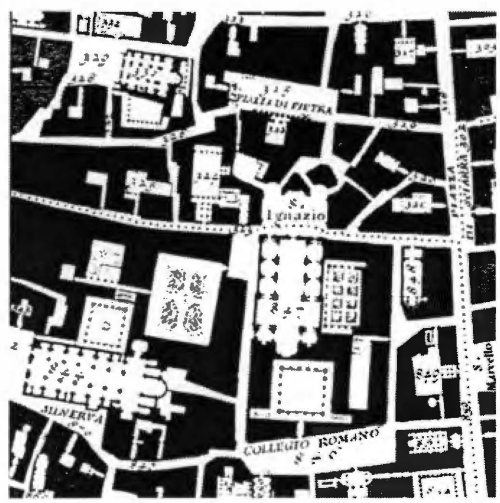
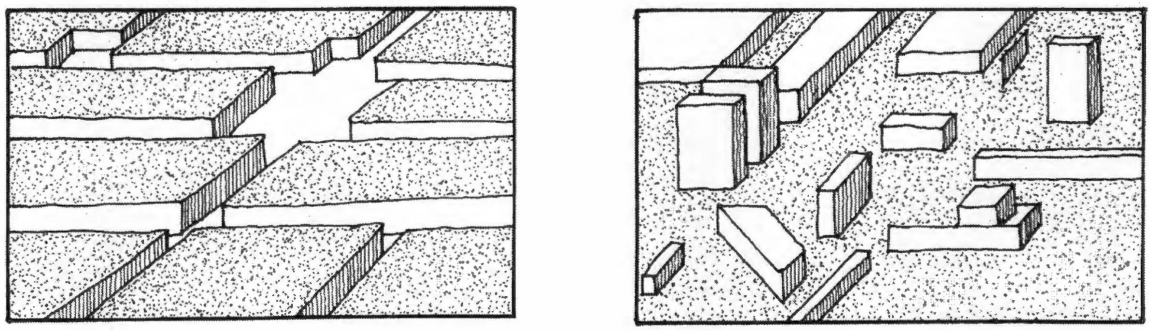


Fig. 31 Nolli Map of Rome (Source: Trancik)

5 A type of urban solid found in all cities is the public monument or institution. They serve as landmarks in the city. Their interior civic spaces are carved out of the private tissue.



Traditional City Form

Modern City Form

Fig. 32 Diagrams of Traditional City Form and Modern City Form (Source: Trancik, base on diagrams by Rob Krier)

The diagrams show the continuity of the traditional city and fragments of the modern cities

the pulse of urban life. Therefore, no matter if it is freestanding or welded to blocks of more ordinary buildings, they need to adapt to the surrounding urban space, as a nub of existing urban fabric.

Central Plaza in Vigevano and Piazza San Marco are good illustrators of the relationship of buildings and their surrounding urban open space.

Case Study

A. Piazza Ducale, Vigevano, Italy

The square (**Fig. 33-34**) is enclosed on all sides. It is like a large urban chamber carved out of the surrounding buildings- the negative of a building. The short side of the end wall was dominated by the cathedral. At first glance, this wall seems to belong entirely to the church, as the four identical symmetrically placed entrances suggest. However, closer inspection reveals that the fourth giving access to the Via Roma, the public street beyond



Fig. 33 Façade of the Cathedral, Piazza Ducale, Vigevano, Italy (Source: Hertzberger)

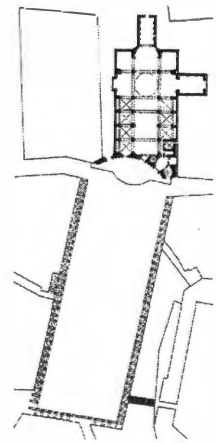


Fig. 34 Plan of the Piazza Ducale (Source: Hertzberger)

it. Since the piazza has been put first, the building must adapt to it. With the concavity of the hollow shape facing to the piazza, the church appends itself to the piazza instead of standing up to it. As a concession, it was prepared to go out of its way and adopt the street. The form of the piazza prevails above the utterances of individual buildings. Yet church seems more impressive in this way.

B. The Piazza San Marco, Venice, Italy

The plan of Piazza San Marco (**Fig. 35**) shows how the strength of the architectural edge can hold the urban open space together before it dramatically opens to the water. It surrounded by a dense mass of buildings cut through by narrow streets and canals. Although the buildings at the edge are from diverse periods, they are relatively uniform in height. An arcade helps unify the space, while a dramatic paving pattern ties the two arms of the L-shaped square together. The campanile acts as a vertical focal point and as a "knuckle' between the two piazzas.

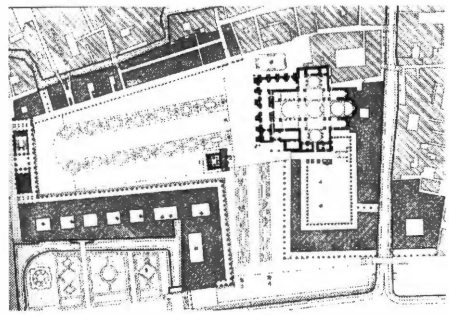


Fig. 35 Plan of the Piazza San Marco Venice, Italy (Source: Trancik)

SPATIAL CONTINUITY

Public Space in the City and Building Can Create Continuum

The Nolli Map graphically illustrates the figure-ground relationship of a traditional city where public civic space is carved out of the private tissue. The public civic space inside of the building is as important as the open space outside. Cities and buildings are not merely the collections of spaces and all built structure, but also the combination of people, events and relationship within them. That is to say, as nodes of human societies, cities and buildings are an agglomeration of people and objects, they provide platforms for the events-communications among the people. Hence, they need a continuous flow linking interior and exterior spaces and activities (**Fig. 36, Fig. 37**). However, the degree and actual effect of this continuity depend on the work of edges. Edges here refer to building facades, which not only defines the urban open space, but the interior space as well. Edge is a space-defining element that defines varying degrees of enclosure through varying degrees of transparency and opacity (**Fig. 38**). In other words, the role of the edge that has visual or motion penetrations can also act as the link that connects the indoor, outdoor

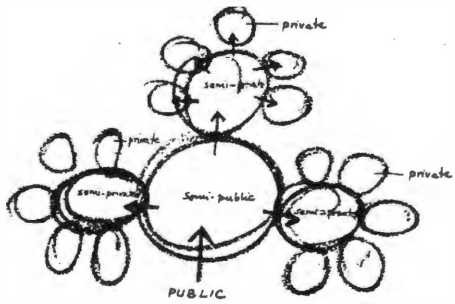


Fig. 36 Spatial Correspondences (Source: Lang, base on Oscar Newman, 1974))

Semi-public space of the building is connected directly to the urban public space

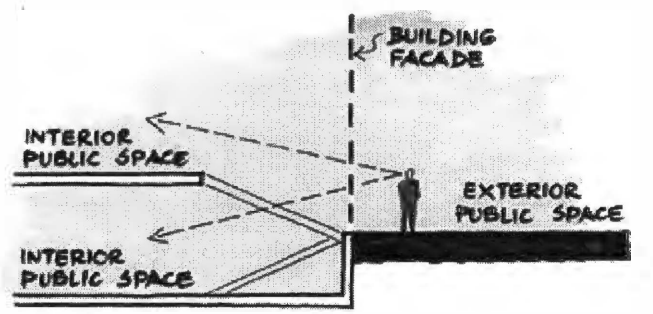


Fig. 37 Visual Correspondences through the Building Façade (Source: Author's files)

The facade of the building is not just a enclosure which acts as a space defining element both in city and building scale, but also a link that connects the space inside and out side of the building. The part which is highlighted by grey color in diagram "a" is less transparent than that of "d". More inside can be outside.

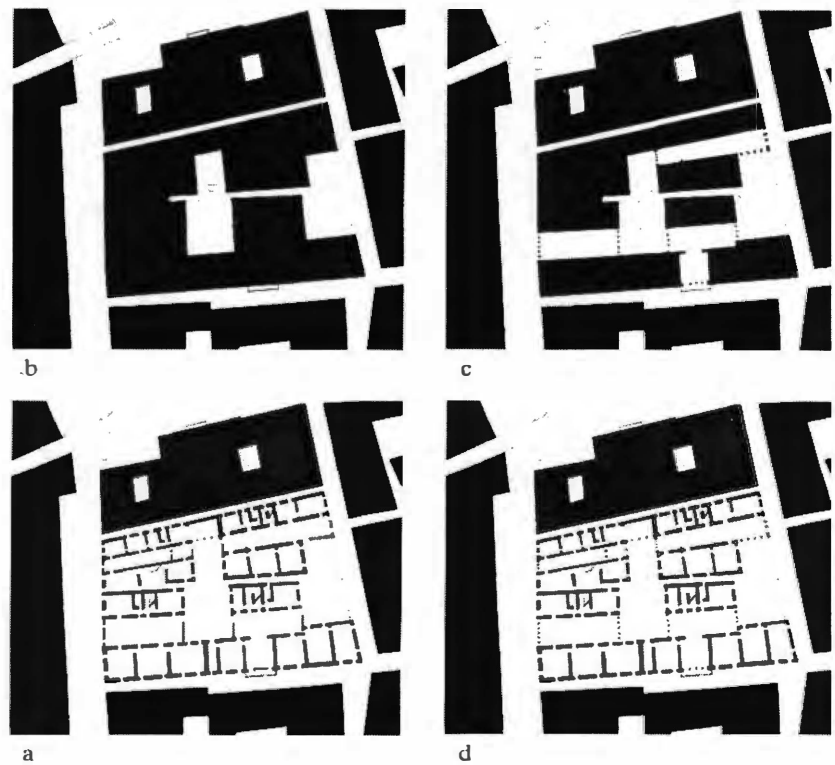


Fig. 38 Spatial Continuity (Source: Author's files, base on Bernhard Hoesli's diagram)

space, and diverse social life that happens inside and outside of the building. The building with edges that have limited visual and motion access is cut off from its urban environment. As Martin Heidegger says[6], "a boundary is not that at which something stops, but as the Greeks recognized, the boundary is that from which something begins its presencing." The space flows visually through the building. City and building images in such a situation tend to be continuous. Thus, the quality of the urban open space and of buildings is related to each other.

[6] Roger Trancik, *Finding Lost Space: Theories of Urban Design*, New York, Van Nostrand Reinhold, 1986, pp113

CHAPTER 3: PRECEDENT

WALKER ART CENTER EXPANSION

Minneapolis, USA, *1999-*

Architect
Herzog & De Meuron



Fig. 39 Elevation of the Walker Art Center Expansion (Source: El Croquis)

Because of the city's extreme climate and the skyway system of elevated pedestrian walkways, there is essentially no street life in Minneapolis. Therefore, the Walker Art Center Expansion is designed to enhance the urban life at the Walker Art Center. Furthermore, the expansion of the art center fully considers the existing urban infrastructures and establishes a visual link with the downtown skyline as well as the church spires along Hennepin Avenue (**Fig. 39-44**).

The renovation features galleries and gardens for the museum's growing collection; a technologically sophisticated studio for contemporary dance, music, performance, and theater programs; a new-media laboratory; new spaces for innovative education programs; and visitor amenities, including a new restaurant, cafe, and shop. In contrast to the solid brick wall of the existing building, the expansion part is completely glazed, which allows the visual connection between the outside and the new interior of the WAC. This glazed street level is parallel to the slightly angled street, like a 'town square' open to everyone as a meeting point, a place to exchange information and news or to have a cup of coffee. People can also gather here without going to an exhibition or event. The building generates a blend of urban energies on the street level. Through physical and visual continuity, various activities are connected in WAC Expansion. Thus, it fosters an intensification of the urbanism of the new WAC.

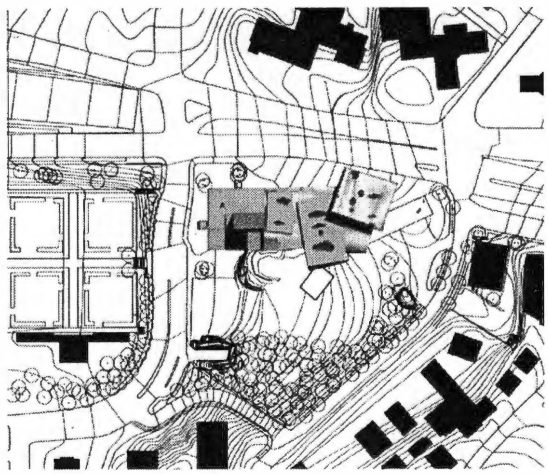


Fig. 40 Site Plan, Walker Art Center Expansion (Source: El Croquis)

The glazed expansion part interweave of the interior 'town square' and the exterior urban space. The 'town square' is a sequence of activities. As a combination of path and node, it links different zones of the building and the city together.

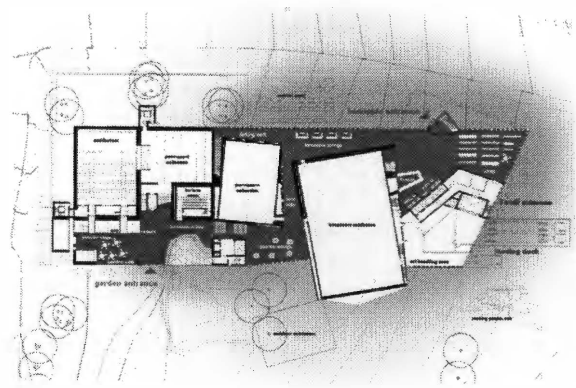


Fig. 41 First Floor Plan, Walker Art Center Expansion (Source: Author's files, based on El Croquis)

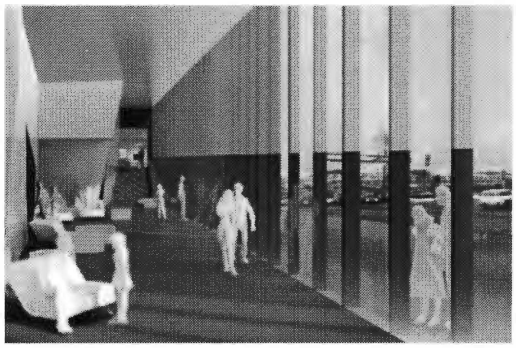


Fig. 42 Interior View (Source: El Croquis)

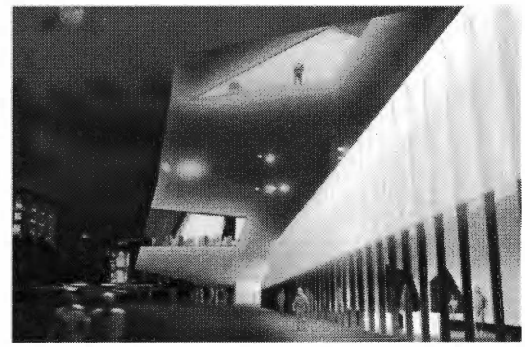
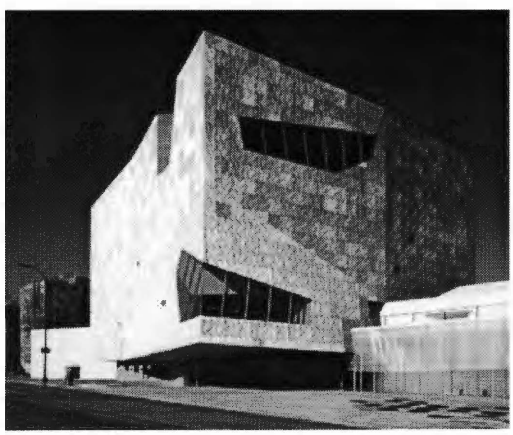


Fig. 43 Exterior View (Source: El Croquis)

The exterior space and interior space of the Walker Art Center Expansion is connected through the transparency of the edge.



The new tower as a new urban landmark expresses the importance of the performing arts in the WAC program.

Fig. 44 New Theater Tower (Source: El Croquis)

LANBAN DANCE CENTER

London, UK, *1997-2002*

Architect
Herzog & De Meuron



Fig. 45 Exterior View, Laban Dance Center (Source: El Croquis)

St. Paul's cathedral is an important referential urban landmark for this complex. In addition, the embracing gesture of the building creates a spatial limitation that conform the Laban Dance Center. Therefore, although the facades distinguish the center from the neighboring buildings, the large volume of the building is well integrated into its surroundings. Actually, the double facades with different color tones and different transparency make the building another landmark of the city (**Fig. 45-51**).

The double-skin façades create a subtle reciprocity between the inside and outside: the colors of the façade panels shimmer internally, while externally, one sees the shadowy forms of the dancers in the evening. Moreover, the walls inside of the complex have more of an articulating than just a separating function. They connect all the interior public spaces together. Meanwhile, ramps and circulation routes, as paths, lead between the complex layout of rooms and broaden into open spaces. Light wells allow daylight to penetrate into the building and establish visual inks along the paths. In this way, light wells and different colors of the walls, become a visual aid to orientation within this open "cityscape".

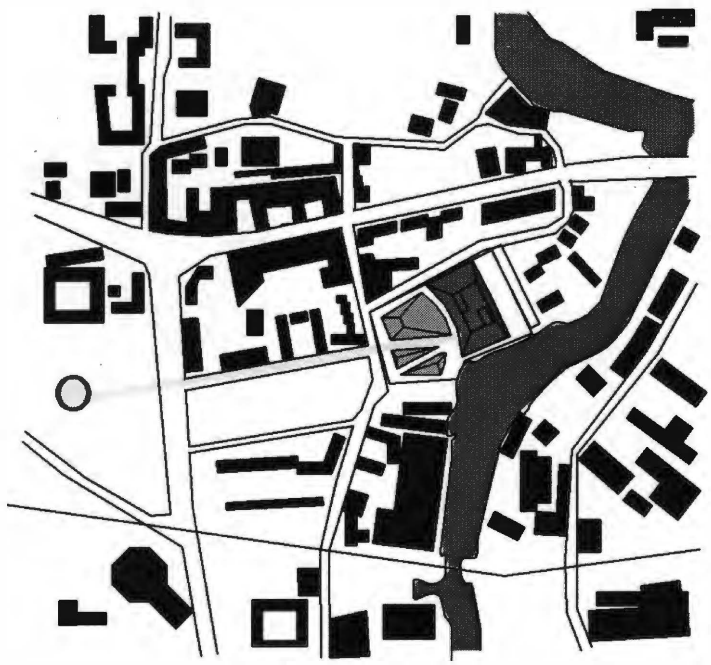


Fig. 46 Figure and Ground, Laban Dance Center (Source: Author's files)

Laban Dance Center responses to the urban context

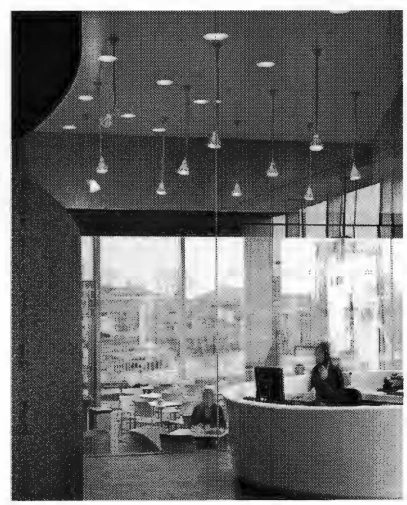


Fig. 47 Transparency of the Edge (Source: El Croquis)

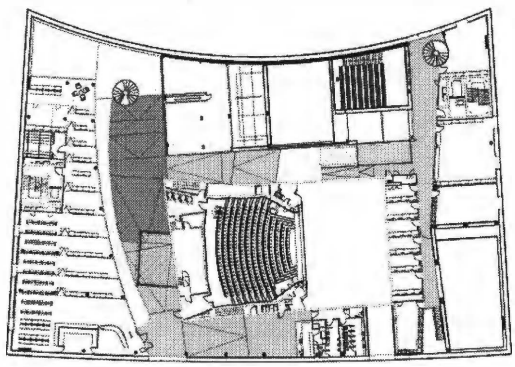


Fig. 48 Second Floor Plan, Laban Dance Center (Source: Author's files, base on El Croquis)

Paths are shown in light blue color. Light wells are in magenta. Node is in dark blue. The node and path are combined

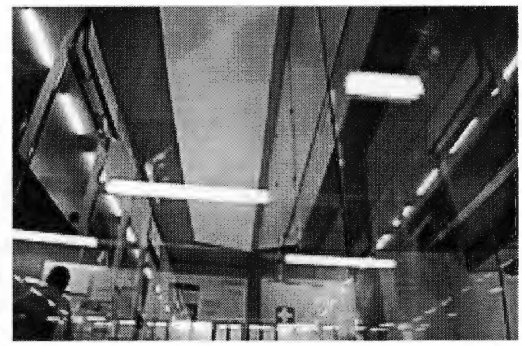


Fig. 49 Landmark, Light Well (Source: www.arcspace.com)



Fig. 50 Node on the second floor, Laban Dance Center (Source: www.arcspace.com)

The wide part of the Ramp becomes the node for the gathering of visitors.



Fig. 51 Path, Laban Dance Center (Source: www.arcspace.com)

VE BUSINESS PASSAGES

Munich, Germany, *1994-2003*

Architect
Herzog & De Meuron

Associate architect
Hilmer & Sattler
Obermeyer Planen & Beraten

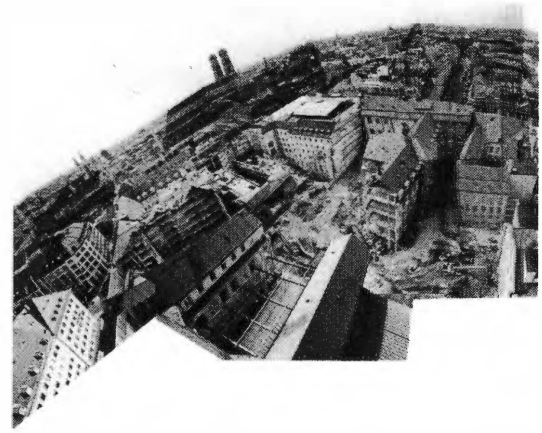


Fig. 52 Bird View of the Site (Source: El Croquis)

The Five Business Passages (**Fig. 52-56**) is based on the original form of the residential block. Although the interior of the block is completely rebuilt, it keeps original components of this block, which is conformed by series of courts. The compact interior of the street block is opened up by a network of routes that link a sequence of internal courts of different spatial quality. In this way, the courts act as both landmarks and nodes. Pedestrians move through a calm shopping zone, the urbanity of which is heightened by cafés, recreational spaces, galleries and other cultural facilities. Including all the details and materials, the Five Business Passages has all the Fundamental Elements that a city has. Open spaces in this block are well defined by the mass of the units within it. Moreover, the edge of the mass provide visual and motion continuity that a stroll through the block is a pleasurably diversified urban experience.

Besides shops, this project includes an underground garage for tenants and has offices and flats spaces. The mixed-use functions make the Five Business Passages provide twenty-four hours balance for the urban life. As a microcosm of the city, Five Business Passages and the city share the similarity in physical and programmatic structure. It connects to the existing urban fabric, by the continuity of physical and spatial from.

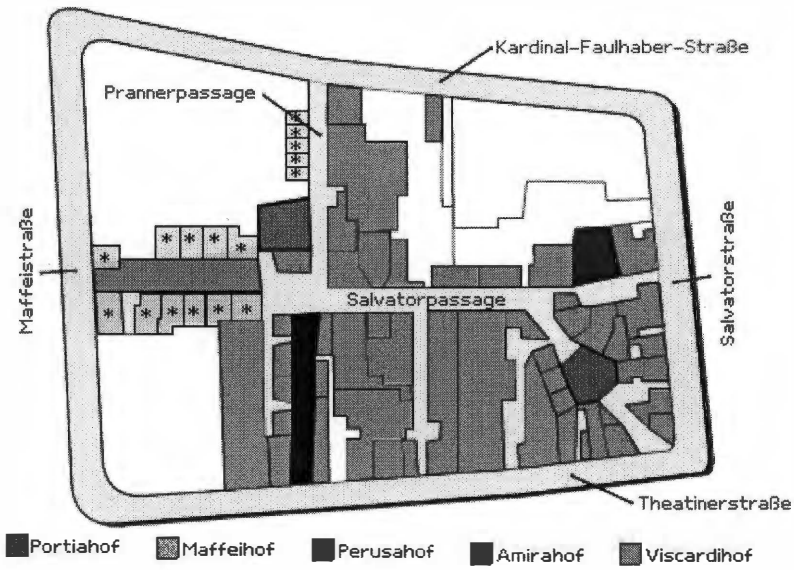


Fig. 53 Paths, Nodes and Districts on the first floor (Source: www.toytownmunich.com)

The white color areas are the existing buildings.

Passage open to the sky form the unifying theme of this reinterpretation of the traditional shopping arcade.



Fig. 54 Salvator Passage

(Source: www.toytownmunich.com)

Folded, perforated sheet-metal screens drawn over the illuminated facades have a fascinating contrast with the existing building. They become a focal point- the landmark of the new building.



Fig. 55 Facade at Theatinerstrasse (Source: El Croquis)

The edge provides vision and motion continuity between the inside and outside space

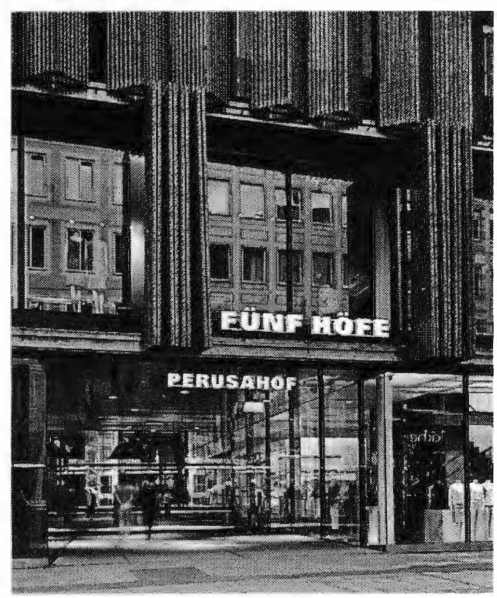


Fig. 56 Entrance at Theatinerstrasse (Source: El Croquis)

CHAPTER 4: SITE ANALYSIS

SOCIO-CULTURAL FACTORS

A city has two essential characters: density, variety of use. In traditional cities, continuous building masses provide the density of urban areas. They not only define interesting space, but also put people in close proximity to one another, promoting pedestrian life and lessening the need for automobiles. Once buildings share their public space with the city, this encourages opportunities for interaction. The Physical and Spatial Continuity of the built structures indeed provide a platform that encourages pedestrian life and provides opportunities for interaction, making a lively environment with a strong sense of community. However, following the increasing use of automobile and urban sprawl, most American city centers have been deteriorated. Furthermore, with the influence of modern movement, buildings became more utilitarian in their organization. The notion of function was gradually displaced from the external space to the organization of internal space. A building tended to become, in itself, more of an object, separate from its context.[7] According their functions, buildings were built into isolated and unrelated sites. The connections between housing, retail, entertainment, offices, and workshops, which are the essence of living in cities, are lost. Just as Jane Jacobs's book, *The Death and Life of Great American Cities (1961),* warned, land use segregation and low-density dispersal were killing off the diversity that is the basis of urban life. Knoxville, as a typical American city, is facing the same problem.

Originally settled in 1791, Knoxville (**Fig. 57**) remained mostly confined for many years

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[7] Stanford Anderson, ed. *On Street.* (IAUS Demonstration Project). Cambridge, Mass.: MIT Press, 1980

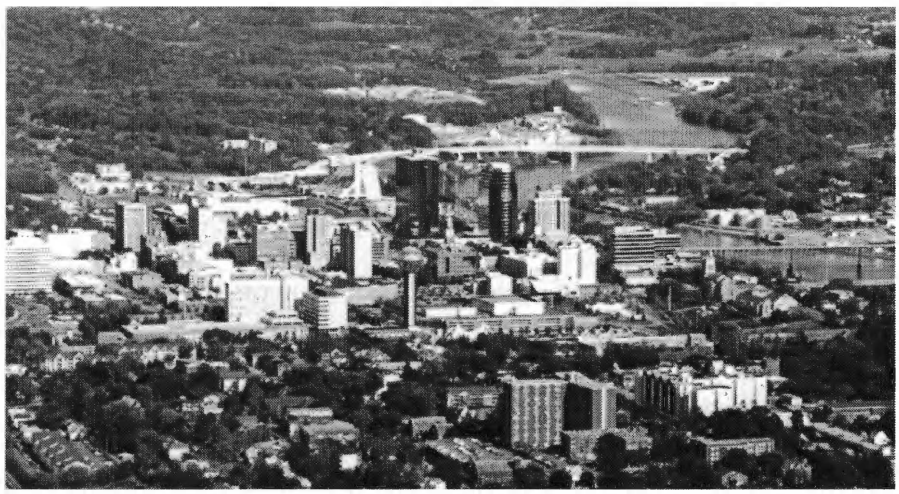


Fig. 57 Bird View of Downtown Knoxville

to the original town squares, which now generally comprise the downtown. Until the advent of the civil war and the impetus of rail transportation into the county, Knoxville and its surrounding lands remained virtually untapped. Since the 1870s, Knoxville suburban development has moved west from the original city. People moved out, and many buildings were deteriorated. At present, main parts of the buildings in the downtown area are office buildings. Thus, Knoxville lost its density and diversity which are the two essential characters of the city.

PHYSICAL FACTORS

Five basic elements based on Kevin Lynch's theory, can be found in downtown Knoxville.

- **District**: main commercial area in downtown Knoxville is along the Gay Street and Market Square. The government services area is on the south side

of the downtown area. Rest of the areas is mixed-use, the combination of residential and office components.

- **Path**: there are two main paths in downtown area. They are Gay Street and Main Street. While Gay Street is the business spine of the City, Main Street is the where the bus termination is currently located.

- **Edge**: edges in downtown Knoxville have diverse characters. Depend on the transparency of the edges and the frequency of the civic activities happen at the space they define, edges in downtown area can be grouped into three categories: active edges, semi-active edges, and inactive edges.

- **Node**: the main nodes in Knoxville are public spaces that along the Gay Street, Main Street, and Market Square.

- **Landmark**: landmarks in downtown Knoxville usually refer to buildings that have special meanings or forms, such as Courthouse and Tennessee Theater. They act as focal points addressing the history of the city. Meanwhile, they are necessary visual cues to aid in wayfinding.

Characters of those elements are resources for the final building design. Through the exploration of five elements in city scale, I will demonstrate the elements in building scale, and then demonstrate that a building can be a microcosm of its city context in a reciprocal way.

THE PROPOSED SITE

The site (**Fig. 58, Fig. 59**) that I have chosen for my thesis project is located at the corner of two main paths: Church Ave. and S Gay St., which are located within the core of downtown Knoxville. It is presently a surface parking with the Royal Properties Inc. on the west side of it. One & Two Center Square and Federal Court Building are located to its north and south respectively. On the east side of the Gay Street, there are several office and small business buildings facing the site. However, although the site is the intersection of two important cultural and commercial axes of Knoxville, it appears as a large hole in the urban fabric now. The fabric of city suddenly stops there. The site has no sense of place which needs to be defined by the physical shapes and programs of the surrounding buildings. It looks almost like a terminal of the city life. According to this situation, new building acts as an anchor of the city are proposed to be set up there. The proposed new building is designed to be part of the process that has the potential to reinvent and reconnect the broken urban fabric of downtown Knoxville, both in physical and in program aspect.

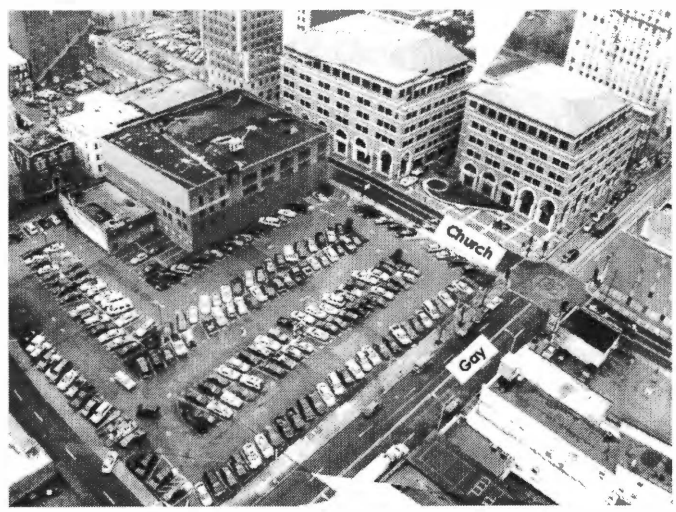


Fig. 58 Existing Situation of the Site



Fig. 59 Figure and Ground, the City of Knoxville (Source: Author's files)

The proposed site is a large parking lot, which appears as a large void in the urban fabric. The fabric of city suddenly stops there. The site almost likes a terminal of the city life.

THE KNOXVILLE INSTITUTE OF CULINARY ART

The Institution as a Catalyst for Urban Activity

Institutions with multi-use activities can to an extent fulfill the need for an economic as well as a visual anchor in the downtown core. Because of the intimate connection of uses (cultural and retail, cultural and civic, etc.), entities of this sort allow maximum street interaction at the scale of the pedestrian with minimal sacrifices to its institutional image. Moreover, multiple-use developments have a greater potential for after-hours activity than conventional institutional uses. By encouraging activity both within the complex and in surrounding complementary uses in the downtown core, a mixed-use institutional development creates an impact in the surrounding area greater than the sum of any of its constituent elements. Whether a smaller, more conventional institutional entity or a more complex development as described above, urban institutions clearly hold the potential for contributing to a vibrant downtown community. However, the success of downtown institutions attempting to fill this role rests largely on their attributes toward the public interaction, specifically whether this attitude is compatible with street activity. Establishing a sense of place within an institutional framework that is also an attractive destination for downtown users and residents adds a unique land use to the urban grid, setting the stage for the kind of activity characteristic of a dynamic urban marketplace. An institution with the proper combination of public use and imaginable identity can serve as a positive player in a diverse downtown community.

The Knoxville Institute of Culinary Art

The proposed building for the site is a mixed-use Institute of Culinary School, which is comprised of a professional, degree-granting culinary school, retail facilities associated with the school's educational curriculum, and a residential component which caters primarily to local professionals. The school would enroll about 300 full-time degree-seeking students, although recreational courses would also be offered to the public. Its location in Downtown Knoxville is an intersection of culture and commercial axes. This provides the culinary school an opportunity to act as an anchor and allows its interconnectivity to the neighboring civic functions and the users in the city. Meanwhile, the culinary school would help satisfy the demand for culinary professionals in the rapidly growing food service industry. Lastly, the mixed-use development would enhance Downtown Knoxville's role as a vibrant urban center. Its retail, institutional, and residential facilities would be added to Downtown's current fragmental framework. It is occupied 24 hours by its users. Through the design strategy which focuses on path, node, edge, district and landmark, my project will be part of the infill development in which the building as a microcosm of the city and its urban context is inextricably linked. Through the Physical and Spatial Continuity between the city and the building, the Knoxville Institute of Culinary Arts mixed-use facility, as a catalyst, regenerate Downtown Knoxville's framework of multiple functions. Its variety of uses will surely enhance Downtown's image ability and role as city center. It will demonstrate that the relationship between the city and its building is reciprocal.

Program

A. Program Summary

The Knoxville Institute of Culinary Arts offers a range of short- and long-term ongoing continuing education programs for graduates, culinary professionals and enthusiasts who seek in-depth and advanced training for personal or professional enrichment. The core program consists of a professional degree program in one of three curricula:

- Culinary Arts
- Baking and Pastry Arts
- Hospitality & Restaurant Management

School enrollment would number 300 students. The training will include participation in internship programs occurring either at on-site facilities, or at local restaurants.

In addition, the school offers an extensive range of recreational courses for aspiring culinary enthusiasts, for the local community and UT students.

B. Facilities

Lobby/Reception	2000 sf
Demonstration Theater/TV Studio	3000 sf

The theater is used for both introductory classes in the core programs, as well as for demonstrations by resident and visiting chefs. Thus, it must be accessible to both the school proper and to visiting enthusiasts. In addition, the theater would feature taping facilities for local television broadcast.

Kitchens

The eight kitchens act as "culinary laboratories" where students learn the craft of food preparation.

3 Culinary Kitchens @ 1500 sf 4500 sf

These are kitchens wherein students learn basic culinary skills. One of these kitchens is used particularly for cold food preparation.

3 Pastry Kitchens @ 1500 sf 4500 sf

These kitchens are used in preparing a variety of baked goods and desserts.

Skills Test Kitchen 2000 sf

The Skills Test Kitchen acts as the primary examination room. Here, student ability in proper knife work, as well as in the preparation of basic foods (soups, sauces), is demonstrated.

Specialty Kitchen 500 sf

The Specialty Kitchen holds studios led by both visiting and resident faculty chefs. These intimate studios emphasize particular preparation methods (e.g., butchery or fish cookery), or food types (e.g., Asian, French, and other ethnic culinary fare).

4 demonstration classrooms @ 700 sf 2800 sf

Classes feature visual cooking demonstrations given by faculty members.

Lecture Hall 4000 sf

8 Lecture Classrooms/ Seminar Rooms @ 500 sf 4000 sf

The lecture hall and lecture classrooms are spaces where technical courses are taught.

Computer Lab (40 computer stations) 900 sf

Library/Resource Center 2000 sf

The library houses a significant collection of various culinary literature, including cookbooks, essays, and periodicals. The resource center provides students with employment opportunities. These two spaces would be accessible to the public.

Gallery 2000 sf

President's Office (with secretary and reception area)	1000 sf
10 administrative staff offices @ 200 sf	1600 sf
3 library and/or computer staff offices @ 150 sf	450sf
25Faculty offices @ 200sf	5000 sf
Student Lounge	1200 sf
Student and Faculty Dining Hall	3000 sf
2 Student Locker Rooms @ 2500 sf	5000 sf

The long hours and uniform requirements of the restaurant profession warrant appropriate changing facilities. Locker rooms would be equipped with both lockers and shower facilities.

Food Storage	3000 sf

A variety of storerooms is needed for the refrigeration and storage of various foodstuffs. Custom-built walk-in freezers provide spaces for frozen foods. A wine cellar is also included for wines used in cooking and consumption in the restaurants.

Dishwash and Potwash	1200 sf
Housekeeping facilities	500 sf
Central Receiving	500 sf
Mechanical Room	4000 sf

C. The Retail Operations

Facilities

Haute Cuisine Restaurant with full production kitchen	5000 sf

The haute cuisine restaurant serves as the most sacred area of the culinary school. At here, the public can experience an air of sophistication and elegance that is imbued in

the culinary school's agenda. The hospitality and the food from the upscale menu are of the utmost quality. The accompanying kitchen is manned by students of the school.

Bistro with production kitchen 2500 sf

The bistro offers a more informal dining experience.

Cafeteria with production kitchen 1500 sf

The cafeteria is primarily a daytime venture, serving lunch to local shoppers and office workers alike.

Banquet Hall with production kitchen (with removable sliding wall) 5500 sf

This facility houses special school events, such as award ceremonies and culinary fairs. It is also available for public rental. The hall can be separated into several smaller size spaces when needed. Catering would be provided by students of the school.

Patisserie/ bakery with seating 900 sf

This shop serves as an outlet for the bakery and pastry labs of the school.

College Bookstore 1500 sf

Specialty Cookware Shop 2000 sf

The bookstore and specialty shop offer a wide range of culinary-related merchandise that would appeal to the typical Downtown retail shopper. The bookstore also sells course-required reading for the school's students.

Outdoor seating for the bistro and café 1500 sf

Herb Garden 1500 sf

The herb garden is a communal space enjoyed by students, diners and strollers alike. Its myriad aromas invite all to gather and discuss food. The spices grown here are also used to season dishes produced throughout the school and restaurants.

D. The Residential Component

The apartment units would primarily be leased to students and young professionals working in the Knoxville. Revenue generated by the apartments would make the whole mixed-use development more economically viable. The inn would serve tourists and visitors alike.

25 studio units @ 600 sf	15,000 sf
40 one-bedroom units @ 750 sf	30,000 sf
30 two-bedroom units @ 1,100 sf	33,000 sf
Lobby for the apartment building	800 sf
40 one-bedroom hotel units @ 750 sf	30,000 sf
Lobby for the hotel/inn	800 sf
Mechanical and receiving	1,500 sf
Parking would be accommodated on site or on street for the project	

Program Tabulation of the Educational Component

Lobby/ Reception	2,000 sf
Educational Facilities	
Demonstration Theater/TV Studio	3,000 sf
3 Culinary Kitchens @ 1,500 sf	4,500 sf
3 Pastry Kitchens @ 1,500 sf	4,500 sf
Skills Test Kitchen	2,000 sf
Specialty Kitchen	500 sf
4 Demonstration Classrooms @ 700 sf	2,800 sf
Lecture Hall	4,000 sf

8 Lecture/Seminar Classrooms @ 500 sf	4,000 sf
Computer Lab	900 sf
Library/Resource Center	2,000 sf
Gallery	2,000 sf
Staff Facilities	
President's Office (with secretary and reception area)	1,000 sf
10 Administrative Staff Offices @ 200 sf	2,000 sf
3 Library and/or Computer Staff Offices @ 150 sf	450 sf
25Faculty offices @ 200 sf	5,000 sf
Student Facilities	
Student Lounge	1,200 sf
2 Student Locker Rooms @ 2,500 sf	5,000 sf
Student and Faculty Dining Hall	3,000 sf
Support Facilities	
Food Storage	3,000 sf
Dishwash and Potwash	1,200 sf
Housekeeping Facilities	500 sf
Central Receiving	500 sf
Mechanical Room	4,000 sf
Subtotal	59,050 sf
20% Circulation	11,810 sf
Total	70,860 sf

Program Tabulation of the Retail Component

Haute Cuisine Restaurant with Production Kitchen	5,000 sf
Bistro with Production Kitchen 2,500 sf Cafeteria with Production Kitchen	1,500 sf

Banquet Hall with Production Kitchen (with removable sliding wall)	5,500 sf
Patisserie/Bakery (with seating area)	900 sf
College Bookstore	1,500 sf
Specialty Cookware Shop	2,000 sf
Outdoor Seating for the Bistro and Café	1,500 sf
Herb Garden	1,500 sf
Subtotal	21,900 sf
20% Circulation	4,380 sf
Total	26,280 sf

Program Tabulation of the Residential Component

25 Studio Units @ 600 sf	15,000 sf
40 One-Bedroom Units @ 750 sf	30,000 sf
30 Two-Bedroom Units @ 1,100 sf	33,000 sf
Lobby for the apartment building	800 sf
40 One-Bedroom Units for the hotel/inn @ 750 sf	30,000 sf
Lobby for the hotel/inn	800 sf
Mechanical and Receiving Facilities	1,500 sf
Subtotal	111,100 sf
20% Circulation	22,200 sf
Total	133,300 sf

Program Tabulation for the Whole Development

The Culinary School	70,860 sf
The Retail Component	26,280 sf
The Residential Component	133,300 sf

Total	230,440 sf
Site Area	54460sf
F.A.R.	0.3

Parking

20 Spaces for staff, can be on-street parking

120 Parking Space shall be provided, in addition to on-street parking

Technical Data

The following codes are applicable to projects in the City of Knoxville:

A. Site Location: 310 W Church AVE.

B. Zoning and Building Code Analysis

Zoning Code:

- ***City of Knoxville Zoning Ordinance (with amendments) adopted by City Ordinance 3369***

  Zoning map indicates the site is located in a C-2, Central Business District. The district permits complementary office, medical, civic, residential, and historical areas, forms the metropolitan center for commercial, financial, professional, governmental, and cultural activities.

  The provisions of a C-2 district are as follows:

  1. **Minimum Front Setback:**
     First floor: 5 feet
  2. **Minimum Lateral Setback:**
     No minimum
  3. **Minimum Back Setback:**

No minimum

4. Area Regulations:

The following requirements shall apply to all uses permitted in this district:

(a) Front Yard:
There shall be a first story setback for all buildings on vehicular streets of not less than five feet.

(b) Side and Rear Yard:
There is no specified side or rear yard requirements.

(c) Maximum Lot Coverage:

Stories	Coverage
6	100%
7 - 12	95%
13 - 16	90%
17 – Over	85%

5. Height Regulations:
Unlimited

6. Off-street Parking:
None required.

7. Off-street Loading and Unloading Requirements:
As regulated in Article 5, Section 9.

Building Code:

- *1999 ed. of Standard Building Code adopted by Ordinance 0-149-99*
- *1991 (with 1997 amendments) ed. of North Carolina Handicap Code per Tennessee State Law Chapter No 429, House Bill 55.*
- *2002 ed. of National Electrical Code adopted by Ordinance 0-387-02*
- *1997 ed. of Standard Gas Code adopted by Ordinance 0-146-99*
- *1997 ed. of Standard Mechanical Code adopted by Ordinance 0-150-99*
- *1997 ed. of Standard Plumbing Code adopted by Ordinance 0-148-99*

In addition, the Fire Inspection Bureau reviews plans for compliance with:

- *2003 ed. of NFPA-1 & -101 Life Safety adopted by Ordinance 0-53-04*
- *1997 ed. of Standard Fire Prevention Code adopted by Ordinance 0-27-99*

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APPENDIX



Fig. 60 Diagram of Districts in Downtown Knoxville (Source: Author's files)



Fig. 61 Diagram of Paths in Downtown Knoxville (Source: Author's files)



Fig. 62 Diagram of Edges in Downtown Knoxville (Source: Author's files)



Fig. 63 Diagram of Nodes of Paths in Downtown Knoxville (Source: Author's files)



Fig. 64 Diagram of Gaps in Downtown Knoxville (Source: Author's files)



Fig. 65 Diagram of Public Spaces in Downtown Knoxville (Source: Author's files)



Fig. 66 Diagram of Un-built Spaces in Downtown Knoxville (Source: Author's files)



Fig. 67 Buildings around of the Site (Source: Author's files)



Fig. 68 Site, View from Gay Street (Source: Author's files)



Fig. 69 Courthouse, as Landmarks
(Source: Author's files)

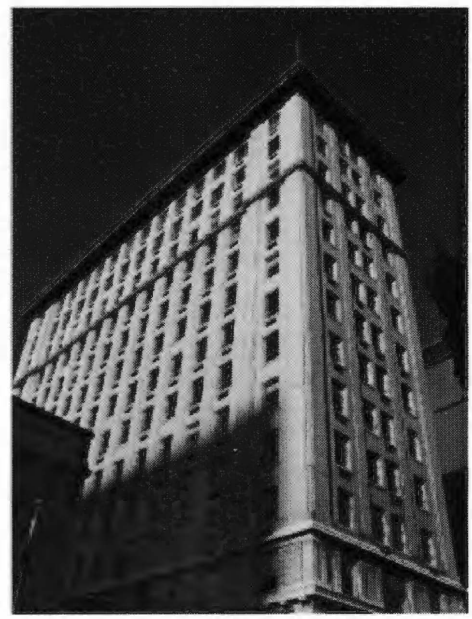


Fig. 70 Tennessee Theater, as Landmarks
(Source: Author's files)

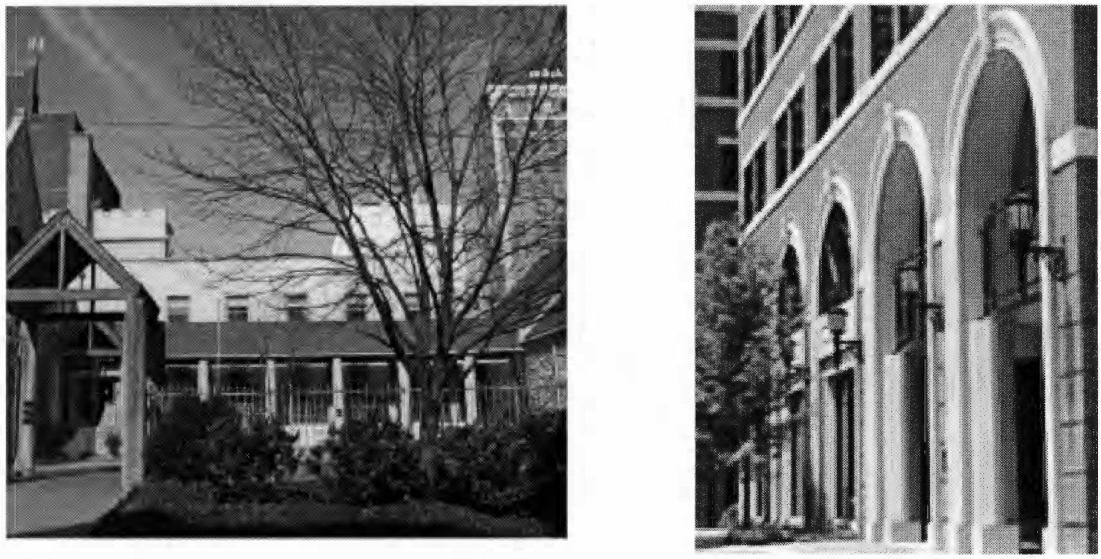


Fig. 71 Edges of Surrounding Buildings (Source: Author's files)



Fig. 72 Gaps of Surrounding Buildings (Source: Author's files)



Fig. 73 Spatial Sequence (Source: Author's files)

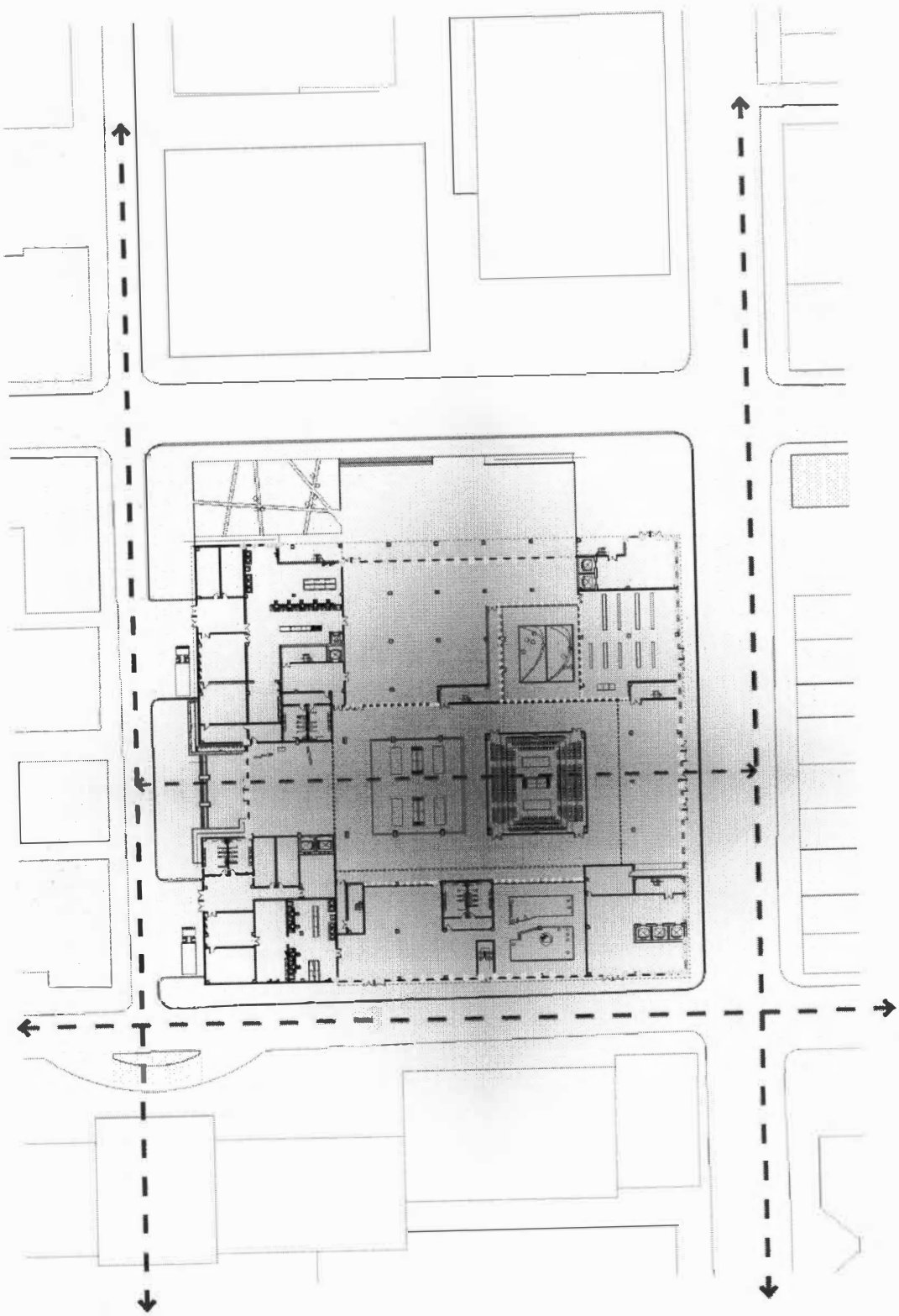


Fig. 74 Edges of the Building (Source: Author's files)

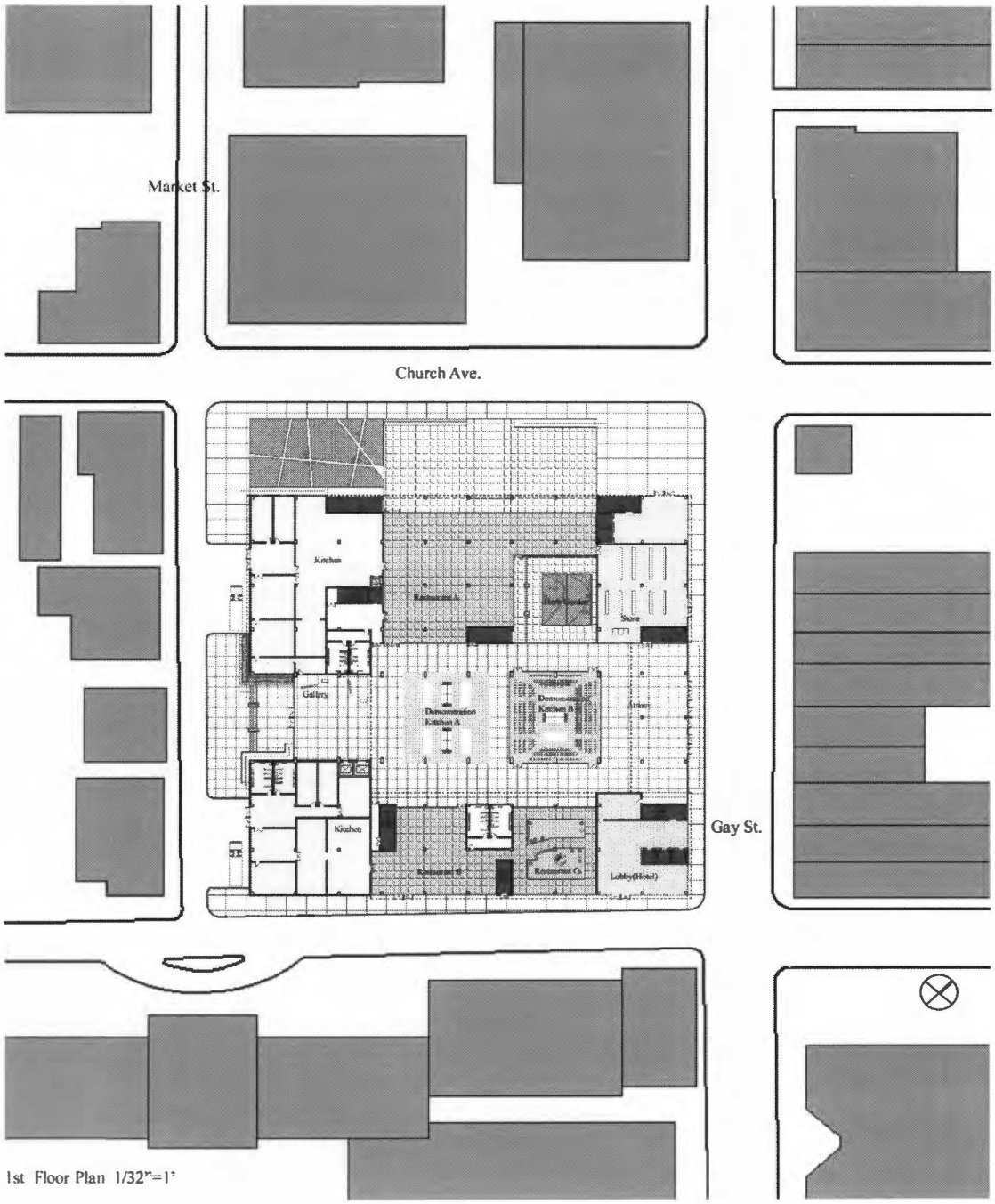


Fig. 75 First Floor Plan (Source: Author's files)

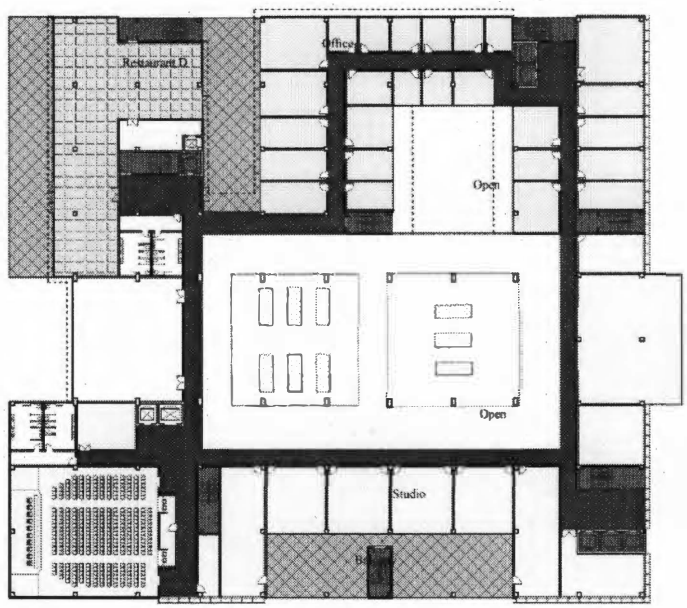


Fig. 76 Second Floor Plan (Source: Author's files)

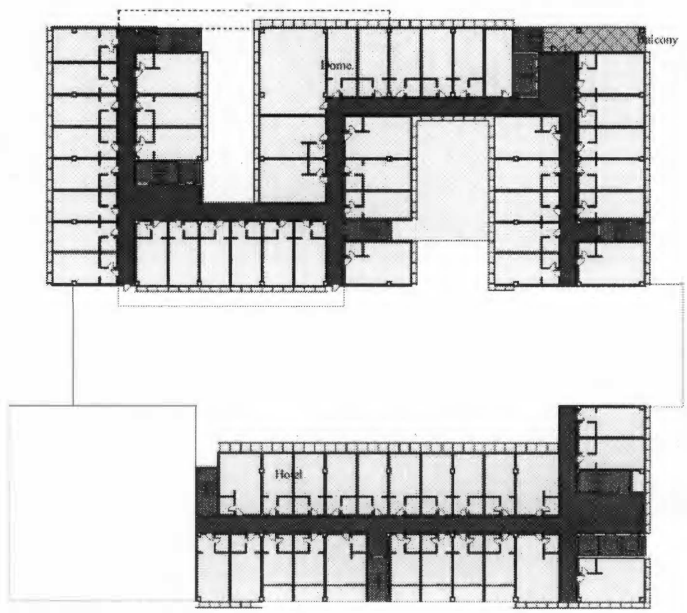


Fig. 77 Third Floor Plan (Source: Author's files)

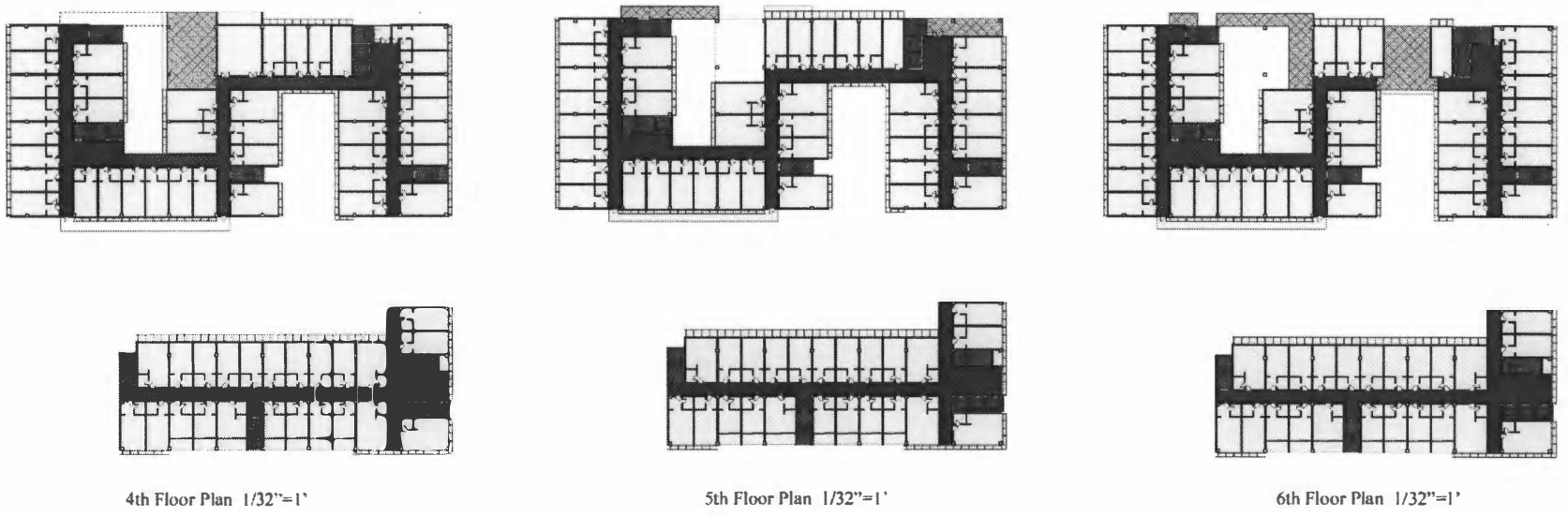


Fig. 78 4th-6th Floor Plan (Source: Author's files)

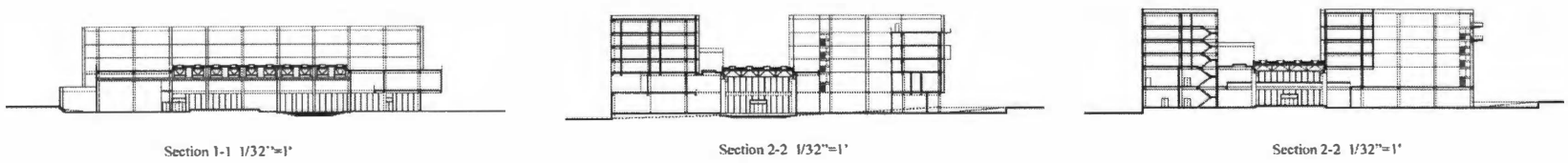


Fig. 79 Sections (Source: Author's files)

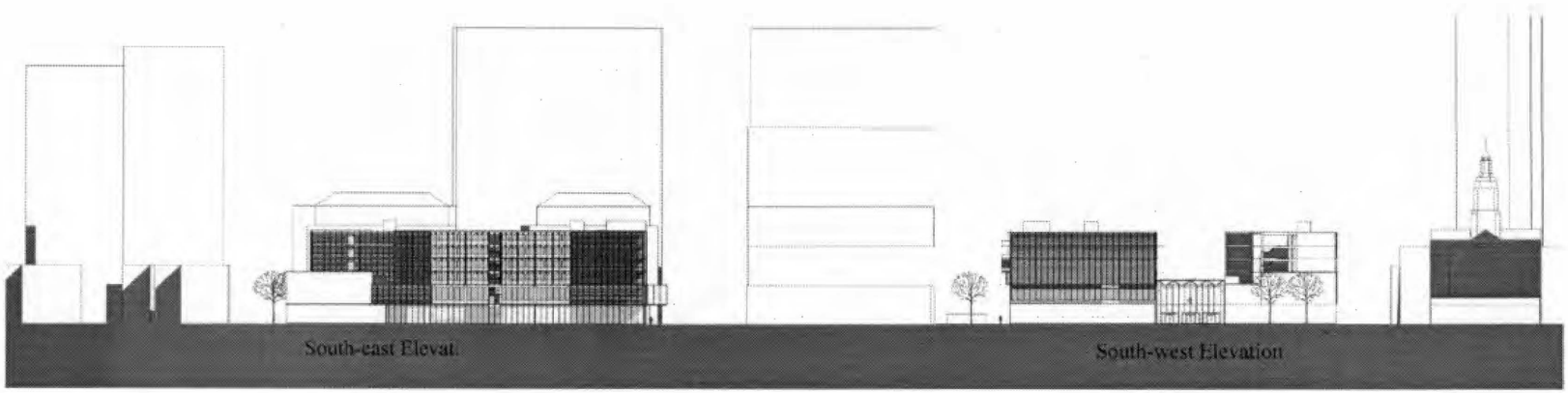


Fig. 80 Southeast and Southwest Elevations (Source: Author's files)

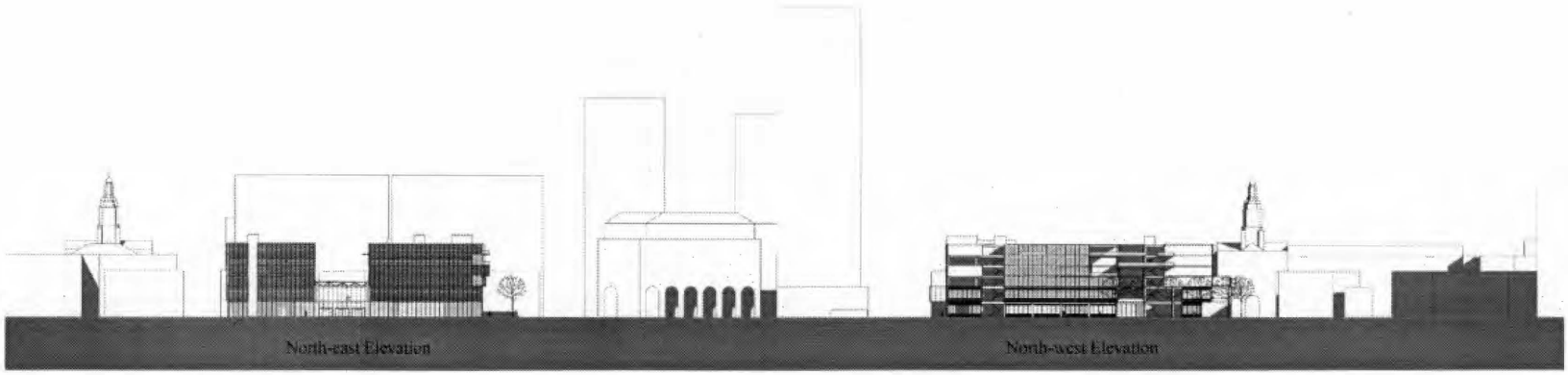


Fig. 81 Northeast and Northwest Elevations (Source: Author's files)

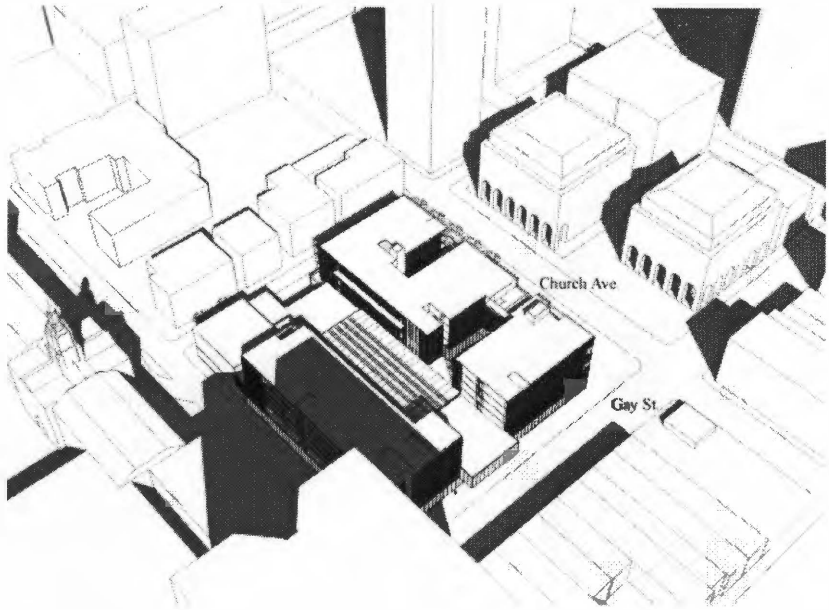


Fig. 82 Perspective View-1 (Source: Author's files)

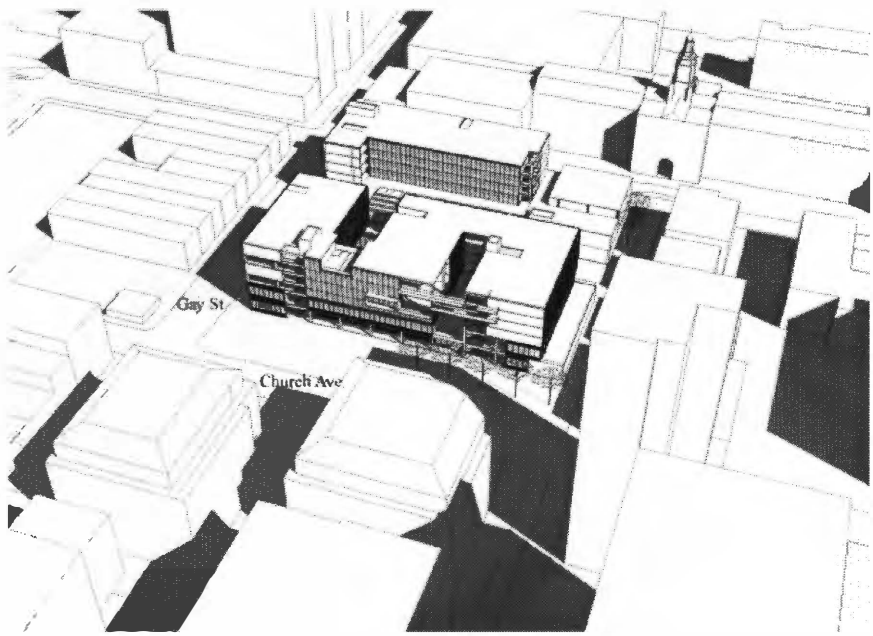


Fig. 83 Perspective View-2 (Source: Author's files)

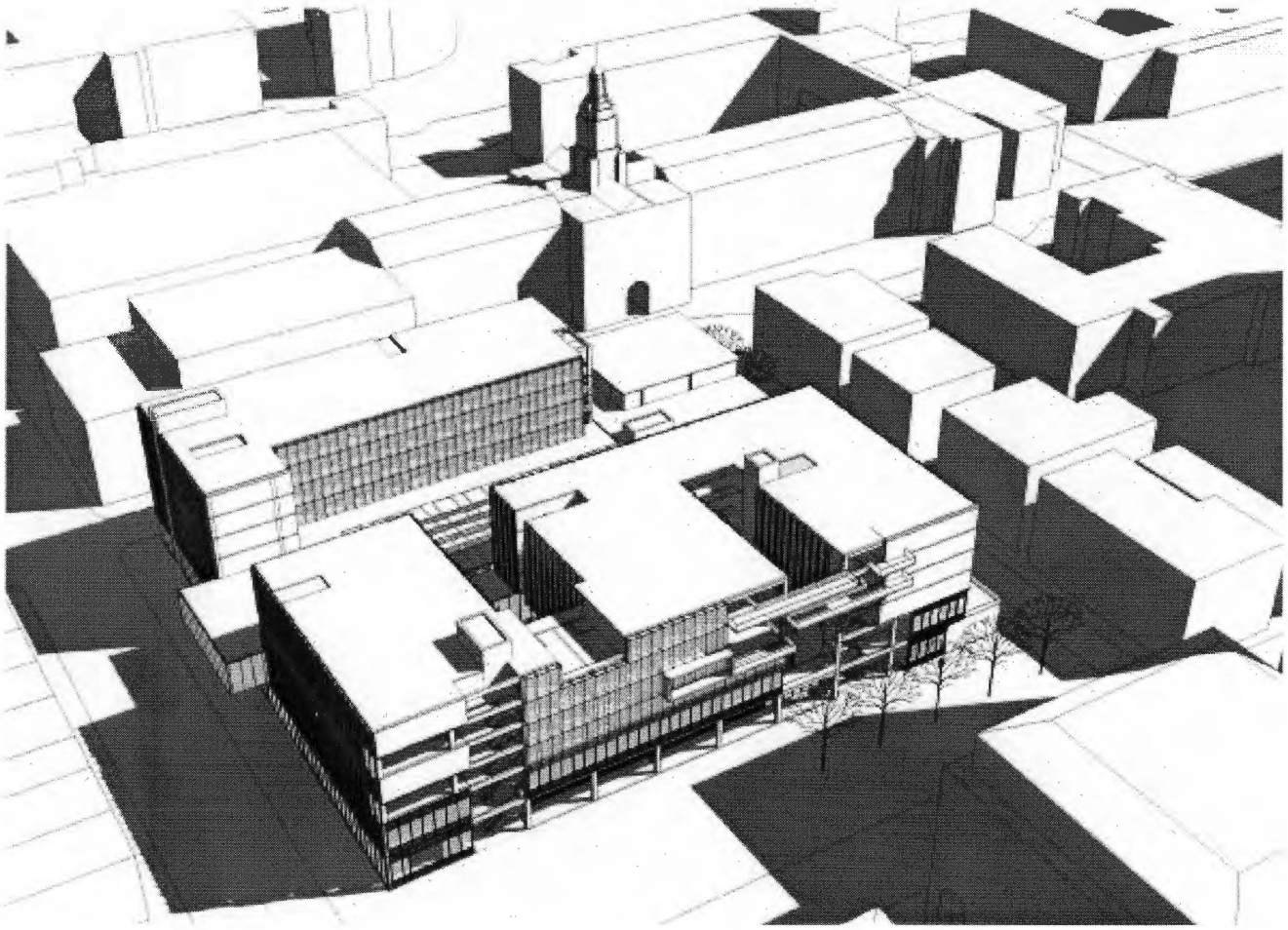


Fig. 84 Perspective View-3 (Source: Author's files)

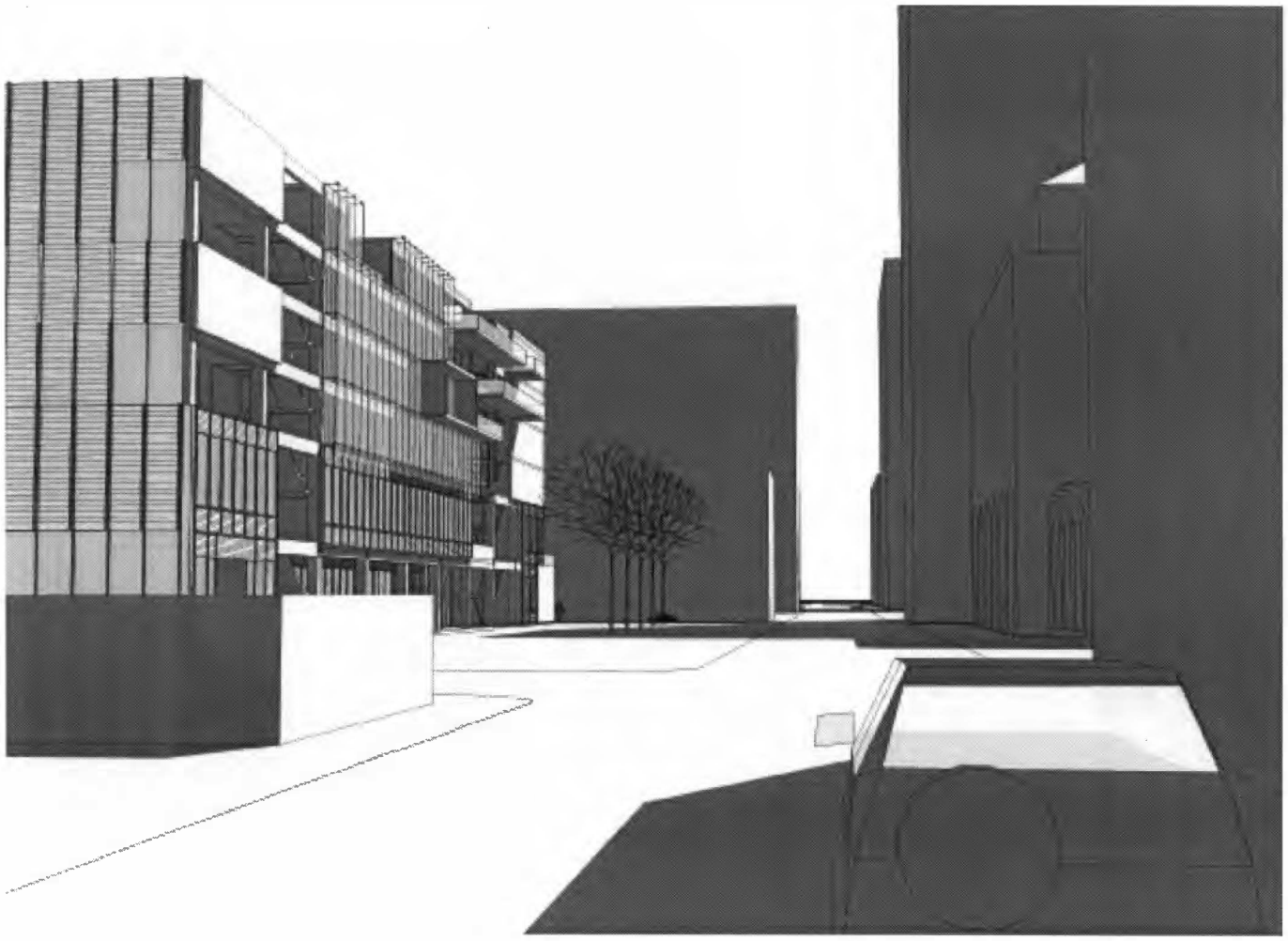


Fig. 85 Perspective View-4 (Source: Author's files)

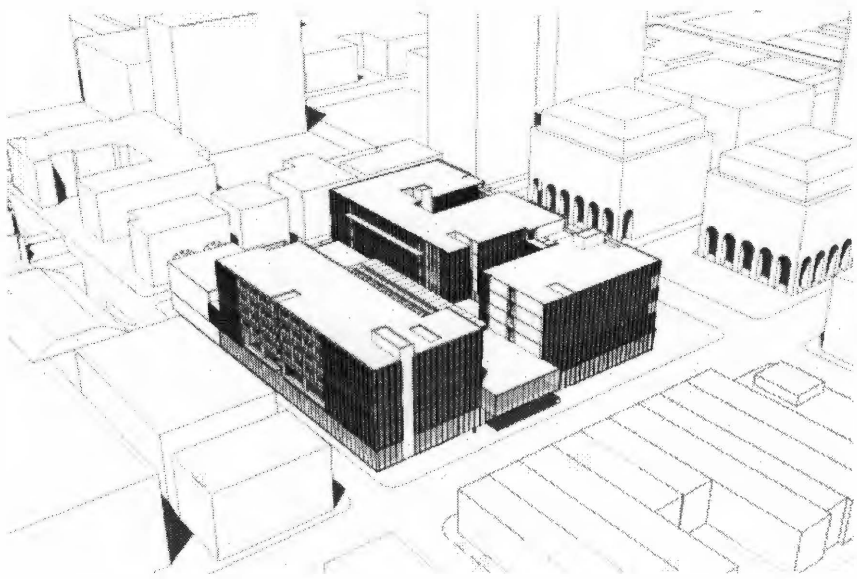


Fig. 86 Perspective View-5 (Source: Author's files)

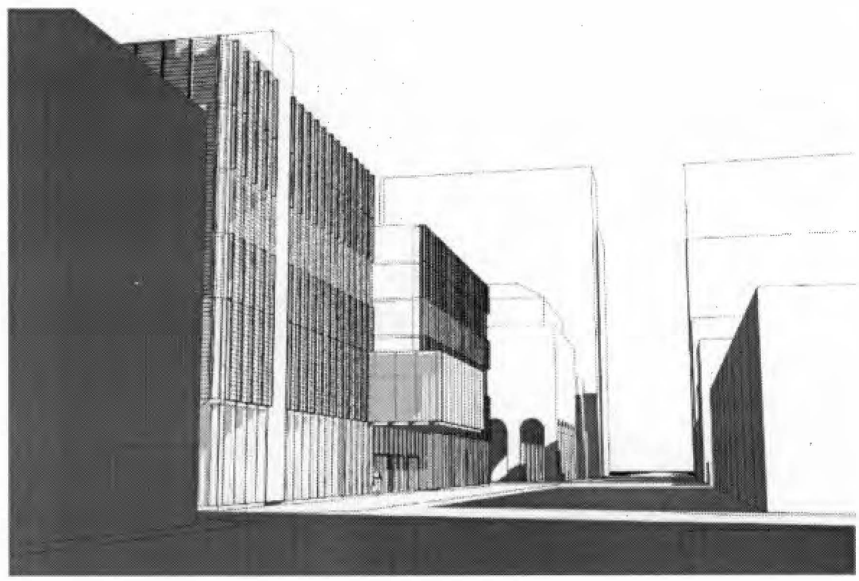


Fig. 87 Perspective View-6 (Source: Author's files)

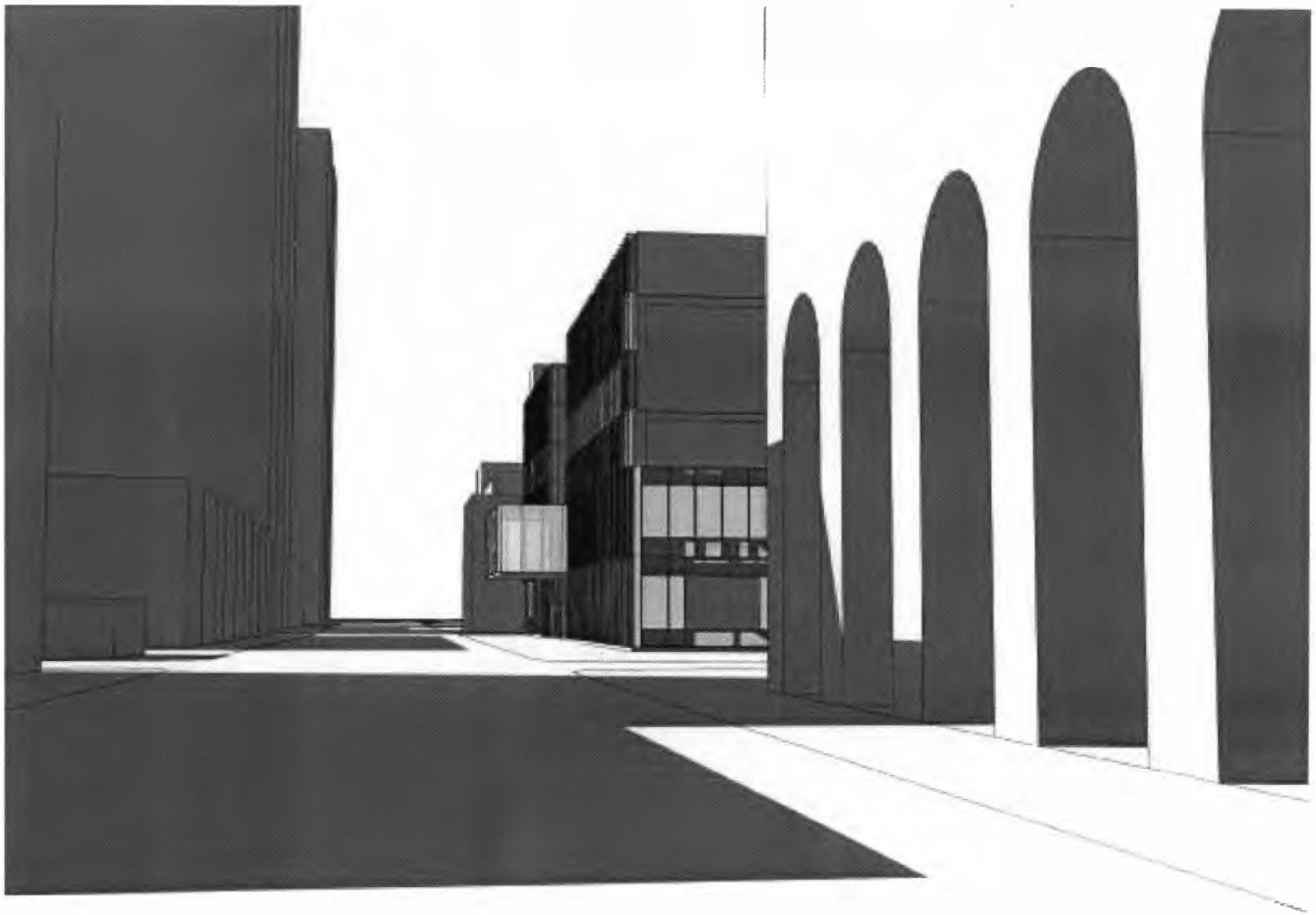


Fig. 88 Perspective View-7 (Source: Author's files)

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Qi Jin comes from China. She received a Bachelor of Science, in Architecture form Hebei University of Technology in September of 1999 and received a Master of Architecture from the University of Tennessee in May of 2006.

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