

**Micro Architecture:
Architecture for Daily Social Activities within Beijing's Hutongs**

By

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Bachelor of Architecture
Tunghai University, Taichung, Taiwan, 2002

Submitted to the Department of Architecture in Partial Fulfilment of Requirements for the Degree of Master of Architecture at the Massachusetts Institute of Technology. February 2008

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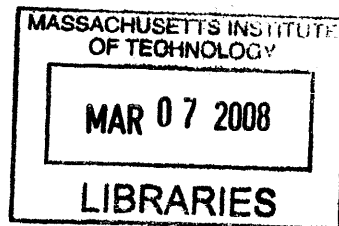

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Submitted to the Department of Architecture on January 17th, 2008 in Partial Fulfilment of Requirements for the Degree of Master of Architecture at the Massachusetts Institute of Technology.

This thesis is an attempt to propose the alternative architectural strategy which derives from the Micro Urbanism in the micro-scale realm in the Asian main cities. Based on the Micro Urbanism, the project is to propose a system of micro architecture that provides ubiquitous ideal public spaces for local inhabitants' daily social activities within Beijing's 25 hutong-preserved districts. Hutongs were the historical tiny alleys distributed infinitely within Beijing and the typical public spaces for the local inhabitants. Because of the rapid urbanizations, hutongs no more can play the role so the micro architectures are expected as repetitive architectural units of Urban Restroom that provide the essential needs of Beijing's everyday life. The thesis is to argue that Beijing's contemporary rapid monolith architectures from a macro scale often ignore the city's micro internal orders. Learning from the internal systems of the city, the statement is Minimum Urbanism that suggests the minimum architectural operations that work with the city collaboratively in a sustainable level from micro scale to macro scale.

Thesis Supervisor: Yung Ho Chang
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Chapter 1

Introduction

Public Space of Beijing

There is no ideal public park in Beijing since 1914 and the notion of public space has been borrowed from the West since the Republican state established. As the newest urban public space in Beijing, Wangfujing Avenue (figure 01), which is the most famous shopping area, contains 200,000 person-times during the week days and 250,000 person-times on the weekends. Besides the traditional parks which were transformed from the old imperial palaces (figure 02), the interiorized shopping mall is city's new type of urban public spaces in Beijing. Not only the commercial programs such as shopping mall but also other public programs has been interiorized and institutionalized as Beijing's new types of public space for facing Beijing's serious issue of urban density.

There are various new kinds of public space have been inserted into the city and expected to serve the density, but the fact is that the crowds are everywhere; especially the conditions of the new public space are even more crowded or ironically empty. Most of the new interiorized and institutionalized urban public spaces merely satisfy the certain needs, exclude certain people, and demolish the original ideas of Beijing's public life. They are inefficient urban public spaces and the qualities are not good. Here is a question raised: What is the suggestive urban public space that can provide the good quality urban public space for Beijing's daily life in a sustainable sense?

Bigness is inevitable to Beijing and the city has no time to pay

attentions to the details of the city while it's rapidly developing. This thesis is an attempt to focus on Beijing's urban public spaces as design subjects to fix and patch Beijing's disconnections of urban scale between bigness and smallness. Architecturally, architecture should help the symbiosis between bigness and smallness.



figure 01 Wangfujing Avenue

In order to accommodate the upcoming rapid needs of compact urban density and maintain Beijing's original scale of urban fabric at the same time, this thesis project tries to suggest an architectural strategy which proposes the minimum architectural operations between the public spaces and the private territories at a micro scale to provide the most efficient uses of public spaces for people's daily life and the needs of tourism in ways interiorized / institutionalized monolith architecture no more can achieve. More specifically, this project is a design that treats Beijing's hutongs tactically as ideal ubiquitous urban public spaces to provide for local inhabitants' daily lives.



figure 02 Yuan Min Yuan



figure 03 Hutong, Nanluoguxian

Three Case studies: Transformations of Beijing's Public Spaces

Case 01 Tiananmen Square

1. The largest public square in the world

After the establishment of People's Republic of China in 1949, Tiananmen Square (figure 04) was formed and expanded in 1954 for commemorating the success of the political revolution. Tiananmen Square was named after Tiananmen, which means the Gate of Heavenly Peace, in front of Forbidden City. The square is 880 meter-long from south to north and 500 meter-wide from east to west, a total area of 440,000 square meters and it is the largest open-urban square in the world so far. Bigness creates openness and openness allows people gather together. Bigness is the tool that makes Tiananmen Square as an urban public space for gathering the crowds.

2. An exclusive urban public space

Tiananmen Square has been a political urban public sphere for political gathering such as the proclamation of the People's Republic of China in 1949, annual mass military displays on National Days until 1959, and mass rallies during the Cultural Revolution etc. It has also been the site of a number of important protest movements as well. The May Fourth Movement of 1919 for science and democracy, protests in 1976 after the death of Zhou Enlai, and the Tiananmen Square protests of 1989 are three important historical events. Although it's an urban public space for gathering, it is not design for city's people; it is for the political gathering, the party, and the country.

3. First monumental architecture as a reference of object

Monument to the People's Heroes (figure 05), as an important object, locates at the north of Mao Zedong's mausoleum on



figure 04
Tiananmen Square



figure 05
Monument to the People's Heroes

the southern edge of Tiananmen Square. The monument was built in 1958 and the height of the monument is about 38 meter (125 feet); the monument covers an area of 3,000 square meters (32,000 square feet). This gigantic monument is not only the first object-like architecture which stands up in the Beijing but also a symbolic object as a scale for people to perceive the bigness of the space and the authority.

4. Questions

The bigness of the square is still the crucial symbolic element for the tourism; in terms of city's daily life, is Tiananmen Square possible to become an urban park as a multi-use public space which satisfy the people's needs of daily leisure activities and periodically tourist visiting at the same time? Is it possible to propose the minimum architectural operations to patch the square's inefficient openness?

Case 02

Zhongshan Park (Beijing Central Park)

1. Beijing's first public park

There is no public park in Beijing until the October of 1914. As the first model of public space, the first public park, Beijing Central Park (Zhongshan Park) (figure 06), was originally an imperial palace for the public beatitude affairs in Ming and Qing dynasty and decided as the city's first public park for people's leisure activities in 1914. In 1925, the park was renamed as Zhongshan Park in memory of Dr. Sun Yat-sen, who was a Chinese revolutionary and political leader leading the country from feudal eras to a nation of public. The idea of public is not only realized from the release of the feudal space but also established on a symbolized figure.

2. Opening as tool for public

The role of the place had been shifted based on different notions of public in different periods. Like Zhongshan Park, most of Beijing's famous public parks were the transformations of old imperial palaces or forbidden spaces such as imperial gardens and ceremonial sites. They were opened up to become public parks from the previous privatized situation during the feudal eras. The park is aside the south of Forbidden City and the west of Tiananmen. The entrance of the park was reset at the west side of the park in order to connect the surroundings as a complete route for public sight seeing. A feudal place was opened up to become an urban public space which is as a park for the new penetration through the urban blocks. Here, opening is the tool that releases the closed private territory as public spaces.

3. Symbolic objects as tools to attract the public

There were only several old temples for the beatitude

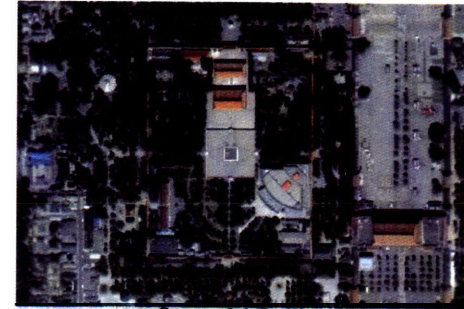


figure 06 Beijing Central Park

affairs in the palace before. As the first public park in Beijing, the park was as a container for collecting and protecting the old privatized treasures of the imperials. The statue of Dr. Sun Yat-sen was made and put in the park and the treasures, sculpture, and historical vestiges were moved from some other important palaces and parks such as Yuan Ming Yuan (Old Summer palace) in Beijing. Here, the objects are the symbols that attract the people to the park to make the place be public.

4. Questions

Although the original palace was changed to a public park for the city, all the spaces and architecture were also not designed for the public. In order to make the place as an urban public space, symbolic objects are the tools to make the place as a public space. Here is a question raised: Can symbolic objects be activators to attract people to the place so that the place can be realized as a public space? Architecturally, if a space is a container for collecting the symbolic objects that can attract people to the space, can the space be called an urban public space?

Case 03 Wangfujing Avenue

1. Malling space as Beijing's new public space

Wangfujing (figure 07) was famous for its energetic commercial activities in Ming dynasty and is now the most well-known shopping district of Beijing city. The characters of Wangfujing mean a well belong to a royal family and the place was named as Wangfujing in 102 years ago. Because of the well, Wangfujing became a famous place which shared the water supply for the surrounding area and attracted people to the area. The idea of public was established on the idea of natural source. Gradually, Wangfujing was formed as a market which is known as a freely accessible public space. Now, Wangfujing is one of the four most important shopping malls in Beijing and expected to be Beijing's fifth avenue.

“Yet under current circumstances, the provision of space for “the public” attests to the wholesale withdrawal of space from social control. Clearly, the local state can meet with only limited and precarious success in harmonizing its goals of meeting capital's demands and maintaining democratic legitimacy since the two goals are, objectively, in conflict. Not surprisingly, therefore, New York's new public spaces, materializations of the attempt to reconcile these goals, are the objects of contests over uses and are, moreover, hardly designed for accessibility to all. Rather, through a multitude of legal, physical, or symbolic means, they permit access by certain social groups for selected purposes while excluding others.”

Rosalyn Deutsche, *Evictions: art and spatial politics*

In Rosalyn Deutsche's book *Evictions: art and spatial politics*, Deutsche indicated that public spaces are often the privatizations

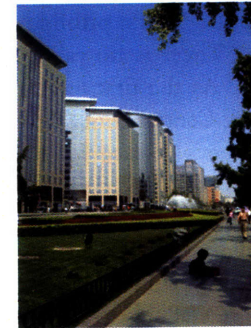


figure 07 Wangfujing

transformed under uneven powerful forces and collusions between investors and the local municipal government.

Wangfujing Avenue is a new urban public space which is a product by the malling collaborated between the real estate investors and local officials. As a new model of city life for Beijing and new urban public space, Wangfujing Avenue contains 200,000 person-times during the week days and 250,000 person-times on the weekends. The malling of Wangfujing Avenue tried to make the area become a better urban public space; however, it merely satisfies the profits for the investors and excludes lower income people on the other hand. Till now, different groups of people occupy different outdoor places at Wangfujing. Homeless people or lower income people are often wandering outside the streets and enjoying the traditional Beijing opera played on the little stage outside the malls. The historical context of Wangfujing is almost ignored and the meaning of public is deluged within the power of malling.

2. Shopping mall as the interiorized and institutionalized urban public space

Because of the needs of economic growth and the collusions between the real estate investors and local officials, the shopping malls become the highly interiorized and institutionalized public space; memorial avenues and squares are attached to the surroundings of the gigantic monolith shopping malls. The outdoor open public spaces are the by-product of interiorized monolith architecture. Here, the bigness of the urban public space is due to the architecture. No matter the Bird's Nest-Beijing National Stadium, The Water Cube-National Aquatics Center, CCTV (figure 09), or many other countless shopping malls and office skyscrapers are typical examples which produce the inefficiently by-product open spaces. Instead of Tiananmen's outdoor bigness, the bigness of interior spaces is for the public gathering. Because of the interiorized bigness, there is often no transition of urban scale between the monolith architecture and its surroundings. Urban scale is often disconnected.

3. Architecture as objects of symbol consumption

As a capital of the country, the government of Beijing has planned a Mega City which connects Beijing and Tianjin at a super macro scale to envision the needs of the future city. Based on the master plan, a lot of efforts were put to invent the dominant architectural forms to demonstrate the heroic rectification for the cities or cover up failures of existing urban conditions. The architectural forms are usually the monolith architecture and expected to create the visible and invisible values for the city. For example, the Guggenheim Museum of Bilbao designed by Frank Gehry had brought the great economic profits by attracting the tourism



figure 08 CCTV

(200,000 people per year) to the museum so that the originally economics-depressed old industrial city like Bilbao could revive again. In Bilbao case, architecture is a successful monolith in terms of economy. The cases in Beijing now try to imitate and copy the success of Guggenheim Museum of Bilbao. Architecture is as object for symbol consumption. Besides the iconic architecture, taking Wangfujing as an example, the malling in fact provides countless products to create a scenario of taste consumption. No matter the architecture or the products within it are the objects for serving the culture of symbol consumption.

4. Questions

Does the shopping mall produced by the collusion between the investors and the officials provide the most profits for the public or merely for certain of people? Are the interiorized institutions the future of Beijing's public spaces? Are the outdoor public spaces merely the by-products of the monolith architecture? In the age of consumption today, if the culture of symbol consumption and the interiorized public space are inevitable, what can architecture do for providing the minimum good-quality outdoor public spaces?

Conclusion

The inefficiency of gigantic outdoor public space attached aside the monolith architecture

Density is one of the most serious urban issues in Beijing. In China, all land is publicly owned by the government and individuals lease their homes from the state for a number of years. If the state thus decides that the land where a particular property stands will better serve the "public interest" in other ways, the owners are simply given a few weeks notice to move out. The government controls the rules to solve the problems of density; however, the chaotic urban flow of population density is dramatically happening all over the city. In order to satisfy the needs of density and the consuming culture dominated by the Capitalistic markets, gigantic shopping malls are inserted into the district and the linear open space for the public is attached with the monolith shopping malls such as Wangfujing.

Rather than satisfying the basic needs of public spaces for Beijing's unique lifestyle, the new urban public spaces are usually empty, privatized, and interiorized at different levels. Most of the existing public spaces in Beijing are big-scale open fields copied from the West or highly interiorized shopping malls which are confined to be used at specific locations and time. The new public spaces cannot feed the needs of density ubiquitously and the value of the public lands is restrictedly shared to some certain group of people. In terms of density, the new public spaces such as Wangfujing seem cannot efficiently solve the problems of density

within the urban public spaces. The new squares and boulevards are inefficient.

The demolition and the disconnection of Beijing's urban fabrics

In Beijing, the monolith architecture is amplified to compete with the city itself and often to erase the original urban fabrics due to the inflexible juxtapositions on the super blocks. Usually, the object-like monolith architecture takes advantages of bigness to include and exclude activities at the same time. Because of the bigness, the scale of the city has been disconnected and shifted. Large scale public open spaces are attached along with these gigantic structures, and smaller scale urban conditions which normally exist in Beijing are gradually ignored and neglected.

In terms of the architectural form and urban public space form, macro-scale memorial squares or linear boulevards does not accommodate Beijing's original ways of city life that use countless small alleys as important public open spaces for the daily social activities. Taking Wanfujing as an example, the tiny hutong is still surviving nearby the gigantic public space and many small vendors are vividly showing up on this tiny alley; the big contrast is between the modern shopping malls and the small vendors at the old hutong aside.

The culture of symbolic-object consumption

No matter the large physical historical heritages, the most famous public institutions designed by the superstar architects or the small graphics of Mao on the products, Beijing now is dramatically dominated by the culture of symbol consumption on objects. Besides the shopping malls as typical examples of symbol consumption, the line between the definitions of museum/gallery and the public parks is challenged as well. The recently famous outdoor parks for experimental architecture (Jinhua Architecture Park) (figure 09) are the typical examples which use avant-garde architecture as exhibited objects to propose new definitions of museum, gallery, park, or the resorts. The architecture works are like the products in the shopping malls and consumed as symbols. The taste of culture is the main subject hidden behind the physical architecture to be consumed.

Another example is Beijing's hutongs. Hutongs as the important heritage of Beijing are also the most attractive symbols for the tourism. Countless bars and clubs locate in these hutongs and hutongs are filled with tourist. Hutongs become the cultural and architectural symbol of Beijing's urban history. What ironic is that the consumption of hutongs merely stay at the level of superficial iconic realizations and the deep culture of Beijing's lifestyle hidden behind the hutongs is fast ignored and forgot.

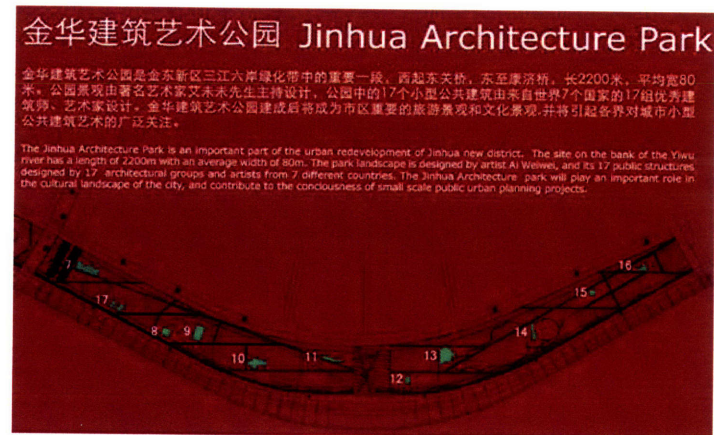


figure 09 Jinhua Architecture Park

Chapter 2

Argument

Argument

The internal orders of inhabitants' everyday life (figure 10) within hutongs has been ignored or damaged while the rapid architecturally monolith constructions happening within Beijing's urban fabrics.

Focusing on the Beijing's urban fabrics of hutong, this thesis project is to argue that the contemporary rapid constructions of monolith architecture (figure 11) within the fabrics often ignore the everyday internal orders within hutongs and make Beijing, which was a Horizontal City (figure 12), become an Object City which is without the collaborations between everyday life, architecture, and urbanism.

Hutongs are the ideal public spaces for the city's inhabitants; however, because of the architectural constructions for the needs of density and tourism, hutong can no more play the role of ideal public space. There is no ideal public space for serving the local inhabitants' everyday social activities within hutong now.



figure 10
Internal orders of everyday life



figure 11
Monolith architecture

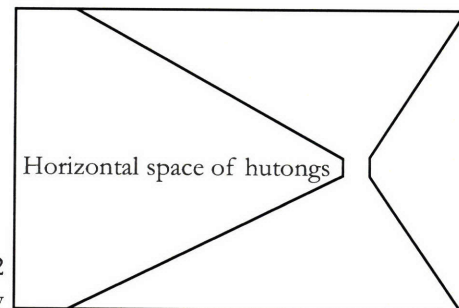


figure 12
Horizontal City



**Precedent:
Gordon Matta-Clark's "Conical Intersect"**

Educated as an architect at Cornell University, Matta-Clark did not practice as a conventional architect. Matta-Clark spent a year studying French literature in Paris during the student strikes of 1968. Matta-Clark was aware of the French philosophers such as Guy Debord and the thoughts of Situationists. Matta-Clark had challenged the ideas of architectural productions and proposed the new thoughts of space productions instead.

Matta-Clark's "Conical Intersect" (figure 13) is a strong argument that challenges the ideas of urban renovation and the values of architecture. "Conical Intersect" also presented a new imagination of art work exhibition at a specific location during the specific time and evoked people's perceptions to the urban public spaces. The site's context was cared. In 1977, Centre Georges Pompidou was opened to the public as Paris's modern art center for exhibitions, educations, and research. The architecture was designed by the Italian architect Renzo Piano and the British architect Richard Rogers. It was typical high-tech architecture during the time. For the Biennale de Paris in 1975, Gordon Matta Clark made an art piece titled "Conical Intersect" by cutting a cone-shaped hole through two townhouses dating from the 17th century in the market district which were to be demolished in order to construct the Centre Georges Pompidou.

In "Conical Intersect", the work witnesses the tension between narratives of historical progress-embodied in the construction of the Centre Pompidou-and the destruction of historical site. Architectural construction was criticized by the intervention of void space (figure 14). On the other hand, the work itself presented an



figure 13 Conical Intersect (from interior)

idea of on-site exhibition. The work was a temporary intervention that created a specific situation and disturbed the urban conditions at the same time. From the philosophy of Situationist to Matta-Clark's works, the value of architecture has been challenged and the concerns of the void spaces within the urban environment were articulated. The invisible cultural or social values hidden behind the voids are more important than the physical constructions. Taking this point of view to examine the rapid constructions happening in Beijing, they are now destroying the historical urban fabrics and the social or cultural values of city's daily life are also demolished. What can architecture do to the voids and the in-between spaces in Beijing?

If the demolition of original urban fabrics is the prerequisite for progress, if the destroying is inevitable, how can architecture be the operations that destroy the objects on the one hand but produce the space between the intervened objects at the same time?

Inspired by Matta-Clark's work, could the operation of architecture be critical and suggestive at the same time? The in-between spaces are not only the voids between the objects but also production of different invisible values such as social and cultural values. The in-between space could establish the relationships between the present, the past, and the future. The meaning of in-between should not merely refer to the physical materialized space but the more intangible ideas toward the environment.

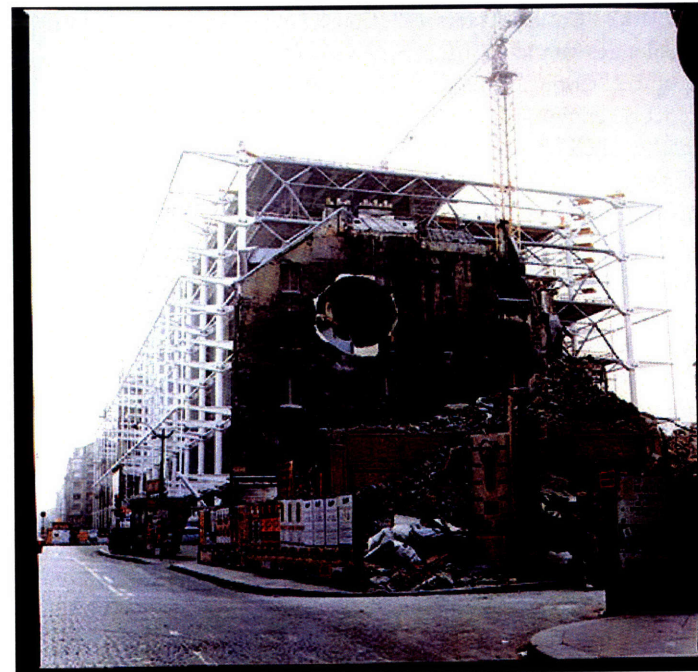


figure 14 Conical Intersect

Chapter 3
Minimum Urbanism

Brief Introduction- Micro Urbanism

“I refer a "Micro-Urbanism": If every single building, regardless the size, achieves a positive relationship with the city, the city will for sure become a positive place to live. Having a bunch of people and buildings together may not make a city although you have a settlement. Singular building could have a macro side - A building grows into or is a city - as well as a micro side where a kitchen, a toilet, or a storage could be urbanistic. This notion is significant in Beijing today.”

Yung Ho Chang

“Micro-Urbanism came out of a shifting paradigm of city and philosophy, which suggests there are internal realities to be investigated in order to describe how things interact and coordinate in the micro-scale realm, and which manifest the true spirit of a city and its people.”

“Architects not only need to work within these inner systems but also to integrate in-situ strategies and tactics with micro-zones in order to propel the self-healing potential that has been forgotten and dumped in the cultural politics of design.”

Ti-Nan Chi

Micro Urbanism is an alternative idea which focuses the concerns on the city in the micro-scale realm in east Asia. The ideas of Micro Urbanism derive from different situations of Asian cities and all try to find out alternative design strategies for solving the various problems of urban living that traditional master plans no more can solve. The key idea of Micro Urbanism is the issue between micro scale, architecture, and city. Differing from the



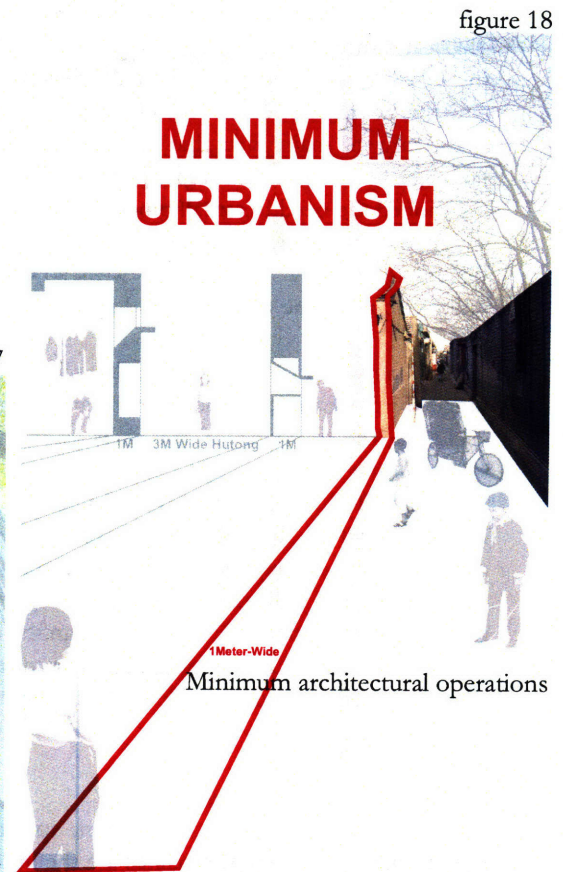
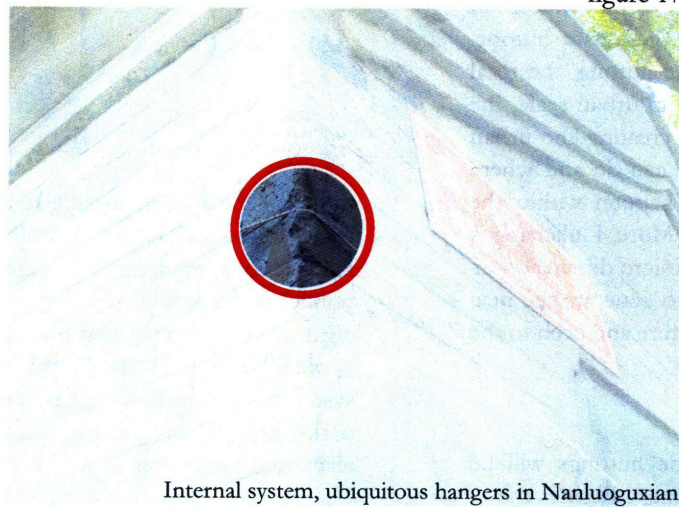
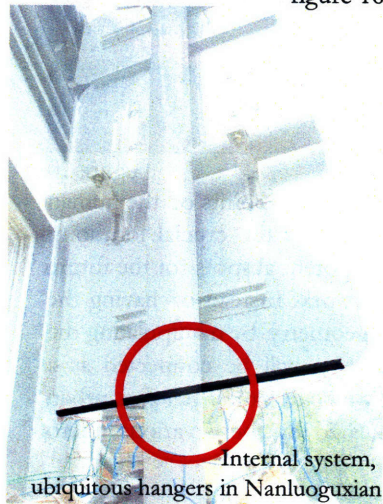
figure 15 Hong Kong

conditions of the main cities in West, the main cities in Asia such as Hong Kong (figure 15) has dramatically different challenges on issues of urban density because of the essential cultural differences. Instead of examining the cities from the big scales like master plans of traditional urban planning, Micro Urbanism is to suggest the notions of designs from small scales and the efficiency of smallness.

Inspired by Micro Urbanism, the statement is Minimum Urbanism. Minimum Urbanism not only focuses on micro scale in the physical dimension matter but also suggests the minimum architectural operations that work with the city collaboratively in a sustainable level from micro scale to macro scale.

Statement: Minimum Urbanism

Learning from the internal systems (figure 16, 17) of the city, the statement is Minimum Urbanism. Minimum Urbanism suggests the minimum architectural operations (figure 18) that work with the city collaboratively in a sustainable level from micro scale to macro scale. The idea is inspired by the local inhabitants' everyday life wisdom. For instance, people use the found objects or conditions as ubiquitous hangers for cloth drying.



Methods: Minimum Architectural Operations

01. Maintain the Dimensions of Hutongs

The first method of minimum architectural operation is to focus the crucial dimension of the architectural elements and urban public space (figure 19) .. The reason of maintaining the physical dimensions of the hutongs and the blocks is to maintain the urban fabrics. Beijing's original urban fabrics are organically contain the richness of city life and the small blocks with irregular shapes are the main parts that make the richness happen. In Jane Jacobs's *"The Death and Life of Great American Cities"*, Jacobs mentioned the need for small blocks is crucial to enrich the life of a city and how tiny streets make the small blocks happen. In Beijing, the original urban fabrics work so well under the collaborations between the tiny alleys and the irregular small blocks.

The width of hutong actually is limited within the certain range (3~5 meter wide) so that it can be defined as a hutong. Including the thickness of the walls aside the hutong, the total width of the hutong is 5 to 7 meter wide. In an urban scale, the 5-meter wide hutong is the crucial scale for creating the urban fabrics. Based on the scale, what architecture can do and where does architecture happen? Can architecture happen within the thickness of the walls that flank the hutongs? More, Liulichang is famous for the antique of calligraphy, can the micro dimension of the antique objects be the potential element to generate the new architectural form and the scale to the architecture and even to the city?

02 Adpat the Micro sites

Based on the analysis of dimension, specific hutongs will be specifically articulated. Micro sites are the hutongs. Besides the

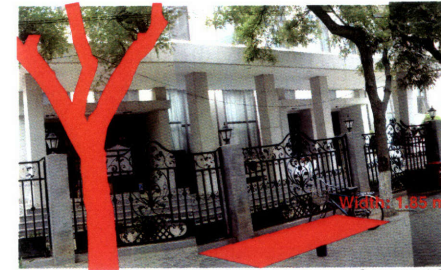


figure 19



figure 20

hutong's linear open space, like acupuncture points of the human body, micro site (figure 20) also indicates the crucial locations, intersections, or places which are the potential spots for the future public spaces within the hutong network. Instead of having the gigantic open square with the pure geometry, by manipulating the "points" and the "lines", the elements will be connected as a systematic network to suggest a new type of urban galleries, urban parks, and urban housing accumulated by these various micro elements, micro sites.

03 Micro Interventions / Programs

The third idea of is the micro intervention (figure 21) as catalyst for macro urban impacts. Compared to the wasted energy contributed to the monolith architecture, micro interventions means the specific minimum programs (figure 22) will be inserted into the corresponded sites to create the maximum good qualities of urban public spaces. Rather than demolishing hutong and replacing them with shopping malls, the idea is to internally retain and improve the existing scale of urban fabrics while opening up new uses of hutongs. Unlike the style of Minimalism, micro program suggest the more efficient strategies of programming that can provide the maximum needs of the future complex density.



figure 21



figure 22

Chapter 4
Hutong

Hutong

“Unless I am back in the lanes, I have not returned home. Home is inseparable from the alleys and lanes. Nor is Beijing separable from them. To a certain extent, the alleys and lanes are the soul of Beijing.”

Lian Bingkun, *Alleys in Beijing*

1. Hutong as original public space for Beijing’s unique life style

In Beijing, the tiny alleys and lanes are called “Hutong” and they are the repositories of Beijing history. Hutong is the original urban public space that deals with the relationships between privacy and public, and also represents the lifestyle of the city. Instead of squares, boulevards, and parks as public spaces in western cities, hutongs, the tiny alleys, is Beijing’s typical public open space for the social activities. For generations, people in Beijing have lived in a culture of hutong. Hutongs have been the arteries of Beijing since the 13th century. They represent an organic connection between the present and multi-layered past of Beijing. Hutong represents the living culture of Beijing and the particular ways of defining public spaces. For example, the names of the hutongs are closely related to people’s daily lives and reflected people’s relationships to the neighborhood in which they live. The government had tried to rename the names of hutongs so that the locations could be recognizable to outsiders; however, many original residents still insisted on calling the hutongs by their original names even when names had already been changed on the maps. The old names still stayed alive in folk songs, ballads, dramas, and stories told by old people in the hutongs.

2. Hutong as ubiquitous urban public space

There were about 6,000 hutongs within Beijing city and over 4,550 were located in the city center districts according to

the unofficial statistics done by 1949. These many long and short, wide and narrow hutongs are used as various kinds of unit which correspond to the unique condition of the specific zones. Each hutong can differ from others dramatically in dimension and function; on the other hand, they can be organized and connected together as systematic networks which weave the people’s daily social activities as well. Based on this fact, how can architecture take advantage of hutong’s ubiquity then transform the hutongs as everywhere micro public spaces that can negotiate the conflicts and disconnections tactically?

3. To transform the original urban fabrics

Because of the rapidly urban constructions, hutongs that represent an organic connection between Beijing’s present and past are fast disappearing. The government tends to regard heritage as consisting of a few high profile, well maintained, and grand buildings such as the Forbidden City or Temple of Heaven. The hutongs with ordinariness and dilapidated conditions are often treated as slums without any historic value. Up to half of the physical neighborhoods that once comprised the city’s center have been destroyed and so has the city’s social fabric. The urban fabrics not only mean the perceptible scale of the city but the intangible social networks behind the city’s lives. Can hutong not only be frozen as historical treasure but also be transformed as new urban network which shows Beijing’s modernity?

Symbiosis Between Bigness and Smallness

Instead of proposing the gigantic urban public space in the western cities, this thesis will focus on Hutong (figure 23) as a crucial model to be studied, operated, and manipulated as an interface between architecture and urban public space, a design that treats Beijing's hutong tactically as an alternative type of urban park that argues the contemporary notions of public space in Beijing. Now Beijing is copying the object-like architecture to create the better space for the city and gigantic urban spaces are created as urban parks for the public. If the density is the crucial issue of future urban development, is it possible to take advantage of the micro-scale public spaces as suggestive strategy to enhance the efficiency of the urban public space use?

In order to accommodate the upcoming rapid needs of compact urban density and maintain Beijing's original scale of urban fabric, by designing the walls flanking hutongs, the interface between architecture and the urban public space will be articulated as the minimum architectural operation to create the most efficient use of public space and the new types of urban park will be proposed in ways monolith architecture no more can achieve. This is also an attempt to address the scale of urban public space in Beijing should be considered on the realizations of the morphological change between big and small. How do the bigness of object-like monolith architecture and the smallness of urban fabrics can symbiosis and work within the city together?



figure 23 Hutong, Nanluoguxian

Hutong x Transportation

The main role of hutong is the circulation of the city and to serve the transportations for different vehicles within the city. On the other hand, hutong is the ideal public space for inhabitants' daily social activities. Because of the rapid urban renovations and the constantly changes of the city's economics, there are more traffic loads for various needs such as tourist cycles, buses, or private cars. Hutongs gradually are often occupied by the vehicles so that hutong can no more play the role as ideal public space for the daily life.



Typical Traffic jam within
7 meter wide hutong



Tourist vans



Cycles



Scooters



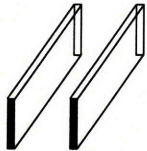
Cars

Functions of Hutong

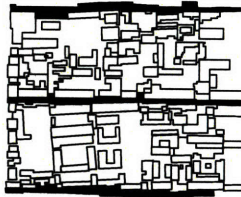
6 Main Characters of Hutong

Hutong 's six main characters show that hutong is as interface between architecture and the city. Because of hutongs, the architecture and the city are connected together.

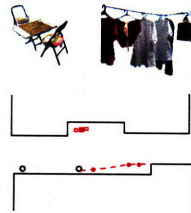
Linear-Path Space



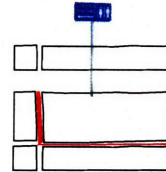
Corridors of Beijing



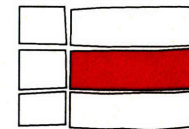
Container of Social Activities



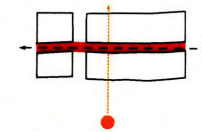
Connector between Public and Private



Division of Living Units



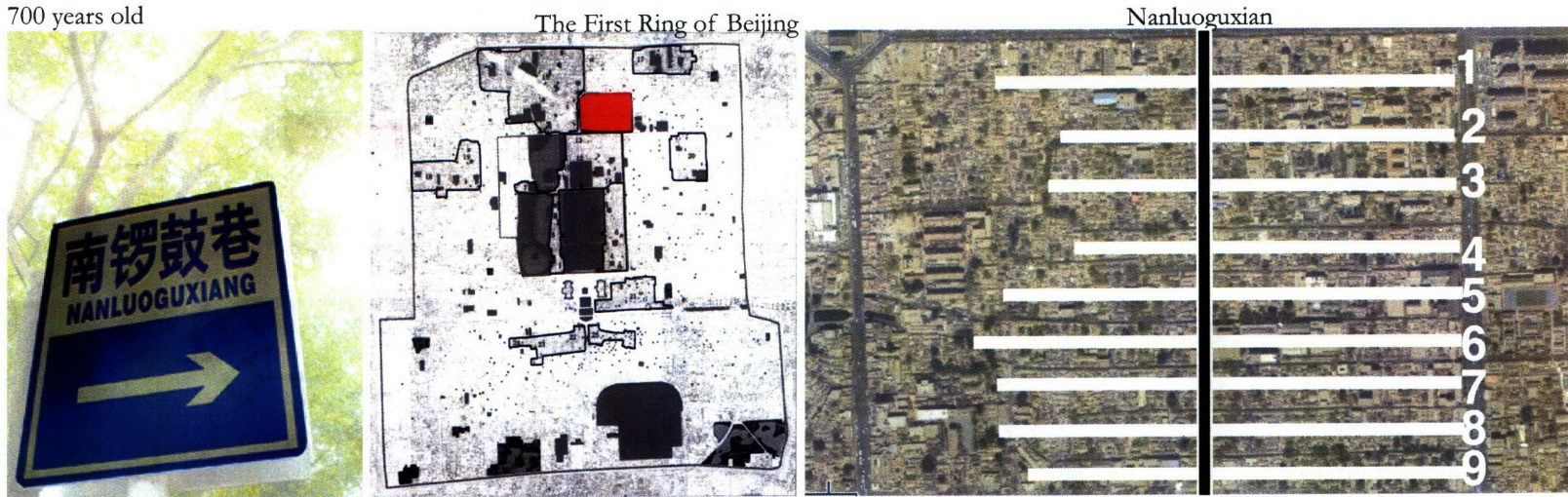
Negotiator of Physical Environment



Site: Nanluoguxian

Nanluoguxian is one of the 25 Hutong-Preserved Districts within The First Ring of Beijing. Nanluoguxian is a 786-meter long hutong which connects 18 smaller hutongs (figure 32) from north to south.

18 hutongs,
786 meter,
700 years old



Nanluoguxian is not only a preserved area of hutong culture and an attractive spot for tourism. There are various kinds of cultures and inhabitants layered within the neighborhoods. Different groups of people, shops, and restaurants could be easily found in the hutongs.

Local males



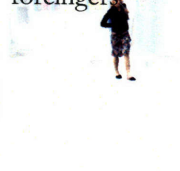
Local females and children



Long-term stay foreigners



Short-term stay foreigners



Teenagers



Trading people



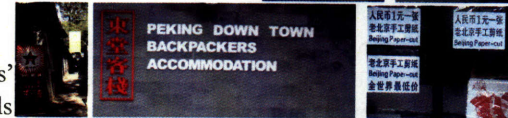
Tourist



21 Historical Figures' Shiheyuans



4 Backpackers' Hostels



Drama School Elementary School



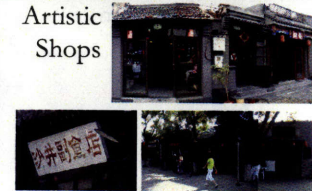
Fusion Bars



Luxury Hotel



Artistic Shops



New Courtyard Housing



Local Stores



Horizons v.s. Micro Social Activities

The site analysis differs from the normal approach from a big scale. Instead of the site plans, the analysis starts from the observations on the activities at a micro scale, which is the body scale. The diagrams here show the relationship between the local inhabitants' daily micro social activity and the height.

Height: 45 cm

Chinese Chess tables and chairs



Chatting chairs



Vests for plantation



Bicycle fixing



Height: 90 cm

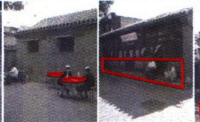
Cycles



Tables

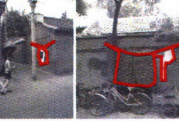
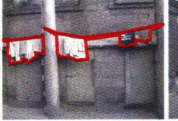


Walls of stores



Height: 200 cm

Clothes drying line



Height: 260 cm

Bird cage



Space In-Between The Blocks and The Hutongs

Original Horizontal Lines of Hutongs

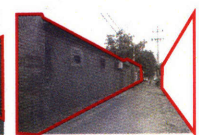
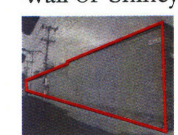
Height: 90 cm

Decoration line



Height: 300+ cm

Wall of Shiheyuan



Existing Conditions of Openings

Height: Mixed



The micro daily social activities happened at different levels within the hutongs. The levels are the architectural internal orders hidden behind the hutongs.



Space for Cloth Drying



Space Inbetween the Vertical Objects



Hanging Corners



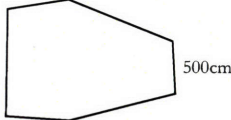
Spaces for Chess



45cm Chessing Table



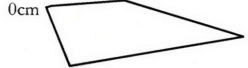
Public Restroom



Dispersed Objects



Corners as Playground

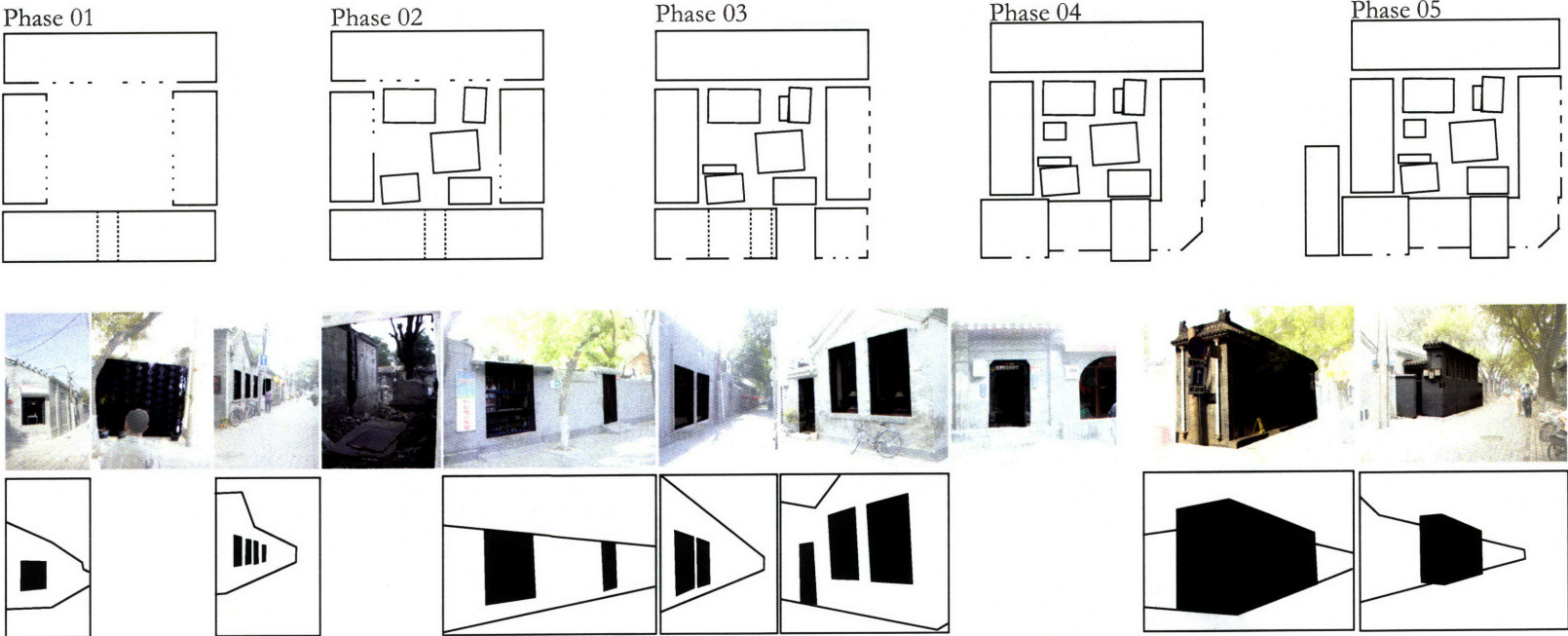


Corners



Architectural Fracture of Hutongs' Walls

Architectural changes of hutongs' walls are due to the chaotic infills of parasitical housing units internally and the insertion of commercial units externally.



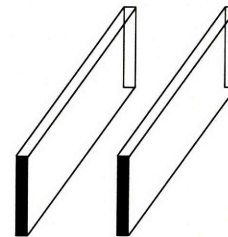
What can ARCHITECTURE do ?

Hutong used to be the ideal public space for Beijing's inhabitants; however, as a type of linear public space, except transportations, hutong can no longer serve the local inhabitants' rich informal social activities while facing the rapid changes of urban development. Thus, what is the suggestive architectural strategy which can provide the better public space within hutongs?



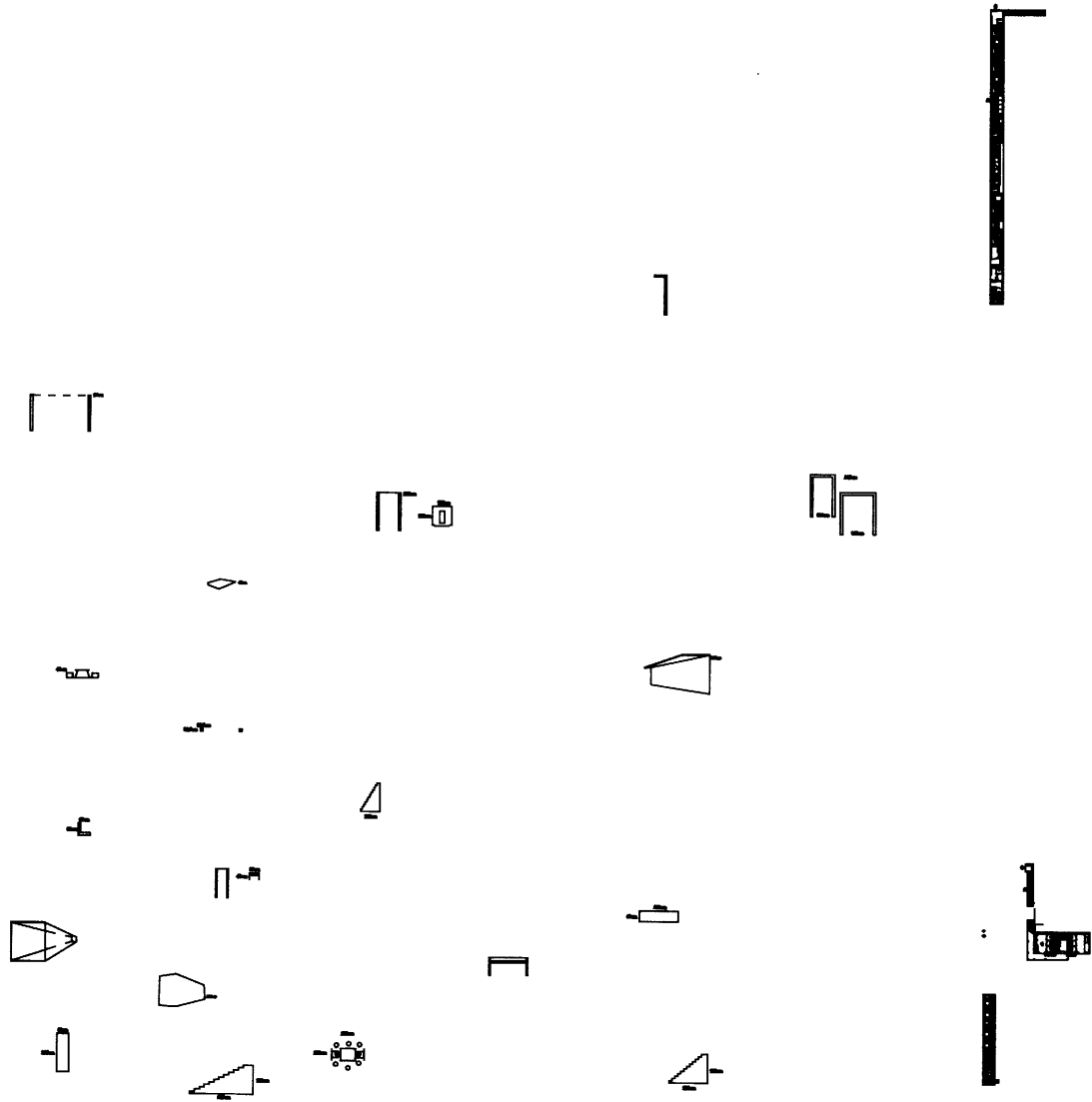
X

Hutong Walls



=

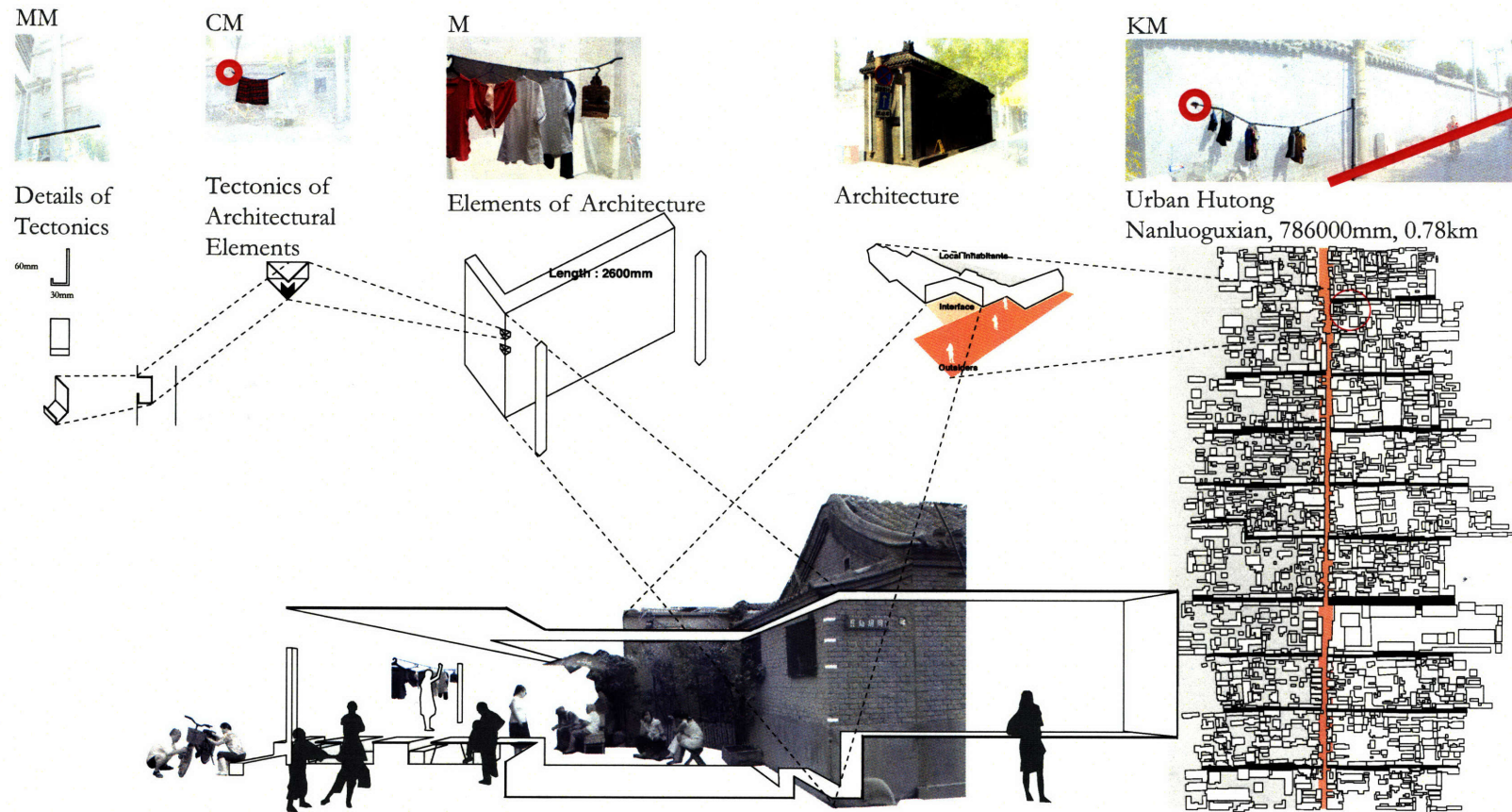
What can
ARCHITECTURE
do ?



Chapter 5
Micro Architecture
As Units for Ubiquitous Social Activities

From Millimeter to Kilometer

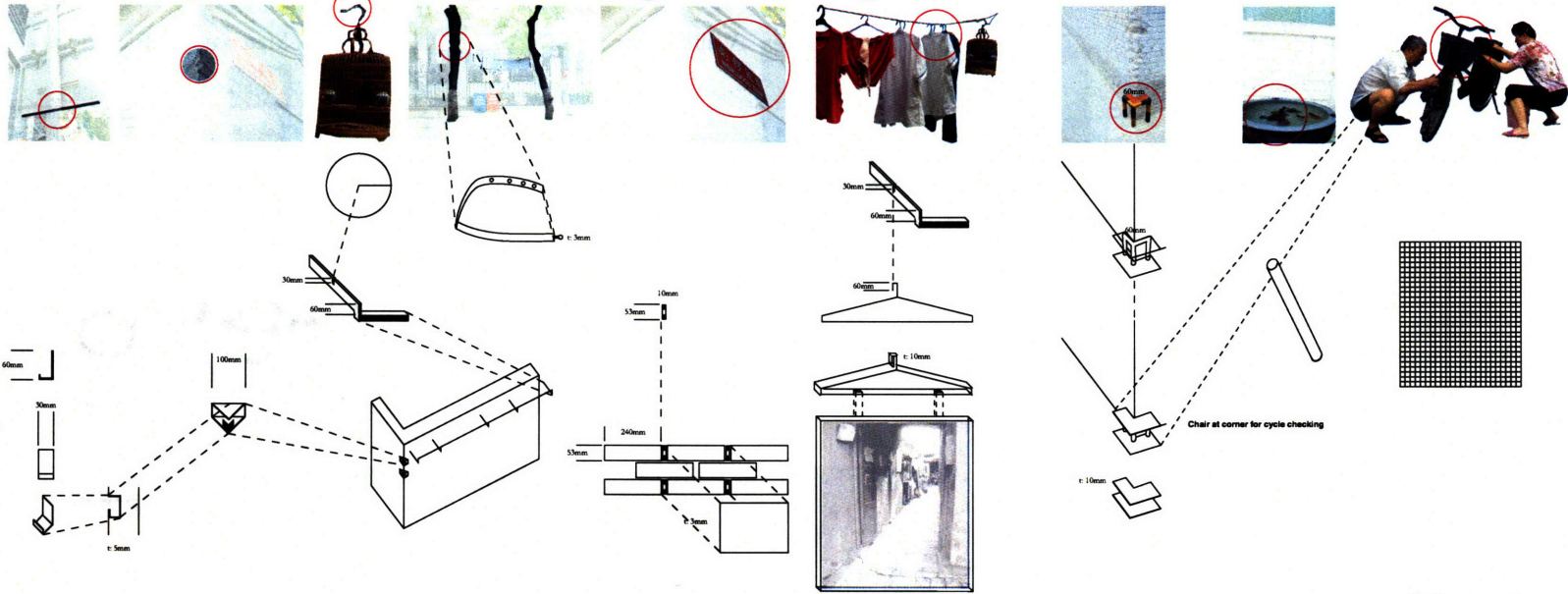
Micro Architecture is the architectural unit which is generated at a micro scale then accumulated at a macro scale.



Millimeter Scale Detail Units

The first scale is millimeter scale.
The designs here show how the
idea of Micro Architecture learns
from the everyday wisdom.

Hanger 01 Hanger 02 Hanger 03 Hanger 04 Hanger 05 Hanger 06 Corner chair Heater tube Wire mesh sheet



Steel sheet



Steel tube



Bricks



Rubber



Glass



Wood surface



Water



Wire mesh



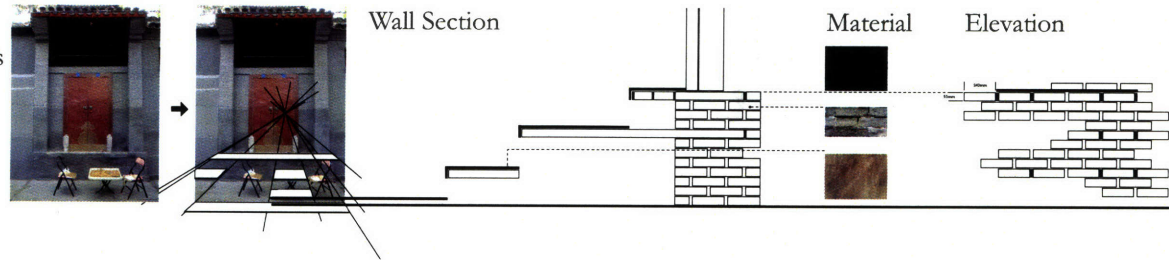
Centimeter Scale

Ubiquitous Micro Corners for Various Situations

The second scale is centimeter scale. The designs show how the idea adapts to the domestic scale that people can situate.

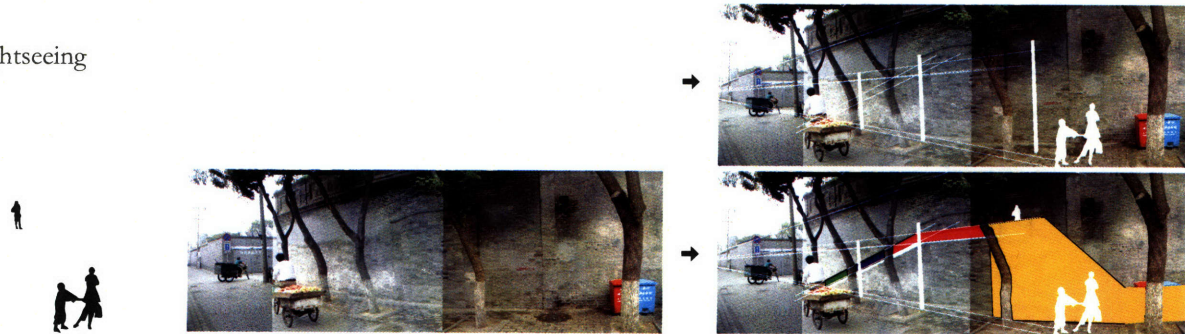
01 Steptable

Period Tourist Visiting Shiheyuan: Stairs
Daily Informal Social Activity, Chinese Chess: Table



02 Children Slide

Period Tourist Visiting Shiheyuan: Sightseeing Platform
Daily Informal Social Activity: Slide



03 Platform / Roof

Period Tourist Visiting Shiheyuan: Sightseeing Platform
Daily Informal Social Activity, Chatting: Roof



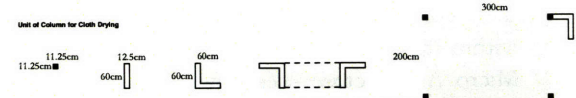
Centimeter Scale-2

Micro Architecture 01 02 03 04 05 06 07

Architectural Method 01 02 03 04 05 06 07

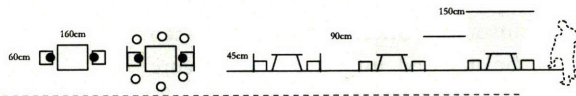
Unit 01 Column

Method 01 Extending



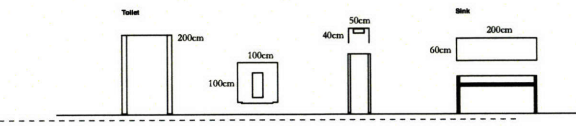
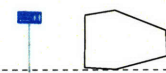
Unit 02 Table for Chess

Method 02 Platforming



Unit 03 Public Restroom

Method 03 Occupying



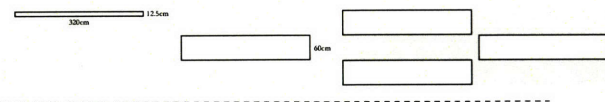
Unit 04 Path

Method 04 Connecting



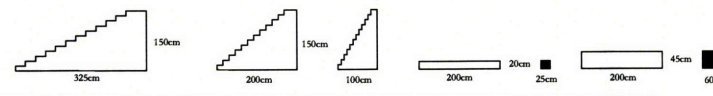
Unit 05 Canopy

Method 05 Covering



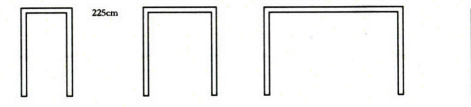
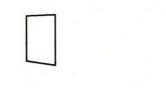
Unit 06 Stairs

Method 06 Rising



Unit 07 Gate

Method 07 Entering



Micro Architecture x Hutong Walls

How does Micro Architecture situate with the existing hutongs? The idea is to take advantage of the constraints of regulations within the hutong preserved area. Micro Architecture uses tiny sites in the hutongs but does not reduce the original functions of hutongs. For instance, Micro Architecture can be inserted into the walls (figure 42) of hutongs or beside the walls and the hutongs can still maintain the function of transportation.

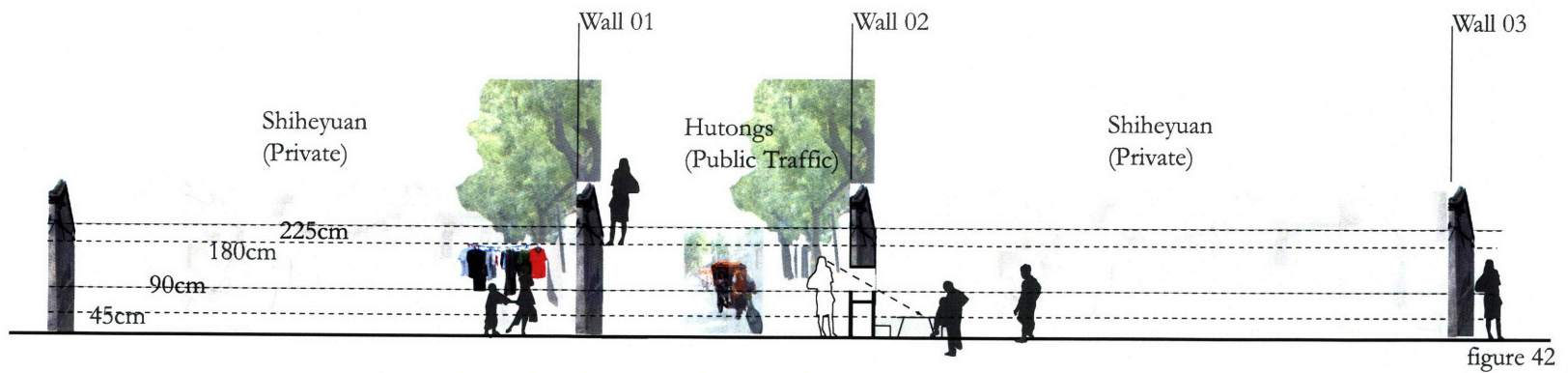
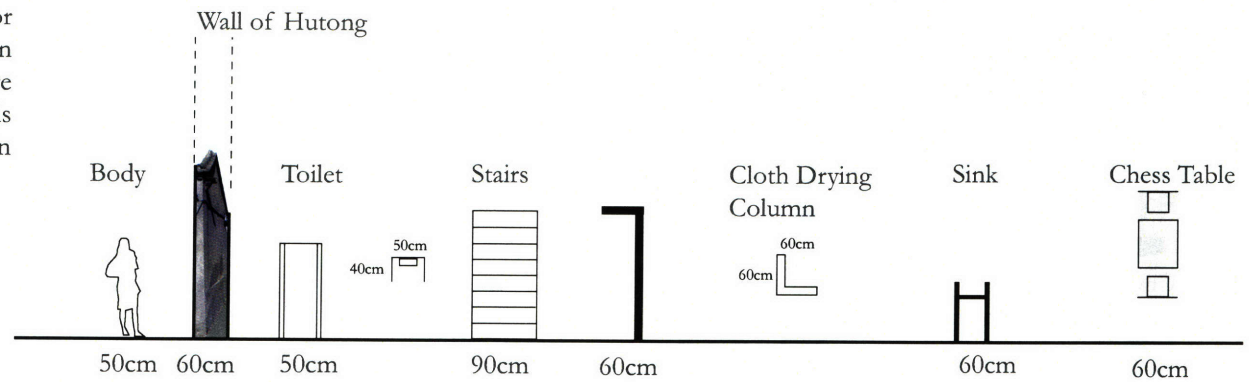
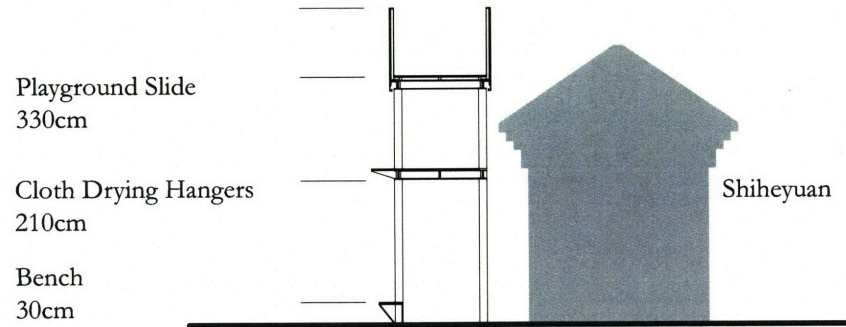
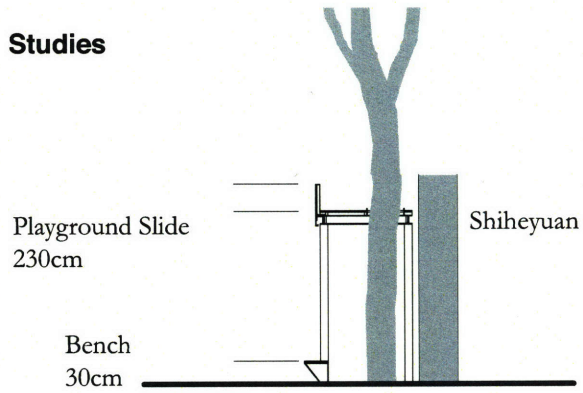
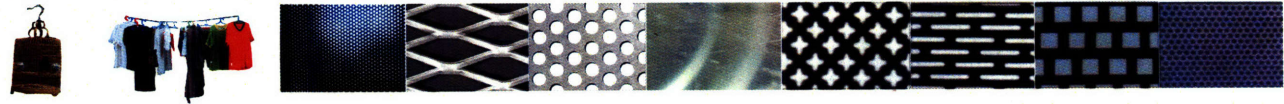


figure 42

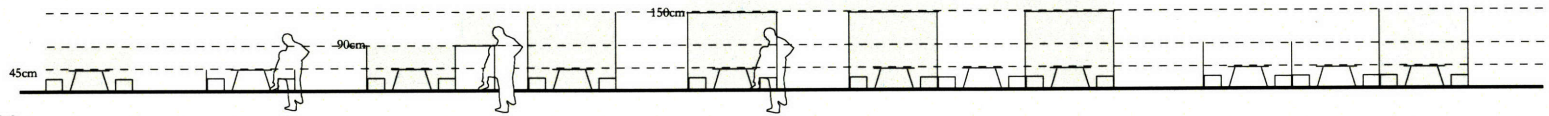
Studies



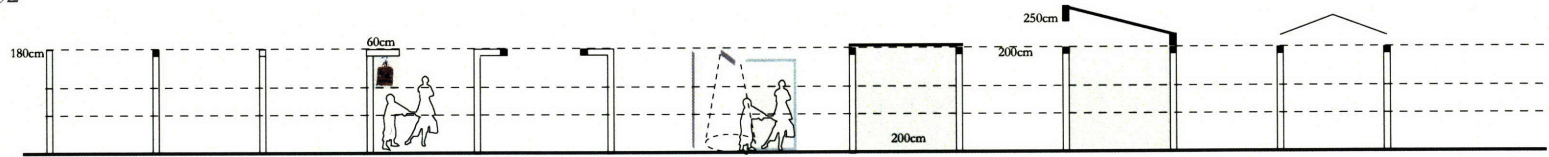
Metal Surface Studies



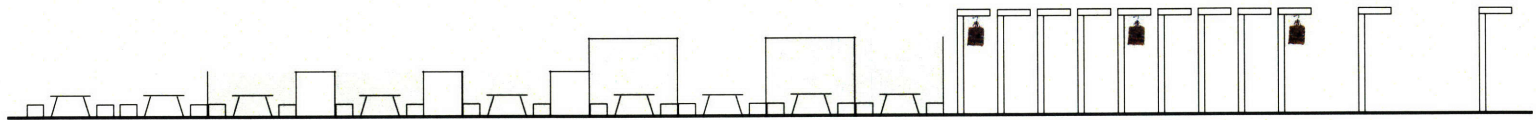
Wall 01



Wall 02



Wall 03



Chapter 6
Public Restroom #06

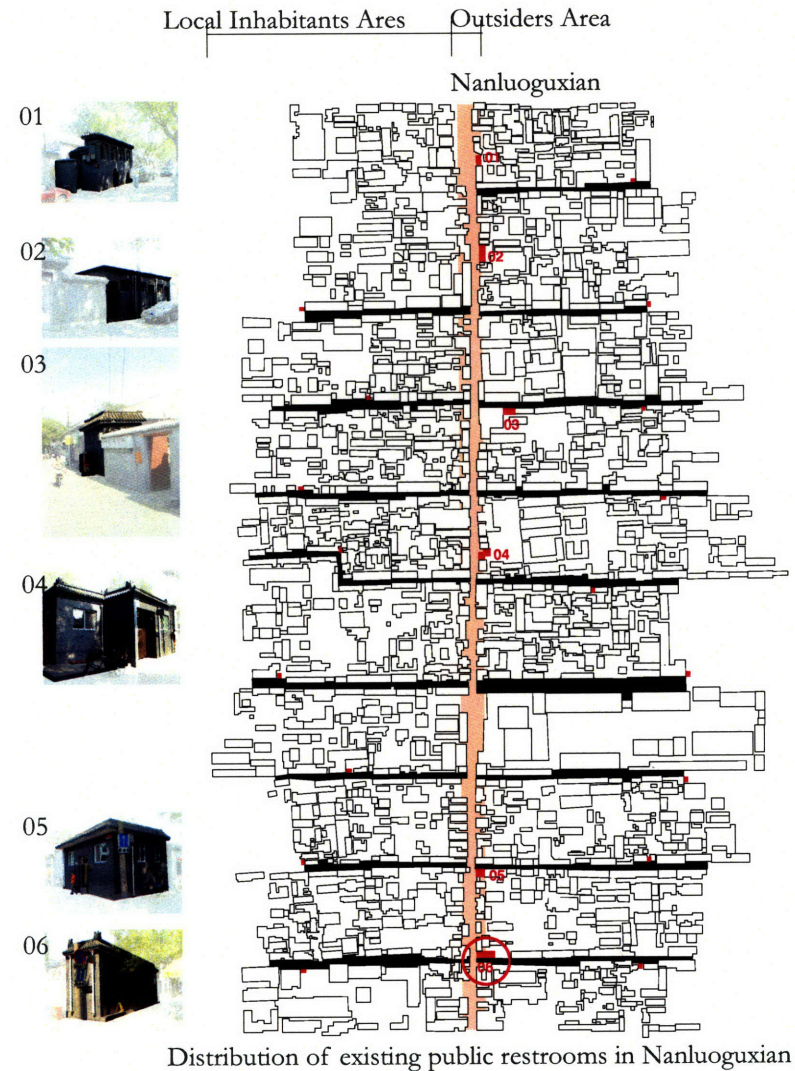
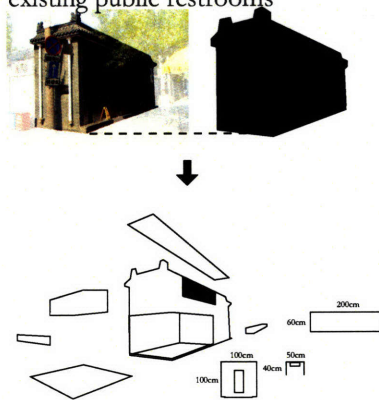
Micro Architecture as Public Restroom

After the research on the units of Micro Architecture, the idea is demonstrated upon the programmatic needs of public spaces in Nanluoguxian. The program aimed to be demonstrated is the ubiquitous public restrooms along the hutongs. The existing public restrooms will be transformed to ideal public spaces for the local inhabitants' daily social activities.

Characters of public restroom

1. Dot distribution
2. Limited area
3. Attached with existing buildings

Re-Distribute / deconstruct the existing public restrooms



Restroom #06

Restroom #06

Corner: Intersection of Nanluoguxian and Chaodo Hutong

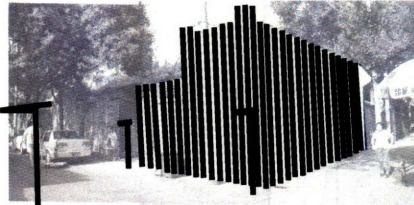
Area: $3\text{m} \times 7\text{m} = 21$

Height: 6m

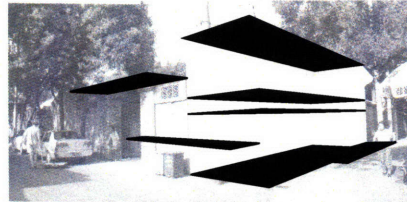
Programme: Restroom



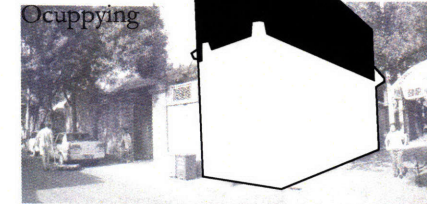
Method 01 Extending



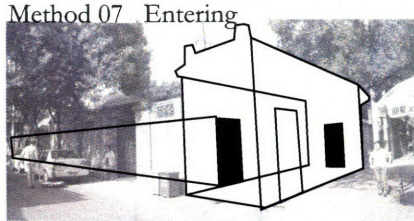
Method 02 Platforming



Method 03

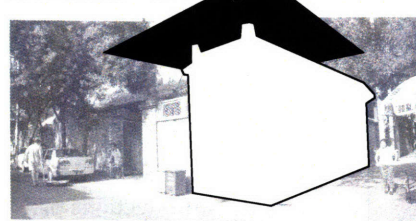


Method 04 Connecting

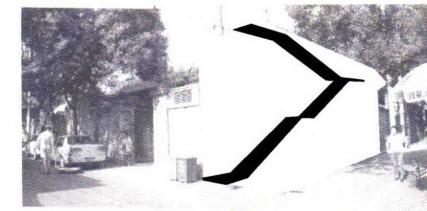


Method 07 Entering

Method 05 Covering



Method 06 Rising



Restroom #06 Constraints

Location: The first / end hutong of Nanluoguxian
 Corner: Intersection of Nanluoguxian and Chaodou Hutong
 Area: 3m x 7m = 21
 Height: 6m
 Programme: Restroom
 Material: RC, Brick

Weather conditions:

January -4.3 C / 24.26 F
 July 25.8C / 78.62 F
 March, April, May Sand Storm

Activities:

West corner Males chinese chessing
 North corner Female resting, chatting

Surroundings:

No.71-77 Chaodou Hutong: An historical imperial shiheyuan
 Osiers along the hutong
 Electric Poles

Circulations:

West side along Nanluoguxian-Entrance of restroom
 Nanluoguxian-Main stream of pedestrian
 Chaodou Hutong-The first hutong of east side part of the block

Hygiene conditions:

Smell
 Accessibility

Regulations:

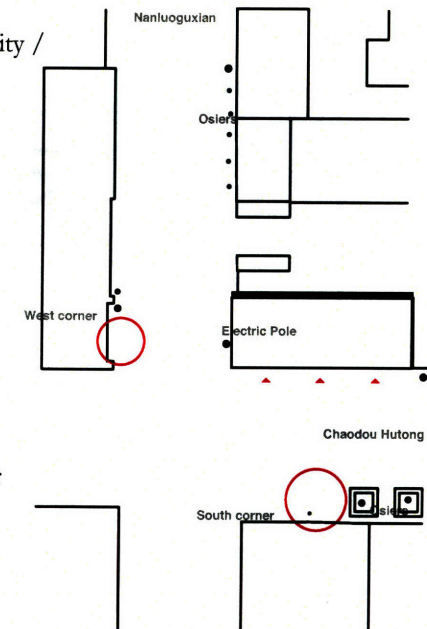
Height < 9 m

Programmes

Everyone : Public restroom
 Females : Laundry room / Cloth drying fields / Gardening
 Kids : Playground slide
 Male: Chess room
 Tourist: Information billboard
 Specific activity: Flea Market of creativity / Hutong gallery

Design Task

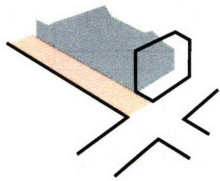
- 01 Maitain local inhabitants' informal social activities during bad weather conditions
- 02 Solve the shortage of laundry space for both the inhabitants and the outsiders
- 03 Provide tourism information and introductions of Nanluoguxian



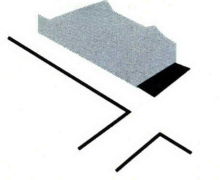
Intervention

Space in-between volume (shiheyuan)
and voids (hutong)

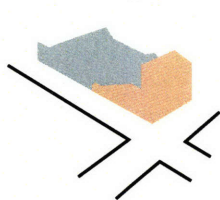
01 Juxtaposition



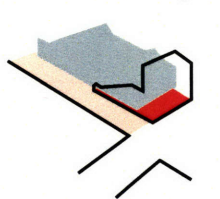
02 Openess



03 Re-Occupation



04 In-Between Space



+660 Level
cloth drying terrace

+330 Level
indoor playground

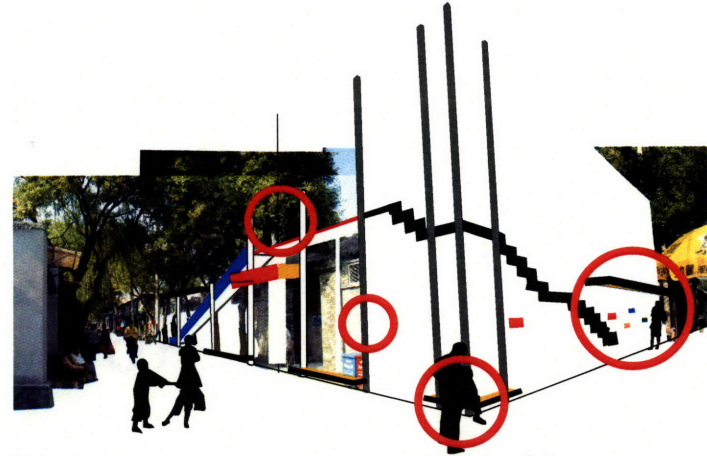
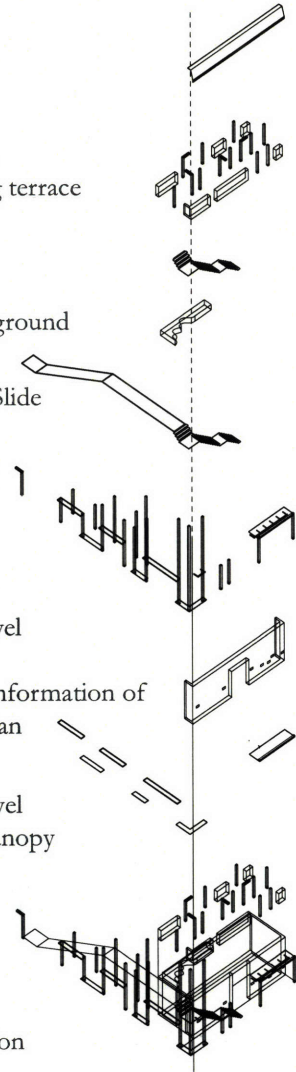
+330 Level
Playground Slide

+180 Level
Hangers

Ground Level
Billboard
for tourist information of
Nanluoguxian

Ground Level
Bench + Canopy

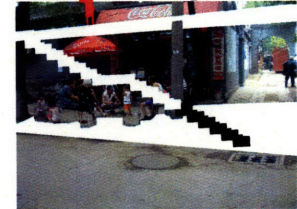
Accumulation



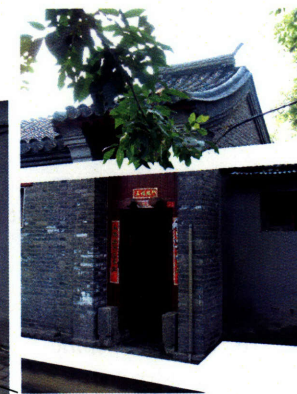
01 Stairs



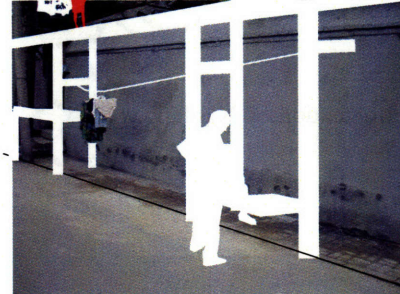
02 Stairs / Canopy



04 Fixed Floor

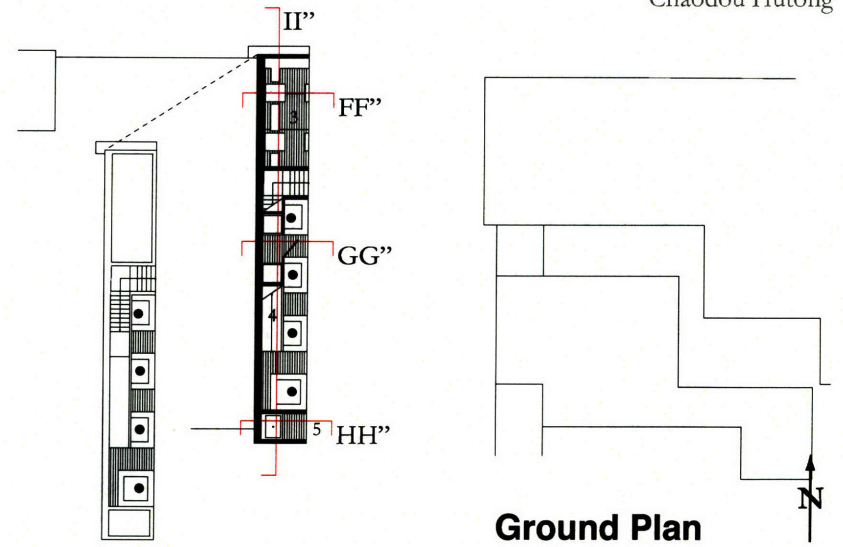
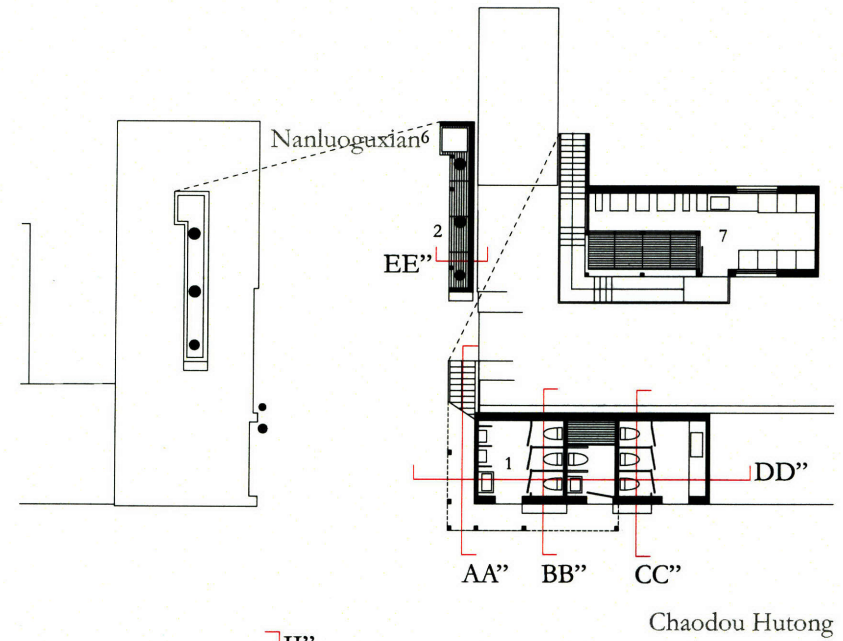


03 Cloth Drying / Chessing Table

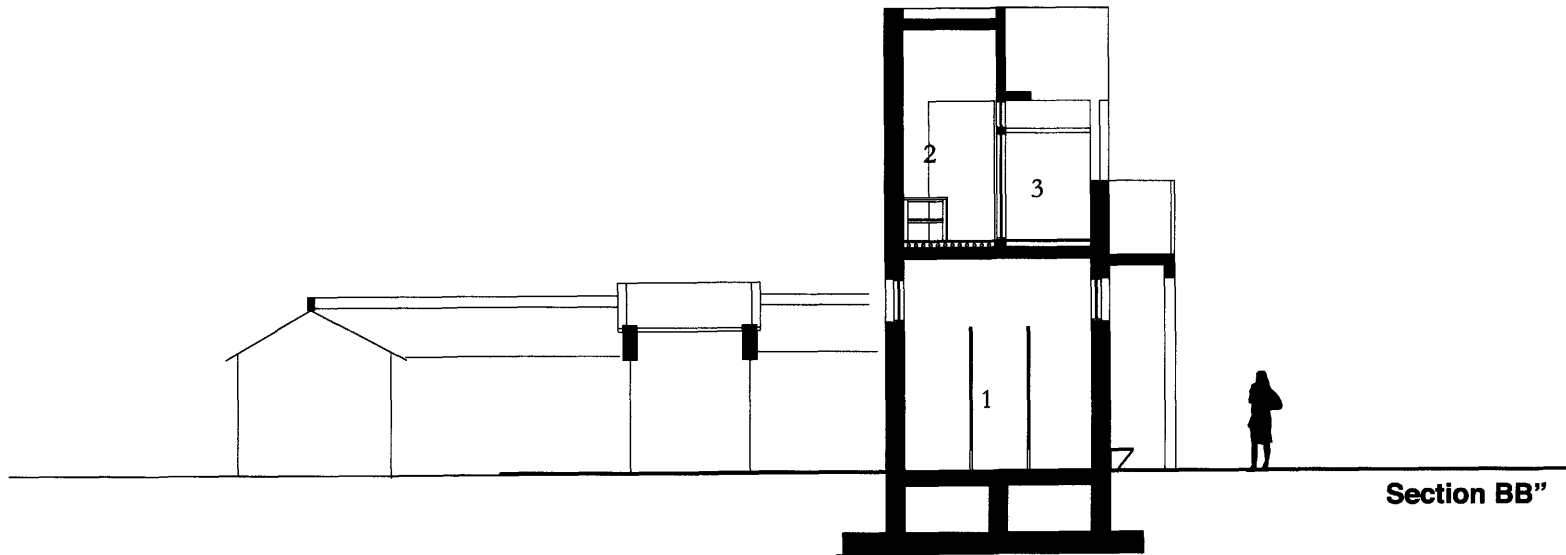
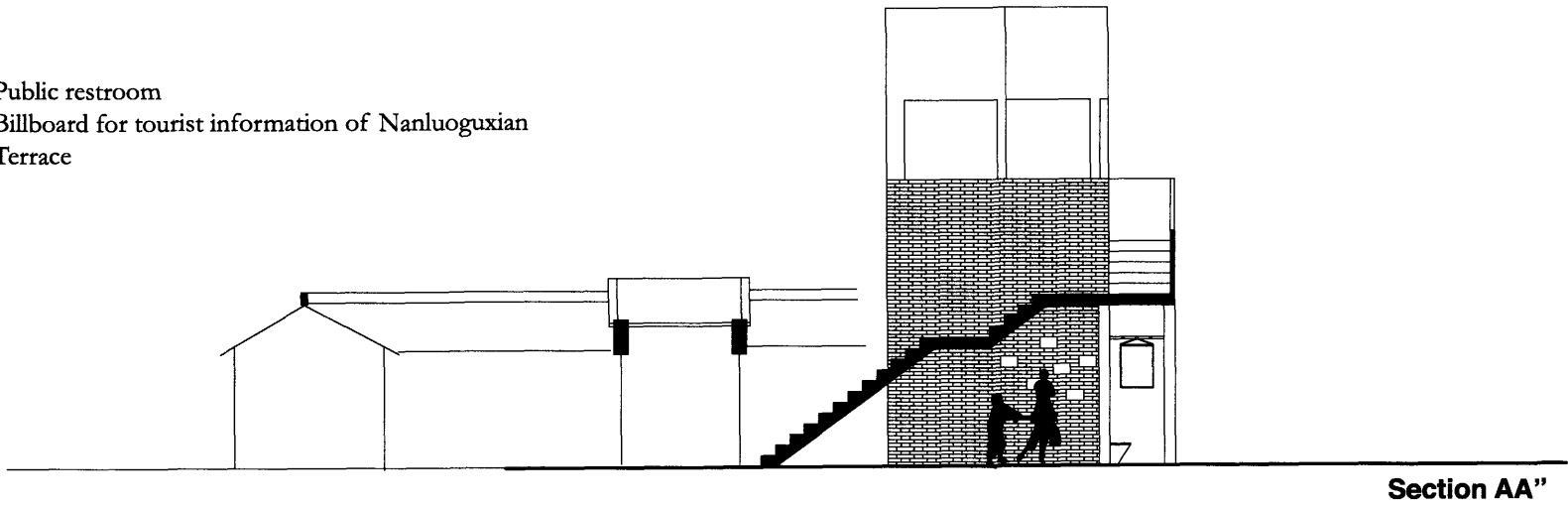


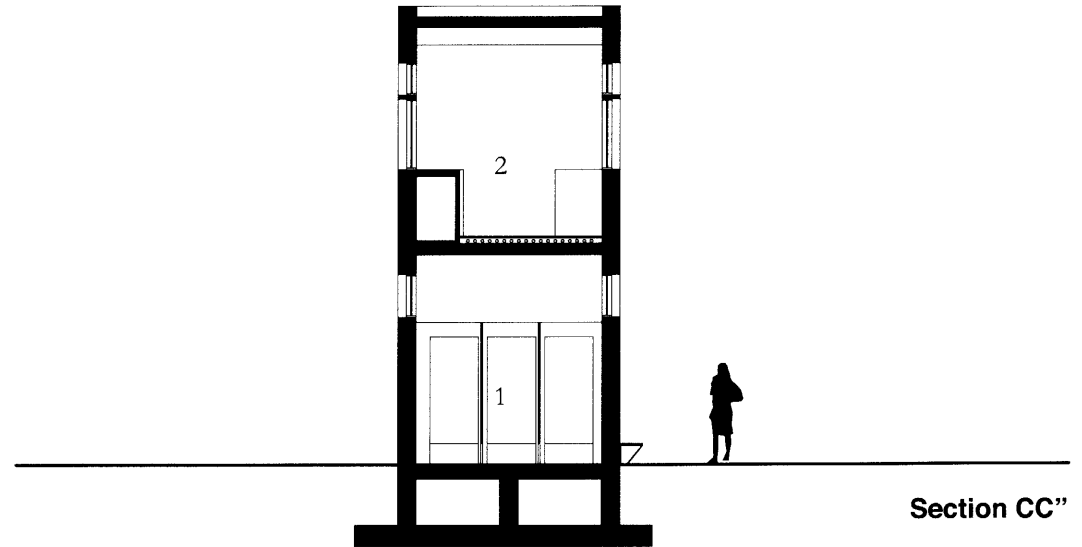
Restroom #06

1. Public restroom
2. Billboard for tourist information of Nanluoguxian
3. Chess area
4. Playground slide
5. Public sink
6. Vender machine
7. Laundry room

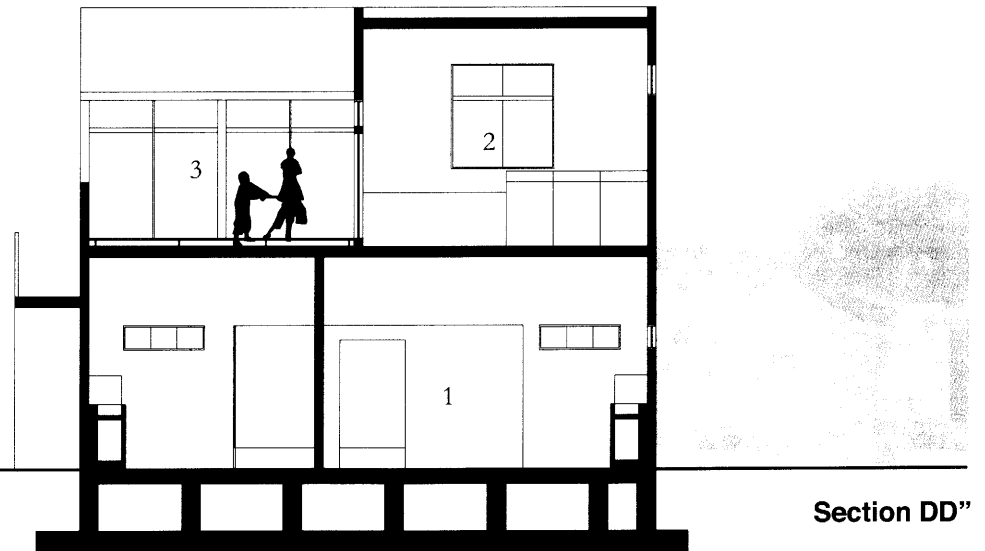


1. Public restroom
2. Billboard for tourist information of Nanluoguxian
3. Terrace



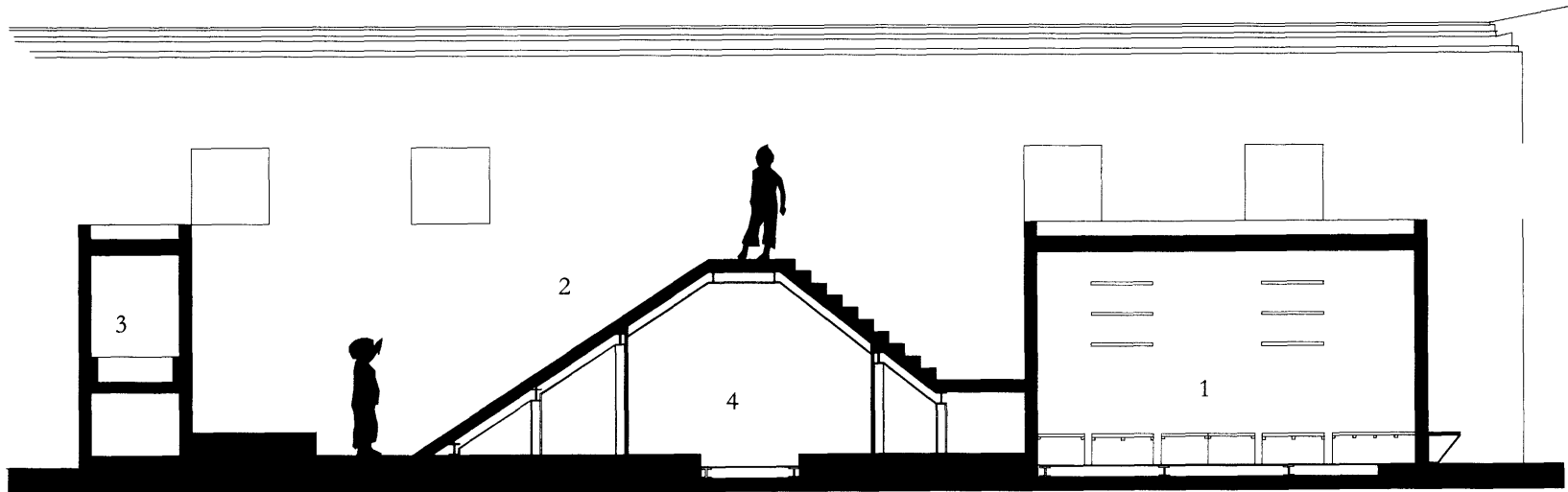


Section CC''



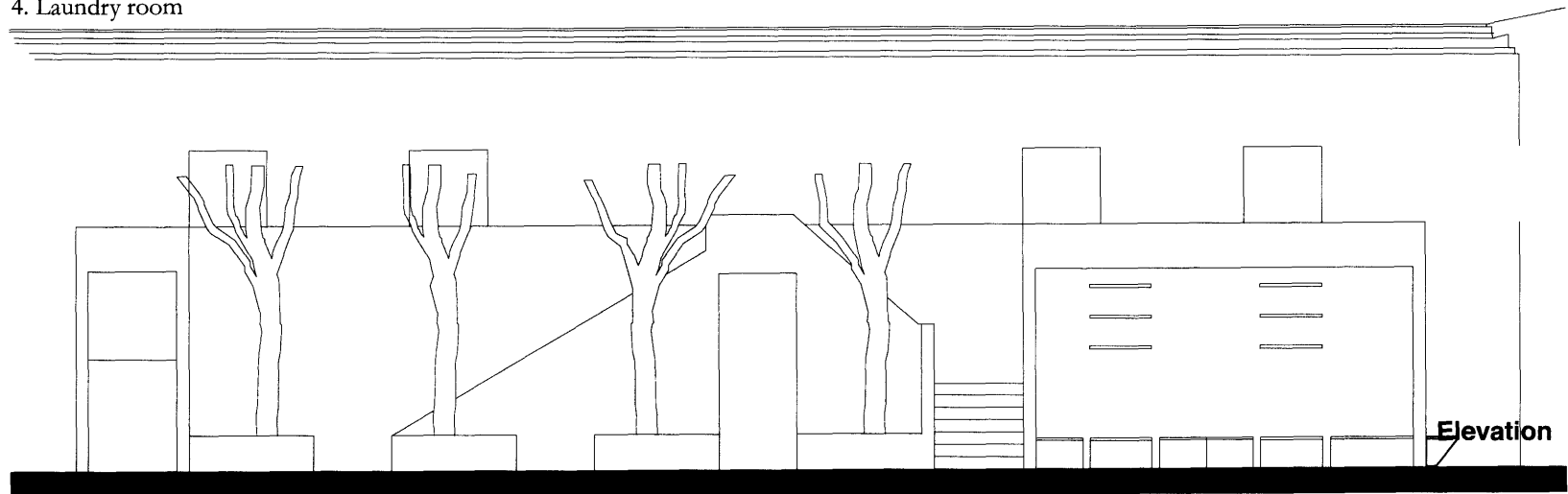
Section DD''

- 1. Public restroom
- 2. Billboard for tourist information of Nanluoguxian
- 3. Terrace



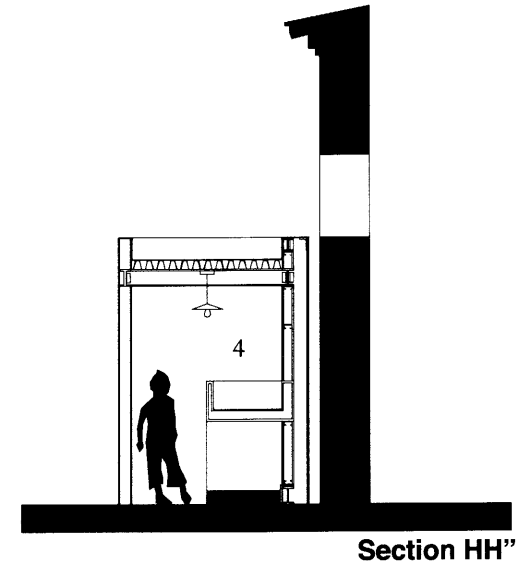
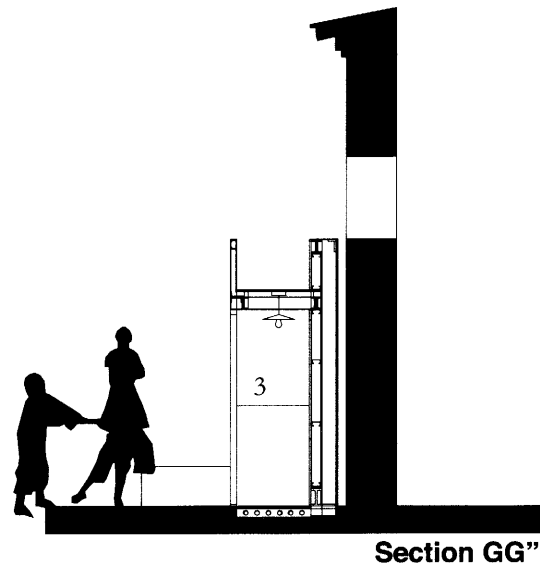
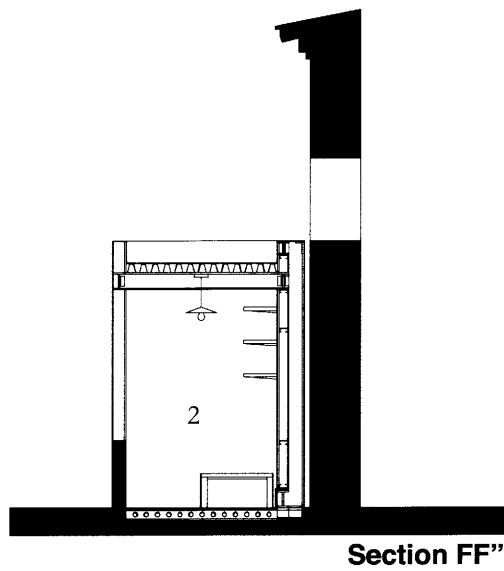
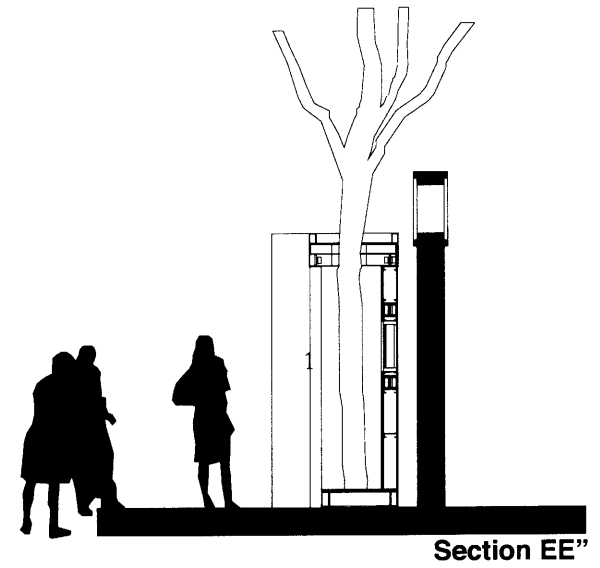
- 1. Chess area
- 2. Playground slide
- 3. Public sink
- 4. Laundry room

Section II"



Elevation

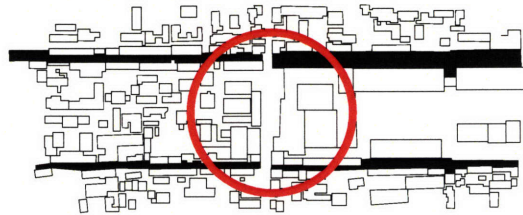
1. Billboard for tourist information of Nanluoguxian
2. Chess area
3. Playground slide
4. Public sink



Chapter 6
Public Restroom #4.5

Restroom #4.5

The second demonstration is Restroom #4.5 which is inserted between the original restroom #04 and restroom #05.



Site Constrains

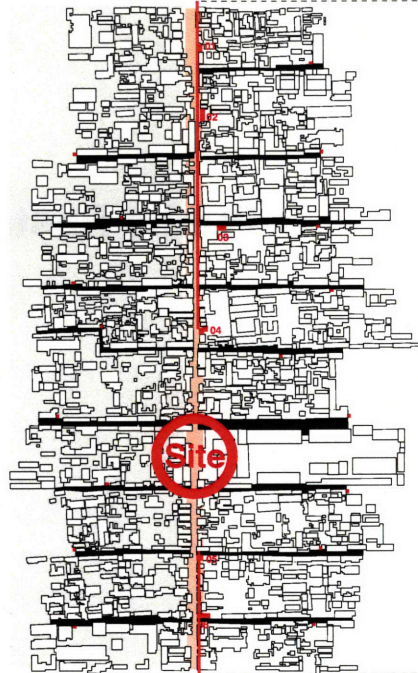
Existing Institution: The Central Academy of Drama

Area: $42.25 \times 1.85 = 78.1625 \text{ m}^2$

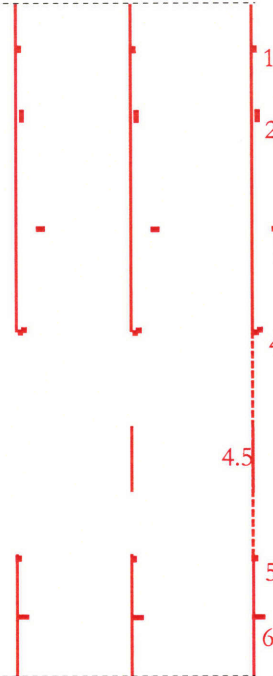
Height: 2.7 m (height of existing fence)

Plantation: 10 pedestrian trees

Distribution of Public Restrooms in Nanluoguxian



Fix the disconnection



Potential Programs

Restroom

Laundry room

Chess room

Playground slide

Playground tilt

Sink

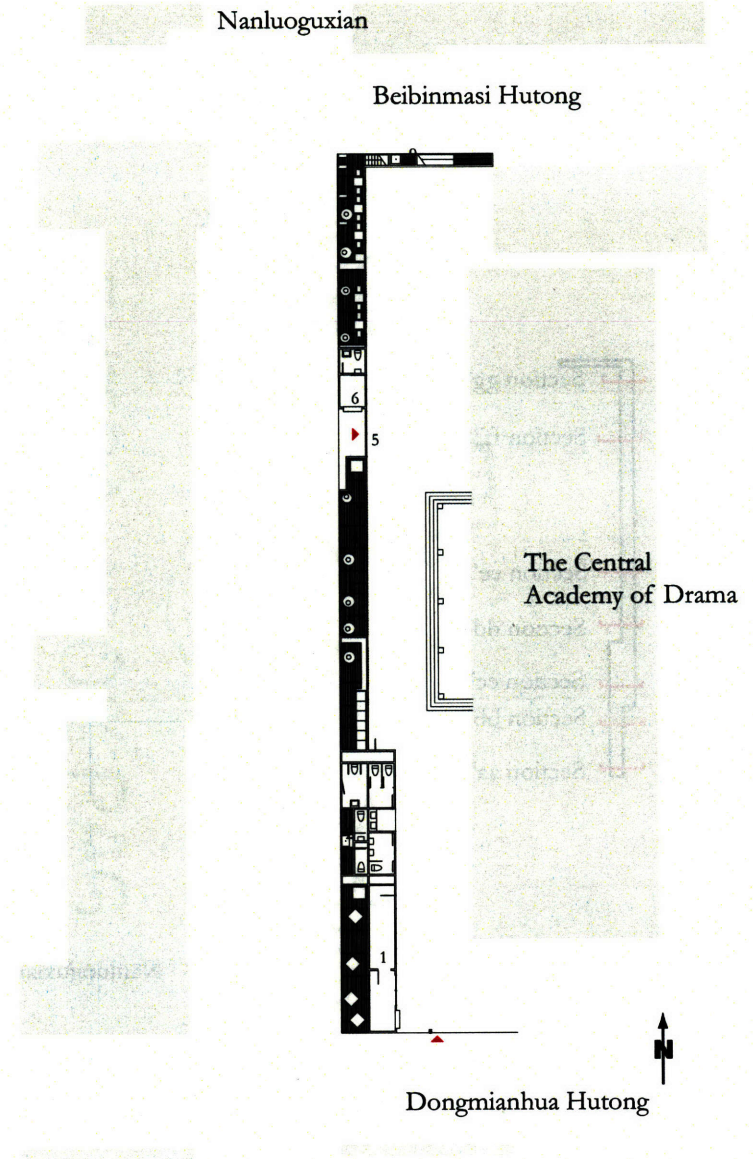
Billboard

Pay phone

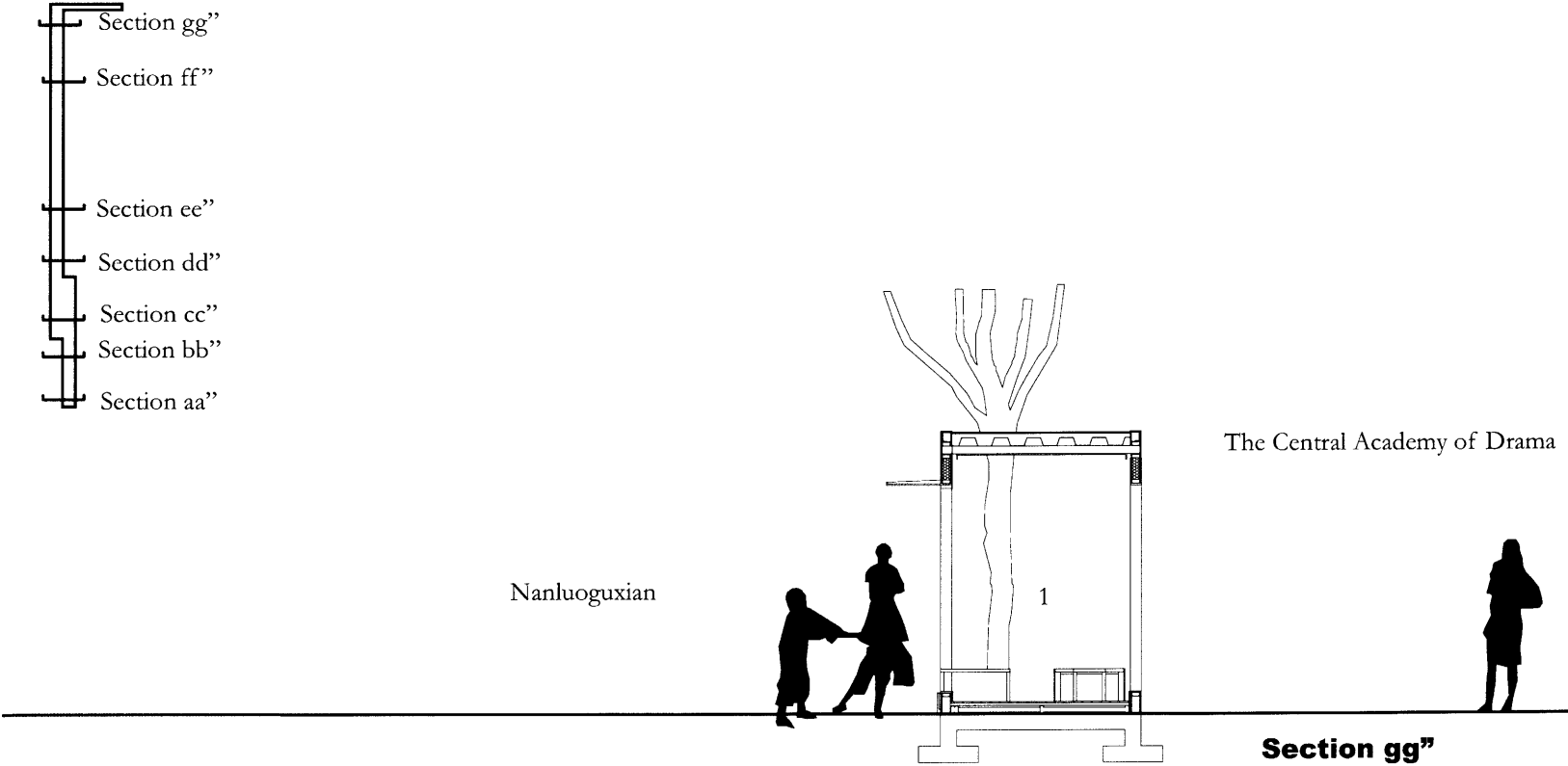


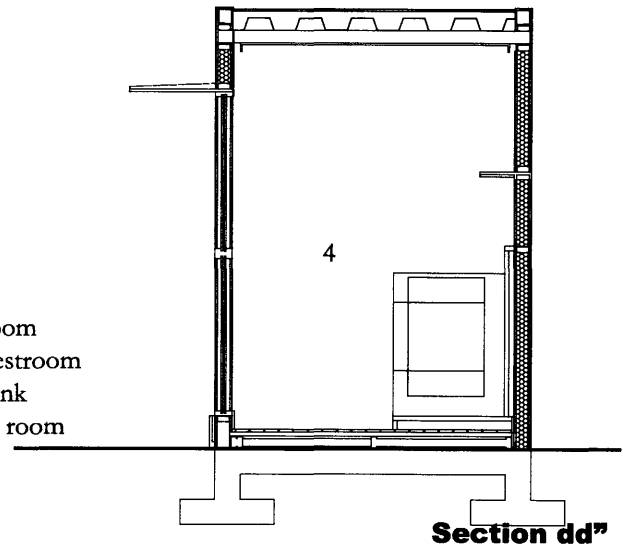
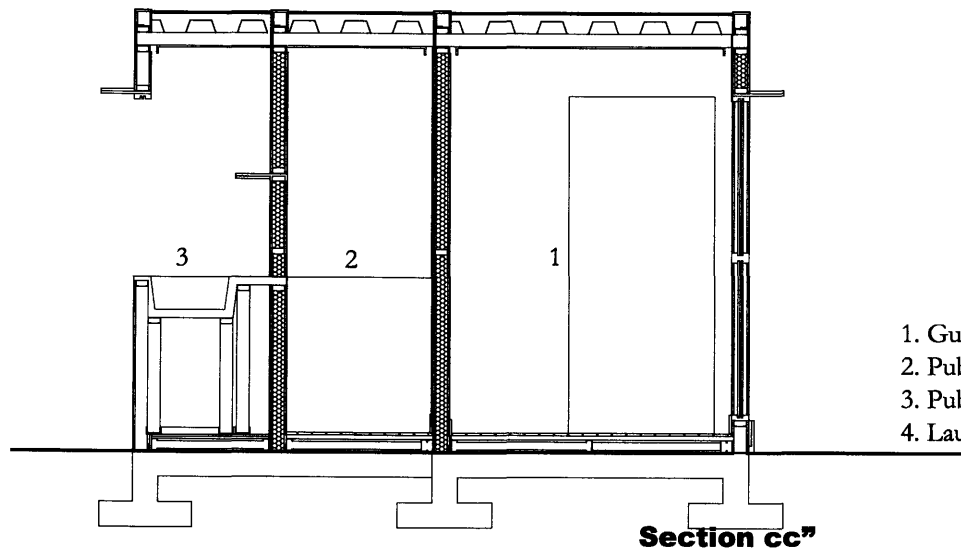
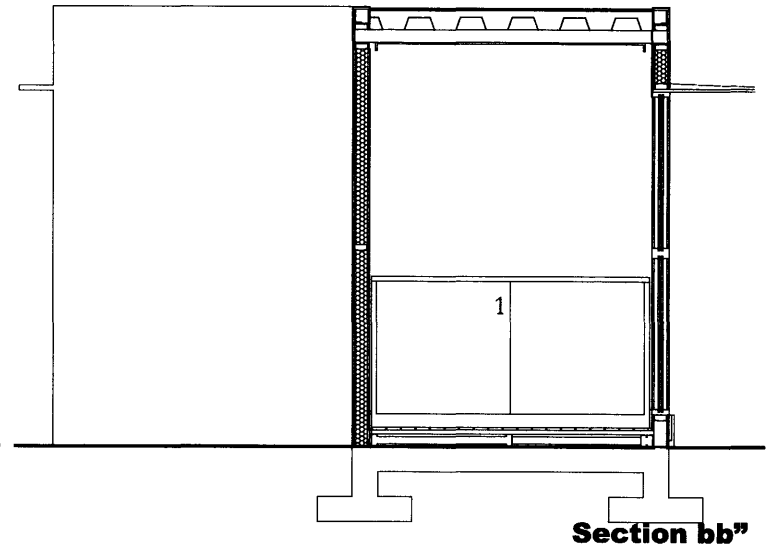
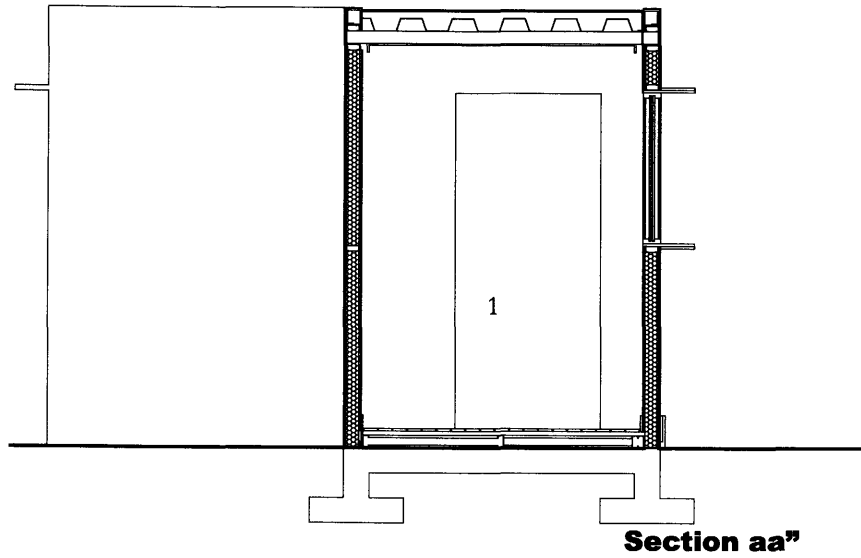
Restroom #4.5

1. Guardroom
2. Public restroom
3. Laundry room
4. Billboard for tourist information of Nanluoguxian
5. Entrance of TCAD
6. Guardroom
7. Chessroom
8. Chess area
9. Playground slide



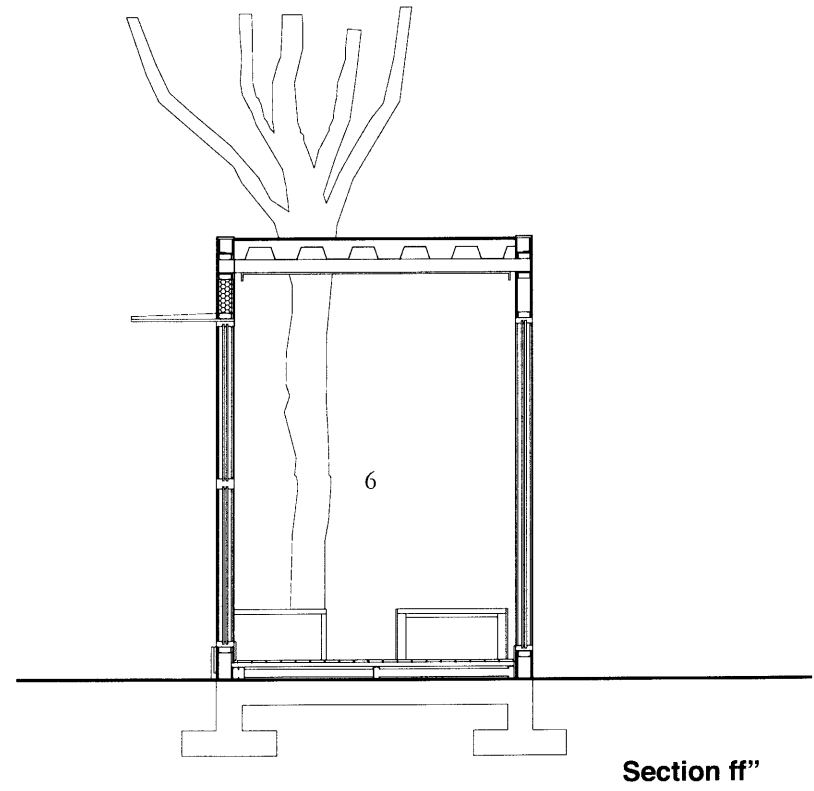
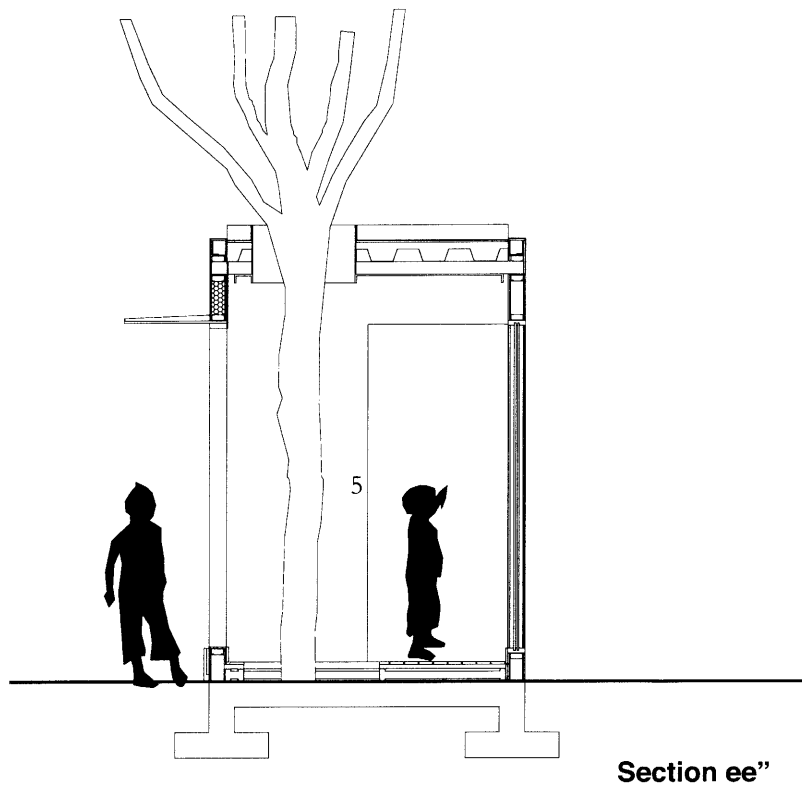
1. Chess area

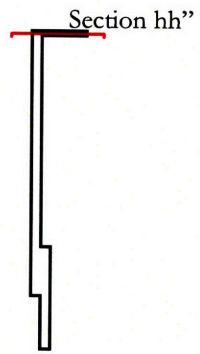




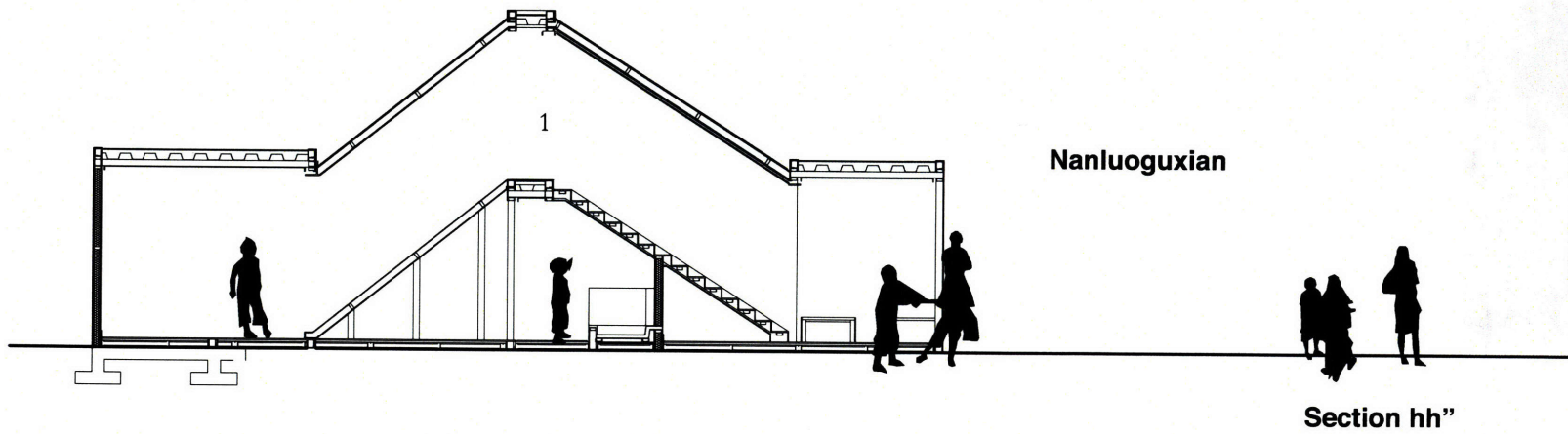
- 1. Guardroom
- 2. Public restroom
- 3. Public sink
- 4. Laundry room

- 5. Billboard for tourist information of Nanluoguxian
- 6. Chessroom



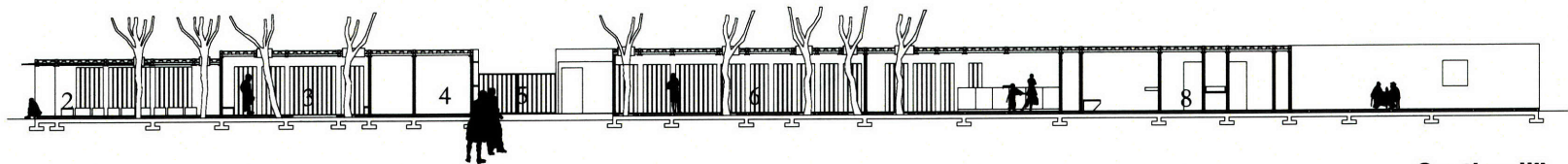


1. Playground slide





Section ii''

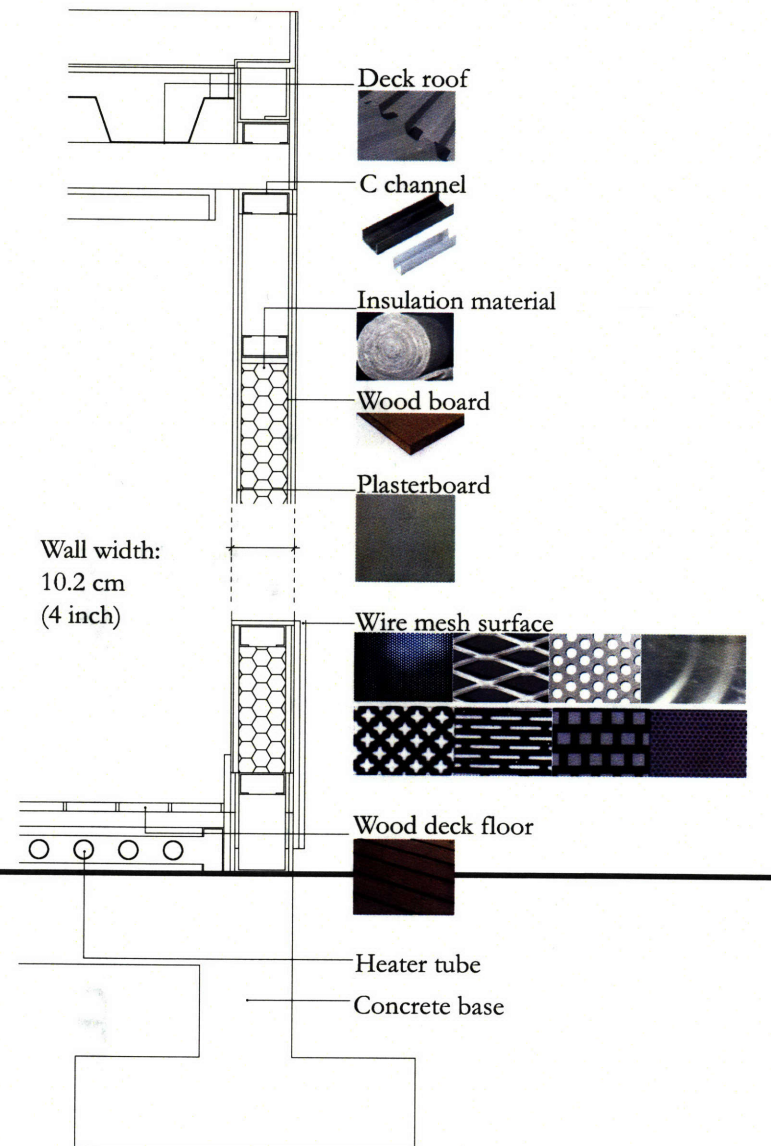


Section ii''

2. Chess area
3. Chessroom
4. Guardroom
5. Entrance of TCAD
6. Billboard for tourist information of Nanluoguxian
7. Laundry room
8. Public restroom

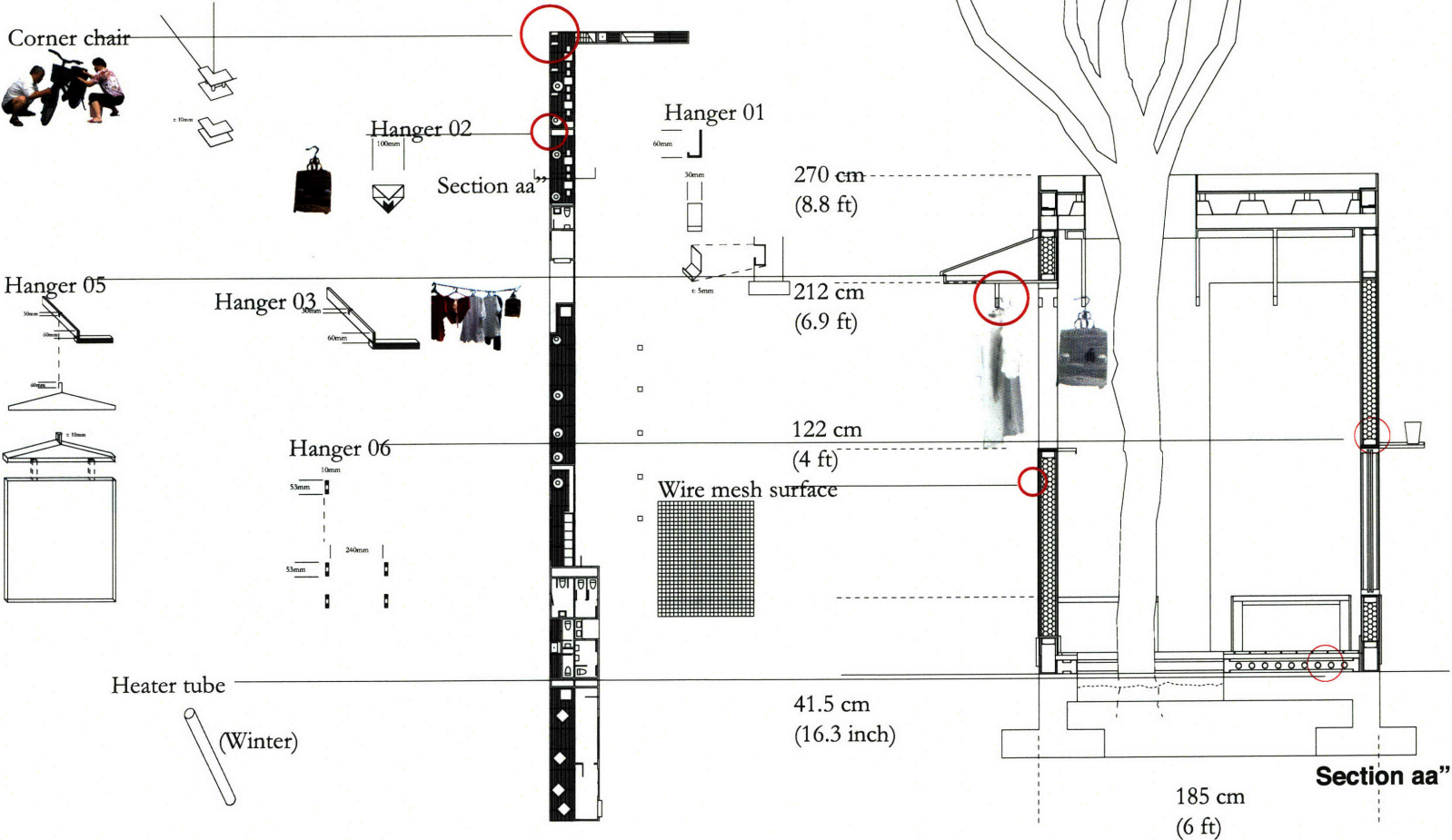
Minimum Construction

The idea of minimum architectural operation reflects on the construction method at a micro scale. The Micro Architecture is constructed with light-weight c-channel structure frame and varied with the choices of wire mesh surface.



How to use it everyday ?

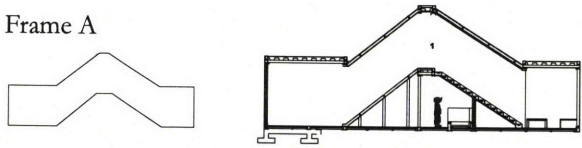
Micro Architecture focuses on how the architecture can be used, especially used as ideal public space for the daily social activities.



Frames

The Micro Architecture units are as frames for the specific conditions, situations, and the context. The Micro Architecture units are not only public space for the daily social activities but also instruments that exhibit the culture of the hutongs.

Frame A



Hutong Wall A
Material A

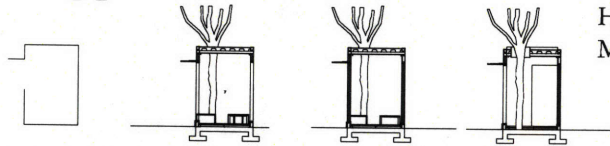


History A
Micro Culture A
Community A



Frame B

B-1
B-2



Hutong Wall B
Material B



History B
Micro Culture B
Community B



Frame C



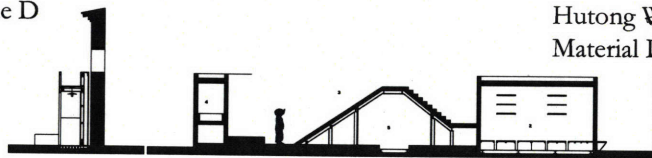
Hutong Wall C
Material C



History C
Micro Culture C
Community C



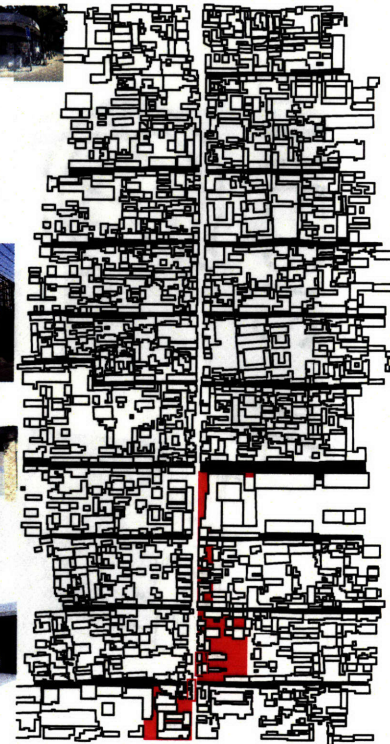
Frame D



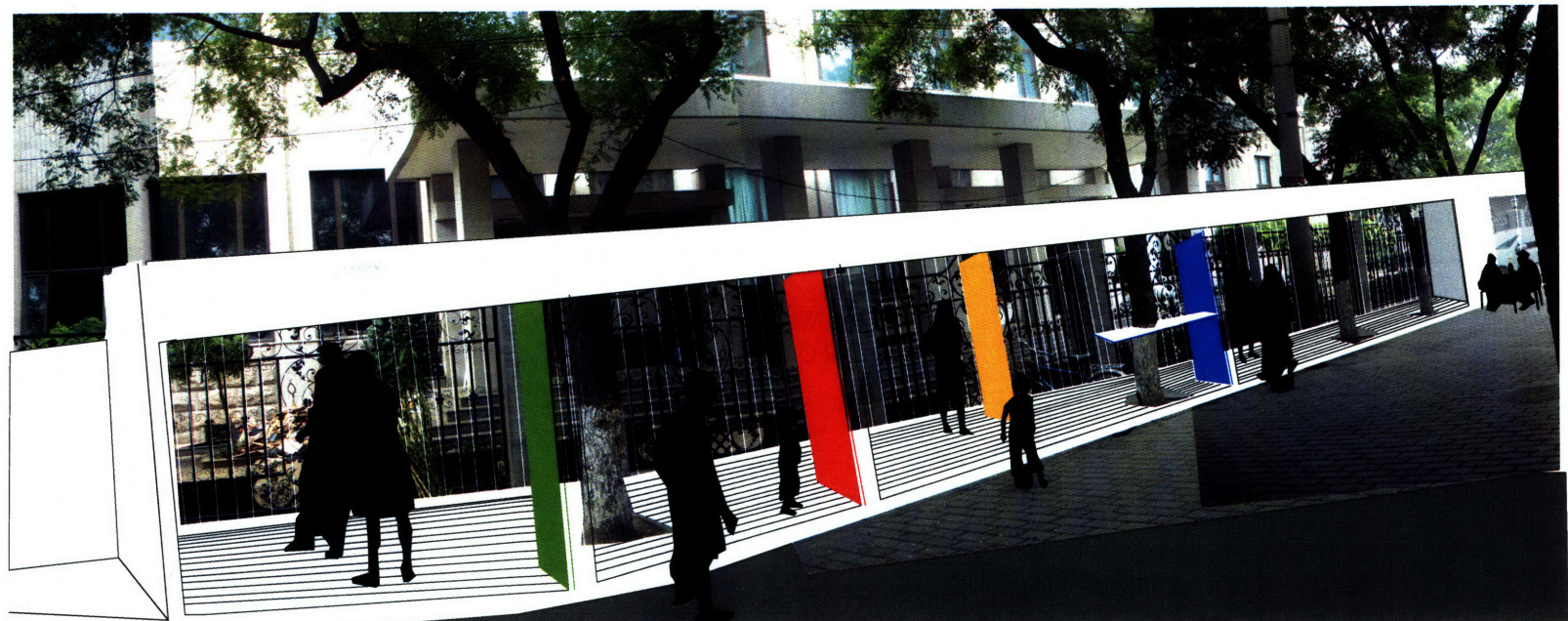
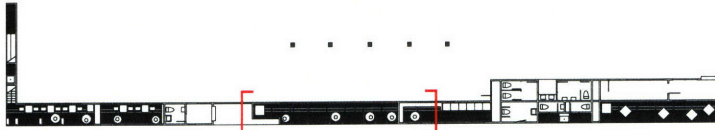
Hutong Wall D
Material D



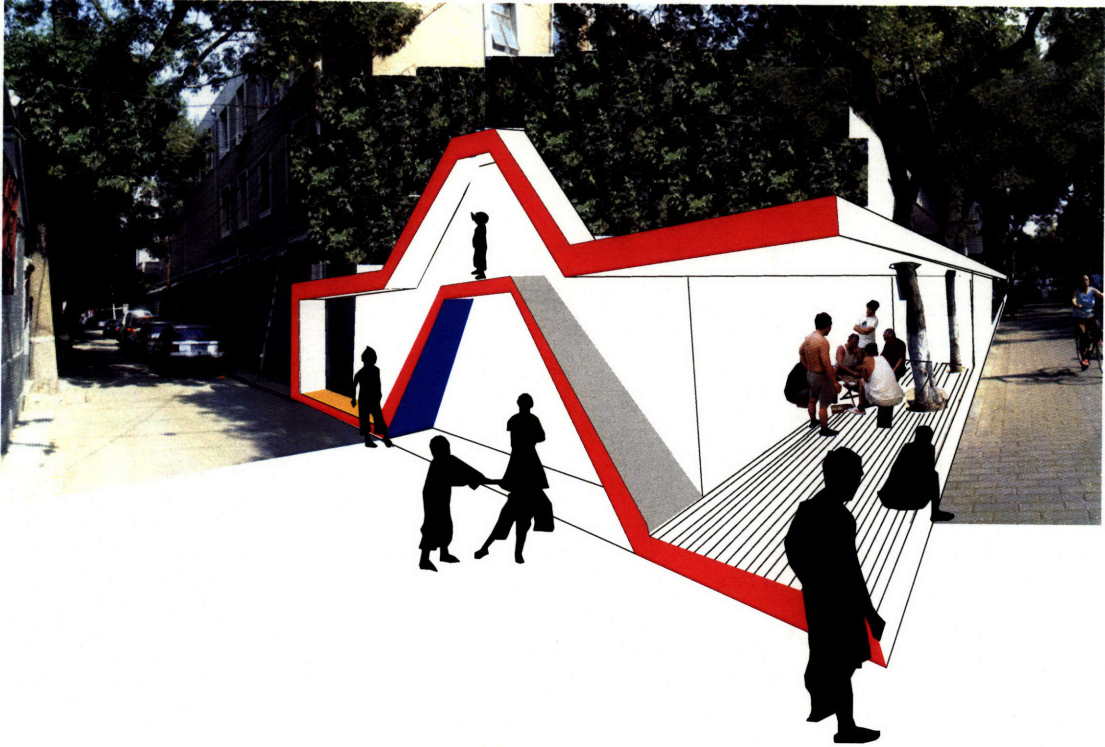
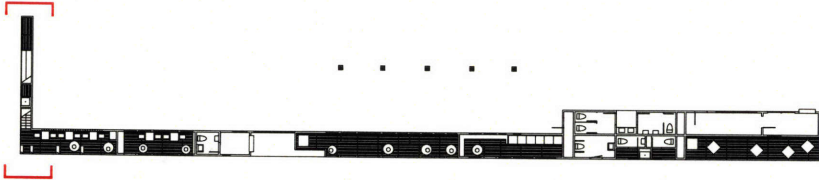
History D
Micro Culture D
Community D



Billboard
for introduction of Nanluoguxian / The Central Academy of Drama

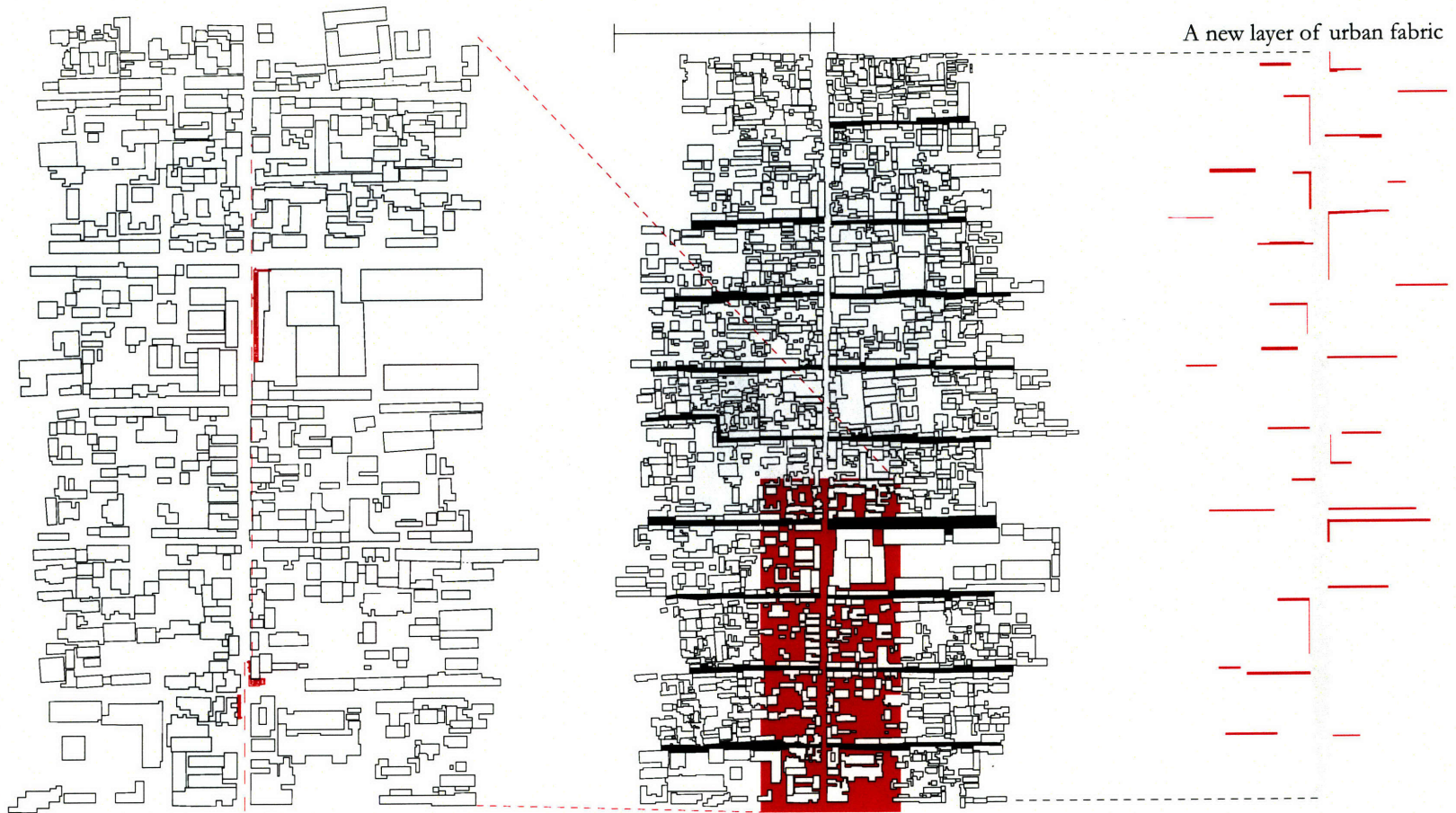


Playground Slide at Corner



Units, Repetition, and Distribution as a new layer of urban fabric interweaved with hutong

The units of restrooms are combined together as a system which works with the block in an larger urban scale, which is the whole area of Nanluoguxian.



Minimum Urbanism

Design a detail of daily life to design a city in minimum operations

Minimum Urbanism is an attempt of an alternative urban design strategy which suggests minimum architectural operations from a micro scale are as units accumulated upon the city at a larger scale.

Millimeter scale
every 2:00PM

Centimeter scale
every Afternoons

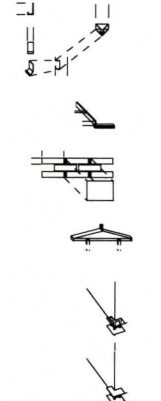
Centimeter scale
every Weekends

Meter scale
every April

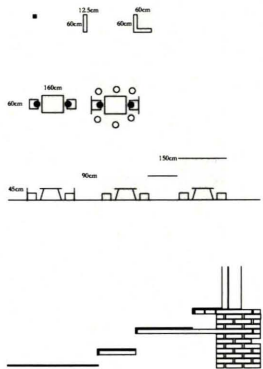
Hundred-meter scale
every Summer

Kilometer scale
Year 2051

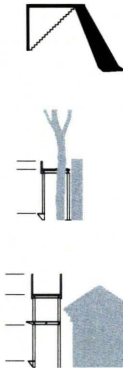
Wall Corner Detail #01
Brick Construction #01
Hanger #01
Corner Chair #01



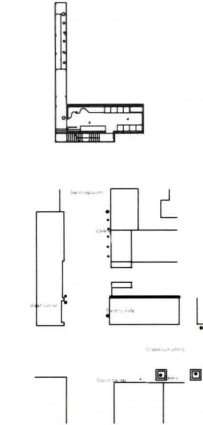
Cloth Drying Pole #01
Chess Table Sets #01



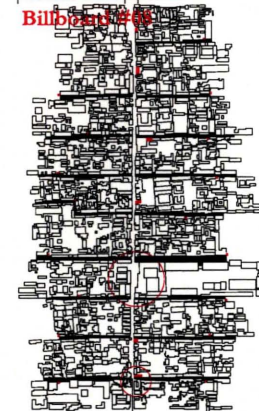
Playground Slide #01



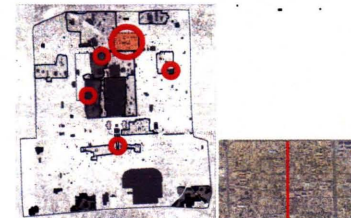
Restroom #06
Children Slide #06
Chess Room #06
Billboard #08



4 Hutongs
Restroom #4.5
Restroom #06
Children Slide #06
Chess Room #06
Billboard #08



25 Hutong Preservation Districts
1 Super Urban Block
730-meter Nanluoguxian
8 Hutongs
21 Restrooms
18 Chessrooms
23 Playground Slides



Chapter 8
Conclusion

Conclusion

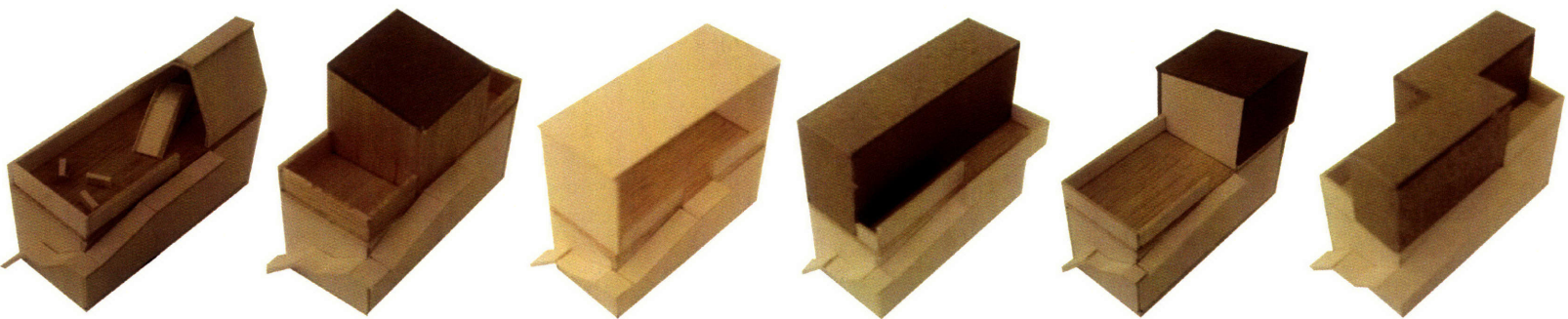
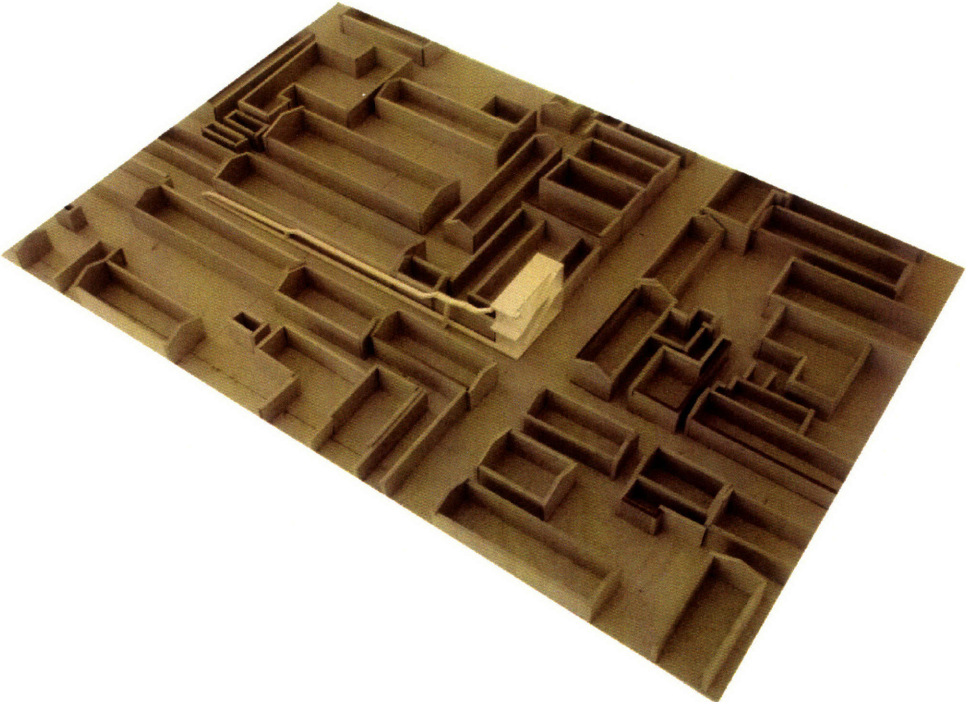
Examining the potential of designing from micro scale is the attempt of this thesis. Compared to the urgent needs of the rapid architectural constructions of Beijing's urbanization, this thesis focuses on the smallness of the city which is often ignored. The smallness not only means the focuses on the design in a physical dimension matter but also the concerns on the internal orders of the city's everyday life in a micro realm. The power of micro scale is to have the macro impacts from smallness.

Here are two examples which illustrate the idea of micro scale with the success embodiments in specific fields. The first one is the Grameen Bank in Bangladesh. Grameen Bank is established by Muhammad Yunus, who is the laureate of Nobel Peace Prize 2006. Differing from the conventional economic theories which examine the economics from a macro structure, the idea is the "micro credit" that allows the poor to have the higher priority to have the loans. This alternative economical plan has made the great improvement of the life conditions of the poor. Secondly, Ray Huang, who is the author of "The 1587, a Year of No Significance: The Ming Dynasty in Decline". This book addresses how to examine the macro development of China's politic history from a micro by focusing on a specific year of the whole history. Thus, based on Micro Urbanism, this thesis is to explore how the idea of micro scale can be extended beyond the physical scale sense.

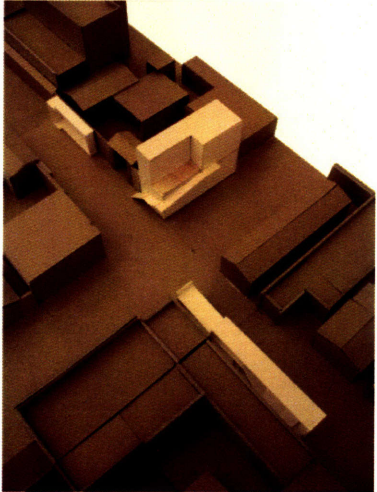
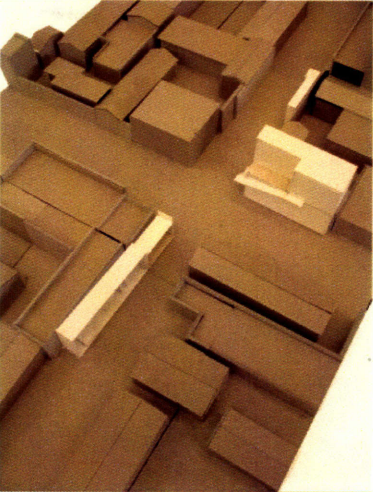
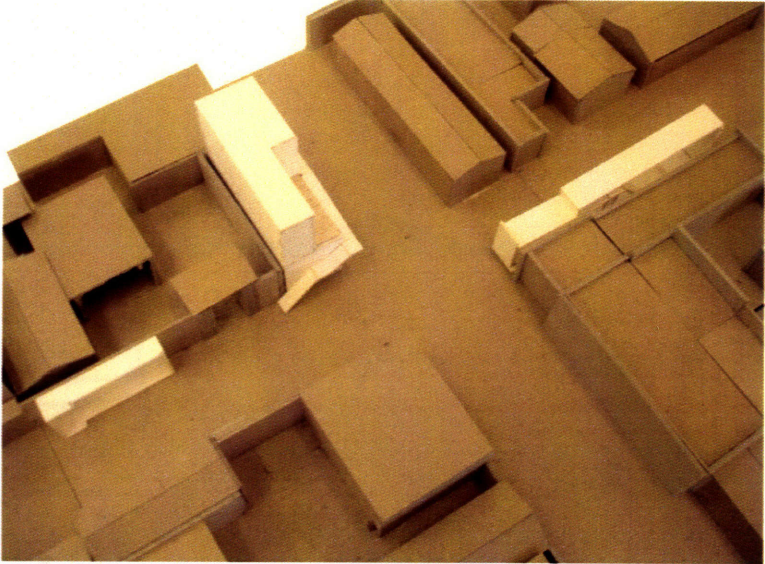
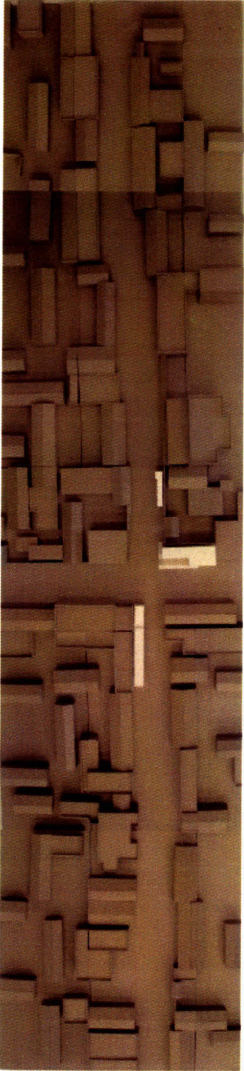
Most of the architectural constructions in the city center of Beijing now follows the master plans for the nation's long-term urban development in a macro scale. The constructions are not for the essential needs of the inhabitants' everyday life in the micro-scale realm but the image of the nation. The potential of smallness is ignored. Based on Micro Urbanism, Minimum Urbanism is inspired by the micro wisdom of everyday life. Instead of the concerns on forms of Minimalism, Minimum Urbanism addresses the importance of architectural operation in a sustainable and efficient sense. Micro Architecture is the design strategy which tries to carry out an urbanism idea in architectural level. Micro Architecture departs from an unit for working with the people's daily life internally in micro scale and is expected to work with the city collaboratively once it's accumulated in macro scale. Instead of the disconnection between master plans and monolith architecture, is there alternative design strategy that can integrate the architectural design and the urbanism in a scale manner? Especially for the rich and diverse culture in Asia, Minimum Urbanism and Micro Architecture are the propositions for answering the question.

Models

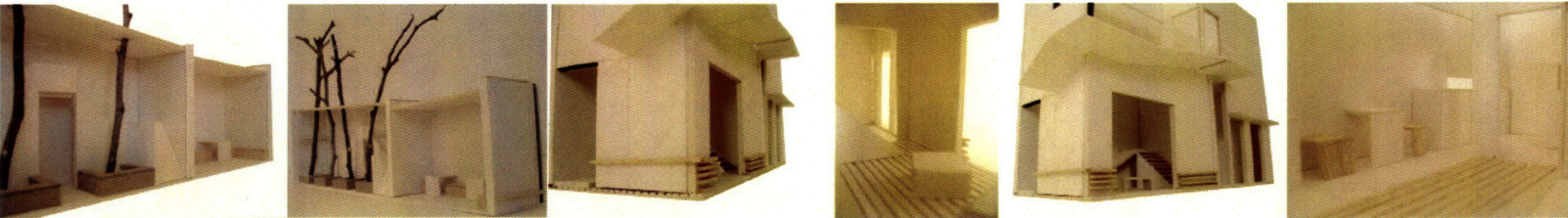
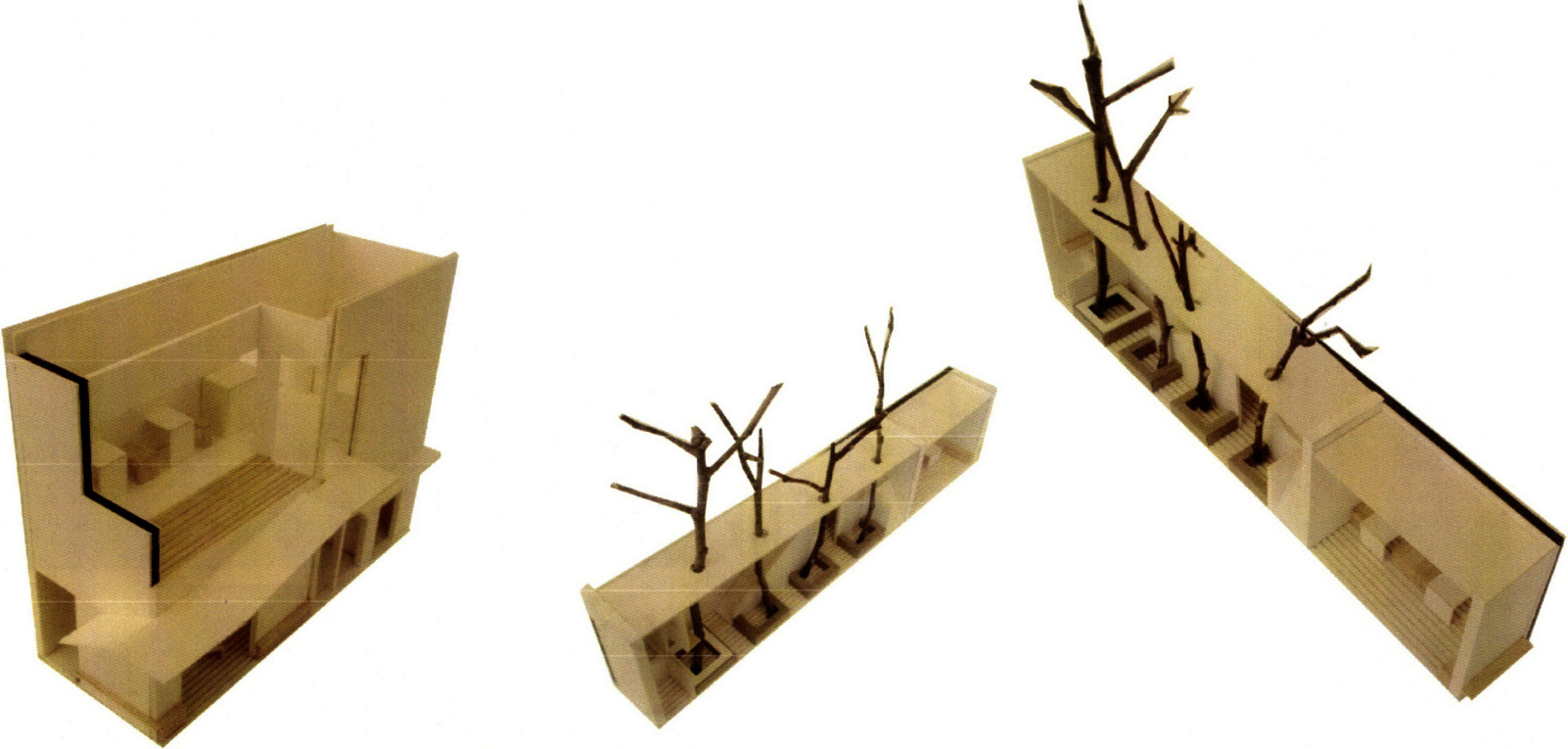
**Study Models-
Public Restroom #06**



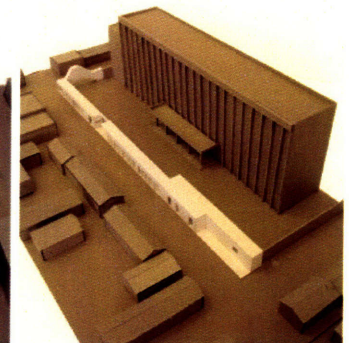
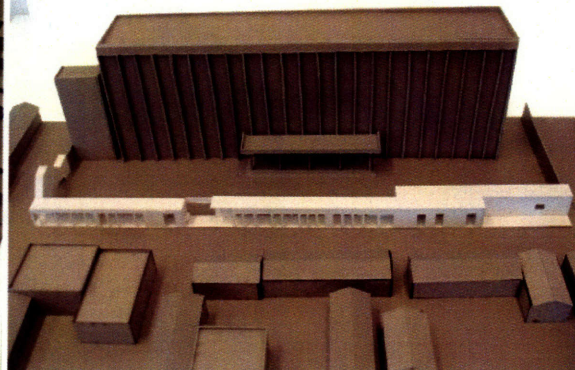
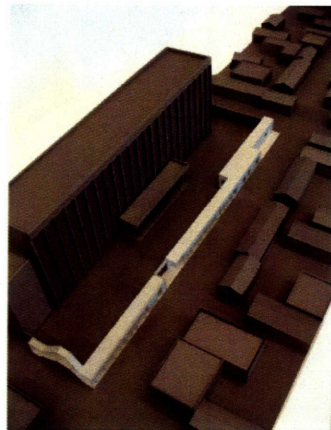
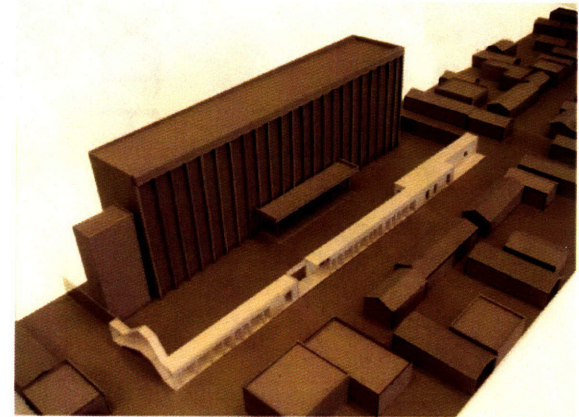
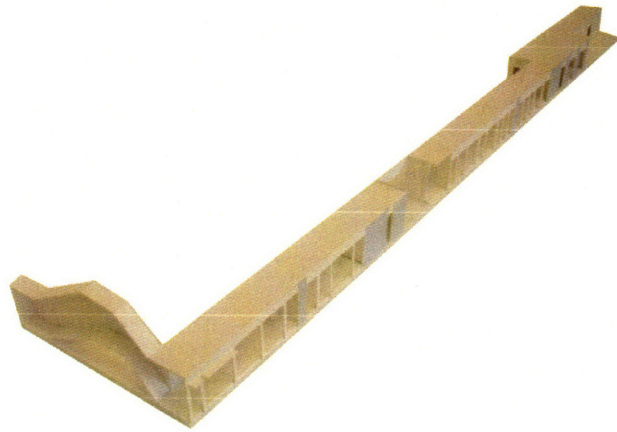
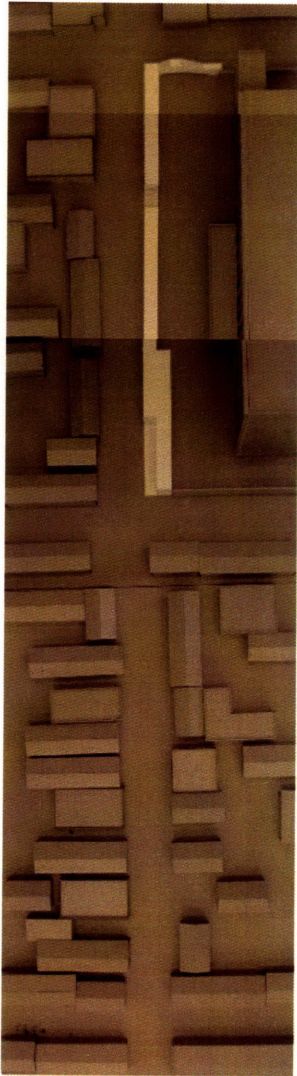
Public Restroom #06



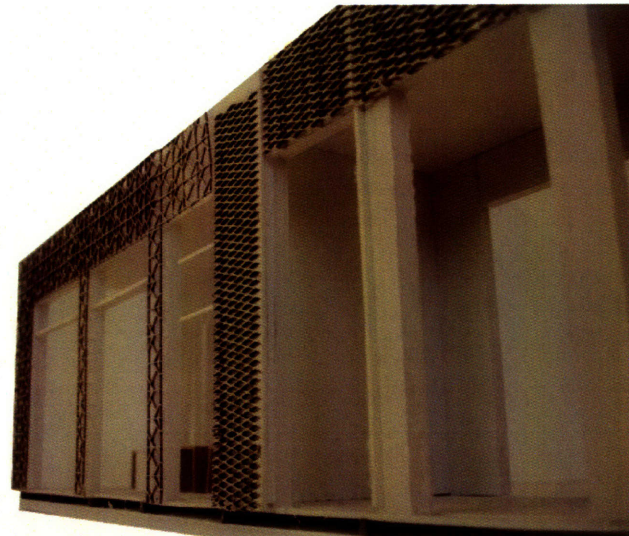
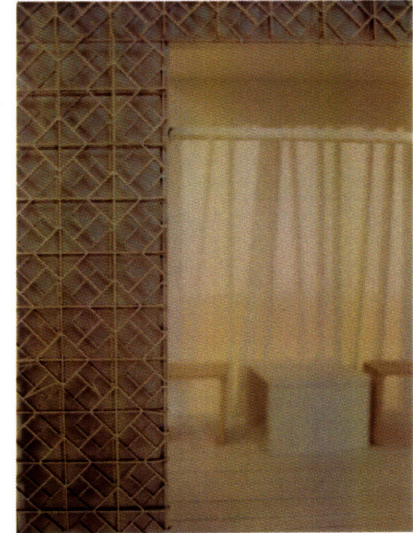
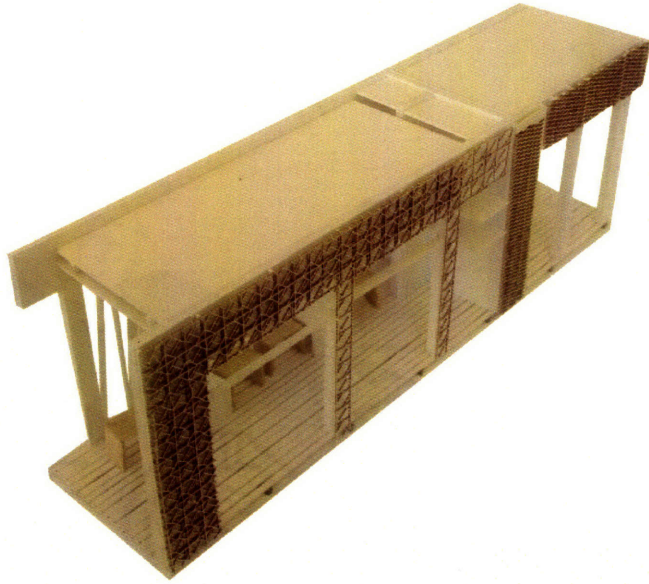
Public Restroom #06



Public Restroom #4.5



Restroom #4.5



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- <http://zh.wikipedia.org/wiki/%E8%83%A1%E5%90%8C> (Chinese)
- <http://zh.wikipedia.org/wiki/%E5%9B%9B%E5%90%88%E9%99%A2> (Chinese)

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- <http://www.bow-wow.jp/>

Micro Intervention

- <http://www.banksy.co.uk/>

Micro Urbanism

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- <http://oldpage.culture.gov.tw/taipei120/TIL-03.shtml>
- <http://www.nettime.org/Lists-Archives/nettime-1-9908/msg00095.html>

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- http://en.wikipedia.org/wiki/Gordon_Matta-Clark
- <http://www.artnet.com/Magazine/features/smyth/smyth6-4-04.asp>

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- figure 06 Beijing Central Park (<http://www.maps.google.com>)
- figure 09 Jinhua Architecture Park (<http://www.ionly.com.cn/pro/7/72/20051212/173737.html>)
- figure 13 Conical Intersect (<http://www.artnet.com/Magazine/features/smyth/smyth6-4-4.asp>)
- figure 14 Conical Intersect (<http://www.artnet.com/Magazine/features/smyth/smyth6-4-5.asp>)
- figure 21 Banksy (http://www.banksy.co.uk/outdoors/horizontal_1.htm)