

The Poetics of Dwelling: China's Courtyard Homes

by

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Author's declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.



The Poetics of Dwelling:
China's Courtyard Homes

Abstract



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Dwelling is a notion that describes the feeling of returning home to utter belonging and calmness at the end of an endeavour. It is a notion that differentiates a mere shelter versus a home because we develop intimate relationships with the spaces within. The spiritual characteristics that are associated with dwelling exceed the analytical description of space. It is an expression of how we live.

In the context of a modern metropolitan such as Shanghai, the city is extremely dense in population and functions at an accelerated pace. During the age of the technological revolution, citizens can network with others on a variety of platforms on a daily basis, causing them to be in a constant state of mobility. The main intention of recent residential developments is to build rapidly to meet the demands of the growing population, and residential architecture often becomes the by-product of modern construction methods. The current housing market consists of monolithic neighbourhood blocks featuring very rigid unit layouts. These units do not allow the resident to appropriate the space, hence preventing them from building a personal connection to their home. In this thesis, I argue that there is a lack of concern for the spiritual aspects of dwelling in the modern housing market of China. Instead, the home should play the role of a touch-down place within this accelerated environment, providing a slow space for rewind at the end of a busy day.

There is an extensive philosophy behind the idea of dwelling throughout the Chinese history. The courtyard home as the most iconic type of housing aims to create a versatile home that is appropriable in both elements of architecture and nature. Every family can easily implement their values and preferences into the home and create a personal utopia. The courtyard manages to combine all elements of the earth into one holistic space. The qualities of the traditional courtyard home can potentially fulfil what is lacking in the current housing market of China. This thesis will analyse the qualities of dwelling in its spiritual connotation and how it can be translated into dwellings of the 21st Century Shanghai and propose a contemporary housing project utilising ideologies of dwelling from Chinese courtyard homes.

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Table of Contents

iii
vi
ix
xii
xxiii

Author's Declaration
Abstract
Acknowledgments
List of Figures
Prologue

1

Introduction

5

Poetics of Dwelling

- 6. Universal Philosophy of dwelling
- 11. Dwelling in China: Chinese Philosophy of dwelling

23

Modern China

- 25. Today's Shanghai: Mobile Society
- 31. Individuality and Dwelling
- 35. Shanghai's Residential Developments

37

Shanghai Site Analysis

- 39. Expo 2010 site

45

Design: Historical Precedents

- 47. Analysis of Traditional Courtyard form Different Regions in China

59

Design: Contemporary Precedents

- 61. Analysis of Modern interpretations of the traditional courtyard

75

Design Concept

- 77. Design Rationales

85

Design Proposal

- 87. Design Drawings

119

Bibliography

List of Figures

0.0.1

Heritage Courtyard home in Lao Dong Men, Nanjing, China.
Photograph by Author

0.0.2

Heritage Courtyard home in Lao Dong Men, Nanjing, China.
Photograph by Author

0.0.3

Heritage Courtyard home in Lao Dong Men, Nanjing, China.
Photograph by Author

0.0.4

Old neighbourhood street of Shanghai
https://upload.wikimedia.org/wikipedia/commons/9/9d/Streets_of_Shanghai_at_night%2C_China%2C_East_Asia-2.jpg

0.0.5

Shanghai Skyline overlooking the historical Longtangs

1.1.1.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.2.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.3.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.4.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.5.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.6.

Illustration depicting the emotions and memories that occur within the daily implications inside the home.
By Pascal Campion

1.1.7.

Johannesburg based architect draws multiple adaptations of a rectangular room, showcasing the infinite possibilities of personal appropriation.
By Marta Badiola

1.2.1.

The emperor's palace in Beijing, also known as the Forbidden City
www.vcg.com

1.2.2.

Central garden of Master of Nets Garden, Suzhou
Photograph by author

1.2.3.

Siheyuan Spatial Diagram
By Author

1.2.4

Plan Diagram Highlighting Yung Ho-Chang's 4 key factors of Siheyuan
By Author

1.2.5.

Diagram highlighting various characteristics of each courtyards based on the different regions of China.
Ping, Lei and Xiangyang Wang. "The Atrium Architecture Space of the Chinese Traditional Venacular Dwellings." *Journal of Nanchang University* 36, no. 1 (January, 2005)

1.2.6. – 1.2.9.

Courtyard dwellings regarded as module. <http://francismajorproject.blogspot.ca/2013/09/quadrangle-dwellings-analysis-for.html>
http://www.davidyek.com/uploads/2/9/0/5/29052859/7765670_orig.jpg

1.2.10.

Lu Ban Carpenter's Manual (绘图鲁班经) from the Song dynasty http://www.997788.com/75725/search_2_25342026.html

1.2.11.

Diagram: Jian
By Author

1.2.12

Diagram: Jia
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.* Shandong Science Technology Publishing House, 1989.

1.2.13

Diagram: Kai Jian
By Author

2.1.0.

Map of Shanghai
<http://freegisdata.rtwilson.com/#china>

2.1.1

Daily Global Flights connected to Shanghai International Pudong Airport
Openflights.com

2.1.2.

International Permeant Residences in Shanghai.
US Census Data California Spatial Data Library

2.1.3.

High Speed Rail/Bullet Train system
Harvard University: Center for Geographic Analysis

2.1.4.

Immigration Patterns in China
US Census Data California Spatial Data Library

2.1.5.

City Stream: Shanghai
Artist: Lu Xinjian

2.1.6.

Average persons per family in 2015
"Shanghai Statistics Year Book." Government of Shanghai, 2015

- 2.1.7.
Imagining Contemporary lifestyles Implemented into Traditional Courtyards
By Author
- 2.2.0.
Shanghai International Free-Trade Zones
Planning department of Shanghai
- 2.2.1.
Local Citizens vs Immigrants.
US Census Data California Spatial Data Library
- 2.2.2.
International Permeant Residences in Shanghai.
“Shanghai Statistics Year Book.” Government of Shanghai, 2015
- 2.2.3.
Locations of Pins retrieved from mobile Apps on China
Baidu Interactive Maps, renqi.map.baidu.com/
- 2.2.4.
Various modular forms generated within the composition of each type of courtyard dwelling.
By Author
- 2.3.0.
Dong Wang Ming Garden (东旺名苑) neighbourhood in Pudong, Shanghai
Anjuku.com
- 2.3.1.
Dong Wang Ming Garden (东旺名苑) neighbourhood in Pudong, Shanghai
Baidu Street View
- 2.3.2
Plan Diagrams of Dong Wang Ming Garden (东旺名苑) neighbourhood in Pudong, Shanghai
- 3.1.0.
Site Map (Shanghai Expo Grounds)
By Author
- 3.1.1.
Official Comprehensive Plan of Shanghai: Residential Layout
Information from planning department of Shanghai,
Drawn by Author
- 3.1.2.
Views from site
By Author
- 3.1.3.
Site surroundings 500m walking radius
By Author
- 3.1.4.
Site Plan 1:5000
By Author
- 4.0.0.
汉宫春晓图 painting from the Han dynasty

4.1.0.

Birdseye photo of the Qiao Family
www.kaoguhui.cn

4.1.1- 4.1.4.

Growth of the Qiao family, depicted in plan diagram.
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.1.5.

Section of the Qiao Family's establishment
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.2.1.

Yikeyin style courtyard dwelling
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.3.0.

An extensive 4 Jin courtyard home in Henan Province
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.3.1- 4.3.3.

Small humble dwelling in Guangdong
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.4.0- 4.4.3.

Drawing of a merchant's home in Jiangsu during the Qing Dynasty
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.4.4- 4.4.6.

Drawing of Typical domestic dwelling in the province of Anhui
Zhi Li, Wang. *Chinese Traditional Architecture of Residence.*
Shandong Science Technology Publishing House, 1989.

4.4.7.

"Watertown"
by Artist Wu Guanzhong (1919)

4.5.0.

Overview of a Lontang/Lilong Neighbourhood
http://shanghaistreetstories.com/?page_id=1288

4.5.1.

Illustration depicting life in a typical Longtang home.
By Artist Yucheng Jin

4.5.2.

Ground floor plan of two attached homes, where one was larger than the other.
Luo Xiaowei "Shanghai Longtang"
Shanghai People's Fine Arts Publishing House -1997

4.5.3.

Historical district in Shanghai today
Photographed by Author

5.0.0.

Okurayama Apartments, SANAA. Tokyo Japan

<http://iwan.com/projects/okurayama-apartments-sanaa/>

5.0.1.

Modular Garden, Studio Penda. Vijayawada, India

<http://www.archdaily.com/772181/penda-to-build-modular-customizable-housing-tower-in-india>

5.0.2.

Vertical Gardens, Amateur Architecture Studio Hangzhou, China

<https://divisare.com/projects/192282-amateur-architecture-studio-lu-wenyu-vertical-courtyard-apartment>

5.0.3.

Nishinoyama Housing, Kazuyo Sejima. Kyoto, Japan

<http://www.architecturalrecord.com/articles/7325-nishinoyama-house>

5.1.0.

Perspective section of Azuma House

<https://en.wikiarquitectura.com/building/azuma-house/>

5.1.2. – 5.1.4.

Photographs of Azuma House by Tadao Ando

<https://en.wikiarquitectura.com/building/azuma-house/>

5.1.5.

Diagram: Nature within the home

By Author

5.1.6.

Diagram: Modular Rooms

By Author

5.1.7.

Diagram: Views from each room

By Author

5.2.0.

Render highlighting the scheme's twenty-one pitched roofs

<https://www.designboom.com/architecture/kazuyo-sejima-unifies-nishinoyama-house-in-kyoto-japan-12-23-2013/>

5.2.1

View from within the unit

<http://www.architecturalrecord.com/articles/7325-nishinoyama-house>

5.2.2.

Utility and circulation spaces

<http://www.architecturalrecord.com/articles/7325-nishinoyama-house>

5.2.3.

Small pockets between each unit form gardens and courtyards

<http://www.architecturalrecord.com/articles/7325-nishinoyama-house>

5.2.4.

Diagram showcasing the multiple types of units combine together to form each household

By Author

- 5.3.0.
Photograph of overall building
<http://www.ssdarchitecture.com/works/residential/songpa-micro-housing/>
- 5.3.1.
Circulation spaces between each unit
<http://www.ssdarchitecture.com/works/residential/songpa-micro-housing/>
- 5.3.2.
Diagram: Shared circulation spaces and green terraces
 By author
- 5.3.3.
Diagram: Shared community spaces
 By author
- 5.3.4.
Diagram: Greenery act as buffer from the busy streetscape to create intimacy
 By author
- 5.4.0
Photograph: Gifu Kitagata Apartments
<http://indayear3studio-1516s1.blogspot.ca/2015/08/gifu-kitagata-apartment-building.html>
- 5.4.1.
Modules within every residential unit.
Information from James Lenk Kitagata Apartment Building case Study, 2015
 Drawn By Author
- 5.4.2.
Plan and perspective section
James Lenk Kitagata Apartment Building case Study, 2015
- 5.4.3.
Aspect of anonymity from this method of combining different modules.
 By Author
- 5.5.0
Site plan of Qianjiang Times Vertical Courtyard apartments
"Vertical courtyard apartments, hangzhou, china," World Architecture (2012)
- 5.5.1 – 5.5.3.
Photographs of of Qianjiang Times Vertical Courtyard apartments
"Vertical courtyard apartments, hangzhou, china," World Architecture (2012)
- 5.5.4.
Typical Floor Plan
"Vertical courtyard apartments, hangzhou, china," World Architecture (2012)
- 5.5.5.
Typical floor plan Diagram showcasing the large garden spaces
 By Author
- 5.6.0. – 5.6.3.
Renders: Vijayawada Garden Estate
<http://www.home-of-penda.com/>
- 5.6.4.
Diagram of modular system
<http://www.home-of-penda.com/>

5.6.5.

Diagram showcasing the modular garden spaces
<http://www.home-of-penda.com/>

5.7.0.

Vitacon Itaim Building, Sao Paulo

Photograph by Pedro Vannucchi. <http://www.archdaily.com/575391/vitacon-itaim-building-studio-mk27-marcio-kogan-carolina-castroviejo>

5.7.1 – 5.7.3.

Changing façade conditions

Photograph by Pedro Vannucchi. <http://www.archdaily.com/575391/vitacon-itaim-building-studio-mk27-marcio-kogan-carolina-castroviejo>

5.7.1 – 5.7.3.

Close up of privacy and ventilation screens

Photograph by Pedro Vannucchi. <http://www.archdaily.com/575391/vitacon-itaim-building-studio-mk27-marcio-kogan-carolina-castroviejo>

6.0.0.

Traditional courtyard vs. Contemporary Courtyard

By Author

6.1.1.

Humans of Shanghai.

Information retrieved from: Weibo. Shanghai: Tencent Weibo, 2014.

Drawn by Author

6.2.0.

Conceptual contemporary courtyard, Studio unit - perspective drawing

By Author

6.2.1.

Conceptual contemporary courtyard, Studio unit – Unit plan

By Author

6.2.2.

Conceptual contemporary courtyard, Family unit - perspective drawing

By Author

6.2.3.

Conceptual contemporary courtyard, Family unit – Unit plan

By Author

6.2.4.

Conceptual contemporary courtyard, Family courtyard - perspective drawing

By Author

6.2.5.

Conceptual contemporary courtyard, Family courtyard – Unit plan

By Author

6.2.6.

Division of modules

By Author

6.2.7.

Combining ideas of contemporary and traditional dwellings in China

By Author

- 6.2.8.
Courtyard in the past
By Author
- 6.2.9.
Courtyard of Contemporary Shanghai
By Author
- 7.0.0.
Conceptual Sketch of design proposal
By Author
- 7.1.1.
Utilizing the idea of modularity of the traditional courtyard.
By author
- 7.1.2.
Comparing proposed units to traditional dwellings
By Author
- 7.1.3.
Parti
By Author
- 7.1.4.
Rotation of structural walls
By author
- 7.1.5.
Division of spaces on each level
By Author
- 7.1.6.
Ground Plan 1:200
By Author
- 7.1.7.
Typical Plan 1:200
By Author
- 7.1.8.
Sketch – Building Section
By Author
- 7.1.9.
Building Circulation
By Author
- 7.1.10
Building Section
By Author
- 7.1.11.
Unit section from private courtyard
By Author
- 7.1.12.
Unit section form suite
By Author

7.1.13.
Hui style architecture Anhui Province
Zhi Li, Wang. *Chinese Traditional Architecture of Residence*.
Shandong Science Technology Publishing House, 1989.

7.1.14.
Facade with movable panels
By Author

7.1.15.
Render – elevation view
By Author

7.1.16.
Traditional wood Lattice Windows
www.vcg.com

7.1.17.
Render of proposed residential building
By Author

7.1.18.
Exterior Thresholds: Public to Private
By Author

7.2.1.
Site Plan 1:1250
By Author

7.2.2.
Site Plan - Ground Condition
By Author

7.2.3.
Diagram - Sun Path Around the proposed neighbourhood 1:1250
By Author

7.2.4.
Spatial Strategy 1:1250
By Author

7.2.5.
Context Plan
By Author

7.2.6.
Possible Future Site Development
By Author

7.2.7.
Proposed Statistics
By Author

7.2.8.
Typical Neighbourhood Statistics
Information: Anjuku.com
By author

7.2.9.
Unit Simulation 1: Perspective
By Author

7.2.10.
Unit Simulation 1: Plan
By Author

7.2.11.
Unit Simulation 2: Perspective
By Author

7.2.12.
Unit Simulation 2: Plan
By Author

7.2.13.
Render of Neighbourhood
By Author

Author's Notes

Chinese terms are written in English alphabets in Pinyin and followed by the Chinese character where applicable.

All English translation of written works in Chinese are by the author unless noted otherwise.

Prologue

I walk pass the narrow stone paved pathway that leads to even narrower pathways breaching off the main trail. Sunken into the walls are the understated doors that lead to the individual courtyards. I choose randomly and enter to what I anticipate to be a simple home, as there was nothing special about this specific entrance. I peer through the crack of the doorway, to my surprise, a small but intricate labyrinth reveals itself to me as I walk past the plain white walls that enclose this personal utopia of the owner.

Three main halls form the perimeter of a small sky well, where light pours into the courtyard. At ground level, a narrow bridge-walk floats on top of a clear pond embellished with lily pads, lotus plants and colourful pebbles. Several red carps swimming freely in the water as glimpses of light gets reflected into each room through the semi-covered corridors. Clusters of plants are carefully arranged in each of the four corners of the courtyard, clearly showcasing the owner's taste and aesthetic.

Above is a literal description of my visit to the historical site of traditional Chinese houses in Nanjing, China. Prior to visiting the courtyards, my mission was to investigate what that prompts the atmosphere of a relaxing unwind space. To find places within the courtyard where one would stop and take a breather from the trivial matters of daily life. As soon as I entered the space, I realised there is not one sole element that convinces this factor, rather the entire composition of space and its perfect balance of nature and architecture. There is a sense of calmness and harmony. The undefined threshold between indoor and outdoor space creates a holistic experience. No matter which room I was in, I was able to gaze through the courtyard into the opposing space. The minuscule courtyard is the centrepiece that connects all spaces within the home; it manages to create a dialogue with each room hence tying every space into one complete dwelling. The idea of connectivity from space to space was not direct, yet there is also a strong sense of interaction at all times. This experience of visiting the traditional courtyard homes was extremely exceptional and gratifying. The atmosphere of the space is so serene that I almost forgot I was still in the busy city of Nanjing.

Introduction



o.o.4 Old neighbourhood street of Shanghai

When we say “let’s go back home”, we suggest that the home is a place that we return to at the end of an endeavour. It is a place where an individual can fully relax and experience the sense of dwelling. German philosopher Martin Heidegger considers the act of dwelling far more sophisticated than just occupying a space, but rather as a state of mind. In his essay “Building Dwelling Thinking”, He says “Instead it is a way of existing in the world”.¹ Our home can be considered as an expression of how we live. We tend to place a set of personally curated elements inside the space and surround ourselves with elements that can give us joy or comfort. Dwelling is the utmost familiarity of a home. In the urban fabric of the 21st Century, the concept of dwelling becomes especially crucial to the individuals who live in a metropolis such as Shanghai. The citizens lead such an incredibly fast-paced lifestyle that result in the growing need for an intimate personal space at the end of the day.

China specifically is a culture that has an extensive philosophy behind the home. Once the most celebrated form of architecture in China, the scale range from humble domestic homes to grand imperial palaces. The firm belief in creating a personal utopia through building a holistic home that includes a balance of architecture and nature is consistent amongst all typologies of housing throughout the Chinese history. However, these extraordinary characteristics are not present in the recent housing developments. Shanghai is the economic centre of China; its housing market is vastly expanding to meet the needs of the growing population. During the past few decades, countless neighbourhoods were eagerly built. It seems as though the haste of erecting residential buildings to meet demands has reduced the amount of effort in creating quality spatial arrangements for its occupants.



0.0.5
*Shanghai Skyline overlooking the
historical Longtangs*

Architects should strive to create housing that can help balance the accelerated lifestyle that citizens are leading today. The home, as a physical extension of our lifestyle should adapt to our values and needs in order to inform the spiritual aspects of dwelling. The neighbourhoods featuring rigid unit layouts disregards both Chinese customs and contemporary needs. It is crucial to consider cultural identity when designing dwellings; it is a factor that heavily influences how people choose to live. I want to challenge the spatial parameters of the homes in 21st century China to engage the spiritual notion of 'dwelling' in regards to the Chinese culture, without sacrificing the flexibility needed to cater to a diverse range of modern lifestyles.

The courtyard house is the most iconic form of housing in traditional Chinese architecture. It remains one of the most distinct forms of Chinese dwellings. Pritzker Award-winning architect Wang Shu said in an interview, "the traditional Chinese courtyard was developed through generations of family values, there is a complexity to it because it was formed in an organic manner." The courtyard module was able to successfully adapt through many centuries and also to all families across China. Despite a similar composition of space, each household maintained its individuality and implemented their values into to the home. As my thesis strives to bring the cultural and spiritual aspect of dwelling into modern homes, I want to extrapolate the essence of the courtyard house, combine it with modern values and construction methods to create housing that can become dwellings of contemporary China.

1. Heidegger, Martin. "Building Dwelling Thinking." From *Poetry, Language, Thought*, translated by Albert Hofstadter, Harper Colophon Books, New York, 1971.

2. Wang and Chen, Possibilities of "Chinese-Style Housing": A Dialogue between Wang Shu and His Students 36-41. Gaston Bachelard, *The Poetics of Space*, trans. M. Jolas, reprint ed., Vol. 330 Beacon Press, 1994).

The Poetics of Dwelling

The home is an inevitable entity in everyone's lives, playing an important role in each stage. The mathematical measurements of space is inadequate when describing the emotions involved with the daily implications that occur within our home. In "Building Dwelling Thinking" Heidegger approaches dwelling as a way of existing in the world. He believes a dwelling offers much more than the quintessential shelter. It is the quality that fills the home with a sense of belonging. Gaston Bachelard, a French philosopher, also writes about the home. In his book *The Poetics of Space* he writes, "Our soul is in a place of dwelling."³ For him, understanding the dwelling is the equivalent to understanding the soul. In many ways the notion of dwelling is an activity that represents and describes "how we live".

To further understand the connotation of dwelling, Heidegger explores of the etymology of the word in German, his native language. "Bauen" meaning to dwell, linked to the word "Wohnen" meaning to stay or to be at peace. "Friede", the common word for peace, also means to be protected and preserved from danger.⁴ Essentially the definition of dwelling is associated with staying at one place whilst feeling peaceful and protected. In agreement, Bachelard says the phenomenology of the dwelling transcends the mere description of space, the study of the dwelling is to grasp the intimate atmosphere that it provides, and the "protection and bliss it can grant us"⁵ There is a universal and timeless understanding that the home provides a sense of ease and peacefulness.

Bachelard uses the primitive notion of a home to explain why the inclination of residing in a dwelling is so crucial. He believes it is human nature to desire such a place. Originally the primitive hut is to provide shelter, keeping us safe from weather conditions and predators. As humanity move forward with civilisation, we now reside in more sophisticated buildings. Many of us no longer have to regard the notion of safety in its rudimentary implication. However, we should understand the instinctive yearning for security and where this emotion originated from. Bachelard argues we are still greatly attached to that emotion. He sees the home as a maternal figure, a place where we safely store our valuables, intimate feelings, and memories.⁶



1.1.1



1.1.2



1.1.3

One of the principal purpose of the house is to retain our memories, only when we create memories in a place and experience the sensation of familiarity, then we feel at home. We reside our memories to our home during each period of our lives. It often defines how we understand a place or a lifestyle. Bachelard writes, when we recollect our memories, we also daydream. He emphasizes this concept because the pleasures of daydream are not reliant on anything else besides our own mind and the memories that we store. “Thought and experience are the only things that sanction human value. The values that belong to daydreaming mark humanity in its depth”⁷. A home can be understood as a physical or objective entity, but it should also entail an internal subjective, comprised of feelings, dreams, and memories. “The house is a source of poetic image,” said Bachelard, “it is a place where diversity, complexity and unity co-exist”⁸.

The founders of the architecture practice StudioKAP, Roderick Kemsley and Christopher Platt refers to Bachelard and his ideas of dwelling in their book *Dwelling with Architecture*. They point out that we instinctively look for a familiar place of safety to return to every night. The dwelling can be portrayed as a human’s nest,⁹ the one place where we can feel secure enough to allow ourselves to rest. We do not notice this until we are denied of this privilege. In the sense that a small unexpected change to our living conditions such as having to sleep in a hotel or even a different bed can make us feel uneasy or unsettled. The source for this emotion goes beyond the inconvenience of the situation. This attachment rests on an emotional connection towards the home. The security of a home is based on a trust that we build over time.

We build a relationship with our home through arranging an individualistic spatial atmosphere. We also curate items that are meaningful to us to situate in our home to better appropriate the space for our desired way of living. “Our house is our corner of the world. As often been said, it is our first universe, a real cosmos in every sense of the word,”¹⁰ said Bachelard. Understanding the dwelling is the equivalent of

1.1.1 - 1.1.6.

Illustrations depicting the emotions and memories that occur within the daily implications inside the home. Artist: Pascal Campion



1.1.4



1.1.5



1.1.6

understanding the soul because the dwelling is the cosmos of the individual. In many ways, the home is our personal utopia.

Heidegger speaks in a similar manner by stating the process of creating the dwelling is a way for the individual to make sense of their circumstance. It is how we express our understanding of the world.¹¹ Hence, the process of building our home is the key to establishing a dwelling. The building process include a series of decisions, each one with a purpose. Hence, these decisions signifies the ideal way of living for each individual. He criticises modern residential developments, stating that buildings today all provide adequate shelter but not necessarily guarantee the act of dwelling, and this is the result of the disruption between the act of building and dwelling. Heidegger continues to say the two activities should work in unison to create the individual's cosmos.¹²

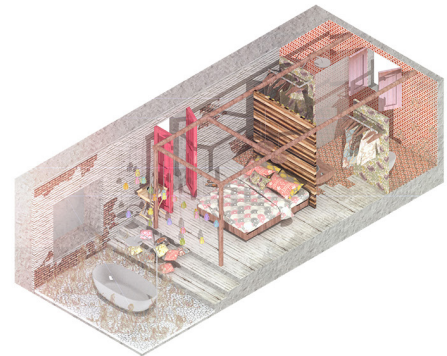
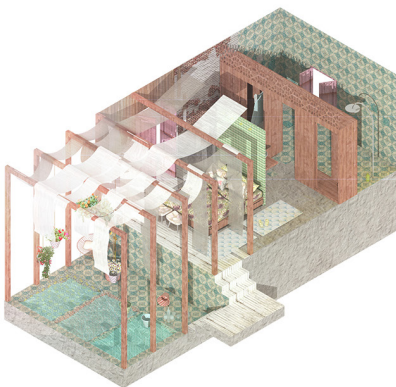
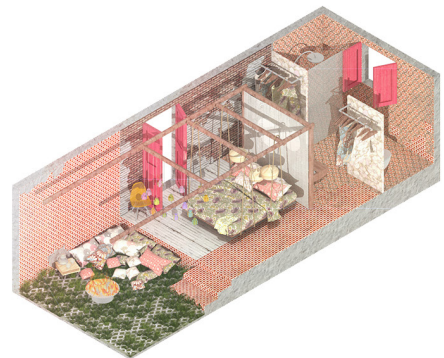
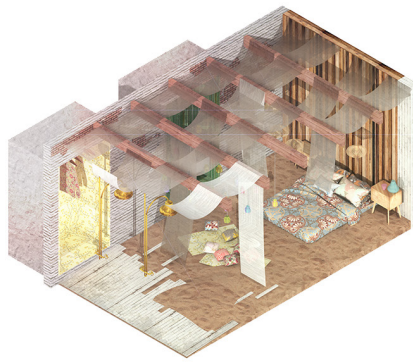
The characterization of 'building' does not conform only to the literal construction process. Heidegger uses the example of a dining table to convey his definition for 'building'. The dining table is an element of daily life. It is placed by its user in a specific location within the home. Moving the table around in a way constitutes a form of 'building' because it is an implication how the individual will anticipate his dining experience. Subsequently, the later engagement of the user to the table is a form of dwelling. In this case, both activities rely on each other. Similarly, Setting up the dining table is also a form of building, it demonstrates how they will anticipate to eat.¹³ Through these two examples, we can see that the definition of building is when an individual attempts to create a personal lifestyle and envision themselves to live a certain way that is desirable to them.

"A building should not be understood just as an object to be admired or the product of a construction management process. Rather, it is a primary part of an ongoing human experience of building and dwelling."¹⁴ During the iterative process of appropriating

the the home we cultivate a stronger connection with the spaces, transforming it into our dwelling. A home should have the ability to evoke a connection to the occupant, where the activity or the feeling of being inside the atmosphere is subconsciously meaningful and memorable. Architects should create spaces that give its occupants the freedom to build their preferred way of living because dwelling is not a static affair; it is a pursuit that we take on daily.

Dwelling is the indescribable elements that differentiates occupying a space and living in a home. It can be considered as a habit or an expression of how we live, it is a poetic process.¹⁵ In today's urban society it becomes especially important as we must endure the psychological stress from living in an ever-changing urban environment, leading extremely diverse lifestyles. The home can act as the one constant element that can ground us and become the basis of operation. Unfortunately, homes today lack the ability to evoke the spiritual notion of dwelling. Housing in the 21st century is often regarded as a physical property. However, a home is much more meaningful than a mere investment. It is a place where life unravels, a place where we can relate our experiences and memories.

3. Gaston Bachelard, *The Poetics of Space*, trans. M. Jolas, reprint ed., Vol. 330 Beacon Press, 1994).
4. Martin Heidegger, "Building Dwelling Thinking," in *Poetry, Language, Thought*, trans. Albert Hofstadter, Vol. 154 (New York: Harper Colophon Books, 1971).
5. Bachelard, *The Poetics of Space*
6. Bachelard Gaston, "The house. From Cellar to Garret. The Significance of the Hut" (1994)
7. Bachelard, *the Poetics of Space*, Beacon Press, Boston, (1994). P6
8. Ibid.
9. Roderick Kemsley and Christopher Platt, *Dwelling with Architecture* (Abingdon, Oxon ; New York, NY: Routledge, 2012).
10. Bachelard Gaston, *the Poetics of Space*, Beacon Press, Boston, (1994). P4
11. Martin Heidegger, "Building Dwelling Thinking." (1971.)
12. Ibid.
13. Adam Sharr, *Heidegger for Architects*, New York, (2007). P41. Martin Heidegger, "Building Dwelling Thinking." (1971).
14. Ibid.
15. Bachelard, Gaston, *the Poetics of Space*, Boston 1994. P.3 Christian Norberg-Schulz, *Concept of Dwelling : On the Way to Figurative Architecture* / Christian Norberg-Schulz (New York: Rizzoli, 1985).



1.1.7. (Right)
Johannesburg based architect Marta Badiola
draws multiple adaptations of a rectangular room,
showcasing the infinite possibilities of personal
appropriation.



Dwelling in China



1.2.1. *The emperor's palace in Beijing, also known as the Forbidden City features intricate layers of grand halls and palaces, creating multiple scales of courtyards and dwellings. The palace magnifies the values of traditional Chinese courtyard dwelling.*

The home is a celebrated form of architecture throughout the Chinese history. There is a strong belief that there is philosophical depth behind the implications of every individuals' daily life. Consequently, the dwelling implies the establishment of a range of meaningful relationships between the individual and their given environment.¹⁶ The traditional courtyard house, one of the most successful and distinguished forms of traditional Chinese architecture, conveys this belief in the most profound manner. Its main focus is to establish a holistic place that includes both architecture and nature.

Philosophically, the ancient Confucius culture believes the universe operates within the natural elements of the earth, and simultaneously everything in the universe is described by the concept of Yin and Yang. Establishing an equal balance between Yin and Yang would mean achieving total harmony. An open courtyard enclosed by architecture precisely represents this philosophy. The manmade structures are conveying the force of Yang while the void of the courtyard expresses the force of Yin. Thus the individual whom reside in the courtyard is essentially living in a harmonious personal cosmos. Spatially, the courtyard is the mediating place between architecture and nature, private and public, open and enclosed, solid and void, interior and exterior, protected and unprotected.¹⁷ It is a well-balanced space in every aspect.



Embracing nature into the home is not confined solely to the Chinese culture. Universally, being connected to the natural environment is a way to feel calm because the experiences in nature will always be humbling and inspiring. Heidegger also writes about this idea. He says the sky envelops our existence. We should accept the weathering from all the seasons with grace and remain a consciousness to the elements of nature. When nature can be a part of our home, we can reach divinity.¹⁸ Apart of dwelling means to liberate ourselves by living with nature and the world. It is a way to feel content and peaceful.

1.2.2.

Central garden of Master of Nets Garden, Suzhou

The goal of Chinese architecture is to create a comfortable environment for its users by utilising elements from both architecture and nature. The combination of the two is essential in achieving a sustainable way of living. The courtyard acts the nucleus of the home, it is a place where the resident can be in touch with all elements of nature and life. These elements includes light, air, earth, rain/water, wind, people, and even gods. Inside the courtyard home, nature falls naturally into the enclosed courtyard. Each family can claim their personal piece of the universe. Not one living area is detached from nature as they each face inwards towards the courtyard, making it the central focus of the home. As a result, it also becomes the connection between all rooms, using nature as the threshold that binds all spaces.

The harmonious spatial quality corresponds to an incredible level of complexity embedded within the courtyard house to achieve its poetic quality. Wang Shu



who proactively promotes the success of traditional courtyards, mentions the complexity in these Chinese homes were they formed organically throughout many generations.¹⁹ Family relationships and hierarchy would unfold within the walls of each household, making the house far more than a simple structure. It was a form of institution.²⁰ There is an autonomous nature to the courtyard. It is unaffected by the complications of the outside world. The owner has the opportunity to institute his family relations within an untamed environment.²¹ They were able to implement their own set of values into the home.

The autonomous courtyard also allows for families to build personal connections with their home through an ongoing process of appropriation. Wang describes the importance of the iterative ‘building’ process. He says, “When we personally create an element of our home, it has a clear purpose. Thus there is a connection between each element and ourselves.”²² It is apparent that this is in agreement with Heidegger’s idea of building and dwelling. The renowned Suzhou gardens are great examples of dwellings that embodies the extent of appropriating the home towards the individual’s desired way of living. Each destination within the gardens has a specific purpose. Such as the small pagoda in the Master of Nets Garden. It is named as the Pavilion for the Advent of the Moon and Wind because the owner wanted to create an outdoor space where he can admire the moon in autumn’s breeze. The home owner would build the home towards how they envision themselves in every scenario, emphasizing on the poetics of dwelling.

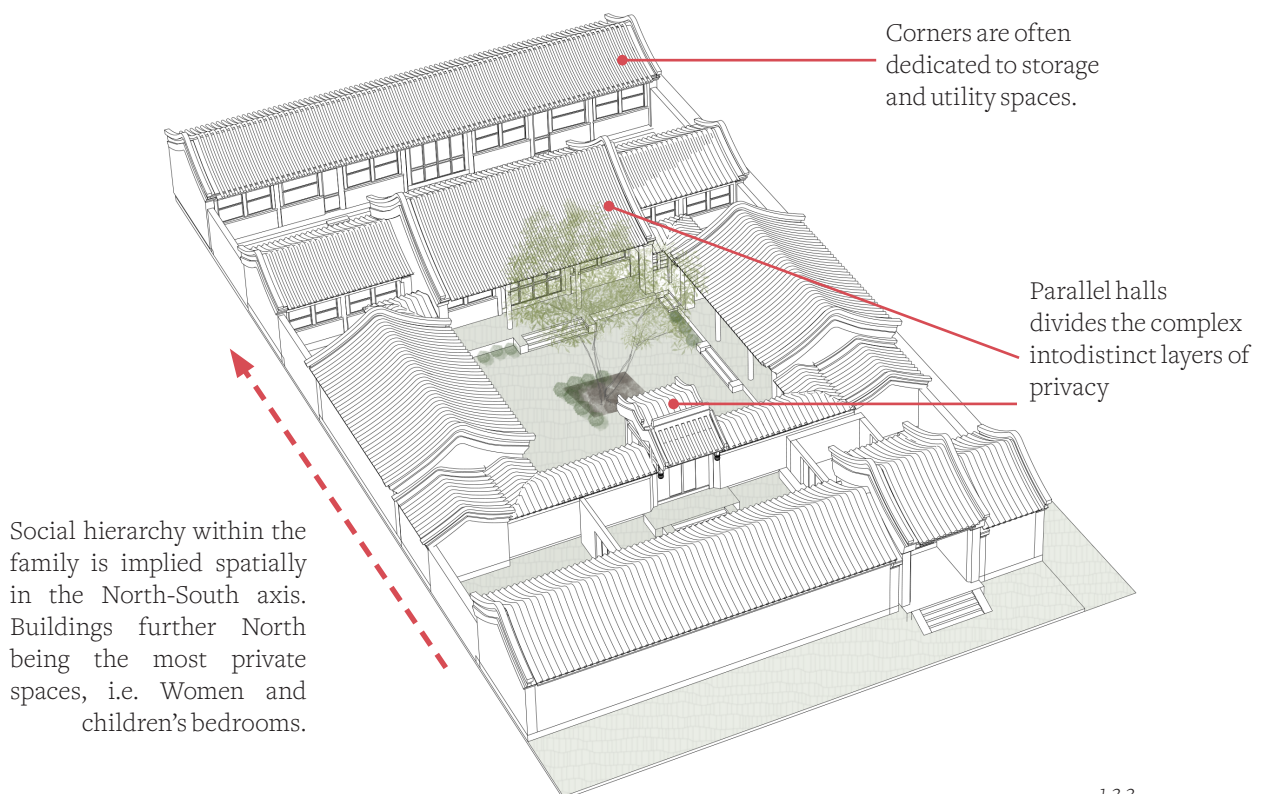
Beijing: Siheyuan

The most iconic courtyard dwellings are the Siheyuans in the capital city of Beijing. Culturally, it is the epitome of perfect Chinese Feng-Shui. Architecturally, they are balanced and symmetrical quadrangle structures, proportional in scale to the city grid of Beijing. Siheyuans are also the most standardized form of courtyard. It reflects all the ideals of Chinese philosophy in regards to dwelling. Therefore, historically it was considered as a reference for residential architecture amongst many other regions in China. Architects today often study the spatial qualities of the Siheyuan as a guide to further understand the ideas that manifest a traditional Chinese dwelling.

Siheyuan is a residential quadrangle comprised of free standing buildings arranged around the perimeter of a square central courtyard. Constructed at different scales Siheyuan vary in complexity, ranging from a domestic single courtyard compound of a small family to a hierarchically structured courtyard complex of an imperial prince.

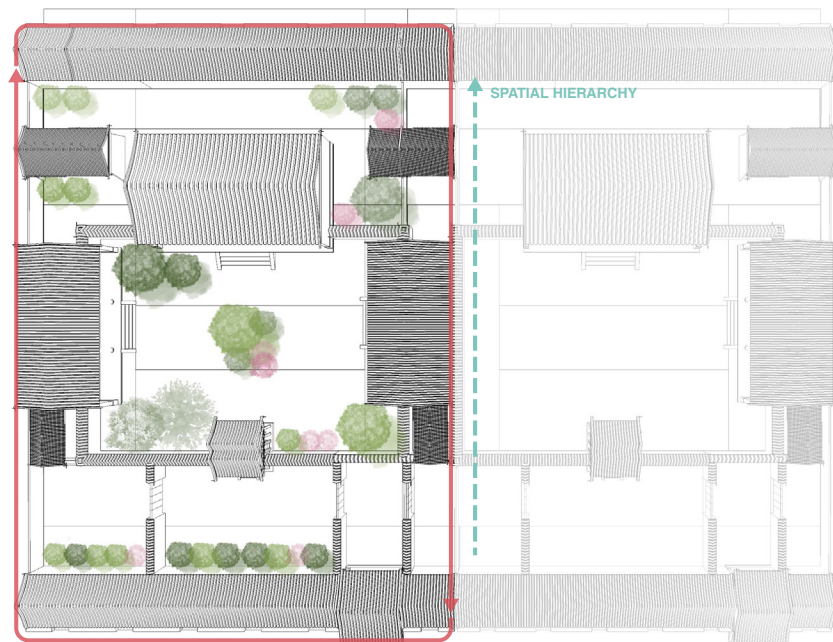
Spatial characteristics of a typical Siheyuan:

- Single family complex for built for various generations
- Central courtyard is used as an extension of interior space, garden space, as well as the central meeting space for gatherings
- Strict social hierarchy expressed spatially within each household



1.2.3.

1.2.4.
Highlighting Yung Ho-Chang's 4 key factors of
Siheyuan



Yung ho-Chang is a professor at MIT Architecture and principal architect of Atelier FCJZ, in his essay “YUAN” he highlights four key elements of the Siheyuan.²³ These elements can be applied to all forms of courtyard dwellings, not just the Siheyuan.

An Introverted Void

There is complete enclosure from the perimeter walls whilst on the interior the house is widely open toward the center courtyard. Rice paper windows and wood paneled doors barely separating indoor and outdoor.

A Miniature Universe

Within the enclosed walls, the dwelling becomes the owner's personal cosmos, where he translates his understanding of the world. The walls and the entities within, builds his connection to nature and his environment. Whilst family relationships translate into social hierarchies

An Autonomous Courtyard

The courtyard is not a by-product of building arrangements, instead it can be viewed as the symbolic nucleus that precedes the surrounding buildings. Inside a Siheyuan. The courtyard plays many roles, it extends indoor space to accommodate daily activities, yet also acts as a central gathering space for special occasions. Life inside the courtyard is unaffected by the complications of society.

Room Buildings

Each building is regarded as a unit, used as one singular space. This promotes the subtle repetition of units, allowing the Siheyuan to be easily expanded and adapt to all families.

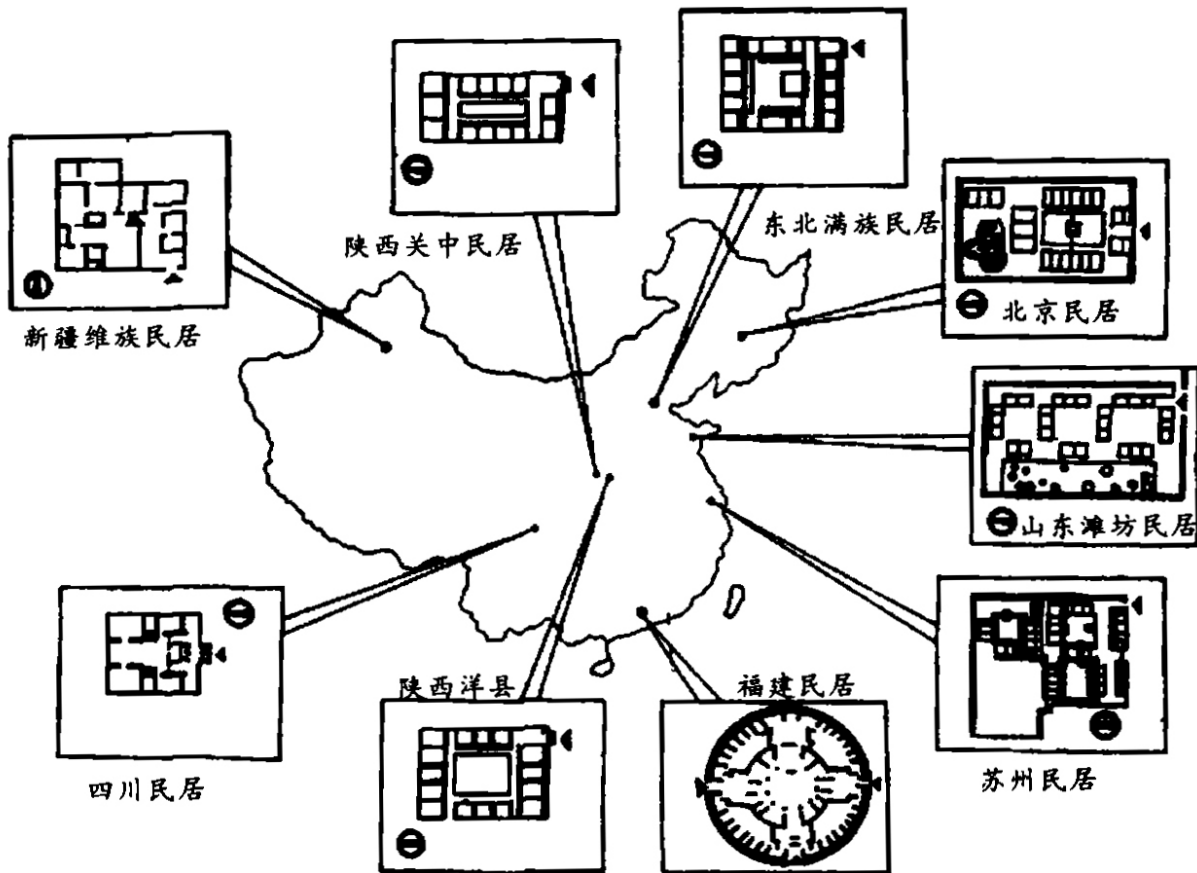
The flexible spatial quality of the courtyard home allows each household to maintain the poetic characteristics of their dwelling throughout the history of China, despite the various cultural and climate conditions. The metaphysics of the courtyard may seem apprehensive because of the strong philosophical implications. However its form manages to adapt to a broad variety of climate, culture, and size of families across China. Geographically, China spans longitudinally across a large portion of the northern hemisphere. Climate conditions vary widely between each province. Nevertheless, every region has managed to appropriate the courtyard home to best accommodate to their specific circumstances and preferences. Therefore courtyard architecture was able to transcend through each dynasty of China's extensive recorded history. It plays a crucial role in all forms of housing during each time period, ranging from the humblest family dwelling to the most extravagant royal palaces. Validating that the courtyard is a suitable element that is essential to every form of household in China.

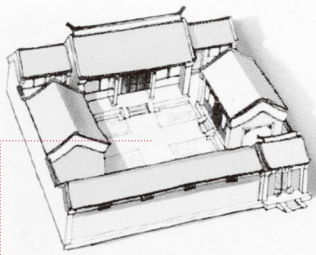
1.2.5.

Each region in China identifies with a unique version of the courtyard dwelling. It has been the most widely used form of housing in China for thousands of years. The modular nature of courtyards makes them easily adaptable to all time periods and regions in China.

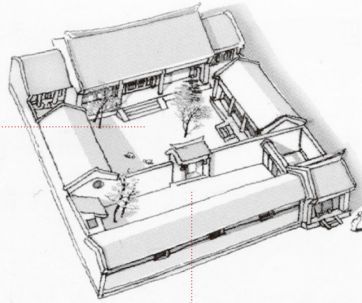
1.2.6 - 1.2.9. (right)

Each courtyard dwelling can be regarded as module. It can be easily combined and multiplied if the family wishes to expand.

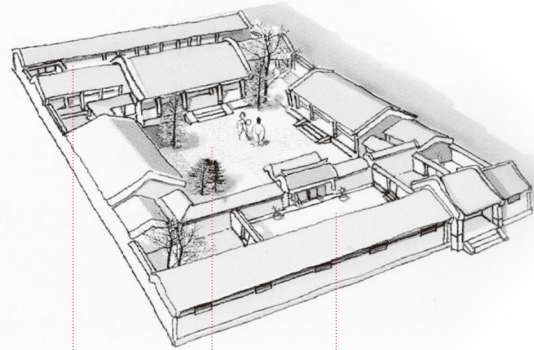




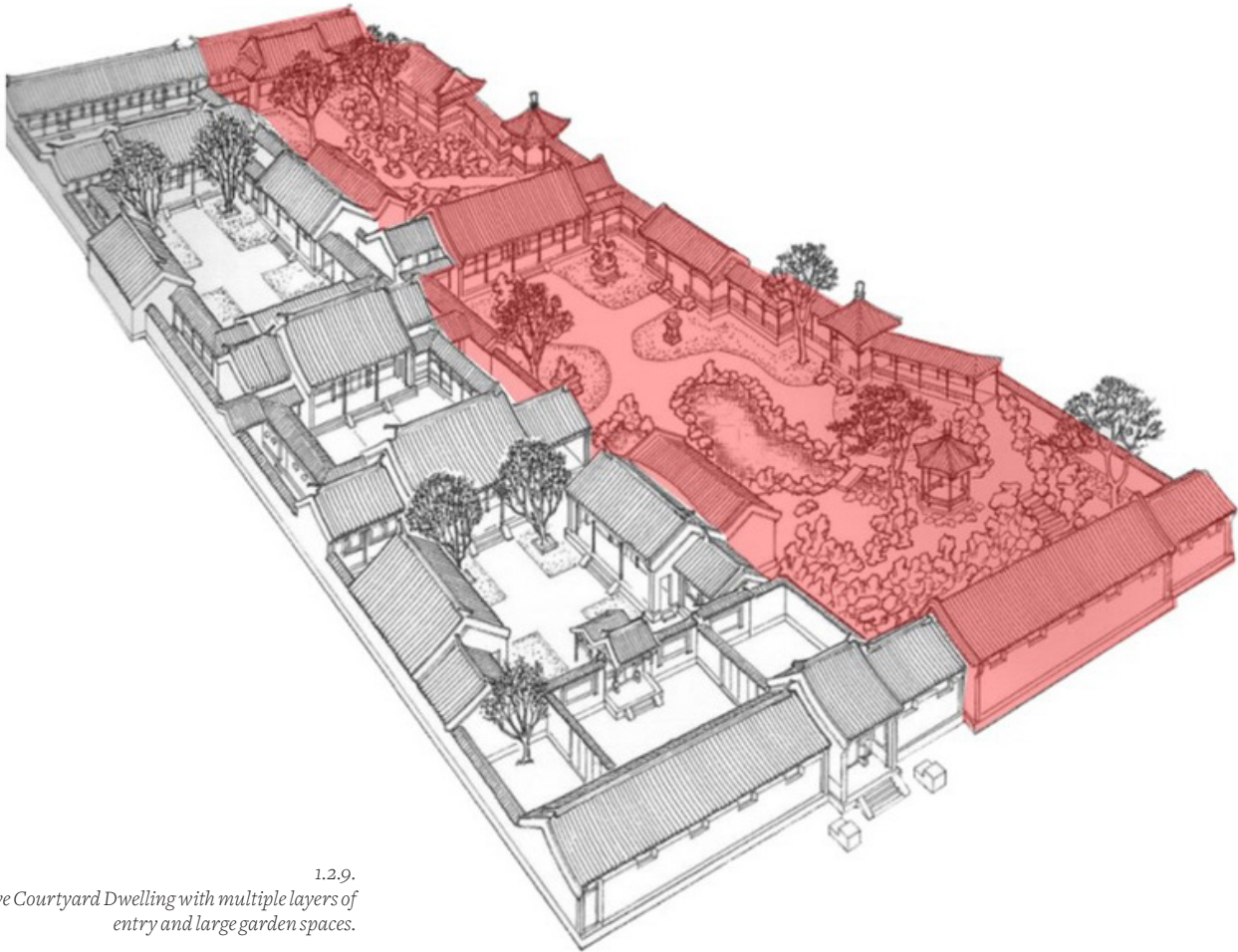
1.2.6
Minimal Courtyard module



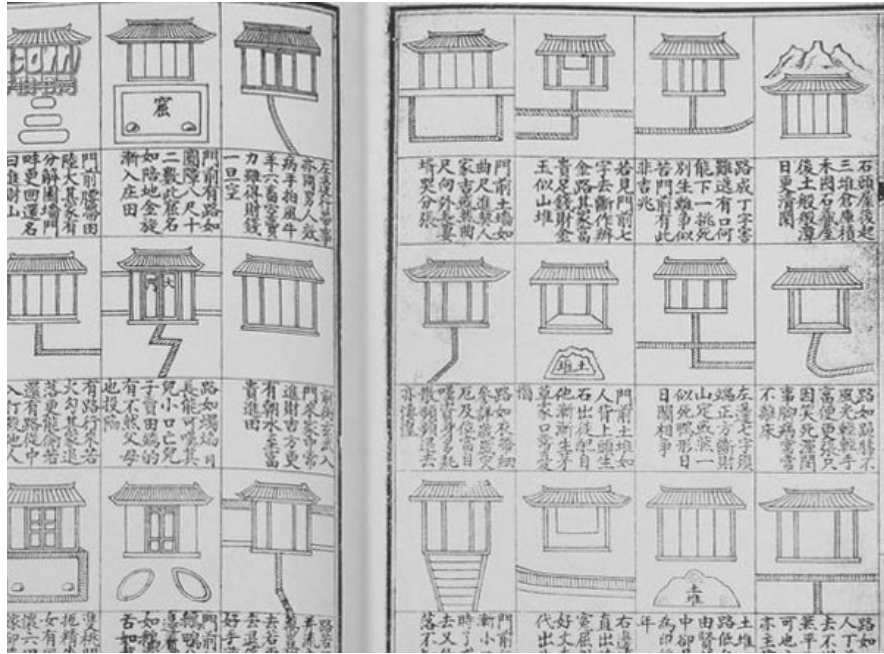
1.2.6
Basic Courtyard Module with entry courtyard



1.2.7.
Standard Siheyuan, with entry courtyard and small ear gardens in the corners of the home.



1.2.9.
Extensive Courtyard Dwelling with multiple layers of entry and large garden spaces.

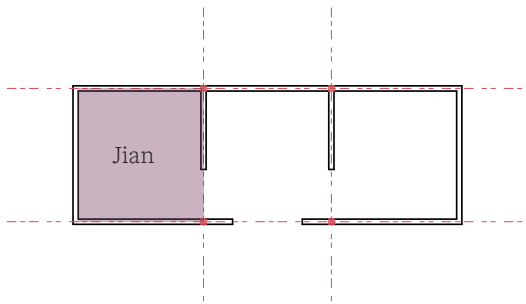


1.2.10. LuBan Carpenter's Manual (绘图鲁班经) from the Song dynasty

Carpenters in ancient China perfected the fundamental spatial configuration of the courtyard house by basing its composition on a unitized system that works cohesively with the structure of the building (Figure.1.2.11.- 1.2.13. 间/开间).²⁴ This method of construction made the courtyard house a versatile form that can be recreated and customised. The spaces created based on the ancient unitized system can be easily divided into small intimate spaces or multiplied to create grand halls. Thus, the building process of the home can become an on-going experience for each inhabitant as their families grow for generations to come. Each family has the freedom to institute their unique form of dwelling.

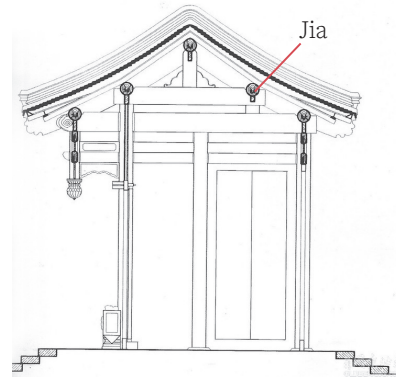
The Basic Unit:

“As a measurement unit employed by builders and as a structural unit itself, a Jian thus becomes a design module that can be duplicated in a series to give an overall two-dimensional and three-dimensional shape to an expanding dwelling. The use of Jian enforces a discipline and an order on a building’s construction. The building modules have resulted in a high degree of standardization in the timber components used in the actual construction of all types of Chinese structures.”



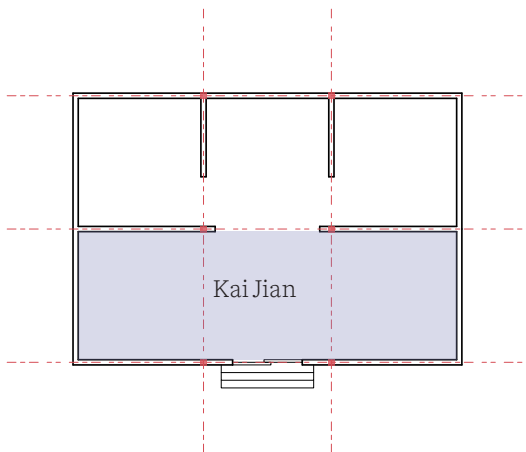
1.2.11.

Jian(间): A fundamental unit to measure width, usually the lateral distance between structural columns



1.2.12.

Jia (架): A way of measuring of depth, it represents one of the stepped roof purlins

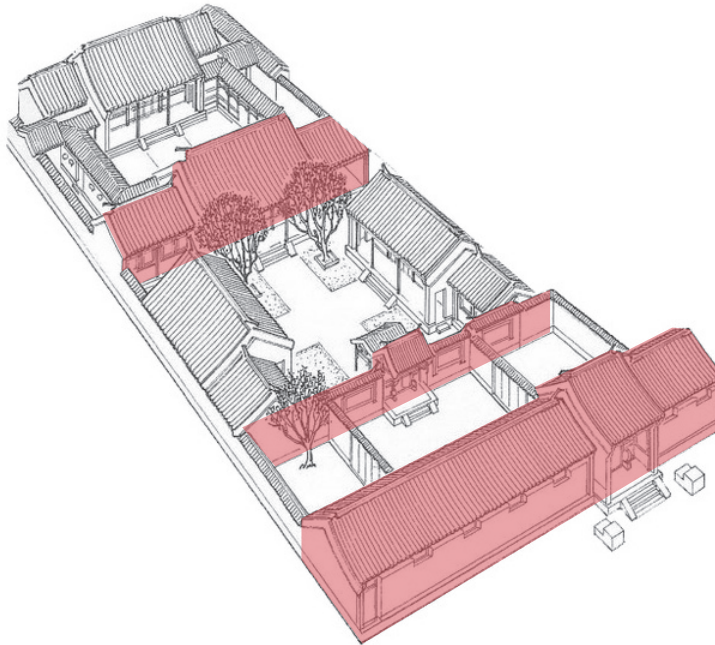


1.2.13.

Kai Jian (开间): Made of several Jian

These three elements are repeated to define the space inside the home. They are usually used in multiples of odd numbers (3, 5, 7...), because odd numbers are considered to represent symmetry and balance in regards to a building. These terms are written in the well-known carpenter’s manual 绘图鲁班经 from the Song dynasty.²⁵

The scale of a courtyard home can be referred to by the number of horizontal thresholds. Each lateral hall is a gate leading into the proceeding layer of the home. These thresholds can be referred to a *Jin* (进). In this case, it is a 3 *Jin* dwelling.



Architecture itself is to create a comfortable environment for its users by utilising elements from both architecture and our given surrounding. Architects must consider both elements equally when creating a living space, to establish architecture that feels connected to nature in the most pragmatic manner. The courtyard house is the most widely used form of dwelling typology in China for thousands of years because it carefully caters to the practical needs of human nature. There is always a thorough consideration the spatial relationship towards sunlight, thermal comfort, the environment, and even our relationships with others.

Modern residential projects contribute greatly in meeting the spatial demands for the current population density, but it lacks a sensible consideration for the psychological desires of every individual. Architects should thrive to create a dialogue between nature and the current conditions of modern society in the most rationalized manner, for residents to feel the absolute sense of belonging with ease. Chinese traditional courtyards were created under a variety of cultural and environmental conditions, with a thorough consideration for our connection to every element in both built and natural environment. We can analyse all these positive factors of courtyard architecture and extrapolate the relevant elements to create a suitable form of dwelling for 21st Century China.

16. Christian Norberg-Schulz, *Concept of Dwelling : On the Way to Figurative Architecture* / Christian Norberg-Schulz (New York: Rizzoli, 1985).
17. Xiao Hu, "Boundaries and Openings: Spatial Strategies in the Chinese Dwelling," *Journal of Housing and the Built Environment* 23, no. 4 (2008), 353-366.
18. Martin Heidegger, "Building Dwelling Thinking." (1971).
19. Wang and Chen, Possibilities of "Chinese-Style Housing": A Dialog between Wang Shu and His Students
20. Hu, Boundaries and Openings: Spatial Strategies in the Chinese Dwelling, 353-366
21. Yung-Ho Chang, "Yuan," in *Slow Space*, eds. Michael Bell and Sze Tsung Leong (New York: Monacelli Press, 1998), 346-360.
22. Wang and Chen, Possibilities of "Chinese-Style Housing": A Dialog between Wang Shu and His Students 36-41.
23. Chang, Yuan, 346-360
24. G. Ronald Knapp, *China's Old Dwellings* (Honolulu: University of Hawaii Press, 2000).
25. Ibid.

Modern China: Dwelling in Shanghai

The rapid development of the Chinese economy has led the country to a global platform. In combination with the rich historical and cultural background, it now embodies a fascinating combination of modern and vernacular identity. Shanghai, seen as the financial capital of China became the center for all its economic and technologic innovations. It is now the epitome of a recently emerged metropolitan. In addition, the city maintains its unique identity throughout the years by sustaining the rich Chinese culture that it is found on.



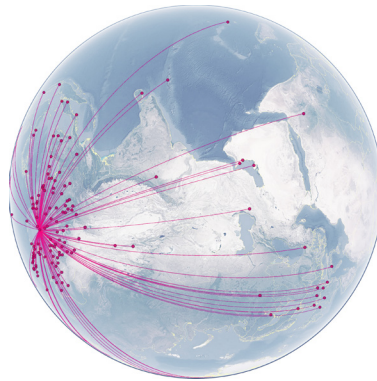
2.1.0.
Map of Shanghai

Today's Shanghai : Mobile Society

In the context of a modern society, the concept of mobility is becoming very dominant within our lives. This phenomenon is especially apparent in an urban environment such as Shanghai where the city has become an accessible network. Leading to a fast-paced and ever-changing living environment for its inhabitants. The rise of the mobile society has transformed the basis of every individual's personal relationships. We can now interact with people on a global scale at any given time. This type of communication may seem extremely convenient, but there are inevitable shortcomings. The accelerated lifestyle of the average citizen results in a general lack of intimacy and stability because it is constantly changing. It is difficult for an individual to feel a complete sense of peacefulness and belonging in the cityscape.



2.1.1.



2.1.2.

As Shanghai becomes an international financial center and along with the advancement in transportation, the city receives a massive inflow and outflow of people on a daily basis. The Shanghai International Pudong airport being one of the few international airports in mainland China that connects to every continent in the world.

2.1.1. - 2.1.2.
Daily flights connecting from Shanghai Pudong International airport

Aside from international travelers, the city also receives large amounts of travelers and immigrants from within the country. Nationwide trips have been further domesticated by the convenience of the High Speed Bullet Train network. The

railway system in China is currently the largest and most advanced in the world. As oppose to airports which are usually placed at the edge of the city, train stations are located in the city center for ease of access. Aboding a train can be as simple as taking a regular metro ride. People have become very mobile due to the ease of travelling between major cities. As a result, there is a portion of the Shanghainese population that treats the city as a temporal stopping ground. This condition greatly contributes to the accelerated lifestyles that citizen's lead.

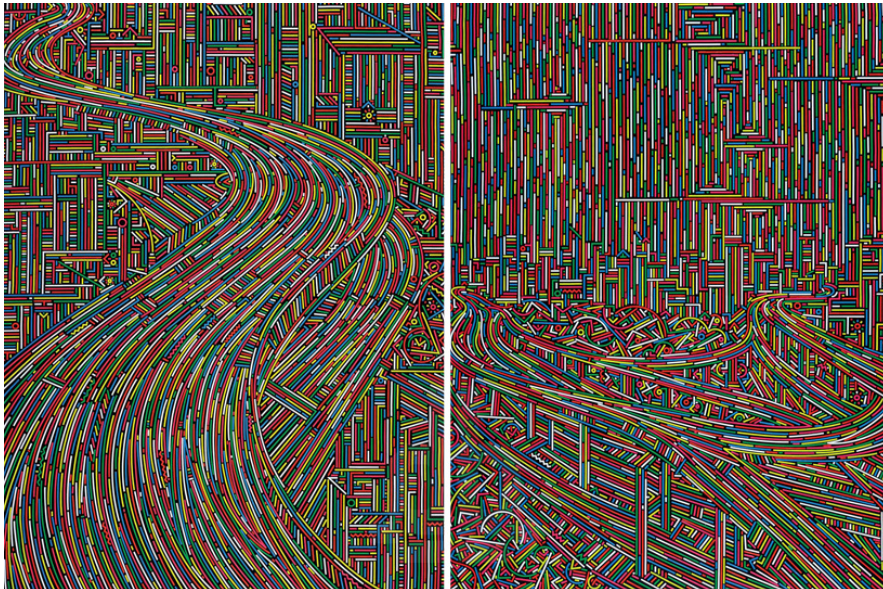


2.1.3.
High Speed Rail/Bullet Train system



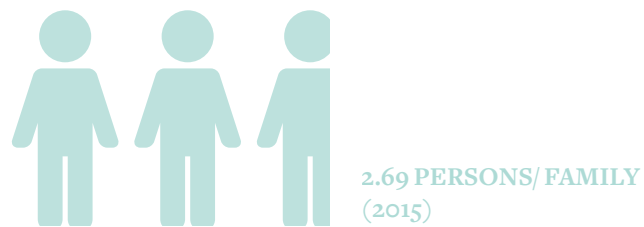
2.1.4.
Immigration Patterns in China

Hans Cornelissen talks about the many aspects of a city inhabitant in his book *Dwelling as a Figure of Thought*. He is a professor in the Faculty of Architecture at Delft University of Technology and also a practicing architect at EM7 studio.²⁶ He thinks individuals are constantly seeking for a place where they can feel at home because we are currently living as nomads in the city. Home is often treated as a hotel, just a transitional place in which we sleep and prepare for our next destination.²⁷ I tend to agree with Cornelissen's opinion. The home should compensate for the lack of intimacy by providing a rewind and relaxing space for the busy citizen, a place where they can feel the utmost comfort. Cornelissen also emphasizes the importance of the dwelling in modern society. "The house becomes increasingly important as a base of operations in the network city... it is the place where the individual has to manifest his relationship to reality".²⁸ Our ways of living may differ greatly from the past, but the implication of dwelling remains consistent. Just as Heidegger said many years ago, "dwelling is a way of existing in the world"²⁹. Both of Cornelissen and Heidegger suggests that the notion of dwelling allows an individual to identify themselves with society. It is human instinct to desire an attachment to our surroundings regardless how mobile one can manage to become.



2.1.5.
Artist Lu Xinjian: City Stream: Shanghai
Depicting the fast movements in the urban-scape in
the city of Shanghai

The conditions of the mobile and network society let me to believe that the Chinese courtyard remains the most suitable form of housing for the 21st century Chinese citizen. The courtyard home was created based on the ideology that man understands the world through his courtyard, it is the place where he builds his relations with his surroundings and the people around him. The autonomy of the courtyard home composition aims to dilute the chaotic implications of societal pressure, and creates a peaceful dwelling by capturing nature with architectural elements.

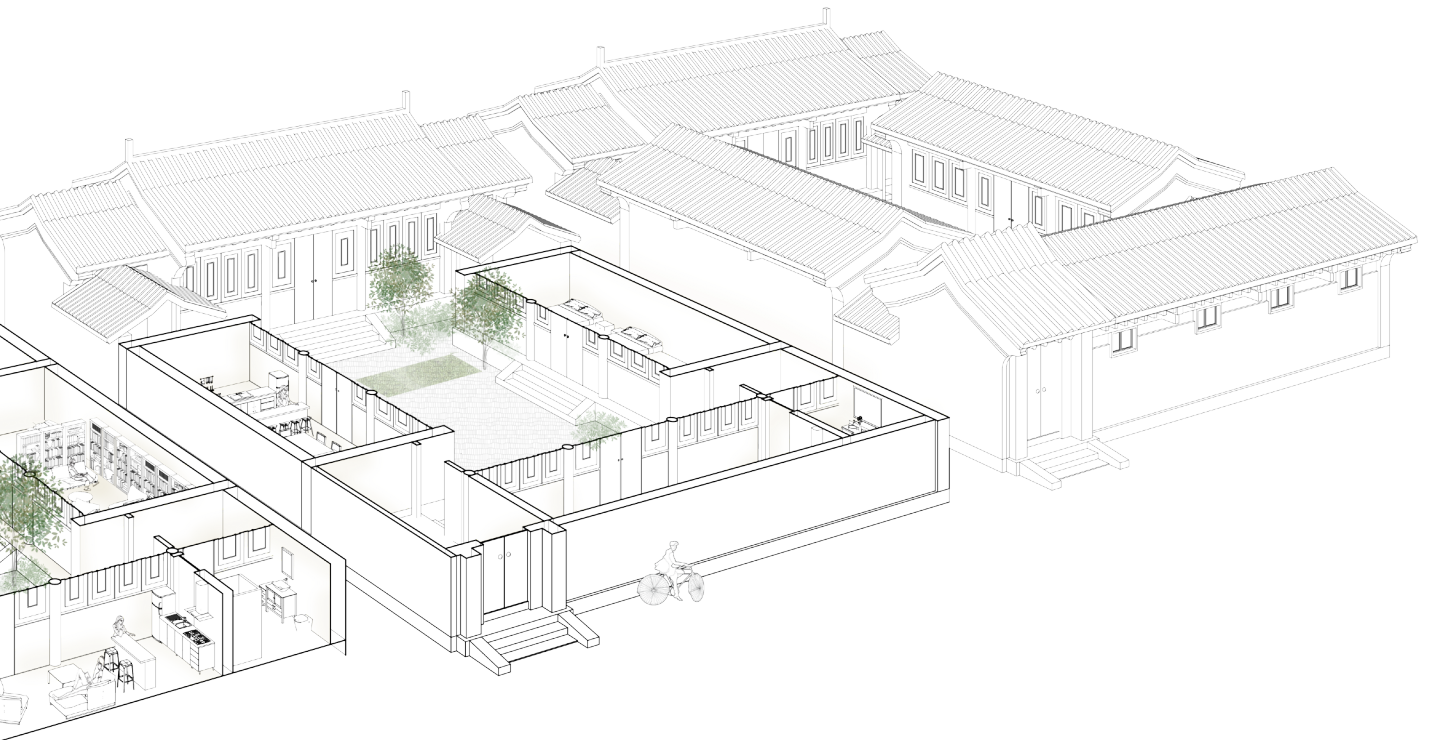


2.1.6. *Average persons per family in 2015*

In the past the home was built as a family institution, there was a strong emphasize on the social hierarchy of family members. Personal relationships were contained within the family itself. In the context of 21st Century Shanghai, where families are significantly smaller and more mobile, we can extend the focus beyond family relations and aim to build close a knit community. Individuals who live in the modern city associate themselves with far more than just members of their own family. In many cases, the social networks are so large that there is a dire lack of intimacy. We can incorporate the complexity of the traditional homes built for family relations and translate it to the foundation of a social community. This way there is an environment for residents to find tangible interaction between each other and hence allow them to develop a sense of belonging towards their home and community. As they develop stronger relationships with the surrounding, they are able to reach a step closer to the stability of dwelling.

2.1.7.
*Imagining Contemporary lifestyles Implemented
into Traditional Courtyards*





Individuality and Dwelling

There is a vast variety of people living in Shanghai. The recently established free-trade zones around the city center has further drawn more attention to the economy of Shanghai, nationally and globally. People from around the world move to this city to search for new opportunities. As the population gains more cultural and intellectual diversity, it is important for each individual to connect with many others in order to maintain their social status within their communities.

Networks evolve into large platforms, especially with the integration of social media. When society operates amongst these large networks, it is easy to undermine the significance of each individual's daily life. It is as if an ordinary person is simply a small pixel amongst these large networks. It becomes increasingly crucial to define a sense of self identity, therefore we become more aware of our personal interests. Each citizen carry different objectivities in their lives. Their varied styles of living means they have very different ideals for a dwelling.

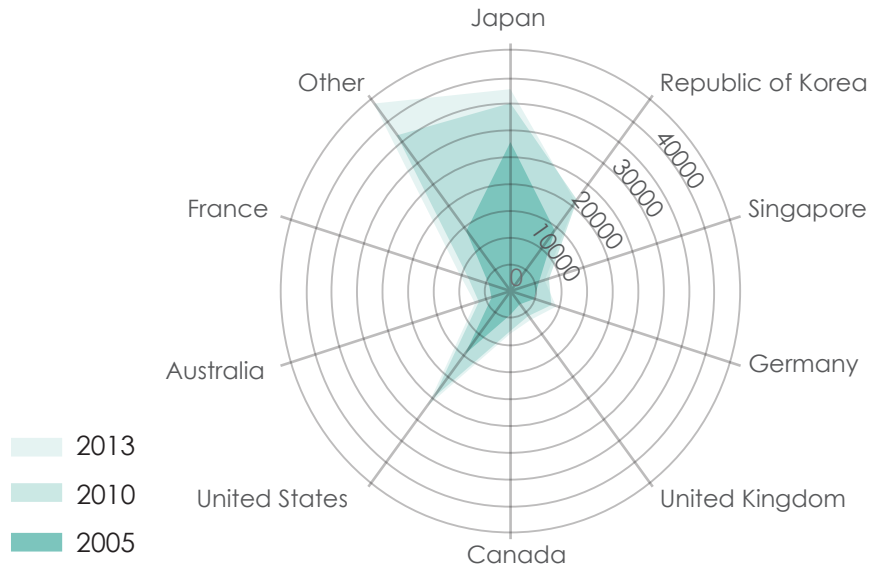
2.2.0. (below left)
Shanghai International Free-Trade Zones



2.2.1.
Local Citizens vs Immigrants.
Many move to large cities such as Shanghai to search for better opportunities. As a result of this, the city has a significantly larger percentage of immigrants in comparison to neighboring cities and regions. There is also constantly a large group of people in the city on short-term visits, mostly for work purposes.

2.2.2.
International Permanent Residences in Shanghai.

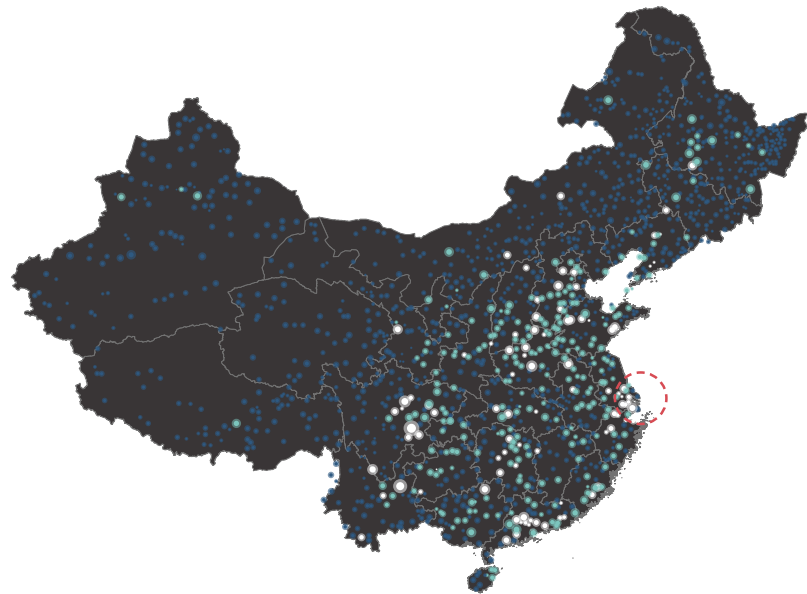
As Shanghai's economy continues to grow, the city becomes more diverse and mobile. The population of international permanent residence from countries around the world have been growing exponentially

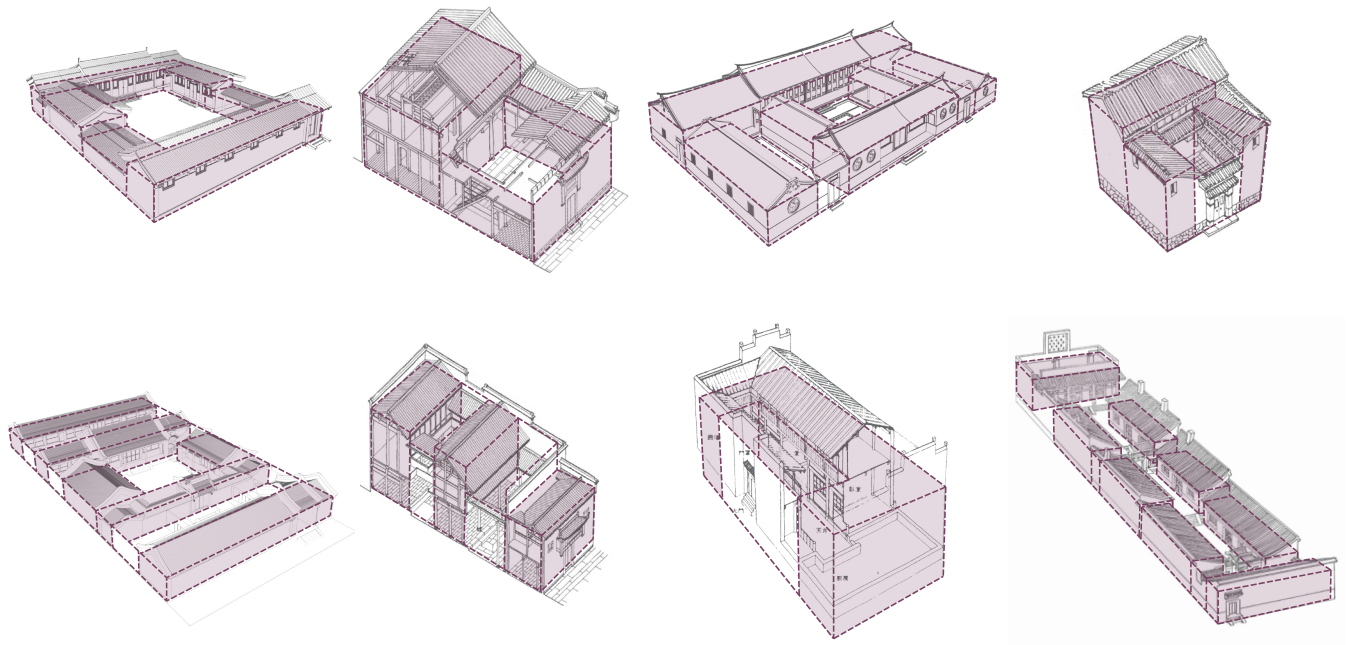


2.2.3.
Locations of Pins retrieved from mobile Apps

With the advancement in social media, citizens who live in dense cities such as Shanghai are more prone to using it as a tool to identify with themselves.

It can also be used to improve the efficiency of communication, x.x.x. shows the location of the PINs sent through mobile apps in China. Noticeably people living in Shanghai has one of the most frequent usages of mobile communication and services, they heavily rely on the convenience of technology.





Creating a dwelling should be a personal experience, it is especially important in today's society. Cornelissen says, "To the individual, life in a network society implies progressive individualization and hence a search for new connections and identity of place." The dwelling becomes one of the only exertion for personal emotions to the inhabitant. Though he may spend his day at work or in public spaces; the dwelling is inevitably the one place where he will feel an emotional attachment towards. Future homes should encourage individualism by embracing appropriable spaces.

Inhabitants are more likely to reside for a longer period of time in homes that adapt to their needs, therefore appropriable spaces will also sustain a longer life span. Conversely, Heidegger also convey that the longer an individual reside in one place the more attachment he will feel towards the spaces. Overall it is a sustainable and healthy cycle for inhabitant to build a more intimate connection to their home. The courtyard dwelling answers directly to that, it is malleable due to its unitized nature, each resident can appropriate their dwelling to their personal likings. In the past, the courtyard house was able to adapt to all family sizes and climates and it can do the same for today's citizens. Architects can utilizes the flexible quality of the traditional courtyard home to design dwellings for the 21st century and beyond. It has the potential to be morphed into every individual's personal sanctuary.

2.2.4.

Various modular forms generated within the composition of each type of courtyard dwelling.

The modular nature of the courtyard composition allows the ideology to adapt to all regions in China. These complexes vary in size and complexity, depending on the economic, social and climatic conditions of each region, courtyard homes vary in its form.

Residents can choose the scale of their dwelling, and possibly change the size and composition as their family's living conditions evolve. Meaning each unit can be a complete space in itself, but there is also the opportunity to be conjoined with other spaces. Each room does not need to have a set program, the occupant can decide that for themselves. It is as Heidegger and Wang says, an individual can truly manifest their dwellings into the extension of themselves through the process of creating and building a personal cosmos.

Current rigid designs of residential developments are due the thoughtless process of building rapidly in order to keep up with China's growing economy. The developers focus on building efficiently rather than taking consideration for the social aspects of people's lives. Wang Shu points out that people in China commonly renovate the interior of the home, and has more freedom to do so amongst other countries in the world. The thriving renovation market shows that the public has interest towards the building process. However, the apartment layouts restrains ones' ability to express their personality in their dwellings because of its strict spatial parameters. Wang thinks traditional housing methods are more capable to relate individuals to his world. He believes this nostalgic desire for the courtyard is not only because it is an element that is embedded within the Chinese Culture, but it is also a matter of sympathy towards humanity and the understanding of it.³⁰ We are not able to build true to form courtyard houses in the dense cityscape, and we shouldn't aim to do so as times have changed. Social structures has since evolved greatly. We can translate its fundamental concepts and create modern dwellings. When we talk about traditional Chinese architecture we shouldn't only focus on its physical standards, but more of the spiritual aspects that the physical standards are based upon.

26. Cornelissen. *Dwelling as a Figure of Thought*. (2005).132

27. Cornelissen. *Dwelling as a Figure of Thought*. (2005) 134

28. Cornelissen. *Dwelling as a Figure of Thought*. (2005) 133

29. Heidegger, Martin. "Building Dwelling Thinking." (1971).

30. Wang and Chen, Possibilities of "Chinese-Style Housing": A Dialog between Wang Shu and His Students

Shanghai's Residential Developments

The current housing situation in Shanghai is not reflecting the interesting combination of culture and modernity. It is consisting of mass developments of generic apartments and condos using 1970s ideologies of residential architecture. These building don't reflect the lifestyle of contemporary Shanghai citizens nor do they sympathize with the traditional values of dwelling in the Chinese culture.

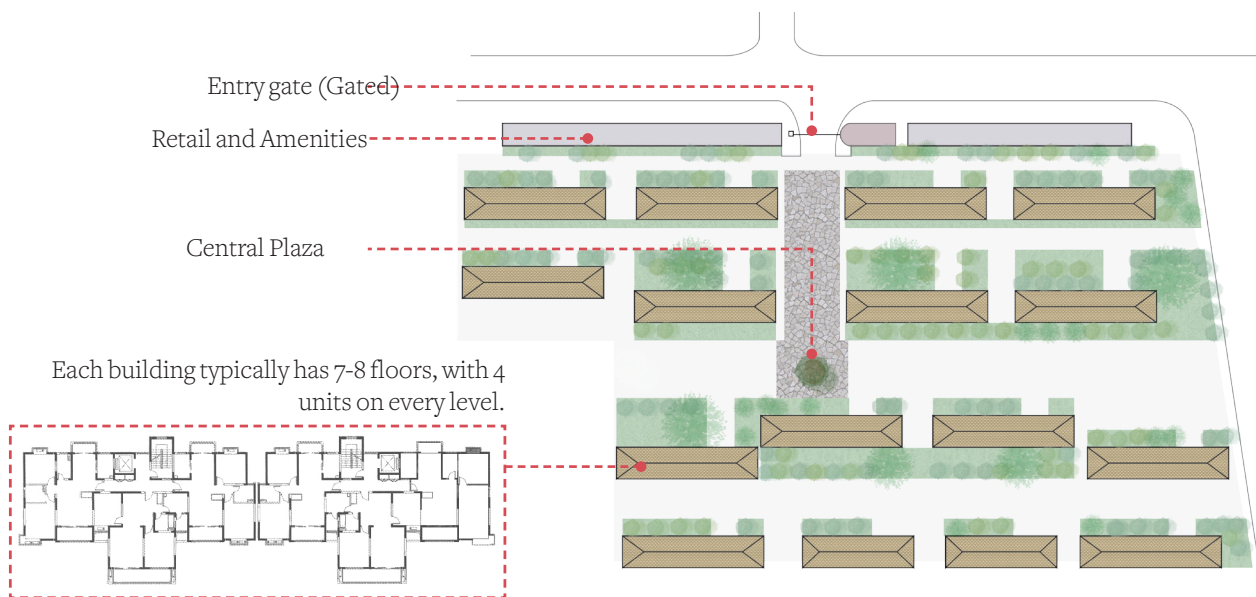
Modern developments in Shanghai include large scale neighborhoods consisting of mid or high-rise apartments. The neighborhoods are typically in close proximity to small commercial stores and are usually gated and secured. It is also common to have some form of communal green space for group activities. Though these developments provide adequate living conditions, but they seem to lack character and social consciousness for the modern citizen. The individual unit layouts are being build based on parameters from the late 70s, during the transition of China's globalization. Wang Shu thinks the current situation is because *"The rapid development of China has lead to a really fast process of production, the rapid procedure of design and construction lack a concern for the social aspects. These conditions have now become standardized, because once a certain parameter become the norm, it's very hard to questions them."*



2.3.0.
Dong Wang Ming Garden (东旺名苑) neighbourhood in Pudong, Shanghai



2.3.1.
Dong Wang Ming Garden (东旺名苑) neighbourhood in Pudong, Shanghai



2.3.2.
Neighbourhood plan diagram

Typical residential developments follows a monolithic unit layout. This rigid composition can only appeal to a small fraction of citizens, if any at all. It fails to promote the formation of a psychological relationship to the space because there is a lack of character and identity. In order for residential buildings to be perceived past the basic needs of a comfortable shelter, architects must create spaces that encourages the inhabitant to build a personal connection.

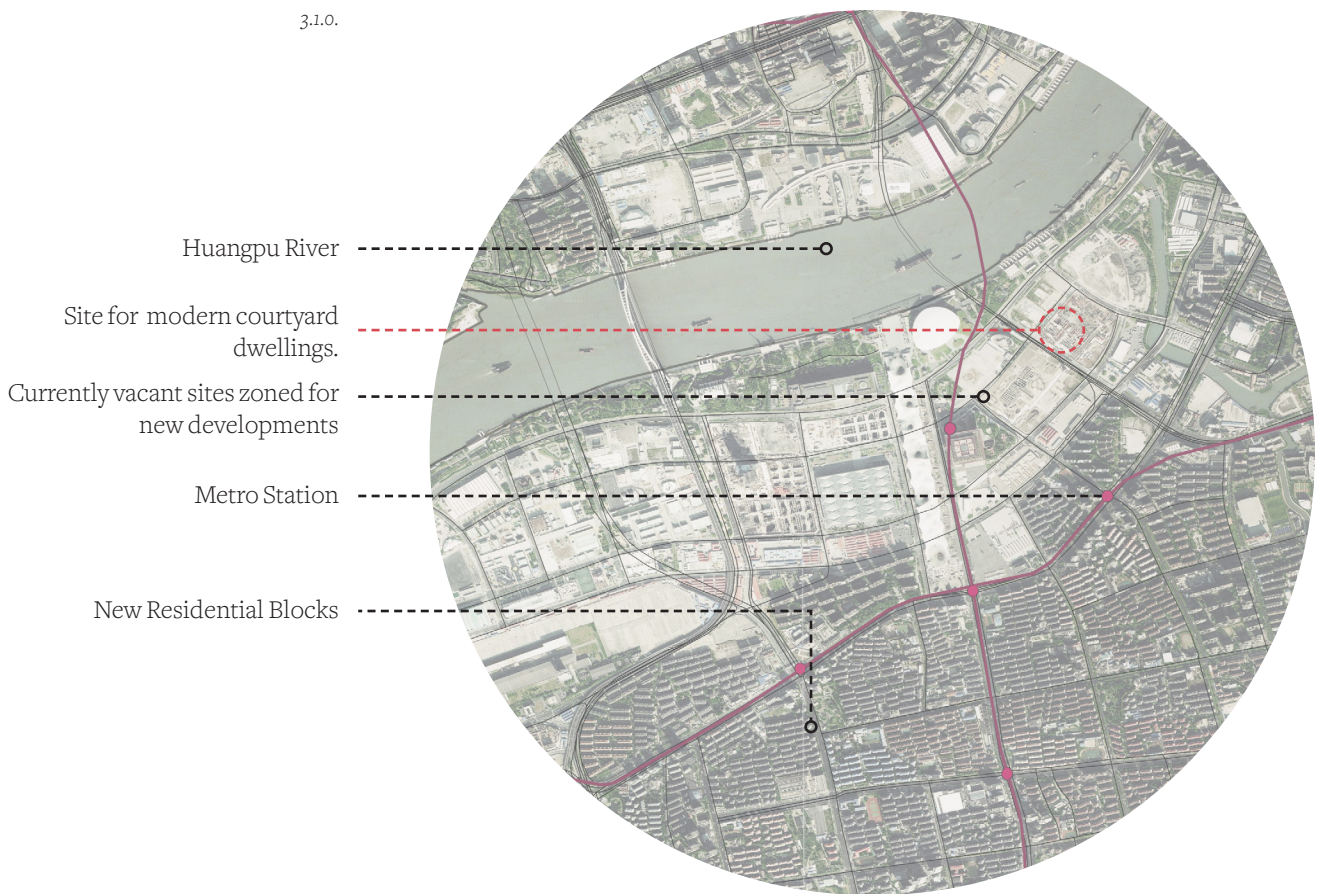
Shanghai:Site Analysis

Expo 2010.

In 2010 the world expo was held in Shanghai, it was a huge success for the nation and further emphasized the global identity of the city. The site for this major event is located in the southern part of the new Pudong district, an area dedicated to the CBD and new developments. The Expo site sits across the Huangpu River from the old financial district of Shanghai, the view includes a glimpse of the infamous Shanghai Bund. The city was able to complete the all developments of the expo grounds prior to the event. This included a complete transportation infrastructure, public transit, amenities, retail, and park grounds. Some surrounding areas was developed into residential spaces to accommodate for the large amount of visitors during the months of the Expo 2010. Every aspect of the site was planned exceptionally to allow for this global event. Therefore, this area added an exciting and innovative energy to the city of Shanghai.

However, the World Expo is a temporary event that would only last through the duration of four summer months. Subsequently the long process of demolishing the pavilions has resulted in the vacancy of the site for a very long time. The city would like to maintain the unique innovative identity of this area, it is currently being restructured into an area that focuses on innovative institutions and amenity spaces. Alongside there are large retail and residential developments erecting around these facilities to sustain a balanced distribution of land in this particular district and also to accommodate to the high demands for living space. These developments has been underway for a few years, but no major housing project has made a dramatic difference to the housing situation in Pudong. Therefore, I would like to join the uprising of this particular site. It is an extremely well developed site that would be perfect to reintroduce the idea of a courtyard dwelling to the Chinese citizens.

3.1.0.



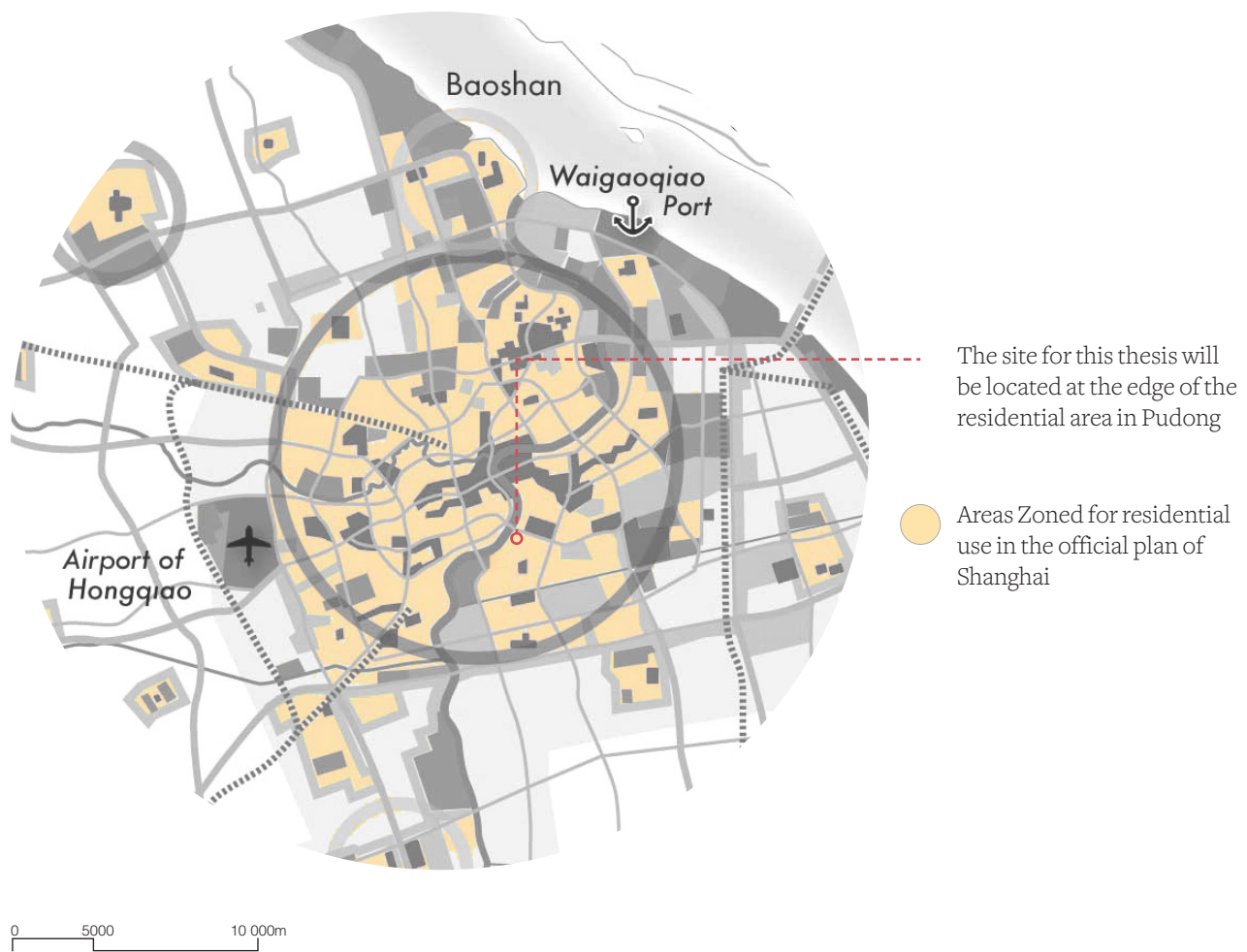
Site Map (Shanghai Expo Grounds)



Site for Courtyard Dwelling

According to the official plan of Shanghai, most of the remaining Expo ground is zoned for public and commercial and use, mainly because it is within one of the four international free-trade zones. With the exception of the North corner of the site, it is designated for residential. The location of the north block will be at the edge of the residential zones. It is ideal because there will be easy access to transit, public spaces and amenities.

3.1.1.



Official Comprehensive Plan of Shanghai: Residential Layout

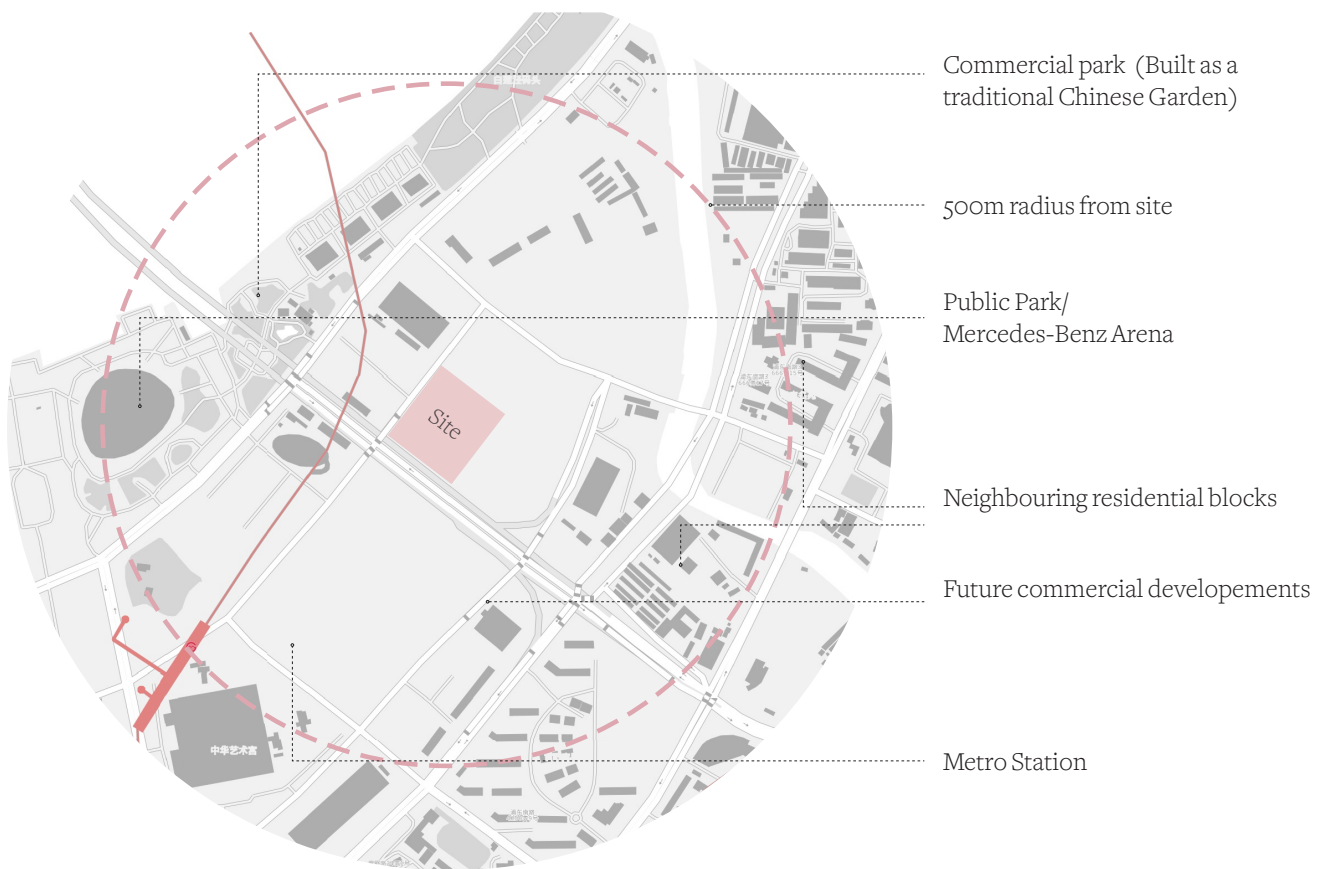
Site Surroundings and Views

A new age Courtyard dwelling inspired by traditional Chinese homes would fit perfectly on this site. In less than 200 meters north of the site, there is a new commercial park that was completed in October of 2016. It is built to the true formation of a traditional Chinese Garden. Specifically referencing the elements in a Suzhou Garden, in which focuses on the pleasant and poetic experience of the visitor through framing the natural scenery with architecture. A courtyard dwelling would complete the vernacular theme of this area, embodying the cultural identity of the city.



3.1.2.
Views from site

3.1.3.

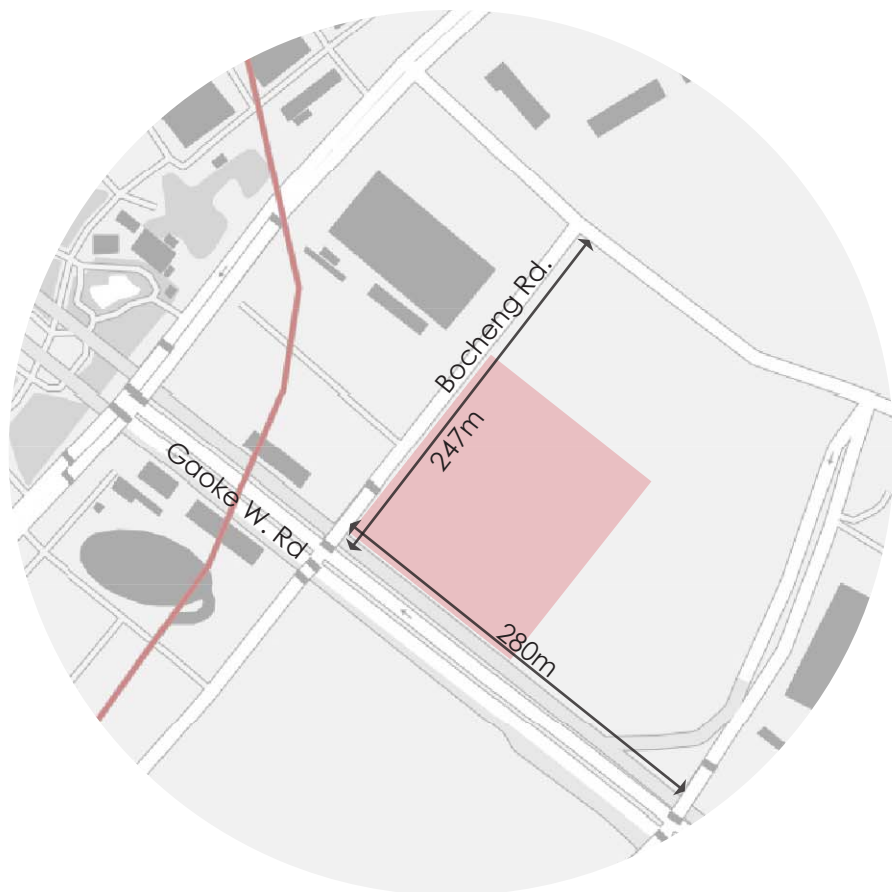


0 100 300m

Site surroundings
500m walking radius

The corner of Chengbo Rd. and Gaoke w. Rd will be the site for this thesis design proposal. This block is suitable for a residential project because it sits on medium density roads, but it is still close to major avenues and transit stations. The entire block is covers a substantial area of ~70 000m². For the purpose of the thesis, I will only be covering a quarter of the block.

3.1.4.



Site Plan
1:5000

Design: Historical Precedents

4.0.0.
汉宫春晓图 is an well-known painting that depicts
life inside the Emperor's courtyard during the Han
dynasty





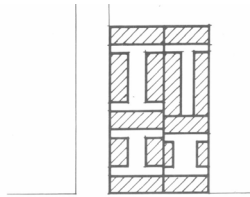
Central North China

The Central North region includes the capital of Beijing and the few provinces that surrounds Beijing. It includes the provinces of Hebei, Shanxi and Inner Mongolia. Its culture and architecture is inevitably heavily influenced by the stringent architectural standards of the capital. The most iconic courtyard houses are the perfectly symmetrical Siheyuans in Beijing. The composition of the Siheyuan is standardized in scale and aesthetic. The provinces surrounding the capital have used the Siheyuan as a reference and built their residences, slightly adjusting it to the local climate, environment and economy. The courtyards in the Central North region progressively stretch longer in composition as it is further away from the capital. This is because roads and laneways are less rigid in the suburbs in comparison to the Hutongs of Beijing. There was more freedom to build larger homes. Housing in this region may have minor variances, but its cohesive influence from the structured Siheyuan is very much apparent.

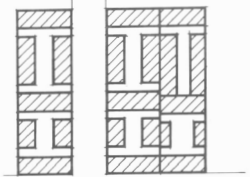
The Qiao family was one of the largest merchants in the country. Located in Shanxi Province, their household contained 6 main courtyards, 19 secondary courtyards, and 313 rooms. This grand yet intricate residence was constructed in various phases. The family expanded greatly in size as they became wealthier. The sons were able to wed more wives and the family recruited more servants. They purchased more land adjacent to their original location and simply attached the additional courtyards on to the existing.

4.1.2. - 4.1.5. Plan of the Qiao family.

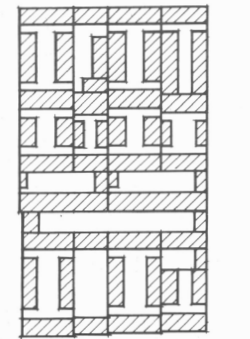
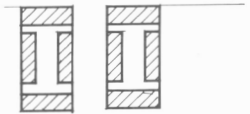
The home was originally a 2-Jin courtyard, and grew into an extensive establishment of multiple blocks.



4.1.1.



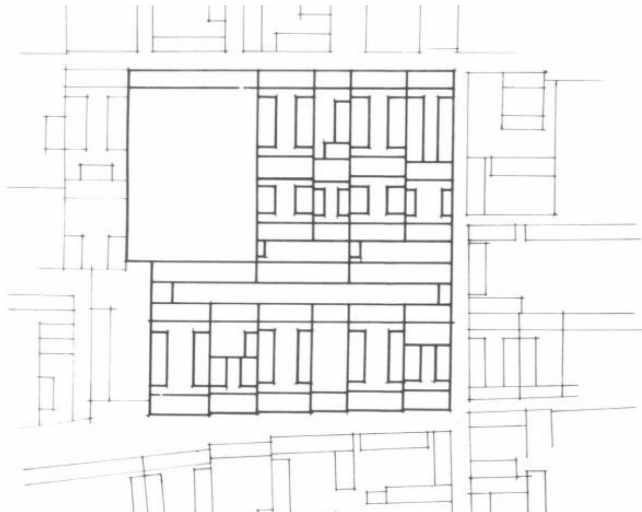
4.1.2.



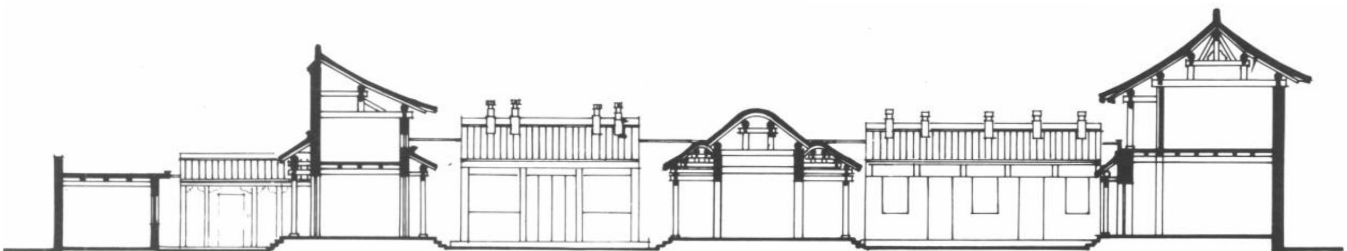
4.1.3.



4.1.0. Birds eye view of Qiao family's dwelling



4.1.4. Qiao Family's dwelling



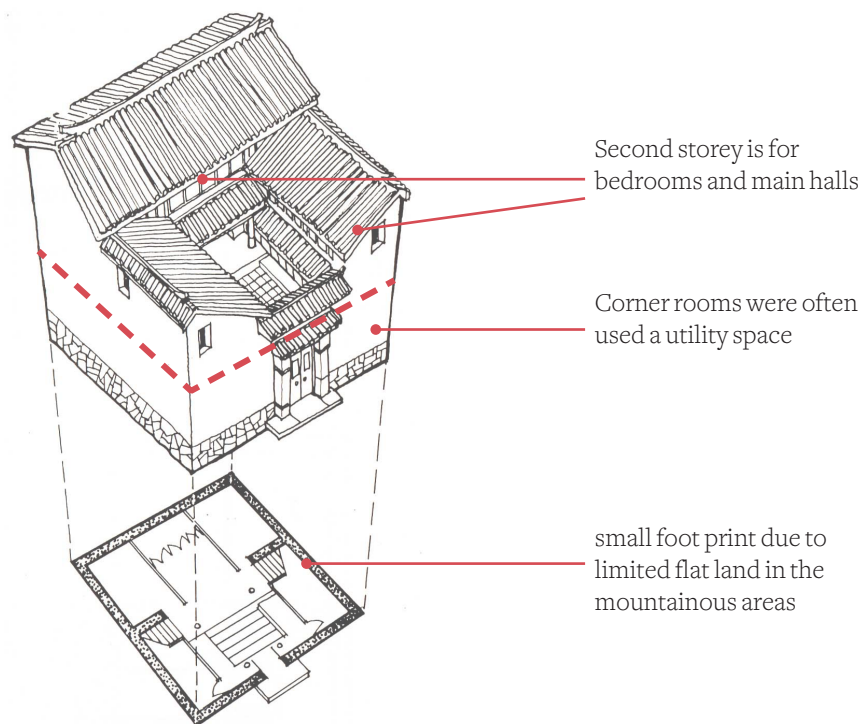
4.1.5. Section of the Qiao family establishment



South-West China

The south-west region includes the provinces Sichuan, Guizhou, Yunnan, and the city of Chongqing. There is a large population of ethnic minorities living in the population that dwells amongst these mountainous landscapes. Just in Yunnan alone, there are 26 types of ethnic backgrounds. As a result of this, the architecture in this area is much less standardized in comparison to the Central-north area. Rather, it focuses on the efficient use of the hillside landscapes that are common to this region. Often the villages were built within the mountains, with each residence's back sunken into the hillside and front facing south for maximum sunlight. Each village would have their own unique ways of ornamenting the home. Overall, the residences in this region vary in height and composition. It is typical of this region to have a style of courtyard referred to as the Sanheyuan. It means rather than enclosing the courtyard with 4 rooms, it is enclosed by three rooms and the gated wall for entry. In the South-west region, both Sanheyuan and Siheyuans are found.

In the province of Yunnan, there are over 26 types of ethnic backgrounds to this day. The residential architecture here is influenced by cultures from all over China. In North-East Yunnan, the terracotta homes take inspiration from the northern regions. A well-known type of courtyard in this area is the Yikeyin. Influenced by the Siheyuan, Yikeyin is a square one-Jin courtyard but reduced in scale in each element of the building. It is also common for the Yikeyin be double storeyed and to have a portico instead of an entry hall.

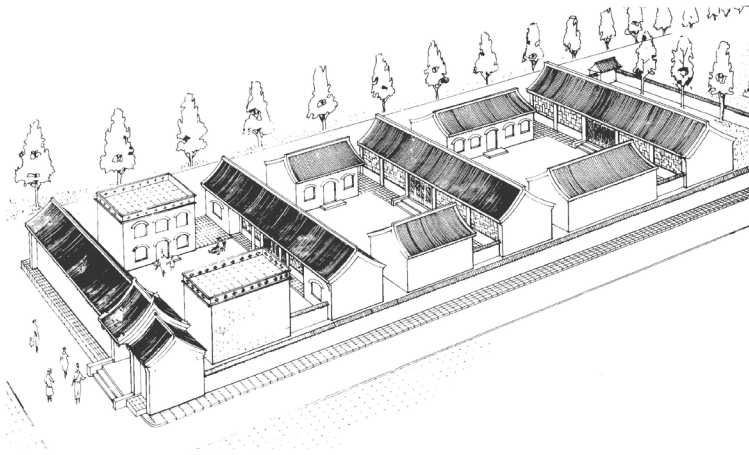


4.2.1. Yikeyin style courtyard dwelling

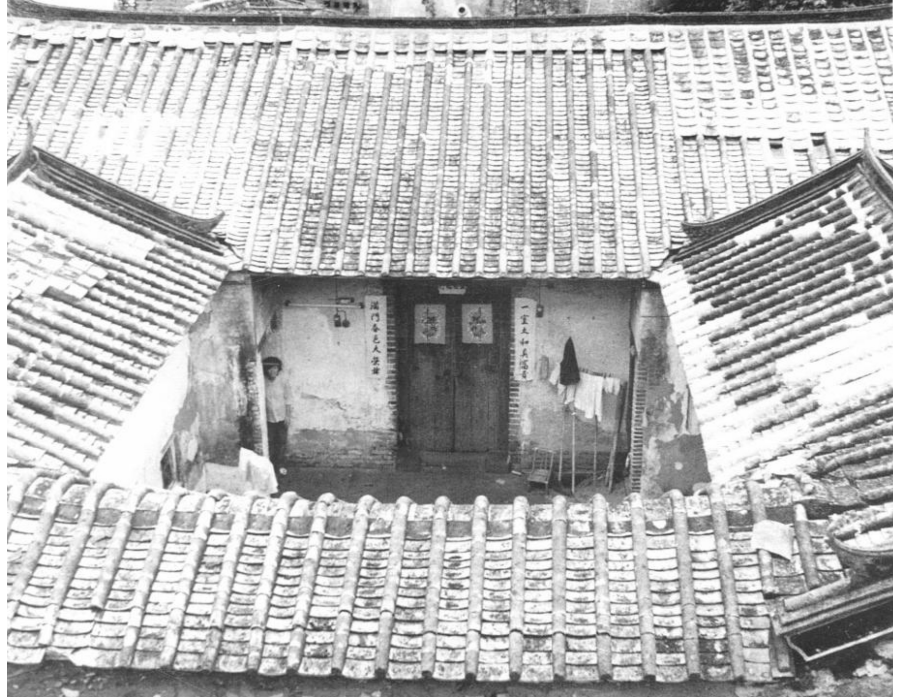


South Central China

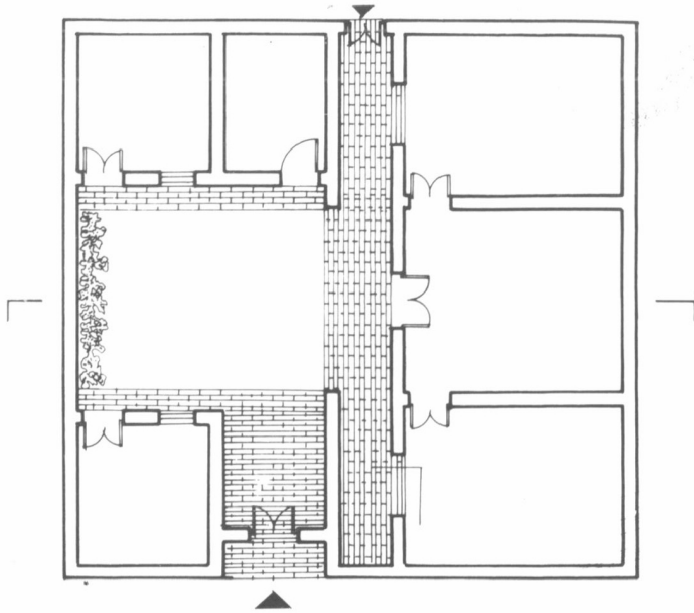
The provinces of Hubei, Hunan, Guangdong, and Hainan make up the central South region of China. The climate here is humid year round with hot and extensive summers, and there is the occasional storm or typhoon. The courtyards here are built to provide shading whilst maintaining natural ventilation. Skywells otherwise known as Tianjin are especially preferred in this part of southern China. The small opening of the skywells does not necessarily mean there is less exterior space, there are wide covered walkways below the roof canopy. The roof is often operable, as the skywells can be closed to prevent flooding during rain seasons. The overall form of the residences is positioned along the North-South axis, and families tend to expand their homes longitudinally, as oppose to the South-west region where courtyards were combined horizontally. Large households can have up to 5 layers of entrance (5-Jin courtyard dwellings). The homes here have humble exteriors and flexible interior arrangements.



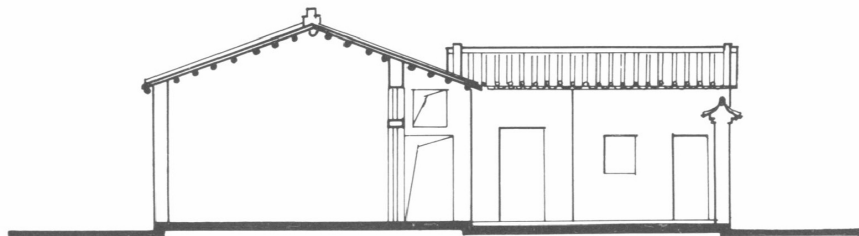
4.3.0.
An extensive 4 Jin courtyard home in Henan Province



4.3.1.
Traditional Small humble dwelling in Guangdong



4.3.2.
Plan of dwelling in Guangdong



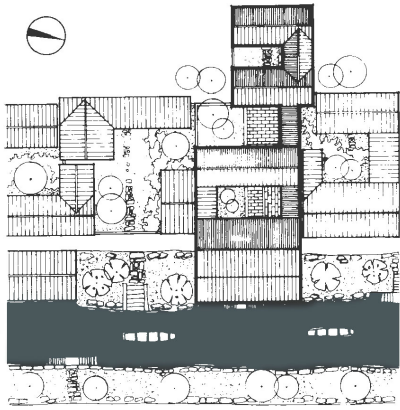
4.3.3.
Section of dwelling in Guangdong



East China

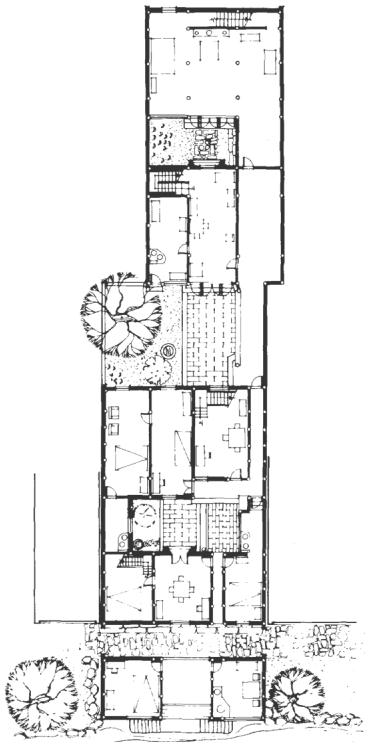
East China is defined by the few provinces along the Yangtze River. There are Shandong, Jiangsu, Anhui, Jiangxi, Fujian, and the City of Shanghai. South of the river are some of China's earliest economic centers. The wet land climate in this region makes it a great place for agriculture. In addition, due to the close proximity to the Yangtze River, there was a sophisticated trading system that dates back to the early Han Dynasty (200BC).

In early civilization, the mountains segregated each region, resulting in a vast differences of culture and dialects. Naturally, housing also takes on a large variety of forms and composition in this region. Courtyards range from the quaint sky-well style of courtyards from Zhejiang, the extravagant Suzhou gardens of Jiangsu, the sunken courtyards in Fujian, the straw huts in Shandong, the well-known "Hui" style architecture in Anhui and the Long-tangs of Shanghai. They all vary in scale and composition, but all major aspects that make up a courtyard dwelling remains consistent.

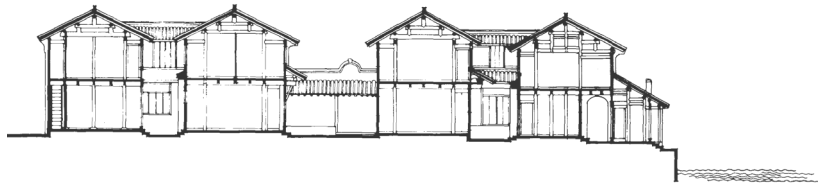


4.4.0. Site plan

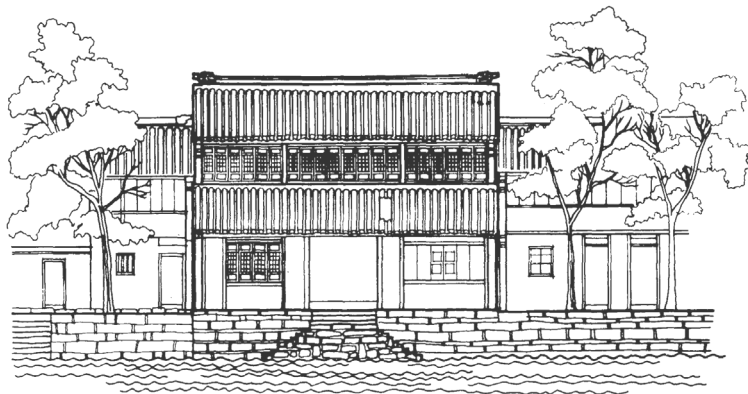
Jiangsu and Zhejiang have always been amongst the most economically and culturally advanced places in mainland China. Historically, people have adapted to the ever changing landscape and have taken advantage of land that are niched between rivers and mountains. It is a great way harvest both sunlight and water for crops such as rice and tea. Domestic residences in this area have always utilized the wide canopied walkways below the sky wells, and created a semi-open floor plan for the home. The main hall is usually open to the intimate exterior courtyard, making it a natural extension of the interior space. This type of composition also benefits the natural ventilation of the home. The courtyard dwellings are taller in region compared to areas in northern china because extended attics are added above the living space for storage purposes.



4.4.1. Ground floor plan



4.4.2. Section

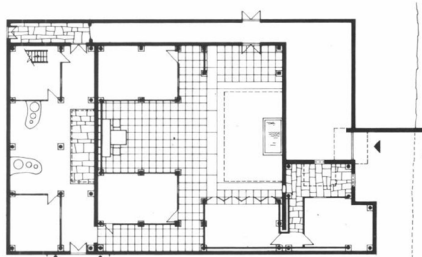


4.4.3. Front Elevation

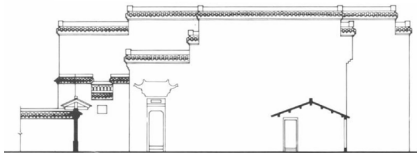
4.4.0.-4.4.3.
 A merchant's home in Jiangsu during the Qing Dynasty. It includes a series of courtyards and direct access to water. This was later divide into multiple residences.



4.4.4.
*Typical domestic dwelling in the province
of Anhui*



4.4.5. (left)
*Ground floor plan of typical dwelling in
Anhui*



4.4.6. (Right)
Elevation of typical dwelling in Anhui

Typical domestic housing in the province of Anhui. It is known for its simple exterior aesthetics and its intimate interior spaces. They are usually Sanheyuan style courtyards that vary in height.



4.4.7.
*“Watertown” by Artist Wu Guanzhong
Depicting the atmosphere of the water
villages in East China*

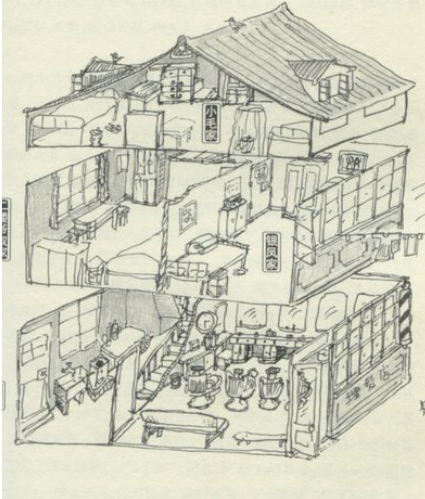
The quaint style of residences in Anhui is also known as “Hui” architecture. It has an iconic monolithic aesthetic that is widely depicted in traditional Chinese paintings. It portrays a calm and poetic lifestyle, unaffected by the many complications in society and daily life.

Shanghai

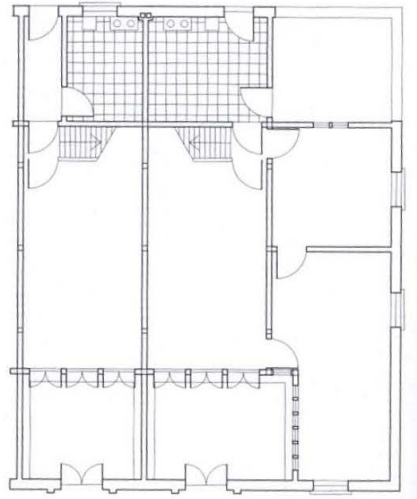
Longtang is the Shanghainese interpretation the Hutongs in Beijing. During the early 1800s, Shanghai was once the first city to accept visitors from western countries. Therefore the Longtang have influences form the western row-house, but kept the composition of the classic Chinese Sanheyuan. They are essentially stacked alleyway courtyard homes. Groups of residences arranged on to intersecting laneways, each neighbourhood was its own labyrinth. Every residence in the neighbourhood would have one single gate that leads to the main streets of the city.



4.5.0.
Overview of a Lontang/Lilong Neighbourhood



4.5.1. Artist Yucheng Jin depicting life in a typical Longtang home



4.5.2. Ground floor plan of two attached homes, where one was larger than the other



4.5.3. Historical district in Shanghai today, the preserved Longtang are now used as small retail spaces

Shanghai had always been a dense city. Living spaces were smaller than that of Beijing. Longtang were not originally built for the affluent, but the workers and the immigrants that had moved to the city. They were very humble in size and stacked much taller, usually 2-3 stories tall. Even the spaces above the laneways would be utilized. Two building would be bridged across the laneway on the second or third storey, and the cantilevered space would be used for storage or living space for a single worker. Occasionally courtyard spaces were compromised, rather than being the center of the home it had to be shifted to the front entrance. This was not ideal but the workers had to settle for what was available. The Longtang stand out from the rest of traditional Chinese dwelling because their organic development. Most traditional courtyards were well planned to a main grid of the city, there is a certain standard that had to be implemented. The Longtang were built by workers and the immigrants in Shanghai, these neighbourhood grew significantly in a short period of time as the city became increasingly more populated.

Design: Contemporary Precedents

Modern architects around the globe have taken on the task of creating a dwelling in the busy cityscape that would reference the idea of a courtyard dwelling. The benefits of a courtyard are understood in many cultures. Specifically in Oriental culture, it is used more widely in dwellings because it embraces the concept of peacefulness and balance. It also embodies both cultural and social value. There have been numerous successful works of architecture that have impeccably grasped the concept of dwelling in a courtyard. They each successfully created a home that embraces the notion of dwelling, combining traditional values with modern construction methods.



5.0.0.
Okurayama Apartments, SANAA.
Tokyo Japan



5.0.1.
Modular Garden, Studio Penda
Vijayawada, India



5.0.2.
Vertical Gardens, Amateur Architecture Studio
Hangzhou, China



5.0.3.
Nishinoyama Housing, Kazuyo Sejima
Kyoto, Japan

Azuma House Tadao Ando
Osaka, Japan. 1976

Ando thinks there is a lack of appreciation for nature within the banal density in Osaka. Therefore he wanted to create an extremely urban dwelling that can co-exist with nature. The bold gesture of the center courtyard allows light, rain and snow to seep into the atmosphere dwelling while providing a quiet sanctuary.

Spatially the concrete rectangle takes on the form of a traditional row house; by incorporating it with a courtyard, the spaces becomes very self-sufficient. Simple rectilinear rooms allows the individual to develop a personal attachment.



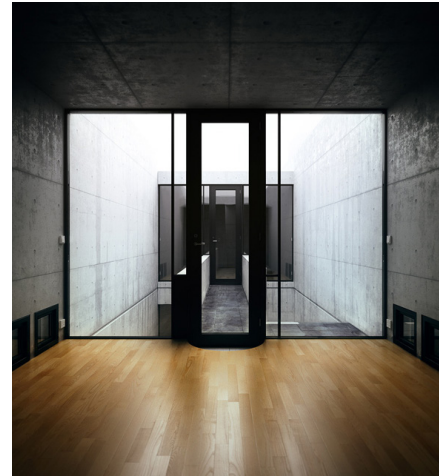
5.1.0.
Perspective section of Azuma House



5.1.2.

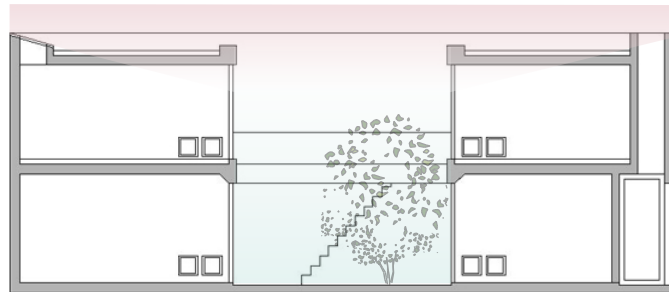


5.1.3.

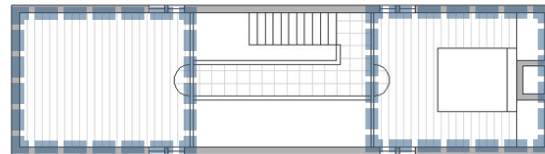
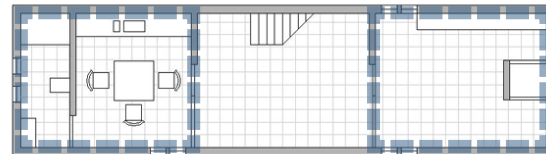


5.1.4.

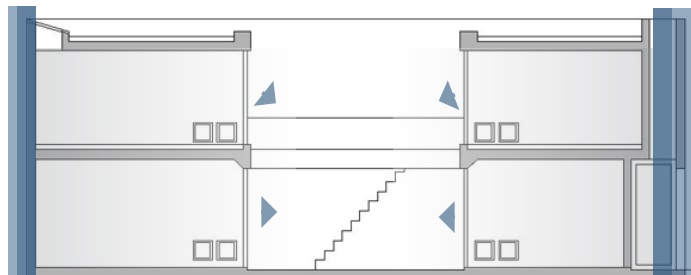
5.1.5.
Nature falls into the courtyard, no matter where the inhabitant stand, he/she is able to see nature



5.1.5.
Unitized /modular rooms provides the opportunity for appropriation, this will then convey flexibility and adaptability of the spaces.



5.1.6.
All rooms within the house face inwards to the courtyard. There is no view towards the city. This brings an autonomous quality to the home.



Nishinoyama Housing, Kazuyo Sejima
Kyoto, Japan. 2013

The building contains 21 separate units linked by hallways and small courtyards. Each unit is slightly different in orientation with its own pitched roof, preserving the vernacular architectural style of Kyoto.

Sejima wanted to create privacy and intimacy without losing a sense of community. Several Green pockets are shared by residents, but with individual access for each dweller. Each apartment is a series of single storey, free flowing, multi-functional spaces arranged in a rectilinear grid. While basic kitchen and bathroom fixtures are included, majority of the rooms have no defined program.



5.2.0.
Render highlighting the twenty-one pitched roofs



5.2.1. (p 64. left, top)
View from within the unit

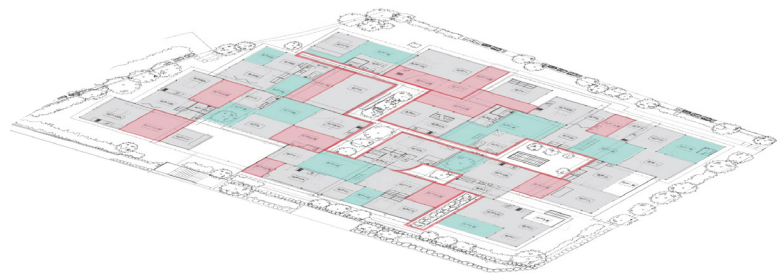
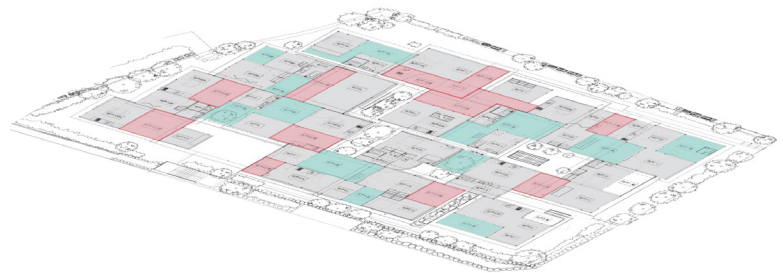
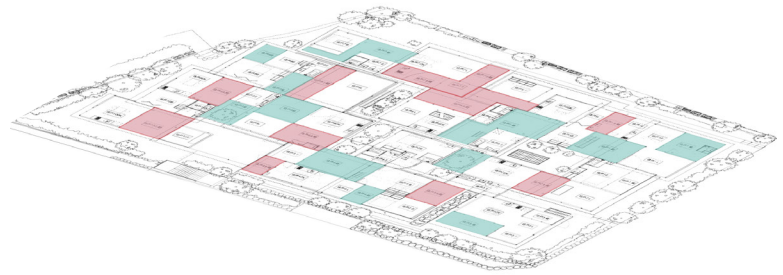


5.2.2. (p 64. left, middle)
Utility and circulation spaces



5.2.3. (p 64. left, bottom)
Small pockets between each unit form gardens and courtyards

- Units
- Garden
- Japanese Rm



5.2.4. (p 64. right)
Diagram showcasing the multiple types of units combine together to form each household

SongPa Micro Housing, SsD Architects
Seoul, South Korea. 2014

The focus of the project was to maximize the available space on site, by creating a new spatial intervention using circulation space. These spaces do not have a fixed status in terms of privacy; in this case, they serve as buffer space between the public and private. They also simultaneously provide an exterior component to the dwellings, combining the conventions of hallways and balconies.

Flexibility in the connections between the units provides the residence the freedom of recombining single dwellings with others if they desire larger living space. The flexible units accommodate for a changing living or working situation, allowing the residence to prolong their residency within the building; prolonging occupation is also an act of sustainability. To further introduce the idea of a community, there are also amenities at street levels that can be accessed and shared between the occupants and the public.

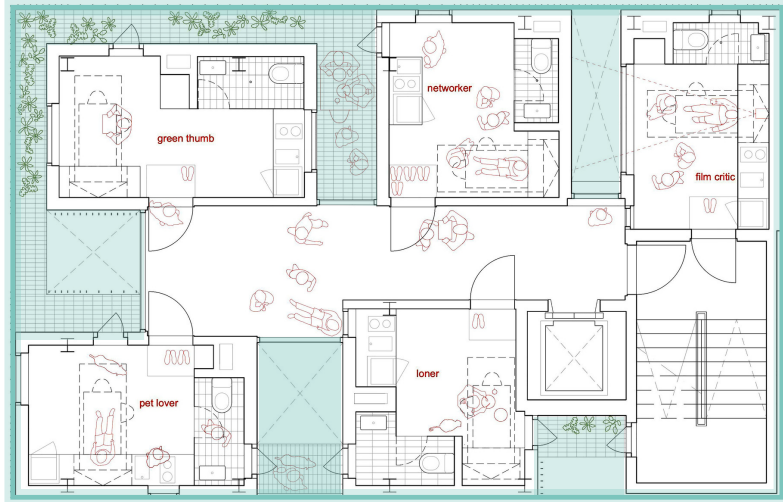


5.3.0
Photograph of overall building

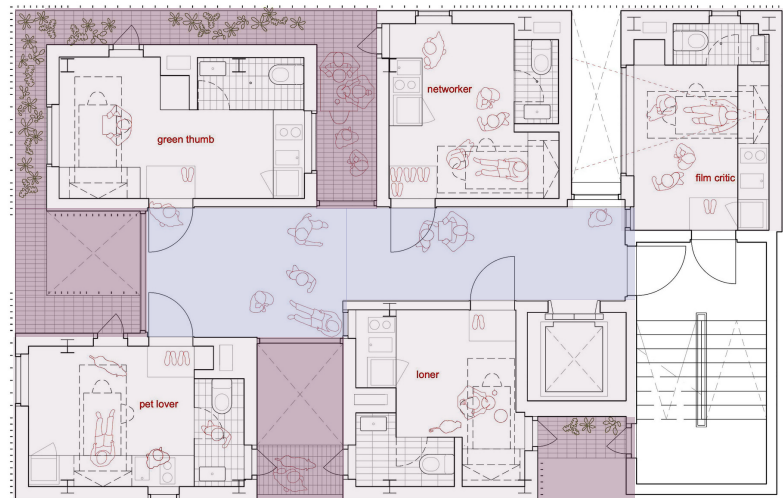


5.3.1.
Circulation spaces between each unit

5-3-2.
 Shared circulation spaces and green terraces creates an intimate community within the building itself. The modular units encourages flexibility in the usage of spaces through each individual's appropriation.



5-3-3
 Shared spaces encourage community



5-3-4.
 Greenery act as buffer from the busy streetscape to create intimacy



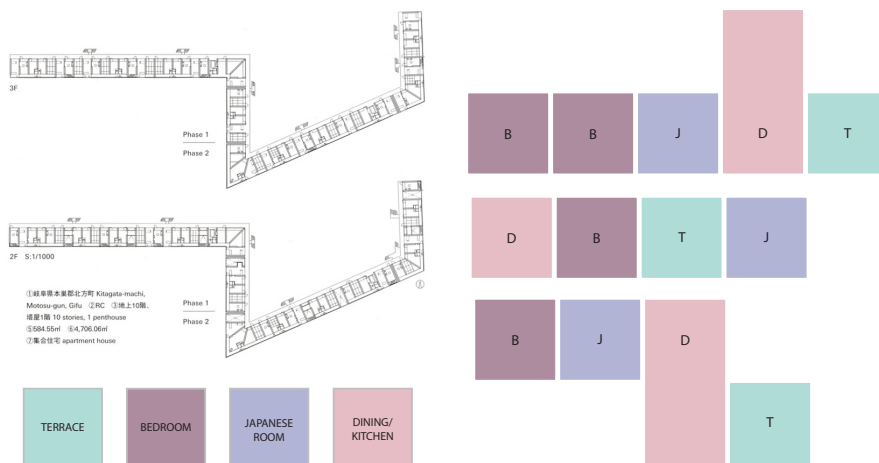
Gifu Kitagata Apartments, Kazuyo Sejima
Kitagata, Gifu, Japan. 2000

This apartment was one of four buildings that is a part of a public housing development on the out skirts of Gifu city. Sejima took a pixel module approach for her design, where each individual room was the module. The various combination of module creates a multitude of apartments layouts.

The exterior terrace was also considered one of the basic modules. They created void spaces in the physical form of the building, resulting in a courtyard like condition. This reduced the robust presence of the large apartment building, giving it a more delicate visual impression. It also ensured that every home had their personal exterior space.

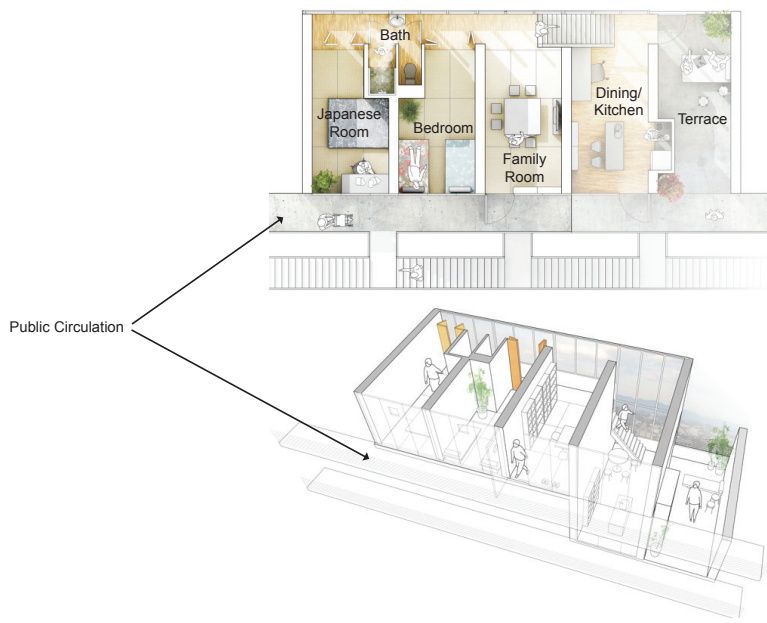


5-4.0
Photograph - Gifu Kitagata Apartments



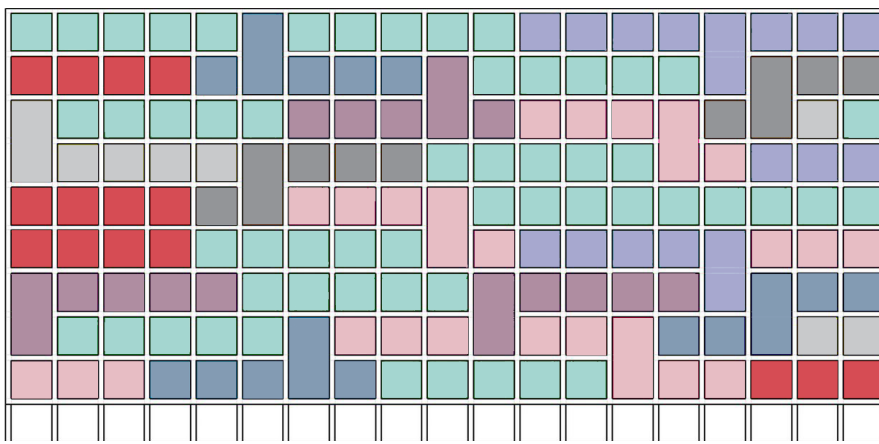
5.4.1.

Every residence contains at least one of these four modules. Terrace, traditional Japanese Room, Bedroom and dining room



5.4.2.

Plan and perspective section. Some homes may also contain double storey spaces

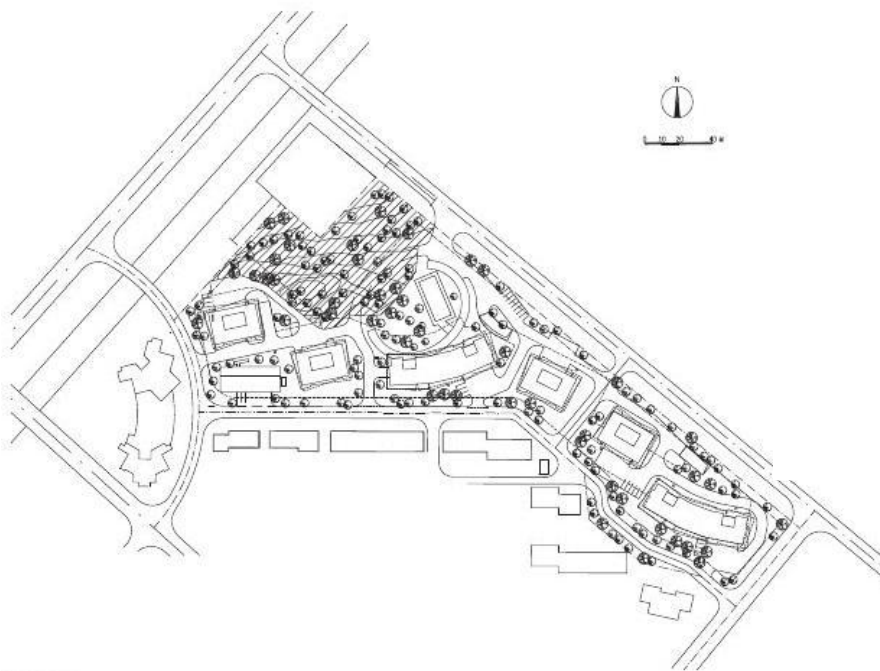


5.4.3.

There is an aspect of anonymity from this method of combining different modules. It is difficult to judge which part of the building belongs to any given residence just by observing the building's physical form, in a way it provides privacy

**Qianjiang Vertical Courtyard Apartments, Amateur Architecture Studio
Hangzhou, China. 2007**

Wang and Lu's goal with this residential project was to recreate the courtyard dwellings of the southern Yangzi region in China. He brought the qualities of the traditional gardens into modern apartment buildings. Every residence in these buildings contains an extensive front and backyard, suitable for planting lush gardens. He takes an opposite approach from Sejima and believes we should be able to identify our home from a far. He wants the occupant to recognize their garden from ground level, because he believes we identify ourselves with our dwelling. This design was a form of expressing his nostalgic desire for nature and for the architectural qualities of the past. Wang thinks this project is beyond the simple gesture of planting trees in high-rise condominiums, rather an experiment to respond to certain social issues of modern China.



5.5.0
Site plan of Qianjiang Times Vertical Courtyard apartments



5-5-1.

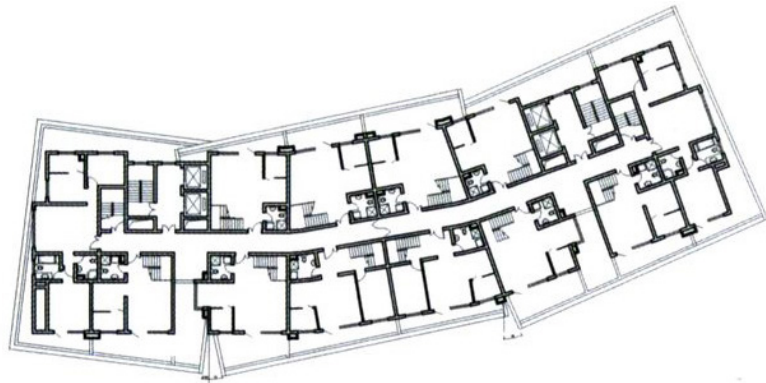


5-5-2.

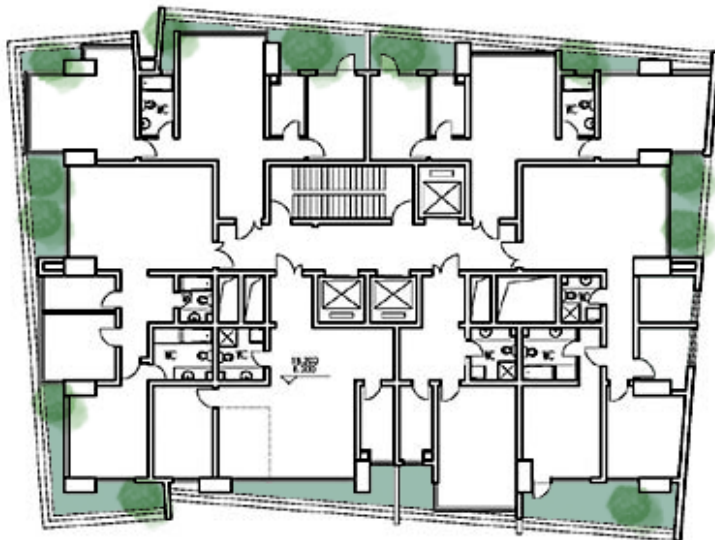


5-5-3.

5-5-4.
The development had two different types of apartment buildings



5-5-5.
Wang Shu wanted to combine the idea of western 2 storey townhomes and the Chinese garden dwellings. He emphasizes the garden, he wanted the residents to recognize their home even at street level based on the type of vegetation they have planted in the garden. He likes the idea of appropriation through nature.



Vijayawada Garden Estate, Studio Penda
Vijayawada, India. 2015

Studio Penda takes advantage of modern mass production methods in their design for a modular garden residential. They wanted to bring an aspect of individualism and flexibility to high-rise residential towers by providing occupants with the feeling of building their own spaces.

This design consists of a modular system that sits in a structural framework. The occupants of the homes can choose the elements within of the module from a catalog, and assemble a desirable composition. Elements that can be added into each module include, walls, facades, ceilings and floors, infrastructures, balconies and plants. Each component can be considered as a plug-in for any spaces. The completed modules are then inserted into the original framework.



5.6.0.
Render, Vijayawada Garden Estate



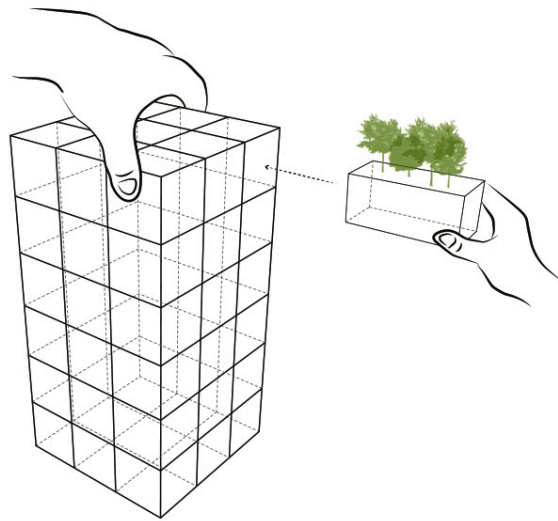
5.6.1.



5.6.2.



5.6.3.



5.6.4.

Diagram showcasing the conceptual idea of inserting modules into a grid system



5.6.5.

The greenery inserted into the building becomes a layer of natural shading system. It also acts as a barrier form close neighbouring buildings and other unwanted views.

Vitacon Itaim Building, Studio MK27
São Paulo, Brazil. 2014

This small residential building in Sao Paulo that consists of 10 apartments. The architectural design of this project is oriented by a careful composition of materials. The façade of the building is a combination of exposed reinforced concrete and wooden panels. The panels are there to shade the interior space in the most flexible manner. Each family can move the shading fixtures to their personal preference for sunlight and optimize the usage of their home. The wooden panels are also perforated so if there is ever the occasion where the user would prefer to have fresh air and still be shaded from the hot sunlight in Sao Paulo. This encourages natural ventilation, creating a comfortable living environment. The resident is able to maintain their relationship to the outdoors without feeling like they are completely exposed to the bust street scape. Aesthetically, the building façade can change significantly from the street level depending on the resident's usage of the wooden shading fixtures.



5.7.0.
Vitacon Itaim Building, Sao Paulo



5-7-1.

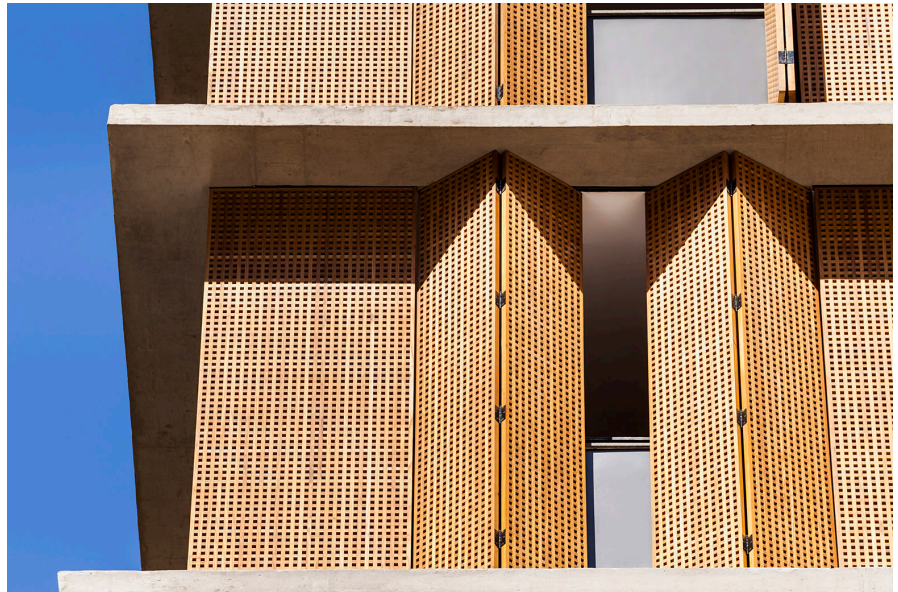


5-7-2.



5-7-3.

5-7-4.
The moving wooden panels achieve autonomy for the spaces inside the home. It separates the interior space from the busy city, but still allowing sunlight and fresh air to enter the home. The relationship with sunlight and wind is customizable to the resident's preference.

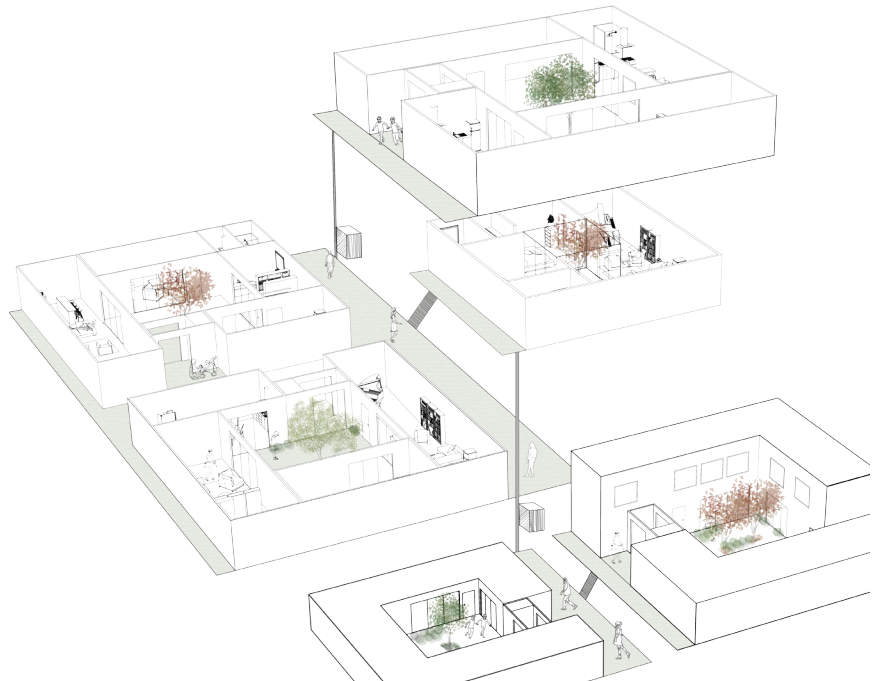


Design: Concept

6.o.o.
Conceptual Courtyards

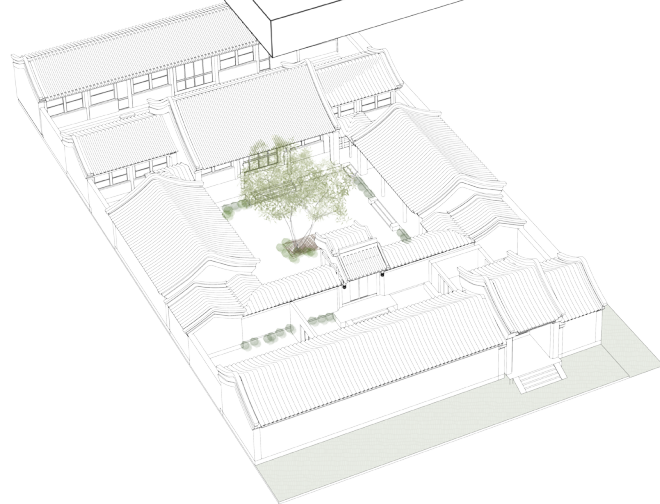
Courtyard of the Contemporary Society:

- Courtyards are shared amongst occupants
- Intimate social networks: courtyard is used as an interaction hub within the neighbourhood
- All occupants are equal in social status, therefore no specific monumental units. All units are made from the same modules.
- Modularity adapts to all household sizes



Courtyard of the Past:

- Single family complex for various generations
 - Private courtyard use as an extension of interior space as well as the central meeting space for gathering.
- Social hierarchy within the family is implied spatially in the North-South axis. Buildings further north being the most private spaces, i.e. Women and children's bedrooms.



Humans of Shanghai

We must take consideration for the people whom we are designing for. Shanghai is a city that is home to a wide range of people of that vary in social and economic status. This project will aim to meet the demands of all citizens.

There are innumerable types of people living in the city, all representing their personal subjectivities in life. The idea is to create a home that is not an aspect of our life that we simply have to endure, instead it should help with our daily subjectivity.

6.1.1. *(right)*

Inspired by the Humans of New York project, a Weibo blogger interviews a variety of people currently living in Shanghai. This series of interviews showcases the wide range of lifestyles and subjectivities of the people in Shanghai



I'm originally from New York, a very fast-paced metropolitan. Yet I still feel like Shanghai moves too quickly, I wish everyone here isn't always in a hurry.



I Recently quit my job back in my home town, I came to Shanghai hoping for new opportunities.



I only recently graduated from university, hopefully job hunting will be smooth sailing in this busy city.



My daughter is still learning Chinese, and so am I. I lived in Europe for 20 years and now we are here, Shanghai is great.



I've owned this book store for 20 years now, it is my own piece of mind. I will probably have this store for as long as I live.



We are interns at an insurance company. It's a tough job, I make many calls every day. The retail industry is a competitive field, especially insurance.



"Why did we open this shop? We live around here, we love to drink coffee. There is simply no good coffee in Jingqiao. I make for customers is like a cup of coffee I make for my family, and I want them to feel utter joy.



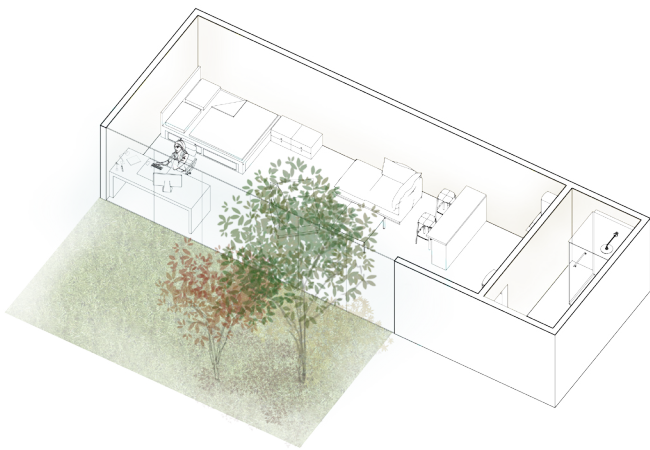
"I enjoy my life the most when I feel connected to my music. It is ironic how so little connections are made today. When I was your age, I could tell you about someone from a few blocks away, but today, not even a couple meters. I have to rely on my music now."



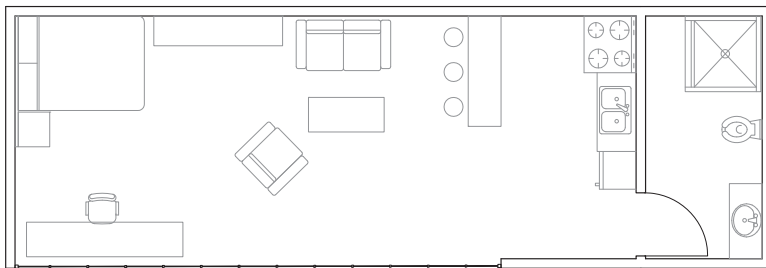
I'm a middle aged business man, the modern world is more complicated in comparison to when I was growing up in the Mao era. There is so much societal pressure on everyone in this city, financially and socially.

Conceptual Courtyards

Taking a few individual from the Humans of Shanghai project as example, we can demonstrate how the courtyard can adapt into different forms of dwelling without sacrificing the characteristics of a holistic slow space in any circumstance.



6.2.0. Perspective



6.2.1. Unit plan



Single Dwelling

Subjectivity:

- Communicative
- adapt to a community
- make new connections

Spatial Characteristics:

- Efficient, daily essentials
- Compact for economic purpose
- Shared courtyard for a more intimate neighbourhood community



For individuals/ Families with Particular Interests

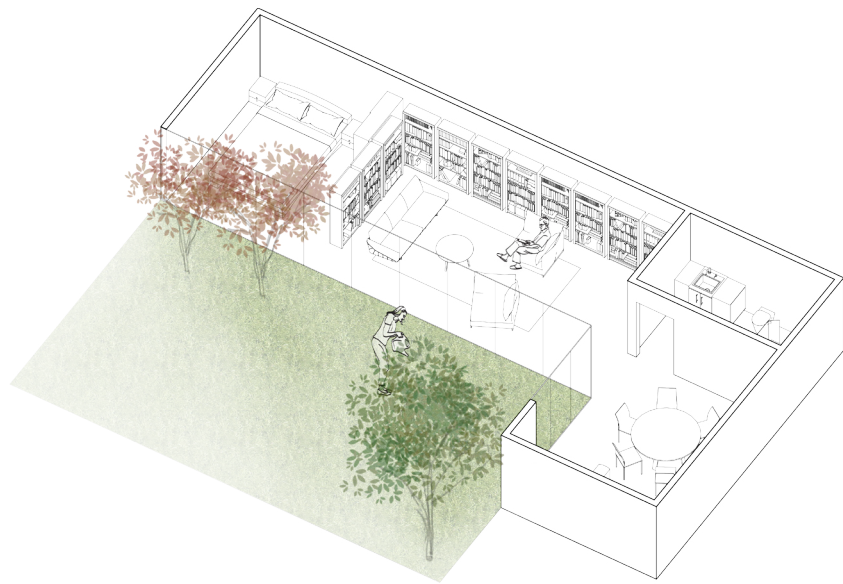
Subjectivity:

- Creativity

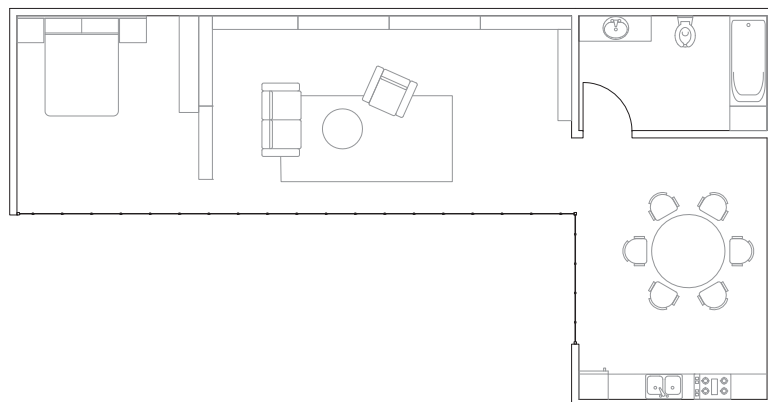
- To obtain a certain characteristic in their lifestyle

Spatial Characteristics:

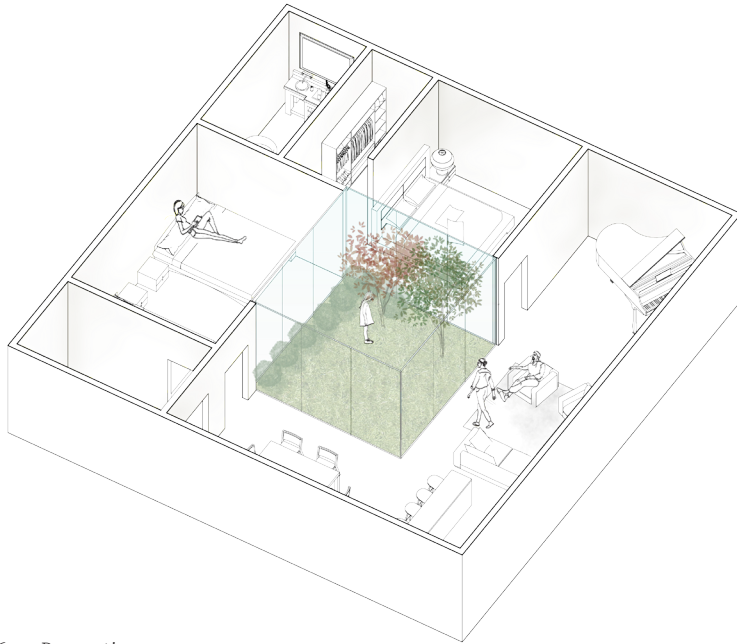
- Modular spaces that are flexible in order to adapt to personal interest
 - Courtyard for unwinding
 - and connection to nature



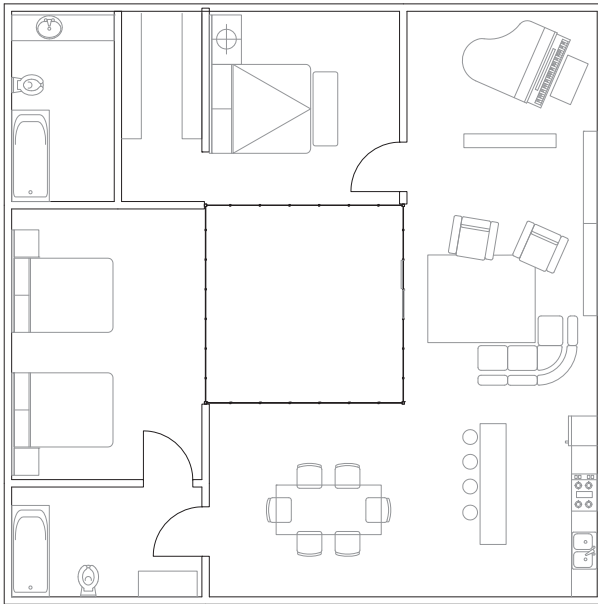
6.2.3. Perspective



6.2.4. Unit plan



6.2.5. Perspective



6.2.5. Unit plan



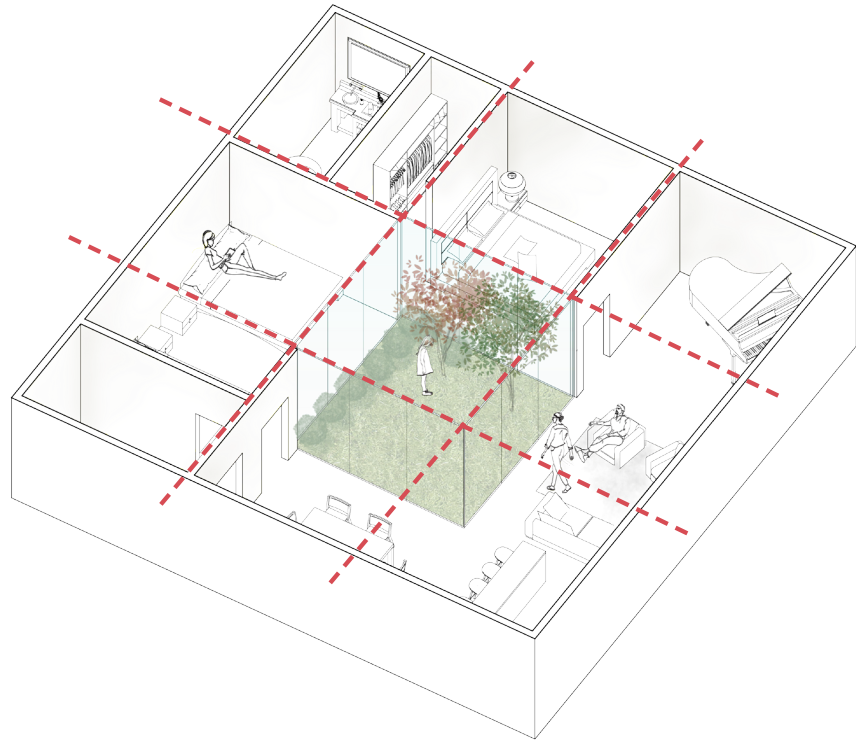
A Family's Personal Cosmos

Subjectivity:

- To live a balanced lifestyle of cognitive and creative qualities.
- To unwind from the frantic pace of the city

Spatial Characters:

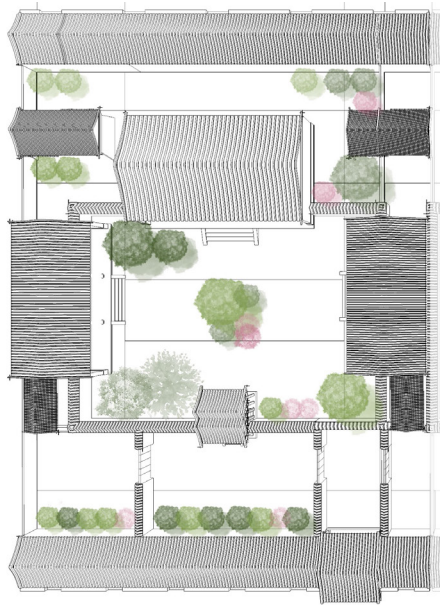
- A complete courtyard home with the garden as the central unit
- the appropriation of both interior space and garden. (Building a personal utopia)



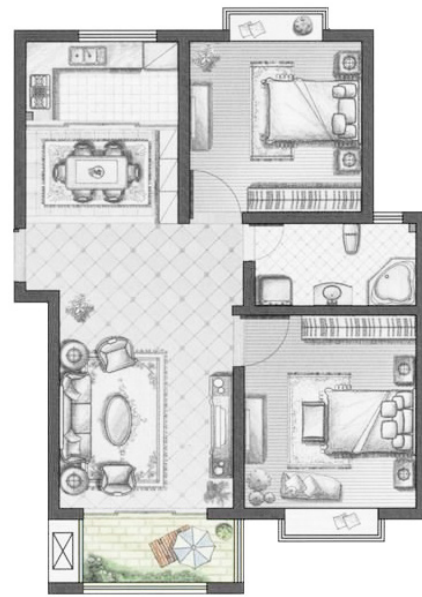
6.2.6.

* The unit spaces are identical in dimension, so each household can possibly choose how many units to occupy and how to occupy them.

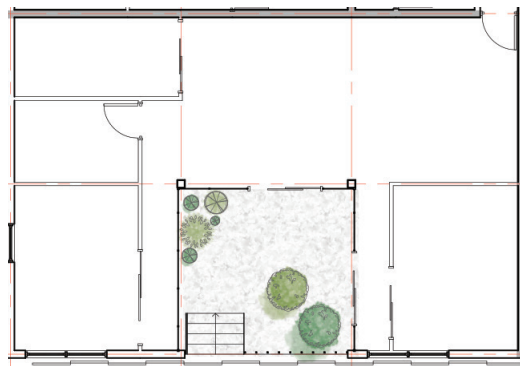
6.2.7.
*Combining ideas of contemporary and traditional
dwellings in China*



Traditional home with courtyard



Contemporary home with balcony



Contemporary home with courtyard

The Contemporary Courtyard

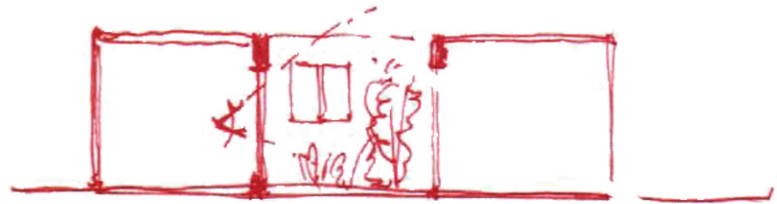
The traditional courtyard home is a holistic space. The everyday life experience always includes the interaction with nature as it falls naturally into the home. It is unlike the modern balcony, where the living space and nature are two separate entities.

The contemporary courtyard home proposal is taking a modern approach to establish the elements that are essential to the traditional dwelling. Similar to courtyard dwellings in the past, the connection to nature is constant within part of the household. It is the nucleus that binds all other spaces together.

6.2.8. *Courtyard in the past*



6.2.9. *Courtyard of Contemporary Shanghai*



Design: Proposal

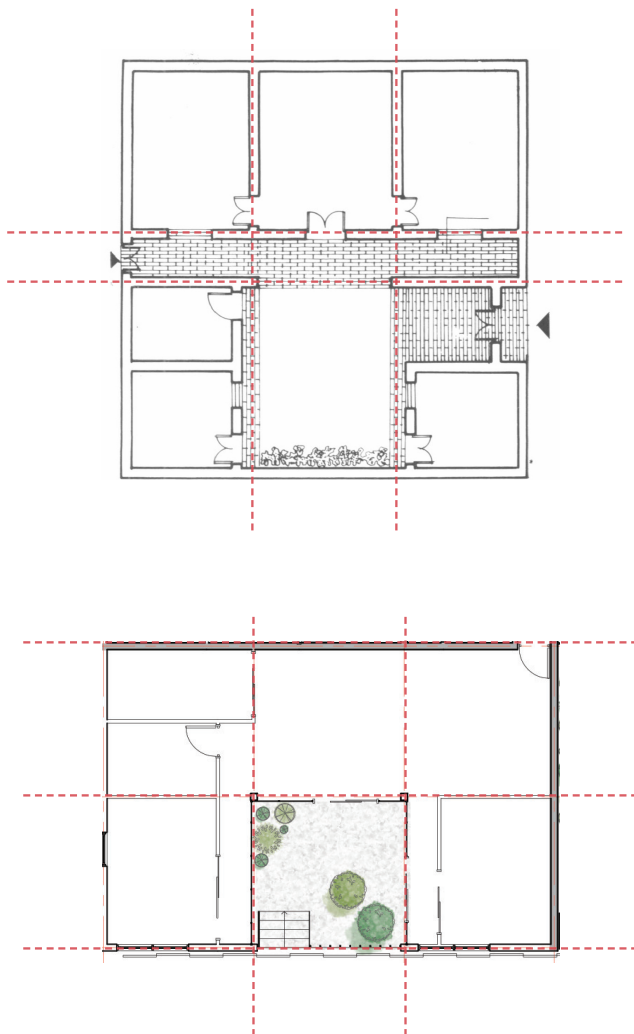


7.0.0. Conceptual Sketch of design proposal

Using very similar spatial parameters as traditional courtyard homes. Each space is an independent unit. Depending on the designated program of each space, the units can easily combine together to make larger spaces. The flexible spatial quality of these units allow the residents to fully appropriate the space overtime.

The garden is also a regarded as a regular unit, every home is accessible to a private terrace.

Modularity = Flexibility

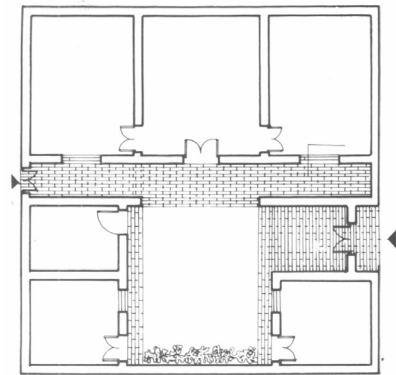
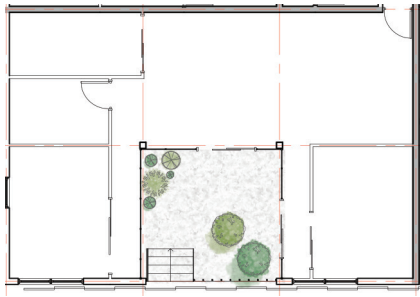


7.1.1.
Utilizing the idea of modularity of the traditional courtyard.

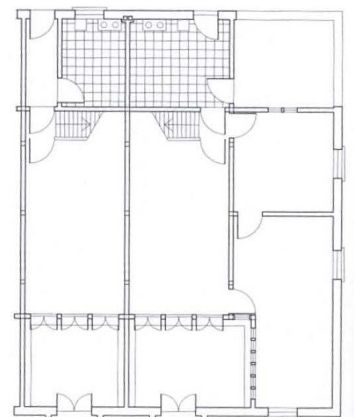
Possible Contemporary Housing Units

VS.

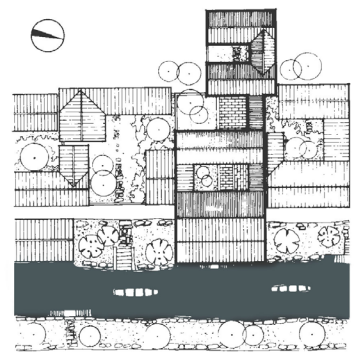
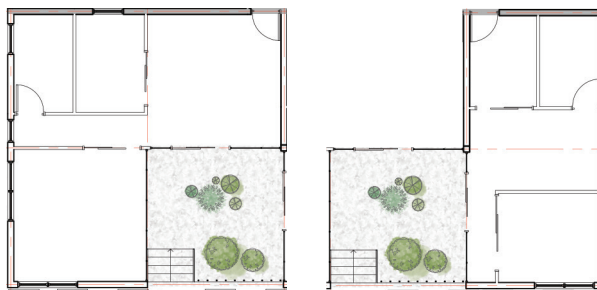
Traditional Housing



Sanheyuan - Guangdong

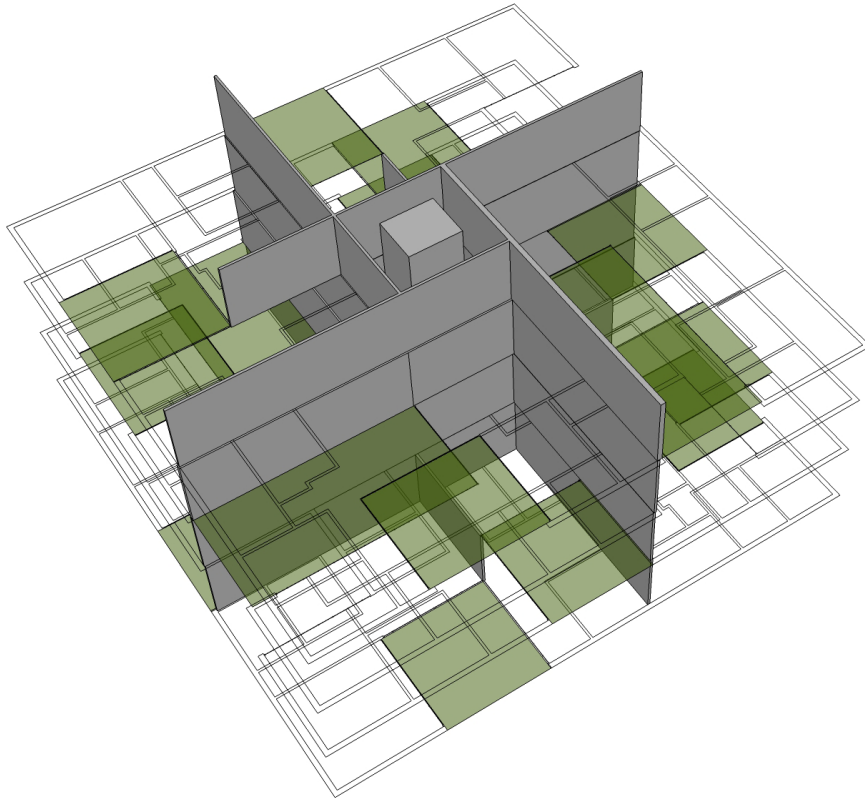


Longtang - Shanghai



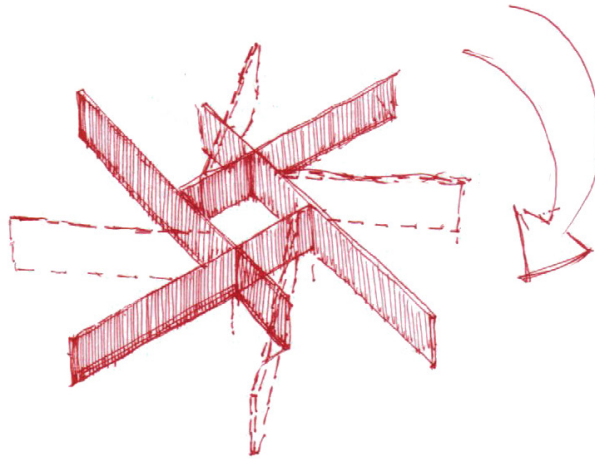
Garden Homes - Suzhou

7.1.2.
Comparing proposed units to traditional dwellings



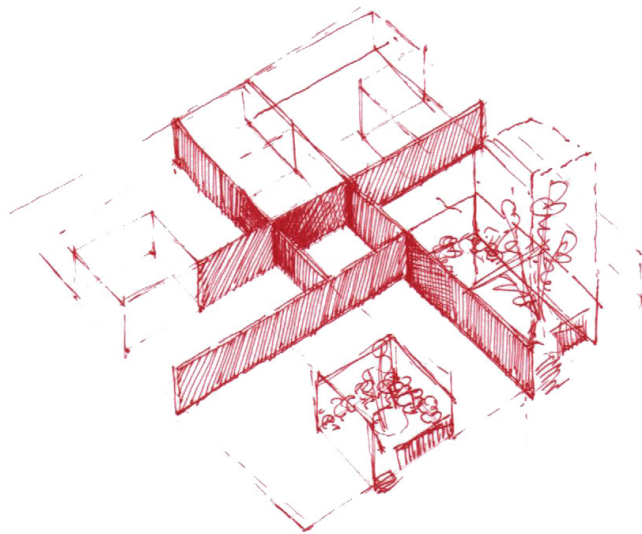
7.1.3.
Parti

The units are combined into a grid system that that is then stacked to create the structural framework of the residential building. A variety of unit layouts are dispersed within the parameters of structural elements.



7.1.4.

Each floor level consists of the same unit layout, the plan rotates 90 degrees in a windmill format at each level. The structural walls align despite the rotation of the floor plan. This diagram showcase the solid components of the building enclosing the void spaces.



7.1.5.

The solid walls divide the floor plate into modules for residential units. This adds of complexity and variety, as there are various moments of double height courtyard spaces.




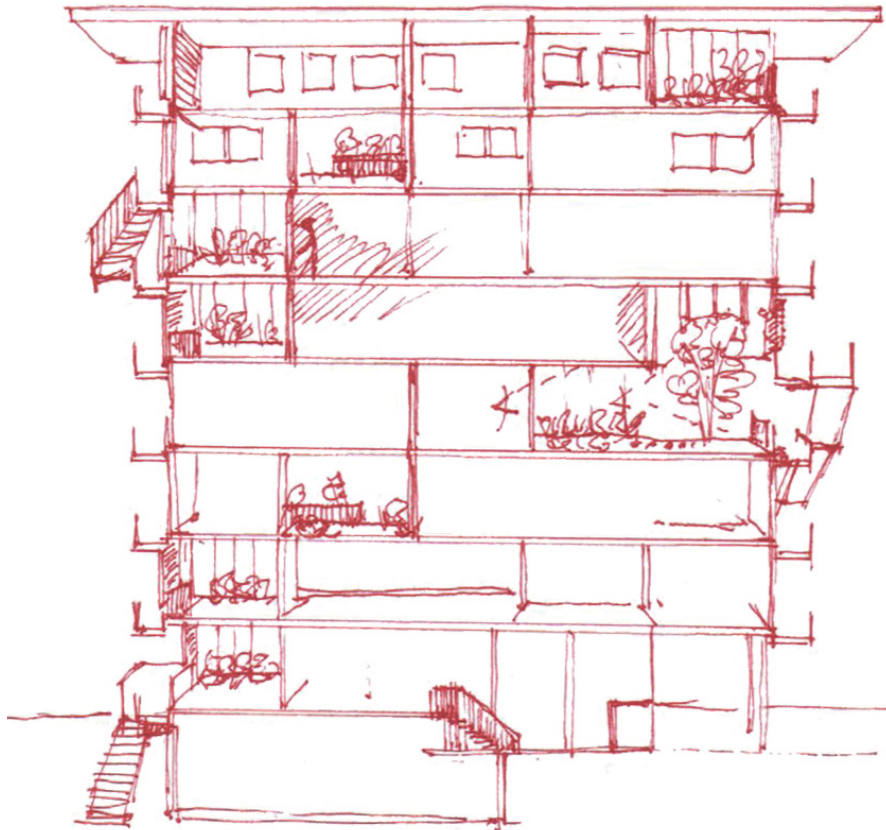
7.1.6.

Plan-Ground
1:200



7.1.7.

Plan-Typical 
1:200




7.1.8.

Vertical spatial relationships of courtyard spaces vary. For households that prefer a larger garden space, there are units with deeper inset courtyards, where there are double storey exterior spaces to allow sufficient light into the garden and home.



7.1.4

Building Circulation
1:200 

The placement of circulation is around the perimeter of the building. The building functions in a similar manner to the traditional Longtang and Hutong neighbourhoods. The narrow pathways leads the residents to their private dwellings, where they are greeted by their courtyard upon entry.

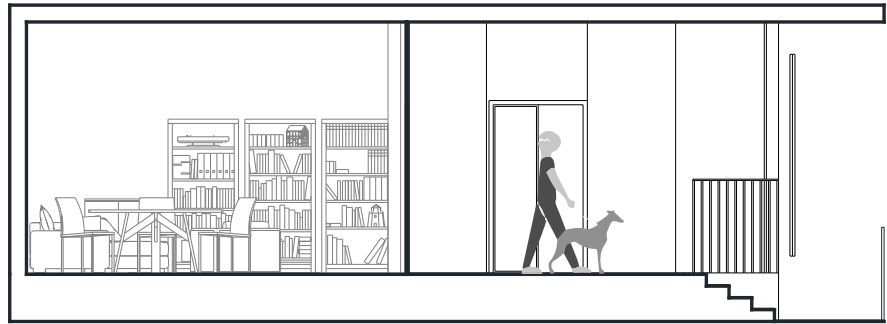


7.1.10.

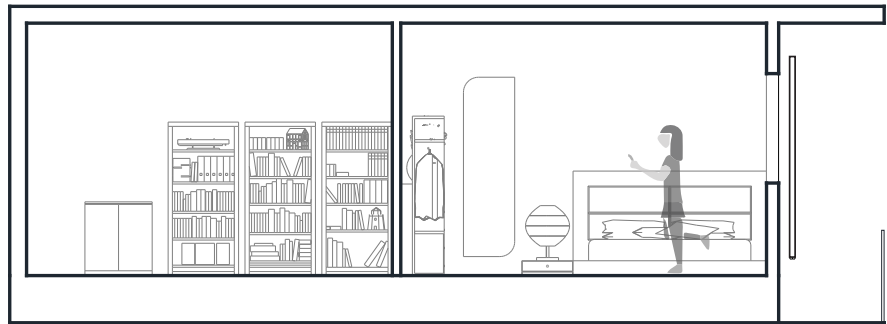
Building Section
1:300

** For large scale drawing of ground plan refer to :
7.1.6. (p 91)*



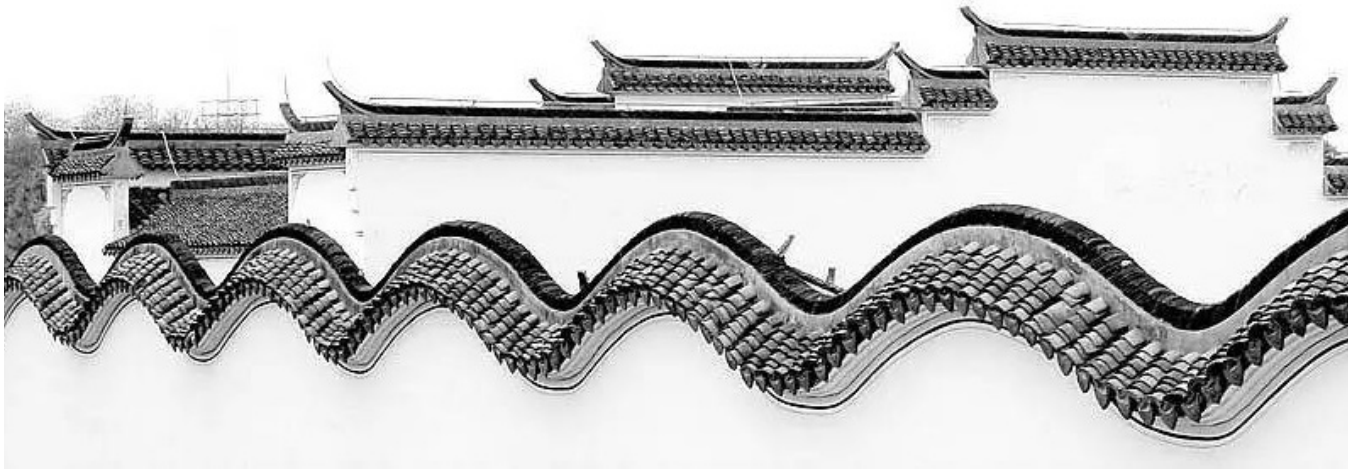


7.1.11.



7.1.12.

The exterior walkway is a few steps lower in height relative to the home. Neighbours passing by will not jeopardise the privacy of the residents that are within their dwellings.



7.1.13. Hui style architecture Anhui Province

Traditional courtyards were completely antonymous, undisturbed by the outside world. The perimeter walls were often solid with no openings towards the street. The contemporary courtyard gives the residence the option of filtering outside view with the semi solid panel system. The louvres filter the view and noise whilst allowing for air to pass through. When the panels are closed, residents are still able to naturally ventilate the home. As almost all units are corner units, it is highly likely for residents to do so.

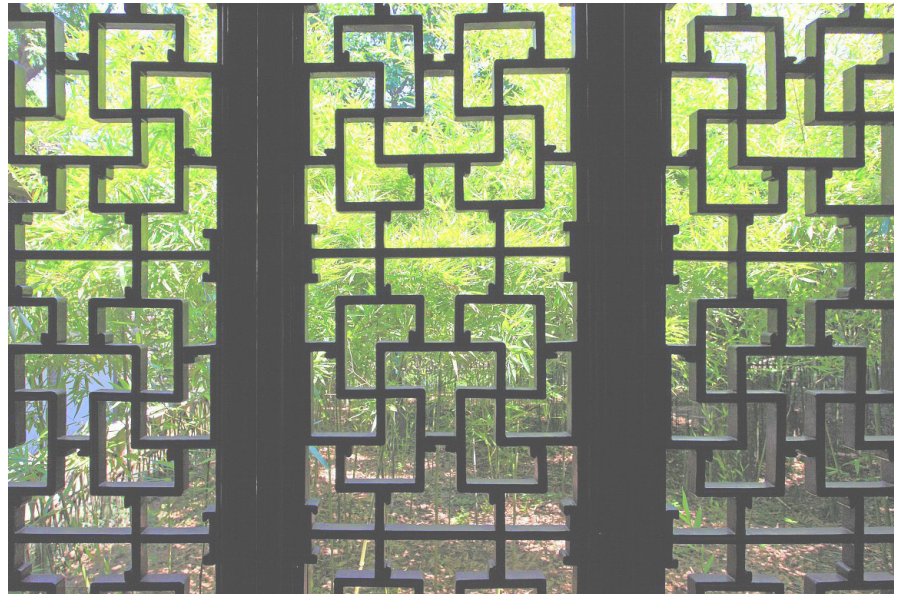
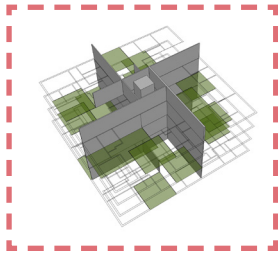


7.1.14. Facade with movable panels



7.1.15.

Sliding bamboo panels create a buffer from the busy streets. Residents have the option to have their room solely face their personal courtyards and obstruct all views towards the city. The panels are continuous even through the courtyard space, for security and privacy measures.



7.1.16.

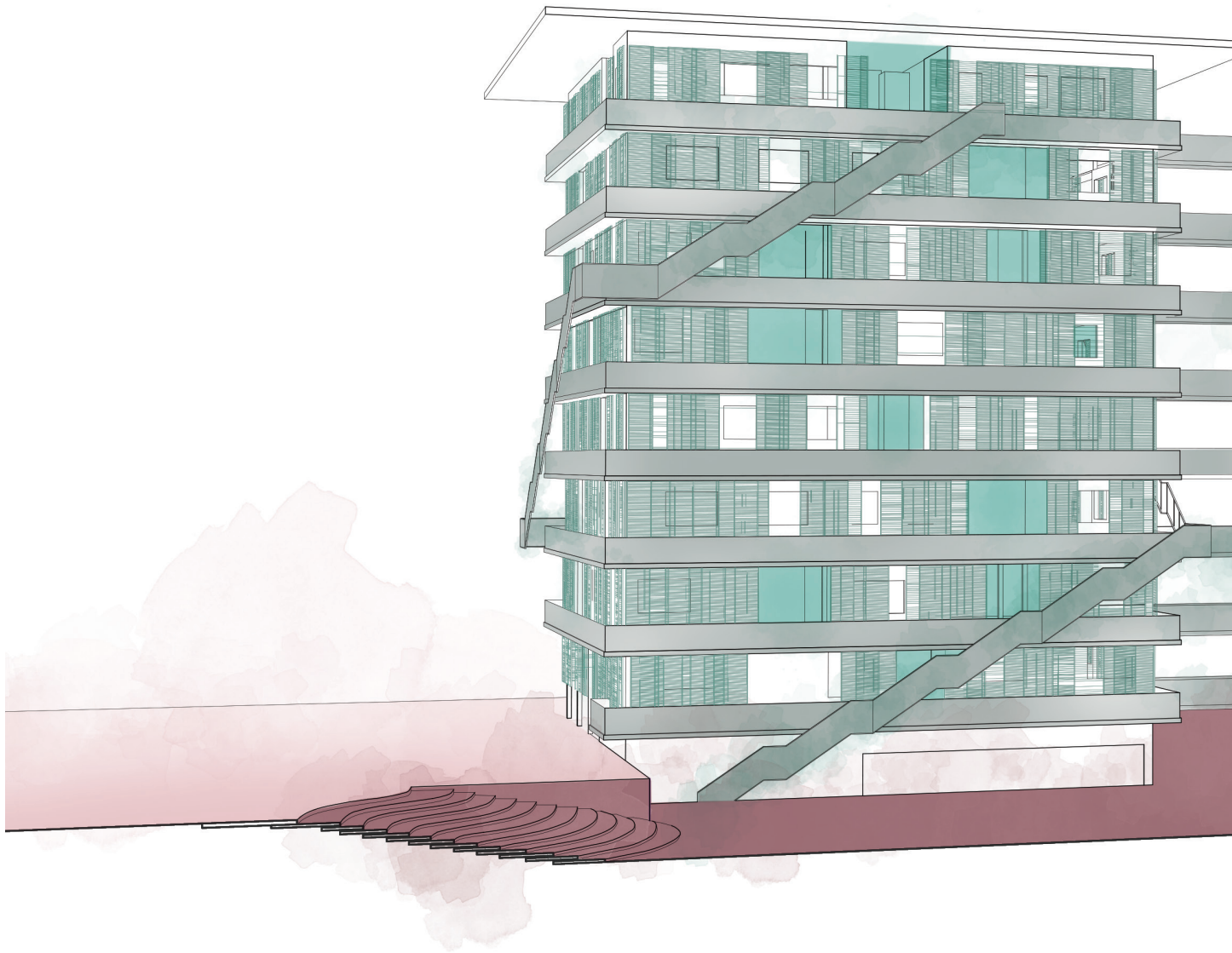
The lattice guard rails emulate the intricate wood carvings particular to the Central south region of China in the past. The pattern portrayed is the parti plan of this building.

All semi-private circulation is placed around the perimeter of the residential units. External stairs are cautiously placed to avoid the obstruction of any views from the private courtyards.

The walkways and stairs can be regarded as Vertical Longtangs. Residents are able to experience the entire building simply by walking towards their home. On many occasions, the walkways also look onto the neighbourhood plaza, maintaining a level of engagement to the entire site.



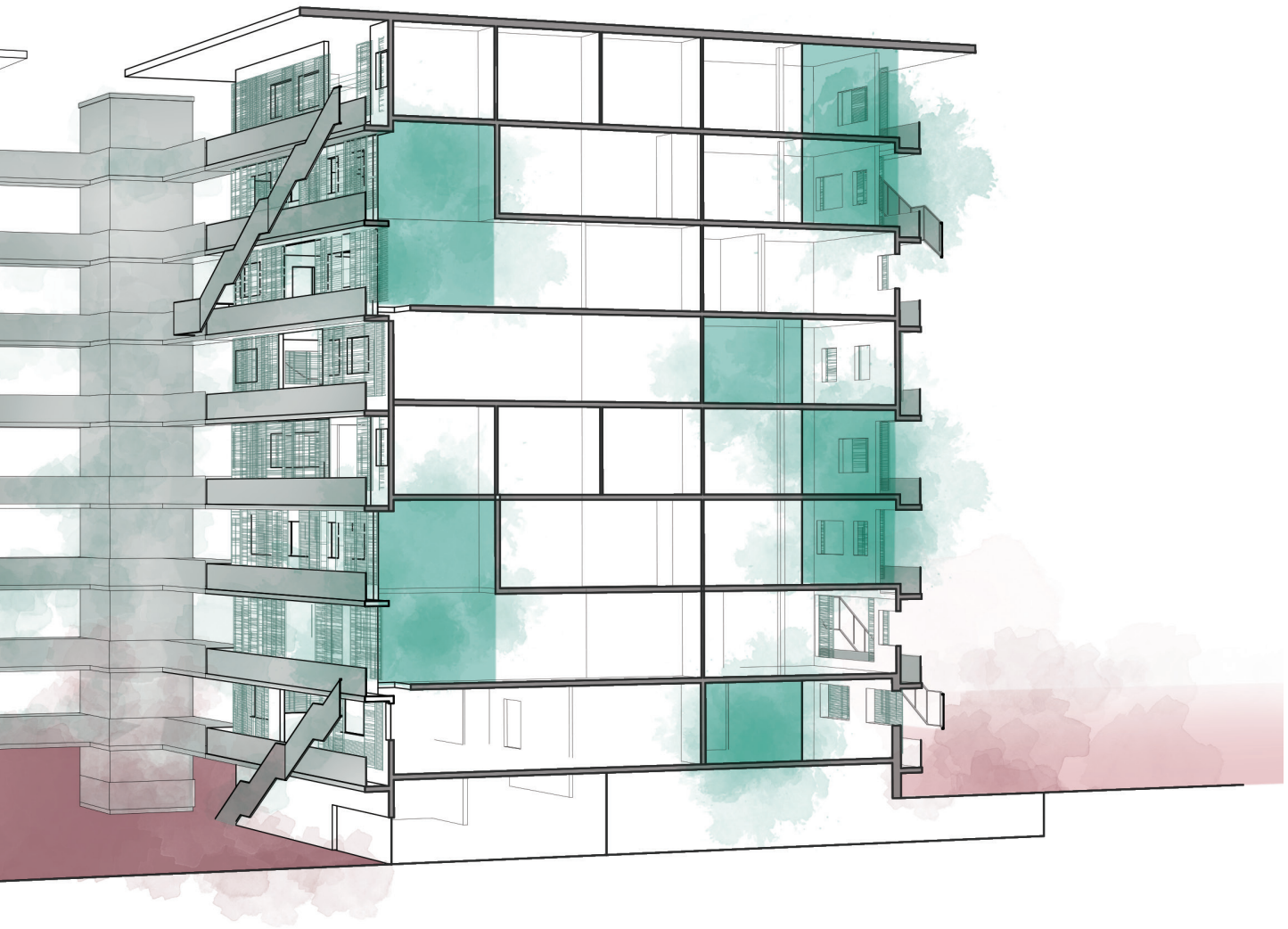
7.1.17.



7.1.18.

Exterior Thresholds: Public to Private

As the resident travels towards their home, the spaces gradually become more private. They experience a series of thresholds that leads them towards the privacy of their own dwelling. At each stage the resident remains in exterior space, however the spaces become significantly more intimate as they head home.



Public Private

Public streets > neighbourhood laneways > neighbourhood Garden > Vertical
Hutongs/ exterior circulation > private courtyards



7.2.1.



Site Plan
1:1250

The site plan can take form in many arrangements. In the suggested composition, residential towers maintain a relationship with each other by sharing a neighbourhood plaza. Many residents in China like to do morning exercises and take evening walks in a semi-private plaza.

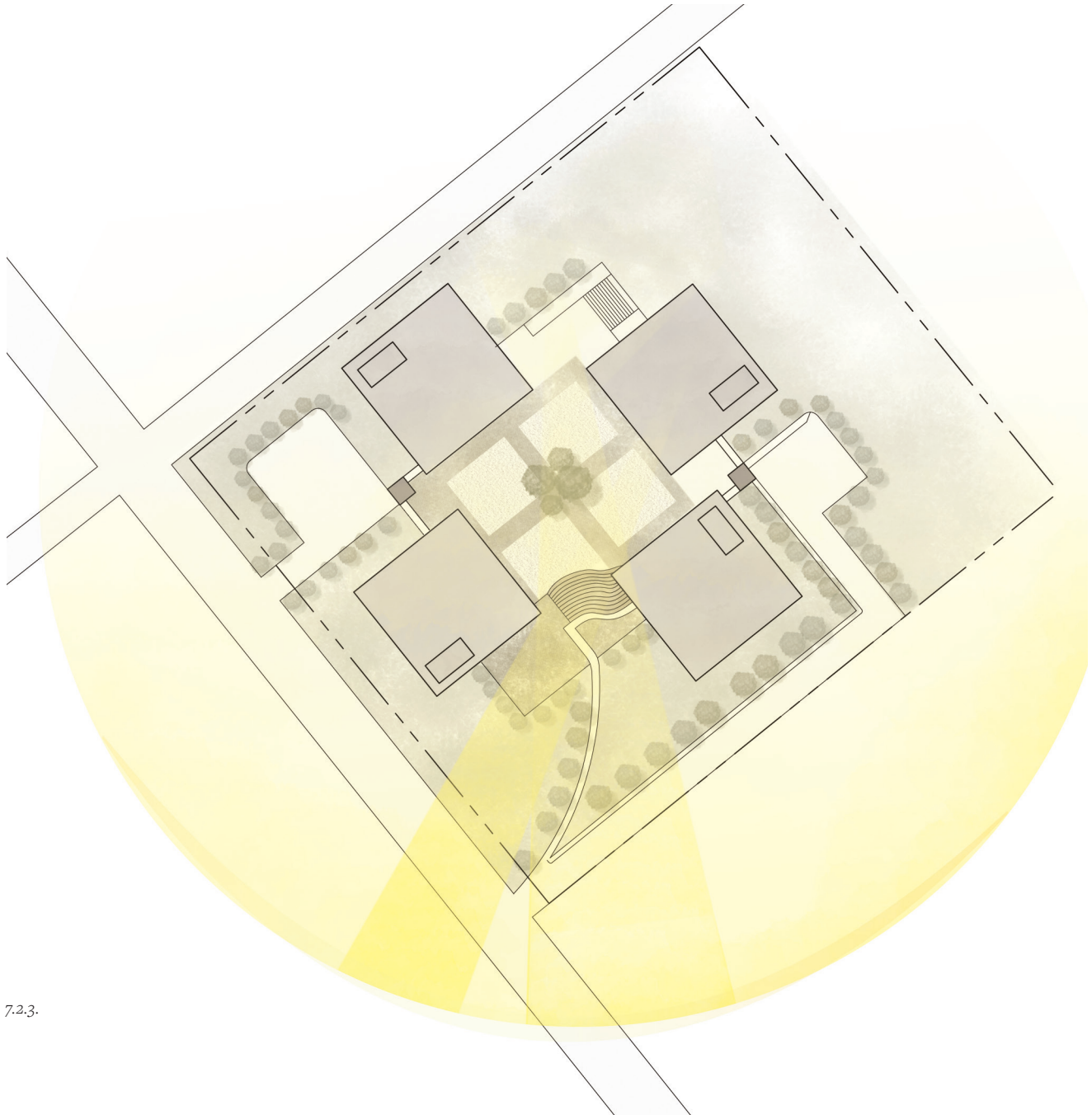
In this instance, there is also the opportunity to share amenity spaces amongst the four buildings. I.e. gym, library, and Mah-jong Rooms.



7.2.2.

Ground plan
1:1250





7.2.3.



Sun Path
1:1250

Four residential buildings are positioned on the site to optimize sun light conditions. The biggest opening to the neighbourhood courtyard is positioned on the southern corner, allowing for constant diffused natural light onto the units facing the neighbourhood courtyard.

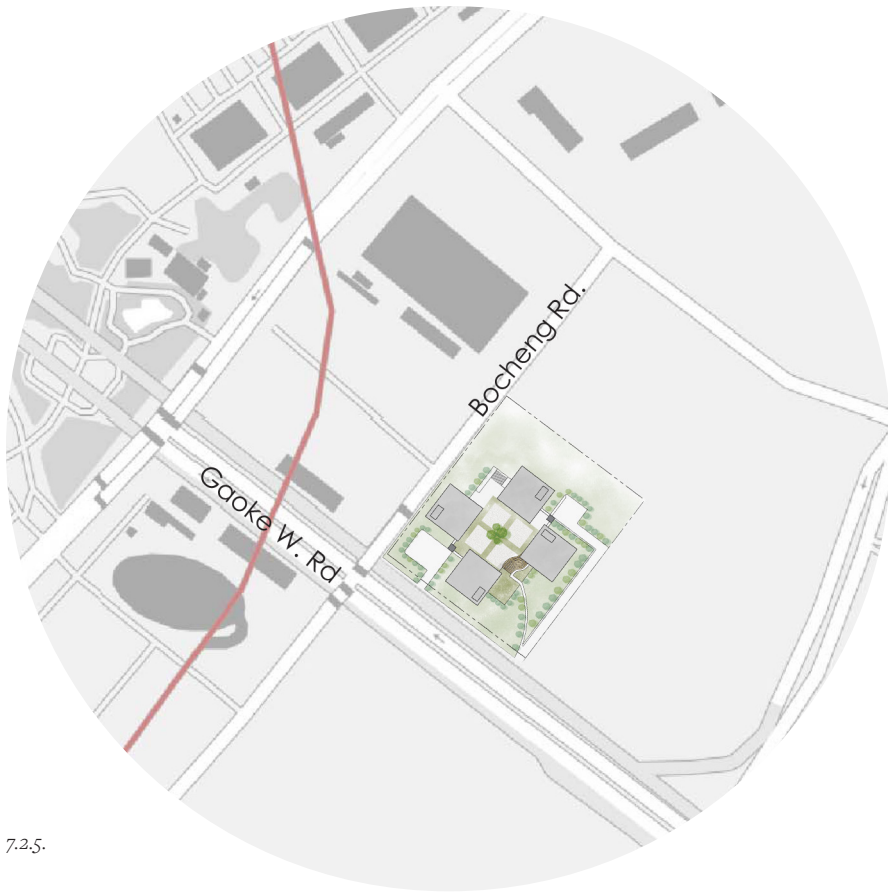


7.2.4.

Spatial Strategy
1:1250



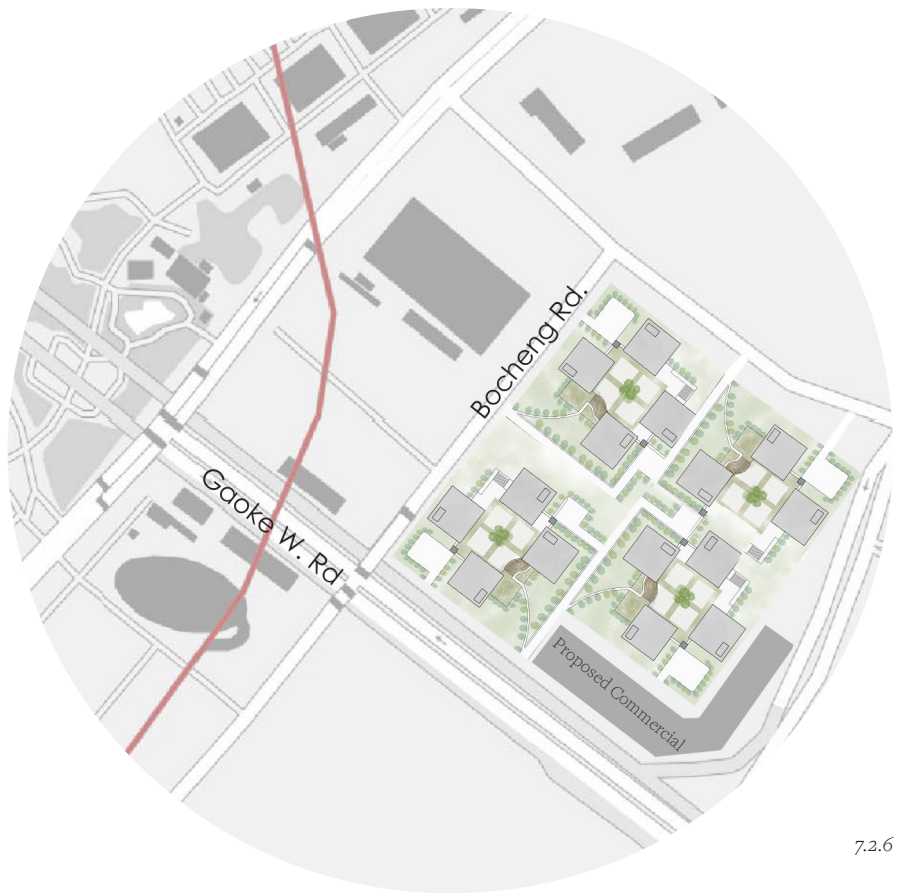
The four buildings form a large central courtyard plaza. Similar to the ancient grid system, the site plan is placed in a grid format. Each individual building is then also divided into a unitized grid system which form the residential units.



7.2.5.



Context Plan



7.2.6



Possible Future Site Development 

Total Size Area 13 900 m²
 Total Unit Count 156 Units
 Floor Area Ratio 17 820m²: 13900m²
 = 1.28

1 Bedroom Unit Area 50 - 71 m²
 2 Bedroom Unit Area 71 - 100 m²
 3 Bedroom Unit Area 101 - 122m²

* Unit Areas include courtyard spaces



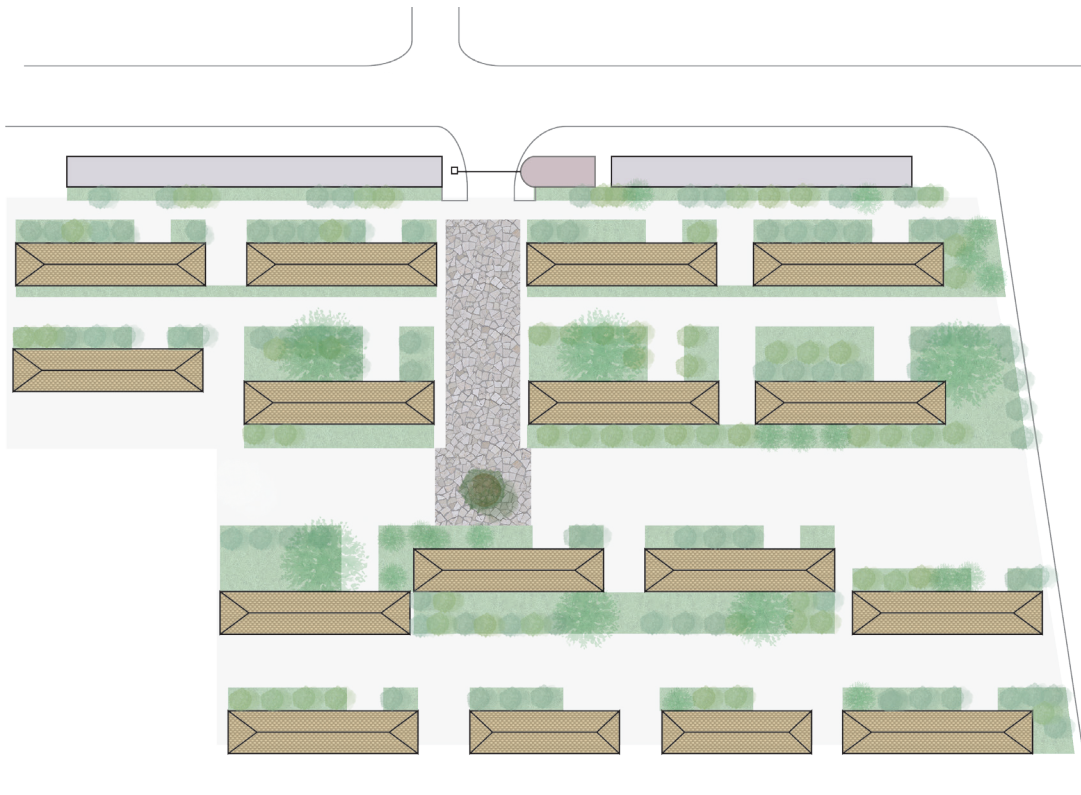
7.2.7.
 Proposed Statistics

The contemporary courtyard dwelling neighbourhood

The contemporary courtyard residential neighbourhood aims to provide adequate dwellings for citizens whilst maintaining the demands for density of modern Shanghai. When comparing the statistics of the site, the proposed residential scheme will achieve more density than a typical residential neighbourhood in Pu-dong, Shanghai.

Total Size Area 75 600 m²
Total Unit Count 520 Units
Floor Area Ratio 94 550m²: 75600m²
= 1.25

1 Bedroom Unit Area 51 - 80 m²
2 Bedroom Unit Area 73 - 106 m²
3 Bedroom Unit Area 94 - 140 m²



7.2.7.
Typical Neighbourhood Statistics

Dong Wang Ming Yuan 东旺名苑,
Typical Neighbourhood in Pu-Dong, Shnanghai



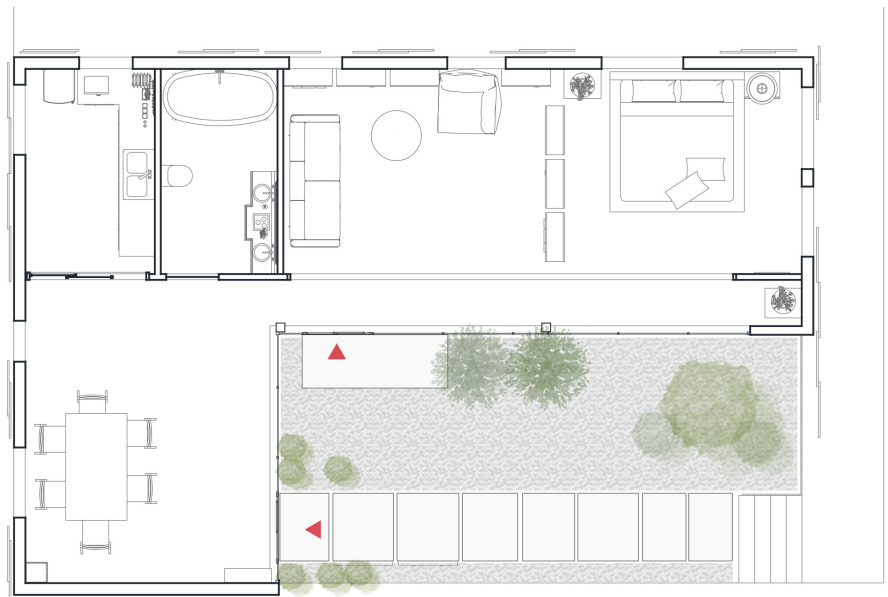
“I’ve owned this book store for 20 years now, it is my own piece of mind. I will probably have this store for as long as I live.”



7.2.9.

A quite space for an individual with a particular interest.

He can arrange the dwelling around his passion for books. In this case, he can eliminate his the walls between his bedroom and his reading room and use book shelves as a demising wall. The reading room can open up towards the corridor with the large sliding doors, which then looks on to the courtyard. He can easily interact with his wife in the garden when all the sliding door components are open to the exterior. This unit can be a quaint home for an elderly couple who enjoys the small endeavours in life.



7.2.10.



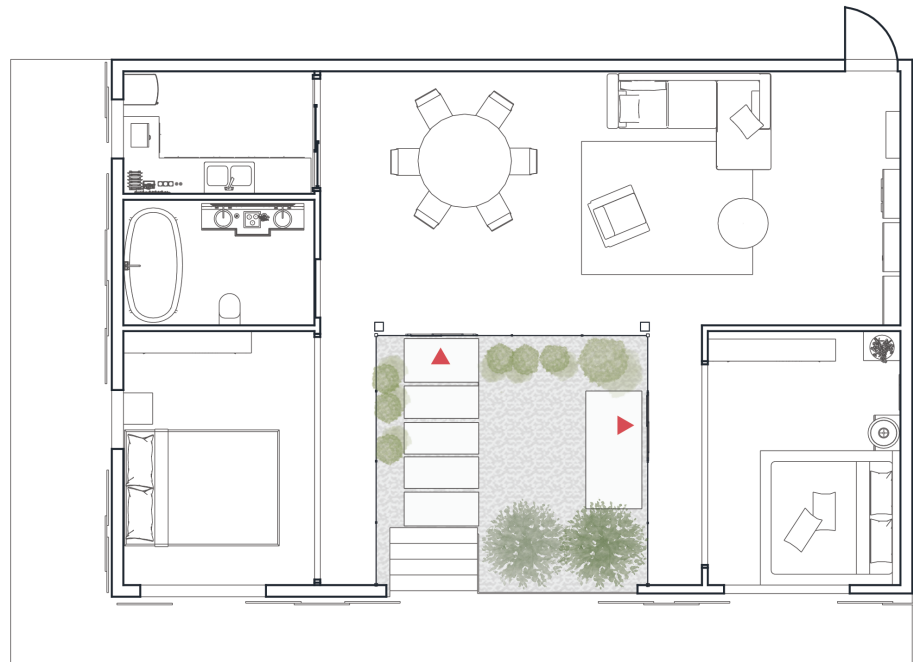
“My daughter is still learning Chinese, and so am I. I lived in Europe for 20 years and now we are here, Shanghai is great.”



7.2.11.

A family's personal Cosmos.

This household consists of various a unit size courtyard, with the all interior spaces revolving around the perimeter. The kids can play outside whilst parents look onto them from any room inside the home. The bedrooms are large enough to fit two beds if needed. The back corner has a study space where the kids can do their homework and practise piano, or it could simply become a den for storage.



7.2.12.



7.2.13.



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