

UDC 721

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ROAMING ON THE LANE OF THE CITY WALL

Abstract: Xi'an's City Wall, also known as the City Wall of Ming Dynasty, is the largest and the most complete preservation of the ancient city wall existing in China. The City Wall, as a kind of element of architectural mega-structure, defines the urban form of Xi'an's main urban area. The inner circumferential district of the City Wall also forms a typical type of architectural space and derives various social behaviors. This paper will proceed from the continuity point of view, focusing on the historic architecture's evolution under the established form of urban space, in order to match modern people's necessity of needs in material and cultural. Taking the investigation and study of "The inner circumferential district of the City Wall" (the Lane of the City Wall) as a core case, the author analyzes the incommensurability of the old space types in modern society and studies how to awaken, transform, stimulate the old space types and give new types and forms Block vitality. The conclusion part will use supplementary cases to explain that the mode of influence of architecture on urban morphology is a common organization that is coordinated by a specific space type and multi-point space. This paper is subsidized by NSFC project which is named as <Research on Technical System of "Downtown Factory" Community-oriented Regeneration in Yangtze River Delta Region> (Grant No.51678412).

Keywords: morphogenesis, residential planning units, market colonization, adaptive redevelopment.

1. History-Prototype**1.1. Boundary (wall) is the form of binary relationship**

Lines are now prototypes of (human) forms. However, originally, we should say that "points" are the origins and prototypes of all forms, but we cannot trace back to the "initial points". They are not related to human beings. They are totally based on everything that nature has endowed. We can only base on them above observation and creation, so we focus on the "line".

The line is the first set of points, which implies synergy, which itself serves as a set boundary, and at the same time defines a binary relationship, showing a binary relationship. Heaven and earth gather at the front line, and people are above the earth, below the sky, and walk among the gods and are able to discern. It is the most stable set of points. "When we point out that there is a dead person, we have already thought about the other three parties together, but we have not considered the pure nature of the Quartet". Whenever we construct a "line", we also seek attribution, identify directions, and understand pluralism.

Lines are the geometric forms of human abstract things. We have been trying to find the core of the so-called things. However, the boundary allows us to clearly recognize the existence of the core, which itself can be used as a kind of core aggregation. It also means that we have to converge, point out the binary, divide away from chaos, give at both ends of the boundary, explore the core possibilities. Today, however, when we explore the core, we are infinitely far apart (escape) from the border, as if we already knew that the form of the content we are paying attention to is like a huge, closed, perfect circle (or other perfect centripetal geometry). The more you get away from the border, the more you can point to the essence. Architecture was also discussed as such.

1.2. Attachment is the form of agglomeration

The wall is the boundary of humanity. Mountains, rivers, clouds, including the trajectory of the wind, etc., are the forms of the natural midline, defining both ends, and at the same time being a kind of aggregation, that is, whether you are a thing or a thing and separate one of the two circles; use nature to build walls. People attach themselves to one of the two boundaries of the wall, so as to obtain their own independence, mark the body, and also gather in class.

In the early construction, people had three basic relationships with the earth. The first one: At first, people were living in caves, relying on Yamagata and seeking shelter on the ground. The form of the wall is entirely dependent on nature. Individuals adhere to their boundaries; distinguish between inside and outside, and between black and white, moving and static. However, agglomeration is still a scattered form, because human resources are paralyzed and mountains and seas are not moving. The second is connected with those who lived in caves for a long time went out to hunt for work and accumulated experience. They began to be good at using tools to upgrade their ability to build and build opportunities. Gradually, people are aware of the inconvenience of relying on the line of nature, but they are jealous of dangers, so they attach themselves to it and expand outwards to build a structure. The third is the separation (parallel), an autonomous construction, so that people do not rely on the natural line. People autonomously choose to live in a place that is close to natural resources, where they can better survive, and use their building capabilities to acquire materials from nature and build boundaries that suit their ideals. When people can build, they can independently choose the direction of agglomeration and obtain the form.

Through the evolution of these three methods, people find the meaning of building a dwelling, complete their marks, and gradually gather.

1.3. Encirclement is the form of intelligence

In the first kind of aggregation of human beings, although the wall lines were constructed to mark their own forms, they still rely on nature to mark the collective, and naturally follow the trend of mountains and rivers to nurture culture. However, natural forms are different and it is difficult to control, even if the freedom is flexible. However, it is impossible to re-create it through inquiry. Therefore, human beings model themselves and surround the wall world, and build a pattern of intellectual rules. Fangcheng is one of the most typical enclosures.

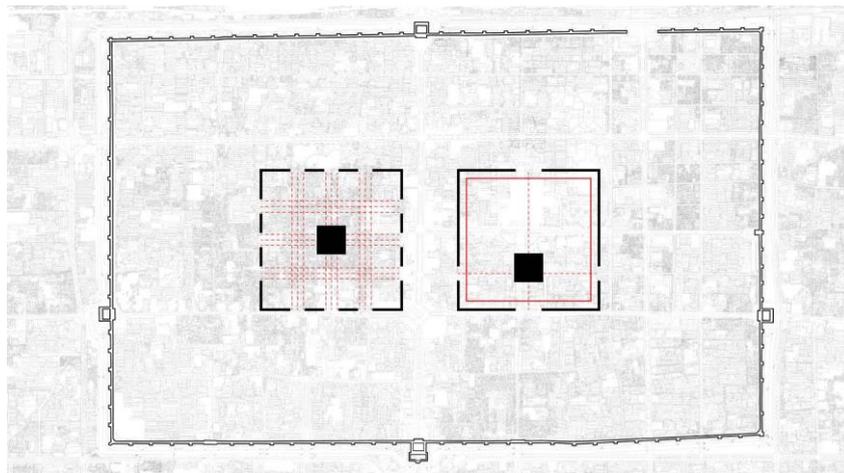


Figure 1. Prototype

Xi'an City Wall is a type of battlement with the most geometrical features in world history. It is not only large-scale, but also retains the most complete system of city walls. From the natural

pattern, it marks itself with the outside world in an absolutely clear and logical way, and shapes agglomeration in it. Xi'an's wall pattern has experienced three important historical changes:

1) Structure laid – Sui and Tang Dynasties: The earliest description of the rule system of the Wangcheng was at the beginning of the Western Zhou Dynasty when the "Zhou Kaogongji Tradesman": "The craftsman camp, Fang Jiuli, and the next three gates. After the nine tracks were painted, Zu Zu Zuo Club, facing the market, the city and the government" which outlines the original form of the early King City. But wait until the urban form pattern shape and reach the peak, in fact, it is also the Chang'an City of the Sui and Tang dynasties, presided over by Yu Wenyu, and continued to build expansion in the Tang Dynasty, the established position of the king city and the city and the basic chessboard pattern in the city.

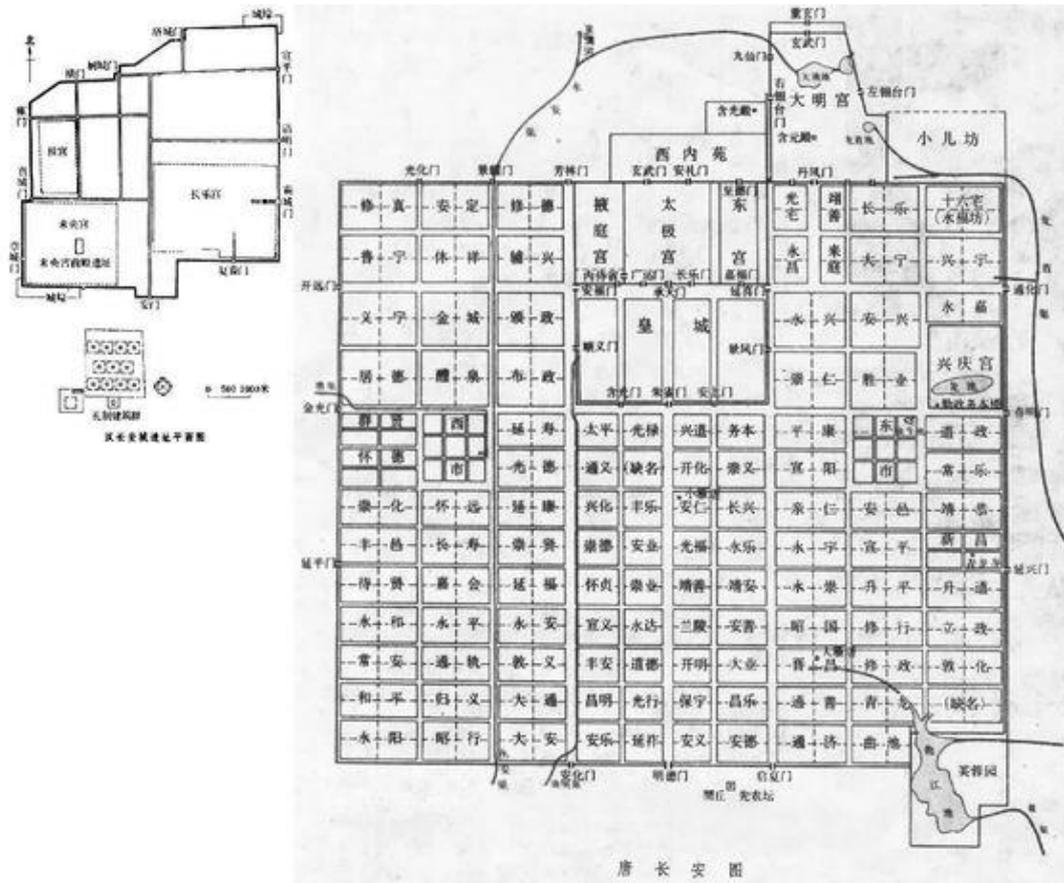


Figure 2. Xi'an in Tang Dynasty

2) Skeletal heterotopia – Ming and Qing Dynasty: After the Tang Dynasty, the capital was not set in Chang'an. The war allowed the capital to continue to migrate. It finally stabilized in the Ming and Qing dynasties. At this time, the core of Chang'an gradually reduced with the decline of political status. Only the palaces of the Ming and Qing dynasties were left. The center of the city was also shifted from the imperial city to the geographical core. The checkerboard shape of the urban muscles was not strictly controlled. As the function demand continued to distort, the remaining four main streets and the core clock tower remained. Form clear four quadrants.

3) Blending textures – Modern: During the period of the Republic of China, under the impetus of capitalism, the functions of the city were constantly plentiful, the original block was continuously cut and divided, the road network structure began to be dense, and the connection with the main street was changed: obscure, showing different urban textures in the four quadrants, breaking the pattern of the mean.

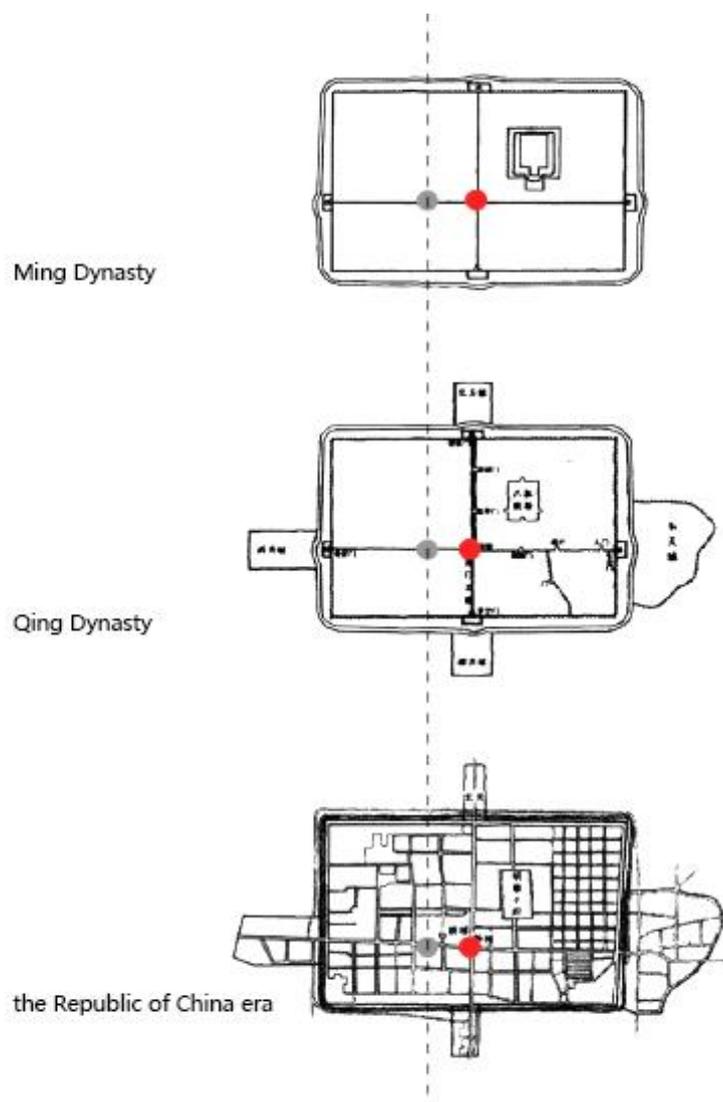


Figure 3. Transforming of the Structure

2. Development-typology

2.1. Type extraction

Square City was the most perfect type of the solution, but as the population continues to accumulate, the geometric types will eventually become saturated. The outside world and the inner world will begin to oppose each other, making us once again focus on the type of boundary – the Lane of the City Wall.

Xi'an Lane of the City Wall is not a single architectural geometric space. For a long time, people have attached themselves to the boundary of the city wall, which has led to new types of spatial regions and living patterns, showing obvious edge morphological features:

1) Fishbone-Road network structure: As a whole, the road network structure of the new urban area in the northeast is the texture of the fine grid pattern formed by the use of modern planning methods after the dismantlement of the city in the period of the Republic of China. The area of the land is small and can be avoided. With large-scale urban development, the streets and lanes have a rich atmosphere. The Hui District and the Southern Road Network inherited the structure of the road network during the Ming and Qing Dynasties, showing a tortuous and freestyle texture structure. The space is very compact and gives people a rich experience. The northbound road network was mainly developed in the 1980s and penetrated the fishbone structure into the community.

2) Density-Physical Space: From the inner boundary, it can be seen that the space is constantly being compressed in a state of saturated storage. When the center of the inner boundary is built up, human settlements are driven up to the border. After the Republic of China, shanty houses and sporadic factories built around the city occupied most of the sections of the Lane of the City Wall. With the renovation project of the Lane of the City Wall, it gradually became a gathering place for the citizens' traditional life and formed a certain cultural atmosphere.

3) Surrounding-virtual space: With the saturation of the inner boundary, the barrier effect of the city wall becomes more obvious, and a gap-like clearance space appears outside the boundary, forming a stark contrast. Due to historical military construction, the exterior of the city wall has become an environmental barrier and surrounds the boundary. It has been used up to now. The population is constantly “spilled” from within the city, and on the periphery of the disengaged boundary, a free-running urban form has formed.

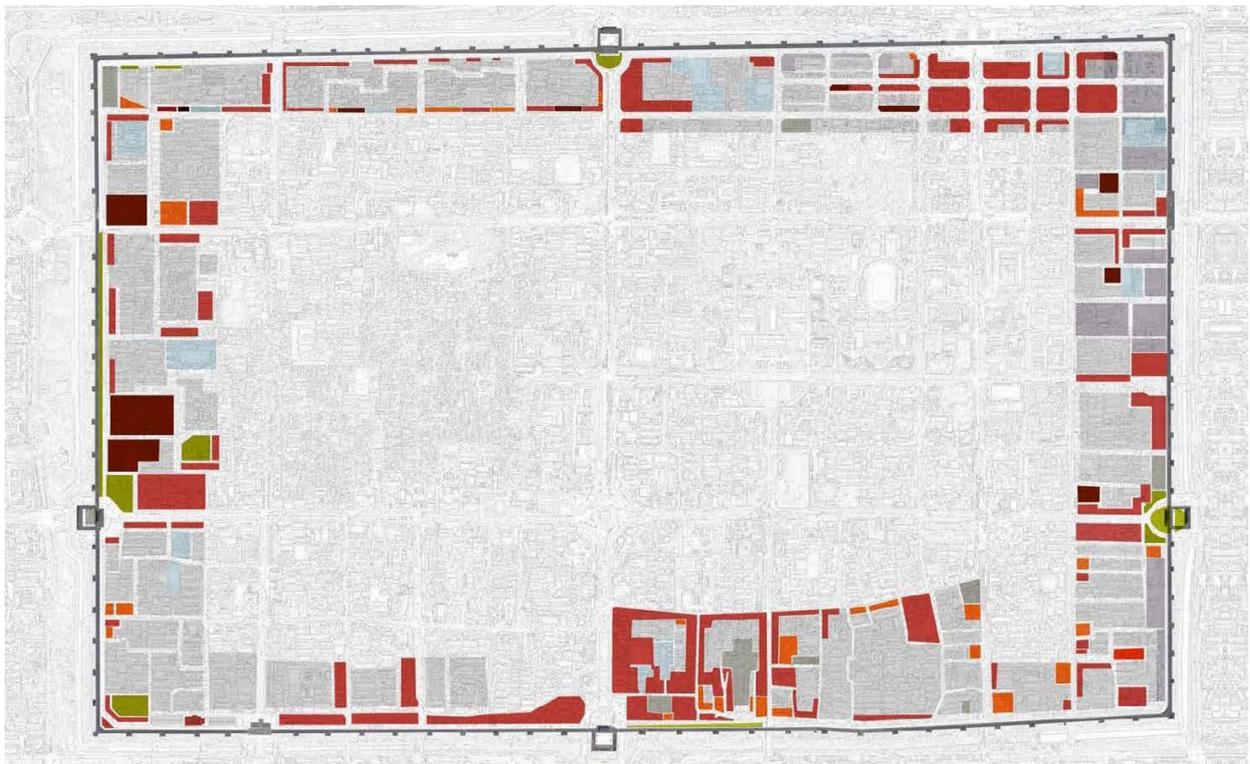


Figure 4. Urban Fabric

2.2. Type Translation and Compounding

The siege of the siege was more intensified at the border. The construction of Xi'an City Wall is the most rapid and typical of the south. At the two ends of the border with the South Gate, there are a large number of residential areas on the west side, and a commercial street marked by the calligraphy culture on the east side. As a result, not only the city wall is the boundary between the inside and the outside, but the South Gate has become the dynamic and static boundary of this boundary. The South Gate itself has become an independent focal point with its unique city and exquisite historical wood architecture. In this internal and external contradiction between movement and silence, privacy and openness, and residents, businessmen, and citizens have appealed to this space to claim their own spatial field.

1) Integration of types

Among the urban behaviors associated with the boundary, we first summarized 20 basic prototypes, marked out the spatial interfaces related to their behavior, and abstracted them into

adjacent houses, considered the unity of connectivity and materials in the future, and realized interaction and echoing of similar public activities in the external space. After that, in the new placement type node, a new structure is added. Through the connection of the roof platform and the laneway, a chronic walking system is set up to connect the entire area in series.

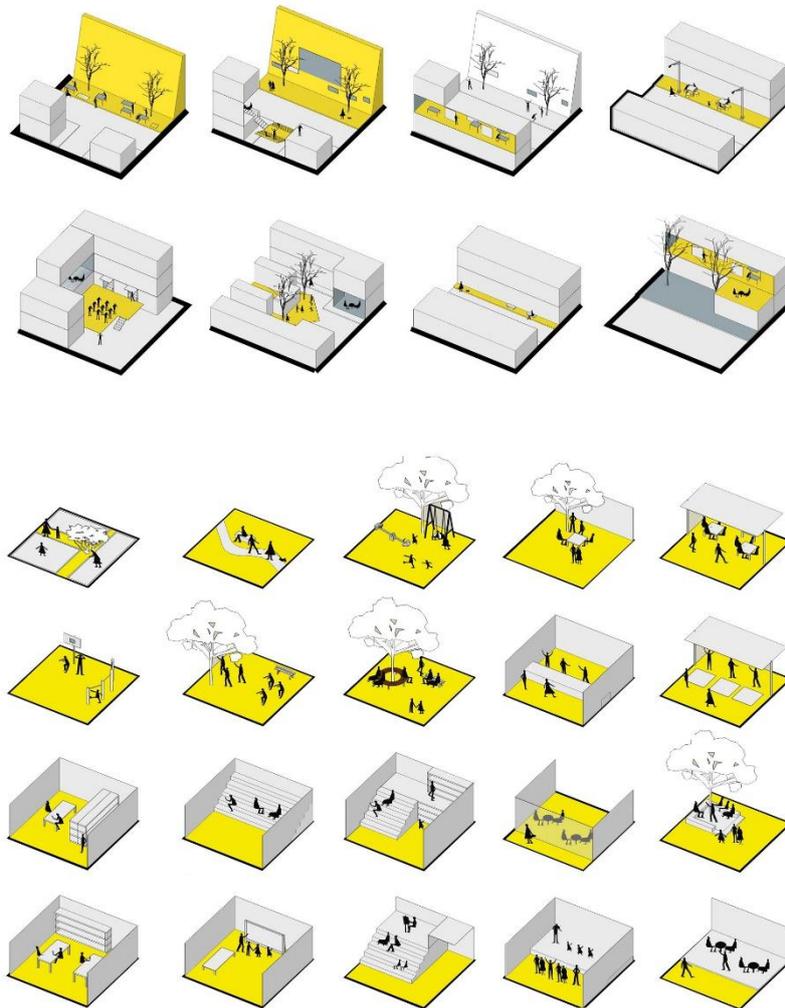


Figure 6. Typology

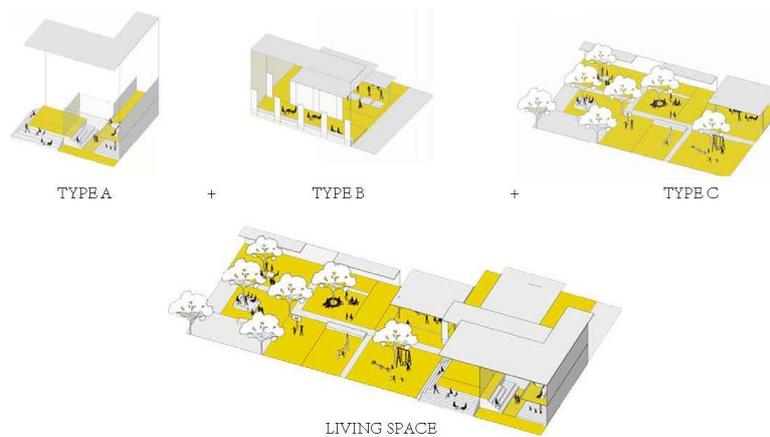


Figure 7. Transform

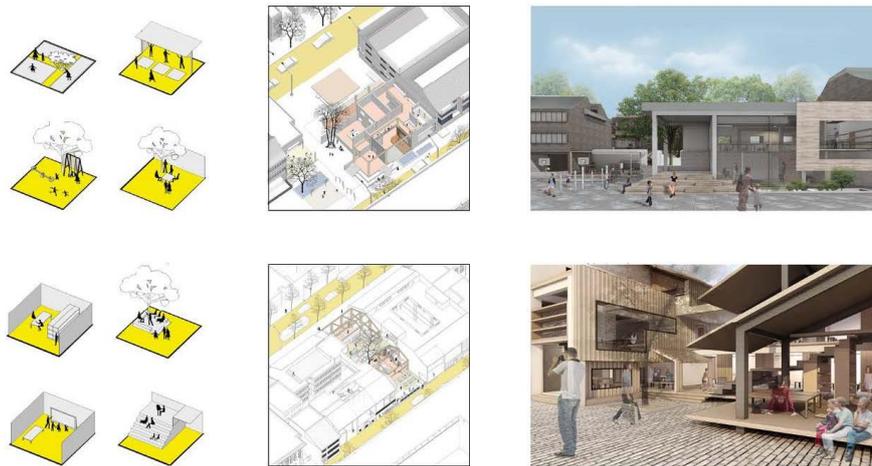


Figure 8. Maximization

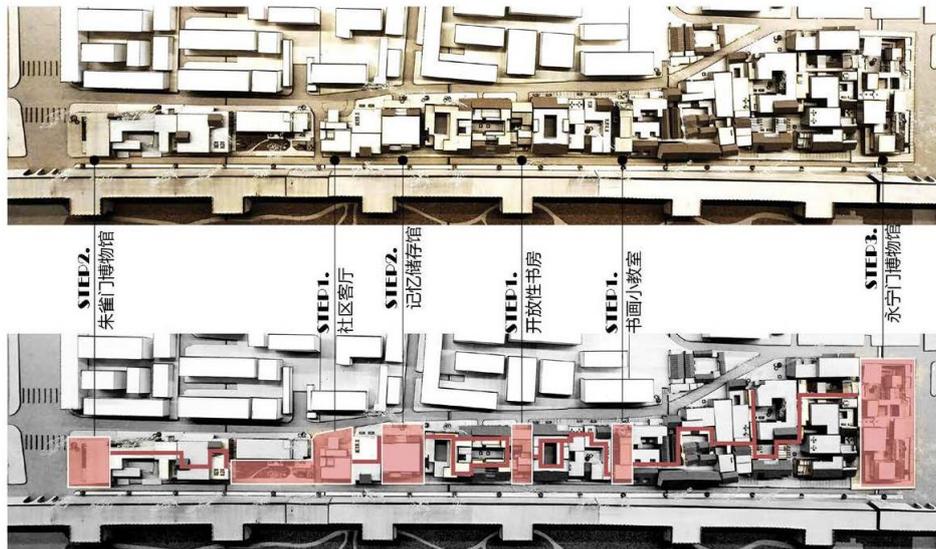


Figure 9. Street Revolution

2.3. Type Convergence and Radiation

As a derivative structure of the enclosed urban space type, the Lane of the City Wall proves that the boundary is not a simple and logical geometric element like a line. If we break away from the scales of human beings and take the extreme convergence from the perspective of heaven and gods, then we will destroy the pureness of the whole of the Quartet.

However, in the type design of this border, we never involved the city center. The boundary and center have become disjointed structures, and there is no echo in space. The boundary occupies a space with its own architectural form, and in order to be the center, the center must be wrapped by other forms of space and connected with its own radiating street. From this point of view, the borders are more explored.

3. Tendencies-deformation

As the urban structure becomes closer to perfection, the more stable it is, the more necessary it is to think. There is a biological relationship between "ecosystem diversity" and "structural stability". Under the theory of "community succession," when the system is rich in biological diversity, the more complex the ecological relationship is, the faster the succession rate of the

community in this life. Generally speaking, the stability of the biological structure is stronger; however, from the original performance. On the other hand, non-same time vector is needed, and the stability is very low. Then for the city, the relationship between the form structure and the integrity of the system and the impact it receives is comparable.

Then there are three questions:

- 1) What are the impact factors that affect the stability of the urban structure?
- 2) Under conditions of urban saturation, what kind of crisis is implied by the proximity of urban forms to criticality?
- 3) When the existing urban stock overflows, how will the original urban form change?

In the first question, it can also be called "backlog of shackles". The essential factor that affects the degree and the rate of the urban development is always the population. It laid a city scale style. The more the population or the faster the growth rate, the larger the scale of the city will always be in the state of expansion and growth. At this time, the single closed urban structure will not be able to appear, and the urban form will not appear to be perfect, and it is not necessary to care about those Topological relations. Otherwise, it will take considerable momentum and opportunity to break through self-determination over and over again. Technology used to help people break through this layer of borders, so no one built a wall today.



Figure 10. Conflict

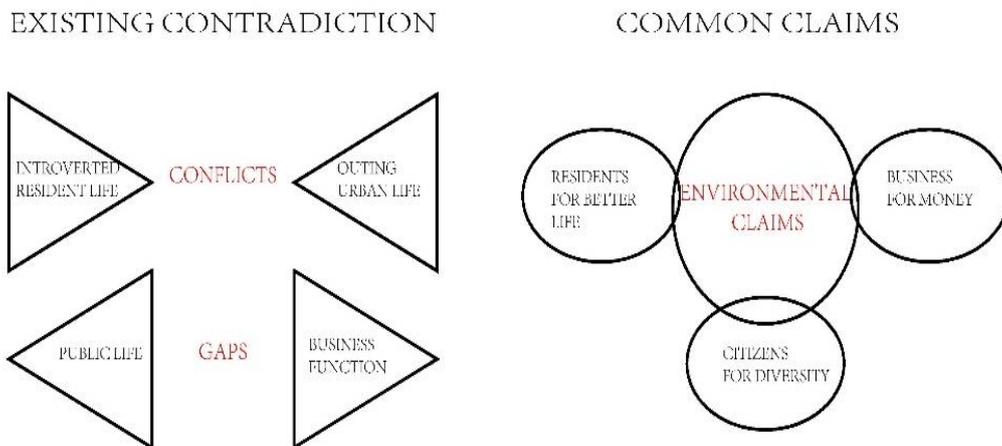


Figure 11. Contradiction & Common Claims

The second question discusses the "expanded boundary". We have already discussed the wisdom of "encirclement". The early people, out of the principle of security and marking, have made the wall itself beyond the scope of the function. Prior to the critical period, the city wall was a massive construction in the city. However, today it has been submerged in tall buildings. Unless it is perceived by people's own scale, it will be difficult to return to reality. In the renovation of the Lane of the City Wall, the squeezing of the boundary resulted in the continuous sorting and compounding of the type. In fact, it is also the reverse of the pressing boundary on the building. After all, the boundary itself cannot expand. Compared with the limited space in the inner world, the outside world can be more relaxed on the land. Therefore, at both ends of the boundary, it can be a green space, but the other is a composite multi-layer.

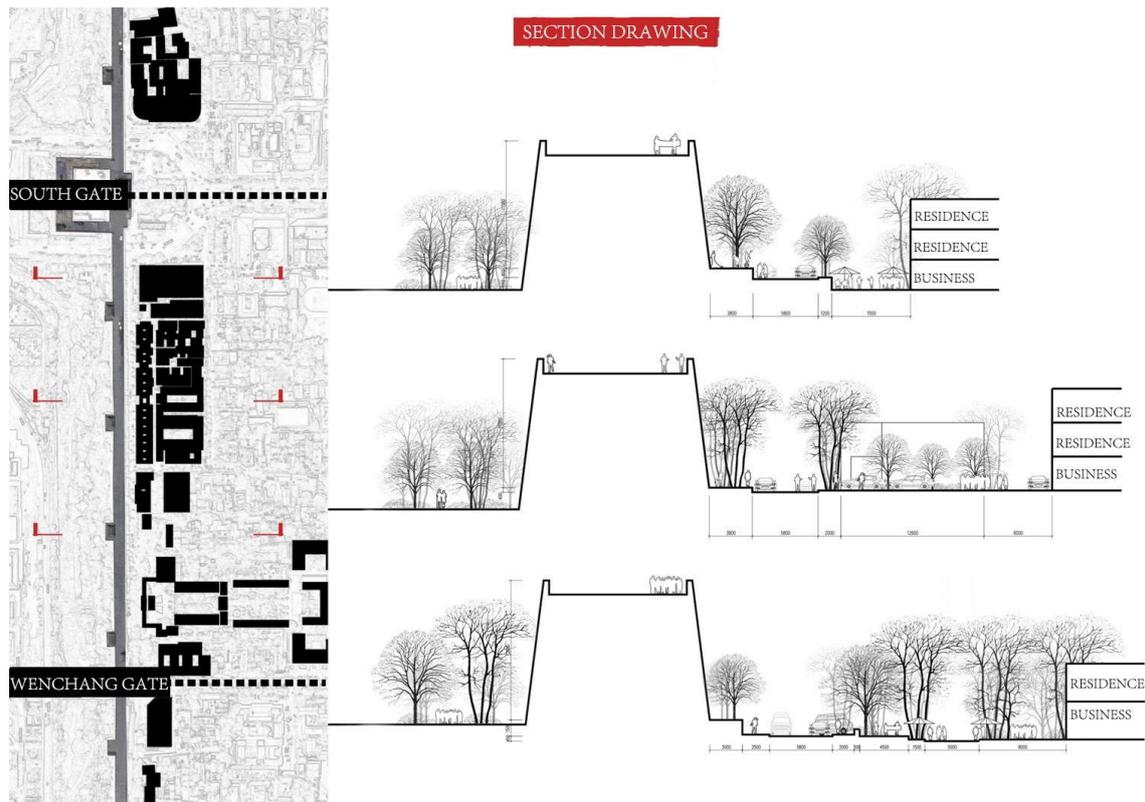


Figure 12. Section

The third issue is concerned with "breakthroughs of spillovers". Looking from the perspective of time, on the basis of the constant shape of "Besieged Fortress", the pattern in the city has evolved from regulation to scattered. Today, we can still see the clear context. The core, but the core value is constantly condensed, from the ancient King City to a single historical and wooden building. The areas presented in the four quadrants are dense and messy textures. Next, it is the shape of the outside world. If the city is compared to a pool at this time, when the water is full of surplus, it will ripple into the surrounding, which will become the pattern of today. What is most interesting, however, is that the spillover boundary morphology will not be completely modelled on the main city. Although it will still respond, it ends up pointing to the radial radiation.

Conclusion

Finally, the most characteristic place in the urban form is the border itself. The boundary is always neutral and has no inclination. It is above the earth. It is under the sky. It is between gods.

At this time, when a person walks on the siege, the two sections of the boundary show up due to the convergence of time and space. Really, the appearance at this time enables people to return to the "finished one".

The shape of the city reflects the relationship between the human and the natural gods. It is a self-labeled, intellectual thinking structure. From the initial dependence on nature, to self-protection, and confrontation with nature, until the end because of their own limitations had to break through their fortress and return to the natural pattern. However, from the people's initial learning to build houses, self-aggregation, ancient times without constructing borders, to the current boundary breakthroughs that radiate to the surrounding area, or regular extensions, from the results, it seems that they are all facing the heart, metaphorical boundaries, future cities. The form may return to a similar base point after a certain spiral, but even if it lasts for a thousand years, there will be essential differences even if it is similar.

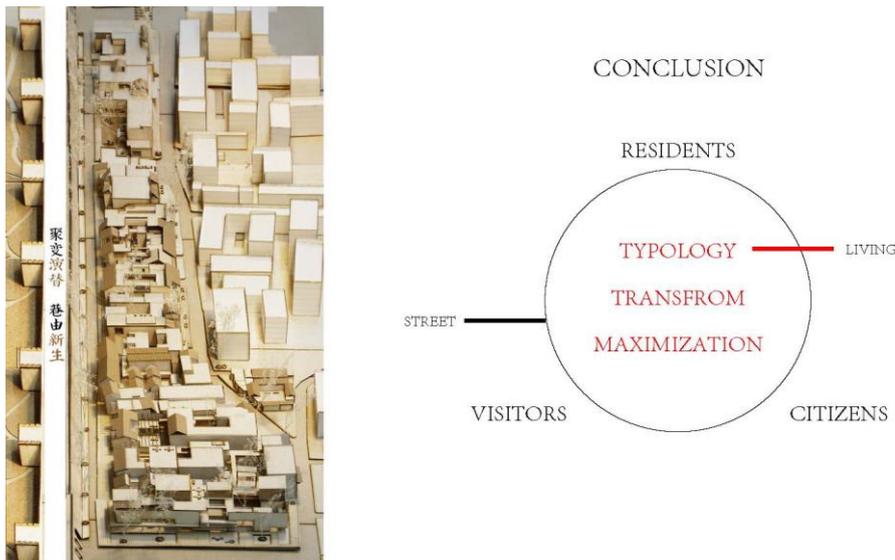


Figure 13. Structure of Conclusion

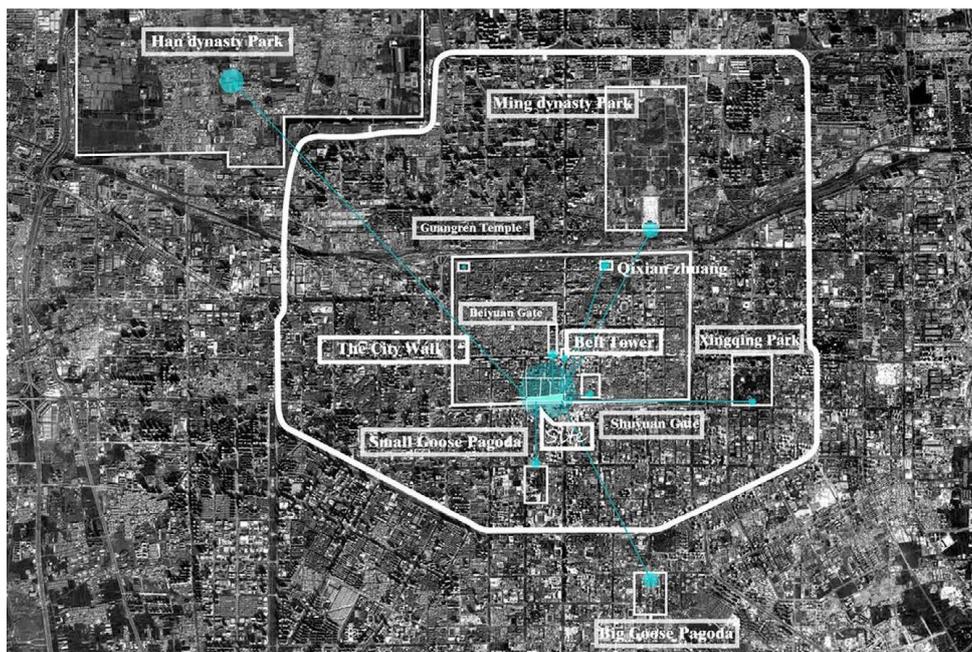


Figure 14. Urban Centre & Radiation

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