

Research on Traditional Village Based on Spatial Pattern System in Guangdong Province

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Abstract. A traditional village is a cultural heritage of landscapes. By investigating the spatial characteristics of traditional villages, this paper attempts to reconstruct a multi-level of spatial system pattern for the traditional villages. On the premise of examining the natural environment and the social influence, this paper analyses the spatial pattern through five aspects, listing as: the landscape environment, the traditional layout, the interrelationship between the houses and the ancestral hall, the architecture features, and the historical environment. These elements constitute the spatial pattern of a village, revealing the village morphological characteristics. By taking the Chatang Village as a case study, this paper unveils the village landscape via the spatial pattern. It is hope this study can provide a new perspective in looking at the village landscape and draw a positive impact on the village conservation.

1. Introduction

Traditional village is a cultural heritage containing an abundant historical information. It triggers the scholarly attention in recent year that many scholars from the field of architecture and urban planning have made such a great contribution. However, most of the existing studies are confined to a single spatial pattern of the cultural landscape, the lack of an overall perspective in looking at the whole village opens a research gap for this study. This study holds an statement as: the integrity of the spatial pattern is of paramount important to a village landscape, any lack of the pattern, such as ancestral hall, study hall, house, moat, or yards will cause the misinterpretation of the cultural landscape. Chen Zhihua, Professor at Tsinghua University, argues that “only a village with its integral spatial pattern can tells us history and culture, expresses thoughts and emotions, and convey intact and understandable meanings.”^[1] Building and construction, such as ancestral hall, waterfront, banyan tree, bridge, and well, play a dominant role in landscape development. Such centripetal arrangement showcases a spiritual power of a clanship that the ancestors always occupy a central position, helping to shape and define the village layout. (Figure. 1) This study attempts to reconstruct a spatial model based upon various spatial patterns found in a village; each pattern, as stated in the previous text, plays a specific role, and each of them is mutually connected, they organically react as a whole and cannot be divided.



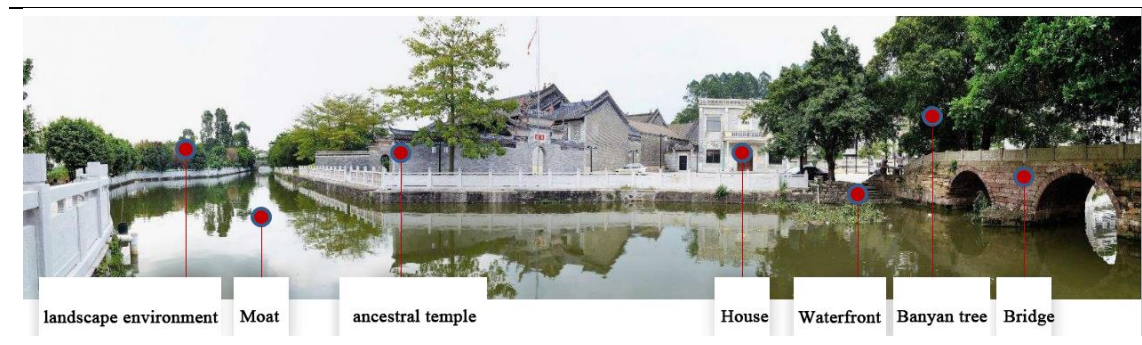


Figure 1. The landscape pattern of Traditional Village (Source: by Author)

2. The composition of traditional villages

The physical environment of a traditional village is composed by a set of landscape elements. These elements are closely associated with the daily life of the villagers. By analyzing and examining these elements, we can gain a comprehensive understanding of the village spatial pattern and the cultural landscape behind, as well as can reveal the hidden spiritual value.

A great variety of landscape elements can be found in a village, which demands a systematical manner to sort out their logical expression. Moreover, reconstruction of these elements is also crucial to this study. Hence, the coming text categories the village landscape elements into nine types, from the level of macro to micro, naming natural environment, village environment, traditional layout, roadway and river, environmental space, public buildings, residential buildings, defensive buildings, historical environmental elements, details can be found in Table 1.

Table 1. Landscape elements categorized in a typical village (Source: by Author)

TYPES	SUB-TYPES
Natural environment	Geographical environment, Landscape layout, Vegetation farming landscape
Village environment	Village site selection, Village form
Traditional layout	Spatial mode
Roadway and river	Morphological characteristics, Spatial texture, Features
Environmental space	Node function, Node space shape, Node space features
Public buildings	Religious architecture, Ancestral hall construction Cultural and Educational Architecture (College, Prayer, Theatre) Commercial buildings (shops, street houses, tea houses, halls)
Residential buildings	Surrounding houses, compound houses, entrance halls, etc.
Defensive buildings	Fortified Tower, turret
Historical environmental elements	Local structures, landscapes, corridors, entrances, and borders; bridges, wells, docks, paving, garden accessories, etc.

3. The logical construction of spatial patterns in traditional villages

In the spatial pattern reconstruction, it is of great important to examine each listing elements in depth, so that we can disclose the hidden logical connection; secondly, investigate the internal relationship among these elements, and explore how they function on each other; thirdly, examine the arrangement of each spatial pattern. Graphically, the village spatial pattern can be demonstrated via three circles. As illustrated in Figure 2, from inside out, the circle in the center represent the residential building, which is the key landscape element of a village spatial pattern that is closely related to the villagers'

daily life. The middle circle reflects the landscape elements of the traditional layout and the environmental elements displayed in Table 1; these two constitute the essential physical form of the village, implying the interrelationship between the houses and the ancestral hall, and revealing the hierarchical and social structure. The most outside circle tells the landscape environment. It is fundamental to the formation of the village that shows the relationship between the villages and the natural environment, as well as the fengshui influence. The following text will examine these five key landscape elements in depth. (Table 2)

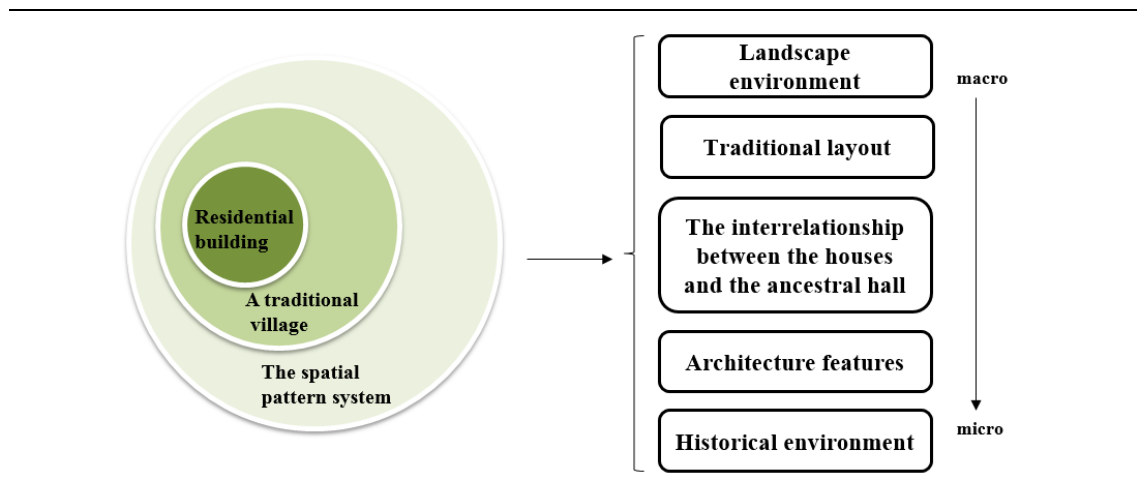


Figure 2. The spatial pattern system in traditional villages (source: by Author)

3.1. Landscape environment

As is known to all, the physical environment is fundamental to a traditional agrarian society where farming activities relied on. A good environment can provide rich natural resources for food production, forming the basis for the village development. Therefore, selecting a perfect site is of the first importance. The “first immigrant,” or “Taigong” in Chinese, meaning the first man who in charge of selecting the village site, must be very careful in assessing the village site. In another word, the site selected must be capable to provide all the necessary, in this farming sense, villagers can, at least, conduct the farming activities effectively, as well as for their future generations. Furthermore, the village setting must facilitate their livelihood so that they can live healthily and peacefully. As Chen states that “the natural resource of arable land and water are fundamental to the existence and development of a rural settlement; the amount of the recourse, regardless of abundance or scarcity, is the determining factor of the population.” The natural resource, therefore, is crucial to site selection.^[2] In conclusion, the physical landscape environment is the most vital element influencing the construction of a village; it is also a standard to weigh the development of a village.

3.2. Traditional Layout

In a certain period, the village layout of is changeless; in this regard, the streets, lanes, and river, are remain unchanged within a given time. Hence, the riverway closely associated with the villagers’ daily life can function as a showcase for the village layout. The alley can tell the setting of the village, such the logical expression among different buildings, the transportation modes, and the node space. In Guangdong, land is expensive resulting in density, where in the village, buildings were raised up densely and leave narrow alleys inserted among. Consequently, the narrow alley can be seen as another spatial pattern of the village. While the riverway, including various types of water systems generated from the village setting, is a natural barrier for breeding, washing, and fireproofing. The ponds pooled by the riverways symbolize a spiritual connection, protecting and blessing the village for a good fortune and a prosperous future.

3.3. *The interrelationship between the houses and the ancestral hall*

In Guangdong, especially in a village, the idea of lineage is extremely powerful; the patriarchal system makes a deeper influence on the village spatial pattern. Architecturally, the interrelationship between the houses and the ancestral hall is an important link revealing the village spatial pattern. It functions as an invisible force helping to shape the village layout. The dense arrangement of the houses and the ancestral hall indicates a closer spatial pattern, while the loose planning shows an opposite pattern. Furthermore, the arrangement of the houses and the ancestral hall are affected by the worship manner which in Chinese tradition, can be categorized into communal worship and family worship. Such arrangement leads to the final spatial pattern of the village. In some cases, the ancestral hall plays a leading role that houses were arranged surrounding; in some other case, the houses and the ancestral hall are built as a whole. Generally, the ancestral hall is placed at the village center and the houses were symmetrical planed around. Such symmetrical layout, on the one hand, unveils a typical Guangdong ethnical order prevailed since Ming Dynasty (1368); on the other hand, expresses the clan unity.




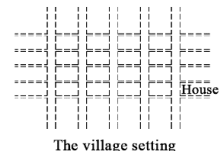
3.4. *Architecture features*

Buildings and constructions are the most featuring spatial pattern. These patterns were organically rooted and influenced by the natural (geography and climate) and cultural factors (social background, national history, manners and customs, aesthetic value). The houses, in this sense, is an embodiment of such natural and cultural accumulation. Hence, buildings and constructions are definitely a cultural reflection expressing the memory of the village and the believe of the residents. Lu Yuanding, Professor at South China University of Technology, asserts that “a large number of houses exist in the folk society, they are firmly associate with people’s daily life; there houses, are built by the local people based on their own customs, production needs, economic capability, national preference, and aesthetic value.”^[3] It can be concluded that the architecture is the most distinctive element to identify the space pattern; it is also a crucial component of a village landscape.


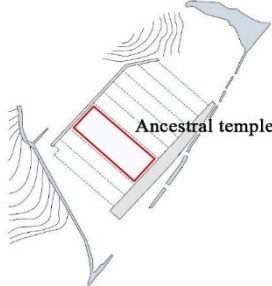

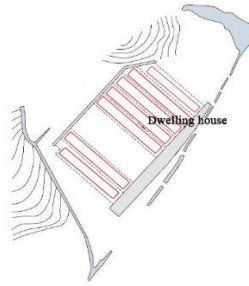

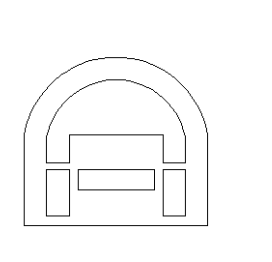
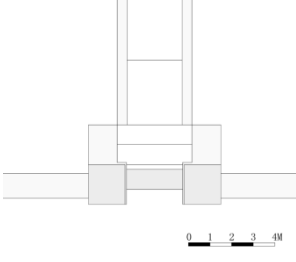

3.5. *Historical environment*

The environment element contains farmland, construction, and structure. Generally speaking, it is hard to tell the difference of the agricultural landscape within a certain adjacent area; however, it shows a strikingly difference when comparing two different geographical environments. In Guangdong, featuring landscape can be found in a village, such as flagpole stones, wells, and oyster shell wall. Additionally, some typical landscape spots, such as bridges, wharfs, and quays, were built when there were rivers near the sites. Essentially, these elements pictures a beautiful village life, the old men enjoying the cool under the pavilion, the kids playing games on the bridge, the women washing clothes on the plank road.

Table 2. An analysis of Traditional village spatial pattern system (source: by Author)

Landscape environment		Traditional layout	
			
Chatang village in Gaoyao		Tiekeng village in Conghua	

The interrelationship between dwelling house and ancestral temple

			
Zhonglou village in Conghua		Zhonglou village in Conghua	
Architecture characteristics		Historical environment	
			
Wailong House in Meizhou		An alley gate in Si village, Dongguan	

4. Spatial Pattern System: A Case Study of Chatang Village

Chatang Village was built in the 22nd year of Emperor Guangxu in the Qing Dynasty (1896). It has a history of more than 120 years and has a profound historical and cultural heritage. In the past, due to its secluded location and inconvenience of transportation, the development of Chatang Village was relatively drawback. As a result of which, the village has therefore been preserved the traditional layout and historical elements completely. These provide us with better materials for our research. (Figure 3, 5, 6) The followings will analyze and elaborate the Chatang Village as a typical traditional village from the five aspects of its spatial pattern: the landscape environment, the traditional layout, the interrelationship between the houses and the ancestral hall, the architecture features, and the historical environment. (Figure 4)

Landscape environment. The Chatang Village is located in the northeast of Xianglu Mountain, north of Huilong Town. It is located at the commanding heights of this area, surrounded by rivers, fish ponds and farmlands with lower elevation. In another words, the surrounding environment of this village are low-lying fields, more waterways than lands.

Traditional layout. The Chatang village setting is expressing a geomancy theory of “*Shi Zi Ming Jian Ba Chuo Ci Xiang*”, which means that the cross lanes and vertical lanes are uniform. The cross lane is composed of 10 large steps formed according to the terrain. Each step is about 9 meters wide. There are 7 vertical lanes and the width of which are the same. The main roads in the village are directed to the pond in the form of radial basic vertical contours. Both the main roads and the drainage system are uniformly set. ^[4] Therefore, the chessboard layout was finally formed.

The interrelationship between the houses and ancestral hall. The village set up two ancestral halls in the middle of the sixth row. The function of these two ancestral halls are the same as those of the temples in Guangdong, but their styles are different and the construction scale of the ancestral hall is simpler. It is to be found that the residential areas are arranged in the positional relationship of the ancestral hall. As a result of which, the ancestral hall can be seen as the core building in the village, which plays a role in maintaining the village's human relations and uniting the power of the clan.

Architecture characteristics. Architecture characteristics. Principally, residential buildings are terraced houses, which consist of unique building modules, with five groups of buildings. The total width is about 15 meters, depth of about 4 meters, each unit width of only 3 meters. Additionally, there

are no windows in the main façade of the buildings, with attics on the top.^[5] Since it is only 12-15 square meters of one house, so one family owns multiple houses in the village.

Historical environment. The fields locate in the front of villages, the tall banyan tree and the bridge over the river have perfectly formed a vivid landscape space. In addition, since the village locates at the area full of ponds, the agricultural modes have to adapt to the land-condition of the village. Therefore, some unique agricultural landscapes, such as “Fruits base Pond”, “Mulberry Trees base Pond”, as well as “Sugar Cane Trees base Pond”, are formed.



Figure 3. Analysis of the spatial pattern of Chatang Village (source: by Author)

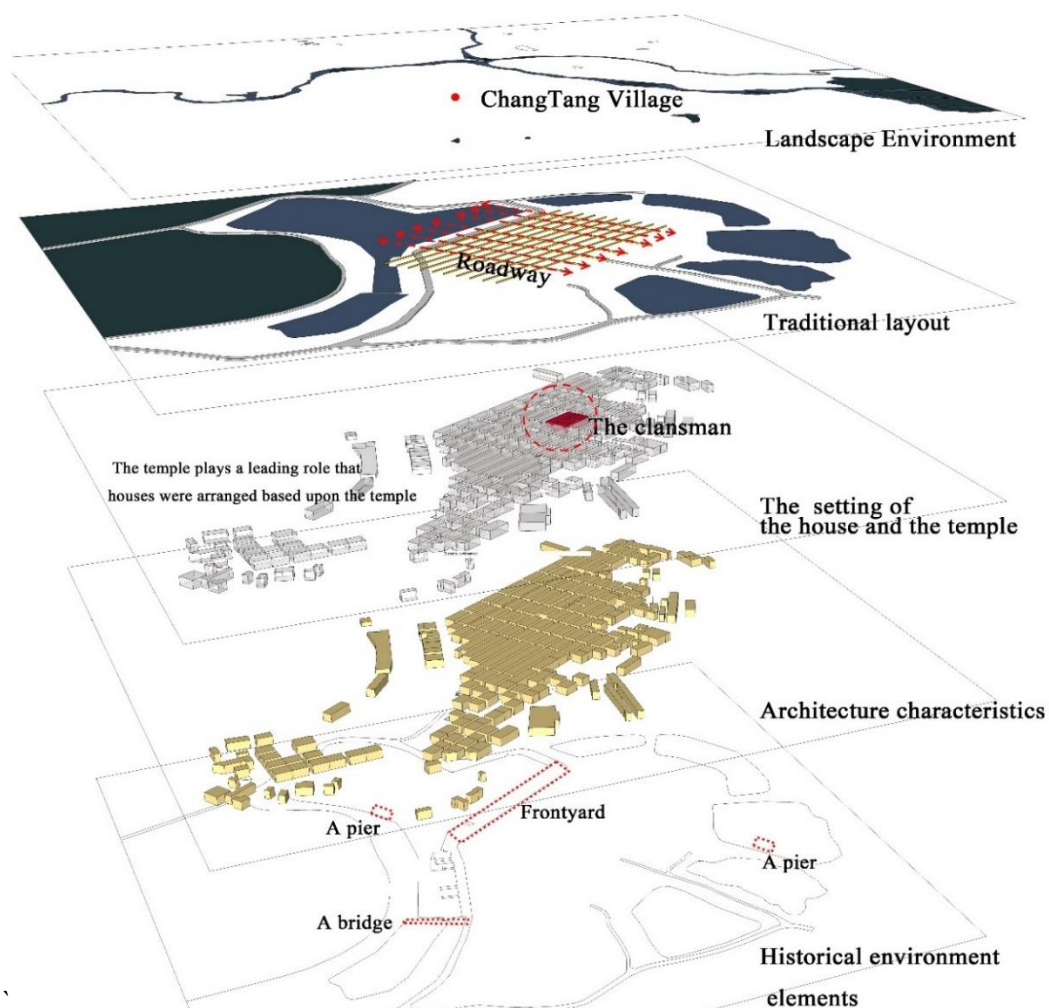


Figure 4. Overall appearance of Chatang Village (source: by Author)



Figure 5. Overall Plan of Chatang Village, Guangdong Province, China (source: by Author)



Figure 6. Implementation photos of village (source: by Author)

5. Conclusion

In conclusion, this thesis achieves to reconstruct a multi-level of spatial system pattern for a traditional village. The village spatial pattern is formed based upon the local environment, including both natural and cultural aspects. The village is a transformation process resulting from time. This study holds an argument that the landscape environment, the traditional layout, the interrelationship between the houses and the ancestral hall, the architecture feature, and the historical environment, are the key factors influencing the traditional village spatial pattern. These factors play a dominant role in transforming the village landscape. The examination of these factors can help to gain a comprehensive understanding of the village spatial pattern.

Acknowledgements

This work was supported by the National Key Technology R&D Program of China (Grant No. 2017YFC0702402), the Fundamental Research Funds for the Central Universities (Grant No. 2017MS033) and the National Natural Science Foundation of China (Grant No. 51508197 and 51778232). We thank Lin Guangzhen, Zhang Ru, Chen Jiahuan, Liu Guowei and Wang Zhenzhen for their contributions to the field survey and data collection.

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