

Study on the Regeneration of Wen Village in Hangzhou Fuyang Based on Typo-morphology Research

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Keywords: Typo-morphology, Wen Village, rural renovation.

Abstract: The paper studies the transformation of the typo-morphology of Wen Village in Hangzhou Fuyang before and after its renewal (2012-2018). The Wen Village is located in southwest Dongqiao Town of Hangzhou, China. There are more than 40 dwellings from the Ming Dynasty, Qing Dynasty and the Republic of China. The village was planned, designed and renovated throughout three years since 2012 by the Chinese Pritzker Prize winner, Wang Shu. The typo-morphology of Wen Village went through a significant transformation in the process of the regeneration, the morphology and urban fabric of Wen Village have also changed significantly. Through a diachronic study, the typo-morphology of Wen Village in different periods can be presented in several diagrams. The paper also studies the specific variants of morphology in each period with the theory of organism of cities from morphological Muratori School. Based on typological reading, the author analyses the regeneration of traditional dwellings in Wen village from the aspects of the morphology of street and public space of the village, the spatial form of the dwellings and the spirit of literati architecture. The article concludes the common influence of social factors such as land system and architect's subjective will on the morphology of the village. Finally, the paper summarizes the guiding significance of typo-morphology research on rural construction, and the enlightenment of Wen Village for the rural renovation in China.

1. Introduction

1.1. *Wen Village*

The Wen Village is located in the southwest Dongqiao Town in Hangzhou, with a total of 13 villages, 32 villager groups, 559 households, and a population of more than 1860. The forest coverage rate is over 90%. In June 2014, Wen Village listed as one of the provincial pilots for constructing beautiful and livable village in the context of new urbanization.

1.2. *Regeneration of Wen Village*

The project is at the village of Wen Village, with 40 ancient houses, 56 modern homes, a total area of 28,400 square meters, and more than 400 villagers. The project is planned and designed

by Wang Shu, the first Chinese winner of Pritzker Prize, who is also a professor at China Academy of Art. The project, in a traditional Chinese medicine nursing manner, brings modern residence functions to the existing local buildings and builds new houses in the surrounding area. Based on the strategy of inheriting Chinese traditional architectural skills, extending conventional village texture, and promoting artisan culture, the Wen Village project carries out an unconventional way of rebuild and development of ancient villages. The purpose is to find an efficient way suitable for local conditions to rebuild and develop the village neither conventional preservation nor significant demolition and construction.

2. Wang Shu and His Design in Wen Village

Wang Shu has been trying to practice the transformation of the traditional architectural language. The first work of Wang Shu was the library of the Suzhou University's Wen Zheng college, which is Wang Shu's most influential works. In the first decade of the 21st Century, he designed the Xiangshan campus of the China Academy of Art in Hangzhou, "Qianjiang era" vertical house, and the Ningbo Art Museum, Ningbo Museum, etc. These works reflect Wang Shu's original orientation of "experimenting with past and modern architectural works in all modern languages of this century".

Wang Shu's insistence on traditional culture is self-evident. His work highlights the expression of traditional elements and local characteristics and applies conventional Chinese architectural form to modern architecture, which arouses people's attention to national culture and restores it. Traditional architectural ideas, techniques, and materials are brought back to the mainstream view. He focuses on the traditional Chinese residence, especially the dwellings in the south of the Yangtze River. Based on this, the traditional form is made through a modernized transformation, and it is constantly innovating and changing, growing out of the superposition of the rigid symbol. The preference for gardens made his idea no longer confined to buildings, but throughout the whole environment, not only to build living space but also to provide a living atmosphere. He put forward different views in the process of the urbanization of Chinese city. During the time of large-scale demolition and reconstruction, Wang Shu collected 7 million pieces of old bricks, tiles, stones from the destruction of the buildings, and make these materials re-glow the glory of the past, retaining the memory of time and space.

In many people's opinions, Wang Shu represents the highest level of China architects, but most people forgot a particular scene in 2012. When Wang Shu won the Pritzker Prize, people become concerned about what the first Chinese architect who won the highest award then what to do. Wang Shu said, in the future, he will focus on in the countryside. Focusing in the countryside is not an idea just occurred to Wang Shu. As early as 2002, Wang Shu and his wife, Lu Wenyu, decided to make a preliminary study of the countryside in Zhejiang. As architects, the trend of urbanization forced them to turn around and look back at things that inundated by our time. In 2010, two students at the Chinese Academy of American College joined the research team, and the group left their footprints in nearly all of the rural areas in Zhejiang. Wang Shu said he was challenging the most difficult areas for architects: the housing in the countryside. Throughout the country, every type of farm design has been produced every day. Every day, various styles of rural houses have sprung up. However, it took him three years to fulfil this project of 24 homes in 14 buildings in Fuyang from planning to construction.

It is the first agricultural community designed by Wang Shu. From the beginning of 2012, he and his wife travelled hundreds of times to this little-known small village. Using grey, yel-

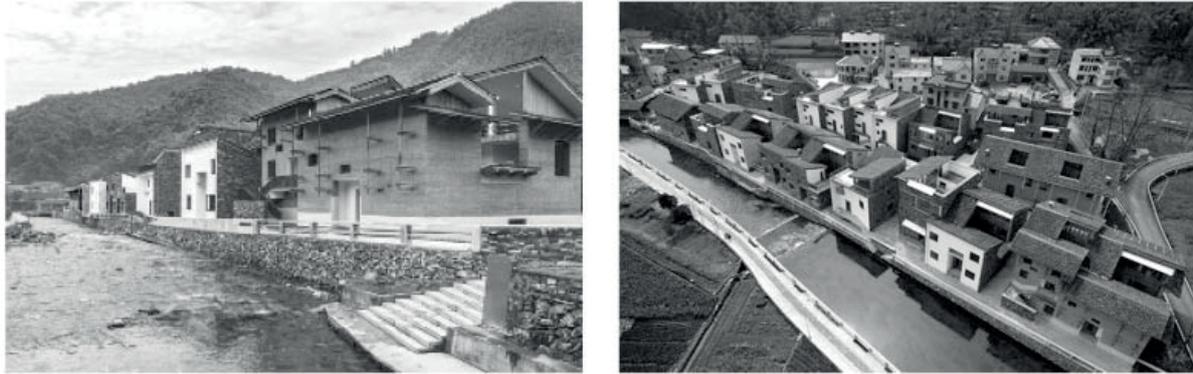


Figure 1. View of Wen Village (left) and aerial view of Wen Village (right).

low, white colour tone, rammed earth walls, Hangzhou grey stone, Zhanjia stone for buildings' facade, trying to show his ideal of a beautiful, livable countryside. "My ideal, in the next 8 to 10 years, is to have seven or eight representatives of different cultural regions of village design in Zhejiang". Wang Shu said he did not only want to design a building for the countryside but bring the power of change.

Fuyang village locates the transition zone between mountain and plain, has more than 40 blocks from the Ming Dynasty, Qing Dynasty and the Republic of China. Along the river, people in the village built by the local Hangzhou limestone, each brick retains unique textures, seemingly rough, but strict fit together. These bricks shocked Wang Shu. He tried to change the place in a "natural growth" way. The ideal form of the new village is growing out of the original one without leaving the tradition.

3. Study on the Regeneration of Wen Village Based on Typo-morphology

3.1. Muratori School and City Organism Theory

Saverio Muratori is one of the most important scholars of contemporary urban morphology. He and a large number of his followers persist the independent academic point of view, and form the Muratori School of the Italian typological morphology. Muratori is a student of Gianfranco Caniggia, and both of them are important representatives of Muratori School. They learnt from the Conzen School in England, which inspired them on their theories and ideas of Muratori School.

Facing the large-scale urbanization construction and modernism wave, they put architecture into the city. Through the concepts of urban organism, operative history, urban texture, hierarchical structure and resolution of urban composition, they support abstract thinking and engineering practice, theory and methodology of history and modernity, and urban form.

According to Muratori School, the specific organizational structure of urban environment is described hierarchically. The town and the building overlap in the buildings hierarchy.

Muratori School defines the hierarchical organizational viewpoint of urban characteristics, which provides us with a systematic method of recognizing urban environment. Rural and urban are products of the continuous process of human activities, so we can use this method to define rural environment. At the level of houses and below, rural buildings, like urban build-

ings, begin with the materials of the grass-roots level, then form the details of the upper level, the rooms, and finally form the houses. However, on the level of housing, the rural environment has organizational elements and organizational structure which are different from the urban environment.

3.2. Morphology of Street and Public Space of Wen Village

The village is in the transition zone of mountain and plain. The village is built along the River Wen. The village is filled with narrow pathways which increase the building density. There are various types of residence forms. When meeting sharp space, villagers will make the sharp edge facing the road to resolve the Chinese traditional “evil spirit”. Among the elder generation, it was called “don’t let go one-inch ground” in Chinese Fengshui “geomantic omen”. The reason for the formation of such spatial context is that the terrestrial environment leads to the fact that the rural land is not fertile, the flat area is reserved for the farmland, and walking is the primary travel method. This kind of village is unique in texture, and it also reflects the respect and obedience to the natural boundary line. With the expansion of the town, when people went out of the old village, they will often build a new village. Wang Shu believes that the new village should grow naturally from the old village. The texture of the old village comes from the belief of the older generation and it reflects the greatest respect for nature. It is also the very first ecological consciousness. Being aware of these, Wang Shu designed the new village as a part growing out of the old village’s spatial texture. That is the reason for Wang Shu’s original design which makes the east-west main road going along the river, and the road in the middle naturally connect the main road of the old village by bridges. The original plan is to build 15 houses in 9 acres of arable land according to terrain and road planning. It was replaced by the final design of 24 new residential units, which the various combinations between the units are reasonable. The new design is like sprawling from the old village, restoring the neighbourhood environment as before.

3.3. The spatial form of Zhejiang small dwellings

Although the form of Zhejiang traditional residence is varied, the small residential houses are mainly composed of “three two rooms” and “combination”, or the transformation of these two kinds of forms. (“Three-two rooms” and “combination” are the names of Chinese traditional house pattern. In Chinese, they are “三间两搭厢” and “对合式”.) The shape of residential con-

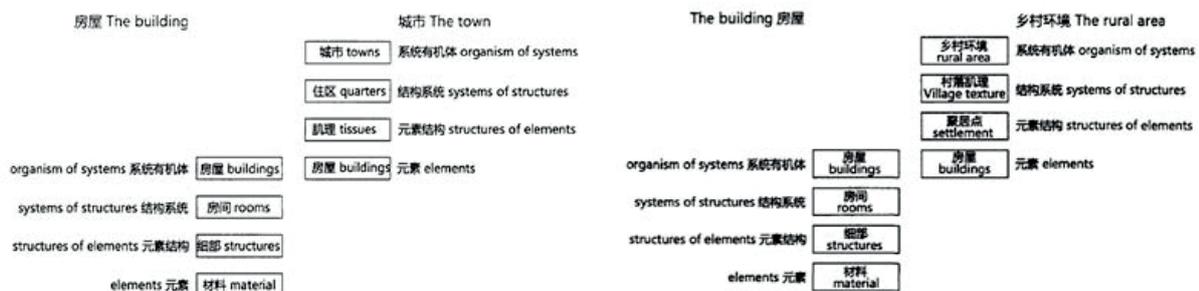


Figure 2. Urban Environmental organizational structure (left) and rural environmental organizational structure (right).

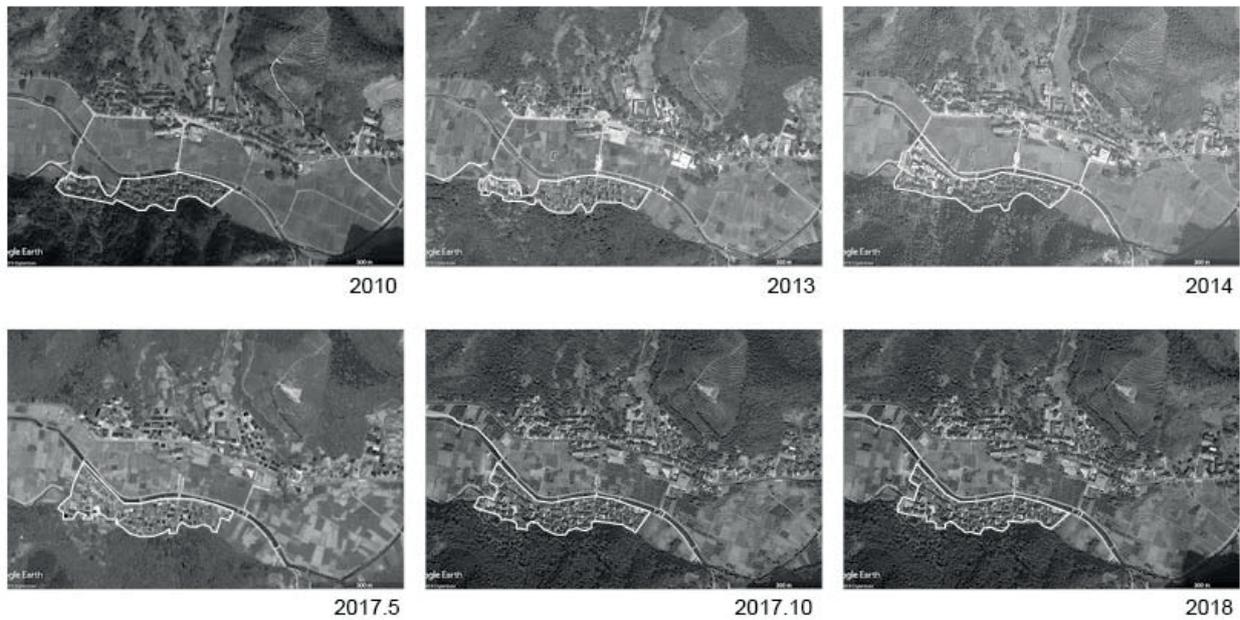


Figure 3. Evolution of urban morphology of Wen Village.

struction land is often irregular, so the first step of designing the layout is to cut out the rectangular area for the main architecture. The irregular cut-out area will be used as the “partial house”, including the kitchen, wood house, sty, toilets and other auxiliary rooms. Such a practice can save land and create a rich and varied view of architecture. If the land can’t meet the requirement of residential use, the building will be developed vertically into a “日” type, which still retains the integrity of the unit itself in the later stage of construction and expansion.

Also, in the rural area nowadays, the situation that three generations of people living in one house are very common. The style of traditional houses series method solves the problem of increasing family efficiently. In the residential construction later, the vertical stack method is commonly adopted, lead to spatial overlay as well as streamline overlay. There will be contradictions when different generations live together, and the overlay makes it even more confusing. However, they cannot live apart without taking care of each other. To solve this problem, Wang Shu split the streamline: the elderly enter the room directly through a single entry. Young people only enter the second floor through outdoor staircases. Two independent living spaces have been placed in one building. The three generations of people communicate with each other by sound and sight inside the small yard, and they share this yard without disturbing each other. Wang Shu paid much attention to the joy of living space, such as balcony extension, stair plug, some part of atrium etc. Partition walls separating areas is no longer necessary. Functions of spaces become flexible in this way. Some space even has no windows or doors, immersed in the outside world. The diversity of space makes the buildings in Wen Village no longer a closed and independent individual. It is restored to the state of being close to nature. People who are close to or entering these buildings will be reminded of their pastoral life or real feelings of real life.

3.4. *The Core Space and the Spirit of Literati Architecture*

“Three-two rooms” and “combination” are not as formal as the northern courtyard in shape, but the core position of the axis of the main room and small yard still remains in the whole building. Ming room is an essential place for family life, guests and is also the most formal place in the building. The small yard itself is quite narrow, but the surrounding space is open. And it permeates with the interior space as part of architectural space. This residential spatial pattern which has sealed shape and unblocked inner space shows a strong centripetal force. The combination of virtual and real space in the building also brings different feelings for the habitats.

Wang Shu believes that among the Chinese houses, the yard represents the harmony between human and nature, the main room represents ancestral beliefs. The once occupied core space should be reshaped. The latitude of the southern part is low, summer is hot, and the solar altitude angle is large. So the courtyard becomes smaller, and after a long time, it is small enough to become a small yard. The 4 m * 2.5 m small yard in the dwellings is large and plays the role of getting daylight and ventilation.

Wang Shu increases the width and depth of the building and makes the small yard transform back to the courtyard. The top width of the courtyard in the new residence is more than 9 meters, and the depth is nearly 7 meters. With the increase of the volume of the courtyard, wooden doors and windows are used to separate indoor and outdoor space.

When you close the doors and windows, the main room is just like a small but detailed Chinese ancestral hall, where Chinese belief occurs. Open the doors and windows, you will see women doing needlework leaning against the door, school children reading books, and the



Figure 4. *House of Wen Village (on the top) and core space of dwellings (on the bottom).*

elderly basking under the sun. You will see blue sky when rising your head. It again shows the unity of nature and human.

The new residence uses two solutions to the spatial relationship between the main room and the courtyard. One way is to remain the space sequence of entrance hall – courtyard-the main room and make the axis of the three kinds of space the core of the new residence. The occupants can go to the main room, which is the most symbolic place through the courtyard directly from the outside and then go to other indoor space. The other way is to create a side yard deviated from the central axis. The yard connects the opening hall, corridor, entrance hall and other indoor spaces. Although the sense of axis is weakened, the communication of indoor and outdoor, upstairs and downstairs are still here in the yard and main room.

4. Conclusion

Ideas are always great. In fact, after field research, we found a lot of problems still existing in the village. The village is located on the north side of the mountain and lacks sunshine. Each house has a small yard. The room is separated from the small yard only with a single board. So, how to preserve heat in the room? After the wind and rain, how to clean the stains on the wooden board? The indoor staircase is too small and the bedroom room is also too small. The main user of the village's building should be the farmers, but the storage space of the buildings is still too small... The most important thing is that most of the houses are idle now, and few residents truly live in the village. Above are evidence show that the design is still not tightly integrated with the residents. Although the village faces such a situation, Mr Wang Shu's pioneering attempt is still very experimental.

After decades of exploration in the city, Wang Shu uses Wen Village as the first step into the practice of countryside design. He does not just copy the traditional Chinese architecture form, he does not go back to the past either. He is screening out the flashpoint of the spatial form of traditional residential buildings with the meaning of inheritance. He mainly does four things. First, to continue the texture of the old town, the new village is no longer separated from the old village. Second, to reorganize the plane pattern, to save farmland and to create the diversity of the spaces. Three, to divide the streamline from one to two and the family with complex population structure won't disturb each other. Four, to reshape the core space, and to find a place for holding spirit back.

Walking in the Wen Village, we can see Wang Shu's revering of nature through every gap between the buildings. He uses the retreat strategy to keep the rural lifestyle which is trivial and close to the original meaning of life. Nowadays, more and more people want to escape from the city and return to the countryside life. The policy of construction beautiful countryside reflects the natural view of the nature of the Chinese. More and more architects are willing to face the contradiction formed by the invasion of western modern architecture. They are eager to find new solutions instead of just protecting historical buildings or constructing new buildings. They are willing to let more villages not included in the protection list become beautiful villages so that the villages will regain their dignity and value.

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