

Conference Paper

Architectural Design based on Wang Shu's Approach to Theory and Research

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Abstract

Under the process of rapid urbanization, the problem of cultural continuity began to appear in Chinese urban and rural areas. After studying architecture in China and researching Western philosophy, Chinese architect Wang Shu developed a unique theory based on the reality of urbanization in China. In order to realistically act upon this context, he began developing a methodology for his based on conducting detailed research and performing experiments with small-scale projects as a precursor to begin design projects. As a result, his work shows great respect to the quality of local life and culture. His research and practice has allowed him to overcome the distinction between professional and amateur, city and countryside. This essay introduces Wang Shu's research-based architectural design approach through three levels: theory, research, and practice.

Keywords: design theory, building technique, culture representation, across the boundary

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1. Introduction

China experienced noticeably rapid urbanization over the last twenty years. Although urbanization represents social progress and a civilized way of life, it also causes some serious problems in both urban and rural areas in China [1](Zhang and Gu, 2006). Wang Shu often mentions in public speeches that the fast pace of urbanization in Chinese cities leads to uniformity and multiplicity, due to its mono-strategy construction technique. Many countryside villages on the other hand, while facing the urban spatial expansion have developed a process of demolition and reconstruction which has a more variable characteristic. [2](Wang, 2019) As a consequence, Chinese urban and rural areas are losing their identity at a rapid rate.

Being aware of the severe problems of the development of Chinese architecture, Wang Shu spent years seeking ways to find the solution. He pointed out the challenge for Chinese architecture in his graduate studies in Southeast University and developed his design theory in his doctoral period at Tongji University. In 1997, he founded Amateur Architecture Studio to further develop his approach to architectural design together with

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his wife Lu Wenyu. The studios research-based design method, lead him to reach huge success in his career. When Wang Shu became the first Chinese architect to win the Pritzker Prize in 2012, the judges commented: “His buildings have the unique ability to evoke the past, without making direct references to history...” [3](PAP, 2012)

2. Wang Shu’s Theoretical Research

In the preface of his book “Make Houses” [4](2016), Wang Shu states, “I always think that I am a literati first, and I happen to do some architecture.” [4](Wang, 2016) This evaluation seems reasonable considering the time and energy he devoted to theory research. His theoretical research laid the foundation for his later research on cultural construction practice and architecture, which develops from the Chinese context.. This part of the essay will describe the formation and development of Wang Shu’s design theory and introduce the achievements of his theoretical research at various stages.

2.1. Dead House Handbook

Wang Shu’s theoretical research began with his undergraduate studies. According to his description in “Make Houses”, he observed independent reading of Western philosophy as an undergraduate student. In 1987, he wrote an essay named “The Crisis of Contemporary Chinese Architecture”. This essay was never published, but according to his description, this essay not only criticized contemporary Chinese architects but also mentioned the future of Chinese architecture.

In his Masters thesis written in 1988 entitled “Dead House Handbook” he argued the seriousness of the situation in which Chinese society lost its religious enthusiasm and social mystery. This loss caused the architect to pay attention to luxurious appearance but neglect the human nature and their soul [5](Wang, 2000). Also in this thesis, he elaborated his deep thinking while designing architecture as well. “Does architecture have to have a realistic basis? [5] (Wang, 2000)” Later, his deep thinking on this issue enabled him to complete his doctoral thesis “Fictionalizing city”, which established a more developed theoretical basis for his later architectural design.

2.2. “Fictionalizing City”

During the Ph.D. period (1998-2000), Wang Shu studied the relationship between architecture and philosophy in depth. He read some Western architectural theory and began

to cogitate Chinese architecture in the grand background of urban and rural, modernism and traditionalism.

Wang Shu developed his thesis based on Aldo Rossi's "The Architecture of the City". In the book, Rossi criticized the naive functionalism and put forward the concept of "rational typology". [6](Rossi, 1966) He proposed the essential element of collective unconsciousness which was derived from the elements of traditional urban architecture and the feeling of conventional urban places. This element has guided the development of cities and buildings for years.

After investigating this interesting opinion, Wang Shu wrote his doctoral thesis, "Fictionalizing City", in which his theoretical research and opinion about design were perfectly demonstrated. In his view, architecture is meaningful, but there are some things that we cannot merely express in language. The meaning of architecture is not able to be captured by words. In reality, only the architecture itself can be fully expressed.

In this thesis, Wang Shu introduced the concept of linguistics to analyze urban design. He analogized architecture with literature, pointing out that the fundamental leading concept of literature and architecture is philosophy, which is common to both and together led by intuition [7]. Perhaps Wang Shu's idea of intuition could be understood if one considers prayers as what is said to God, and intuition as what God gives to us in return. In his opinion, architectural design is the same as literature. The fictionalized city, could be understood through Roland Barthes' thinking, as a kind of conviction of a mythology. If literature uses natural language, then architecture uses non-natural language. Such comparison between architecture and literature has triggered in-depth thinking about architecture and its complex relation to existing rules and regulations.

In the last chapter of his thesis, Wang Shu raised an expectation for himself, which is, to become an amateur architect. What is meant by this, is not to abandon professional knowledge completely, but to let himself enjoy happiness and freedom without restriction and keep one's childlike innocence. In his view, the architect should follow the traces of local history and memory, and keep their respect to nature, intuition, humanity and freedom.

Such philosophical research and deep thinking finally became the theoretical basis for his later design work. While working on the Xiangshan Campus project in Hangzhou, he traced back to the original lifestyle by respecting nature, preserving some original use of the site as farmland. Regarding the campus as the "fictionalized city", he did many attempts trying to realize his vision.



Figure 1: Farmland Inside Xiangshan Campus [8].

3. Wang Shu's Research

In order to turn his theory into reality, Wang Shu did a lot of design-related research and carried out many experiments. In Wang Shu's points of view, Amateur is first of all an attitude - a critical experimental attitude. It may be more thorough and basic than any professional architectural experiment. Without thoroughness, any architectural experimental activities will be meaningless. While the professional architects pay too much attention on the functionality of architecture, Wang Shu argued that the cultural feeling of space is much more important than any function. [9] (Du,2012) His research focus on Chinese background is not limited to culture. He performed experiments to revive some traditional Chinese construction technology as well. This part of the essay is going to introduce two kinds of his research on culture and construction, then illustrate how they influenced his later projects.

3.1. Cultural research

During his career, he persisted in the research of traditional Chinese culture and techniques. The search for a way to embody traditional culture in modern architecture continues to develop in his design work. [4] (Wang, 2016) Wang Shu's study of architectural forms shows a literary temperament that other Chinese architects do not possess.

For example, looking at traditional painting, Wang Shu constructs a narrative on the details of the "Rongxi Zhai Painting". While appreciating this landscape painting, he points out that the small proportion of the painted house expresses that nature is more important than building a house.[4] (Wang, 2016). The feeling of nature and world is explored throughout the design work.

In Wang Shu's theory, the traditional Chinese garden is a kind of architectural formal language which is separated from modernity. Although it is neither a building or city,



Figure 2: Rong Xi Zhai Painting [10].

it has been an indispensable part of the soul of Chinese cities. He summarizes new feelings and records them every time he walks in the garden. One day, a small garden named Cang Lang Pavilion in Suzhou attracted his eyes. In the garden there was a small single storey building almost completely hidden behind a grove of dense bamboos. “Cui Ling Long” which features three houses conjoined diagonally by their corners. Noticing that people will forget the architecture while moving through the trembling bamboo shadow in the breeze, Wang Shu came up with a complete set of architectural models. In the Spring of 2004, he designed a three storey building with a rectangular plan in one of the five scattered houses. Each floor is three to four meters high, and its section just looks like the plan of “Cui Ling Long”, which twist and turn two times. This small building was named as “Tai Hu Fang” at last. Many years later, while planning the Xiangshan campus for the China Academy of Art, Wang used this experimental model to develop six more variation of this typology and located them in the campus [4](Wang, 2016).

3.2. Construction research

Wang Shu’s research is not only limited to extracting the essence of design from traditional works of art; he studied the traditional construction methods in Jiangnan region as well. He is one of the rare architects who carry out construction activities with local craftsmen in person in the construction site.

In 2000, Wang Shu was invited to attend the West Lake International Sculpture Invitation Exhibition. Wang Shu decides to build a space using the “Rammed earth technique”.

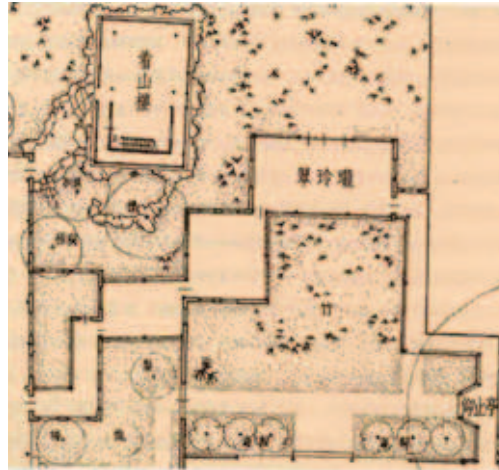


Figure 3: Plan of Cui Ling Long, Suzhou [4].



Figure 4: Tai Hu Fang, Ningbo, 2004 [4].

Using this kind of construction method for the first time, he and his colleagues tried many different ratios of clay and earth material. Unfortunately, due to weather changes, the two-wall sculpture collapsed many times.

Shu and his team responded by repairing it until the end of the exhibition. After trying again and again, they finally found the best material ratio [11](Li, 2001). Later, this kind of building technique was used in the construction of the Shui'an Shan Ju complex in Xiangshan Campus.

Another kind of construction method Wang Shu developed from traditional Jiangnan village was the tile wall. This kind of folk wall in Eastern Zhejiang Province is made up of various old bricks and tiles taken from around the construction site and divided into layers of building materials. The construction method which reappropriates materials through building the wall interprets waste materials as raw building materials. It is not only strong and beautiful but also economical [13] (Xing, 2012). From 2000 to 2008,



Figure 5: Construction & Experiment Process of Rammed earth wall, West Lake International Sculpture Invitation Exhibition, 2000 [12].

under the leadership of Wang Shu, the amateur architect studio experimented with these kinds of technique. They learned from craftsman, then taught the workers to build the clay tile wall on the construction site [12](Wang, 2002). At the Ningbo Museum, this experiment first became

accepted in a large, public, government-invested building project. Wang Shu was once accused of insisting on showing backward things in Ningbo by displaying the ancient tile material in the new urban area. Wang Shu retorted that the first function of the museum is to collect time. This building technique will make the Ningbo History Museum project of 2008 the most exquisite museums in collecting time. After the success of the Ningbo History Museum, Wang Shu was commended his keen way of supporting architectural heritage where globalization has stripped cities of their special attributes.



Figure 6: Five Scattered house, the experiment of the tile wall technique, Ningbo, 2004 [14].

4. Wang Shu's Architectural Practice

Base on the theory and research mentioned above, Wang Shu worked on several projects in Chinese urban and rural areas. On the one hand, when he worked on projects in Chinese cities, he contributed in using the traditional construction method in order to remind people of the original life in the area. On the other hand, while working in reconstruction of rural areas, he made public buildings to meet the needs of modern conditions. As a result, the architectural work of Wang Shu crossed the boundary between city and countryside, and provided a potential future of Chinese architecture.

4.1. Ningbo Museum

The Ningbo Historic Museum, completed in 2008, at the time of its construction was located in the centre of a new urban district. More than thirty original villages had been demolished, and the remaining half of the villages lingered among the old bricks and tiles. A place formerly of rich traditional settlements suddenly had lost all of its memories in a few years time.

Wang Shu conceived this museum as both a mountain and a village. The exterior of the building is understood as a fragment of a mountain. However, different from a continuous mountain, this "fragment" was cut by an almost violent artificial force, just like the demolition of the surrounding traditional settlements resulted in abandonment of the original memory of the site. This also implies Wang Shu's disappointment with the status of Chinese cities. The building facade seems to become a material memory of villages. Many tiles recycled from the demolished villages were used during its construction [15](Wang, 2016). In Wang Shu's opinion, every tile is alive and has its own unique memory and historical connotation. Some craftsmen picked up the tile-wall technique in the process of construction and used it while designing their own houses in the village.

The research carried out in the Ningbo History Museum project provides a new possibility for Chinese urban architectural design. In a recent speech given in Beijing in 2018, Wang Shu suggested that Modern Chinese architecture should not pursue crazy visual wonders or the emptiness and pride of being rich, but rather should maintain its cultural self-confidence in the world [16](Wang, 2018).



Figure 7: Ningbo History Museum, 2009 [17].

4.2. Village Reconstruction

The "new socialist countryside construction" proposed by the government in 2005, accelerated the pace of urbanization spreading to the countryside. Many villages were demolished or rebuilt, and the architectural differences between rural and urban areas gradually narrowed [18] (Huang & Chen, 2013). Vernacular dwellings of rural settlements have always been regarded as the most basic type of building in China. These buildings reflect the different social, cultural, and natural landscapes and regional characteristics. However, while more and more villages were demolished and rebuilt, the local culture and diversity in construction seems lost in the memory and spirit of the place.

Wang Shu tried to rescue the local culture that had disappeared in the city, by working on projects in the countryside. Each year, students of Wang Shu conduct research in the countryside, analyzing details of villages through on site drawing and mapping. These drawings were taken as the basis or beginning step for rebuilding some carefully selected villages. Local tradition and its agricultural and water system was a major inspiration for the Wencun Village project located near Fuyang. Several houses are treated differently with respect to tectonic expression and materiality in many locations diffused throughout the village. Some public buildings are integrated into the existing village scale serving to facilitate local activities. Unlike other modern villages, which have lost their original characteristics completely after reconstruction, no essential quality seems to be different in the villages reformed by Wang Shu and his Amateur architecture design studio. The traditional Jiangnan residential typology, lifestyle, and construction technique was preserved, reinterpreted and continued, but the quality of local life has been greatly improved.



Figure 8: Fuyang, Wen Cun, Fuyang, 2015 [19].

5. Conclusion

The three levels discussed, research, theory, and practice, are integrated in a kind of pragmatic position in the world, which integrates architecture and landscape and emphasizes the relationship between construction and nature. Just like what Wang Shu argued in an Architectural Forum held by Central Academy of Fine Arts in 2018, Chinese architects should go deep into the reality of China and build real architecture instead of dreaming the utopian future of China. Architects should observe and experience more about the intuition of design brought by nature and culture in daily life, and remain enthusiastic about design, creating opportunities for themselves to practice these ideas [16].

In conclusion, every culture has its own development thread and source. In the era of globalization, Chinese architecture should maintain its own distinctive vigilance and characteristics, in order to find its own position in globalization. Although it is impossible to stop or even slow down the pace of urbanization, there is indeed something architects in China can do to provide a meaningful space for continued interpretation of tradition in all its vitality.

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Conflict of Interest

The authors have no conflict of interest to declare.

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