

Sustainable Renovation and Restoration of the Rural Based on the View Point of Psychology

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Abstract—Countryside has been generally recognized and regarded as a characteristic symbol which presents in human memory for a long time. As a result of the change of times, because of it is failure to meet the growing needs of the growing life and mental decline, the vast rural area began to decline. But their history feature image which accumulated by the ancient tradition provides people with the origins of existence on the spiritual level, such as "identity" and "belonging", makes people closer to the others in the spiritual and psychological aspects of a common experience about the past, thus the sense of a lack of culture caused by the losing of memory symbols is weakened. So, in the modernization process, how to repair its vitality and transform and planning it in a sustainable way has become a hot topics in architectural and urban planning. This paper aims to break the constraints of disciplines, from the perspective of interdiscipline, using the research methods of systems science to analyze and discuss the theories and methods of rural form factors, which based on the viewpoint of memory in psychology. So we can find a right way to transform the Rural to give full play to the role of the countryside in the actual use and the shape of history spirits.

Keywords—The rural, sustainable renovation, restoration, psychology, memory.

I. INTRODUCTION

THE form of the rural can be comprehended as a manifestation of the historical memory. Nowadays, due to the changing times, the limitation of the countryside cannot meet the growing demands of people for their physical and psychological needs. In order to stimulate the vitality of the countryside, frequent transformation activities can be seen everywhere. These large quantities of transformation and renovation reflect an important theme of the post-industrial social culture which means reminiscence. It is an attempt by reference, imitating processing element of the past or back to the past to confront the reality of an identity crisis and make up for reality dissatisfaction with the lack of historical sense, that is the fascination of "absence" of the past were one kind of false "presence" and "revive" create [1]. Rural mnemonic is extracted summarized and widely used, but most of them do not do an intensive study of the qualities of these particular villages and just simply copy the practices of their predecessors and link these symbols that have no connection with each other together to make an architectural image with strong sense of form but without soul. The result of this phenomenon is the convergence of the rural landscape and the loss of the function of recording

history as a carrier of memory. Then the humanity's "identity" and "belonging" will be weakened and the memory recognition problem caused by the loss of mnemonic symbol will become more and more serious. At the same time, driven by the interest, a large number of commercial tourism activities are introduced into villages, breaking the original structure of production and life of the country. Although the purpose is to promote the development of the rural economy and stimulate rural vitality, but these activities destroy the difference between rural and urban, so that after a brief boom these villages tend to silence. The development and the characteristics of the rural is a result of a long history of accumulation, not the result of short term mutation. To a certain extent, the renovation and updating of such activities are unsuccessful. Because of the lack of long-term historical connotation, the stimulation of the rural vitality is just temporarily.

II. THE MEMORY FUNCTION OF RURAL SHAPE

Memory is a basic mental activity which is the basis for other more complex mental activity. In the macro – perspective, when we talk about memory we mean it is an interrelated process from "mind" to "Memories", it is an objective reality, and the immediate state of matter or material traces of system changes. Rural shape memory is a collective memory that individuals living in a village which provides a stable and continuous environment create those memory mode and the memory content that have some similarities, "collective memory is not an established concept but a the concept of a social construct," [2] This kind of memory plays an important role in the formation of rural settlements identity.

Of course, establish a sense of belonging does not mean that all readable elements should be reproduced as same as before. Times change, the change of human life and the mode of production will inevitably lead rural architecture and space to generate new content to adapt to these changes. The main value of rural is to provide residents a place and space to do production and living as well as before, to be a carrier of historical heritage is its added value. When people see the rural, it is not a simple combination of visual elements, the brain will carry out the construction of these images instinctively, distinguish the familiar elements of history and the environmental features of the new injection, then mix the two together. So the final image is closely related to the memories of the past and with the current development. And what we should study is how to fix and transform the external rural environment to keep this relationship without paying more attention on the new demand or giving unduly high status on the preserving the traditional.

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II. RURAL SCENE ELEMENTS AND THE UTILIZATION

A. Rural scene elements

Halbwachs is the author of the concept of collective memory, he stressed that memory belongs to the public and think memory is the scene, which display in the surrounding environment, events and space layout. People recall special events or scenes to make the perception of the moment is different from others. These events and scenes are called scene elements. Scene elements express the influence of surrounding environment on human's brain. During the production of memory, our brain will also produce a series of emotional stimulus instinctively. When brain appears related information or people feels similar emotional stimulus, they could recall the origin of memory. [3] These scenes are full of rural space, which were connect with the life style, landscape, events, the environment and the people to form the specific rural atmosphere.

Psychology divided memory activity into two kinds, one is field memory and the other one is observer memory. In the former, the event is perceived by the field, the point of the memory is the emotion stimulated by the events. The observer memory focuses on the objective environment and the original scene memory image, the emotional memory is less. Frances Yates once said, "the memory is built by the field and the image." The site is a place where people are very easy to remember, such as a house, a column space, a corner, an arch, and so on. Image is the form, mark which we wish to recall, for example, if we want to remember the horses, lions and eagles, we must put their image in the specific field." [4]. Therefore, the "space" and "landscape" is the two part of the scene elements, and constitute the human brain memory of the village form together. Understanding the source of the "field" and "Scene" in the rural environment, creating the scene elements that can reasonably be extracted, organize the connection between the elements and the existing environment, finding the way to use these elements, and is the key to the reform of rural areas.

"Site" elements emphasizes the space, and the combination of features, can be generally divided into three kinds, one is the block shaped field stresses centrality, one is the linear field emphasizes the directionality and the last one is the regional field emphasizes the sequentiality. Make traditional Chinese village ancestral hall building layout, and courtyard style houses as example for block shaped field. In the overall planning, the former, designers always put the ancestral hall in the middle of the village, often pre pond, between them have small square, combined together to be the village core, which is the center of surrounding buildings (Fig. 1). The latter one has a large area courtyard which surrounded by independent house connected by the corridor, the most typical one is Beijing courtyard (Fig. 2), both show a strong sense of enclosed and concentric. Lane in rural areas can be classified as a linear factor, which limited by the buildings with one or two layers on both sides and has distinctive characteristics. The width of lane is narrow, the formation of vertical space, suitable for people line. The regional field is characterized by using a series of

similar or repeated elements in a wide range to form distinctive properties groups and architectural group space has sequence characteristic, the country's texture is one example. the blue and white in Greece, the Mediterranean style of the texture, in the architectural color on the blue and white, shape on the multi curve, arch, arch, semi arch, horseshoe shaped, and so on build up the overall characteristics of the small town, in the visual integration (Fig. 3).

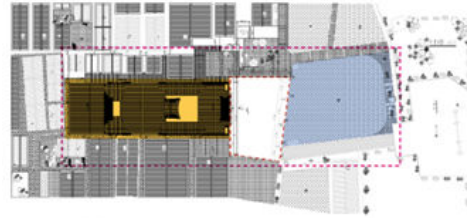


Fig. 1 Ancestral hall building layout

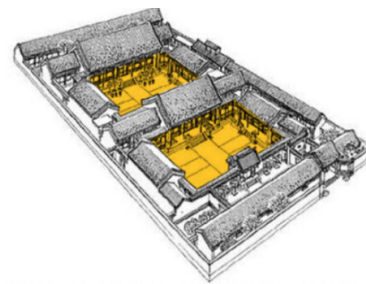


Fig. 2 Beijing courtyard layout

"Landscape" elements often with emotion linked relates to people's feelings, involving the objective environment and experiences, not only contains all natural landscape, artificial landscape, also contained man and other animals in these landscapes, such as common rural building on the top of slope, the ridge segmentation of large field, busy farming season, cluster chickens under the tree, dog running on the trail (Fig. 4), all of these are elements of village, when the brain receives the information, it is easy to contact concept and drive out the concept of country.



Fig. 3 Santorini Island



Fig. 4 Nanping village

B. The Utilization of Rural Scene Elements

Perception is the process of knowing the objective things, from the outside to the inside and the phenomenon to the essence, reflecting the objective characteristics and internal relations, which consists of cognitive elements such like person's feelings, perception, memory, thinking and imagination, which means reading the information and reprocessing it [5]. Based on the characteristics of cognitive processes and the purpose of transform and restoration, the utilization of rural scene elements can be divided into two aspects, one is intuitive sensual experience and the other one is psychological experience by stimulating the emotions. Both of them are used to stimulate countryside memories in people's minds.

The first one is intuitive sensual experience. People use sense organs to feel characteristics of the world, such like color, sound, shape and volume. By using our ear and eye we can get about 80-90% of the total amount of information from the outside world, which is the main part of the sensory experience. The utilization of rural scene elements collected by sense organs can be divided as follow:

1) Realistic Reproduction of the Original Sensory Scene

The so-called reality reproduction is to reproduce the specific rural buildings, streets, space and living environment as original as possible and reflect the time information and place significance of the village in a particular historical stage. Ancient villages, such as hong village, in Southern Anhui, china, which are regarded as history textbooks and have positive effects on protection, always choice this way to do some renovation. Two problems may occur during this process, the first one is "Cloning Engineering", which means in order to create a harmonious architectural atmosphere, the surrounding buildings or new buildings are forced to look like as same as the existing buildings, which leads to convergence. The second one is to limit the development for protection, exaggerate the importance of historical value, ignoring the countryside as a major carrier to enhance the value of life, abandon development. Both of them could be avoided by introduction the concept of symbiosis. That is, the different time elements gather together in a space which create a layered construction connotation, both reflect the new things in the future and realize the "history textbooks" function and record changes of building in the exterior and functions [6].

The overall planning of Shuhe ancient village, Yunnan, china, stresses the importance of development in promoting the protection. In external, they use original Shuhe residential crest,

wall, tile and other elements to make the old and new villages can be docked in appearance (Fig. 5), new functions are added in the interior to enhance the quality of residents' life, which embodies the principle that save the building exterior and keep the renewal and transformation of the interior space (Fig. 6).



Fig. 5 The old and new part of Suhe village

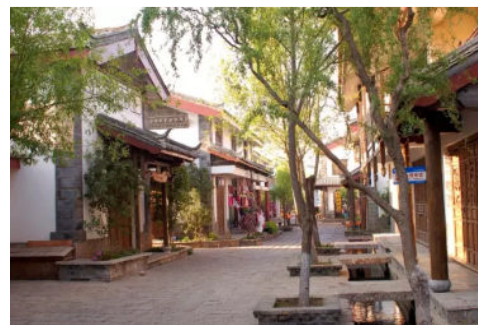


Fig. 6 The new street of Suhe village

2) Abstract Reproduction of the Original Sensory Scene

When the original sensory scene do not to be reproduced with complete identity, designers often abstract scene elements and extracted symbols to reshape the architectural space form. These symbols trigger the human brain's country memory as a stimulus signal based on past experience, constructing the village concept by association, and then the architecture appearance will be liberated and innovated, resulting in a form of modern country. These abstract elements can be divided into two kinds of architectural elements and landscape elements. Architectural elements contain architectural shapes, colors, materials, space. Landscape elements contain common landscape (eg. farming landscape) and specific landscapes (eg. rivers town and tea-horse town).

Zheshang Hope Primary School is in the Mao Village, Leiyang, China. The design process of this school fully reflected the local context of building. The designer choice brick, tile, wood and Triangular roof which are common in rural areas as architectural forms, and using a new building constructed language to make new buildings contact with the countryside, presenting an indigenous features. The place which should be brick fence was replaced by rough wood forms a rich light and shadow in the room. The way of brick laying is diverse and break sense of monotony of the brick wall. The building seems like common rural building but everywhere revealed a new idea (Fig. 7). The volunteers' house of Cattle Hill, Sichuan, China is more typical as a reconstruction project.

The building also constituted by some local materials, but the shape of the tile roof using the parametric design is a distinguishing feature. The old buildings were re-covered and interact with clouds and mountains. In this building, the new technology and the appearance and construction methods of the traditional rural architecture were combined together (Fig. 8). The parameterized was realized by traditional techniques.



Fig. 7 Zhesang Hope Primary School



Fig. 8 The roof of volunteers' house of Cattle Hill

The second one is psychological experience. Mental state is valid clues to stimulate memories. In the process of feeling the surrounding environment and producing comprehensive experience, human emotion will produce a corresponding change and the psychological feelings will be stored as well as memory instinctively. The form of this memory needs a long time and repetitive affection. Once formed, it will be very profound, even if the original scene has been changed totally, the brain also can retrieval cue, stimulate memory and mobilize the emotions, then the sense of belonging to the new environment will be created. Through the perceptual function, space and detail, people can always achieve the effect of stimulate the memory by psychological experience. Make the transform of the ancient villages of southern China as an example. The geographical features of these villages lead to a unique life style which reflected in the transportation, housing, clothing, diet and so on. Most of these towns were built by the water, agricultural activities and transport rely most on boats and water. They have parallel spatial structure consisted of water and street. The courtyard is the basic unit of streets and lanes, locals regard river system as order and bridges as link, forming the water door pillow residential features and bridges people Village Scene. These water features as a way of life and an integral part of the residents has become a deep memory.

Keqiao located in Shaoxing, a typical southern land of plenty, in the heart of the town is the eastern Zhejiang canal, Ke river, with the other two streets divide the block into four parts, at the intersection of three waterways used a stone bridges to connect these parts. In the process of totally planning and transformation, designers pay a lot attention on the water and street parallel spatial structure; they regard the public space and the station gate node as the "point", several water and streets as the "line" and the core area of the Four Rivers Bridge as the "surface", constituting point line combination. The building and bridge, the river spatial scale, the shape riparian and waterways, forms Hebu head and so on are regarded as composition and taken into consideration, and following this concept, by combining water system, the quality, time and style of construction to divide the planning land into protection zone and Traditional style coordination area, take appropriate measures to protect and remediation (Fig. 9). These two parts harmoniously accommodate with each other and show the Water Features [7].



Fig. 9 The planning and scene of Keqiao

III. CONCLUSIONS

The original purpose of rural planning renovation and restoration of viability is to improve rural living environment, improve the quality of life of residents, is a new implant, based on the full understanding and respect of the history. In the construction process, the first step is to find out the specific character of the rural, find the root and memory in the form of villages, then recover a reasonable memorial element and find a reasonable way to make it meet the needs of the current environment and people. The designer should use the rural elements to do reproduction, innovation abstraction and solve problems, then the character and vitality of the countryside will be preserved.

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