

The Urban-rural Continuum: A New Approach to the Future Planning for Rural China

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Abstract

China's urbanization has brought benefits to cities, but the price is the deterioration of the urban ecological environment. As a result of long-term urban-rural dualism, China has actively supported cities, and then cities have occupied nature-based rural areas. Even though China has been aware of the ecological deterioration and has issued rural ecological policies, there is still the existing contradiction between urban expansion and rural protection development. China's future planning will place greater emphasis on rural areas, and people have just entered the exploration phase. In this regard, the theory of "the urban-rural continuum" proposed by an American anthropologist William Skinner is extended to the field of architecture and planning to explore a sustainable method of urban-rural development. It offers a spatial model to describe China's traditional social structure, from villages to cities, combined by the community of a standard market town. It underlies a polycentric model with a communal structure that can further balance the urban-rural relationships and realize the sustainable development in the countryside.

Keywords: the urban-rural continuum, green city, community, sustainable planning, rural heritage

1. Introduction

Cities keep expanding during the process of China's urbanization (Wu, 2015). In 2014, the Chinese Government adjusted the city scale classification standards: the cities where the inhabitants are more than 10 million can be super-megacities, and those where the inhabitants are from 5 to 10 million can be megacities (X.-R. Wang, Hui, Choguill, & Jia, 2015). According to the estimation from the official report, China's population will reach 1.45 billion by 2030, and the urbanization rate of the permanent residents will increase to 70% (The State Council of the People's Republic of China, 2017).

According to the overall planning for the top Chinese cities, by 2035, the urban population will exceed 20 million in those cities (Shanghai Municipal People's Government, 2018; Nanfang Daily, 2018; Chengdu Municipal People's Government, 2018; Beijing Municipal Commission of Planning and Natural Resources, 2017). The growth of the urban labor force will promote the economy (Peng, 2011), and it will also bring about the city expansion.

Accelerating urbanization needs to pay the price: urban traffic becomes congested; agricultural land is in severe shortage, soil availability and soil quality of food production are degraded (Chen, 2007); energy consumption is excessive, and the air is often polluted (Chan & Yao, 2008). Among Horizon 2020 programs, the European Commission also launched a project "Strengthening international cooperation on sustainable urbanisation: nature-based solutions for restoration and rehabilitation of urban ecosystems" in

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cooperation with the Chinese Government to explore a sustainable urbanization approach and to restore the urban ecosystem (European Commission, 2017).

Under those problems, the rural areas around the city drew people's attention, because the natural environment there is an essential guarantee for maintaining the balance of the urban areas. They are the backup force supporting urban development.

However, the city is still engulfing the rural land. Arable land is declining as well as rural heritages (Tan, Li, Xie, & Lu, 2005). The village is facing a severe crisis of losing the agricultural population.

The Chinese Government has also been formulating policies to protect and develop the rural areas. The former Chairman Hu Jintao has proposed to build new socialist countryside in the Fifth Plenum of the 16th CPC Central Committee in 2005 (Fan, 2006). In 2008, China officially implemented the Urban and Rural Planning Law, replacing the old Urban Planning Law. In comparison, one of the most significant differences is that it emphasizes the overall planning of urban and rural development (F. Wang & Yi, 2012). It correspondingly sets up more specific regulations for planning in rural areas (Lei & Zhao, 2009). The urban-rural integration has become the basic guiding concept for urban and rural development (Development Research Center of the State Council & The World Bank, 2014). Chairman Xi Jinping also stressed the need to impulse the goal of "Beautiful Countryside" to construct the whole beautiful China in 2013 (Yu, 2016). On this basis, in the report of the 19th National Congress of the Party in 2017, the Strategy of Rural Vitalization was also clearly put forward, mentioning that the countryside will fully achieve revitalization around 2050 (Jinping, 2017).

2. The Urban-rural Continuum

After an American anthropologist George William Skinner came to China and did the research on rural social structure, he used the term "the urban-rural continuum" to depict the borderless but economic and functional connections between cities and villages (George William Skinner & Baker, 1977).

Chinese traditional rural society formed by the unit of clan-based alliances: traditional residential settlements were established on a family basis, and families could aggregate to form a more influential social alliance. As the scale of these settlements increased, "settlement-village-town-city" gradually appeared in the form of hierarchy. In the old-time, the urban-rural continuum indicated a state of social connection between the urban and the rural despite the geographical isolation.

However, such geographical isolation is interrupted by the urbanization happening over the entire East Asia: the city occupies rural land development so that the urban and rural areas merge. The chasm between metropolis and small urban areas disappears, and it mostly happens in Southeast Asia. The urban-rural continuum is a model that is neither rural nor urban but a combination of those two. It is a state of mixed rural and urban areas without distinguishable boundaries (Guldin, 2001).

In China, the urban-rural structure changed. Rural inhabitants moved to cities, and the rural areas gradually transformed into new cities. The city and the rural area will finally move towards a post-urban world where the traditional urban-rural dichotomy will no longer exist (Westlund, 2014; Haas & Westlund, 2017).

The urban-rural continuum is a theory originating in China. Although the traditional urban-rural continuum structure almost disappeared, the term “the urban-rural continuum” can qualify its contemporary significance. It can be extended to the field of architecture and planning because it contains the concept of sustainable development. It can solve the local problem of the scarcity of the structure in modern Chinese urban planning.

3. The Models of Rural Marketing Structures

Skinner further reflected the urban-rural continuum in his spatial model of rural market structures (G William Skinner, 1964, 1965a, 1965b). He took the town and its surrounding villages connected through the constant flow of commodities as an essential market town community and calculated the average number of villages in each community. Then by referring to Walter Christopher’s Central Place Theory, he finally drew a model named Chinese standard marketing area (See Figure 1).

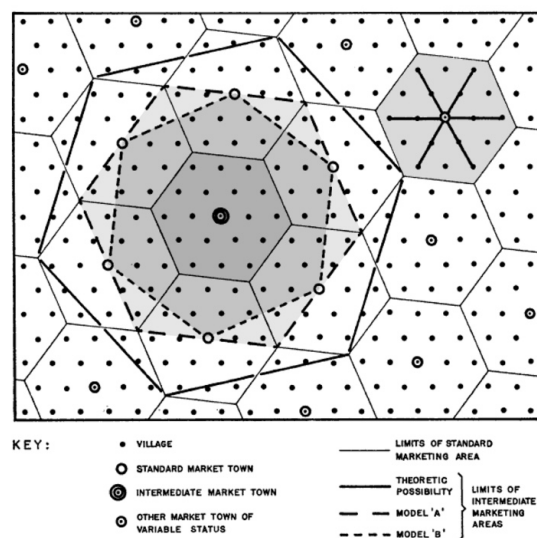


Figure 1 A model of the Chinese standard marketing area as a stable spatial system, with three possible models of intermediate marketing areas

Source: The author re-edited it based on Skinner’s theory (G William Skinner, 1964)

The hexagon in Figure 1 represents one standard market town community having one standard market town in the center and 18 villages (six villages on the inner ring and twelve villages on the outer ring) on average within its two-ring model. Some standard market towns can develop into higher-level intermediate market towns bearing the role of transferring commodities to other market communities. From the perspective of space and economy, one standard market town community is only a subsystem belonging to a more massive market structure (G William Skinner, 1964).

Figure 2 also shows the principle of the actual spatial distribution of the two original

types A and B of the standard market towns. The A model indicates that a standard market town depends on two intermediate market communities; the B model indicates that a standard market town depends on three intermediate market communities (G William Skinner, 1964).

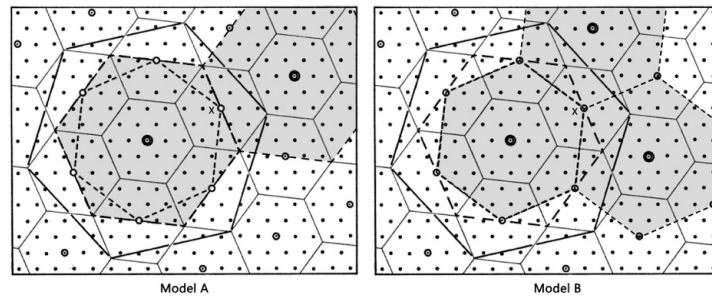


Figure 2 Two types of the standard market towns shared by intermediate market communities
 Source: The author re-edited it based on Skinner's theory (G William Skinner, 1964)

Based on this essential model, Skinner further explained the villages' emergence principle of villages and summarized those models mainly used in mountainous and plain areas (See Table 1) (G William Skinner, 1965a).

Model A illustrates how a new standard market town emerges based on two original standard market towns in the mountainous area. New settlements often appear on the main road connecting the two original market towns. The new village (on edge) located in the middle with equal distance is most conducive to develop into a new standard market town, while those original standard market towns advance to intermediate market towns.

Model B illustrates how a standard market town appears with the same distance to the three original standard market towns in the plain area. New settlements often appear equidistant from the original three villages, and villages located at equidistant locations from the three original standard market towns are most promotive to develop into new intermediate market towns.

Table 1 The intensification models of the emergence of villages and market towns

The intensification models of the emergence of villages and market towns				
Model A				
Model B				

Source: The author re-edited it based on Skinner's theory (G William Skinner, 1965a)

Although Skinner's theory focuses on how traditional Chinese marketing communities and rural settlements appeared from a social and economic perspective, it still contains the wisdom of urban planning.

4. The Urban-rural Continuum in Architecture and Urban Planning

4.1 An overall planning method combining both bottom-up and top-down systems

The emergence of new villages, the evolution of higher-level market towns, and the establishment of the marketing network present a bottom-up structure. However, there is another top-down mechanism that relies on the setting of administrative hierarchy coupled with this marketing system — the establishment of governmental institutions in market systems at all levels. In Skinner's research, many market towns are also the place of the primary administration. The governance gradually transfers from towns to villages through this hierarchical system.

In the current urban planning in China, people often pose the city and town center at first importance, while the village is in a long-term state where almost one has no ideas to take care of it, so a large number of villages perish.

The urban-rural continuum can exactly make up for this long-term top-down dual planning and provide a comprehensive planning method combining the top-down and the bottom-up.

4.2 Another polycentric development model instead of “Garden City”

People advocate the principle of the city's polycentric development as a sustainable approach. In China, the most far-reaching one is the theory of Garden City proposed by Ebenezer Howard (Howard, 1946), and a large number of new towns have been built under this concept. However, in the process of the actual application, people consider the new area as a satellite town mainly to expand the city's size but ignore the significance of urban functions and agricultural ecology also conveyed from Garden City. Although the urban-rural continuum summarizes the objective laws of the village emergence from an economic view, it contains the idea of polycentric development and is a theory proposed for the Chinese settlement phenomenon. People can use it to solve the planning issues for local China. Compared with Howard's Garden City theory, Skinner's model summarizes the polycentric distribution of all the residential settlements at different levels from the rural to the urban, rather than only focusing on the city.

4.3 Densification of existing settlements rather than city expansion

As China's large cities aggregate, the phenomenon of shrinking cities continues to emerge, small and medium-sized cities are losing competitiveness to develop, and rural heritage is abandoned, followed by rural land and population loss (Yang & Dunford, 2018).

Contrary to the situation of growing big cities, Skinner's model itself follows the law that when the density of standard markets increases to a certain extent, new settlements and new market communities appear. When the city grows, it also affects the density of the surrounding settlements. It is different from the way that the city is growing, while the

surrounding settlements are shrinking.

In this regard, Figure 3 specifically compares different urban growth models. Model A represents the standard urban-rural density. In Model B, simulating the Chinese city growth, the construction area in the city and the town expands, while the villages shrink, and the agricultural land decreases. In Model C, transformed from Skinner's theory, in order to prevent the city expansion, the villages and the settlements are densified, while the eco-agricultural land is in protection.

Through the comparison, it shows that the growth model under the influence of Skinner's theory is a balanced and stable overall growth and can more effectively balance the distribution of public and natural resources rather than monocentric growth: it causes excessive pressure on the city.

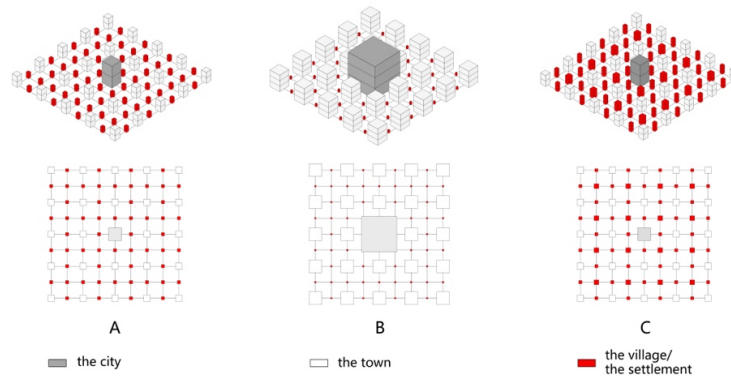


Figure 3 Urban growth models' simulation

Source: The author

4.4 The focus of community and communal architecture

Skinner's theory has conveyed the concept of community as a unit, and the relationship between the elements in the community are mutually connected through commodity exchange. In this regard, this concept is introduced into rural planning, relatively group villages with the community as the core. The elements are connected through the communal service buildings carrying various public social activities in the community, such as schools, hospitals, libraries, scientific research institutions, and those are functional buildings exactly lacking in modern rural China. The backwardness of facilities for rural life is also one of the reasons for the loss of the rural population. Therefore, the rural communal architecture can refer to the function and the type of urban architecture and enable the villagers to live the same life as the urban inhabitants have. It is a way to achieve the state of blending urban and rural areas under the urban-rural continuum, rather than to turn the countryside into the city.

5. The Application of the Urban-rural Continuum

The following cases demonstrate how to apply the concept of the urban-rural continuum in architecture and planning design (See Figure 4):

(1) According to the data survey of the size of the marketing community hexagon in Skinner's theory, the researcher can determine the appropriate scale of the hexagon in the research area and analyze the structure. By matching the hexagons with the historical maps of the same historical time, the researcher can analyze how settlements and villages can group standard market town communities and intermediate market town communities.

(2) In each marketing community, the researcher needs to find representative communal buildings in rural vernacular architecture and analyze their architectural characteristics. The case shows the analysis of vernacular architecture from the perspective of typology and morphology.

(3) The researcher needs to apply the extracted architectural features to the invention of new buildings. Those new buildings mainly refer to public buildings and bear the public service functions in the community, such as schools, hospitals, and nursery. Besides, it is also necessary to explore new forms of residential architecture in rural regions by introducing advanced functions and make the housing as a high-density complex.

To sum up, the case itself shows the contemporary significance of the urban-rural continuum: the city and the countryside are blending. Only when the village and the city have the same superior living conditions, the rural residents are willing to stay and cultivate on this land, and at the same time, the urban residents can also return to rural residence and recreation.

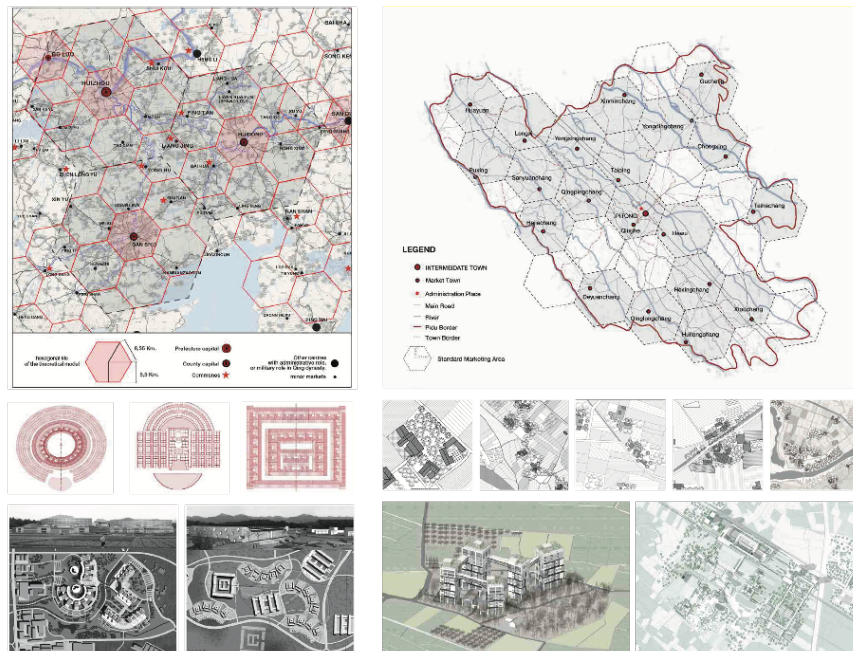


Figure 4 The application simulation of the urban-rural continuum: the case in Huizhou, Guangdong Province, China (left) and the case in Pidu, Sichuan Province, China (right)
Source: The author and Maurizio Meriggi (Meriggi, 2018, 2015)

6. Conclusion

China's future development will focus on rural areas. The urban-rural continuum has significance in China's urban-rural development:

(1) The urban-rural continuum and the urban-rural integration are related, although the former reflects how settlements in the spatial organization are structured, and the latter reflects how to balance the resources in the policymaking.

(2) It is a manifestation of urban decentralization. It emphasizes the village-town-city overall development. Through the growth of poly-centers around the core urban area, the urban pressure can decrease.

(3) The urban-rural continuum embodies an architecture-urban design-urban planning overall design method, and each element is firmly connected and influence each other instead of the separated design.

(4) Lacking in China's architecture design, a concept inspired by the urban-rural continuum is to transform the monolithic architectural design from pursuing individuality to emphasizing community.

Urban-rural relationship has always been a concern in China's urbanization process. In the face of the urban-rural dual structure, the urban-rural continuum is one of the approaches to improve this relationship from the architectural and planning perspective and can benefit rural areas with balanced and sustainable development.

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