

## **An Analysis of the Applicability of Conzenian School in China: Exemplified by Shangqiu**

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**Abstract.** *Urban morphology has been studied extensively in western countries, while the related researches had been carried out late in China and the researches on urban morphology evolution characteristics of China are rare. Scanty case studies like Pingyao showed that the characteristics of urban form and its evolutionary process of China was different from the western. This paper review the existing researches and take Shangqiu as a case city to study urban morphology evolution characteristics of Chinese cities, preliminary analyze China's special social and economic characteristics as well as its urban morphology process from the double fringe belts, plot and block patterns of Shangqiu. Through the research on the evolution of Shangqiu's urban form, this paper aims to preliminary delimit the morphological period of Shangqiu, explore the evolution mechanism of Shangqiu, summarize evolutionary characteristics of Chinese cities and reflect urban morphological approaches in western academic system.*

*Keywords: Shangqiu, Urban Morphology, Chinese City, Evolutionary process*

### **Introduction**

With the theories and approaches of urban morphology established and developed based on European cities, the major research force of urban morphology is still in Europe so far. The Conzenian approach has good explanatory power for the morphological development of European cities, but its universality needs further study for cities in different cultural context. On the one hand, the degree of data perfection and the contribution to system integrity of Alnwick town is difficult to reach for other towns. Therefore, does Conzenian theory and approach still suitable for the cities which are lack of historical documents and maps or difficult to identify the morphological features? On the other hand, for Chinese cities with completely different political and cultural backgrounds(Whitehand, 2007), their

development is affected by a large number of administrative and planning factors, so the applicability of Conzenian approach, theory and terminology need more tests.

Based on the case study of Pingyao and Zhishanmen carried out by J.W.R. Whitehand and some other research, Chinese cities are different from the western cities mainly in three aspects(Shi, 2014):

Firstly, the development process of Chinese cities is quite different from that of western cities, which is obviously reflected in the different morphological periods of Chinese cities compared with western cities. Usually the morphological periods include three, coinciding with the important time nodes in Chinese modern history. The first one is the generalized feudal times before 1949 with very low productivity and deficient data. Then is the typical socialism city transforming

period(1949-1978). And the last is the period with great change of social economic system of reform and opening up after 1978. The rough delimitation of morphological periods is related to the complicated and diverse urban landscape and limited by the lack of literature or map sources of China. Due to the preference of historical view and the gap in mapping technology, the literature of Chinese cities rarely records the information about cities' evolution, which is however required for morphological research. Therefore, for the urban form of earlier time, the large-scale town plans and other requirements for Conzenian approach cannot be met. Thus, detailed division of morphological period is hard to conduct.

Secondly, Chinese cities are greatly different from western cities in terms of their driving forces of evolution. On the one hand, in both the feudal period and the period of socialist construction after the founding of new China, planning and administrative forces are the most important factors in urban development. On the other hand, China lacks effective protection for private property rights. This makes the revolutionary planning, proposed by Conzen(Conzen, 1960), more likely to happen during the city construction under unified planning, resulting in the phenomenon that the evolution process of some Chinese cities is often faster and larger on scale than that of western cities that are based on private property rights and fair trade.

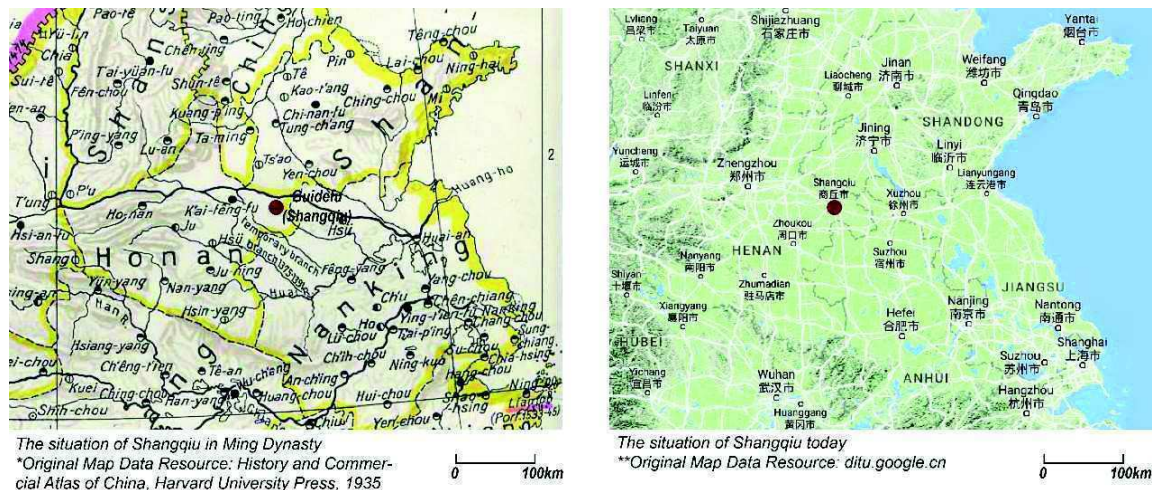
Thirdly, the connotation of morphological elements of Chinese cities is greatly different from those in western cities, for which the fringe belt is typical to annotate. In European cities, fringe belt indicates a zonal region with distinctive morphological and functional features formed in urban fringes at certain period(Conzen, 1960), often intuitively related with the city wall. However, in ancient China, the city wall is usually built firstly according to the planning, and the urban expansion from the kernel takes a considerable period of time to reach the city wall. In other words, the city wall does not necessarily indicate the fringe belt, at least the inner fringe belt. At the meantime, the method of distinguishing fringe belt through big plots

or public buildings become less valid since many Chinese cities are planned to be grids and religious institutions are set according to etiquette. On the other hand, in the period of socialist construction, many cities established new centers outside the old one answering to the need of development and the old city was eventually incorporated into the new urban area with the development of metro, making the old city as well as its fringe belt become the fringe belt of the current city as a whole.

### **Research on Urban Morphology in China**

With the spread and development of morphology theory in China, studies on Chinese cities by Chinese and foreign scholars have increased a lot in recent years, resulting in a large number of research achievements, mainly empirical researches and literature review of the western theory.

The scholars introducing Conzenian theory to China mainly include Gu Kai, Tian Yinsheng and Song Feng. And the Conzenian empirical researches on Chinese cities include Jeremy's series work on Pingyao, Peking University research group's work on Lushan Mountain landscape, Zhang Jian's work on historical blocks in Guangzhou, etc. The researches have made important contribution to the development and application of Conzenian School in China, but because of the complexity of cross-cultural morphological research, some also exposed defects made by Chinese and foreign scholars in the study of China urban morphology. For example, in Zhishanmen case study, due to the difficulty of intercultural urban morphology research and the lack of understanding of Zhishanmen's historical function and the operator of urban form evolution in socialism China, the conclusion is not rigorous enough. In addition, in the case study of Pingyao, some morphological terminology like fringe belt are different in form with those in western cities. Otherwise, because the common lack of detailed historical materials and precise historical maps, Conzenian approach is not completely fit in Chinese cities, thus amendments and development for current theory and approach are needed for researches on Chinese cities.



**Figure 1.**  
The situation of Shangqiu

### The Typicality and Representativeness of Shangqiu

The object of this study is the ancient city of Guidefu in Shangqiu. Shangqiu, the history of which can be dated back to the Xia (about 21 century B.C.-16 century B.C.) and Shang (about 16 century B.C.-11 century B.C.) Dynasties of more than 2000 years, and then becoming the capital of Shang Dynasty, plays an important role in the early regime of China. This important role benefits from the flat and fertile land and the bred of the Yellow River, long-termly being the city of best construction, most concentrated population and most developed economy, as well as a hotly contested spot for military. This advantage enhanced after the Grand Canal was excavated in Sui (581-618) and Tang (618-907) Dynasties and connected the North and the South via Shangqiu. Its development reach another peak in North Song Dynasty (960-1127), becoming an important shipping corridor and the provisional capital of Bianliang (the capital of North Song Dynasty).

With the decline of Han regime and the southward of economic center, the Central Plains region including Shangqiu, lost the position of national political and economic center after the South Song Dynasty (1127-1279). While Shangqiu still retained the position of prefectural city as well as the political and economic center in the region of eastern Central Plains, during which it was moved and reformed by wars and floods,

shaping special urban landscape in the ancient city area.

Now, the preserved ancient city of Shangqiu is Guidefu city built in Ming Dynasty (1368-1644) of 1510. More than 500 years of city development provides a good case for the study of China urban form. Firstly, the morphological structure, fringe belt and fixation line of Guidefu city are fully reserved. Secondly, Shangqiu, with double “velvet glove” walls, is of a good representative in the Central Plains and one of the few ancient cities whose walls and gates are completely preserved in China. Both inside and outside the city have retained the traces of social and economic changes in the material space since Ming dynasty. Thirdly, after 1949, because of the great changes of social system and administration, Shangqiu experienced the process of separation and transfer of the city kernel.

### Shangqiu Case Analysis

According to the morphological differences of Shangqiu ancient city in different social and economic conditions in different historical period, the nearly 500 years since 1510 can be divided into three morphological periods. They are the earlier and the heyday period (before 1949), the socialist construction period (1949-2000) and the period of rapid economic development (after 2000), during which the



morphological characteristic and evolutionary impetus are different. The third period of Chinese cities is usually the reform and opening up period after 1978. The reason of choosing 2000 as the beginning of Shangqiu's third morphological period is that in 1990s, the driving forces of Shangqiu's development is still the administrative forces, only after 2000 did the commercial forces come into stage, coincident with the rapid development of economy and tourism.

### The Earlier and the Heyday Period

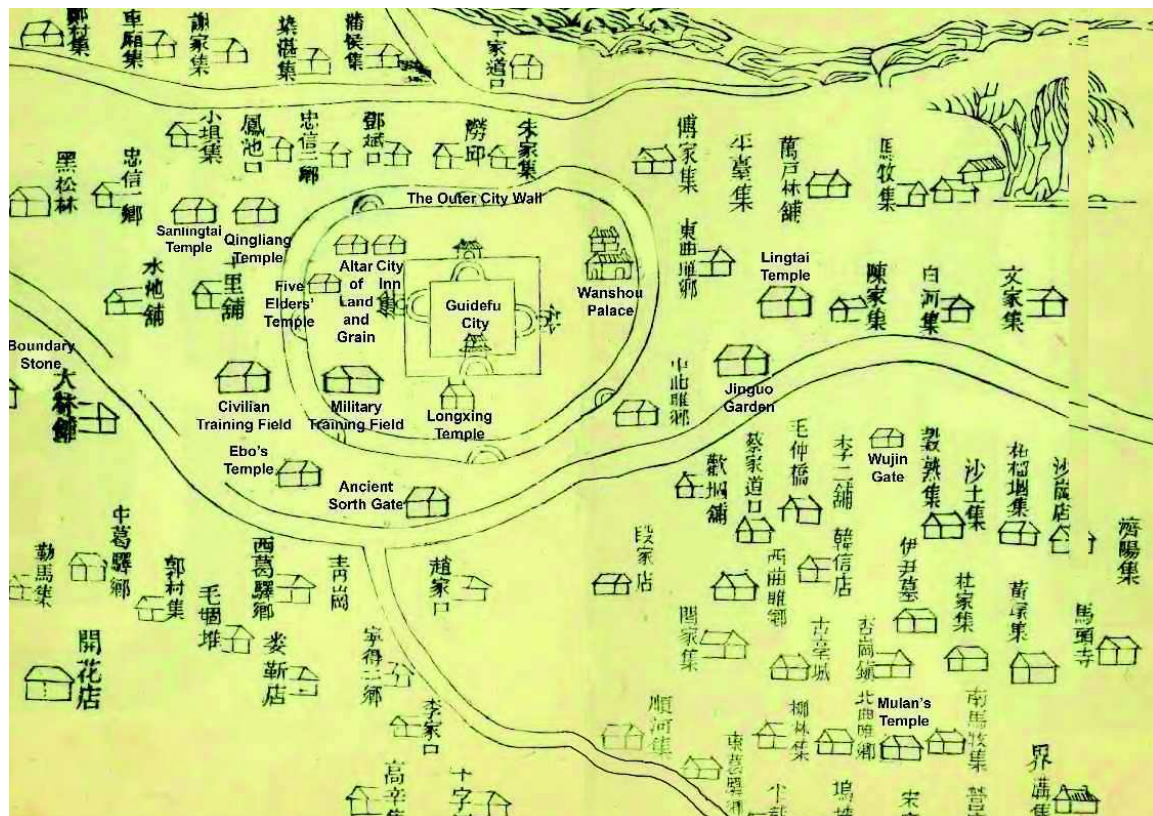
#### Early City

Guidifu city is not the result of planning in advance, but due to the flood in 1502, after which the old city was totally destroyed and the governor decided to construct a new city near the site. It took 8 years to construct Guidifu city of the similar area to the old city, whose south wall was exactly at the position of the old

city's north wall. The new city was 75km to the east of the provincial capital, 900km from Beijing (the capital when the city was built) and 1100 of waterways.

According to county records, the wall is 4.35km in circumference, about 7m wide on the top and 10m wide at the bottom, with 13 lookout towers and 32 alarm stations on it. The wall has four gates, called Binyang on the east, Dieze on the west, Gongyang on the south and Gongchen on the north, and two water gates, one on the west of Gongyang Gate, another on the east of Gongyang Gate.

Guidifu city is made up of three parts: the inner city wall, the moat and the outer city wall or the embankment. The 250,000m<sup>2</sup> moat and the 9km outer city wall were constructed later than the inner city wall. The outer city wall played the role of resisting the enemy, met the needs of flood control in flood areas of the Yellow River, while the moat protected the city and stored floodwater. In fact, this kind of structure played an important role in a certain period of time, but after the weapons and war



**Figure 2.**  
The landscape of Shangqiu in Qing Dynasty.

form changed in late nineteenth century, their function became limited and unnecessary. In respect of flood control, although the moat, outer city wall and the terrain of high center but low circumference released the pressure of small flood, there was flood inside the city wall sometimes, even boat could sail in the city, as the county records described. A large body of water retained after the elimination of flood and the typical county landscape in northern China of water, reed, boats and lotus could still be seen in early twenty century.

#### Urban Landscape in Early Period

The landscape inside Guidefu city has undergone profound changes, showing high similarity with the early Pingyao ancient city. In the period of construction, the construction of houses and the wall is synchronized, while inside the inner city wall some traces of space along the wall or post construction are founded, not being used as roads. Therefore, in the early stage of urban construction, the location of the city wall was not the edge of the built-up area, which was similar to the characteristics of Pingyao's early fringe belt. There are prefectural city government, county government, court, procuratorate, Confucian Temple, schools and ancestral halls in the city, while other plots are occupied and used by ordinary citizens. The layout of streets is basically the same as today. The fringe belt at this stage were similar to those of early Pingyao, distributing inside the city. Because of the chessboard pattern of blocks and the non-circle distribution of institutional land in the city, the belt was not apparent.

Important changes occurred in the middle and late Qing Dynasty. During this period, the original street structure remained unchanged, chessboard-shaped streets divided the area into neat and bustling neighborhoods. At the end of the Qing Dynasty there were 88 county roads in total, which were in chess-like distribution. The improvement of the street system coincides with the identity of the political center of Shangqiu, and has a very active economy. The difference was that most of the blocks at this time were occupied by a single plot, forming a different situation from the fringe

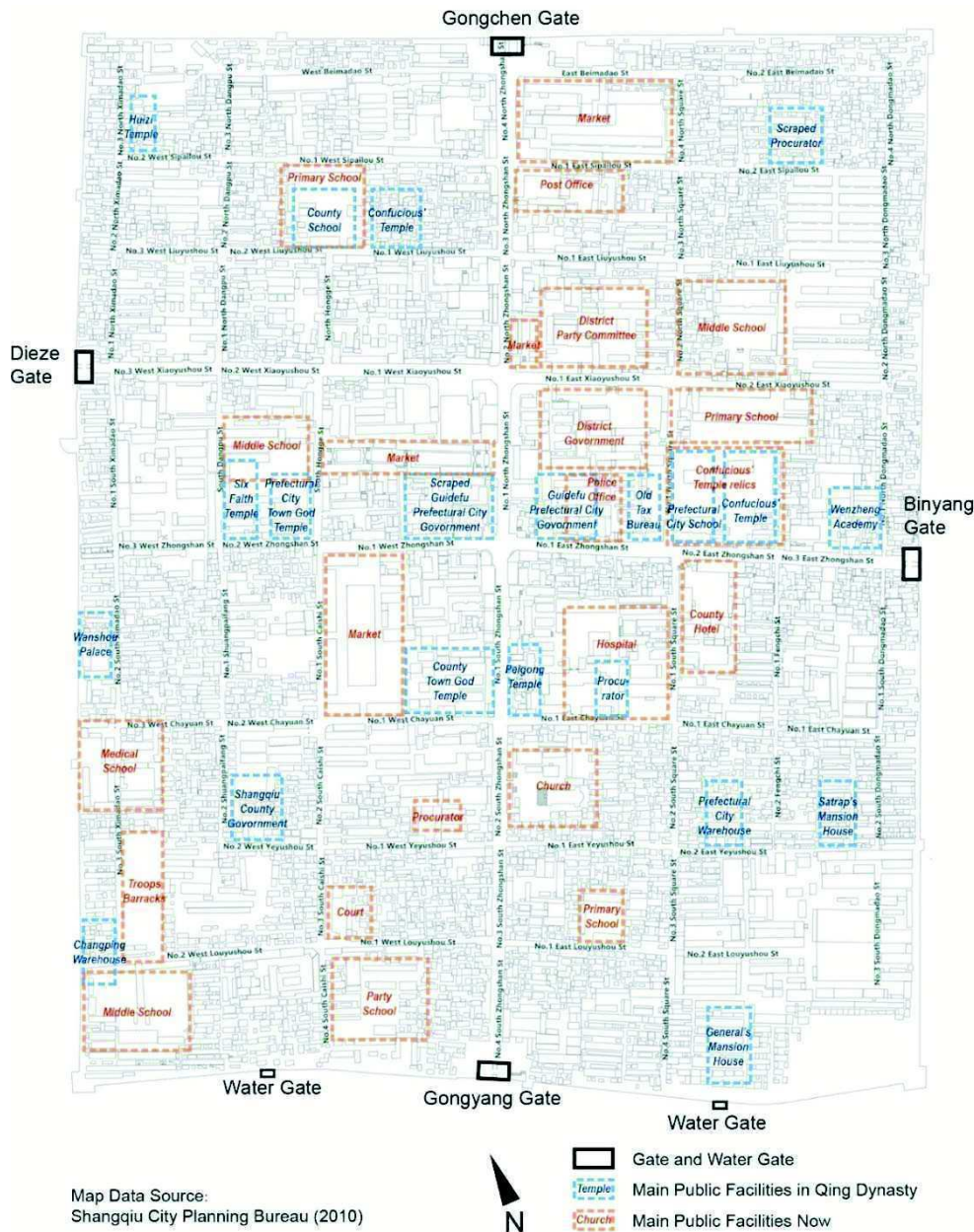
belt in Pingyao. These plots were mostly houses for the dignitaries, each occupying half a block to one block, and some families even have multiple properties, occupying the vast majority of neighborhoods except government agencies, religious institutions, public institutions and so on. They merged small plots as their own family homestead with the power and commercial operations, and these large houses were in the form of traditional Chinese courtyard. Compared to the limited living space the city left to civilians, a humble surrounding residential area formed inside of the city wall.

#### Characteristics of the Early Fringe Belt

In this period, the fringe belt of Shangqiu showed a strange feature. On the one hand, the large number of large plots in the city were distributed in such an orderly way that the method of identifying the fringe belt through the large plots became invalid. Instead, the characteristics of large plots corresponded to the core of Shangqiu county. On the other hand, there were 54 towns outside the city, distributed in all directions outside the ancient city. The widespread distribution of towns showed that the urban economic life and housing construction had broken through the constraints of the two fixation lines, which extended to the outside of the city. But this practical sense of the urban fringe was not characterized by the large land and institutional land, except the religious and memorial sites which already existed for a long time, Yingtian Institute and so on. This made it need further distinction and discussion that how to define the fringe belt of Shangqiu at this stage.

This trend, which had some differences from the existing characteristics of the fringe belt, changed again in the late Qing Dynasty and the beginning of the Republic of China, turning to the similar characteristics of the fringe belt in the early industrialization of Pingyao. At the end of Qing dynasty, after the establishment of modern industry and the spread of western ideas brought by western missionaries, the city had carried out the construction of a large number of modern factories, churches, schools, hospitals which centered on Shangqiu ancient city.





**Figure 3**

The distribution of public institutions inside Guidefu City in Qing Dynasty and today.

There were indications that the development of Shangqiu during this period experienced a process from developing inside of the walls to being partly restricted by the walls and then to breaking through the walls, in which the characteristics of the early fringe belt were not preserved completely, but were covered or filled by the large-block institutions and residence which were not easy to identify. Until the socio-economic institutional changes at the end of Qing Dynasty, a new round of

large factories, schools and other construction made the ancient city of Shangqiu reshore the same characteristics of the fringe belt as Pingyao and some Western cases. The ambiguity and reappearance of this fringe belt reflected the impetus of urban form evolution, including the administrative system and property right, which were different from the western marketization and property rights. The property rights were weak in China, which made the pattern of construction before the emergence of the wealthy class who could

buy the complete plots could not possibly be preserved in the early period.

### The Period of Socialist Construction

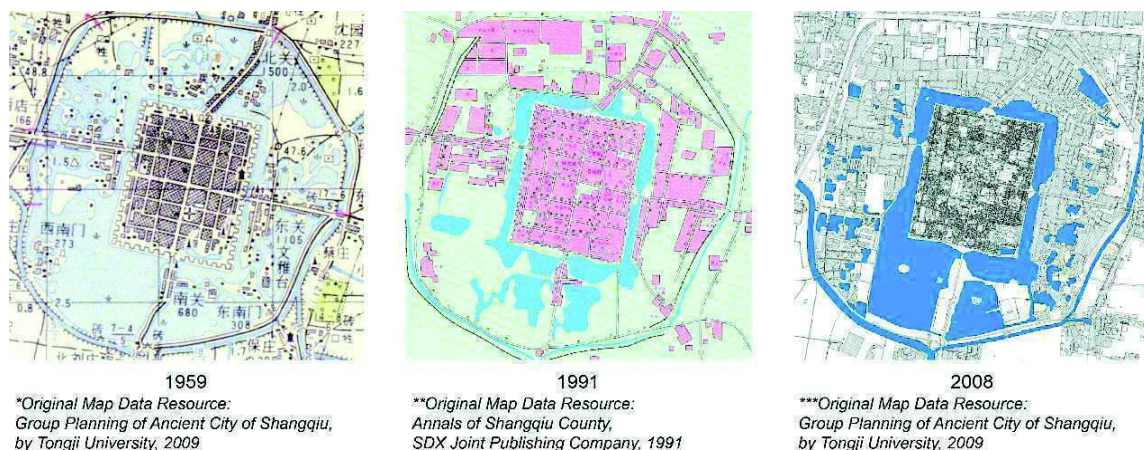
The construction and destruction of the ancient city

In 1949, the People's Republic of China was established, bringing the revolutionary transformation of the social economy. The original mixture of feudal society and capitalist society was gradually replaced by new socialist construction. Its economic relations and social structure changed at the same time, and unique spatial characteristics were left behind during this period. But at the beginning of this change, remarkable spatial changes did not happen immediately with the establishment and implementation of the socialist system. On the contrary, during the early period of the establishment of the system and a long time after that, the rate of changes were as slow and gradual as the previous hundred years.

During the early period of the establishment of the socialist system, the social structure and economic relations changed first. Since the new regime eliminated the remnants of capitalist political and economic relations as much as possible, it was not legal for the private courtyards in the city to be declared, which were confiscated and used as government agencies and other public utilities, or assigned to urban residents who were average in

economic condition but clear in political condition. Around 1960, the construction of the city was still strictly subject to the unified plan of the government, and the landscape did not change a lot inside and outside the city. The architectural style of the Soviet factory which was different from the ancient city walls and the new surrounding houses also supported that the construction scale of this period was not big to some degree.

During the Great Cultural Revolution, although some of the cultural relics remained destroyed by wanton destruction, the overall pattern of the city had not been greatly damaged, and most of the city housing was preserved because confiscated by government agencies. But with the end of the Cultural Revolution, urban residents who had been forced to live in the countryside (in other words, exiled) returned home, but their original housing had been reassigned to other people for political reasons, making this part of the residents lose their homes and had find new houses. At the same time after the reform and opening up, the rural surplus labor force coming into the city increased the demand for housing and pressure for land supply. Under such pressure the government had to acquiesce in the filling the moat from outside to inside and house construction, and some settlements were even built on the embankment of the outer city. Just in a few years, the original thousands of acres of water were reduced to only a few hundred acres, leaving only the south side of the water surface close to the original area.



**Figure 4**  
The change of built-up area and water area of Guidefu City.





**Figure 5**  
The condition of buildings inside Guidifu City.



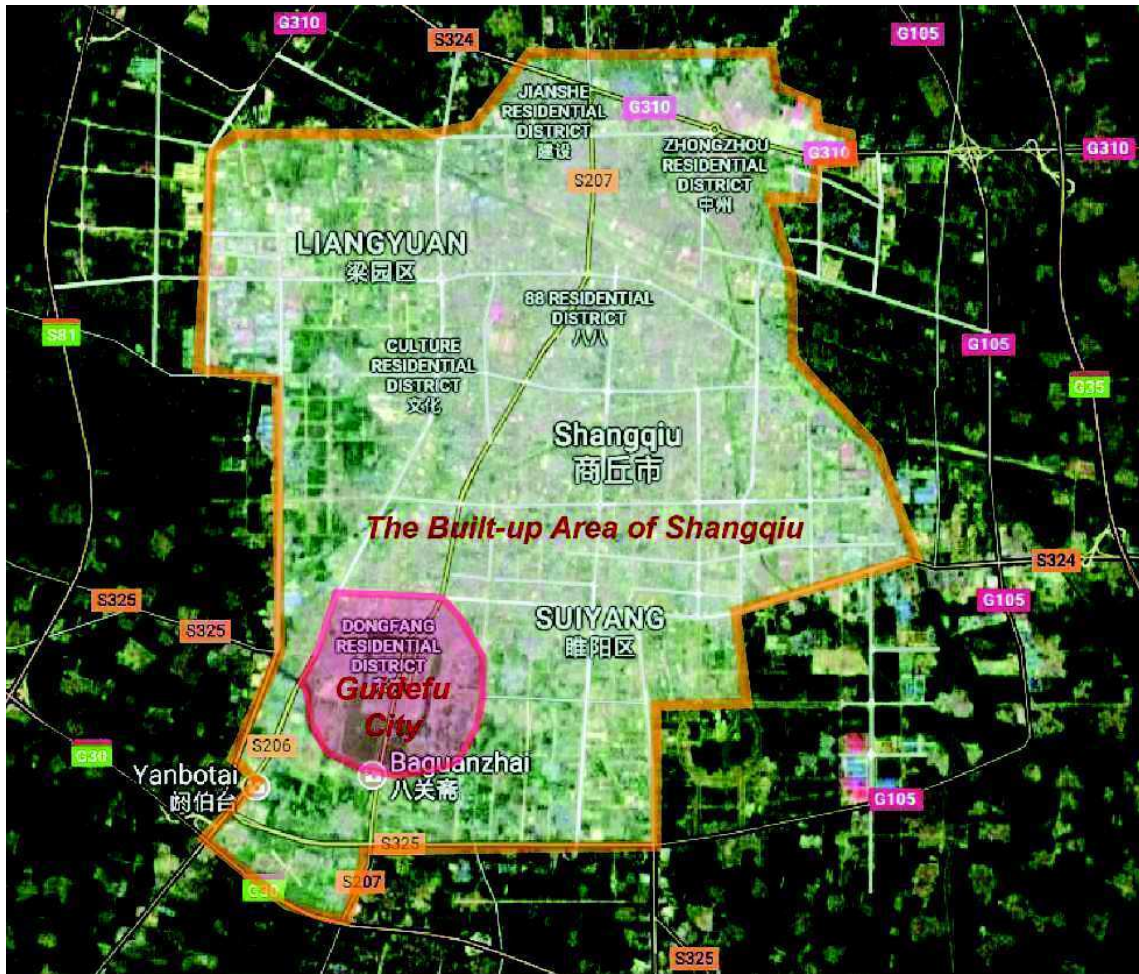


Figure 5

**The relationship between the ancient city and the modern urban area.**

The dramatic changes of the pattern of the city began in the early 90s of last century, when Shangqiu ancient city had not been included in the National Major Cultural Relics Protected Unit and its historical and cultural value had not been recognized yet. So the demand for the reality of utilitarian went beyond the old pattern and lifestyle. The urban large-scale transformation began. New administrative officials started the demolition and construction, during which broadening the North-South Street was the most important representative. The original North and South Street was as wide as the gate, but with the demolition and reconstruction of all the buildings on both sides of the street, the street was widened to two to three times, and antique buildings were rebuilt on both sides of the street. Except the old buildings occupied by government or institutions were retained, most

other courtyards were demolished and re-constructed, and even the Catholic Church, a cultural relics, was reconstructed. This greatly improved the urban density of residential buildings, corresponding to the repletion process.

The transformation of the core of the city and fringe belt.

From the regional scale, Guidetu City completed the process of transforming from the old core of the city into the part of the fringe belt of the more large-scale new city. This change is not the result of natural evolution that city develops and changes along the original site and natural development path, but through the role of the administrative force from the construction of socialist color with Chinese characteristics.

Established in 1969 as an administrative unit, Shangqiu Area manages Shangqiu City, Shangqiu County, which was based on Guidefu City, and multiple administrative units. In the 1990s, the developing mode of this kind ended with the combination of the city, county and district. The newly developed city became the core of the wider range of city. This kind of development model of urban form had resulted in the new stage that the new urban core was established independently outside the old city and the old core became part of the new city with the characteristic of fringe belt. The original edge of the old city core became a part of the urban fringe of the new city as the new city became bigger.

In this context, on the one hand, the ancient city became the southern suburbs of the city. On the other hand, the concept of ancient city tended to be the historical and cultural protection entity unit surrounded by the old city walls. It exists more as an independent unit in the southern part of the city and no more had the meaning of completed city functions which separated the urban and rural area as the fixation line. Because the southwestward development of Shangqiu has been obstructed by the existence of the ancient city, the contact of this direction had to detour around the ancient city.

#### The Period of Rapid Economic Development

After tourism has added huge economic benefits to some ancient towns such as

Pingyao, Taierzhuang, and Wuzhen, the locals, especially the governors have gradually paid more attention to the tourism value of Guidefu city. The representative urban pattern and completed long history become hot spots to attract tourists. But how to place the long history of the ancient city into the physical space to get the prosperity of tourism industry, city governors, planners, the protectors of ancient city and the professors of urban morphology have different ideas.

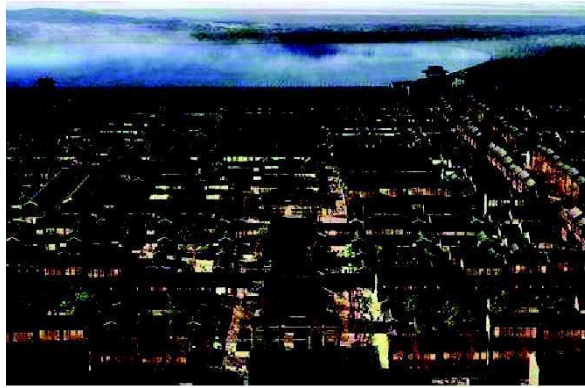
In the new tourism project planning, the constructions inside ancient Shangqiu city will be replaced by well-designed streets and antique buildings which can reflect the style and features of ancient Guidefu city, except for some protected constructions. At the same time, in order to restore the pattern of the ancient Shangqiu city, the moat between the outer city wall and brick city will be restored to the original water area as far as possible, which means tens of thousands of people living in the river area will be transferred to the centralized resettlement area by the government. In a larger scale, the new development center is selected in eastern direction of Shangqiu ancient city which is closer than the original distance to the city core. The infrastructure construction and population agglomeration followed by the new selection of city core will change the existing pattern of the whole Shangqiu city. As a result, the situation of Shangqiu ancient city being the boundary zone of Shangqiu may change again according to further development.



**Figure 7**

The remove of the buildings inside and outside Guidefu City.





*\*Data Resource:  
Constructive Detailed Planning of Guidefu City in  
Cultural Tourism Industrial Parks in Ancient City of  
Shangqiu, by Tongji University, 2014.*



*\*\*Data Resource:  
Conceptual Planning of Cultural Tourism Industrial Parks  
in Ancient City of Shangqiu, by China Architectural  
Design Institute, 2016.*

**Figure 8**  
**The tourism plannings of Guidefu City.**

## Conclusion

Among Chinese urban morphology researches, Conzenian Theory and Approach are faced with the lack of data and different culture backgrounds, it still has important guiding role in Chinese urban morphology research. While when applied for cities with different social and cultural backgrounds, the use of Conzenian Approach has limitations and differences. So we need to do the examination of its applicability and modify the existing theory according to the different object of the study. When based on the discussion of Chinese urban morphology evolution and empirical analysis of ancient Shangqiu city case, the researches have the following preliminary conclusions:

1. The different temporal resolution exists in the division of the morphological period.

In the division of the Chinese morphological period, there is often the phenomenon that the longer the time from now, the longer the form period is and the more blurred the boundary is. Two reasons have caused this phenomenon. On the one hand, despite many dynasties have changed, the urban form did not fundamentally change in the history of the development of ancient city. Until the modern China, the social and economic environment began to frequently replace, the city goes through unique urban form period. On the other hand, with the details of the literature and map data increasing along the development of time gradually, only in a very short time scale, there is enough

information providing enough strong research support. So, the division of the morphological period is also subject to the availability of information restrictions.

2. There is no direct relationship between Chinese urban fringe and city walls.

City walls are often the earliest elements of ancient Chinese cities with a long period of stability. However, in the early stages of urban development, the internal walls of the city are often not filled with the constructions which will retain more space for the following development. At the same time, the characteristics of ancient Chinese city edge belt and large land, institutional land are different from those of western city edge belt. Because the layout of large institutions land, including ancestral temple, government and school has strong relationship with feng shui, they are not always placed in the edge area of the city. As a result, the lands with the characteristic of the urban fringe in Chinese ancient city tend to be the representation of a specific period of administrative decrees and legislative system under the urban construction.

3. Administrative order plays an important role in the evolution of Chinese urban form.

Because of the recognition of public power and the lack of individualism in Chinese cultural traditions, administrative orders inevitably affect the development process of Chinese cities. Administrative orders play an irresistible role in Chinese cities from the site selection, planning, construction and dressing

processes. Checkerboard street pattern and the land structure which doesn't maximize the economic benefits won't exist under the Western private property protection system and the operation of the market mechanism of the city. After the founding of new China, although the administrative order is not always different with the direction of the city in the free development, administrative orders of city build, migration, and reconstruction are still one of the most important factors in the evolution of form of China

The process of the evolution of Chinese morphological cities has different processes and results from the western cities. China's long history and varied cities also provide a broad space for urban morphology research. The study of the evolution of urban form in China will enrich both urban morphology theories and methods.

## Reference

- Whitehand, J. W. R. and Gu, K. (2007) 'Extending the compass of plan analysis: A Chinese exploration'. *Urban Morphology* 11(2):91-109.
- Shi, C. H. (2014) 'Agent and Morphological Process: the Urban Morphology Study of South Gong and Drum Lane District in Beijing after 1949'. Peking University, China.
- Conzen, M. R. G. (1960) *Alnwick, Northumberland : A study in townplan analysis* (Transactions & Papers (Institute of British Geographers), London).
- Gu, K. (2001) 'The theory and method of urban morphology--exploring the comprehensive and rational research framework'. *City Planning Review* 25(12):36-41.
- Tian, Y. S., Gu, K. and Tao, W. (2010) 'Urban morphology research and urban historical protection planning'. *City Planning Review* 34(4):21-26.
- Whitehand, J. W. R., Gu, K. and Whitehand, S. M. (2011) 'Fringe belts and socioeconomic change in China'. *Environment and Planning B: Planning and Design* 38(1):41-60.
- Whitehand, J. W. R., Conzen, M. P. and Gu, K. (2016) 'Plan analysis of historical cities: A Sino-European comparison'. *Urban Morphology* 20(2):139-158.
- Song, F. (2013) 'Study on the utilization mode of Mount Lu cultural landscape process: based on Kuling town as an example'. (Given on World Cultural Heritage Site in East Asia -- Mount Lu Forum)
- Zhang, J. (2012) 'A study on the form of Guangzhou traditional urban blocks from the perspective of Conzenian School'. South China University of Technology, China.
- Whitehand, J. W. R. and Gu, K. (2007) 'Urban conservation in China: Historical development, current practice and morphological approach'. *Town Planning Review* 78(5):643-670.
- The Compilation Committee of Shangqiu County. (1991) *Annals of Shangqiu County*(SDX Joint Publishing Company, Shanghai).
- Chen, Y. Z. (1994) *Annals of Shangqiu County*(Zhongzhou Ancient Books Publishing House, Zhengzhou).
- Chen, X. L. (1994) *Annals of Guidefu Prefectural City*(Zhongzhou Ancient Books Publishing House, Zhengzhou).
- Deng, H. and Fa, N. Z. (2016) 'Morphogenetic Analysis on Spatial Structure of the Guidefu City'. *Scientia Geographica Sinica* 36(7):1008-1016.
- Shangqiu City Suiyang District Records Compilation Committee. (2012) *Annals of Shangqiu City Suiyang District: 1986-2003*(Zhongzhou Ancient Books Publishing House, Zhengzhou).
- Tongji University. (2009) *Group Planning of Ancient City of Shangqiu*(Formal City Planning).
- China Architectural Design Institute. (2016) *Conceptual Planning of Cultural Tourism Industrial Parks in Ancient City of Shangqiu*(Formal City Planning).
- Conzen, M. R. G. (2004) *Thinking about urban form: papers on urban morphology, 1932-1998*(Peter Lang, Pieterlen and Bern).
- Tongji University. (2009) *Regulatory Detailed Planning of Ancient City of Shangqiu*(Formal City Planning).
- China Map Study Group. (1975) *Chinese History Atlas*(Sinomap Press, Beijing).
- Tongji University. (2014) *Constructive*



Detailed Planning of Guidefu City in  
Cultural Tourism Industrial Parks in Ancient  
City of Shangqiu(Formal City Planning).