ID 1316 | THE CHANGE OF URBAN SPATIAL FORMS AND ITS INFLUENCING FACTORS – FROM TOWN PLANNING TO COMMUNITY EVOLUTION

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1 INTRODUCTION: THREE TYPES OF FORCES IN SPATIAL PLANNING

Since the 1980s, the Urban Regime Theory, which interprets the influencing factors affecting urban spatial forms was initially proposed in the U.S. Because of this theory developing a new way to interpret urban forms from the perspective of social science, it occupies the dominating position in the system of urban study theory. The founders of this theory, Logan and Molotch (1987) maintained that these factors could be concluded as three types of forces, which represented the interest of governing party, financial group and community organisation. Meanwhile Stone (1989) pointed out that the coaction of these forces decides most urban spatial forms at the material level. Based on their views, the aim of this essay is to interpret how the change of spatial forms is affected by each force and how these forces interact in deciding spatial form evolution. To start with, the theoretical model of urban regime theory will be introduced. Then, two cases about new town planning in UK will be discussed to evaluate the change of spatial forms and the different spatial characteristics caused by each force. Furthermore, the interaction of three forces in spatial evolution will be interpreted through the studying case in China. Finally, new conceptual model will be proposed, which could explain the relationship among three forces in influencing urban spatial forms. The conclusion indicates that the urban spatial forms are affected by three types of forces reflected in different aspects mainly including spatial structure, transportation system, land shape, land-use, density and accessibility of infrastructure etc. Depend on it, the cause of different spatial forms could be explained much clearly.

1.1 PRINCIPLE STRUCTURE OF THE URBAN DYNAMIC MODEL

According to the Urban Regime Theory, the Shaping and changing of urban forms is the reflection of three forces' interaction. To illuminate this interaction, the American scholar Zhang (2001) proposed two dynamic models which referenced the mechanical principles to analyse the interaction more visually. Through the perspective of urban dynamic model, each case could be analysed in more systematic way. More important, it becomes possible to compare spatial form with each other to evaluate their similarity and difference in unified standards and conclude the influencing factors.

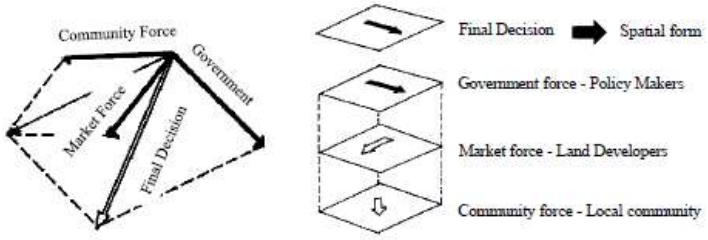

Figure 1 - Resultant force model1 | Figure 2 - Covering force model2 .Source: Zhang, T., 2001. The Urban Restructuring of Chinese Cities in 1990s and Its Dynamic Mechanism. City Planning Review, 7, pp.7-14.

[1] In the resultant force model, each force is defined as equal weight in the resultant force model. The 'final decision' will be decided by the parallelogram rule of forces. For the reason that government force, market force and community force could usually occupy different weights, covering force model is created.

[2] In the covering force model, three forces possess unequal weights. At the same time, the decision order is adopted according to the order that the government force has the most powerful impact while the community force has the weakest impact. The force has covering feature which means the force with larger weight and higher decision level could cover other forces with smaller weight and lower decision level.

1.2 TIME AXIS IN CASE RESEARCH

The time span of this research mainly focuses on three periods (Figure 3). From 1950s to 1970s, three generations of new towns were built with different planning strategies because of changed government policies (Rydin, 1998). Around the same time, the Caoyang Xincun in Shanghai was built for working class. The community form had minute change before 1990s and after that housing policy had passed structural adjustment to accommodate market-economy regime (Goldman, 1997). Although these cases have different developing background, their form changing could be explained in the same method.

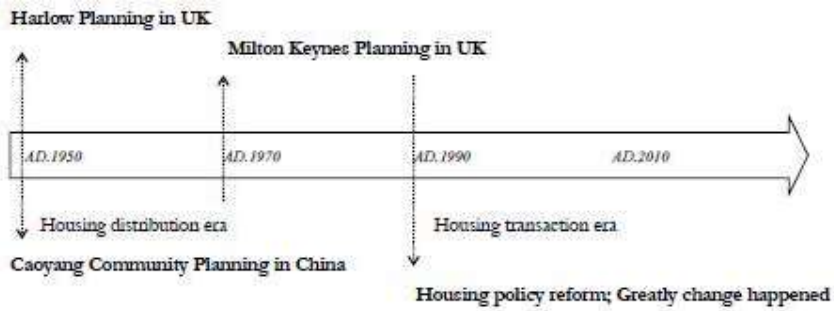

Figure 3 Time axis in research[1]
Source: author supply.

2 EVALUATION: THE CHANGE OF NEW TOWN PLANNING

2.1 NEW TOWN PLANNING OF HARLOW AND MILTON KEYNES

In 1946, The New Town Act was passed by Parliament of UK, which provided a basis for the planning and building new towns to solve the main social problems after war, such as housing shortages and economic rehabilitation (Marmaras, 2014). The new town planning is usually classified as three generations. Harlow is the typical example in the first generation from 1946 to 1950, while Milton Keynes has the same statues as Harlow in the third generation from 1967 to 1970s (Sun, 2007). Generally speaking, the first generation of new town was theoretically affected by Garden City to achieve better living environment (Gibberd, 1965). Firstly, the Harlow planning arranged lower population density. Meanwhile, residence zones and industrial zones were strictly planned in separated districts with large scale. In addition, the road structure consisted of ring roads and radial roads, which were planned to strengthen the connection between each residence zones (Figure 4).

In contrast, Milton Keynes planning created more different spatial forms (Figure 5). It primarily resulted from the increasingly social demands for various public facilities. Compared with the Harlow planning, the scheme emphasised on the integration of spatial function. What's more, the convenient connection with intercity transportation was recognised as key factors to build more successful town. At same time, ring roads and radial roads in previous case were replaced by the gridiron road system to improve the transport efficiency. Overall, the different spatial form between Harlow and Milton Keynes could reflects the change of social demands and concerns (Sun, 2007).

[1] The Harlow and Milton Keynes are the representatives of first and last generation of new town, which show the significant difference in spatial forms.

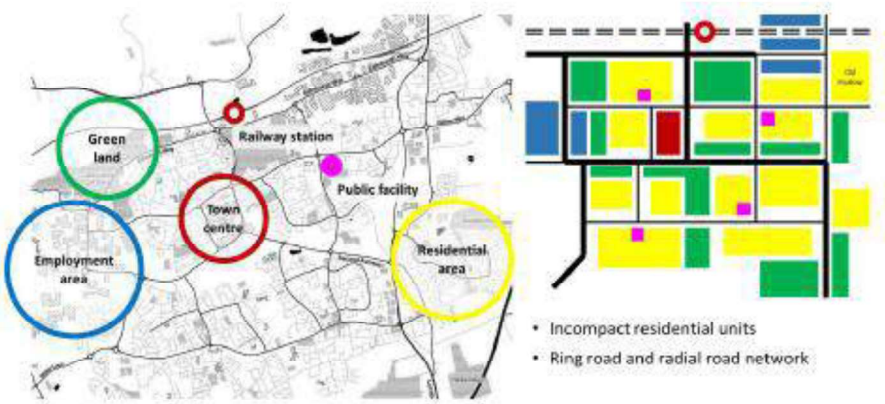

Figure 4 – Spatial characteristics of Harlow; Source: author supply.

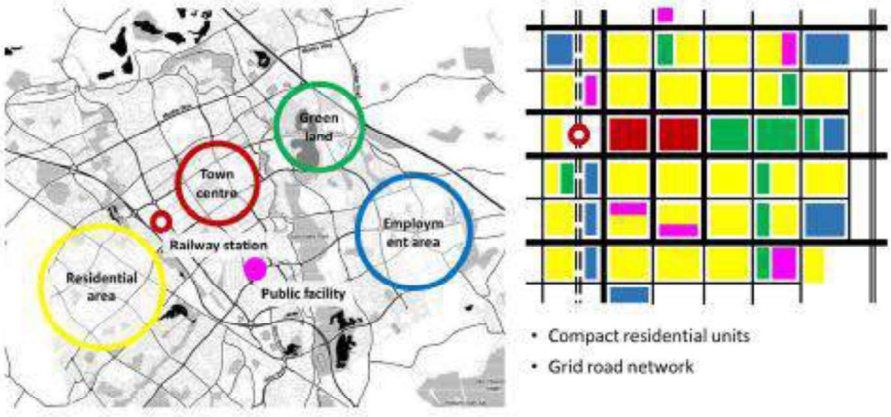

Figure 5 - Space characteristics of Milton Keynes; Source: author supply.

2.2 CHANGES OF PLANNING AFFECTED BY THREE FORCES

Based on the force model, the previous planning may be affected by government force, market force and community force. Each force could have its particular influence on the spatial forms (Figure 6 & Figure 7). Through the comparative analysis in general community unit, the influencing mechanism could be revealed to some extent.

Figure 6 - One community unit in Harlow | Figure 7 - One community unit in Milton Keynes; Source: author supply.

2.2.1 THE GOVERNMENT FORCE

At first, the new town planning was recognised as a positive method of dispersing the population and creating better living environment for the working class. But from 1950s to 1970s, the motivation of planning new towns changed to developing the underdeveloped areas. To meet this economic development target, larger towns were planned which involved more diversified urban facilities. The new town was not just considered as a lager neighbourhood where to live, but also a small city which could provide most of employment opportunities to the residents (Duany et al., 2003). A modern city centre was planned with typical gridiron road system which was convenient to organise various function zones. Therefore, the government force could more focus on solving social developing problems, constructing the spatial structure and distributing the important infrastructures of whole transportation system (Figure 8 & Figure 9). The force is also frequently changed to accomplish policy target which may be recognised as key factor to develop the society by policy-makers.

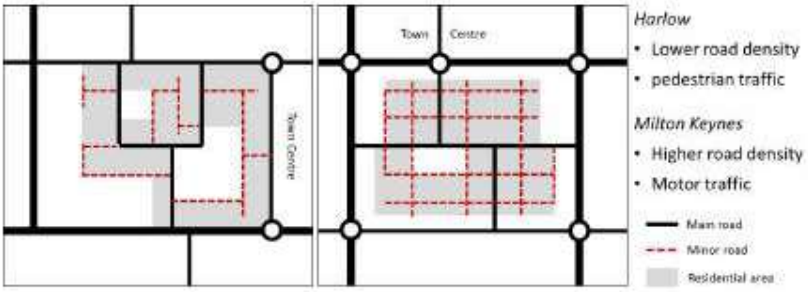

Fig.8: Spatial structure of Harlow; Fig.9: Spatial structure of Milton Keynes;
Source: author supply

2.2.2 THE MARKET FORCE

The second point is about market force's effects. It had weak influence in the Harlow planning, while the force showed vital effect in the Milton Keynes planning (Figure 10 & Figure 11). With different from the government force, the target of market force is normally constant which is acquiring the largest profits. So the land value is one of the most important factors focused by the market force, which means the land could be divided into smaller pieces and more regular shapes. Moreover, the land-use density trends to be as high as possible to heighten the benefits and the mixed function zones could increase the value of land as well.

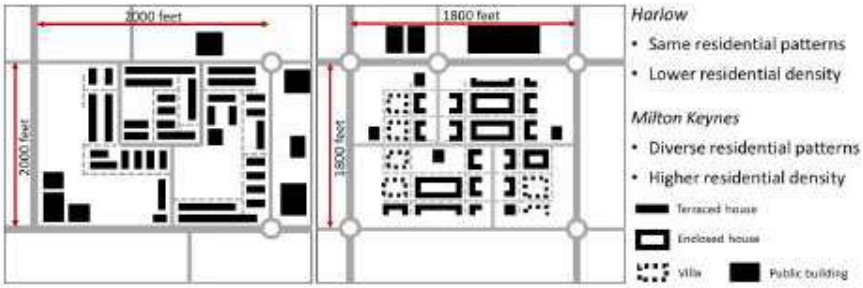

Fig.10: Building pattern of Harlow; Fig.11: Building pattern of Milton Keynes;
Source: author supply

2.2.3 THE COMMUNITY FORCE

The last force is easily ignored by the other forces, but it plays an important role in ensuring the residents' concern because the community force reflects the intention of commons and their benefits. Usually, it emphasises on the equity to use most of public facilities and have comfortable living environment, which was obviously embodied in the case of Harlow (Figure 12 & Figure 13).

All in all, the three types of forces could show their specific effects in the planning schemes, especially on the spatial structure, land development and living environment. Similarly, their effects are also evidently reflected in the urban renewal, especially in the community renewal.

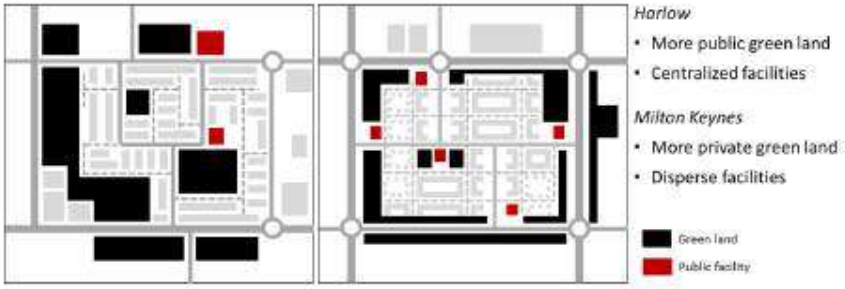

Fig.12: Open space of Harlow; Fig.13: Open space of Milton Keynes;
Source: author supply

3 INTERPRETATION: EVOLUTION OF URBAN COMMUNITY IN SHANGHAI

3.1 COMMUNITY EVOLUTION OF CAOYANG XINCUN

The effect of community force is accompanied by the growth of a community in normal conditions. Without a long period of community development, the community force could not have the apparent effect in deciding urban spatial forms (Gaubatz, 1999). The spatial evolution of Caoyang Xincun would help to interpret how does the interaction of three force affect the community form.

As the first-built community for the working class in China since 1950s, the planning and construction of Caoyang Xincun in Shanghai shows the greatly attention to common class given by central government (Wang, 1956). Because of its sixty-year development, the spatial form in Caoyang Xincun contains diverse types. Broadly speaking, the spatial form in Caoyang Xincun has changed from a single form to diverse forms especially after the 1990s when the housing policy changing from housing distribution system to housing transaction system in China (Figure 14).

Figure 14 - Spatial forms in 1980s and 2010s[1]; Source: author supply.

[1] In the figures above, the red colour means the building forms changed compared with different periods in Caoyang Xincun. For example, the early-stage terraced house was intermittently built from 1950 to 1977. Since 1978, the alteration and addition of terraced house has become more common. After 1992, the high-rise residential building began to replace the terraced house gradually.

3.2 INTERACTION OF THREE FORCES IN DECIDING COMMUNITY EVOLUTION

Resulted from sixty-year housing construction, the form change of Caoyang Xincun may show as the natural growth in disorder. The housing policy reform in the late 1980s destroyed the former warfare housing system which meant that the land development was not just decided by the government. At the same time, the commercial capital began to be involved in urban expansion and renewal (Wang et al, 2015).

3.2.1 THE GOVERNMENT FORCE

Briefly speaking, the evolution of Caoyang Xincun could be divided into two periods due to the housing policy reform in the late 1980s. During the formative period from 1950s to 1970s, the spatial structure took shape basically. From 1970s to 1990s, the extension forms become the mainstream gradually to meet requirement of increasing population. It could be concluded that the government force was the dominating force at that time to raise the housing numbers directly and ignore the living environmental quality for residents. It is probably because of the social contradiction concentrating on solving housing shortage crisis. Meanwhile the market force did not exist in housing distribution system during the formative period.

3.2.2 THE MARKET FORCE

Oppositely, Since the end of 1980s, the housing privatization regime and land marketization regime was set up, the market force showed powerfully influence on increasing the spatial density through the way of reconstructing the old neighbourhood and purchasing the industrial lands for real estate development. It could be recognised as the influence on spatial forms resulted from the growth of land value, because of the rapidly urbanisation in Shanghai greatly promoting its location superiority.

3.2.3 THE COMMUNITY FORCE

In addition, the community force shows its unique influence on the aspect of community management through the local authority. For instance, each piece of reconstructing land is required to build more public service facilities and more green land needs be redesigned in most old neighbourhoods.

To sum up, the early spatial forms was basically decided by the government force, which led to the unified spatial structure and similar housing forms. After the housing policy reform, the change of spatial forms was primarily effected by the final decision combined with the government force and the market force, which led to the rise of residence density and social stratum polarization. Besides, the community force begins to show its influence in some community renewal issues.

4 CONCLUSION: THE CHARACTERISTIC EFFECTS OF THREE FORCES

4.1 SUMMARY OF INFLUCING FACTORS

Depends on the analysis of three typical cases, the difference of changing spatial forms could be summarised into three levels. The first level is the spatial structure and transportation system which is primarily effected by the government force, because the government could centralise the numerous resources to accomplish a policy target in normal condition.

The second level is land scale and land density which is usually decided by the market force. In general, the land value has closely relationship with the location and traffic accessibility, while the land scale and density is the reflection of its value in visible aspect. More valuable land commonly corresponded to smaller land scale and higher developing density, which means gaining more profits.

The third level is the accessibility of using public facility and living environment decided by the community force. It is insignificant during the stage of urban expansion and new town planning, but plays an important role in restricting the market force by directing the resources used for the local public concern.

4.2 CONCEPTUAL MODEL OF INFLUENCING FORCES

Based on the urban dynamic model, a new conceptual model could be created to explain the different spatial forms affected by three forces. In this model, each force's effect could be estimated on the vector axis and their connecting lines form a specific triangle. The red triangle represents the Harlow form with strong government and community force. While the blue one represents the Milton Keynes form with strong market force (Figure 15). On the other side, the green triangle represents the Caoyang form after 1990s compared with the former form in black (Figure 16). In general, the shape of triangle visually indicates the interaction of three forces, which help to explain to what extent they influence the spatial forms.

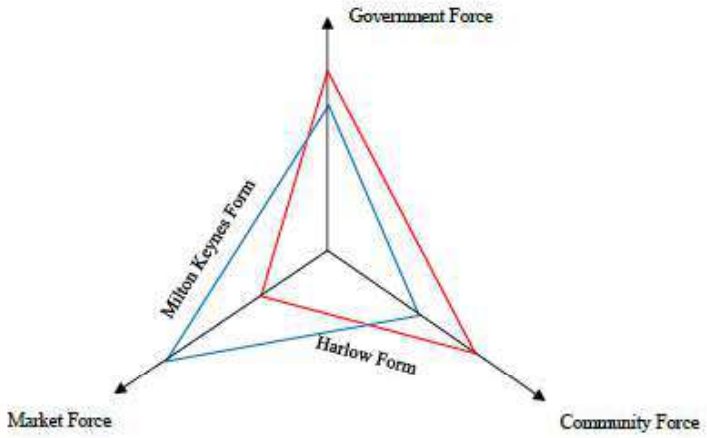

Figure 15 - The conceptual model for explaining different spatial forms in three forces; Source: author supply.

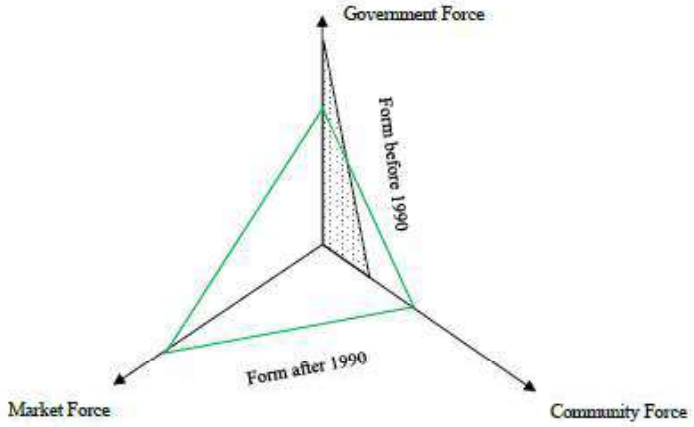

Figure 16 The conceptual model for explaining the change of spatial form in Caoyang Xincu; Source: author supply.

Though the cases analysed in this research essay try to interpret the influencing factors in changing the spatial forms, more materials need to be considered in various conditions to modify this conclusion. It could be concluded that the urban spatial forms are effected by three forces together through the regional planning and renewal. Under the effect of three forces, the urban society may be reconstructed with the change of urban forms as well. What's more, through the research perspective of three forces, the orientation of spatial planning should be rethought to find the balance point among three forces in dealing with urban development issues.

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ID 1427 | DISSECTING THE URBAN(IZED) BINOCULARS. ´LOOKING AT´ URBAN FUTURES

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1 INTRODUCTION

In current discourses and practices, 'the future' and 'the urban' are frequently connected: our society's future is expected to be 'urban', and, accordingly, the anticipation of futures for our cities and urban-society-to-come proliferates (e.g. Glaeser, 2011; Gleeson, 2012). In the practices and processes of such 'urban futuring', the discipline of urban planning plays a central role. By its very nature and functionality, urban planning engages with the 'not yet' of the city (a.o. Connell, 2009; Hillier and Healey, 2016). Indeed, today, urban planners together with a diverse range of stakeholders increasingly engage in anticipations for our urban futures: how will our cities and the urban-society-to-come look like?

Thus, it is common in urban planning to look into the future of cities and 'the city' more generally. Typically, an urban planner looks forward in time, to have some kind of impression of what the urban future might bring, and subsequently, hopes to influence and give direction to that future through the decisions and actions of planning in the present (Connell, 2009). Alongside and combined with more standardized procedures and tools, planners today have a variety of foresight methods and techniques at their disposal for their anticipatory action, ranging from forecasting and backcasting to envisioning and scenario-making (e.g. Ratcliffe and Krawczyk, 2011). To a greater or lesser extent, many planning efforts in this way aim to anticipate, to 'foresee', what the future city or city future will be like. As such, they are in various degrees