

論文の内容の要旨

論文題目 Diversification and Localization in Transformation
Process of Urban Morphology in Major Cities of China
(中国の大都市における都市形態の変容過程にみる多様
化と地域化に関する研究)

氏 名 劉 健 琨 (LIU Jiankun)

China is an ancient urban civilization that embraces historical continuity, but with an unprecedented modern urbanization process. As the urban form is a result of planning concepts, aesthetic and techniques of the particular times, the dual aspects of China's urbanization process have brought drastic changes to the transformation process of urban morphology. Various spatial patterns coexist in one city, at the same time. The complexity and uniqueness of Chinese urban form, require clarification.

Some Chinese cities are facing with a problem of “becoming ‘placeless’, with ‘international-style’ architectures and characterless urban spaces”, as a result of the high-speed urbanization in similar techniques and aesthetic. Hence, clarifying the connections between the old and the new forms contributes to solving the “monotone” and “a loss of identity” in urban morphology.

China adopts a relatively united and continuous history, mainly rooting in domestic and traditional culture. Meanwhile, cultural interaction with other countries happened for some times, actively or passively. Internal forces and external influence can be found in shaping Chinese urban form, causing a unique transformation process with “diversification” and “localization”. Hence, to clarify the mechanism of Diversification and Localization process of urban morphology is efficient in reading Chinese cities. It will guide the future application of traditional inherent patterns and foreign imported patterns critically.

The city can be ‘read’ via the medium of its physical form, within which urban structural elements are the foundation, for their high unchangeability once being constructed. Streets, as the ‘skeleton’ of urban structure, is the frame for creating urban form. While, blocks, as the ‘basic unit’ making up urban form, can be called a city’s DNA. They shaped urban form through two dimensions: 1) diversify cities through initial planning 2) differentiate in long-term transformation. Moreover, as a bridge connecting the macro and microscope, street/block-scale analysis is potential for analysis on both human level and city level. Hence, street/block patterns have a pivotal role as the concrete clues to visualize the urban morphological transformation process, by means of both diachronic and synchronic analysis.

This research aims to investigate the transformation process and current conditions of urban physical form in major Chinese cities, from the view of diversification and localization, to clarify: 1) The origin, influential relationship and current significance of the inherent urban pattern and the imported urban pattern. 2) How the inherent urban pattern from traditional Chinese culture diversified in the long-term process of urbanization and globalization. 3) How the imported urban pattern from foreign culture localized into different Chinese urban context, diversely developed in different cities and shaped these cities in different ways. 4) Connections, potentials and limitations of the above processes in current urban planning and design.

Hence, the mechanism of diversification and localization in transformation process of urban morphology in major cities of China is clarified. It provides a concrete angle in street-block scale by time-and-space-dimensional reading of representative cities, to make the urban morphological transformation more legible. It contributes to solving the monotone in city images in the flow of industrialization and globalization, as well as sustaining local traditions as an essential part of urban identity.

The overall structure of the research takes the form of seven chapters.

Chapter 1 introduces the research background, objectives, definitions, framework and previous research.

Chapter 2 begins with the multiple sources of Chinese urban forms, sorting out the representative patterns, and clarifies their inheriting relationship, time sequence, and current issues, from the view of culture inheritance and importation. The investigation is not limited in Chinese urban context, but also in the world, proposing a whole view of specific patterns as prerequisites for clarifying their “diversification” and “localization”. The grid plan of dualism or hierarchy, which has been inherited through ancient times and the unprecedented urbanization, can be considered as the inherent pattern. Its inheritance tends to be a "game" between "hierarchy" and "homogeneity." Its diversification process and dynamics were clarified in Chapter3 and Chapter4. The Baroque ring-radial space, as a totally “exotic” from foreign culture, results from passive urbanization with colonial background. Its form and functions changed constantly with urban development worldwide, making them still irreplaceable in current urban context. It was imported into China when its symbolism was endowed with more practical functions, adding a tendency of pragmatism in the Chinese cases. Its localization in Chinese cities was clarified in Chapter5.

Chapter 3 focuses on the representative inherent pattern, grid blocks, investigating their formation and the relevant urban planning principles that regulate block form, at national and local level, with a case study of Beijing, China. The possible influence is revealed, contributing to addressing the mechanism and dynamics of form diversification in Chapter 4. Grid blocks were initially constructed in ancient times, but were hardly inherited completely, giving Beijing an impression of "massive uprooting and demolition." As the urbanization in Socialist planned period was rapid but rough, the blocks were mainly completed in 1982-2004 under social marketing economy. In addition, block boundary and inner subdivision were not

constructed orderly within a certain period of time. Their formation covered a long-time span, complying with principles of different periods. Moreover, principles at national level addressing realistic health and safety issues more than physical shape and spatial perception, are lacking in clear definition of "block" for a long time, resulting in few quantitative regulations. While, the ones at local level in Beijing have changed substantially according to urban development stages influenced by regime, social structure and foreign theories etc. Principles lack continuity to some degree, and some of them contradicted previous versions.

Chapter 4 continues the analysis on grid blocks in Beijing, targeting at revealing their current conditions and transformation, to clarify how and why the grid blocks diversified from the inherent archetypal pattern, from two layers: the primary block-boundary layer, and the detailed inner-space layer. First, five morphological clusters were classified based on 7 indicators. Grid blocks with high variety coexist in limited linear distribution in Beijing, showing an incredible sense of contrast. Second, the diversification in block-boundary layer related to block size and shape regularity. Block-boundary layer in Beijing shows large difference from the regular grid network in western cities. It adopts larger size and lower regularity, inherited from traditional Chinese grid. Block size related to urban planning principles, while, block shape regularity corresponded more to its location in Beijing. Both indicators adopt large variation, reflecting the spatial contrast. Also, when the large size resulted in higher diversification in inner-space layer, smaller size correlated with higher density, especially in commercial areas. Third, the diversification process in the inner-space layer, related to road network density, building density and subdivision pattern. The building intensity connected with road density following planning principles' transition, but had a rather reversed tendency with building compactness. Subdivision pattern strengthened the spatial contrast and the re-subdivision process stimulated the diversification inside blocks, because of the existing irregular inner pattern. Multiple factors and dynamics in time and spatial dimension resulted in the diversification.

Chapter 5 investigates the transformation process and current conditions of Ring-radial Spaces and Rotaries (RS&Rs) as representative imported pattern. It clarifies how the RS&Rs localized with Chinese urban context and diversely developed in different cities, by comparative analysis between Dalian and Changchun, China. First, by investigating the urban planning timelines, with natural and social conditions, it revealed that different natural conditions, city positioning, and the application of multiple modern urban planning theories led to landscape-oriented RS&Rs with random distribution in Dalian, and monument-oriented ones with ordered arrangement in Changchun. Second, RS&Rs correspond to the urban sprawl process and are continually implemented as a planning icon. It is suitable as a clue for understanding the urban development process from the perspective of both time and space. Third, cities showed different preference in morphological types with respective functions according to locality. However, their transformation lacks unity and identity inheritance, which manifests as the lack of connective relationships between the RS&Rs in Dalian, and as the loss of activity function in Changchun. Moreover, both cities

transformed with original building fabric changing around RS&Rs. It can be considered as a procedure of localization adapting to local conditions, but it can also be considered as a loss of conceptual inheritance of imported pattern. Therefore, exploiting distinctive characteristics and emphasizing the inheritance of RS&Rs critically must be considered in future.

Chapter 6 redefines “Diversification” and “Localization” in Chinese urban morphological transformation. The inherent block pattern and the imported street pattern were treated as concrete clues for understanding the transformation process of Chinese cities. The mechanism of both processes is clarified and compared.

Diversification refers to: the time differences of urban construction and the subsequent changes appeared after construction, in time dimension; and the simultaneous spatial distribution of “time difference” in urban construction, and the unexpected differentiation in similar construction periods, in spatial dimension.

Localization refers to: a continuity in urban construction from the view of time dimension, and also a continuity in urban sprawl from the view of spatial dimension. It includes the initial integration with local context, as well as its long-term changes in form and functions so as to adapt to cities’ updating requirements.

“Diversification” process and “Localization” process are not separated with each other. They may transform into each other according to the different ranges or resolutions. Their continuous transformation in both time and spatial dimension, were influenced by Internal Forces and External Forces at different time, with different proportion. It leads to a Constancy of Conceptual Inheritance in the Inherent Pattern, but Variability of the Imported Pattern in the transformation process of Chinese urban.

The conclusions and suggestions can be referred by the other cities with similar patterns and background. For cities with traditional grid blocks, strategies need to be proposed hierarchically according to the positioning of block typologies, balancing the inherent spatial configuration and the newly emerging patterns. For cities originating from foreign urban forms, changes in physical form, functions and planning objective require critical examination, avoiding the complete separation between the previous and the new, as well as dogmatic inheritance. The conclusions also help to endow the “Indices-oriented” detailed plans with more social and cultural consideration, optimizing the connection between statutory planning and practical implementation in China.

Chapter 7 summarizes the conclusions and proposals of the research. This research provides new insights on understanding the transformation process of Chinese urban morphology basing on the mechanism of “Diversification” and “Localization”. The inherent pattern shows stronger inheritance in conceptual features, while the imported pattern persists uncertain preferring tendency, with vital changes in forms, functions as well as interact connections. Eventually, 1) a reading approach from diversification and localization is proposed in understanding Chinese urban form transformation; 2) Corresponding proposals are suggested to cities with similar urban patterns; 3) Effectiveness of detailed plan and urban design in guiding practical implementation is possibly improved.