

From Water System to Street System: The Stable Social Logic in the Changing Urban Form

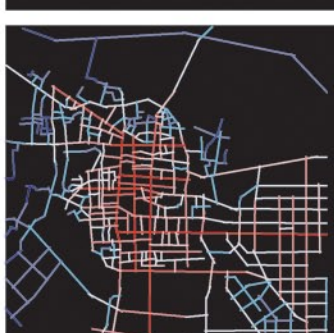
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Maps of the City Shaoxing



1840



Water System

Street System



Before 1840



1840 – 1959



1960 – 1989



1990 – 1997

One of the effects of urban globalization is that urban spaces lose their original features as well as their culture. The gradual disappearance of Chinese water-cities stands as a stunning example. However, this study is not simply aimed at criticizing this fact. Instead, analytical research is carried on based on the theory and methodology of Space Syntax. The urban spaces, being the former water system and the later street system, are examined as topological structures that carry the meaning of social logic. The instability and stability of the spatial system syntax indicate the way in which urban culture struggles to preserve itself.

The water-city Shaoxing is taken as the case in this study. The city is located within the geographical "water-net" area in south-east part of China. For 2500 years, it was known as one of the oldest cities of canals. But starting from the middle of the 19th century, the water system of the 7.9 square kilometer city has been gradually replaced by the street system. There are four phases in the history.

Before 1840, the spatial structure of the city developed gradually.

1840 to 1959, the water system encounters its first drastic damage; nearly half of the canals are filled.

1960 to 1989, the spine of the water system was totally filled so that the water system collapsed and the street system became wholly dominant.

1990 to 1997, another main street emerges from north to south throughout the city.

This study, examines the process of such a change in urban space, approaches the explanation of movement densities by the analysis of spatial configuration, and explores the spatial logic of the circulation system of the city. The axial maps show the sequence of the change of both the water system and the street system. The warmer the color is, the more integrated the space is. As it is shown, the integration core shifts from the spine to the ring of the water system. However, the integration pattern of the former water system is similar to that of the street system at present in the sense the most integrated spine running through the same place of the city.

According to the basic theory of Space Syntax the integration pattern indicates the ways in which people's movement occur in this space, and thus the social logic of the space. The fact that the former water system and the present street system show a similar integration pattern suggests similar circulation syntax. Although the change from a water city to a city of streets is dramatic, which is related to various issues such as transportation methods, population change, real estate development, etc., the city form of Shaoxing indicates a certain degree of stability in its social logic.



References:
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Hillier, Bill, *Space is the Machine: A Configurational Theory of Architecture*, 1996, Cambridge University Press

July, 2002

Special thanks to Yinwu Huang who contributes to the graphic design of this poster.