

Interaction between River and City Morphology

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Abstract : Rivers as one of the most important topographic factors have played a strategic role not only on the appearance of cities but they also affect the structure and morphology of cities. In this paper author intends to find out how a city in its physical network interacts with a river flowing inside. The pilot study is Angers, a city in western France, in which it is influenced by the Maine River. To this purpose space syntax method integrating with GIS is used to extract the properties of physical form of cities in terms of global and local integration value, accessibility and choice value. Simulating the state of absence of river in this city and comparing the result to the current state of city according to the effect of river on the morphology of areas located in different banks of river is also part of interest in this paper. The results show that although a river is not comparable to the city based on size and the area occupied by, it has a significant effect on the form of the city in both global and local properties. In addition, this study endorses that tracking the effect of river-cities and their interaction to rivers in a hybrid of space syntax and GIS may lead researchers to improve their interpretation of physical form of these types of cities.

Keywords : river-cities, Physical form, space syntax properties, GIS, topographic factor

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