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Publication date

2022

Document Version

Final published version

Published in

Druppel

Citation (APA)

Zheng, Y., Nijhuis, S., & Bracken, G. (2022). Reactivating Public Life through Water. Lessons from the Forgotten Historical Canals in Guangzhou. *Druppel*, 39, 24-28.

Important note

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Learn from the Past

 DRUPPEL

Reactivating Public Life through Water Lessons from the Forgotten Historical Canals in Guangzhou

Written by: Yu Zheng, Steffen Nijhuis and Gregory Bracken. *

In the heart of the Pearl River Delta, the city of Guangzhou is fast-growing and prone to flooding. In history, people constructed canals based on natural waterways to deal with water problems. The canal system not only served as an important infrastructure but was also the backbone of urban life. The city was built around its canals; they were the lifelines of Guangzhou. But with the development of the road network in recent decades, the urban canals in the historical inner city have been neglected and are disappearing, losing their identity, and becoming the forgotten side of the city. Also, canal restoration projects often only address the historical canals as water infrastructure, without effectively addressing them as public spaces. These are no longer designed as socially inclusive urban spaces and therefore, play no significant role in public life anymore. Restoration projects are not really concerned with the canals or their surrounding urban tissue as a system, nor do they connect the lives of local people to the water. Therefore, the newly designed public spaces in these projects often function poorly, if at all. What can be learned from the historical situation to re-activate the urban canals

as carriers of socially and ecologically inclusive urban space?

A city cannot develop without water. Therefore, having a sufficient water source is one of the important prerequisites for a city's location. The water system of Guangzhou runs through the history of its urban development, with a bearing on various aspects and needs, including urban space, ecology, the military, transportation, culture, etc., presenting the social, natural, economic and other values of the whole city in a holistic way. This can be seen in the brief review of the evolutionary history and related governance processes of the water system in the main urban areas of Guangzhou that follows.

To deal with the flooding threats and the lack of fresh water, there was a clear hierarchy in the canal system: street drainage collected rainwater into the six main canals in the city centre, rainwater then ran into the moat through sluices in the city walls before flowing into the Pearl River and, eventually, the South China Sea. The canal system was constructed based on the natural water

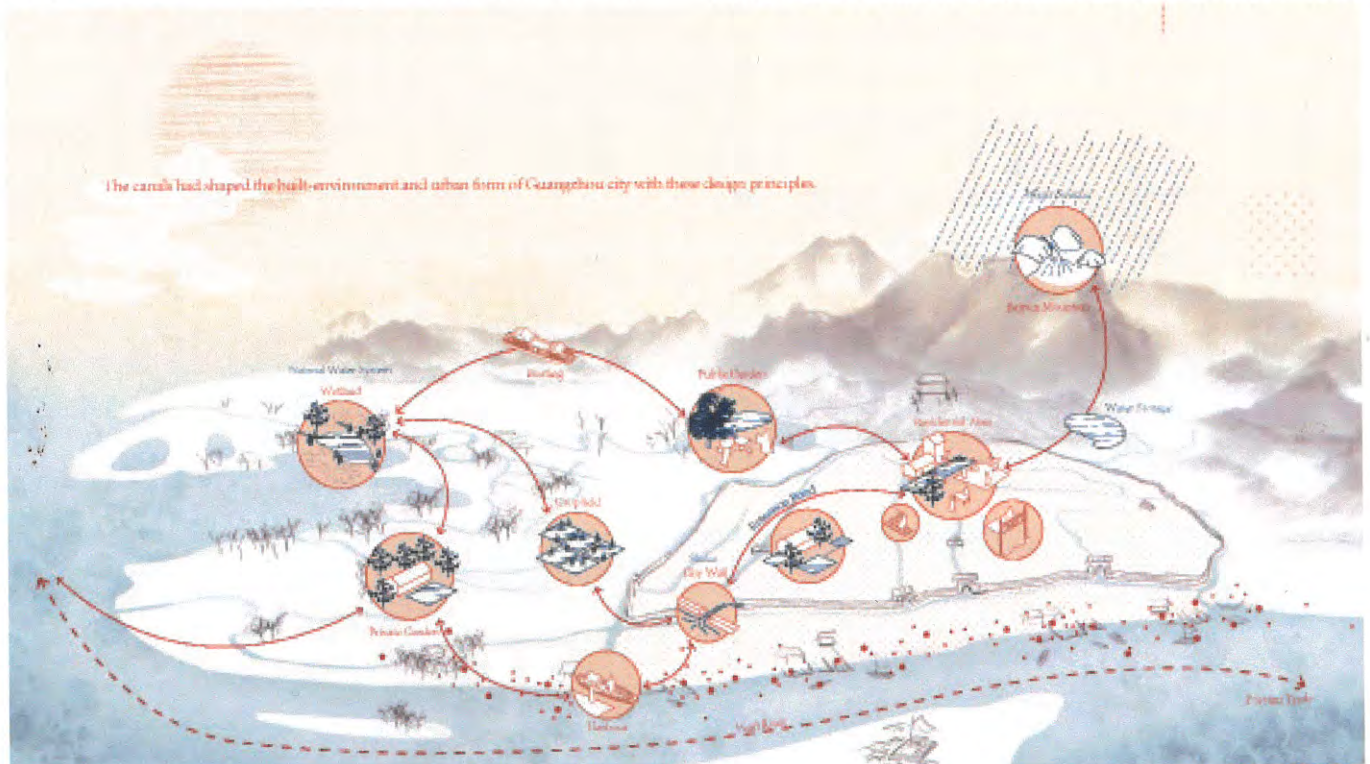


Figure 1. Guangzhou's historical canal-based urban system (drawing by Yu Zheng).

inns, temples, businesses, and community centres were formed along the waterways. The canals were the backbone of the urban public space structure. Not only were there many buildings standing next to the water, but there were also public spaces, especially at the bridgeheads, such as small piers, performance stages, old trees, temples, etc., making these zones of the social and cultural centre of the old city (Fig. 3).

3 Waterfront Gardens

Waterfront gardens include public, private, and royal gardens. There used to be harmony between the built environment and nature in ancient Guangzhou. People could enjoy panoramic views as well as store or drain water in the dynamic waterscape. Waterfront gardens were the most abundant water landscape in ancient times and were mostly distributed around the waterways. The waterfront yard connected to



Figure 4. The system waterfront gardens in Guangzhou (drawing by Yu Zheng).

the urban water system, which not only prevented the water from drying up, but also played a role in reducing temperature and preventing drought during intense heat, and, more importantly, it could drain flood water quickly during the rainy season. The inclusion of trees and plants were also beneficial to the microclimate of the garden, and simple adjustments could enhance the practicability and convenience of the water court. The waterfront garden was the centre of the green structure of ancient Guangzhou (Figs. 4 and 6).

What can be learned from the historical situation to reactivate the urban canals as carriers of socially and ecologically inclusive urban space? Design principles learned from history are divided into two separate but interconnected aspects: landscape and water management. The connectivity between public space and water is a key aspect of Guangzhou's urban landscape. The analysis of the city's management of its water network throughout history provides the

“ There used to be harmony between the built environment and nature in ancient Guangzhou. People could enjoy panoramic views as well as store or drain water in the dynamic waterscape. “

base for spatial design principles (Fig. 5). The analysis of waterfront commercial area shows the diverse interface brought variety to water as public space. The analysis of waterfront residential area shows how the systematic water network worked with natural water purification system and artificial retention pond. These offer a template for sustainable water management in the city in the future. Both aspects, landscape and water management, should work with the natural environment to play their role in improving the spatial quality of the city and increase its capacity to resist flood and drought.

In conclusion, this study of the city's history shows how canals have shaped the built environment, and these design principles, based on the canals that worked so well in managing Guangzhou's water system in the past, should also ensure the creation of good quality space, with both space and water playing important roles in people everyday lives. 💧

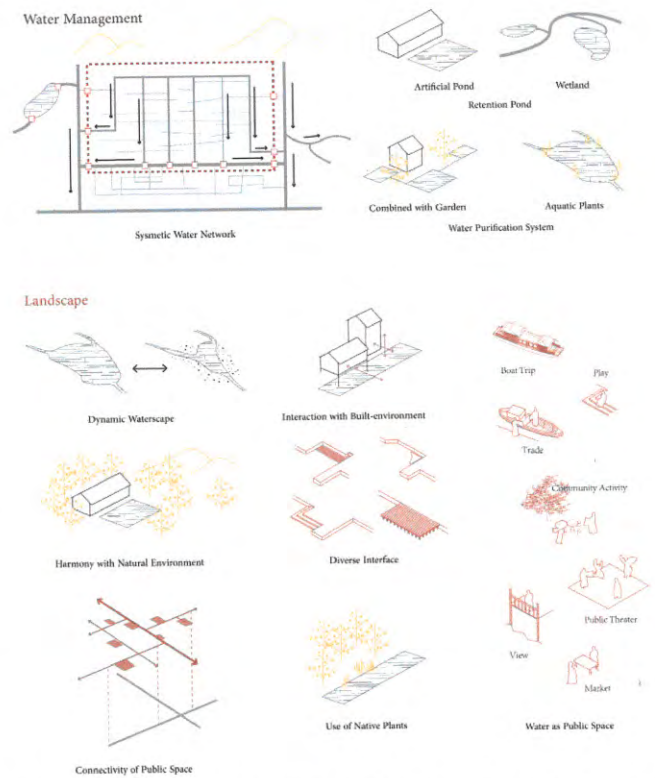


Figure 5. Design principles learned from historical analysis (drawing by Yu Zheng).



House of a Chinese Merchant, near Canton.

Figure 6. The waterfront gardens of Guangzhou as recorded by the English architect Thomas Allom around 1850 (private collection Steffen Nijhuis).

* This contribution is an abridged version of: Zheng, Y., S. Nijhuis & G. Bracken (2022) 'Historical Canals as Urban Landscape Infrastructure in Guangzhou: Reactivating Public Life through Water', in: Nijhuis, S., Y. Sun & E. Lange (Eds.) *Adaptive Urban Transformation. Urban Landscape Dynamics, Regional Design and Territorial Governance in the Pearl River Delta, China*. Springer Nature (forthcoming), and is based on a MSc-graduation thesis entitled: Zheng, Y. (2021) *Live BY Water: Designing the Historic Canal System of Guangzhou as Urban Landscape Infrastructure*. TU Delft, Landscape Architecture. Supervised by: S. Nijhuis and G. Bracken.

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