

# Research on the Traditional Architecture Types of Huai'an Canal

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## Abstract

To provide a useful exploration for expanding the research field of traditional regional architecture and making up for the lack of canal research in the field of architecture, the author studies the traditional architecture types of the Huai'an Canal. According to different functions, the traditional architectures of the Huai'an Canal are divided into three main types of residential buildings, public buildings and hydraulic buildings. On the basis of field research, each architecture type is further classified. Through the analysis of typical examples, the internal connection between it and the canal is summarized.

## Keywords

Traditional Architecture, Huai'an Canal, Type Division

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## 1. Introduction

The Grand Canal is the longest artificial river in the world and the only long river running north-south in China. Like the Great Wall, it is one of two major engineering wonders in ancient China. The Grand Canal starts from Beijing in the north and reaches Hangzhou in the south. It has a total length of 1794 km and a history of more than 2400 years. It spans six provinces and two cities including Beijing, Tianjin, Hebei, Shandong, Jiangsu, Zhejiang, Henan, and Anhui, and connects the five major river systems of Haihe, Yellow, Huai, Yangtze and Qiantang Rivers. The numerous historical and cultural relics along the Grand Canal make it a veritable "ancient cultural corridor" (Dong & Dong, 2014). The Grand Canal flows through a part of Huai'an, historically known as the Huai'an Canal. The opening of the Huai'an Canal has greatly promoted the social, economic and cultural development of this region, and has spawned various types of buildings directly or indirectly related to the canal. These traditional buildings

have obvious geographical regional and cultural regional characteristics, which are called typical regional architecture.

## 2. Literature Review

In recent years, the academic circles have made rich achievements in the study of the Huai'an canal, covering sociology, anthropology, economics, folklore, and historical geography. The research results are mainly concentrated in the dredging evolution of the Huai'an canal, water transportation and water administration, commercial towns, canal society and culture, etc. In contrast, there are relatively few research results on the Huai'an canal from the perspective of architecture. Therefore, the classification and systematic research of the traditional buildings of the Huai'an canal can be used to expand the research field of traditional regional buildings. According to different functions, the traditional buildings of the Huai'an canal can be divided into three main types: residential buildings, public buildings and hydraulic buildings. These traditional buildings have become important physical materials for studying canal culture, urban history, and social development (Xun, 2008).

## 3. Huai'an Canal Traditional Architecture Division

Traditional buildings along the Huai'an Canal are classified from the perspective of architecture into residential buildings, public buildings and hydraulic buildings.

### 3.1. Residential Buildings

During the Ming and Qing Dynasties, the Huai'an canal area developed rapidly and its population grew rapidly. People build various types of residential buildings according to different economic strengths and actual needs (Li, 2004). It can be divided into three types: shop houses, residential houses and gardens. These traditional residential buildings still have a large number of remains, widely distributed in towns and villages along the canal. Shop houses are a type of residential building that exists widely in towns in Huai'an canal. Many streets and lanes in the towns along the canal are dominated by commercial operations. As a result, the pattern of "front shop and back factory" and "front shop and back house" is formed. The commercial streets and lanes formed by the combination of these shops and residential houses follow the direction of the canal in the formation and layout, or face transportation on both sides, or close to the river on all sides. They all start from the canal wharf or bridge and develop in depth on both sides of the canal, thus forming a characteristic of the canal area.

For large households with strong economic strength, their houses and shops are often separated, forming a single-family house. The residential houses along the canal adopt the same courtyard form as the northern houses (Li, 2012). The Huai'an canal area is located in the climate environment at the junction of north and south. The main room is best to sit north and face south. However, the

layout of these houses and houses pay more attention to the relationship with the canal. This embodies the planning and construction concept that canal dwellings are suitable for living first, followed by rules.

There were many rich and powerful officials, who had their own private houses and gardens in Huai'an. "Qingyan Garden" is a typical representative among them. In the 17<sup>th</sup> year of Kangxi, Jin Fu, the governor of the river channel, built the Qingyan Garden. The name of the garden comes from "He Qinghaiyan", which means the water in the Yellow River is clear, and the sea is calm. It symbolizes peace in the world. Similar to Qingyan Garden, Huai'an gardens and residences during the Ming and Qing Dynasties basically borrowed from the gardening style of Jiangnan gardens and became an important demonstration of the spread of Jiangnan culture northward along the Grand Canal.

### 3.2. Public Buildings

Compared with residential buildings, the number of government offices, guild halls, temples, academies and other types of public buildings remaining along the canal is small. Some are quite well preserved. The formation of each type of buildings has a specific historical relationship with the Grand Canal, and it also reflects the profound connotation of the canal culture. Water transportation means that waterways transport food (Shen, 2020). Water transport is the lifeblood of various dynasties. Huai'an is an important storage place for water transportation. From the early Ming Dynasty to the end of the Qing Dynasty, it had been the location of the country's giant granary, known as the "granary of the country". Among them, the Changying warehouse built during the Yongle era of the Ming Dynasty was a primary transit granary in the ancient city of Huai'an. Changying warehouse was repeatedly repaired and was severely damaged during the Jiaqing era of the Qing Dynasty. It was rebuilt in the 23<sup>rd</sup> year of Daoguang era and renamed Fengji warehouse. In the tenth year of Xianfeng era, the Nian army captured Qingjiangpu and burned down Fengji warehouse. In the 9<sup>th</sup> year of Tongzhi era, the new Fengji warehouse was built, and a small part of the site remains to this day.

The Ming and Qing Dynasties were the heyday of water transport. Huai'an is located at the intersection of the Yellow River, the Huai River and the Canal, and the situation is complicated. Therefore, the Governor of Water Transport and the Governor of River Channels were appointed here in the Ming and Qing Dynasties. It not only reflected the special government behavior of the feudal country, but also permeated a strong canal culture (Xu, 2020).

Huai'an, as a "water transportation throat" and "a place where the southern boats and northern horses meet", was very rich in religious and cultural exchange activities. Among the legally registered religious venues in Huai'an, there were more than 40 places for Buddhism, 5 places for Ilan religion, 1 place for Taoism, and nearly 800 places for Christianity. The existing intact religious ancient buildings include Ciyun Temple, Nianhua Temple located on the west

bank of the ancient city wall of Chuzhou District, Dongyue Temple of Chuzhou, Luoiaqiao South Mosque and Wangjiaying Mosque.

### 3.3. Hydraulic Buildings

The section of the Beijing-Hangzhou Grand Canal that passes through Huai'an is the busiest section of the Grand Canal. There are many water conservancy facilities such as gates, piers and bridges (Yu, 2015). The Qingjiang gate is preserved until today. It has a history of 600 years. Qingjiang Gate is located at the gate of the ancient canal in Huai'an City, and is the throat area of the Beijing-Hangzhou Grand Canal which connects to the north and the south. The sluice was rebuilt and reinforced and became the intersection of the throat and the southern ship and the northern horse. Due to the large gap between the canal and the Huai River, boats passing this place not only had to pan the dam, but also often stayed due to weather. It can be seen that Huai'an was rich in goods, well-developed storage, and prosperous markets.

The Qingkou Hub is an important hydraulic building in Huai'an, which spans the Inner Canal, the Central Canal, the Old Yellow River, the Huaibei Salt River and the Hongze Lake District. Qingkou was originally the entrance to Huai River in Sishui River, also known as the Sikou. "kou" means "entrance", in 1128 (the second year of Jianyan in the Southern Song Dynasty) (Ma, 2014). The Yellow River develops southward, changes the river, and captures the river channel of the Sishui River. The Yellow River flows southward from Suqian, and merges with the Qingkou. So Qingkou become the intersection of the Yellow River and the Huai River. The large amount of sediment brought by the Yellow River caused the original Huai River channel to accumulate and the river channel was raised. Huai River water discharge was getting worse and forming Hongze Lake in the upper reaches of Qingkou. After the middle of the Ming Dynasty, the Yellow River completely encroached on the Huai River to bring more sediment. Qingkou, which is located in the intersection of Huang, Huai and Yun, faces many problems, including river bed uplift, Yellow River inflow and transportation, and difficulty in navigation due to the water level difference between these rivers. In order to solve these problems, from the 15<sup>th</sup> to the 19<sup>th</sup> century, the Ming and Qing Dynasties made many attempts and efforts in Qingkou, and gradually formed today's Qingkou hub.

## 4. Results

There are many types of traditional buildings on the Huai'an Canal. As the material carrier of the canal culture, the traditional buildings of the canal have a certain geographical area, but show the characteristics of the cultural area more. This research focuses not only on the style and form of architecture, but also deeply excavates and analyzes the social structure, cultural psychology, behavior patterns, survival methods, and technical characteristics closely related to architectural activities behind it.

As an indispensable city for water transportation on the Grand Canal, Huai'an is also an important node of the Grand Canal. It also shoulders the task of communicating overseas and connecting North and South, and it also develops a special local culture. The overall style is simple and the details are soft and beautiful. Huai'an has been a multi-ethnic and multi-cultural exchange area since ancient times. It is also a compatible place for the transfer and integration of North and South cultures.

## 5. Conclusion

The paper takes the traditional architecture of Huai'an Canal as the main research object. Based on extensive field investigations and a large number of reading documents, the morphological characteristics of Huai'an traditional architecture are sorted and summarized, and historical, social, cultural and other aspects are analyzed, as well as the impact on its production and formation.

The Grand Canal is successfully applied for the World Cultural Heritage. The research on the traditional architecture of the Huai'an section of the canal is based on the fundamental research of the Grand Canal's application for the World Cultural Heritage (Chen, 2013). The purpose is to start from a multidisciplinary perspective, using traditional architecture as the entry point for canal research, and through the traditional architecture of the canal. The regional characteristics and expressive mode of the company explore its deep cultural connotation. This has very important theoretical and practical significance for expanding the research field of traditional regional architecture, protecting the cultural heritage of the canal, and making up for the lack of canal research in the field of architecture.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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