

# An Examination of the Boat Form between the Chao Chuan of Tang Dynasty and Zhang Baogao's Trader

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Recently, Chinese and Korean scholars (especially Korean scholars) are paying close attention to Zhang Baogao's(張保皋) trader. However, there hasn't a convincing result so far. This article, analysed and Studied the relation between the Chao Chuan<sup>①</sup>(漕船) of Tang Dynasty and Zhang Baogao's(張保皋) trader, draw new conclusions.

### 1. The important place of XuZhou's(徐州) YongQiao(甬橋) in the Chao Yun(漕運) of Tang Dynasty.

#### 1.1 The survey of Chao Yun(漕運) in Tang Dynasty

The Chao Yun(漕運), a water transport of grain to the capital, dated from Qin(秦) and Han(漢) Dynasty. In the middle Tang Dynasty(中唐), nine-tenths of government taxes originated from the Valley of Yang Zi River(長江) and Huai River(淮水), and was transported by the Grand Canal(大運河). The Grand Canal(大運河) consisted of Yong Ji Canal(永濟渠), Tong Ji Canal(通濟渠), Gan Gou Canal(邗溝) and Jiang Nan Canal(江南河). Among these canal, the key one was Tong Ji Canal(通濟渠, another name is Bian Canal 汴水) that situated between Huai River(淮水) and Yellow River(黃河).

XuZhou(徐州) where Zhang Baogao(張保皋) lived Just located on the middle reaches of Bian Canal(汴水) and is the hub of Chao Yun(漕運). Yong Qiao(甬橋) belonging to XuZhou(徐州) was also a necessary port of transshipment in the Chao Yun(漕運).

#### 1.2 The Chao Yun(漕運) in Yong Qiao(甬橋)

Yong Qiao<sup>②</sup>(甬橋) located on 12 kilometre north of Xu County(宿縣). An

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① A boat specially made for grain transport.

② Other name are Fu Li Qiao 符離橋 and Yong Ji Qiao 永濟橋.

Hui province. In 763, Tang's Court set up 13 Zhuan Yun Xun Yuan<sup>①</sup>(轉運巡院) and Yong Qiao(甬橋) was one of them. To defend the Yong Qiao's(甬橋) Chao Yun(漕運), the Court set up the Xu Si Hao Jie Du Shi(徐泗濠節度使) in Xu Zhou(徐州) in 788 and set up Su Zhou(宿州) near Yong Qiao(甬橋) in 809.

### 1.3 The military operations in Yong Qiao(甬橋)

In 800—828, there were several military operations in Yong Qiao(甬橋).

1.3.1 In 781, the Ping Luo Zi Qing Jie Du Shi(平盧淄青節度使) named Li Zheng Ji(李正己) rebelled against the Court. Li Zheng Ji(李正己) stationed a huge force in Yong Qiao(甬橋), so a thousands of Chao Chuan(漕船) from Yang Zi River(長江) and Huai River(淮河) Valley dare not to pass Yong Qiao(甬橋).

1.3.2 In 800, Xu Zhou's(徐州) troops mutiny, Si Zhou's(泗州) troops attacked Yong Qiao(甬橋) belonging to Xu Zhou(徐州) and was defeated.

1.3.3 In 822, the Wu Ning Jie Du Fu Shi(武寧節度副使) named Wang Zhixing(王智興) launched a mutiny, robbed royal property in Yong Qiao(甬橋).

According to the Yuan He Jun Xian Tu Zhi(元和郡縣圖志) and the Du Shi Fang Yu Ji Yao(讀史方輿紀要), Yong Qiao(甬橋) is 60 kilometre in east of Xu Zhou(徐州), there is so close as to be convenient for communication between Xu Zhou(徐州) and Yong Qiao(甬橋). Zhang Baogao(張保皋), a officer of Xu Zhou's(徐州) troops, should know and see the flourishing trade and water transport in Yong Qiao(甬橋). Maybe Zhang Baogao(張保皋) himself took part in the mutiny of 822 in Yong Qiao(甬橋).

## 2. Viewing Zhang Baogao's(張保皋) trader through the Chao Chuan(漕船) of Tang Dynasty.

In the middle and late Tang Dynasty, the Chao Yun(漕運) of Bian Canal(汴水) was grand in scale. According to the Xin Tang Shu(新唐書), there were two thousands of the Chao Chuan(漕船) specially in Bian Canal(汴水), and with sixty thousands of sailors. Such a flourishing occasion should have left a deep impression on Zhang Baogao(張保皋), especially the Chao Chuan(漕船) should have made a lasting impression on Zhang Baogao(張保皋).

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① a office in charge of grain transport.

Early in Tang Dynasty, the Chao Chuan(漕船) didn't have a common boat-form. in 762, Liu Yan(劉晏) who was the Zhuan Yun Shi(轉運使) began on a reform of the Chao Yun(漕運), used also the transport method that Jiang Chuan<sup>①</sup>(長江船) don't sail into the Bian Canal(汴水), Bian Chuan<sup>②</sup>(汴水船) don't sail into the Yellow River, He Chuan<sup>③</sup>(黃河船) don't sail into the Wei River(渭水). To perfect the transport method above-mentioned, Liu Yan(劉晏) made specially the Xie Huang Zhi Jiang Chuan(歇皇支江船) suited to the Bian Canal(汴水) and the Shang Men Tian Que Chuan(上門填闕船) suited to the Yellow River. Comparatively speaking, the Xie Huang Zhi Jiang Chuan(歇皇支江船) was more famous.

Seeing that Bian Canal(汴水) was a canal, the water flows gently and channel is shallow, so the Xie Huang Zhi Jiang Chuan(歇皇支江船) made specially for the Chao Yun(漕運) of Bian Canal(汴水) had adopted a unique boatform: the boat is flat-bottomed and shallow-hold; the proportion of boat-length to the boat-width was less than ordinary boats. According to the Chinese historial records. Liu Yan(劉晏) set ever up 10 ship-plant and made two thousands of the Xie Huang Zhi Jiang Chuan(歇皇支江船), in result the Xie Huang Zhi Jiang Chuan(歇皇支江船) soon turnd to main boats in the Bian Canal(汴水). Considering that Zhang Baogao(張保皋) who lived in Xu Zhou(徐州) saw and heard the prosperous occasions of trade and transport in Yong Qiao(甬橋), he would have seen and known clearly the Xie Huang Zhi Jiang Chuan(歇皇支江船). Forthermore. considering Xu Zhou(徐州) was only a place where Zhang Baogao(張保皋) lived, the Xie Huang Zhi Jiang Chuan(歇皇支江船) should have been a China boat that left a deep impression on him.

The Xie Huang Zhi Jiang Chuan(歇皇支江船), although a riverboat, could also navigate at sea and have a contact with Zhang Baogao's(張保皋) trader. We could analyse this contact in three respect.

In respect of the tonnage, according to the Xin Tang Shu(新唐書), the load-

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① a boat navigate Yang Zi River.  
② a boat navigate Bian Canal.  
③ a boat navigate Yellow River.

ing capacity of the Xie Huang Zhi Jiang Chuan(歌皇支江船) was about 1000 Hu<sup>①</sup> (斛). In 862, Tang's troops attacked the Jiao Zhi<sup>②</sup>(交趾), used many boat whose loading capacity is 1000 Hu(斛) to ship the army provisions in the East Sea (東海) and the South Sea(南海). Considering the worse condition in the East Sea (東海) and the South Sea(南海), it should be unquestionable that the Xie Huang Zhi Jiang Chuan(歌皇支江船) navigated in the better condition of the Yellow Sea (黃海).

In respect of the boatform, the characteristics of the Xie Huang Zhi Jiang Chuan (歌皇支江船) is flat-bottomed and least-draft, it not only suited to the Canal but also suited to the Yellow Sea(黃海) and the Bo Sea(渤海). Because there are many shallows in the coastal areas of the Bo Sea(渤海) and the Yellow Sea(黃海), the sharp-bottomed boat may got stranded or capsized, the Xie Huang Zi Jiang Chuan(歌皇支江船) can yet navigate the shoaly waters and even stand on the shallows steadily.

Seeing that Zhang Baogao's(張保皋) traders sailed the Yellow Sea(黃海), such a condition demand that Zhang Baogao's(張保皋) traders should be suitable to the shoaly water like the Xie Huang Zhi Jiang Chuan(歌皇支江船).

In respect of the boat-structure, a riverboat of late Tang Dynasty was unearthed in Shi Qiao(施橋) of Yang Zhou(揚州) in 1960. It is similar to the Xie Huang Zhi Jiang Chuan(歌皇支江船) in the shipbuild spot, the tonnage and the use time. The structures of Shi Qiao's(施橋) boat have many unique techniques; the boat adoptednew techniques of watertight compartment; the planking was tenoned and nailed; there was filled with putty between the planking; the hull was coated with tung oil and raw lacquer, etc. So the Xie Huang Zhi Jiang Chuan(歌皇支江船) similar with the Shi Qiao's(施橋) boat was indeed seaworthy.

### 3. The conclusions

3.1 Xu Zhou Wu Ning Jun(徐州武寧軍) was a important place in the Chao Yun(漕運), and Yong Qiao(甬橋) belonging to Xu Zhou(徐州) Was a necessary port of transhipment in the Chao Yun(漕運).

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① 1 Hu is about 50 kilogramme.  
② the north of Viet nam

3. 2 Zhang Baogao(張保皋) had been lived longer in Xu Zhou(徐州) and he should know the Chao Yun(漕運) in Yong Qiao(甬橋).

3. 3 The boats navigating near Yong Qiao(甬橋) were the Xie Huang Zhi Jian Chuan(歇皇支江船) designed by Liu Yan(劉晏), which were made specially for the Chao Yun(漕運) in Bian Canal(汴水). So, Zhang Baogao(張保皋) should see and know clearly them.

3. 4 The Xie Huang Zhi Jiang Chuan(歇皇支江船) had many characteristics including a flat-bottomed and a great loading capacity, which was suited just to the conditions of the Yellow Sea(黃海) where Zhang Baogao's(張保皋) traders navigated regularly.

3. 5 Zhang Baogao's(張保皋) trader had the relationship with the Xie Huang Zhi Jiang Chuan(歇皇支江船). Explaining concretely, it is possible that both the boats be same or similar in boatform.

