

# On the Chinese and Korea Ancient Ships in the 9th Century And the Historical Remaining of Xinluos Living in China

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**Abstract:** This paper is a comparative study of the 9th-century Chinese, Korean and Japanese ships. It discusses the professional level of ship-building, the functions of ships, the routes of the ships, and the economic and cultural exchanges between China and Korea. In addition, it also introduces the history of the Xinluos living in China and focuses on the distinction between Xinluo Guan, Xinluo Suo and Xinluo Fang, which is often confused in the Chinese, Korean and Japanese academic world.

**Key Words:** Ancient ships, Xinluo Guan, Xinluo Suo, Xinluo Fang

### I. Study of the 9th-century Chinese and Korean ancient ships

In the 9th century AD, the contact between the Chinese and Korean sea-wise grew increasingly closer. At that time China was in the Tang Dynasty and Korea was in the Xinluo Dynasty (In the following of the paper, refer to them respectively as Tang and Xinluo). Now based on the literature I have read I am going to make a study of the Tang and Xinluo ancient ships.

#### 1. The anthropological findings of the 9th century Chinese and Korean ancient ships

##### (1) The anthropological findings of the 9th-century Chinese ancient ships

In 1960, a Tang wooden ship (fig. 1) was unearthed in Yangzhou(扬州), Jiangsu (江苏) province. It was an inland river ship, the remaining being 18.4

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m in length, 4.3.m in width and 3 m in depth. . This ancient Yangzhou ship has many horizontal compartment wall plates.

In 1973, a Tang wooden ship was unearthed in Rugao (如皋) County, Jiangsu Province. The remaining is 14.5. m in length, 2.58 m. in width, the depth being 1.6. m. It was a single-masted inland river ship. The carriage capacity is 20 tons. 9 perfect water-tight compartments were found in this ship, which was the earliest of its type in the world.

In 1979, another Tang wooden ship was unearthed in Chuansha (川沙) County, Shanghai. The remaining length is 14.5.m and the recovered width is 1.9m. The bottom of the ship was connected by three separate logs.

In addition, 3 Tang canoes were found continuously in Yangzhou, Jiangsu Province. They were made of a kind of hard wood . Another Tang canoe was unearthed in Ningbo (宁波), Zhejiang (浙江) Province. All the four Tang canoe were over 10 meters in length, and on the side of the ship there were holes for fixing the horizontal beams.

### **(2) The anthropological findings of the 9th-century ancient Korean ships**

In 1984, a mid-9th century ship was found in Guandao (莞岛) Island . The remaining were 6.5. m in length, and 1.65 m in width. The main components include: 5 bottom plates, the 5 port plates , the 4 starboard plates . There were 2 holes for mast in the middle of the bottom. There were compartment walls (fig .4). And the plates were connected by tenons . The ship now is preserved in Mupu Marine Museum.

### **(3) Comparison the 9th-century Chinese and Korean ships in the aspect of ship-building skills and ship functions**

The ship-building skills in Tang developed rapidly and large-size ships which could carry 400 passengers were built at the time. Sails were used in the ships. We can see the images of Tang sailing ships in the Dun Huang(敦煌) wall paintings and of the sailing ship in bronze mirror preserved in the Shaanxi (陕西) Museum. According to "Tang Yu Ling", Liu Yan(刘晏), when he was responsible for the transportation of salt and iron, supervised the building of 2000 ships in Yangzhou. Yangzhou was only one of the ship-building bases in Tang, others bases being Guangzhou (广州), Dengzhou (登州), Laizhou (莱州), Fuzhou (福州), and Quanzhou (泉州). We can thereby perceive the big scale of ship-building in the Tang Dynasty. The ship-building level of Tang were also manifested in the adoption of new ship type and new techniques. According to "Old Tang Book", Li Gao (李皋) invented the outside wheel,

which was pushed by the paddle of boat wheel. That is, two wheels were installed on both sides of the ship and the ship was driven by the wheels instead of paddles. This was actually the earliest model of modern ship. In the Tang Dynasty, water-tight compartment was extensively adopted in China's ship-building skills. Water-tight compartment is used to separate the compartment into independent parts, with the aim of keeping the compactness of the individual compartments. Once a certain compartment is broken and water is in, the ship will still be able to float, sail with stability and retain sufficient capability for sea-going. The Tang wooden ship unearthed in Rugao County, Jiangsu Province had 9 water-tight compartments. The separating plates of the compartment also functioned to increase the horizontal strength of the ship. Water-tight compartment, as one of the three great inventions of China's ship-building skills, is an important contribution that China has made to the world-ship building field. The technique was later adopted by Xinluo ships and Arab ships. Besides, seen from the Tang ships found, the ship plates were connected by tenons, which was a new development to the previous technique. Meantime, the plates were connected by iron nails, which greatly enhanced the stability of the structure. To prevent the erosion of iron nails when in contact with sea water, the ship-builders of Tang invented a unique filling material made by mixing linen shreds, bamboo shreds, and striking them repeatedly. This filling material served to well protect the iron nails of the ship. In sum, the 9th-century ship-building in Tang was quite advanced because of the adoption of the new ship-building techniques.

The ship-building skills of Xinluo in the 9th century also developed quickly. The Xinluo ships could arrive at the China's coast area directly from the West Sea instead of taking the roundabout trip via the South Sea. The Xinluo special envoys to Tang mostly arrived at China by ship. Especially after the mid-9th century, with the declining of the state trade between Xinluo and Tang, the informal trade between the two peoples gradually prospered. In Xinluo, the big businessmen companies represented by Zhang Baogao(张保皋) grew up rapidly and their private business ships sailed between Tang, Xinluo and Japan. The overseas trade was very active. Although the ships of the Zhang Baogao period have not been found up to now, I think the ships must have been influenced by the Tang ships. The body of the ship used the water-tight compartment and the ship was quite resistant to sinking. Besides, the plates were connected by iron

nails and adapted the tenon technique. And with the filling material made of linen shreds mixtures, the ship was tough in structure and had good sea-faring capability.

Now let's make an analysis of the mid-9th century ship found in Guandao Island, Korea. This ancient ship was built in the fashion of the traditional Korean ships, with flat bottom. The bottom plates were connected by tenons. The ship's body had three horizontal beams. The head was square but rather narrow, while the tail was quite broad, and the tail was higher than the head. The ship used wooden nails and we can see no sign of iron nails being used anywhere. The components of the ship did not use the seal-filling material. The plates were quite thick, as thick as 20 mm. The more interesting thing was that the bottom plates of the ship were connected in the vertical way, each group of bottom plates made up of three sections. The central bottom plates were connected in the tenon way, the other places connected in the semi-tenon way. This was very much like the Yuan Penglai(蓬萊) ancient ship(13th century) and Ming Xiangshan (象山) ship(14th century). The difference is that the Penglai and Xiangshan ship were connected in the swallow-tail fashion and other plates were connected in the reverse tenon way. Judging from this, in the history of oriental ship development, there was mutual influence and inhabitation. The Guandao Island ship unearthed should belong to the early 9th-century ship structure, with no water-tight compartment, the then advanced ship-building technique. The ship only used wooden nails to connect, instead of iron nails. This must seriously handicapped the anti-sinking and toughness of the ship. This is why I think this kind of ship was not the ship adopted in the Zhang Baogao period.

In the same period, the ships of the Japanese special envoys to Tang and other ships were lagged behind in technology in comparison with the Xinluo ships. According to "Collections of Marine Charts", ancient Japan built ships with big logs and connected them without iron nails. This was a heavy waste of material. Besides the Japanese ships were flat in bottom and therefore could not cut through the waves, not could they sail against the wind. After Japan adopted the advanced ship-building techniques of China, its own ship-building skills were developed. In addition, Japan made use of the Tang ship-builders and had them build ships in Japan. As recorded in the "Japanese History

Continued”, in 862AD, when the Japanese king Zhengru(真如) went to Tang, Zhang Zihxin(张支信) built a ship in Baidi (柏地) Island for him to use. Besides, according to Yuanren’s (圆仁) “History of Entering Tang in Search of Truth”, the Japanese envoys to Tang also traveled in Xinluo ships between Tang and Japan. From this we can see that even the Japanese special envoys to Tang themselves thought the performance of the Japanese ships were not as good as that of Tang and Xinluo ships. That is why they took Tang and Xinluo ships when traveling to China.

#### **(4) The 9th century China-Korea sailing routes**

In the 9th century, the main Chinese-Korean sailing routes were: the northern and southern routes. The northern routes was the famous “Dengzhou to Gaoli (高丽) Bohai (渤海) Route”. This route was one of the two sea routes in Tang for friendly external communication. It started from Penglai in Shandong (山东) Peninsular, along the coast of Liaodong (辽东) Peninsular to the mouth of the YaluJiang (鸭绿江) River and finally to Xinluo. The route was coastal and very safe. The other route of the Northern route was to start from Rongcheng (荣城) in the southeast of Shandong peninsular, across the Yellow Sea and directly to the west coast of the Korean Peninsular. In the above routes, the “Dengzhou to Gaoli Bohai Route” was adopted quite early by China and Korea and was used up to a more recent period. After the mid-9th century, the ships of China and Korea mostly adopted the south route across the east sea and the north route across the Yellow Sea. According to Yuanren’s “History of Entering Tang in Search of Truth”, It took about two to three days from China to Xinluo if adopting these routes and was very convenient and efficient. But these routes involved the crossing of the East Sea and the Yellow Sea and was therefore quite risky.

## **II. Study of the history of the Xinluo People living in China**

### **1. The traces of Xinluo people living in China found in Shandong Peninsular**

In 1989, Liu Yongzhi(刘永智) and Yuan Xiaochun (袁晓春) of China, when investigating the remaining of Xinluo Guan and Xinluo Fang, found in “History of Dengzhou” that in the monument entitled “Tang Mupin (牟平) County Mount Kunlun (昆仑) Stainless Monastery” there was a record of a Xinluo Jin Qing (金清) who donated money for the building of the Stainless

Monastery. Stainless Monastery was a famous one in the peak of Mount Kunlun in Shandong Peninsular. The monument was inscribed in 901 AD. Xinluo Jin Qing at that time was an official in Tang and his was the “Ya ya (押衙)” (the eighth degree) in charge of courtesy. Jin Qing was rich and he donated money to build Stainless Monastery Xinluo historical traces, but it was destroyed during the Anti-Japanese war in the 30s.

## **2. Other historical traces of Xinluo people**

In Yuanren's book there was a record of a Fahua (法华) Monastery in Shidao(石岛) Chishan(赤山) of Shandong Peninsular built by Zhang Baogao. There lived over 30 monks of Xinluo all the year round. Later Fahua Monastery was destroyed in 845. In the early 80s of this century, the remaining of Fahua was found and in 1988 the reconstruction of the monastery started. In 1989 it was completed. The newly-built Fahua Monastery consists of the main hall, the accompanying hall and the mountain gate. It takes an area of 6000 square meters. There also is built a memorial tower of Zhang Baogao. The characters in the body of the tower was in the handwriting of the Korean president 金泳三. The Fahua Monastery as a famous Xinluo historical trace is now attracting more and more visitors.

Yuanren in his book also mentioned in Yangzhou, Cuzhou(楚州), Sizhou(泗州), Haizhou, Mizhou, Dengzhou, and Qingzhou there were also Xinluo Fang, which was the living area of the Xinluo people in Tang. But they were not preserved. So we only have their remaining in the above areas.

## **3. The famous Xinluo figures coming to Tang by sea**

In the 9th century, many famous Xinluo people went to Tang by sea. In addition to Zhang Baogao, there were other well-known scholars and monks, outstanding scholars such as Jin Yunqing(金云卿), Cui Zhiyuan(崔致远). They mostly entering China from the coast of Shandong. After finishing their study in Tang, they became officials of Tang or back home as officials. Jin Yunqing, for instance, was the first among Xinluo overseas students who passed the state examinations. In 841, he was appointed as Zhangshi (长史, the official who was responsible for writing history) of Zizhou, Shandong. Before this, because he was very capable, the Tang government sent him as deputy comforting envoy to Xinluo. As Tang's official to his original country, he earned honor for his

motherland. Cui Zhiyuan, the famous scholar, writer and poet of Xinluo went to Changan to study via Shandong by sea at 12. At 18 he passed the state examination with honor. After going back to Korea, he became an official and became the forerunner of the Han language study of Korea. The Xinluo monks Zheng Jian(真鉴) and Jie Ming(戒明) also went to Changan by sea and after painstaking study of Buddhist classics, became well-known monks in the Korean history. These scholars broadcast the Chinese civilization to Xinluo, and promoted the reform and progress of Xinluo in politics, economics, culture and religion.

#### **4. Study of Xinluo Suo, Xinluo Guan and Xinluo Fang**

Since the 80s, the Chinese, Korean and Japanese scholars, when studying the historical traces of Xinluo people living in Tang, have often confused the three concepts. Some scholarly mistake Xinluo Fang as trade fairs, some have taken Xinluo Guan as hotels run by the Xinluo people. This is indeed wrong. The actual case is:

Xinluo Suo is recorded in Yuanren's book. The full name is Gou Dang (勾当)Xinluo Suo. It was the foreign agency set by the Tang government in charge of the Xinluo immigrants. The head of the Suo is called YaYa, eighth degree. The Dengzhou Xinluo Suo is located in Qingning (清宁), Wendeng (文登) County.

Xinluo Guan is set by the Tang government to receive the Xinluo envoys. According to Yuanren's book, and according to "Song History: History of Gaoli" there was Xinluo Guan in Dengzhou and it lasted until Song. In the Song Dynasty there was Gaoli Guan to receive the Gaoli envoys.

Xinluo fang was also recorded in Yuanren's book. It was set in Dengzhou, Haizhou, and Cuzhou. Xinluo fang was the living area of the xinluo immigrants. It was set up according to the strict fang system of Tang and was meant for the Xinluo immigrants to live there together. There were Xinluo fangs in the coastal areas of Shandong and Jiangsu. In Guangzhou there was a fan (foreign) fang for the Arabian immigrants. From this we can say that the three should be distinguished clearly and we must not allow the confused use of the three terms.

### **III. Conclusion**

According to the literature and seen from the unearthed 9th century ancient ships, we conclude that the ships sailing between China and Korea should have used sail as dynamic power. The body of the ships adopted the water-tight compartments and were resistant to sinking. The plates were connected by iron nails and this strengthened the structure of the ships. The underwater anthropology, which started in the 40s of this century has a history of only 20 or 30 years in China and Korea. This year, the Chinese anthropologists are going to unearth a tang sea ship somewhere in Guangdong (广东) Province. We are expecting new findings. Meantime, we pin hope in the Korean new anthropological findings of ancient ships so as to make up for the lack of literature and revise and complete our knowledge of the 9th century ancient ships.



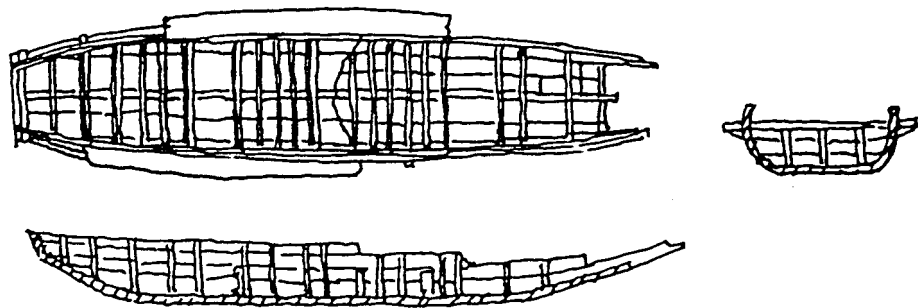


图1

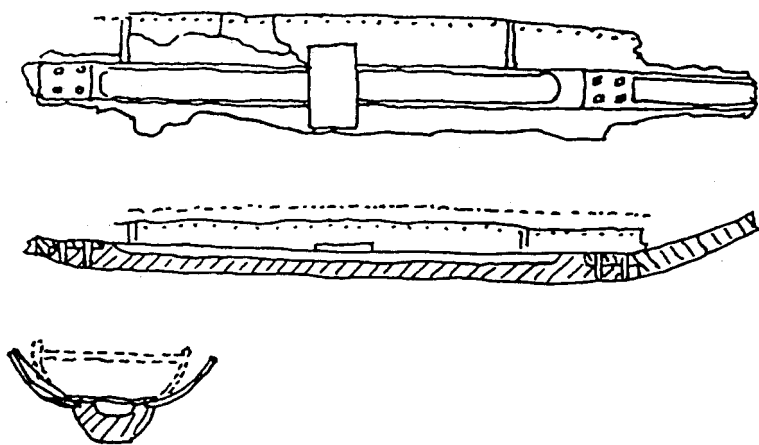


图2

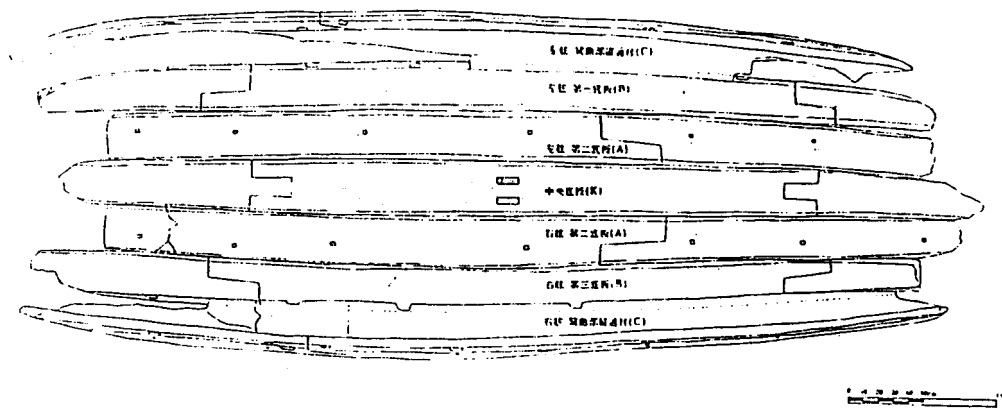


图3

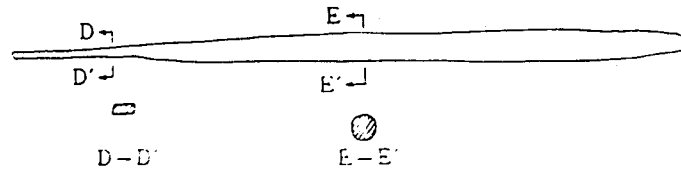
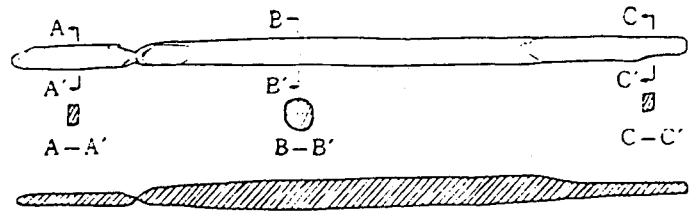


图4

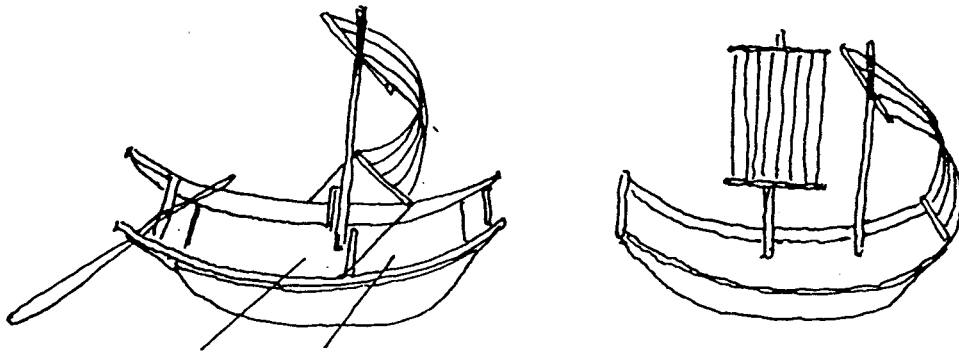


图5

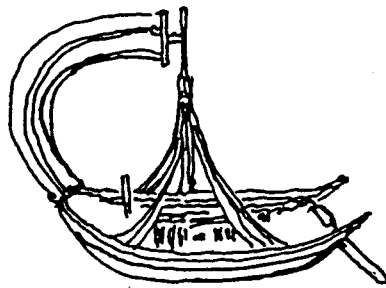


图6

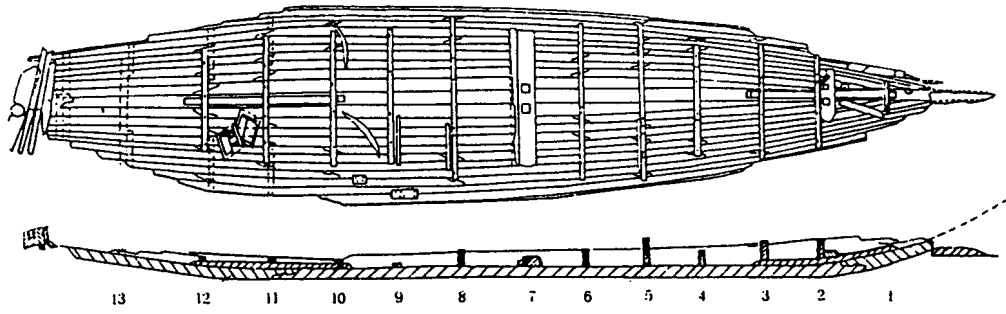


图7

