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Glass Trade in Southeast Asia

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## Ancient Glass in Southeast Coast of China

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Compared to what is known about the history of glass making in the western world, our knowledge of ancient glass making in Southeast Asia is quite sparse. Many fundamental questions about the history of glass and glassmaking in this area still remain unanswered. In this paper I would like to introduce some glasses discovered in Southeast China which were imported, probably along sea route, through Southeast Asia. I hope that these archaeological findings would arouse the interest of scholars in ancient glass and glass making and will help them to extend their study to the history of glass and glassmaking in Southeast Asia, so that we could get a better understanding of how the East and the West came to meet along the Maritime Route.

Glass was invented more than 3500 years ago, probably somewhere in West Asia. Glass appeared in China quite late. According to archaeological findings, the earliest glass in China was from circa 5<sup>th</sup> Century BC, either from the end of the Spring and Autumn period or the beginning of the Warring States period.

*Slide 1. A sword inlaid with blue glass from Wangshan Tomb 1, Hubei province, belonged to King Goujian of Yue State*

*Slide 2. Another sword inlaid with clear glass found in Henan province, which belonged to Fuchai, the King of Wu States.*

*Slide 3. Glass eye beads from Hougubun Tomb 1, Gushi, Henan province. Based on the inscription on a bronze vessel in the tomb, the tomb was of a wife of Fuchai of Wu State.*

The three samples, representing the earliest glass found in the region, stated above were analyzed by scientific methods. The results show that they are all soda-lime glass, the same composition as Western Asian Glass, but different from the lead-barium glass later made in China. Therefore it can be concluded that, these glasses were made in Western Asia. As for the import route, an interesting fact is that the three samples were all related to Wu or Yue States, both located on the eastern coast of China, so it is possible that glass was first brought into China along Maritime Route.

Recent studies have concluded that glass making began in China around the 4<sup>th</sup> or 3<sup>rd</sup> century BC with local materials. The first products to be produced were compound eye beads which were an imitation of the Western Asian ones.

*Slide 4. Chinese compound eye beads (3<sup>rd</sup> Century BC) discovered in Changsha, Hunan province, lead-barium glass.*

Excavations for compound eye beads revealed their presence in the Philippines, Thailand, Java, Sumatra, Borneo, a presence that extended as far as the extreme east, to Korea and Japan. The question to be asked is where they come from and whether they were produced in Western Asia or China. The answer may help us understand the sea route before the Christian era.

During the Han Dynasty (206 BC - 220 AD) Chinese lead-barium glassmaking had been developed around the Yellow and Yangzi Rivers, where personal ornaments, belt hook, sword furniture, funeral objects as well as heavier glass vessels were made and were then spread to Korea and Japan through the sea.

*Slide 5. A glass cup (128 BC) excavated from Xuhuo, Jiangsu province, the earliest glass vessel made in China.*

*Slide 6. Glass bead (100 BC- 100 AD) discovered in Saga, Japan, the earliest glass made in Japan, the materials were supposedly from China.*

In south of China, however, things were not the same. Glass beads were extremely popular, discovered not only in tombs of nobles but also in tombs belonging to common people, these tombs sometimes had more than 1000 beads in one tomb. Besides beads, glass vessels were also found.

*Slide 7. Glass beads (1st century BC) unearthed in Guangdong province.*

*Slide 8. Glass bowl from an Eastern-Han tomb (2nd century AD) in Guangxi province.*

*Slide 9. The cup and plate from an Eastern-Han tomb (2<sup>nd</sup> century AD) in Guangxi province.*

Most of the glass unearthed in Guangdong and Guangxi are potassium-silica glass and very different from either soda-lime glass of Western Asia, or lead-barium glass of the north of China. Potassium-silica glass is another glass system that lasted only for about 400 years in the south of China (200 BC - 200 AD). It is said that some ancient potassium glass were found in India and also in Southeast Asia. At the same time, the historical literature of the Han Dynasty records that Emperor Wu (140-87 BC) sent people to **Southern Sea** to buy glass. We do not know the exact location of this **Southern Sea** and whether the glass traded was potassium glass or not. Although the location of the sea might be somewhere in Southeast Asia, including southern coast of China, but the original manufacturing place of potassium glass still remains unanswered.

In the eastern coast of China, many Roman glass vessels were discovered, which gives a strong impression that Roman glasses were imported into China mostly along the Maritime Route during the Han Dynasty.

*Slide 10. Fragment of a ribbed bowl from an Eastern-Han tomb (76 AD) at Qianjian, Jiangsu province.*

It is a mosaic glass of purple ground with streaks of opaque white. Soda-lime- silica glass was archetypal of Roman glass composition. This kind of mosaic ribbed bowl was rare in China, but was quite popular in Italy and in the Mediterranean during the first century.

*Slide 11. A collection of an intact mosaic ribbed bowl (1<sup>st</sup> century AD in British Museum)*

Sea route between the West and the East was opened no circa first century A.D. As evidence, **The Periplus of the Erythraean Sea**, a book by a Greek of that time, recorded that glass and crude glass were transported from Red Sea to the East.

Southern and Southeast Asia were located in the centre of the sea route between the West and the East. Therefore, archaeological finding of Roman glass in India is of special significance.

*Slide 12. Fragments of Roman glass bowls (1<sup>st</sup> Century AD) discovered at Pondicherry, an ancient sea port of India.*

The Wei, Jin, Northern and Southern Dynasties (220-581 AD) were an important period for glass importation. Roman glass was brought into China continuously by both Desert and Maritime Routes. At Nanjing, an eastern port of ancient China, Roman glass has been frequently sighted at the tombs of the Eastern Jin.

*Slide 13. A cut glass cup from an Eastern Jin Tomb (322 AD) in Nanjing.*

Results of analysis show that they are all soda-lime glass with low iron content, very close to typical Roman glass made in the eastern coast of the Mediterranean.

*Slide 14. A Roman glass cup (3-4<sup>th</sup> Century AD) collected in Corning Museum of Glass, New York.*

During the same period, a number of Sassanian glasses were brought into China by Desert Route. They spread over the north of China and further, to Japan by sea.

*Slide 15. A Sassanian cut glass bowl from Iran. It was very popular in 1-7<sup>th</sup> century.*

*Slide 16. A similar bowl from a tomb (3<sup>rd</sup> Century AD) in Echeng, Hubei province, China.*

*Slide 17. A Sassanian cut glass bowl discovered in Japan, dated 5<sup>th</sup> Century AD.*

When it comes to the Tang Dynasty (618-907 AD), Desert Route was the main route between China and Western Asia. As a result of this, many Islamic glass were excavated from the route, for example, from Famensi crypt (874 AD), Sannxi province, 18 Islamic glass vessels were excavated three years ago.

*Slide 18. A vase applied mold-pressed disk and trailed decoration from Famensi.*

*Slide 19. A dish incised plant and geometric motifs from Famensi*

*Slide 20. An enamel-painted plate from Famensi.*

On the other hand, at Yangzhou, a big port near the eastern coast of China during the Tang Dynasty, some fragments of Islamic glass and glaze were recently discovered. Moreover, West Asian glass was also discovered at Laem Pho and Ko Kho Khao, two important sea ports of the 9<sup>th</sup>-10<sup>th</sup> century AD of Thailand. Undoubtfully, the Maritime Route was flourishing as well, when the Desert Route was in its peak time.

After 1023 AD, the Desert Route in China was desolated. The trade between China and the World was mainly through sea. Chinese porcelain of the 11<sup>th</sup> Century or later was found in Western Asia and Northern Africa. It is evidence of goods exported from China by Maritime Route. But questions remain when we turn to glass importation. Chinese historical literature records large amount of glass travelling to the sea route after 11<sup>th</sup> Century. Yet few Islamic glasses dated later than the 11<sup>th</sup> century has been found in China, in particular, in the south of China. The only exception is a carafe discovered in northern China.

*Slide 21. A carafe from stupa of Dule Temple, Jixian, Tianjing(1058 AD)*

Explanation of this is still open for discussion.

I put forward a number of questions in this paper, as I said in the beginning we have little knowledge about the history of glass and glassmaking of Southeast Asia. Regardless of that, a conclusion can be drawn. Glass trade crossing the Southeast Asia began around 5<sup>th</sup>-4<sup>th</sup> Century BC and continued upto recent times. There must be more ancient glass to be discovered in this area, and that is exactly what we are looking forward to.