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# CHANGSHA CERAMICS TRADE IN ANCIENT SILK ROUT

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**ABSTRACT**

*The exports of Chinese ceramic specially made for overseas trade seem to have started from the ninth century and increased greatly from the thirteenth century. Changsha ware distinguished itself with the painted iron brown and copper green and/or applique motif on the vessel covered with a transparent glaze. Changsha Tongguan kiln plays an important role in the history of Chinese ceramics because it is the birthplace of colourful ceramics in the world. The porcelain produced there adopted colourful under glaze decoration technology, breaking the single pattern that only celadon and white porcelain dominated the world at that time. The main purpose of this research paper is to describe Changsha ceramic trade in the ancient silk route. The study will analyse the historical and production technical details of the white pottery and analyses the trade of Changsha ceramic through the archaeological research that has been uncovered. The archaeological recovery of the wreck and its cargo has revealed the largest and most comprehensive assemblage of Chinese ceramics found to date from the late Tang dynasty to the Song Dynasty. As such, these finds make a unique contribution to our understanding of Changsha ceramic culture and its place in international trade.*

**Keywords:** *Changsha ceramic, silk rout, Technology, Trade*

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## Introduction

Ceramics is a great invention of Chinese people. China has long been famous for its rich Ceramics, which enjoys the reputation of "Ceramic country" in the world. The skill of in exploiting those raw materials, and the high degree of organization which

prevailed in the Chinese ceramics manufacturing industries from the earliest periods onwards, have ensured China's constant position as the world's foremost producer of ceramic artifacts. Since the Han and Tang Dynasties, ceramics have been exported worldwide.

Changsha ceramics industry has a long history, rich cultural connotations and unique ceramic skills. Changsha kiln, also known as Tongguan kiln (铜官) or wazauping kiln (瓦渣坪)[1]. Archaeological excavation since the founding of the China shows that Changsha kiln was first burned in the middle Tang Dynasty (about the eighth century A.D.), flourished in the late Tang Dynasty (about the ninth century A.D.), and declined in the Five Dynasties (about the first half of the tenth century A.D.). The kiln site is located in the area from Tongguan Town to Shizhu (石诸) Lake in the suburbs of Changsha. There are a large number of porcelain pieces and kilns in the site, which are piled up into more than ten small hill packages. It can be seen that the kiln industry was prosperous at that time. The porcelain of Changsha kiln reflects the new development direction of the Tang Dynasty from focusing on the glaze colour beauty of porcelain to the colour painting decoration beauty, which plays an important role in the development history of Chinese ceramics.

**Figure 1: Changsha Ceramic Jar**

Since the discovery of Changsha kiln in 1950s, it has attracted great attention of the world. Mr. Feng Xianming and Mr. Li huibing, famous ceramic experts, visited the Tongguan kiln site in Changsha successively. According to archaeological data, the Changsha ceramics was wide spreading of the over the north and south of Yangtze River[2].

## History of Changsha Kiln

One of the important purposes of Changsha Kiln porcelain production is to meet the needs of economic development and export in coastal areas[3]. The western characteristics of Changsha kiln products are also gradually formed. The palm leaf type lotus, lvsite type lotus and Assyrian type lotus with Greek characteristics have a long history in the West and have influenced China. They have appeared in the "Xiangyin (湘阴) kiln" print in the early stage of Yuezhou (岳州窑) kiln. With the characteristics of the western regions, figurines such as Hu people leading camels, horses and hawks were also unearthed in early Tang tombs in Changsha and other places. It shows that in the early products of Yuezhou kiln, the cultural exchanges between China and the West have been gestated, while in the products of Changsha kiln, there have been greater changes. After the "An Shi zhi luan (安史之乱)", the blocking of land traffic in the north and the gradual development of the maritime ceramic road in the South promoted the export of Changsha kiln ceramic products[4]. As the Tang government made great efforts to develop trade and exchange with the west, the merchants of Persia and the big food country in the West actively traded with China, and at the same time, brought their culture and art, also reflected in the decoration of Changsha Kiln porcelain[5].

During the period of Kaiyuan (开元) and Tianbao (天宝), the economic and cultural development of the Tang Dynasty reached its peak, and the painting and ceramic technology also showed a colorful and magnificent style. At that time, the Sancai (三彩) glazed ceramics of Tang Dynasty in the North was springing up rapidly in Chang'an (长安), Luoyang (洛阳) and other places. In the inscription poem of Changsha kiln products, "Luoyang is a long way from here, and every use

of gold" indicates that the Sancai glazed ceramic of Tang Dynasty in Luoyang must have a certain impact on the formation of Changsha technology. After the an Shi zhi luan, Tang Xuanzong Li Longji ( 玄宗李隆基) fled to Sichuan ( 四川), and Sichuan's kiln also produced colored porcelain with the characteristics of Changsha kiln. It shows that there is a subtle relationship among the Tang Sancai, Changsha kiln and Qionglai (邛崃) kiln. At that time, the population of the Yellow River ( 黄河) Basin moved to the south in large numbers, so-called "the north of the Yellow River is smoke-free for thousands of miles; between the Yangtze (长江) River and the Huaihe River (淮河)"[6].

The characteristics of Changsha's products are mainly reflected in the following three aspects:

1. The relationship between Changsha kiln and Yuezhou kiln
2. The relationship between Changsha examination and the northern Sancai ceramics
3. The relationship between Changsha kiln and Western culture

According to the analysis of the ceramic unearthed from the tombs of the Five Dynasties in Changsha, it is found that there are underglaze brown colored Mencius. It shows that in the Five Dynasties, Changsha kiln was still in production, but the porcelain quality was rough. It is worth noting that the burial objects of Changsha seen in the tombs of the late Tang Dynasty and the Five Dynasties are often the same as those of the unglazed plain fetal multi angle altar, the top shaped altar and the hollowed out gourd shaped vessels[7].

By the Northern Song Dynasty (北宋), Changsha kiln products had not been unearthed in the tombs of the Northern Song Dynasty. However, it is worth noting that the writers in Changsha kiln District found a piece of multi corner altar remnant with the characteristics of the Northern Song Dynasty; and in 1983, six kinds of copper coins were found in the ceramic accumulation of dusipo (都司坡) in Changsha kiln District. In addition, there are song style Hengshan (衡山) kiln bowl, Jiangxi (江西) Jingdezhen (景德镇) Song Dynasty painted and Huaqing (花青) white porcelain. In Changsha kiln area, Hengshan kiln was found in Song Dynasty. It shows that Hengshan gradually replaced Changsha kiln in Song Dynasty[8].

However, in terms of product quality, the tire quality of the five generations of products has become very rough, such as "milling trough in the fourth year of Tiancheng" and "carving pillow in the third year of Kaiping", which are almost close to rough pottery. These products show that Changsha kiln has tended to decline.

Changsha kiln mainly burns all kinds of daily life utensils, as well as stationery and various sculpture toys. In the early stage, bowls, plates, kettles, pots and bowls were mainly used, with uniform specifications. In the later period, in addition to the daily life tools such as washing, pillow, holder, box, etc., stationery tools such as Paperweight, ink stone, pen wash etc., as well as figurines, horses, dogs, pigs, elephants, etc., were also made. The changes in the shape of the artefacts are also obvious. In the early stage, the fetal mass was coarse and loose, and the fetal colour was dark red; in the later stage, the fetal mass was fine, and the fetal colour was grayish yellow and grayish green. In the early stage, the glaze colour is yellow with blue, and the composition of yellow is slightly heavy. Some glazes are not well combined with the fetus, and the phenomenon of glazes peeling often occurs. In the later stage, the glaze colour is blue and yellowish, the composition of blue is increased, and the colour is stable. There are also blue or green glazes with opalescent medium bright blue and pure natural integration. The combination of glazes and tires is tight, and no glazes are peeled.

## Technology of Changsha Kiln

The greatest characteristics of Changsha kiln in Tang Dynasty, the most reflective of the characteristics of Chinese porcelain in Tang Dynasty and the nature of Changsha kiln should be colored porcelain. The famous kiln area of Yuezhou is near the rising place of Changsha kiln. Changsha Kiln's underglaze painted porcelain is developed on the basis of Yuezhou ( 岳州窑) kiln's celadon. The two have the similar embryo, glaze color, and firing technology, with obvious development and inheritance relationship.

However, Changsha has its own unique technology and cultural connotation. The biggest difference between them lies in glaze color and

decoration. Yuezhou kiln belongs to celadon system, and Changsha is the beginning of colored porcelain. Yuezhou kiln is mainly made of a plain surface; some of its products are decorated with printing, with a small amount of underglaze spot color. The most important and characteristic decoration technique of Changsha kiln is under colorful, with rich color paintings. The tire decoration is mainly pattern printing spot flowers rather than printing. In terms of shape, most of the products of Changsha kiln have no origin with Yuezhou customers.

Changsha Kiln porcelain is made of high calcium glazes made of plant ash; the green and red glazes are colored with a copper element and contain a certain amount of SnO2. The content of CuO is less than 2.4%. It is red in reducing the atmosphere and light green in the oxidizing atmosphere. When the copper content is high, it is green or blue-green. Brown is colored with iron[9].

The characteristics of Changsha bodies: the presence of large grains of quartz and iron minerals in the body, indicating low-grade body materials were used and the body materials were not finely prepared[10].

The characteristics of the glazes and painted colours[11]:

(a) Very low $Al_2O_3$ content (8.1 - 12.3%), indicating less clay was used in the glaze as compared with the glazes of other historical kilns.

(b) High in $P_2O_5$ content (1.1 – 3.0%)

(c) The MnO content of brown painted colours may be as high as 3.8%

(d) The green coloured glazes and painted colours are usually opaque in appearance, this phenomena can be attributed to the presence of $P_2O_5$ and a small amount of $SnO_2$ (0.4– 0.9%) and $As_2O_3$ (0.02%) in the glaze and painted colours.

The traditional main technologies of Changsha kiln include collect row material, soil mixing, mud making, mud drilling, mud testing, shaping, drying, decoration, glazing, drying, kiln loading, firing and kiln discharge.

Their bodies were slightly coarse; gray, grayish-white, or slightly reddish-white; and contained sand particles. To reduce the need for excessive glazing as well as to brighten the colour white or off-white slip was applied to the body of a vessel before any decoration and glaze were applied, thereby making the glaze more adhesive. This process was used with almost all shapes and types of ceramics with various glazes and colour under glaze decorations.

These Changsha ceramics were wood-fired, using the southern style of longyao or dragon kiln. The field research shows that one such kiln at Tanjiapuo in Wazhaping had a chamber measuring 41 m in length, and 3.5–2.8 m in width. It sloped upwards from the furnace at an angle between 9° and 23°. Like most southern wares, the Changsha wares were fired in a temperature range of 1,150–1,200°C in an oxidizing-reducing-oxidizing atmosphere. It was lower than the firing temperature for the contemporary Yue ware (1,240°C) from Zhejiang, the Yaozhou ware (1,230°C) and the Ding ware (1,300°C) from northern China. During the process of firing, saggers were used. A pat was used if a sagger contained more than one piece. No marks were left after the firing. The few finds of spurred stands and filler rings at the sites of the ceramic production suggest that they were rarely used in Changsha kilns.

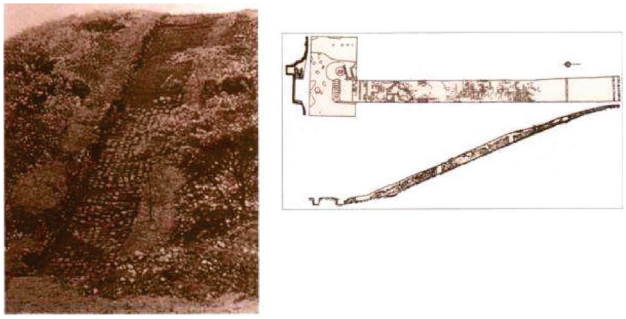


**Figure 2: Tanjiapo Changsha Kiln Site**

## Changsha ceramic declaration

Most of the Changsha ceramics are decorated on the interior with copper-green and iron- brown painting under a transparent glaze with a greenish tinge. Light or dark brown underglaze patches are further created on the rims constituting a square frame decorating the interior, a major characteristic of the décor of the Changsha bowl. Sometimes, particularly on the bowls with four-lobed sides, dots are used instead of patches. The underglaze decorations comprise a wide range of freely painted designs, including

vapor or cloud scrolling, foliage and flowers, animistic ornaments, landscapes, Buddhist motifs, poems and phrases, and foreign figures[12] .

The landscape pattern accounts for about 2% of the total amount of glazed porcelain[13] unearthed at the kiln site. There are single painted trees, cottages, pagodas and other buildings. The pattern of flowers and birds accounts for about 80% of the total number of decorative paintings in the porcelain of the kiln[14]. There's a flower. Among them, there are lotus flowers that can be sure of their names. The painted lotus is mainly realistic, or in bud, or half open petals. Most of the other flowers are patterned. The leaves and flowers are shaped like hibiscus, chrysanthemum or arrowhead. There are also paintings of flowers and fruits. The fruit is similar to pineapple, and the leaves are variable.

The birds painted include little birds, egrets, swallows, Mandarin birds, wild geese, mandarin ducks and red crowned cranes. The birds are mostly in the shape of leaps, the geese are circling up and down, the Mandarin birds are fickle in rise and fall, spreading their wings and opening their screens, and the egrets are strolling leisurely. It seems that the habits and characteristics of these birds are well described. As a rule, mandarin ducks and swallows are drawn in pairs, while other birds fly alone and stop alone, and their beaks are tightly closed, with few exceptions. The numerous motifs employed by Changsha potters in designing molded medallions can be classified into three primary groups: foliage, animals, and human figures. The foliage motifs take up by far the largest part of the decorative repertoire. They often are composed together with birds, heraldic-looking emblems, and architectural frameworks to form charming images.

The flourishing of poetry inspired Changsha craftsmen to turn it into a decorative medium. The excavation carried out in the vicinity of Changsha in 1983 yielded some 248 pieces of either intact or fragmentary Changsha ceramic works that bore inscriptions, 193 of which were inscribed with poems. Many Tang poets also excelled in calligraphy and painting. On some of the Changsha bowls, the poems are beautifully rendered in calligraphy, heralding the later development of the Three Perfections[15].

## Trade culture of Changsha Kiln Ware

The Tang Dynasty had strong national strength, a prosperous economy, frequent cultural exchanges and business exchanges between China and foreign countries. Porcelain became a common tool of daily life in the Tang Dynasty. At that time, many foreigners living in China, especially foreign businessmen who had close relations with China, envied Chinese people's use of porcelain very much. They are both enthusiasts and disseminators of Chinese porcelain. Changsha Kiln was an important kiln area in South China (Tongguan City in Hunan Province) during

**Figure 3: Changsha Ceramics**

the Tang Dynasty, active in exporting products to other cultures. Products were moulded figures, jars and utensils designed in different forms and inscribed with varied decorations[16].

At the beginning of the ninth century, the production of Changsha Kiln porcelain increased in quantity and quality. It was just after the implementation of the two tax laws that the social economy developed, especially the activities of urban economy and foreign trade were more active than before. One of the important purposes of Changsha Kiln porcelain production is to meet the needs of economic development and export in coastal areas. The export of China's porcelain mainly depended on land before shipping, that is, along the "Silk Road", from Xi'an (西安) to Persia through Xinjiang (新疆), Central Asia, and Western Asia. Due to the difficulties and losses of transporting porcelain by land, the export volume in the early stage was very small. With the development of the Tang Dynasty's maritime transportation, the development of the shipbuilding industry and the improvement of the navigation technology, a large number of porcelain exports created the conditions. End of the 8th century, after the opening of the Guangzhou (广州) Persian Gulf route, the vast majority of China's porcelain sold overseas was exported along this maritime route[17].

Changsha Kiln porcelain is one of the important commodities in ancient China's foreign trade, which has been unearthed in Korea, Japan, Southeast Asia, West Asia and other places. For example, the dance music pictures of the Hu people, lion shaped pictures, coconut trees, grapes and some birds and magpies with colour drawings or mounds on common utensils obviously have the styles of Western Asia and Persia. It shows that Changsha Kiln porcelain is influenced by foreign culture as well as spreading abroad, so its products are more colourful.

According to foreign archaeological data, almost all the countries and regions that unearthed Yue Kiln celadon and Ding kiln white porcelain were accompanied by Changsha Kiln porcelain. The "Three Combinations" of Yue Kiln celadon, Ding kiln white porcelain and Changsha Kiln porcelain became the main contents of China's export porcelain in the late Tang and Five Dynasties. These three combinations are found in ancient sites in Japan, Korea, the Philippines, Indonesia, Malaysia, Sri Lanka and other Asian countries. The varieties of Chinese porcelain unearthed from the Seraf site in Iran and the Samara site in Iraq are the same as those of the above countries and regions. The Changsha Kiln porcelain unearthed from the Seraf site surpasses the Yue Kiln celadon in quantity. It can be seen from this that the proportion of Changsha Kiln porcelain in the "Three Combinations" of China's export porcelain at that time was so large. Because this stage is dominated by maritime traffic, in addition to the Yue Kiln celadon produced in the coastal areas, Ding kiln (定) and Changsha kiln in the mainland must first transport their products to the then foreign trade port of Guangzhou or Mingzhou (明州), and then from Guangzhou or Mingzhou to other countries in the world[18].

Changsha kiln suddenly declines after entering Song Dynasty and stopped production. After entering Song Dynasty, the export of China's porcelain has undergone significant changes[19]. Kiln factories have transferred from the mainland to the coastal areas, and the newly established export porcelain in Guangdong, Fujian and other coastal areas has mushroomed. This kind of transfer is not only to shorten the transportation mileage and reduce the loss of porcelain on the way but also to provide convenient conditions for a large number of exports. At the same time, the blue and white porcelain produced in Jingdezhen, Jiangxi Province has also been added to the export ranks. As a result, Ding kiln white porcelain and Changsha Kiln porcelain in the mainland withdrew from the stage of export. Because the porcelain of Changsha kiln in the mainland is mainly exported, it will decline with the transfer of other export porcelain producing areas. This is probably the main reason why Changsha kiln suddenly stopped production[20].

With a deluge of a great number of merchants sailing in from the Middle East to China to try their fortune and look for valuable good for trade, the Chinese ceramic wares were also exported continuously by sea to countries in South East Asia and West Asia. The opening of the maritime route from ports located in South China to the Middle

East in the Tang Dynasty provided a channel for the export of the China ceramic overseas during that time. From the point of view of the whole Maritime Silk Road, we can see that China's Changsha ware and ewer have been unearthed or exported successively in Māntai port as well as Belitung Shipwreck, Cirebon Shipwreck, Port of Laem Pho and Ko Kho Khao in Thailand, Muara Jambi in Sumatra, Sanjan, Bandhore, Nishapur and Siraf port in Iran, Samarra in Iraq, Fustat in Egypt and other places, which shows that China's ceramic reputation is well-known. As early as the Tang Dynasty, it has been drifting across the sea and gaining global prestige. As well as the port of Māntai can be identified as the center of the ceramic trade in Silk Route and can be identified as a gathering place of Chinese traders and Arabic traders.

Changsha wares have been reported for sites all along the ceramic trade routes going from China to West Asia. The numbers are always small but the presence of these wares are significant considering that they were some of the earliest Chinese wares to be traded along with Yue and white wares of the kind found at Samarra. While a number of archaeological sites in West Asia and East Africa have recorded Changsha ware, one of the largest and most significant finds has been the discovery of the shipwreck off the island of Belitung in the waters of the java sea. The Guangdong Storage jars appear to have been containers for the Changsha bowls and other wares. Whitehouse discusses the Chinese ceramics from Siraf and dates them to the first quarter of the 9th century on the basis of their recovery from the Great Mosque. Changsha ceramics which he calls "painted stoneware". As well as, Changsha ceramics (Bowl and Ewer) have been found in Māntai, Cirebon Shipwreck, Port of Laem Pho and Ko Kho Khao in Thailand, Muara Jambi in Sumatra, Sanjan, Bandhore, Nishapur, Manda, Shanga in Kenya and, Fustat in Egypt (Table.1/2). At most sites, the dating of this ware does not go beyond the middle of the 9th century.

## Summary

Among the commodities on the Silk Road, Chinese ceramics are introduced as a luxury good. Thus, Chinese ceramic began to spread throughout the world in the Tang Dynasty. The ceramics produced in the northern and southern parts of china were assembled at the Guangdong port for international trade. These assembled ceramic travelled from Southeast Asia to Central Asia and then to Arabia.


**Figure 4: Route of the Changsha ceramic exported**

*Source:* http://www.peoplemuseum.ir/research%202015-1.htm

**Table 1: Changsha Bowl**

Mantai Port in Sri Lanka

The Belitung Shipwreck

The Cirebon Shipwreck

Port of Laem Pho, Thailand

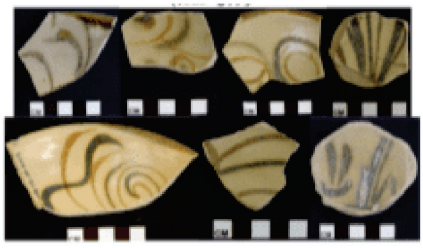
Ko Kho Khao, Thailand

Sanjan (Gujarat) India

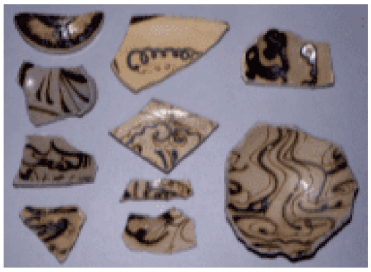
Banbhore site, Pakistan

Siraf Port, Iran

Nishapur, Iran



Fustat, Egypt



Shanga site, Kenya

**Table 2: Changsha Ewer**

Mantai Port, Sri Lanka

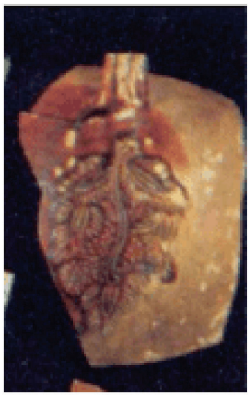
Fustat, Egypt

The Bulitung Shipwreck

The Cirebon Shipwreck

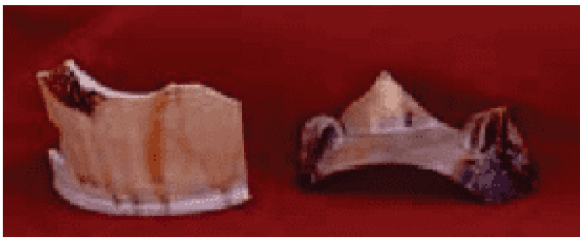
Port of Laem Pho Thialand

Ko Kho Khao Thailand



Nishapur, Iran

Banbhore site, Pakistan



During the late Tang Dynasty to the Song Dynasty, a large number of Chinese ceramic were exported. The remains of the disseminated Chinese ceramics are still found in many countries. Ceramic has been reported from almost all sites in the Indian Ocean littoral attesting to the great demand in the international market for this Chinese commodity. That a large part of the maritime trade was driven by the demand for specialty ceramic is clear from the far-flung regions which report them. From the West Indian Ocean to China, the demand for Chinese ceramic appears to have been high during the late Tang dynasty to the Song Dynasty ($8^{th}$-$11^{th}$ century A.D.). The Chinese ceramic trade route stretched from the Southern Chinese coast through the Malacca straits or the Isthmus of Kra to Sri Lanka and the west coast of India to the Persian Gulf the red sea and the coast of East Africa. It is not surprising to find that Chinese ceramic have been reported from sites all along this route.

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