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ORIGINAL PAPER

Targeted production and altered functions: Chinese ceramics exported to Southeast Asia during the Five Dynasties and Northern Song period (AD 907–1127)

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Abstract
This paper aims to explore whether there were any Chinese ceramic vessel forms and decorations during the Five Dynasties and Northern Song period specially produced for the Southeast Asian markets and whether the functions of some exported Chinese ceramics became altered in local societies. Through comparative study between shipwreck cargo and finds within China, it is argued that at the Yue kiln complex, particularly at the Bijiashan and Xicun kiln sites, some vessels were produced to cater to the aesthetic standards and needs of the Southeast Asian markets. For wares that were commonly seen in China, how they were used after export might also differ significantly from their original functions, which is illustrated by interpretation of relevant scenes in bas-reliefs at Southeast Asian temples and the function of similar local earthenware and ascertained through some reference to ethnographic and historical records.

Keywords Trade ceramics · Southeast Asia · Shipwrecks · Yue-type wares · Qingbai wares

By examining the Chinese ceramics exported to Southeast Asia during the Five Dynasties and Northern Song period (AD 907–1127), this paper aims to discuss the existence of vessel forms and decorations specifically made for overseas markets which here mainly refers to those in Southeast Asia and the functions of some ceramic types after they were exported.[1] The main research objects are the Chinese ceramics found on ten shipwrecks or shipwreck sites discovered in the South China Sea and Southeast Asian sea waters and dated to this period (Table 1). The research is based on the comparative study between shipwreck cargos and finds within China, interpretation of relevant scenes in bas-reliefs at local temples in Southeast Asia, consideration of the functions of similar locally-produced earthenwares, and it also makes reference to ethnographic and historical records.

The exported ceramics are divided into two periods here to better illustrate changes through time: first, the Five Dynasties to early Northern Song period (the tenth century), and second, the mid-to-late Northern Song period (the early eleventh century to early twelfth century). There are distinctive differences in traded ceramic types and provenance between these periods. During the early eleventh century to early twelfth century, qingbai 青白 wares replaced Yue 越-type wares to become the dominant traded ceramic types, and they account for the major proportion of ceramic cargo on several wrecks, while a new type of green ware, the olive glazed ware with color ranging from dark green to yellowish green, also appeared. Also, in the later period, the industrial center of export ceramic production shifted from Yue-type kilns in Zhejiang 浙江province to the trade-oriented kilns in Guangdong广东 and Fujian 福建 provinces.

[1] Southeast Asian ports could act as entrepots in the Indian Ocean trading network, and goods shipped to them might be transited to markets farther west. Moreover, some of the traded ceramics were also exported to locations in East Asia. Therefore, it is of note that I am not suggesting that the ceramic vessels mentioned in this essay were made only for Southeast Asian trade, but rather, the scope of this study is limited to the East Indian Ocean.

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Table 1 Shipwrecks in the South China Sea and Southeast Asian sea waters dating to the Five Dynasties and Northern Song period (AD 907–1127)

Name	Date	Location	Recovered Chinese ceramic types	Reference
Fenliuweiyu 分流尾屿 wreck	907–960	Fujian, China	all Yue-type green-glazed wares	Yang et al. (2011); Yang (2015:112–19)
Musi River wreck	late ninth or early tenth century	Palembang, Indonesia	ten thousand high-quality white porcelain bowls; few white wares of lower quality	Gardellin (2014: 15–20)
Intan wreck	918–960	North Java Sea, Indonesia	coarse green/brown glazed wares (4,929), Yue-type wares (1,071), qingbai wares (799) and white wares (190)	Flecker (2002)
Cirebon wreck	968–1000	North Java Sea, Indonesia	Yue-type wares (139,569), some white wares (3,465)	Liebner (2014)
Karawang site	early-mid tenth century	North Java Sea, Indonesia	Yue-type wares (5,952) and white wares (50)	Liebner (2009)
Xicun Belitung wreck	late tenth century to early eleventh century	Belitung Island, Indonesia	mainly light olive-glazed wares, others include large white-glazed bowls and greyish glazed small jars	Gardellin (2013: 15–19)
Xicun Riau wreck	eleventh to early twelfth century	Riau Archipelago, Indonesia	greyish green-glazed large wares with brown painting, brown glazed wares, and qingbai wares	Gardellin (2013: 15–19)
North Reef No.4 site	eleventh to early twelfth century	Paracel Island, China	qingbai/white wares, few earthenwares	Zhao (2012: 171–184)
North Reef No.5 site	eleventh to early twelfth century	Paracel Island, China	qingbai wares	Zhao (2012: 171–184)
Pulau Buaya wreck	late eleventh to mid twelfth century	Pulau Buaya Island, Indonesia	mainly qingbai wares, followed by green-glazed wares and brown glazed wares	Hu (2014: 48–67)

1 Export ceramics from the Five Dynasties and early Northern Song period (the tenth century)

During the first period, judging from the shipwreck finds, the dominant ceramic types are Yue-type green-glazed wares produced in Zhejiang province, followed by white wares from the Fanchang 繁昌 or Ding 定 kilns and green or brown-glazed coarse wares from Guangdong province, with qingbai wares being rarely seen.[2] The most common vessel forms are bowls and dishes, which remained as the major vessel form in the later period. The exported bowls and dishes found on the shipwrecks bear no difference from their counterparts made for the domestic market. Nevertheless, how they were used in local society depends on the culture involved. On the one hand, there were those who made general use of these ceramics, such as in Java and Sumatra, where such ceramics are found in habitation sites but not in burial contexts (Dupoizat 1995: 222; Adhyatman 1981: 140–143). Bowls were regarded as items to be used, even if they were valuable items, and were probably mainly for ceremonial use. On the other hand, in other societies in the region, such as in Borneo and the Philippines, ceramic bowls and dishes were regarded as being charged with spirit power and were used in burial practices (Dupoizat 1995: 223; Peralta 1974: 50–58).

Besides the commonly seen bowls and dishes, there are some other vessel forms worth mentioning, such as the round lidded jars with contracted mouth and straight foot, which were made in the Yue-kiln complex and discovered on the Intan, Cirebon, and Karawang shipwrecks (Fig. 1). It

[2] The coarse green or brown glazed wares from Guangdong province make up over half of the cargo of the Intan wreck, but on the other four wrecks they only account for a small proportion. There are also qingbai wares from the Fanchang kiln, but they were only found on the Intan wreck and are not mentioned in the excavation reports of the other wrecks.

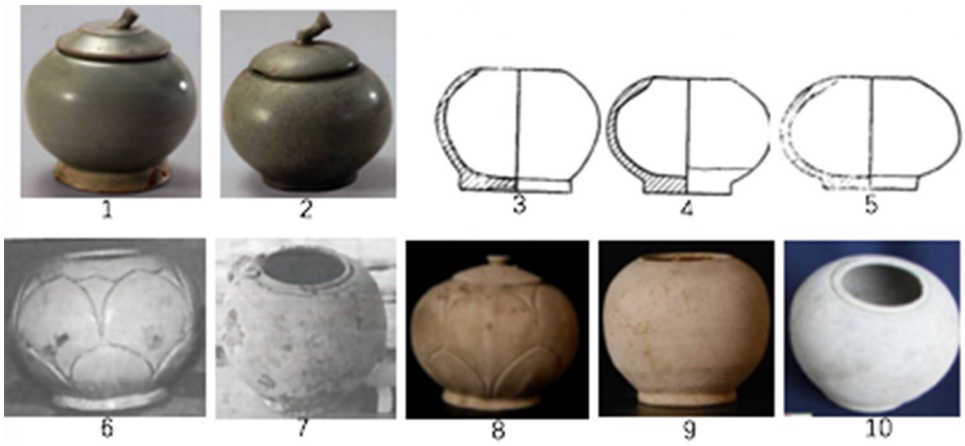

Fig. 1 Comparison of jars found in China (1–5) and in tenth-century shipwrecks (6–10). 1–2. from Kang 康Mausoleum of the Wuyue 吴越 State; 3–5.Tang 唐 Dynasty tomb at Zhengjiang 镇江; 6–7. Intan wreck; 8–9. Cirebon wreck; 10. Karawang shipwreck site. 1–2. after Linan City (2010: 59); 3–5. after Liu (1985: 134); 6–7. after Flecker (2002:109); 8–9. after Liebner (2014:167, 168); 10. after Liebner (2009)

Fig. 2 Eleventh-century examples of Khmer ceramics lime pots. After Stock and Southeast Asian Ceramic Society 1981: 79, 106, 117

is believed that such wares served different functions after being exported which will be discussed below.

The heights of the shipwreck jars vary from 6 to 13 cm, and the majority are plain with some decorated with a carved lotus. Among the excavated Yue-type wares from the Tang 唐 Dynasty and Five Dynasties tombs in Jiangsu 江苏 and Zhejiang provinces, we see very similar discoveries (Fig. 1: 1–5) (Linan City 2010: 59; Liu 1985). This type of jar is called a *shui yu* 水盂 in Chinese, and during this period it was used in China as a jar-like water dropper that contained a small amount of water to make a few drops onto the surface of an inkstone: it was a device designed primarily for calligraphy usage in China. While papermaking technology would have been introduced to Java by the tenth century,[3] the calligraphic practices embedded in Chinese elite culture and its matching tools did not disseminate as widely. Surviving early inscriptions from Java are mainly epigraphic and palm-leaf manuscripts, which were introduced from the Indian subcontinent and remained the main writing material of Java until the eighteenth century (Griffiths 2012). In addition, the more common type of water dropper—those with a pouring spout and handle—has only been found once among the hundreds of thousands of Chinese ceramics shipped to Java during the tenth century (Flecker 2002: 112) and is also absent at contemporary terrestrial sites (Adhyatman 1981: 143). All the evidence suggests that calligraphy was not embraced and adopted by the local literati and these round-lidded jars were intended for a different use in Javanese society rather than being calligraphic tools.

So the question is, how were these jars used by the Javanese? The quantity and shape of these small jars suggest that they were used in Java to preserve and serve betel nut. The shipwreck findings are similar to the earthenware lime pot produced locally in terms of its form and size (Fig. 2). Lime pots were containers for lime powder, one of the components necessary for betel chewing, a millennia-old tradition firmly embedded in many Southeast Asian societies and embraced by all ages and classes (Reid 1985). A pot that contained lime is readily identifiable by a white or pink residue on the interior. One well-known example are the well-preserved lime pots from Khmer finds, which are of spherical shape and commonly decorated with eyes, beak, and tail of an owl. These Khmer lime pots are usually covered with brown glaze and the height ranges from 5 to 10 cm (Stock and Southeast Asian Ceramic Society 1981: 53–54). Since this

[3] The papermaking technology had been introduced to Vietnam in the third century AD, and by the time of the Tang Dynasty Tang Dynasty, it had also been introduced to India through the overland Silk Road (Wang 2010: 93). Considering the close contacts between India and Southeast Asia, it is possible that papermaking technology would have spread into Java through India.

Fig. 3 Yue-type green glazed kendis from the shipwrecks (1–4) and Chinese archaeological sites (5–8). 1–3. from the Cirebon wreck; 4. the Intan wreck; 5, 7. Foundation palace of Jingzhi 靜志temple (AD 977) at Dingzhou 定州; 6. Xiangshan 香山 temple at Luoyang 洛阳; 8. Tang Dynasty tomb at Gaoling 高陵, Xian 西安;. 1–3. after Liebner (2014: 186); 4. after Flecker (2002: 109); 5, 7. after Zhang (2008a: 97, 103); 6. after Zhang (2008b: 84); 8. after Zhang (2008c: 65)

similar type of Chinese-made jar was discovered on three shipwrecks in relatively large numbers, it is likely that they were exported as objects needed for a popular custom such as betel chewing. For example, The warehouse record of Cirebon shipwreck, contains 4943 objects that can be identified as this *shui yu* jars (Liebner 2014: 138–140); 262 such jar were brought to the surface on Intan wreck (Flecker 2002: 109–110); and while the exact number of such jars uncovered from the Karawang shipwreck site is unknown, 886 vessels are registered as jars (Liebner 2009). It seems that what were calligraphy tools in China were transformed into containers used in local traditions after being exported to Java.

Another Yue-type vessel form of particular interest is the kendi, which is also found on the Intan and Cirebon wrecks (Flecker 2002: 109; Liebner 2014: 143–145). Kendi is a water container originating from India and probably exported to China as early as the Jin 晋 Dynasty (AD 265–420) (Li and Huang 1982). The earliest ceramic kendi made in China so far is dated to the Sui 隋 Dynasty (AD 581–619), and kendi continue to be produced by Chinese potters until the Qing 清 Dynasty (AD 1636–1912) with some variation to its original shape (Han 1950). Kendi are considered to be a popular traded vessel and were exported to Southeast Asia since the Northern Song period according to discoveries in the region. Nevertheless, the fact that kendis are commonly found in China in temple sites since the Tang Dynasty and are described in a Southern Song poem as a flower vase indicates that it was also widely used in ancient Chinese society (Ding and Xia 2007). Therefore, to simply state that the kendi was a vessel made specifically to cater to the needs of the overseas market is not entirely correct. It is of note that during the Song period, the kendis found in China and those exported had a distinct difference in vessel shape: those in China tend to have a long and thin neck and short spout (Fig. 3: 5–8), while those in Southeast Asia have rounder body, shorter neck, and longer spout (Fig. 3: 1–4) (Li 2013: 15–47). It appears that when re-exported, the vessel shape of kendis was adjusted to better fit its function as a pouring vessel in Southeast Asia.

The white-glazed wares recovered from the tenth-century shipwrecks are not much different from the contemporaneous domestic finds in China. The decoration on the cargo vessels, such as a lobbed rim or indentation, and the vessel forms such as bowls, dishes, covered boxes, jars, and pots, were also commonly seen among white wares excavated from Chinese sites. No finds indicate the existence of designs made specifically to cater to the need of Southeast Asian customers. But how were Chinese white wares used in the local Southeast Asian societies? The daily life scenes depicted in the bas-reliefs of Borobudur (a ninth-century Buddhist temple in Central Java) provide an interpretation for some vessels. The white glazed vases with a dish-shaped mouth—several of which were discovered on the Cirebon wreck (Fig. 4)—became a symbol of status and wealth in Javanese society, as can be seen in the offering and request scene of the Borobudur relief. The vessels, one on an altar and the other under a seat, were all placed near the major figures, who, judging by their higher position and intricate details of their clothes, were of superior social status (Figs. 5 and 6). It is apparent that the vessels were part of a setting that symbolizes the major figures' status and wealth. The vessels in the scenes are very similar to the shipwreck vases. Since we have not seen similar forms among the silver and

Fig. 4 White-glazed vases with a dish-shaped mouth from the Cirebon wreck. After Qin 2007: 100)

Among the coarse green glazed wares recovered from the tenth-century shipwrecks, one vessel form needs particular attention, which is the wide-mouth small pots with a depressed body and flat base (diameter 10-15 cm, height 4.0–6.8 cm) (Fig. 7). This vessel form accounts for over half of the recovered artifacts from the Intan wreck, and dozens were found on the Cirebon wreck. Moreover, around one hundred vessels of similar form and size but made at the Yue-kiln complex were salvaged from the Cirebon and Karawang wrecks (Fig. 8: 1–2). The large quantity and uniform shape indicate that they were trade items, but few studies have been done on this object.

In terms of the vessel form, it resembles a type of Chinese liquid container called *yu* 盂. But Chinese *yu* do not have large mouths such as the shipwreck finds' vessels have, and they rarely have handles on the shoulder, while half of these vessels from the shipwrecks are found with four lug-handles. This is probably related to the transport of these vessels on ships: it is probably that in the hold of a ship, rope could be be passed through the lug handles to secure the vessels to the ship. On closer observation, such vessels

Fig. 5 The "request" scene from a ninth-century Buddhist temple relief at Borobudur. After https://www.photodharma.net/Indonesia/01-Karmavibhanga-Storyboard/01-Karmavibhanga-Storyboard.htm)

Fig. 6 The "offerings to the prince" scene from a ninth-century Buddhist temple relief at Borobudur relief. After https://www.photodharma.net/Indonesia/01-Karmavibhanga-Storyboard/01-Karmavibhanga-Storyboard.htm

golden wares or Southeast Asian ceramics dated to the ninth and tenth centuries (Kal et al. 1994; Miksic et al. 2009), it is very likely that the vessels from the relief scenes were high-quality stonewares imported from China, just as the white vases on the Cirebon wreck were intended to be.

are more similar to the Southeast Asian earthenware from the Cirebon shipwreck (Fig. 8: 3). The shape of the bottom and the decoration on the upper body of the local earthenware indicate that they were tableware instead of kitchen

Fig. 7 Coarse green glazed pots from the Intan (1, 2) and Cirebon wrecks (3, 4). 1–2. after Qin and Ren (2018: 108); 3–4. after Liebner (2014: 185)

Fig. 8 Yue-type small pots from the Cirebon (1) and Karawang (2) shipwrecks, and similar earthenware pots from the Cirebon wreck (3). After Liebner (2014: 181, 182, 231, 236)

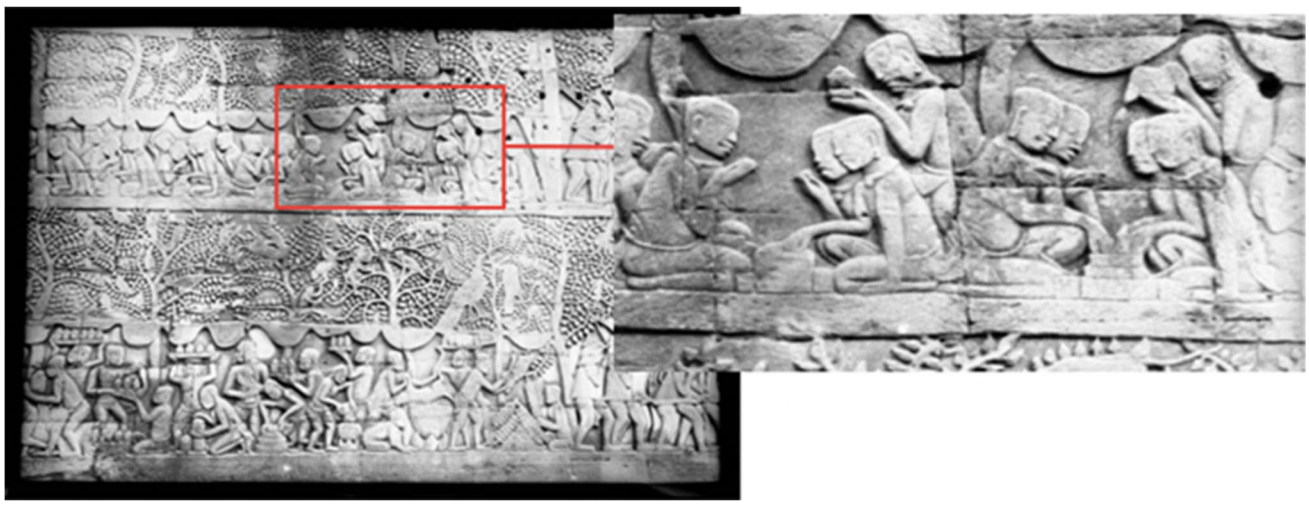

Fig. 9 Detail of a feast scene from bas-relief of the Bayon temple pyramid at Angkor in Cambodia (AD 1181–1219). After Cremin 2009: 81

pots or cooking vessels. As seen in the feast scene depicted in the bas-relief of the Bayon temple at Angkor in Cambodia (1181–1219), people were sitting on the ground and getting food from an open-mouth vessel which could be bamboo ware or ceramic (Fig. 9). These small pots from the wrecks were likely used in the same manner, but their size suggests that they provided one serving instead of being a sharing dish. It is apparent that the Yue-type small pots are of higher quality and the coarse ones from Guangdong province could be an inferior substitute. Such vessels are reported to be found at multiple sites in Southeast Asia. For example, it constitutes the biggest proportion of Chinese ceramics at Kampung Senangeh (Ke 2015: 265–297), and they are also found at tenth-to-eleventh-century sites in north and north-east Sumatra and the Philippines (Moore 1970).

A close examination of the shape and decoration of Chinese ceramics in ship cargos provides some new understanding of the trade ceramics industry during the tenth century. It is widely accepted that even though large amounts of ceramics were shipped abroad, the domestic market remained the major consumer of Yue-type wares. The findings on the tenth-century shipwrecks, especially on the Cirebon wreck,

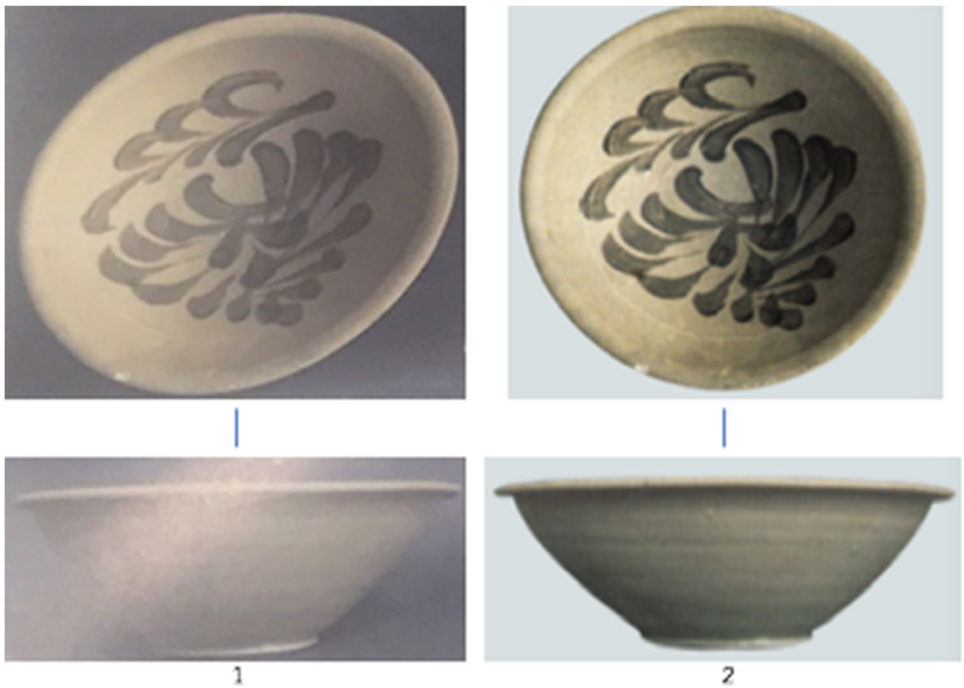

Fig. 10 1. A large painted dish from the Xicun Riau wreck(1), and a comparable find from the Xicun kiln (2). 1. after Gardellin (2014: 18); 2. after Guangzhou City (1987: 107)

however, suggest otherwise. More than three hundred thousand Yue-type wares were loaded on one merchant ship, some of which are just as delicate as those excavated from imperial tombs. Moreover, vessel forms that appealed to the Southeast Asian markets were produced. Taken together, this indicates that the mid-tenth century Southeast Asian markets were indispensable and one of the motivations for the Yue kiln production boom during this period.

White wares were found in much smaller numbers compared to Yue-type wares, which is probably due to the underdevelopment of white ware production in South China during the tenth century. White wares originated from the Xiangzhou 相州 (Henan 河南 province) and Xing 邢 kilns (Hebei 河北 province), and the earliest datable examples are those excavated from Zhangsheng's 张盛 tomb at Anyang 安阳, Henan province (dated to 595) (Li 2018). The production of white wares spread to South China during the late Tang Dynasty (mid-ninth to tenth century), when people in North China fled to the south due to the upheaval caused by the Anshi 安史rebellion, which led to an increasing demand for white wares in the South China market (Yang 2016). Archaeological discoveries indicate that at least during the Five Dynasties, the production of white wares in the south had started and the major kiln sites were Fanchang (Anhui 安徽 province), Jingdezhen 景德镇 (Jiangxi 江西province), Ganzhou 赣州 (Jiangxi province), Jizhou 吉州 (Jiangxi province), and Qingshan 青山 (Hubei 湖北 province) (Huang 2008). The scale of these kiln sites is much smaller than the Yue kilns. It is apparent that the tenth century is the early phase of white ware production in the south, but the qingbai wares that derived from it emerged to be the major ceramic type in the later period.

2 The mid and late Northern Song period (early eleventh to early twelfth centuries)

The Chinese ceramics from the five shipwrecks and shipwreck sites dated to this period are mainly green-glazed wares and qingbai wares, followed by brown and white-glazed wares, among which the green-glazed big dishes with brown painting are the most significant discoveries (Fig. 10). They appear on the Xicun Riau wreck but are not found on shipwrecks of later periods. Judging by its decoration style, such a vessel was probably made to cater to the aesthetic standards of overseas markets.

While the brown painting is a common decoration on Chinese ceramics, the discoveries of green-glazed big dishes decorated with brown painting are rarely seen at sites within China. Brown painting first appeared on green wares during the late third century (Yi 1988) and continued to be adopted by potters of later periods. The first large-scale production and export of green-glazed wares with brown painting happened at the Changsha 长沙 kiln in the mid-late Tang Dynasty, with hundreds of thousands of Changsha wares being found on the Belitung wreck dating to the late Tang Dynasty (Liu 2010: 145–159). After this,brown painting was increasingly used on white or brown glazed wares, such as is seen at the Song Dynasty kiln sites famous for production of brown painting wares, such as the Cizhou and Jizhou kiln

Fig. 11 Brown painting motifs on Changsha bowls (1, 2) and Xicun bowls (3, 4). 1–2. after Chen (2010: 428); 3–4. after Guangzhou City (1987: 41)

(Henan Institute 1997: 49, 183; Gao 2002: 145–149; Jiang 1958: 19–21). By the time of the Song period, green wares with brown painting were seldom found at archaeological sites within China except at the Xicun 西村 and Leizhou 雷州 kiln sites themselves. More importantly, regardless of glaze color, vessels with brown painting dating to the Song period are mainly jars, vases, and pillows instead of table wares such as bowls and dishes, which were more often decorated with incised or impressed patterns.[4] Therefore, based on the finds within China, it appears that dishes with brown painting were against the aesthetic standards of Song society. By contrast, big dishes decorated with brown painting have been found at multiple sites across Southeast Asia, including in Sarawak, the Philippines, Pulao Timao, South Sulawesi, South Borneo, and Indonesia (Guangzhou City 1987: 75–82). The greater abundance of discoveries overseas further demonstrates that the big dishes with brown painting were products made for Southeast Asian markets.

Based on historical records and archaeological finds, it is believed that the production of green-glazed wares with brown painting at the Xicun kiln was under the influence of Changsha wares. Firstly, there was a wave of immigrants flowing into Guangdong province during the late Five Dynasties and early Northern Song period, and this included craftsmen and potters. According to the *Yuanfeng jiu yu zhi* (元豐九域志; *The Yuanfeng Treatise of the Nine Regions*), a Chinese geographical treatise finished during the early Northern Song period, immigrants accounted for 39% of the population of Guangdong province (Song 1991). In Guangzhou 广州, Chaozhou 潮州, Huizhou惠州, and Leizhou雷州, where large-scale kiln sites are found, the proportion of immigrants was even higher, which leads to the reasonable assumption that there were potters among the immigrants. Hunan province, where the Changsha kiln is located, is adjacent to Guangdong province. With the decline of the kiln, it is highly likely that potters fled to Guangzhou to seek more opportunities, as it offered a more stable environment and the maritime trade continued to boom there. Secondly, a large amount of Changsha wares were once shipped abroad through Guangzhou, a major foreign trade port: this is supported by multiple finds of Changsha wares in Guangzhou (Guangdong Committee 1991: 59) and the huge number of Changsha wares on the Belitung shipwreck, an Arab merchant ship sailing from Guangzhou (Liu 2010: 145–159). The local maritime merchants and potters would have been aware of the popularity of such wares in overseas markets. Last but not least, the resemblance of the boldly painted floral patterns seen on Xicun dishes and Changsha bowls is very apparent (Fig. 11). However, these green-glazed bowls and dishes painted in brown pigment were rarely found after the Northern Song period, indicating that their production, at least on a large scale, had ceased.

Shipwreck finds also suggest that qingbai wares were exported in much greater numbers than during the previous period. Qingbai wares first appear in the mid-late tenth century at several kiln sites, including Fanchang, Qingshan and Jingdezhen and was widely produced after the eleventh century (Cui Mingfang et al. 2014). The invention of qingbai ware is believed to have been an accident during the production of white wares. The clay and glaze chemical component analysis of white and qingbai wares sherds from the Qingshan kiln site indicates that the major difference between these two ceramic types is that the qingbai wares have a higher content of Fe_2O_3, which could be due to an unthorough elutriation process or thick glazing, possible "mistakes" during the making of white wares (Chen and Guo 1996). The study of the glaze components of Jingdezhen white and qingbai wares further supports this conclusion

[4] Among the wares painted with brown pigments unearthed from Cizhou kiln, a higher proportion are jars and vases (Henan Institute 1997); there also is no mention of bowls and dishes with brown painting in the excavation report of the Jizhou kiln (Gao 2002: 42); As for the green wares decorated with brown painting produced at the Leizhou kiln and uncovered so far, 69% are jars and 12% are pillows, with only three bowls and one dish found (Yang 2001).

Fig. 12 Fish-shaped qingbai glazed bottles made at the Xing (1) and Meizhou 梅州kilns (2) during the Tang Dynasty, and at the Chaozhou kiln during the Song Dynasty (3, 4). 1. after Zhang (2008a: 53); 2. after Zhang (2008d: 20); 3. after Guangzhou City (1987: 38); 4. after Zheng (2015: 51)

Fig. 13 A Makara motif from Amaravati, South India (200 BC-AD 250). After Yang (2001:45)

(Huang 2006: table 3). Therefore, in the beginning, qingbai ware was a by-product of white ware production, but it was widely appreciated and became the major ceramic type of the Song Dynasty (Sun 2007: 2–9).

Among the qingbai wares exported to Southeast Asia, one particular vessel form, though not found on the shipwrecks, is worth mentioning—the fish-shaped bottle made at the Chaozhou kiln (Fig. 12: 3, 4). Bottles in the shape of fish or double fish had already been produced during the Tang Dynasty (Fig. 12: 1, 2) (Zhang 2008a: 53, 2008d: 20), but Chaozhou fish-shaped bottles have very different features: a big head, a V-shaped mouth filled with sharp teeth, more pointed and wider fin, and a flat body. It is believed that this form is a combination of the Makara motif and the shape of Sparidae fish. The Makara is a sea beast from Hindu mythology with good and evil sides whose original image is a big mouth with sharp teeth, long nose, bulging eyes, and a fish-body (Fig. 13). After introduced to China, it was ascribed a new meaning as a powerful protector of the long and dangerous journey (Yang 2001). The earliest example of the Makara motif found in China appears on the stone bed unearthed from the tomb of Anjia 安伽 (AD 579) (Wang 2013: 5). In the later periods, this motif was made into the ceramic vessel form as well as silverware, and it was also used as a decoration pattern on vessels (Fig. 14). During Chinese craftsmen's adoption and recreation of the Makara motif, there was some variation made to the original form. By the time of the Song Dynasty, the long nose was gone, and wings were added. It seems that the head of the Chaozhou fish-shaped bottle resembles the Makara, but the body has a different origin. It is proposed by another scholar that the commonly seen Sparidae fishes in the coastal water of South China were the inspiration considering their similar flat body and distinct fins (Zheng 2015). It appears that the Chaozhou fish-shaped bottle is an invention that combined a traditional mythological motif and a local marine creature.

As we all know, goods of trade-oriented kilns such as Chaozhou and Xicun were usually inferior copies of ceramics from famous kilns. Nevertheless, the Chaozhou fish-shaped bottle was a unique product, displaying distinguished features not found at any other kiln sites. Why did they not copy a known vessel but instead create something so different? The answer is not clear. But we know that the Makara was also a popular motif in Southeast Asia, as several tenth-century ceramic lamps in this form were salvaged at Palembang, and there were Makara statues at Borobudur, the

Fig. 14 Makara-shaped ornament and vessels and the Makara motif found in China. 1. a golden earring from the tomb of Yelvyuzhi 耶律羽之 (AD 942); 2. a silverware from Nandan 南丹, Guangxi 广西 province (Song Dynasty); 3. a sancai 三彩 ware from Liao 辽 tomb at Tongliao 通辽, Inner Mongolia; 4. a changsha bowl from the Belitung wreck; 5. a silver dish from Chifeng 赤峰, Inner Mongolia (Tang Dynasty). 1.after Wang (2013:10); 2–3. after Yang (2001: plate 4); 4. after Liu (2010:153);5. after Wang (2013: 6)

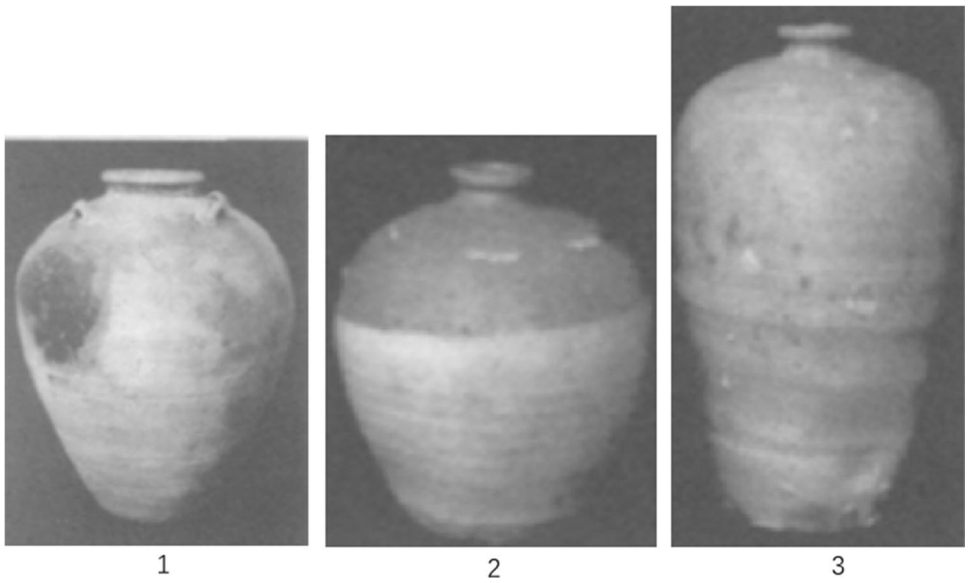

Fig. 15 Brown-glazed jars (1, 2) and a small-mouthed vase (3) from the Pulau Buaya wreck. After Hu (2014: 54, 55)

ninth-century Buddhist temple in Central Java (Du and Zhou 2012). Also, multiple Chaozhou fish-shaped bottles have been found in Singapore and Malaysia (Guangdong Committee 1991: 81), while in Japan, to where a large amount of Chaozhou qingbai wares were exported, there are scarce finds of such vessels (Tanaka 2017). Therefore, it is reasonable to assume that the Chaozhou fish-shaped bottles were made to cater to the needs of the Southeast Asian markets.[5]

The brown-glazed small-mouthed vases and big jars with four handles (height 40–65 cm) (Fig. 15), which accounted for only a small part of the recovered ceramic vessels on earlier shipwrecks, appear in large numbers on the Pulau Buaya wreck. This change, however, does not indicate an increasing popularity of such vessels in Southeast Asia, but rather the export of Chinese food and liquor.

The big jars on the Pulau Buaya wreck are not the object of elaborate preparation of the clay, potting, or glazing and they are usually plain without decoration. Although some of the Pulau Buaya wreck jars were found with stamped marks on the shoulder (Hu 2014), they more likely bore the function of advisement or identification instead of mere decoration: the position of these stamp marks allowed them to be seen when the vessel was lifted or transported. Traces of rope around the shoulder bands on the jars also indicate that the bands were for stringing (Quanzhou Maritime Museum 2017: 40, 46).

One question regarding these jars is whether they were dispatched from China as merchandise in their own right or as containers that hold foodstuffs or beverages for sale or provisions for the crew. Archaeological discoveries show

[5] Some qingbai wares from Guangdong province are also reported to have been found in have been found in multiple sites in West Asia and East Africa, but these are mainly bowls and dishes, with no fish-shaped bottles (Liu 2021). Nevertheless, the finds also include sherds whose original vessel forms are difficult to tell. Therefore, it is inconclusive whether the Chaozhou fish-shaped bottles were exported to markets further west.

that these jars when first used were containers for foods such as pickles, tea, and herbs, or for liquids such as water or alcohol:the discovery of jar sherds with "qing jiu 清酒" (fine rice wine) mark at Sarawak suggests that the jar were once a container for alcohol (Moore 1997); while in some big jars salvaged from the Nanhai No.1 wreck, there are remaining fruit pits (Hu Siyuan 2019). Other such jars served as containers for stacked ceramics, as is seen on the Belitung wreck, where bowls were stacked inside a big jar (Flecker 2010: 110). It is of note that brown-glazed big jars with shoulder- bands were also produced in Thailand and imported to other islands such as Borneo from the eleventh century onward (Harrison 1984: 128–133). In terms of cost and risk control, it does not make sense for merchants to ship similar products from a further destination. Therefore, the large amount of big Chinese jars on the Pulau Buaya wreck suggests that Southeast Asian people imported a large amount of food, possibly tea or wine, from China, as is also recorded in the *Song huiyao ji gao* 宋会要辑稿 (Compiled Government Documents of Song China) and the *Zhu fan zhi* 诸蕃志 (Records of Foreign People). For example, the *Song huiyao ji gao (Xing fa* 刑法 vol. 2: 144*)* records, "The cargo traded at the ports are things foreign countries are in lack of and in need of, such as ceramics, tea, and wine 阜通货物, 彼此所阙者, 如瓷器、茗、醴之属, 皆所愿得." The *Zhu fan zhi* (9, 19, 36, 43, 45) lists places that imported wine from Quanzhou during the Song Dynasty, including Champa 占城 (Central Vietnam), Khmer 真腊 (current Cambodian), Srivijaya 三佛齐 (current Sumatra), Tambralinga 单马令 (current Malaya, Thailand), and Langkasuka 凌牙斯加 (current northeast Malaya), etc.

Even though these big coarse jars produced in the vicinity of ports were containers for commercial substances, whether they remained as such after reaching their destinations varies. Wong (2011) asserts that big jars with or without stamp marks were used as daily utensils and discarded afterwards instead of being treated as valuable foreign goods in Singapore. This was based on the discovery of no intact examples, but only fragments, at ports and city sites. By contrast, brown-glazed stoneware jars unearthed in the Philippines are mainly found in mortuary contexts, either burial caves, cemeteries, or isolated graves, and are better-preserved (Sinopoli et al. 2006). In Indonesia, glazed jars with dragon motifs made after the fourteenth century became heirloom objects symbolizing wealth and social prestige (Harrison 1984: 14–20).

The small-mouthed vases in various sizes are also a common imported vessel type in Southeast Asia, and various potential functions have been suggested by other scholars, including being used as a container for holy water at ceremonies (Adhyatman 1981: 71), acting as mercury jar (Treloar 1972; Miksic 2013: 320–321), and serving as a wine bottle (Zainie and Harrison 1967; Xu 1983). Based on the archaeological findings at Quanzhou, I believe that originally, they were most likely used as grain wine bottles. In 1999, dozens of small-mouthed vases and some household potsherds were uncovered together with a grinding stone incised with the characters "酒库造碾" (grinding stone of the wine storage room) at the local office site of the Song Dynasty, which, as demonstrated by Zeng and Chen (2005), indicates that small-mouthed vases were wine containers. This conclusion accords with the discoveries that more than 400 sherds of small-mouthed vases were discarded together with food residue and other dietary utensils at the Quanzhou Song Dynasty site excavated in 1979 (Xu 1983).

On the Quanzhou Bay wreck, a Chinese merchant ship on its return from Southeast Asia, several small-mouthed vases were found (Quanzhou Maritime Museum 2017: 47), which indicates that these vessels were daily utensils of the crew instead of products for export. Moreover, historical records reveal that during the early-Yuan period (late thirteenth to early fourteenth centuries), a large amount of wine was produced in Jiangxi and Fujian, and in the local chronicles of Jinjiang 晋江 (Fujian province) published in 1765, it is stated that wine was one of the major products of the district (Wong Wai-yee 2016). Therefore, it is more likely that such vessels were dispatched from China not as items of trade in their own right but as containers of wine. Judging from shipwreck finds, it appears that Chinese wine became a popular exported good for the Southeast Asian markets from the twelfth century. However, the reuse of the wine containers in the consumption sites might differ from their original function, including being re-used as containers for holy water in ceremonies or for transporting mercury.

Between the early eleventh century to early twelfth century, trade-oriented kiln sites appeared in Guangdong province—the Xicun and Bijiashan笔架山 kilns—where certain vessel forms and decorations were made to cater to the tastes of the overseas markets and whose products were found more abundantly in Southeast Asia than in China. Such a development indicates that the ceramic industry of Guangdong province was actively involved in maritime trade during the Northern Song period. The featured products of trade-oriented kiln sites in Guangdong province were mainly imitations of ceramics produced at famous kilns, and while some were well-made, the majority were inferior. The advantages of the Guangdong trade-oriented kilns was the low price of their products and their superior geographical position, being closer to the export ports for the overseas market.

3 Conclusion

During the tenth to early twelfth centuries, shipwreck cargos indicate that vessels with common shapes and decorations that were well known to the potters and easy for

mass-production, such as dishes and bowls, were usually the primary exported ceramic types. Nevertheless, this does not mean that there was no difference between the ceramics shipped abroad and those consumed in China. Some efforts at alteration of the vessels were made to cater to the needs of the Southeast Asia markets. Examples of such modifications of vessels include the wide-mouth small pots with a depressed body and flat base, kendis whose shape varied from those used in China but resembled their earthenware counterparts produced in Southeast Asia, green-glazed dishes with brown painting, and fish-shaped bottles. Among these, in the case of brown-painted dishes and fish-shaped bottles, the decoration was made to cater to the aesthetic tastes of the Southeast Asian markets, while for the others, the modification of the vessel shape was out of consideration for their functions in the region. It is also of note that even for wares that were commonly seen in the Chinese market, how they were used after export might differ significantly from their original functions, as is illustrated by the round lidded jars with a contracted mouth, big stoneware jars, and small-mouthed vases. The round lidded jars with a contracted mouth were calligraphy tools in China but became lime pots in Southeast Asia. The other two were dispatched from China as containers and reused in different ways within the local societies.

The finding that at the Yue-kiln complex, Bijiashan and Xicun kiln sites, some vessels were produced for the overseas market and the export of ceramic types was selective, points toward a closely integrated operation between the producers and the commercial agents, not only in decisions about in what quantity to manufacture the vessels but also what to produce. One can imagine that with tremendous production costs,[6] it is unlikely that the kiln owners and the potters bore this risk solely and invested a huge sum without first securing buyers. It is possible that the production sector was financially supported by the commercial sector, which would have had a better understanding of what was demanded in the overseas markets.

Declarations

Conflict of interest statement The author states that there are no conflicts of interest.

[6] It is estimated by So (2004: 154) that if a kiln fires fifteen times a year and each firing produces 30,000 pieces, then the production cost of a kiln per year would be 22,500 min 缗 (1 min = 1 *liang* 两 = 1,000 *wen* 文).

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