

The Ceramic Trade between China and Southeast Asia during the Song Dynasty (960-1279)

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Abstract

This thesis studies the shipwrecks in the South China Sea and their recovered artefacts to discuss the ceramic trade between South China and Southeast Asia during the Song dynasty (960-1279). This period is of particular interest because it was when Chinese ceramics started to be exported in bulk and make its name around the world. And shipwrecks in the South China Sea are the best materials to uncover the first leg of the long-distance trans-Asian trade route that led from China to the Mediterranean. Although there have been cases studies regarding one or several shipwrecks, thorough research that examines the overall findings of this period and addresses not only the products but also the trade network and the market of the products is somewhat lacking. To this aim, this thesis attempts to address the central questions as to how the trade was conducted and by whom, what are the changes of the exported ceramic types during this period and why, and whether there were vessel forms and decoration made to cater to the need of the Southeast Asian market. In doing so, the thesis provides a broader picture of the ceramic trade during the Song period and manages to extract some information on the human level.

First, I argue that in the tenth century, as represented by the Intan and Cirebon shipwreck, the trade of major cargo was organized by a few people or a single authority possibly the state government and headed towards limited destinations. During the later period, as the case studies of the Nanhai No.1 and Quanzhou Bay wreck show, the sea-borne journey was mainly a profit-oriented peddler trade undertaken by individual merchants whose identities were not confined to traders with an official background or abundant assets, but also included those of lower social status such as sailor and small merchants. Secondly, through the systematic comparison between the findings on the wrecks and those from domestic sites, especially kiln sites, the provenance of most ceramic cargo is assigned and the shift of production from Zhejiang to Guangdong and

then Fujian province is revealed. The reason behind the first shift, I argue was due to the change of the nature of maritime commerce, from being part of a tributary system to profit-orientated, from state-monopoly to being mainly conducted by private shipping. As for the shift of trade to Fujian province, it was driven by merchants based on the products and regional manufacturing industrial competitiveness. By examining a large number of published materials, it is demonstrated that effort was made to cater to the need of the Southeast Asian market. Nevertheless, the detailed analysis of the recovered ceramics indicates high uniformity among ceramic cargos of contemporaneous shipwrecks despite the differences in the targeted markets. I suggest that the ceramic trade between South China and Southeast Asia during the Song period was mainly dominated by the seller instead of the buyer.

Chapter one

Introduction

1. Context

From the Late Tang Dynasty (618-907),¹ Chinese ceramics started to be shipped to many regions, running from East Africa in the southwest,² the Eastern Mediterranean and Mesopotamia in the west,³ and Japan in the east.⁴ During the Song Dynasty (960-1279), the quality and quantity of exported ceramics reached its first peak, which can be best demonstrated by the large amounts of Chinese ceramics found on the multiple shipwrecks along the passage from China to Southeast Asia. It is an interesting development since it was an unstable period of time, and the ruling of the Song state was under constant threat from the northern political powers.⁵ Why sea-borne trade expanded during this period is the first question in the thesis which provides the context for the study of the ceramic trade. It will be approached mainly by the interpretation of historical sources, most of which come from the Song central government, but the existing literary works of various Song writers who sometimes commented on trade and urban lives are also included to supplement the official documents.

The political background of the Song Dynasty, which can be categorized as upheaval in the north and stability in the south, directly affected the rise of sea-borne trade. On the one hand, for merchants travelling from Middle Asia to China, the conflict on the northern boundary had increased the danger of the old caravan route and made the sea route a preferable choice.⁶ On the other hand, after the Song court was defeated by the

¹ The dates in the thesis all refer to C.E. (Common Era) if not otherwise specified.

² Mikami Tsugio, 1983, pp. 43-62; Xia Nai, 1963.

³ Mikami Tsugio, 1983, pp. 113-137.

⁴ Mikami Tsugio, 1988, pp. 237-240.

⁵ During the Song period (960-1279), the ruling of Song court was under constant threats from the northern political powers --Xixia 西夏(1038—1227), Liao 辽(916-1125), and Jin 金 Dynasty(1115-1234).

⁶ Since the territory of northern dynasties extended to the Silk Road, which was the passage connecting Chinese

Jin Army and fled to the south in 1127, which divided the Song Dynasty as the Northern Song (960-1127) and Southern Song (1127-1279) (Fig 1.1, 1.2 below),⁷ the need to defend the new Song capital on the Yangze River had given impetus to the building of the first permanent sea-going navy and consequently led to the improvement of shipbuilding skills.⁸ Moreover, the war expenditure and the following series of unequal treaties which compelled the Song court to pay a large amount of tribute annually had attributed to the financial plight of the Song empire.⁹ To deal with the fiscal crisis, the Song government adopted a positive attitude toward the development of maritime commerce and encouraged foreign merchants to trade with China. In the late tenth century, the Song court gradually liberalized Chinese maritime trade by permitting private individuals to participate.¹⁰

Consequently, the volume of Chinese shipping increased significantly. At the same time, the proportion of domestic trade in foreign products in the hands of the Song court

and Middle Asia and the Arabic world, political upheaval increased the danger of this journey and consequently more merchants chose to adopt the safer seaborne road, which is recoded in the Song shi 宋史, an official history book of Song dynasty edited by Tuotuo 脱脱 and Alutu 阿鲁图 (a prime minister during the Yuan Dynasty) and finished in 1345. In the 490th volume of the Song shi, it was recorded that “previously, people from Dashi 大食 who came to pay tribute to China, would pass Shazhou 沙洲, Xixia and reached Qinzhou 秦州.....In the first year of Tiansheng 天圣(1023), due to the fear of being robbed by the people from Xixia, the emperor of the Song dynasty commanded that the old caravan route would be replaced by the sea route from now on, which enabled the Dashi people to reach the capital through Guangzhou. 先是, 其入贡路, 由沙洲, 涉夏国, 抵秦州.....至天圣元年 (1023 年) 来贡, 恐为西人钞掠, 乃诏自今取海路, 由广州至京师。” Dashi Zhuan 大食传, Song shi 宋史 volume 490, p. 14121.

⁷ The historical region of the Northern Song is bounded by the Hai river 海河, Bazhou 霸州 (Hebei province), and Yanmenguan 雁门关 (Shanxi province) in the northeast; by Hengshan 横山 (Shaanxi province), the eastern area of Gansu province, and Huangshui 湟水 (Qinhai province) in the northwest; and by Mount Min 岷山 and the Dadu river 大渡河 in the southwest (Fig 1.1). During the Southern Song period (1127-1279), following the loss of territory in the north, the northern border shifted south to Dasanguan 大散关 (southwest of Baoji 宝鸡, Shaanxi province) and Mount Qinling (Fig 1.2), but the original southwest border remained unchanged (Ge Jianxiong, 1997, pp. 108-112).

⁸ Stuart-Fox, 2003, pp. 47-49; Church, 2005, pp. 155-176.

⁹ Lo, 1969, p. 62.

¹⁰ In 991 the Song court permitted Chinese vessels to sail abroad to trade, subject to their registration prior to departure at the designated international ports of Guangzhou and later Hangzhou and Mingzhou. This was a significant shift away from the prohibition of Chinese ships sailing abroad that had been maintained up until the Tang period. By 1090, the policy extended to any coastal prefectural administration willing to take on the responsibility of registering outgoing Chinese ships (Heng, 2008, 2013). As for merchants who sailed without registration, based on the decree issued in 989, their products would be confiscated (Songhuiyao Jigao 宋会要辑稿, Zhiguan Sishisi 职官四十四, p. 12208). The punishment got more serious during the reign of Emperor Zhezong 哲宗. Not only losing the products, merchants who sailed abroad without authorization would also be sentenced to two years in prison. Even the owners who just lent the ships would be subjected to corporal punishment (Songhuiyao Jigao 宋会要辑稿, Zhiguan Sishisi 职官四十四, p. 12212).

was reduced (stabilizing at more than 35% until 1278).¹¹ Also, to attract more foreign merchants to conduct business at Chinese ports, protection of the merchant ships from the depredation of pirates was provided.¹² The rise of internal and external commerce eventually led to an increasing proportion of the government's revenue coming from the business sector. It is estimated that in 1077, industrial and commercial taxes accounted for seventy per cent of total annual revenue.¹³



Figure 1.1 *The territory of the Northern Song*

¹¹ Heng, 2013.

¹² Naval stations were built along the coast line of Guangzhou. Naval squadrons were ordered to cruise regularly along the coast of Guangdong, Fujian to check the entrances of rivers and bays, to seek the hiding places of the pirates and to capture their ships (Lo, 1969, pp. 56-65).

¹³ Xue Fengxuan, 2015, pp. 40-42.



Figure 1.2 *The territory of the Southern Song*

In contrast to the conflict with the northern dynasties, the Song court maintained a stable relationship with the kingdoms in Southeast Asia. Southeast Asia, due to its strategic location, abundant natural resources which were much desired by the upper class of China and the Middle East¹⁴ and a relatively friendly environment for outsiders,¹⁵ was a popular entrepôt and an essential link in Indian Ocean trade. According to the Complied Government Documents of Song China (Songhuiyao Jigao, 宋会要辑稿), among the countries that maintained frequent diplomatic contact with the Song, those from Southeast Asia accounted for the majority.¹⁶ The main reason for Southeast Asian kingdoms to send envoys and tribute to Song China is to gain recognition of their legitimacy and trading status.¹⁷ Southeast Asia states offered a

¹⁴ Hall, 1985, p. 27.

¹⁵ According to Hall, the lack of contiguous borders and the history of under-population in the region made Southeast Asian political powers relatively open and people-centered realms in which the number of royal people that rulers can depend on mattered more than the control of geographical areas (Hall, 2004, p.231). In this circumstance, the foreign population was offered some degree of autonomy and the cultural practices brought by them were accepted and localized.

¹⁶ The countries most frequently sending missions to the Northern Song were Goryeo (Korea, 41 times), Annan (North Vietnam, 45 times), Champa (Central Vietnam, 56 times), Srivijava (eastern Sumatra, 33 times), Dashi (Persian Gulf, 40 times), and Kucha (Xinjiang, 21 times); Envoys from India, Brunei, Java, Cambodia, and the Eastern Roman Empire came less often (Zhou Baozhu, 1992, pp. 583-587).

¹⁷ According to Kenneth R.Hall, Southeast Asian states in a tributary relationship with China received nothing from the Chinese but recognition of their legitimacy and trading status. Appeals for direct military aid or patronage

formal recognition of the supremacy of the Chinese emperor in exchange for the privilege to trade. In turn, the Chinese were happy to demonstrate the power of imperial virtue, as well as having allies to ensure that mutually beneficial trade continued without interruption and the sea route remained open and comparatively free of pirates.¹⁸ To receive official recognition as China's "preferred" trade partner, Southern Seas polities competed against one another and the competition peaked with an unusually high level of tributary missions in the eleventh and twelfth centuries.¹⁹ Afterwards, during the Southern Song period, due to the increasing participation of Chinese merchants in seaborne trade, the motivation for sending tribute to Song China was gradually lost, and tribute missions to the Southern Song fell away, especially from the more far-flung regions.²⁰

The political background was external impetus. To understand why sea trade thrived during the Song period, we also need to explore the development of Song society itself.

There were mainly three elements that attributed to the expansion of seaborne trade in Song China—the prosperity of handicraft industries, an increasingly prosperous population and their adoption of an extravagant lifestyle. The expansion of farmland, improvements in agricultural techniques and population growth which provided a surplus labour force were the preconditions of the development of handicraft industries,²¹ while the government's encouraging policies toward private commerce²²

were generally ignored (Hall, 1985, p. 43).

¹⁸ Guy, 1986, p. 16.

¹⁹ Hall, 2004, pp. 215-216.

²⁰ Stuart-Fox, 2003, pp. 47-49.

²¹ Hartwell has conducted a thorough study of the distribution of Chinese households from A.D. 2 to 1948. The statistics reveals that from late the Tang to early Song, the population of most of South China entered a period of accelerated growth, especially in Middle Yangtze, Southeast China, and the Lower Yangtze (Hartwell, 1982, Table one, p. 369). Immigration led by political upheavals in the north, natural growth, or more commonly, a combination of both contributed to the growing population in the south. As for agriculture, farmers adopted early ripening and other varieties of rice seeds adapted to the varied climatic and topographic conditions in South China. Construction of farmland irrigation and improvement of farm tools also led to increasing amounts of cultivated areas and agricultural outputs. Statistically speaking, between 976 to 1083, while the population during the Northern Song had risen by 232%, the crop acreage was trebled (Xue Fengxuan, 2015, p. 40)

²² During the Song dynasty, a rather relaxed policy was conducted toward small-scale business conducted by commoners as illustrated in the 24th volume of *Wenxian Tongkao* 文献通考 (written by Ma Duanlin 马端临 (1254-1323), an important ancient legal systems book which recorded the laws and regulations from Shanggu era 上古时期 (period before Qin Dynasty) to the reign of Emperor Ningzong 宁宗(1194-1224 AD)). It is recorded: "from now on, the small-scale business conducted by peddlers should not be taxed. The object of taxation was on

and the implementation of Hegu 和雇 system instead of the requisition of free craftsmen,²³ enable it to further grow. The prosperity of the handicraft industry is best demonstrated by the development in printing,²⁴ and the increasing kiln numbers, especially in Fujian, Guangdong, and Zhejiang provinces.²⁵ Beside handcraft, we also see the flourishing of the entertainment and service industries in the urban areas,²⁶ which draw people to leave the rural areas to seek profit-earning opportunities in the cities. Hence the urbanization progress began. With the increasing scale and complexity of trade, there was the popularization of the monetary system, which was not only reflected by the use of paper money but also the increased proportion of tax imposed on individual peasants collected in the form of cash instead of products and labour.²⁷ Monetization and urbanization led to an increase in the generation of wealth and the number of consumers who would appreciate and afford the high-value exotic products as well as the low-value ones made available via maritime trade.

In tandem with the flourishing commerce, there was the growing popularity of the new school of Neo-Confucianism which subscribed to the philosophy of gong-li 功利 (success and profit),²⁸ and the wide adoption of the extravagant lifestyle. According to the official documents and the literary works that recorded the urban life and cityscape

the notice board of government building which should be abided by the officers. 自今除商旅货币外，其贩夫贩妇细碎交易，并不得收其算。当算之物，令有司件析颁行天下，揭于板榜，置官宇之屋壁，以遵守焉。

“Wenxian Tongkao 文献通考, Zhengquekao Yi 征榷考一, p. 145.

²³ Before mid-Tang, craftsmen were registered as government workers, meaning government can request their service whenever they needed without any payment. During Mid-Tang, it was getting more common that government was required to pay for the service of craftsmen. Moreover, if craftsmen were reluctant to be enlisted, they can choose to pay certain amount of money (Wang Guangyao, 2002) This new system was called hegu 和雇. Hegu system provided more freedom and labour force for the development of private industries.

²⁴ Song dynasty is an era of printing booming and multiple private workshops were built, of which the most developed ones were in Hangzhou, Zhejiang province, and Jianning, Fujian province (Wang Xingling, 1986).

²⁵ So Kee-lang, 2004, pp. 155-157.

²⁶ In Kaifeng and Hangzhou, Gou lan wa she 勾栏瓦舍—main public places of entertainment where storytelling, dancing and opera were performed, received nearly fifty thousand audiences every day (Wu Sheng, 2001, p. 114); In catering industry, various dishes were sold in a very affordable price which appealed to customers of middle and lower class (Dongjing Menghua Lu 东京梦华录, p. 190.).

²⁷ It is estimated that in 749 less than four percent of the state's revenue was paid in cash, but by 1065 it rose to over fifty percent (Lo, 1969, p. 1-4).

²⁸ The new school of Neo-Confucianism argued for the rationality of people's desire of living a spiritually and financially rewarding life and sought the objectives of enriching the country and building up its armed strength (Lin Wenle, 2005). It valued efficiency and profit. Wang Anshi 王安石 (1021-1086), a famous politician of Northern Song, is the most well-known supporter of this new idea. He believed that wealth was just as important as etiquette for man to develop noble character and good behaviour (Linchuan Wenji 临川文集, volume 39: Shang Rengzong Huangdi Yanshu 上仁宗皇帝言事书).

during the Song period such as *Wulin Jiushi* 武林旧事 and *Dongjing Menghua Lu* 东京梦华录, not only the rich and powerful but also commoners or even the poor paid much attention to the quality of life and copied the lifestyle of the upper class.²⁹ The pursuit of luxury became a fashionable trend among all social strata.³⁰ The domestic market for imported products expanded, and handicraft industries for export were developed. Hence, the golden age of seaborne trade began.

2. Previous work

The topic of the ceramic trade between China and Southeast Asia during the Song Dynasty has attracted scholarly attention since the 1950s. Due to the lack of archaeological material in the early phase, historical records became an indispensable resource. Paul Wheatley provides one of the important early works about Song China's seaborne commercial interaction with Southeast Asia. He provides a detailed description of the principal products which entered maritime trade through the interpretation of Chinese texts mainly *Lingwai Daida* 岭外代答 and *Zhufan Zhi* 诸蕃志.³¹ He determines the different types of ceramics exported to different regions

²⁹ Yanyi Zhimo Lu 燕翼贖谋录 is book about laws and regulations during Song Dynasty written by Wang Yong 王栎(Song Dynasty) . Wang wrote:" after the reign of Xianping, Jingde, a false appearance of peace and prosperity was presented. The life of extravagance was not only admired by the elite and literati, but also pursued by the populace. 咸平、景德以后,粉饰太平,服用寝侈,不惟士大夫之家崇尚不已,市井闾里以华靡相胜。" (Yanyi Zhimo Lu 燕翼贖谋录, p. 17). *Wulin Jiushi* 武林旧事 recorded the urban life and cityscape in the capital of Southern Song which was written by Zhou Mi 周密(1232 ~ 1298). Zhou further demonstrated that " the custom of planting Aihu 艾虎, Kuihuang 葵花 in a big basin at the front door with colorful paper money and fruit dumplings hanging on it was adopted by the rich and poor. 而市人门首各设大盆,杂植艾虎、葵花,上挂五色纸钱、排钉果粽。虽贫者亦然。" (*Wulin Jiushi* 武林旧事, p. 81). Meng Yuanlao 孟元老 wrote:"even in winter, the rich would decorate the balcony of their own house while the commoners would went to restaurant to enjoy good food and the view of moon. 贵家结饰台榭,民间争占酒楼玩月....至寒食冬至三日,亦如此。小民虽贫者,亦须新洁衣服,把酒相酬尔。" (*Dongjing Menghua Lu* 东京梦华录, p. 514).

³⁰ According to *Songhuiyao Jigao* 宋会要辑稿, the elites and literati as well as the populace admired and pursued the life of extravagance. Their house and clothes was almost as splendid as those of the royal families. "近岁士庶之家,侈靡相尚,居第、服纪,僧拟公侯.....臣观辇毂之下,士庶之间,侈靡之风,曾未少革。" Xingfa er 刑法 2-*Songhuiyao Jigao* 宋会要辑稿, p. 6522.

³¹ *Lingwai Daida* 岭外代答 was compiled by Zhou Qufei 周去非 during his assistant superintendentship at Guilin 桂林 and *Zhufan Zhi* 诸蕃志 was written by Zhao Rushi 赵汝适 in 1225 who was a superintendent of maritime trade in Quanzhou 泉州 at that time. However, the original text was lost and the versions we see today were collection extracted from *Yongle Dadian* 永乐大典. During Qing Dynasty, several versions of manuscripts were passed on. The editions of *Lingwai Daida* 岭外代答 and *Zhufan Zhi* 诸蕃志 adopted in the thesis are the ones published by Zhonghuo shuju 中华书局 in 1999 and 1996.

based on the relevant records in Zhufan Zhi.³² Although the understanding drawn from historical resources does not necessarily conform to archaeological discoveries, the work that Wheatley did fifty years ago is still an important reference in today's research, especially in the clarification of terminology such as the translation of ancient places names into modern language.³³

Early archaeological work was undertaken by Han Huaizhun and Mikami Tsugio who collected Song ceramics at sites in Southeast Asia and developed some initial understanding regarding the shape and type of Chinese exported ceramics. Han notes that Song celadons possibly from Longquan kiln sites were found on the north of the Malay Peninsula.³⁴ Mikami Tsugio interpreted the route of east-west maritime trade based on the findings of Chinese ceramics around the world, starting at port cities in South China, mainly Guangzhou and Quanzhou, sailing through the South China Sea, passing the Strait of Malacca, reaching India and ending in the Eastern Mediterranean or East Africa.³⁵ The route was divided into several sections carried by different agencies.³⁶ Mikami Tsugio called the route the Ceramic Road as opposed to the overland Silk road and used the findings of Chinese ceramics overseas as evidence to demonstrate the connection between find spots along this line.³⁷ Even though the findings usually lack archaeological excavation and the description of ceramics was too general and vague, the picture Mikami Tsugio painted shows a great perspective, and

³² Wheatley notes that based on the description of Zhufan Zhi, qingbai wares were traded in Java, white wares in the eastern Archipelago and celadon in Borneo (Wheatley, 1959, p.85).

³³ Wheatley, 1959, pp. 6-7.

³⁴ Han Huaizhun, 1960, pp. 17-19.

³⁵ Mikami Tsugio, 1983, p. 254.

³⁶ According to Mikami Tsugio, the first section is from port cities in Southeast China, through Indochina and Malay Peninsula to the east coast of India (Mikami Tsugio, 1983, p. 255). The second section is crossing Indian Ocean to Arabian Peninsula. Ships could sail along the south coast of Arabian Peninsula and reach Aden, through which they entered Red Sea (Mikami Tsugio, 1983, p. 85). Continuing the journey, port cities of Eastern Mediterranean can be reached. If the destination was East Africa, then they would sail south, passing the Horn of Africa (Mikami Tsugio, 1983, p.85). If the journey ends in the Persian Gulf, after reaching Aden which located at the south coast of Arabian Peninsula, turned north and entered the gulf through Oman (Mikami Tsugio, 1983, p. 52). The port cities along the gulf could lead to Persian.

³⁷ Song ceramics have been discovered in Luzon, Sarawak and Indonesia. The large amount of Chinese ceramics dated from the tenth century to fourteenth century found at the port sites located at the mouth of Sarawak River implies a shift of popular Chinese ceramics from Yue ware to celadon and qingbai ware (Mikami Tsugio, 1983, pp. 233-238.). However, all the findings in the books belongs to the Archipelago region. The mainland area was not mentioned.

the study he conducted lays the foundation for further research into the Indian Ocean trading circle.

Publication of excavations conducted on kiln sites, ports, shipwrecks, and residential and burial sites in China, Southeast Asia and elsewhere has emerged since the 1980s, which allowed more systematic research especially regarding the types and provenance of exported Chinese ceramics. In Guangdong and Fujian province, where the local ceramics industry was closely involved in maritime commerce, excavation has been conducted on various kiln sites since the 1980s, and as for kiln sites whose products gained a high reputation in the overseas market such as Yue, Jingdezhen and Longquan, detailed and scientifically organized excavation reports were published in the early 2000s.³⁸ With an increasing understanding of the features of kiln products, in the excavation report of some kiln sites such as Xicun, Cizao and Wiyishan, sections are dedicated to discuss and identify overseas findings (mainly in Japan and Southeast Asia).³⁹

From the end of the twentieth century, due to the development of underwater archaeology, shipwrecks in the South China Sea were brought to the surface. Some of the shipwrecks have been scientifically salvaged or excavated, and their discoveries have been properly published,⁴⁰ among which the Intan and Cirebon wreck excavation

³⁸ Kiln sites of which products gained high reputation in overseas market such as Yue kiln (Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2002), Jingdezhen (Jiangxi Provincial Institute of Cultural Relics and Archaeology, 2007), Longquan (Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005) have been excavated at the end of twentieth century. Even though archaeological field works such as ground survey or excavation on these three important kilns have been done before, the larger-scale and more systematic excavation only started during 90s (or at the end of 80s). It is also important to note that the excavation did not cover the whole area of kiln sites, but focused on specific regions or typical sites such as Silongkou site of Yue kiln, Hutian site in Jingdezhen and the east region of Longquan kiln site. As for Guangdong and Fujian province, where local ceramics industry was closely involved in maritime commerce, excavation has been conducted on various kiln sites such as Dehua kiln (Fujian Museum, 1990) and Jian kiln in Fujian (Fujian Museum, 1995) and Chaozhou (Guangdong Museum, 1981), Meixian 梅县 (Yang Shaoxiang, 1994), Xinhui 新会 (Liu Chengji, 2000) in Guangdong.

³⁹ The Administrative Committee of Cultural Relics, Guangzhou City, et al., 1987, pp. 75-82; Fujian Museum and Jinjiang Museum, 2011, pp. 393-409; The Underwater Archaeology Research Center of National Museum, et al., 2015, pp. 279-280.

⁴⁰ Among the shipwrecks of the tenth century to thirteenth century that sank in Nanhai or Java sea and have been discovered, the excavation reports of Belitung shipwreck (Krahl, Effeny, ed., 2010), Intan shipwreck (Burningham, 2003), Jade Dragon wreck (Flecker, 2003), Java Sea wreck (Flecker, 2003), Bai Jiao No.1 wreck (Kenderdine, 1995), Huaguang Reef No.1 wreck (The Underwater Archaeology Research Center of National Museum, 2006), Quanzhou Bay wreck (Quanzhou Maritime Museum, 2017), Nanhai No.1 (Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011, 2016, 2018) have been properly published. The materials regarding other

report needs special attention. Not only the number and description of each ceramic vessel type is provided, because the shipwreck sites were gridded and the position of retrieved items was recorded, there are also graphs and detailed information regarding the distribution of the recovered objects.⁴¹ It reveals the storage pattern of the cargos, which enlightens us on the subject of cargo ownership and allows further discussion about the trading pattern. Their reports go beyond the mere introduction of discoveries and cast some light on the topic of how a long-distance commercial voyage was organized.

Until the late 1960s, relatively little had been published on Southeast Asian archaeology and material culture relevant to trade ceramics. Then, over the next forty years, the scholarly literature proliferated as an era of well-documented land excavations, mainly kiln, habitation and burial sites on both mainland and insular Southeast Asia, began in earnest. The important discoveries that yielded Chinese ceramics and dated to Song period include the Royal Palace site of Angkor Thom near Phimeanakas (Cambodia),⁴² the Northern Library of Bayon, Angkor Thom (Cambodia),⁴³ Satingpra (Thailand),⁴⁴ Santubong (Sarawak, Malaysia),⁴⁵ Batang Sadong (Sarawak, Malaysia),⁴⁶ Kota Cina (North Sumatra, Indonesia),⁴⁷ Palembang (South Sumatra, Indonesia),⁴⁸ Jambi (Central Sumatra, Indonesia),⁴⁹ Butuan (The Philippines),⁵⁰ and Santa Ana (Manila, The Philippines),⁵¹ among which there are not only coastal trading centres but also inland settlements, cemeteries and industrial town sites. These detailed-recorded

Song shipwrecks can be found on relevant articles or websites. Detailed study of shipwrecks will be addressed in the next chapter.

⁴¹ Flecker, 2002; Liebner, 2014.

⁴² Dupoizat, 1999.

⁴³ Nakagawa, et al., 2000.

⁴⁴ Stargardt, 2001, pp. 309-393.

⁴⁵ Harrison, 1954, pp. 11-23.

⁴⁶ Ke Jiayu, 2015, pp. 275-297; Parker, 1979, P57-64.

⁴⁷ Edmund, 1984.

⁴⁸ Manguin, 1990.

⁴⁹ Miksic, 2009, pp. 71-99.

⁵⁰ Brown, et al., 1989; Aurora, 1987, pp. 61-71.

⁵¹ Locsin, 1967, pp. 43-111.

excavations allow further interpretation of the use of Chinese ceramics and the change of consumption behaviours towards local ceramics after the import of Chinese ceramics.

With years of fieldwork in Southeast Asia, a shift in the roles played by Southeast Asians in the ceramics trade with Song China is observed, and a different distribution pattern of Chinese ceramics among some regions is revealed. According to several studies, in the early period (tenth to eleventh centuries), apart from central Java, a few inland areas in Sumatra, and Butuan in the Philippines, most of the sites were way-stations rather than end-user markets of Chinese ceramics, and only by the twelfth century did Southeast Asian countries emerge as significant Chinese ceramic consumers.⁵² In this thesis, the possible destination of the shipwrecks will be discussed to test this conclusion drawn from the findings based on the landbased archaeological investigation in Southeast Asia. On the other hand, as consumer markets, how Chinese ceramic were distributed also varies. Data from Cambodia suggests that from eleventh to thirteenth centuries, unlike insular Southeast Asia where Chinese wares became widely distributed among the general population, in Cambodia they seem to have been restricted to the upper class and the religious complexes, and the assemblage in Cambodia was typified by many covered boxes.⁵³ However, no studies so far suggest a noticeable difference in the distribution or consumption of Chinese ceramics among the insular Southeast Asia regions such as Sumatra, Java and Borneo. The close examination of the ceramic assemblage on the shipwrecks that sailed toward various destination will cast some light on this topic.

With more in-depth understanding about the ceramic features of specific kiln sites and enriched discoveries of Chinese ceramics found along the sea route and in the oversea consumption sites, scholars managed to develop a clearer picture about the Song traded ceramic industry. Through comparison of cargos from shipwrecks of different periods,

⁵² Christie, 1992, pp. 9, 14; Roxas-Lim, 1987, pp. 53, 54; Ho Chumei, 1994, pp. 195-196; Srisuchat, 1994, pp. 213-225.

⁵³ Miksic, 2009, pp. 76-78; Darith, 2006, pp. 267-279.

the shift of types of trade ceramics is observed. According to Xie and Qin, the popular combination of Changsha wares, Guangdong greenwares, Yue wares, and white ceramics from Xing kiln and Henan province during the late Tang and Five Dynasties period were replaced by celadons, qingbai wares and brown-glazed wares from Guangdong and Fujian province during the Song Dynasty.⁵⁴ Between the Northern and Southern Song, the fall of Guangdong ceramic industry and rise of Fujian in the later period is noted.⁵⁵ Nevertheless, a more detailed and systematic study regarding not only the general types and provenances but also the quality, vessel form and decoration of the exported ceramics, and whether there was a certain pattern of change in these aspects during the Song period, is somewhat lacking, which will be fully addressed in this thesis.

Besides the analysis of ceramics already shipped abroad, there are also works focusing on the regional ceramic industries actively involved in the ceramic trade during the Song period which are the Yue kiln complex and Longquan kiln complex in east Zhejiang, the south Fujian region and Guangdong province. There are mainly two approaches: one discusses what kind of ceramics were made for export in different periods and the major kiln sites for making them;⁵⁶ the other address whether there were changes in the distribution pattern of kiln sites with the development of the ceramic trade, and the reasons behind it.⁵⁷ The work of note is the growth and decline of Song and Yuan ceramic production sites in the South Fujian area done by Ho Chuimei.⁵⁸ Ho addresses the significant changes in the ceramic industry in terms of the range of products, the technology of glazing and firing, and the geographic distribution between Phase A (1050-1150), B (1140-1280) and C (1280-1350).⁵⁹ Ho manages to sketch a clear picture of the development of the ceramic industry in South Fujian.

⁵⁴ Xie mingliang, 2002; Qin Dashu, 2007; Li Xing, 2014.

⁵⁵ Liu Wei, 2016. Liu Miao, Hu Shuyang, 2016.

⁵⁶ The editing committee of Chinese ceramic, ed., 1983; Meng Yuanzhao, 2006; Meng Yuanzhao, 2017; Scott, 1994, pp. 187-204. Li Jianan, 2010

⁵⁷ So, 2000; Ho Chuimei, 2001, pp. 237-281.

⁵⁸ The data of the research is derived from the published reports and a three-year joint research project led by Ho herself and Professor Ye Wencheng

⁵⁹ Ho Chuimei, 2001, pp. 237-281.

Nevertheless, the dating of the lower-layer of Wanpinglun kiln site in Dehua county she proposes is contradicted with finds of accurate date and hence is not entirely tenable.⁶⁰ Instead of focusing on one specific region, Kee-Long So conducts a comparative analysis on the four regions' ceramic industry from the perspective of the number of kiln sites, the proportion of the local population engaged in maritime trade, the distance between production area and trading port, and the cost and profit per year during their primes. So concludes that maritime ceramic trade accounted for a more significant proportion of the local economy in South Fujian than in Guangdong and Zhejiang; furthermore, the trading centre of South Fujian, which was Quanzhou, was more closely connected with ceramic production.⁶¹ The model So uses, which is the increasing number of kiln sites located in the interior indicates a higher level of integration, provides a useful angle to look into the impact of maritime trade on the Chinese ceramic industry.

In comparison with the studies on the product features, provenance and production of the exported ceramic, fewer works have been done on the topic of the existence of the vessel shape and decoration made specifically for the Southeast Asian market. Even though it has been implied that big bowls and dishes (diameter larger than 20cm) were produced for the overseas market, why they were not suitable for the domestic market is not explained.⁶² And objects related to foreign religions, such as kendis are assumed to be exported commodities,⁶³ but research into the domestic finds suggests that this assumption is not rigorous. The reason that the studies on this topic are somewhat lacking is that to address what were produced to cater to the need or aesthetic value of the overseas market, it requires understanding about not only what was shipped abroad

⁶⁰ The dating of the lower-layer of Wanpinglun kiln site in excavation report is Northern Song period, which as Ho argues and I agree is too early. However, Ho dates it to late Southern Song period and Yuan Dynasty based on the similarity of the unearthed materials and qingbai wares of Yuan dynasty is also problematic, because just as Ho said, there are continuance in vessel shapes and decoration between two different reign periods. Moreover, very similar almost identical vessel with the qingbai wares excavated from the Wanpinglun kiln site have been found at the Nanhai No.1 wreck which is mid-late Southern Song period

⁶¹ So, 2000, pp. 141-192.

⁶² Meng Yuanzhao, 2006.

⁶³ Li Zhiyan and Huang Baoling, 1982; Xu Benzhang and Ye Wencheng, 1982; Lane, 2002, pp. 472-477

but also what was consumed domestically. A thorough examination of the domestic findings of the traded ceramics counterparts is needed, which will be included in this thesis.

As for the various uses of Chinese ceramics in Southeast Asian, they were used as: household utensils, decoration, symbols of wealth, and ceremonial objects including for burial, birth, wedding and alliance rituals.⁶⁴ Besides as household utensils, the other functions could be gained during the integration of imported ceramics into local society and probably were not their first uses. A typical example is the big storage jars which at first were dispatched from China as containers of commercial substances, but gradually became valuable heirlooms or used in mortuary contexts.⁶⁵ The attitudes and uses towards these imported ceramics in Southeast Asia dependent on the particular culture involved, which raises the question: did the Chinese merchants take these different uses of the ceramics into account, or did they address the market uniformly? The topic will be discussed through the study of ceramic assemblage on the shipwrecks with different intended markets.

Besides studies looking into the specific aspects of ceramic trade such as production and consumption, some focus on the trading network in the South China Sea, which provides a broader perspective. Derek Heng describes the economic relationship between China and the Malay region during the tenth to fourteenth centuries as co-dependent. He adopts the theory of world system to examine the trading network.⁶⁶ Wallerstein developed this to explain how modern capitalism originated from Europe. According to Wallerstein, the modern world system is distinguished by primarily economic motives as opposed to political or cultural, and requires the presence of core states and peripheral areas. These two regions develop an unequal and hierarchical relationship, in which core states exploit the labour and material resources of peripheral

⁶⁴ Adhyatman, 1981; Wang Guangyao, 2011.

⁶⁵ Harrison, 1986.

⁶⁶ Heng, 2013.

regions and receive a disproportionately large share of the surplus or benefit. The modern world system is also characterized by a highly complex global division of labour that results in major regional differences, meaning that some areas are the exporters of primary resources while others are the producer of industrial products.⁶⁷ Heng asserts that the policies implemented by the Song court had the effect of causing adjustments in the nature of exchange in the Malay region and that their economic framework was centred on China's manufacturing activities and its consumption patterns, which led to the forming of an unequal economic relationship with the Malay region as the peripheral economic zone and China as the core-centre.⁶⁸

The problem of this view is that it emphasizes the importance of external factors in the development of Southeast Asia. It fails to recognize that the flourishing of marketplaces in Southeast Asia did not just lie at the ends of the maritime route but along the route as well, as noted by Kenneth Hall.⁶⁹ Christie states that the growing capacity of Southeast Asian peoples resulted in them becoming major consumers on their own and highly trade-centred civilizations, so much so that Java Sea and eastern Indonesian regional networks could sustain an international route without the consumer markets on its eastern or western end.⁷⁰ Moreover, although the exchanges between China and Southeast Asia were characterized by the import of Island Southeast Asian raw materials and the export of Chinese manufactured and processed goods,⁷¹ whether it is an unequal exchange in favour of China depends not only on the product types but also the profits each region gained from the trade, which Heng fails to mention. The economic dependency and exploration in the core-periphery hierarchy, which is the critical element in Wallerstein's model are not an entirely correct interpretation of the economic network between Song China and Southeast Asia. However, the core-periphery model can be used to explore the relationship between port cities and its

⁶⁷ Wallerstein, 2011, pp. 349-350.

⁶⁸ Heng, 2013.

⁶⁹ Hall, 2004, p. 233.

⁷⁰ Christie, 1999, pp. 221-270.

⁷¹ Soon, 2008.

coastal hinterlands. As argued by Hartwell, the raw material and labour force in hinterlands have been exploited for the demand in urban centres. All kinds of resources—land, population, capital investment—were concentrated in urban centres, the regional cores and thin out toward the periphery.⁷²

Another significant feature of maritime trade during the Song period mentioned by Heng is the shift from ‘luxuries’ to ‘commodities’ in the cargos along the route.⁷³ Due to the enlargement of the Chinese market for Southeast Asian products, the increase in the volume of shipping plying across the South China Sea, and the heavy tax imposed on the luxury by the Song Court, the traditional trans-shipment trade in high-value Middle Eastern and Indian Ocean products, for which the key Southeast Asia ports had been so well known between the tenth to late eleventh centuries, was eclipsed by the import trade in low-value natural products. Such an understanding mainly draws from Heng’s interpretation of the historical records. But the shift is not one-way. The ceramics exported from China to Southeast Asia also underwent a similar change, which will be addressed in the thesis as well.

3. Topic questions and approaches

The thesis considers maritime trade under three headings—shipwrecks, merchants, and cargos. It aims to answer the main questions as to how the trade was conducted and by whom, what are the changes of the exported ceramic types during this period and why, and whether there were vessel forms and decoration made to cater to the need of the Southeast Asian market.

The shipwreck chapter, which focuses on those found in the South China Sea and dated between the ninth to the thirteenth centuries,⁷⁴ is divided into three sections: the retrieval of the shipwrecks, the origin of the wrecks, and the placement of the cargo.

⁷² Hartwell, 1982.

⁷³ Heng, 2013.

⁷⁴ Including ninth century in the case study is because the earliest wrecks found in South China Sea and even in the Indian Ocean was dated to this period.

The first section addresses my opinions on the ethical problem of shipwreck salvage. Section two serves to answer the questions of where the ships were initially built, which leads to two interesting findings: the lack of Arabic ships after the ninth century and an increasing number of Chinese ships after the tenth century. The last section discusses how the trade of different types of merchandise was managed, or, for vessels that carried mixed cargos, how the trade was conducted. It will be approached by a detailed analysis of the distribution pattern of the cargo which indicates whether the loads were owned by a few big merchants and heading for the directional destination, or handled by peddlers and sold at several ports-of-call.

The next chapter will address the participation of shippers and traders of China, Southeast Asia and the Middle East. The approach here is the identification of the possible personal items on the Intan and Nanhai No.1 wreck, and interpretation of ink marks seen on the cargos and the names on the wooden tags from the Quanzhou Bay wreck, with a study of the historical records (mainly Chinese) and the relevant terrestrial discoveries in China and Southeast Asia.

After addressing the context of ceramic cargo—shipwrecks, and how the trade was conducted and by whom, the following chapters focus on the Chinese ceramic cargos recovered from the wrecks. It aims to answer two questions: what are the ceramic types and provenance, and are there any vessel forms and decorations specifically made for Southeast Asia? For the first question, a systematic comparison, not just the glaze colour, clay body and vessel shapes but also the decoration style, the glazing and firing techniques, between the findings on the wrecks and those from domestic sites especially kiln sites is conducted to pinpoint the provenance. For some items, it is possible to attribute them to a specific kiln or group of kilns. At the same time, there is also less precise attribution which allocates the ware to a province such as Fujian or Zhejiang instead of specific kiln sites. In some cases, the glaze and clay chemical component analysis of certain ceramic types is included to examine the conclusion. For the second,

I collect and study the domestic findings of some ceramic types on the shipwrecks from the perspectives of vessel shape, size, decoration and quality to discuss the difference between the exported vessels and their domestic counterparts. The relevant landbased findings in Southeast Asia are also included to illustrate the function of the ceramic after being shipped abroad. After addressing these two main questions, in the discussion section, I conclude the change of dominant ceramic types within this period and interpret the reason behind the change.

My study is mainly based on examining a large amount of published material and detailed analysis of the recovered artefacts from the shipwrecks, with some historical and anthropology records for reference. It not only reveals what cargos were popular at particular periods and the development of the trading pattern during the Song Dynasty, but the personal information about the maritime merchants are also extracted, and new understanding of the consumption of specific types of ceramics is provided.

Chapter Two

Shipwrecks found in the South China Sea and dated between the ninth to the thirteenth centuries

Ships were the primary means of transporting bulk cargo and shipwrecks as time capsules provide abundant materials and preserve detailed information regarding sea-borne trade. The subject of this chapter is shipwrecks that sank in the South China Sea and dated between the ninth and thirteenth centuries. We infer what kinds of ships were once plying the South China Sea and what was the trading pattern for different merchandise.

This chapter is divided into three sections. The first section describes the subjects of the study, shipwrecks, including where and when they were found, who excavated them and how. The second section focus on the origin of the shipwrecks. First, through studying the historical records and comparing the descriptions with the findings on some wrecks, we can learn about the shipbuilding traditions of ancient China, Southeast Asia and the Middle East. Based on that knowledge, by analysing the remains of the shipwrecks, where they were built in the first place is identified. After covering the context of the cargos, the third section will address cargo placement. The cargo's distribution can tell us about the possible stowage patterns, through which we can make some assumptions about the different ownerships and marketing of different merchandise. The three sections, distinct but related, aim to answer one fundamental question: how was the maritime trade conducted?

1.The retrieval of the shipwrecks: science or profit

For the vast territory of the South China Sea, which in its broadest geographical setting also comprises the Southeast Asian maritime expanses to its south and east, so far

twenty-seven wrecks (and wreck sites) dated from the ninth to the thirteenth centuries have been salvaged, excavated or surveyed with discoveries made available through published reports or websites.⁷⁵ Of these wrecks, the majority were sunk in coastal waters, eleven in China, nine in Indonesia, three in the Philippines and two in Malaysia, respectively (Fig 2.1). Besides those found in sea water, the thesis also includes two shipwrecks found in the modern town of Quanzhou and Palembang (Fig 2.1). In this section, I will address how the wrecks were salvaged and the ethnical problems regarding the retrieval of the shipwrecks.

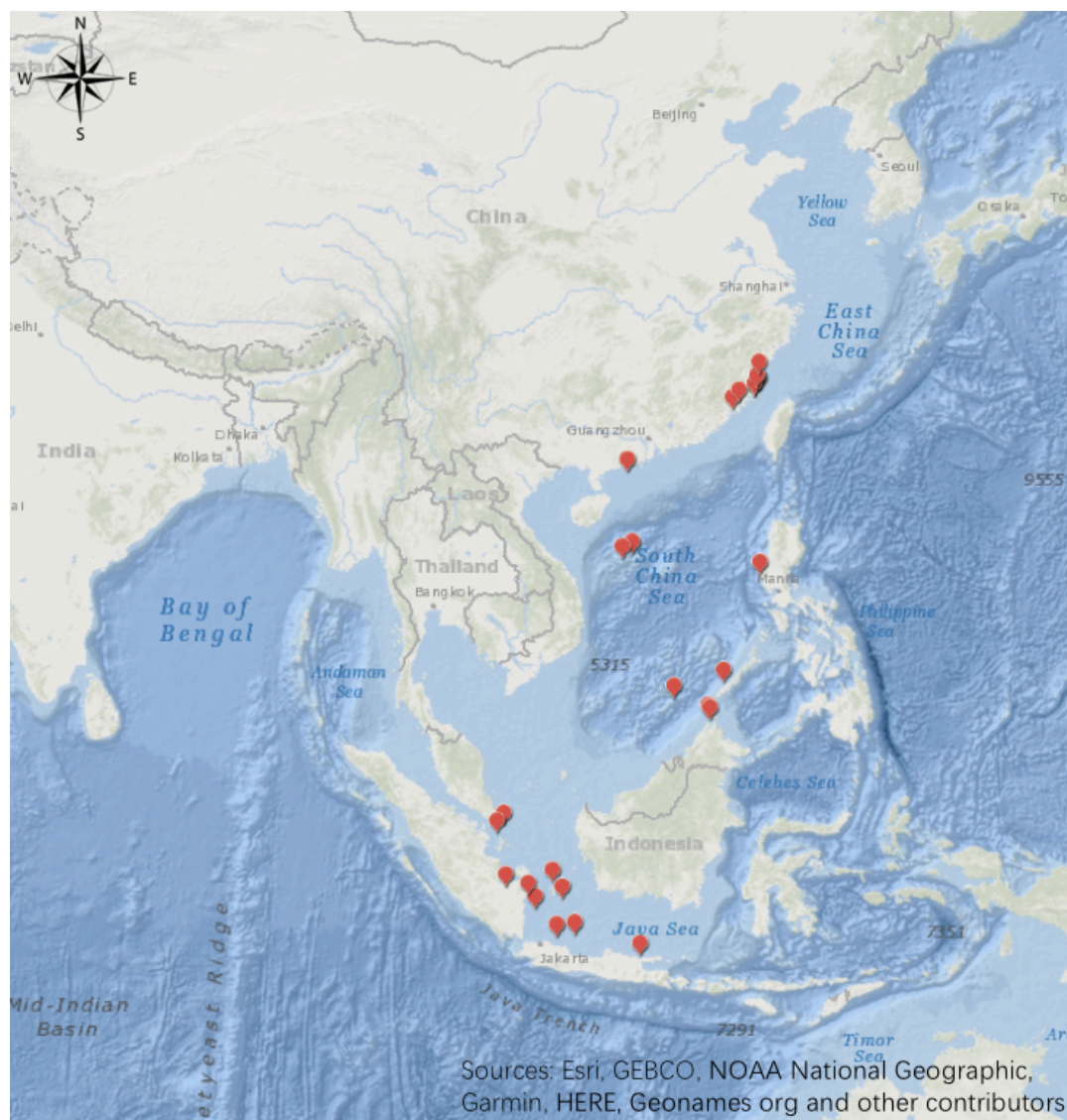


Figure 2.1 Map of shipwrecks sunk in South China Sea during the ninth to the thirteenth centuries

⁷⁵ See Appendix A.

Despite their significance in maritime research, the commercial value of their cargo is the primary reason why many wrecks have been salvaged, against all the geographical obstacles and excavation difficulties. Nevertheless, in most cases, the discovery of the shipwrecks was accidental.⁷⁶ The recovery of goods from sunken ships is by no means a modern adventure, and was practised by ancient people, probably from the earliest days of navigation.⁷⁷ Nowadays, there are usually three manners of shipwreck retrieval: ideal scientific excavation, commercial salvage⁷⁸ and semi-scientific excavation. Semi-scientific excavation is a form of excavation conducted by commercial companies with permission and under supervision of local governments; there usually is an appointed maritime archaeologist on-site to direct the excavation; the excavation yields profit and attracts the financial supports of the companies because some proportion of the artefacts are sold while others remain in local museums. Due to the lack of sufficient funding from governments and enough qualified divers, the majority of the excavation of shipwrecks in Southeast Asia were conducted in this manner until the first years of the 21st century.⁷⁹ For example, significant finds in Indonesia such as the Belitung, Intan and Cirebon wrecks were all excavated by commercial salvage companies who gained the necessary licenses from the Indonesia government.

This method, of course, is problematic. For one, regardless of how well commercial salvage operators may document the site and regardless of the efforts made to put aside representative samples for museum display, the cargo is no longer available in its entirety for scholarly study. For another, their execution and outcomes are inevitably profit-orientated which may lead to the different handling and recording approaches of

⁷⁶ For example, the Belitung, Intan, Cirebon and Java Sea wreck were all discovered by local fishermen by accident. But driven by the treasure sunk with ships, there are also salvage companies that deliberately look for shipwrecks. And that is precisely how the Nanhai No.1 wreck came to light. It was come across by a British Salvage company called Maritime Exploration & Recoveries PLC when they were searching for the Rijnsburg shipwreck with the Guangzhou salvage institute in 1987 (Wang Yuanlin and Xiao Dashun, 2016).

⁷⁷ Salvage divers were among the guilds of the Roman port of Ostia, and their work has been discerned even at 25m deep on the first century wreck of La Madrague de Giens off the southern tip of Gaul (Parker, 1992, p. 2).

⁷⁸ The typical example of commercial salvage is the Tek Sing wreck, a Chinese Junk sunk in 1822 with great loss of life. The salvage of the wreck in 1999 yielded a great quality of Chinese ceramic. No scientific report was published and only a story-book with pictures for the auction (Pickford and Hatcher, 2000).

⁷⁹ See Appendix A.

‘commercial artefacts’ and ‘non-commercial samples’,⁸⁰ or even a termination of the excavation when the commercial salvage operators realise that the site has been looted and the majority of ‘valuable’ artefacts have gone.⁸¹ The extent of the documentation on shipwreck sites also varies considerably. Sometimes there are thorough published excavation reports, but more often there is only a summary of findings posted on relevant websites or in auction catalogues, in which case either the archaeology or the data recording are incomplete.⁸² Therefore, commercial exploitation can cause great loss of artefacts and information that are valuable to academic studies.

The increasing threats to the underwater archaeological resource caused by looting and commercial exploitation led to the adoption of the Convention on the Protection of the Underwater Cultural Heritage by the UNESCO General Conference in 2001, which came into force in 2009. The Convention clearly states that: “underwater cultural heritage shall not be commercially exploited” and it also dissuades against the irretrievable dispersal of finds. Furthermore, the Convention requires States Parties to take measures against the illicit trafficking of cultural objects and promote training and information sharing.⁸³ The Annex to the Convention provides practical globally-accepted rules for activities directed at any underwater archaeological site. For the effective implementation of the 2001 Convention and the Rules of its Annex, building

⁸⁰ In the Cirebon excavation, the retrieved objects were distinguished as ‘commercial artefacts’ and ‘non-commercial samples’ and the access to the former is limited. On-site registration divided the ceramics into ‘complete artefacts’ which required individual registration, and ‘restorable and shards’ which were only registered in batches. Although these approaches provide detailed data, comprehensive examination and comparison is not possible due to the lack of consistency in the recording (Liebner, 2014, p. 91).

⁸¹ At the Karawang shipwreck site, after three and a half month of salvage operations in 2008, no objects were deemed valuable enough to yield profits if the operation continued. Therefore, the salvage company (PT Paradigma Putera Sejahtera) decided to stop the salvage and leaving an estimate 40% of the cargo in site (Liebner, 2009).

⁸² Besides the Belitung, Intan and Cirebon wreck, among the nineteenth shipwrecks of the ninth to the thirteenth centuries that sank in the Southeast Asia, the Java Sea wreck (located between Bangka Island and Jakarta), Pulau Buaya (Riau Archipelago, Indonesia) wreck also have detailed publication regarding the findings (Mathers and Flecker, 1997; Ridho and McKinnon, 1998); As for the Breaker Shoal wreck (south-west of Palawan, Philippine), only the ceramic cargos have a detailed introduction (Dupoizat, 1995), and the discoveries of the Karawang wreck site (north Java coast, near Cirebon wreck) were just mentioned in Liebner’s work on Cirebon and Intan wreck (Liebner, 2009); The Jepara (34 km offshore from Jepara, Indonesia), Tanjung Simpang (the north of Sabah, Malaysia), and Kudat Song Shipwreck (close to Kudat in Sabah) have no relevant articles published about the recovered objects, only some introduction on websites. Moreover, for some wrecks such as Song Dynasty wreck (North of Luzon), Chinese Trader (North Palawan, Philippine), we just know the location, an approximate date and a very general introduction on cargo through catalogs (Bennett, 2010).

⁸³ Favis, 2012, p. 3-4.

the capacity of Member States to protect and excavated their underwater archaeological sites became a priority. To this end, UNESCO Bangkok formulated and implemented a regional capacity-building project which was funded under the UNESCO-Norway Funds-in-Trust Cooperation and established in Thailand within the precinct of the Underwater Archaeology Division of the Fine Arts Department. Under the project, from 2009 to 2011, three six-week Foundation Courses and two ten-day Advanced Courses were successfully held, benefitting seventy national experts from sixteen Asia-Pacific Member States.⁸⁴ The participating Member States including Cambodia, Philippines, Indonesia and Malaysia started to strengthen their existing underwater archaeology units or establish new ones.⁸⁵ After the funding expired at the end of March 2012, the Fine Arts Department of Thailand decided to sustain the Centre over the long term and planned to organise an annual Advanced Course on specialised topics and new maritime archaeology technologies and a Foundation Course every two years.⁸⁶

The work of UNESCO in Southeast Asia greatly enhanced the region's capacity to protect and manage their maritime archaeological sites and raised public awareness of the importance of their underwater cultural heritage. Before the enforcement of the Convention, few countries in the Asia-Pacific region could conduct scientific excavation on shipwrecks found in their territorial waters, and outside Thailand and Singapore, almost 100% of wrecks located in Southeast Asian sea water were salvaged commercially.⁸⁷

The significant find of the Belitung wreck was excavated. The retrieval was conducted by a German commercial salvage company (Seabed Explorations GBR) from 1998 to 1999 under a commission issued by the Indonesian government. Dr Michael Flecker, who has more than twenty years' experience in searching for and archaeologically

⁸⁴ Underwood, 2012, p. 15.

⁸⁵ Underwood, 2012, p. 17.

⁸⁶ Underwood, 2012, p. 18.

⁸⁷ Personal communication with Dr Michael Flecker.

excavating ancient shipwrecks, supervised the second season of excavation in 1999. The half-year excavation yielded some satisfactory results. Excavation of the shipwreck site adopted the grid system;⁸⁸ commercially valuable as well as unmarketable objects were brought to the surface and conserved; the ship's remains were comprehensively recorded, and a replica was built;⁸⁹ a well-edited catalogue of the early findings on vessel and cargo were published.⁹⁰ In 2005, the lot was sold to a company owned by the government of the Republic of Singapore, and the collection now is in a dedicated maritime museum.⁹¹ The other two major finds in Indonesia, the Intan and Cirebon wrecks,⁹² were also salvaged by commercial companies with experts in underwater archaeology on-site as a director or advisor.⁹³ Both the shipwreck sites were gridded, and the position of retrieved items was recorded. While they did not archive the publicity of the Belitung wreck, nor was there a museum to store all the excavated objects,⁹⁴ there are detailed and well-written excavation reports that provide data and information for further research.⁹⁵

⁸⁸ At the wreck site, the two primary grip lines were laid to cover the excavation area. The direction of the lines was decided by the wreck orientation, current direction, diver orientation, and convenience of laying. And then installing parallel lines several meters apart from the end stake, until the whole site was gridded. Each square was labelled in a systematically way. For example, if longitudinal lines (north-south) are numbered 1 to 11 from the west, then latitudinal lines (east-west) can be designed A to I from the south. The position of the recovered items can be recorded according to the squares they are located.

⁸⁹ A project called The Jewel of Muscat was an historical and cultural initiative launched by the governments of Oman and Singapore that involved the reconstruction of Belitung wreck and sailing it from Oman to Singapore. The ship's design was based on the archaeological findings of the Belitung wreck and the replica was built with the ancient techniques observed from the wreck. The journey of the ship began in February 2010 and ended in July 2010 (<http://jewelofmuscat.tv/background/the-project/> (10/10/2017, 21:20)).

⁹⁰ Krah, Effeny, et al. (eds.), 2010.

⁹¹ Flecker, 2008.

⁹² Intan wreck was found in the northwest region of the Java Sea, Indonesia, in 1996, and The Cirebon wreck, some 100 kilometers off Cirebon on the north Java coast in 2003.

⁹³ The position of Intan wreck was located by a local salvage company, P.T. Slung Segarajaya (PTSS) in June 1997. Due to the lack of funding from local government, the salvage became a cooperative project between PTSS and a German group, Seabed Explorations GmbH & Co, which started in August and ended in December 1997. Flecker directed the excavation on behalf of the two partners (Flecker, 2002); The salvage of Cirebon wreck was conducted by the Indonesian salvager, PT Paradigma Putera Sejahtera, and a Belgium-led consortium, Cosmix Under-water Research and Recovery LTD. Horst Liebner, on behalf of the Indonesian Government, was appointed as advisor to the salvage companies carrying out the excavations. The project took more than two years (4/2003-10/2005) (Liebner, 2014).

⁹⁴ The recovered objects of Cirebon wreck were placed in a storage company owned by Christie's, which is located at the Singapore Changi Airport. The Cirebon wreck objects are in storeroom 39 and 40 which accommodate total 218 big wood boxed (Sun Xin, 2013).

⁹⁵ The D.Phil. dissertation of Dr Flecker (the National University of Singapore, 2002) and Dr Horst Liebner (the University of Leeds, 2014) are based on the excavation of Intan and Cirebon wreck respectively. It is fair to say that the excavation reports of these two wrecks are much more thorough than that of Belitung wreck. They cover each step of the excavation, and provide detailed description and relevant data of the major cargos such as ceramics as well as the items found in small quantities.

Nevertheless, although these shipwrecks were scientifically excavated, the fact that the recovered artefacts were traded as commercial goods is still a travesty of the principles of maritime archaeology. The exhibition of such collections in academic agencies is controversial and might arouse objection among scholars, which is the case of the exhibition of the Belitung shipwreck held by The Smithsonian Institution in Washington DC in 2011.⁹⁶ Nowadays, the governments of Southeast Asia tend to conduct the excavation on their own or in partnership with other national and regional heritage agencies, independently of private commercial companies.⁹⁷ However, due to the rich underwater cultural heritage in Southeast Asian sea waters, insufficient official funding and more importantly the rampant looting,⁹⁸ could mean that excluding the private company may cause even greater loss of the maritime archaeological data in this region.⁹⁹ Therefore, at least at present, a certain level of private-public collaboration in underwater archaeology may still have to be employed.

As for China, who now has become one of the pioneering countries in underwater archaeological activities, their first Chinese research institute of underwater archaeology was founded in 1987.¹⁰⁰ Without any local experts and professional technology, the Chinese archaeologists were trained through cooperative projects with foreign organisations.¹⁰¹ Since the late 90s, the Chinese underwater archaeological teams have done surveys in the Paracel Islands as well as adjacent waters of Fujian

⁹⁶ See website: <https://www.world-archaeology.com/world/north-america/usa/smithsonian-tang-treasures-special-report/> (5/17/2020, 15:30).

⁹⁷ Flecker, 2017, p.37.

⁹⁸ Between 2007 and 2010, Indonesia Ministry for Tourism and Culture and a salvage company conducted a detailed examination of 26 mostly uncharted wrecks in the vicinity of Gaspar Strait and found only one undisturbed site (Liebner, 2014, p.13).

⁹⁹ Flecker, 2017, p. 29-32.

¹⁰⁰ Zhang Wei, 2011.

¹⁰¹ An example of a cooperative excavation between China and foreign countries is the Baijiao No.1 wreck, located adjacent to the village of Dinghai, Fujian Province, in the southeast of China. It was a joint China-Australia (University of Adelaide) project conducted from May to July 1995. The main purpose of the project is to train professional Chinese underwater archaeologists (Kenderdine, 1995).

province¹⁰² and recovered shipwrecks dating to various periods on their own,¹⁰³ among which the most significant find is the Nanhai No.1 wreck. The Nanhai No.1 wreck was accidentally discovered by a Maritime Exploration & Recoveries PLC of England and the Guangzhou branch of the Chinese Salvage Company in 1987 when they were in a joint operation of searching for a foreign shipwreck nearby the Chuanshan Archipelago of Guangdong province.¹⁰⁴ However, the following underwater survey underwent several setbacks due to its depth, preservation and scale of the Nanhai No.1 wreck and it was not until 2005 the the location and overall situation of the wreck was mastered. After fixing the position, instead of choosing the traditional disassembly method, the ship's remains and the cargo of the Nanhai No.1 wreck was salvaged as a whole, using a gigantic iron box which was later placed in a museum built specifically for the wreck. Its intention is not just to retrieve the ship and all the materials on board but also to recreate the same underwater environment.

The box was designed to contain the water and mud that preserved the wreck for almost one-thousand years. After being placed in the museum in Yangjiang 阳江 (Guangdong Province) in 2007, the wreck site was gridded into ten 6m×6m squares and two 6m×3.317m rectangles.¹⁰⁵ After the trial excavation in 2009 and 2011, the overall excavation started at the end of 2013 and has not yet finished in 2019. It is worth mentioning that the site was explored layer by layer, the same manner of conducting terrestrial excavation in China. The salvage of Nanhai No.1 presents the ideal manner for the excavation of shipwrecks with significant academic value. It is only possible

¹⁰² The underwater survey of the Xisha Islands started on 8/12/1998 and ended on 25/1/1999. During the forty days, thirteen sites were uncovered and dated from the Five Dynasties (907-960) to Qing Dynasty (1644-1912). The surfaced objects, around 1500 pieces, were mainly ceramics (The Underwater Archaeology Research Center of National Museum and Bureau of Cultural Relics of Hainan Province, 2006) ; The underwater survey of Fujian province started in early 90s and until 2008, thirty sites were located, mainly in adjacent waters of Fuzhou, Putian, Zhangzhou. The earliest findings were dated to Song Dynasty and the latest being Qing Dynasty (The Survey Team of Underwater Archaeological in Fujian, 2014).

¹⁰³ The major wrecks sank in China and were excavated solely by the Chinese archaeologists include Nanhai No.1 wreck, dating to the Song Dynasty and sank in Yangjiang, Guangdong province (Wang Yuanlin and Xiao Dashun, 2016) , Nanao No.1 wreck, dating to Ming Dynasty and sank in Shantou, Guangdong province (Cui Yong et al.,2011), and Liaodong No.1, a Qing Dynasty warship that sank in Liaoning province (Zhou Chunshui and Feng Lei, 2006).

¹⁰⁴ Wang Yuanlin and Xiao Dashun, 2016

¹⁰⁵ Wang Yuanlin and Xiao Dashun, 2016.

with generous funding from the government, which is why there are very few cases of whole salvage. As for the publication of the findings, there is a catalogue of the retrieved objects during the 2009 trial-excavation,¹⁰⁶ and more detailed excavation reports regarding the excavation between 2014 and 2015.¹⁰⁷ From the discovery in 1987 to the salvage in 2007, it took twenty years, and the excavation, classification and analysis of objects are still on-going. The project of Nanhai No.1 is a great investment of money and people, and an exceptional case of *ex situ* preservation. Nevertheless, for the majority of the shipwrecks excavated in Chinese sea waters, after retrieving the artefacts and some examples of the hull, the shipwreck sites were preserved *in situ*, and a typical example is the significant find of a Ming-Dynasty shipwreck—Nanao No.1 wreck 南澳一号.¹⁰⁸ With underwater surveys and excavations undertaken at coastal regions in China annually, more shipwrecks have been discovered. The urgent problem that Chinese maritime archaeology faces today is standardisation and widely-accepted rules on the documentation of a site, as well as methodologies for conservation and site management so that the underwater cultural heritage can be better protected and more information contained therein can be preserved.

The shipwrecks referred to in this thesis are unintentional vessel losses mostly through the violence of sea or collision, or any other process during what can be considered a crisis event. The defining characteristic of these shipwrecks is their unintentional nature. The archaeological signatures of such losses are the presence of many items that would have been in use at the time of the catastrophe, commonly cargo and the domestic assemblage of the ship and its crew.¹⁰⁹ It also should be noted that the shipwreck site

¹⁰⁶ The report is merely a brief introduction of the objects and the excavation process. Regarding the distribution pattern of the cargos or the possible wrecking process, we have no information (Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011).

¹⁰⁷ The information regarding the excavation process and cargo distribution is mainly from the report published in 2016 and 2018 (Wang Yuanlin and Xiao Dashun, 2016; Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018).

¹⁰⁸ Ding Jianxiang, 2019, pp. 297-309.

¹⁰⁹ Besides shipwrecks that suffered from catastrophic loss and were unintentionally abandoned, the formation of some other shipwreck sites was outcome of intentional human behaviour. For example, at Thonis-Heracleion, northeast of Alexandria, Egypt, more than 70 shipwrecks have been recovered, which was an assemblage of wrecked, ritually deposited, reused, and abandoned vessels. The archaeological signatures of these shipwrecks are different from those unintentional vessel losses (Robinson, 2018).

perceived by the archaeologist is formed through long-term cultural and natural processes, even though the sinking of a ship takes only hours if not minutes. In Muckelroy's shipwreck site-formation model, during the wrecking process of a vessel, the assemblage (created from the original ship's structure and contents) transforms from an organised but dynamic state to a disorganised but stable form through interaction with the environment; and then, natural and cultural forces act upon the sites and assemblages, with the main processes divisible into either 'filters' which extract material from the assemblage such as opportunistic salvage usually immediately after the wreck even, or 'scrambling devices' which rearrange patterns, including the later deposition of irrelevant material on the site.¹¹⁰ Even though Muckelroy have recognised equally the roles of both cultural and natural processes in site formation, the natural or 'environmental' transformations that have been the focus for his site-formation research. In response, Gibbs introduces the disaster-response model, which includes a series stages to better illustrate cultural actions before, during and after the wreck event.¹¹¹ However, this model does not apply uniformly to all shipwrecks. Due to the variation in locational, environmental, historical and legal factors, a wreck may not experience certain stages, or be subject to one or all of these cultural processes.¹¹² During the cultural and natural processes of site formation, much data is lost and much is not. Shipwrecks become time capsules and unrecorded information regarding the maritime trade such as sailors' lives and how cargos were packed is revealed.

The ships that sank in the South China Sea and dated between the the ninth to the thirteenth centuries are the subjects of this chapter. This period is of particular interest because it is when Chinese ceramics started to gain its reputation around the world. Also, the earliest wrecks found in the South China Sea and even in the Indian Ocean so

¹¹⁰ Muckelroy, 1979.

¹¹¹ Gibbs, 2006.

¹¹² Gibbs, 2006.

far is dated to this period. Before that, judging from the archaeological evidence, the South China Sea is quiet, unlike the Mediterranean Sea.¹¹³

In chapter one, I have addressed the issue of why ancient China entered the golden age of maritime trade during this period. Here, I will describe the evidence on which much of our understanding of that maritime trade is based – including shipwrecks and their contents, and evidence surviving from trade documents or other written texts. First, we examine the origin of the wrecks. The key question is where they were built in the first place. Secondly, through the study of the placement of cargos, I try to explore how the trade of different types of merchandise was managed, or, for ships that carried mixed cargos, how the trade conducted.

2. The origin of the shipwrecks

In this section, I will summarize the shipbuilding traditions of three different regions: China, Southeast Asia and the Middle East based on studies done by other scholars.¹¹⁴ Then through cross-examination of the construction techniques, hull form and wood species in use on the recovered ship remains, the origin of some shipwrecks are identified.

¹¹³ Andrew Wilson's graphical analysis of Mediterranean shipwrecks from BC 1500 to 1500 AD and the study of the evidence from terrestrial distribution of amphorae and fine wares suggest that Mediterranean trade experienced a progressive increase from about 600BC to 200BC and peaked in the first century AD, followed by a reduction in the seventh and eighth century (Robinson and Wilson, 2011, pp. 33-39)

¹¹⁴ Multiple studies have been conducted on the building skills of the trading ships of the South China Sea. Wu Chuming 吴春明 in his doctoral dissertation completed in 2001, collected all the Chinese wrecks found in the Chinese sea water and described the different ship-building techniques of different periods from Xia Shang Zhou to the Qing Dynasty. Wu's study especially of the earlier periods heavily depends on historical records due to the under-development of underwater archaeology at that time, but his conclusion has been proved by the later discoveries such as Nanhai No.1 (Wu Chunming, 2001); Wang Guanzhuo 王冠倬, adopted another approach. By exploring the image of boats from drawing, wall-painting and pottery or wood models, Wang inferred the development of ship-building techniques of different regions and periods. Wang's study involves more technical details such as the tools used on the ships and expanded the subject to not just seacrafts but riverine boats as well (Wang Guanzhuo, 2000); As for the Southeast Asian ships, Pierre-Yves Manguin's works combines the archaeological findings with ethnological evidences and historical records (anthropology evidence and epigraphic data) (Manguin, 1980, 1985, 1986, 2019); His works also include the comparative study of the trading ships of South China Sea among Southeast Asia, China and Middle East (Manguin, 1984, 1993, 2019).

2.1 The findings of Chinese shipwrecks

Judging from the ships' remains found at the sites located along the large rivers, lakes, canals, and shipbuilding workshops, it appears that China possessed the necessary skills to build trading or warships quite early in her history.

At least in the Han Dynasty (206 BC-220 AD), there were not only canoes but also ships made of planks.¹¹⁵ The wood and pottery ship models buried in the Han tombs in Guangzhou indicate that the separated bulkheads structure, a traditional Chinese design that was meant to keep vessels watertight, originated from this period.¹¹⁶ Moreover, based on the calculation of length and width of the shipbuilding platform found in a big-scale workshop of Qin (221-207 BC) and Han period in Guangzhou, the craftsmen at that time were already capable of making a 30 meters long, 6 to 8 meters wide wooden ship with a load of 50-60 tons.¹¹⁷ By the time of Tang Dynasty (618-907), vessels made of planks which were joined together by iron nails and with a compartment structure were more common and have so far been discovered in Yangzhou 扬州 (Jiangsu province),¹¹⁸ Rugao 如皋 (Jiangsu province),¹¹⁹ Liuzi 刘孜 (Anhui province),¹²⁰ Shanghai¹²¹ and Shangqiu 商丘 (Henan province)¹²². However, the location of these findings, and the fact that their features are not consistent with the description of seacrafts in Xuanhe Fengshi Gaoli Tujing 宣和奉使高丽图经 and Songhuiyao Jigao 宋会要辑稿, indicate that they were riverine or coastal boats.

¹¹⁵ Canoes dated to Han Dynasty were found in Fujian Lianjiang 连江, Guangdong Huazhou 化州 and the ships discovered in Jiangsu Wujin 武进 was built with planks (Wu Chunming, 2001, p. 93).

¹¹⁶ Wu Chunming, 2001, pp. 94-95.

¹¹⁷ Wu Chunming, 2001, p. 91.

¹¹⁸ Meng Yuanzhao, 2013.

¹¹⁹ Meng Yuanzhao, 2013.

¹²⁰ The Archaeological institute of Anhui Province, 2002.

¹²¹ He Jiying, 2016.

¹²² Meng Yuanzhao, 2013.

In Xuanhe Fengshi Gaoli Tujing, a book written by Xu Jing 徐兢 to record what he saw and heard during his staying in Goryeo (a state located in the Korean Peninsula from 918 to 1392) in 1123 as an envoy,¹²³ it was written:

“It was the procedure that every time the court sent envoys on a diplomatic mission, the Jiansi (officials with supervising duty) of Fujian and Liangzhe were commanded to hire a civilian ship which was later decorated in Mingzhou. The ship was around ten zhang long, three zhang deep, two and a half zhang wide (one zhang approximates 3.14 m). The tonnage of the ship was three thousand hu (one hu approximates 3.51 m³). The ship, built with giant timbers, was flat in the upper level and sharp as a blade in the lower, which enabled it to move in a fast speed on a sea-going voyage.”¹²⁴

The Songhuiyao Jigao 宋会要辑稿 (Compiled Government Documents of Song China),¹²⁵ also recorded the features of ships built in Fujian and South Guangdong: “The seaway of Fujian and South Guangdong was deep and vast...(They) built six sea-going ships with a narrow bottom and each one was three chi wide, three chi deep (one

¹²³ The original edition of Xuanhe Fengshi Gaoli Tujing kept in Yufu 御府, has gone missing during the invasion of Jin army in 1126. The edition adopted in the thesis is that Qiandao edition 乾道刻本, which was based on the copy of the original edition stored in Xu Jing's house and printed in 1167 (the third year of Qiandao reign 乾道三年). For the later periods, it was stored among the book collection of the royal family. The Qiandao edition that finally came to light is the one well preserved in the Tianlulinlang Palace 天禄琳琅殿 (the library of the Qing royal family). In 1933, it was first photocopied by the Gugong Museum. Compared with other editions, the Qiandao edition is the oldest and the most reliable one. It has to be noted that there are some mistakes in the book, such as the confusion of Gaoli 高丽 (918-1392) and Gaoguli (BC 37-AD 668), which indicates Xu Jing's lack of comprehensive knowledge of the Gaoli history. But it still provides valuable information regarding the maritime communication between ancient China and Korea (Xuanhe Fengshi Gaoli Tujing, annotated by Pu Qing hui, 1986).

¹²⁴ The text in the thesis is translated by myself. The original text is “旧例，每因朝廷遣使，先期委福建、两浙监司，雇募客舟，复令明州装饰，略如神舟，具体而微。其长十余丈，深三丈，阔二丈五尺，可载二千斛粟。其制皆以全木巨枋挽叠而成，上平而衡，下侧如刃，贵其可以破浪而行。” (Xuanhe Fengshi Gaoli Tujing, volume 34, p. 70). The calculation of the length and volume measures during the Song Dynasty is based on the study of Professor Qiu Guangming (2013, p. 369-370; p. 372-378). It is of note that there was no single standard of the volume measures and the measurement adopted in the thesis is the more widely-accepted one which one Dou approximate 702 ml (Qiu Guangming, 2013, p. 378).

¹²⁵ The original edition of Songhuiyao 宋会要 which was written during the Song Dynasty and had more than 3000 volumes, has gone missing. The book we called Songhuiyao Jigao 宋会要辑稿 is a collection of the scattering documents and manuscripts of Songhuiyao 宋会要, that was recorded in Yongle Encyclopeida 永乐大典. It was compiled and edited by Xu Song during Qing Dynasty. It was first photocopied by Zhonghua Shuju 中华书局 (Zhonghua Press) in 1957, which is the edition used in the thesis.

chi approximate 31.4 cm). The tonnage of the ships was two thousand liao (one liao approximate 61.42 kg).”¹²⁶

Based on these historical records of Song Dynasty, one of the most distinctive features of the sea-going ship built in Fujian and Guangdong was that the hull showed a high deadrise angle,¹²⁷ which is distinctively different from the flat bottom seen on the riverine boats mentioned above. The shape of the hull and the length-width ratio of the Nanhai No.1, Ningbo and Quanzhou Bay wrecks conform to the description. The Nanhai No.1 wreck, 22.15 meters long (the original length is estimated to be 30.4 meters) and 9.8 meters at the widest, had a relatively flat holds and V-shape bottom (Fig 2.2, 2.3 below).¹²⁸ The hull form and the length and width of Quanzhou Bay wreck are quite similar to that of Nanhai No.1, which is 24.02 meters long and 9.51 meters at the widest with V-shape bottom as well (Fig.2.4, 2.5 below).¹²⁹ The Ningbo wreck, only half of the size of Quanzhou Bay and Nanhai No.1 wreck (9.3 meters long and 2.16 meters at the widest), shared the same low length-width ratio and the V-shaped hull.¹³⁰



¹²⁶ The text in the thesis is translated by myself. The original text is “福建广南海道深阔....已依陈敏水军见管船样造尖底海船六只，每面阔三尺，底阔三尺，约载二千料。” (Songhuiyao Jigao, “Shihuo Volume Fifty, p. 18). The calculation of the weigh measures is also based on the the study of Professor Qiu Guangming (2013, p. 385-391).

¹²⁷ A deadrise angle is the angle between a horizontal plane and the hull surface. A boat with a high deadrise angle is a boat with a deep, shape, V-shaped hull.

¹²⁸ Zhao Jianzhong, 2015.

¹²⁹ Green and Burningham, 1998; The Archaeological Team of Quanzhou Bay Wreck, 1975.

¹³⁰ Lin Shimin, 1981, pp. 105-129.

Figure 2.2 Nanhai No.1 Wreck, orthophoto-map



Figure 2.3 The Nanhai No.1 model at the Maritime Silk Road Museum of Guangdong



Figure 2.4 The Quanzhou Bay wreck when first recovered



Figure 2.5 The reconstruction model of Quanzhou Bay wreck at the Quanzhou Overseas Communication History Museum

These three well-preserved wrecks provide valuable details regarding the construction techniques which are bulkhead construction, planks edge-joined with dowels and fastened to bulkheads with iron nails, the gap between planks filled with an organic compound of hemp thread and Tong oil ashes, multi-layered planking, multiple masts, an axial rudder, and usually built from Chinese cedar, camphor or pine.¹³¹ Based on this knowledge, two other Song Dynasty shipwrecks the Huaguang Reef No.1 wreck and Bai Jiao No.1 wreck, can be confirmed as built initially in China.¹³² As for the Breaker Shoal wreck, Tanjung Simpang wreck and Jepara wreck which were not so well-preserved or well-excavated, some evidence such as the shape of a recovered

¹³¹ According to the excavation reports, the Nanhai No.1, Quanzhou Bay and Ningbo wreck were all found with several compartments separated by crossbeams, a topic that will be elaborated in the later section. The fastening techniques mentioned in the text were also observed on all three wrecks. The Quanzhou Bay and Nanhai No.1 wreck were multi-layered planking. The bottom section of Quanzhou Bay was made of two layers and side section three layers. It is noted that the side section of Nanhai No.1 wreck was of multiple layers but mainly three. There are no mentions of masts found on Nanhai No.1 wreck but for Ningbo and Quanzhou Bay, there were three and several according to the excavation reports. The analysis of the hull remains indicate that the timbers are Chinese fir, camphor or pine (Wang Yuanlin and Xiao Dashun, 2014; The Archaeological Team of Quanzhou Bay Wreck, 1975; Lin Shimin, 1981).

¹³² The remained hull of the Huaguang Reef No.1 wreck is 18.4-meter long and 9-meter wide. The length-width ratio is similar to that of Quanzhou Bay wreck. The ship is multi-layered planking, mostly five layers. The timbers were fastened with iron nails and plank gap was filled with organic compound of hemp thread and Tong oil (Sun Jian etc., 2007). The timber from the Bai Jiao No.1 shipwreck site had an iron nail through the upper site and some bamboo rope was also recovered. The wood sent for analysis is identified as China fir and pine (Kenderdine, 1995).

anchor or the wood species also suggest a possible Chinese origin,¹³³ even though the single line of evidence and the fact that some artefacts were not retrieved through proper excavation cast some doubts on the identification.¹³⁴

2.2 The findings of Southeast Asian shipwrecks

One striking characteristic of the shipbuilding tradition in Southeast Asia between the first millennium to the early second millennium is the technique known as stitched-plank and lashed-lug.¹³⁵ There are two specific parameters described here, that is the stitching of hull planks and the lashing of hull planks to frames. The archaeological and ethnographic sources reveal that whereas the lashed-lug technique remained in use in the second millennium with minor variations and survived into the twenty-first century, the method used to fasten the strakes together with vegetal fibres evolved over time, and was eventually replaced by wooden dowels during the early second millennium.¹³⁶

According to Manguin, the lashed-lug technique is observed on all the remains of ancient Southeast Asian vessels with no exceptions (Fig 2.6). Some of these ship remains dated to an early period, such as the Pontian boat (260-430), Kuan Luk Pad boat (mid-first millennium), have their hull planks fastened together with stitches made of ijok fibres, without using a wooden dowel.¹³⁷ Remains from larger vessels dated to the second half of the first millennium, including Kolam Pinisi, Sambirejo, Kota Kapur 1 and 2, Punjulharjo, Suak Bujang, were found with planks stitched together with fibre ties, but the number of dowels increased. The smaller boats excavated in Butuan (late 8th and 10th century), were the earliest example of true lashed-lug only

¹³³ See Appendix B.

¹³⁴ This particularly refers to the Jepara wreck site. The Jepara wreck site was discovered because many celadon and white wares started to surface in the Jakarta antique market. There is no systematic and scientific salvage operation to survey the site or recover the artefacts. Jepara wreck was concluded to be a Chinese ship based on an anchor stock surfaced in the same antique market. Because anchors are very often found as single objects, especially in places that offer shelters like harbours, it is possible that the anchor was originally part of another shipwreck.

¹³⁵ Horridge, 1978; Manguin, 1996.

¹³⁶ Manguin, 2019.

¹³⁷ Manguin, 2019.

vessels (with no stitches for fastening the planks) (Fig 2.7).¹³⁸ Toward the end of the first millennium, the stitches method was abandoned altogether, leaving only the wooden dowels to perform this essential function.

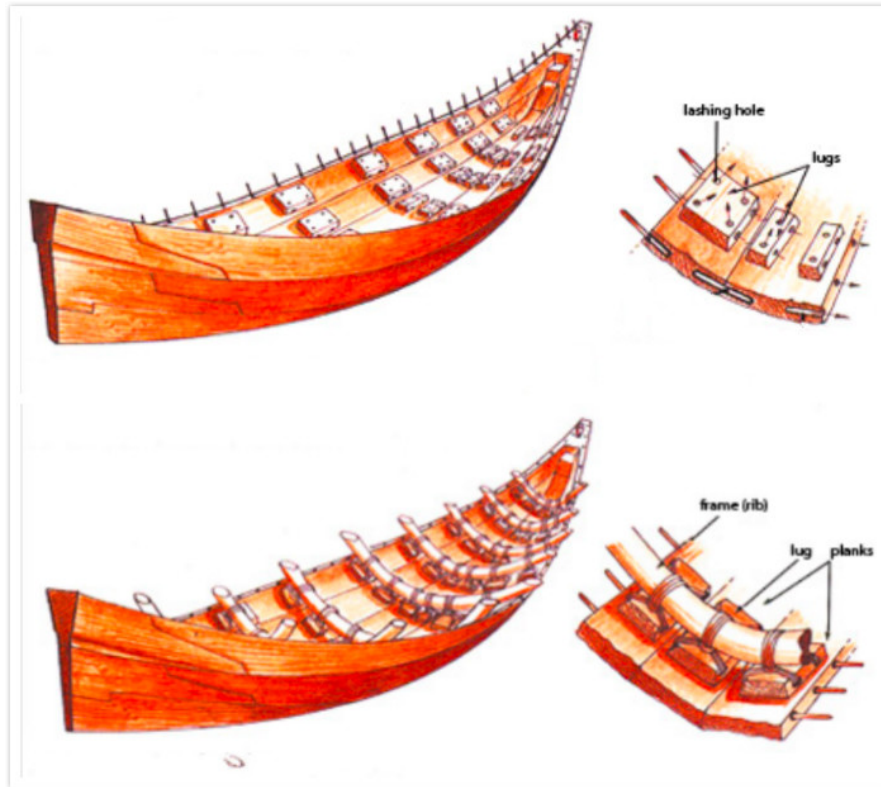


Figure 2.6 *Demonstration of fitting the frames to the hull by lashing them to the lugs*

The total absence of iron nails had been a surprise feature for first-millennium Chinese observers. In *Yiqie Jing Yinyi* 一切经音义 (Dictionary of Sounds and Meanings of Words in the Vinaya), an eighth-century Chinese text written by a Chinese monk named Shi Huilin 释慧琳,¹³⁹ the Southeast Asian ships were described as large ships fastened with vegetal fibres instead of iron nails, made of several layers of planks and rigged with multiple sails and masts.¹⁴⁰ The Ethnographic evidence of the sixteenth to

¹³⁸ Manguin, 2019.

¹³⁹ *Yiqie Jing Yinyi* 一切经音义 is believed to be finished before 808 (the Third year of Yuanhe reign 元和三年) and later to be stored in Ximing Temple 西明寺. The book was once lost to Japan but regained during the reign of Guangxu 光绪 (1875-1908). In 1912, it was published by a private publishing house in Shanghai, called Pingjiajingshe 频伽精舍.

¹⁴⁰ In *Yiqie Jing Yinyi*, it said that “The bo 舶 are sea-going ships. They lie six or seven feet deep in the water. They are fast and can transport more than 1,000 men, apart from cargo. They are also called kunlun bo 昆仑舶. Many of those who form the crews and technicians of these ships are kunlun [Southeast Asian] people. With the fibrous bark of the coconut tree, they make cords which bind the parts of the ship together (...). Nails and clamps

twentieth centuries written by Europeans who entered the eastern waters of Southeast Asia recorded the surviving tradition of lashed-lug and doweling with no stitches mentioned.¹⁴¹ Therefore, based on the archaeological and ethnographic sources, the specific Southeast Asian tradition now is described as the ‘stitched-plank and lashed-lug’ technique for the earlier vessels, and only as ‘lashed-lug’ for later ones.¹⁴²

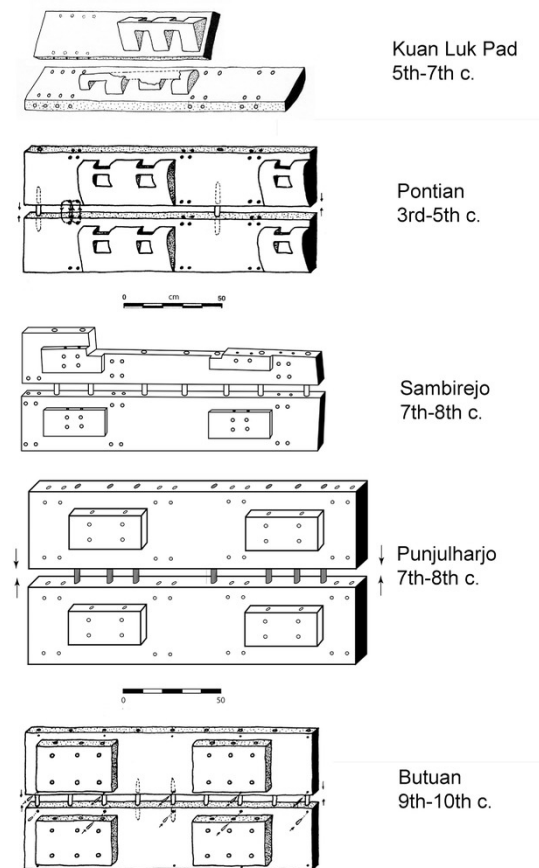


Figure 2.7 Evolution of fastening of the planks in the lashed-lug tradition: from stitches to dowels

are not used, for fear that the heating of the iron would give rise to fires. [The ships] are constructed by assembling [several] thicknesses of side-planks, for the boards are thin and they fear they would break. Their length is over sixty meters (...). Sails are hoisted to make use of the winds, and [these ships] cannot be propelled by the strength of men [alone]” The translation of the text adopted in the thesis is from Pierre-Yves Manguin’s version (Manguin, 1980, p. 276); The text was also translated in English by Joseph Needham (Needham, 1962, p. 459). The original text is “海中大船曰舶，广雅舶海舟也。入水六十尺，驱使运载千余人，除货物，亦曰昆仑舶。运动此船，多骨论为水匠。用椰子皮为索连缚。葛糖灌塞令水不如，不用钉牒，恐铁热火生。累木枋而作之，板薄恐破。长数里，前后三节。张帆使风，亦非人力能动也。” (Yiqie Jing Yinyi, volume 61) .

¹⁴¹ Manguin, 2019.

¹⁴² McGrail, 2001: 296-307.

Among the shipwrecks discovered in the South China Sea and dated between the tenth to thirteenth centuries, the Cirebon, Intan and Java Sea wreck were most likely built in Southeast Asia. The measurements and examinations of several plank samples from the Cirebon wreck proved beyond question that the hull had been constructed in the “lashed-lug/dowelled” technique,¹⁴³ which as mentioned above was the long-lived Southeast Asian shipbuilding tradition. In the case of the Intan wreck, no vessel structure survive, but four pieces of wood retain evidence of dowels or treenails, and forty-eight pieces of wood were sent to analysis which were all identified as species that originated from Southeast Asia.¹⁴⁴ The situation of the Java Sea wreck is similar to that of the Intan wreck. Despite no remaining ship structure, the wood identification indicates that the Java Sea Wreck was built mainly of mandailas, a predominantly Southeast Asian timber, and milkwood which can be found throughout Southeast Asia and southern China to some extent.¹⁴⁵ There are also discoveries of dowel or treenail holes on two small wood fragments.¹⁴⁶ Therefore, there is little doubt that these three ships were of Southeast Asian origin, even though the exact country is yet to be found .

2.3 The finding of Arabic shipwreck

The pre-modern Arabic-Indian vessels can also be classified within the broad category of sewn ships. Nevertheless, the historical records and iconographic evidence suggest that the planks on the Arabic-Indian vessels were stitched in a different method from the Southeast Asian tradition.

The Indian and Middle East ships were mentioned in Procopius: “three works of the eventful reign of Justinian (527-565): ‘All the boats which are found in India and on this sea, are not made in the same manner as are other ships. For neither are they

¹⁴³ Liebner, 2014, pp. 242-253.

¹⁴⁴ Flecker, 2002, pp. 123-125, 140.

¹⁴⁵ Mathers and Flecker, 1997, pp. 71-72.

¹⁴⁶ Mathers and Flecker, 1997, p. 73.

smearred with pitch, nor with any other substance, nor indeed are the planks fastened together by iron nails going through and through, but they are bound together with a kind of cording”.¹⁴⁷ From these descriptions, we know that on Indian and Middle East ships, the planks were sewed together with a cord instead of being nailed. The features of two small riverine crafts depicted on first and second century BC monuments at Bharhut and Sanchi (central India), shows that the stitching penetrates through the hull planks and is visible on the outside of the hull.¹⁴⁸ It appears that the difference between the Southeast Asian and the Arabic-Indian sewing technique is that on the Southeast Asian ships, the holes were usually drilled within the seams and were not visible outside, while in the case of Arabic-Indian vessels, the plank is drilled through and hence the stitching is visible on the outer surface of the hull, and there is no use of dowels (Fig 2.8).¹⁴⁹ This sewing tradition survived with artisanal fishermen until recently, while on larger vessels it was replaced around the early sixteenth century.¹⁵⁰ Another feature that differentiates the two traditions is that the lashed-lug technique seen on Southeast Asian vessels never appears on Arabic-Indian craft.¹⁵¹

So far, in the South China Sea, only the Belitung shipwreck fits the description above. The hull of the shipwreck has frames cross-stitched, and there is no dowel used for edge-joining (Fig 2.9).¹⁵² Compared with the Chinese and Southeast Asia vessels, the Belitung wreck is closer to the technical tradition of the western Indian Ocean. A further analysis of timber species which reveals that the frames, hull planks, anchor shank, and dunnage are made of a type of timber only native to Africa, removed the possibility of Indian origin. Thus, a conclusion that the Belitung ship was constructed in Near East has been drawn.¹⁵³ However, it is of note that the wadding material that helped keep the ship watertight and the twine holding the Belitung ship together (hibiscus) were

¹⁴⁷ Procopius, [1914 I: xix], ca. 54.

¹⁴⁸ Deloche 1994, p. 199.

¹⁴⁹ Manguin, 1993, p. 260.

¹⁵⁰ Liebner, 2014, p. 223.

¹⁵¹ Manguin, 2019.

¹⁵² Flecker 2011, p. 114.

¹⁵³ Flecker 2011, p. 115-117.

found in Southeast Asia.¹⁵⁴ One explanation is that before the tragic event, the Belitung ship was re-stitched in Southeast Asia, possible Indonesia using local materials.



Figure 2.8 Examples of sewing technique

¹⁵⁴ Flecker 2011, p. 117-118



Figure 2.9 *The plank with holes recovered from the Belitung wreck site*

Other information on constructional details and hull form that we can observe from the Belitung wreck are the transverse beams which penetrate the sides of the hull and tie the sides of the boat together as well as providing a foundation for the small deck and temporary palm frond decking (Fig 2.10); cross-stitched seams, with wadding inside and out; a sharp bow that is only slightly inclined; a keelson; and stringers.¹⁵⁵



Figure 2.10 *The 3D model of beams*

¹⁵⁵ Flecker, 2010, p. 114.

Besides the shipwrecks mentioned above, due to the lack of analysis of the timber species and no study of the surviving hull, the origin of the Xicun Riau, Pulau Buaya, Investigator Shoal and Banyang Reef No.1 wrecks remains unknown.¹⁵⁶ For a clear illustration, table 2.1 cross-references construction technique, wood species and finding of three different shipbuilding traditions.

ship-building tradition	construction technique	timber species	findings
Chinese	The V-shaped hull form, bulkhead construction, planks edge-joined with dowels and fastened to bulkheads with iron nails, the gap between planks filled with an organic compound of hemp thread and Tong oil ashes, multi-layered planking, multiple masts.	Chinese cedar, camphor or pine	Breaker Shoal wreck (possible) Huaguang Reef No.1 wreck Tanjung Simpang wreck (possible) Nanhai No.1wreck Jepara wreck (possible) Kudat wreck (possible) Bai Jiao No.1wreck Quanzhou Bay wreck
Southeast Asian	The V-shaped hull form, bulkhead construction in larger vessels, lashing of hull planks to frames, edge-joined with dowels without uses of iron nails, multi-layered planking, multiple masts.	Local timbers include Durio species (durian), Eusideroxylon zwageri (Belian or Borneo ironwood), Tristania species, Also imported wood from China and India	Intan wreck Cirebon wreck Musi River wreck Java Sea wreck
Arabic	a sharp bow; a keelson planks sewn together without uses of iron nails or wooden dowels; cross-stitched seams	Afzelia Africana and Juniperus procera from Africa; teak and coconut from India	Belitung wreck

Table 2.1 Summary of the construction technique, wood species and finding of three different ship-building traditions

¹⁵⁶ The Pulau Buaya wreck has been commercially excavated, Banyang Reef wreck has been surveyed and the Investigator Shoal wreck has been archaeologically explored and partially excavated. Regarding the Xicun Riau wreck, there was no salvage conducted and the cargo in large part is still in situ. I cannot find the relevant report of these wrecks but some scholars mentioned them in their works. According to Hu Shuyang 胡舒扬, during the salvage of the Pulau Buaya wreck, no remains of the hull were found but one 120 cm long, 12cm wide and 4 cm thick plank was recovered. However, no analysis was conducted on the timber (Hu Shuyang, 2014) : On the Banyang Reef No.1 wreck site, ship remains including a crossbeam, side plates and decks were found, but no further information about the construction techniques or hull form were reported, only the length of the planks (Li Jianan, 2010) ; No detailed excavation report of the Investigator Shoal wreck has been published yet. In the revelant article, it is said that wooden fragments and granite anchor were salvaged but no further information (Dizon, 2003). As for the Xicun Riau wreck, according to one of the Indonesian divers who participated in the salvage of part of the cargo, the shipwreck is apparently 40m long but no other information regarding the ship (Gardellin, 2013). As for the Musi River wreck, it is said that it was a small riverine boat. Despite of no further information regarding the salvaged wooden fragments, since it was a riverine boat it is more likely that it was of indigenous tradition than originated from overseas (Gardellin, 2014).

Among the twenty-seven shipwrecks and shipwrecks sites, even though not all the wrecks' origins can be certain, none suggests ships built in the Middle East except the Belitung wreck. There is an absence of Arabic ships after the ninth century and an increasing number of Chinese vessels after the tenth century. How should we comprehend such a development, and what were the reasons behind the change? These topics will be addressed in the next chapter.

3. The placement of cargos

During the excavation of the Intan, Cirebon, Nanhai No.1 and Quanzhou Bay shipwrecks, the artefacts' position was recorded, and hence the distribution of cargos was revealed.¹⁵⁷ Due to the wrecking process and the impact from marine creatures and currents, it is unlikely that all of the cargos were found in their original place. However, how they were distributed on the seabed still tells us a lot about the stowage patterns. The four shipwrecks mentioned above represent two types of placement of cargos and two different trading patterns.

3.1 The distribution of cargos on the Intan and Cirebon wreck

The Intan wreck, an early-mid tenth-century Southeast Asian merchant ship discovered in the northwest region of the Java Sea (Fig 2.11), carried a mixed cargo,¹⁵⁸ among which the majority are ceramics, metal ingots (including bronze ingots, tin ingots and

¹⁵⁷ The excavation of Intan and Cirebon adopted the grid system and the recording of positions of retrieved items was based on the grids 'worked' on a specific day. In the excavation report of these two wrecks, there are graphs and detailed information regarding the distribution of the surfaced objects (Flecker, 2002; Liebner, 2014). As for the Nanhai No.1 wreck, since the whole remains including the ship not just the objects were salvaged and placed into a museum, its ship structure can be fully exposed same as the Quanzhou Bay wreck. Therefore, the recovered objects were recorded based on the compartment they belonged. There are also detailed introduction about the findings of each compartments of the ships (Wang Yuanlin and Xiao Dashun, 2016; The Archaeological Team of Quanzhou Bay Wreck, 1975).

¹⁵⁸ According to the excavation report of Intan wreck, it carried a wide range of Southeast Asian and foreign products. Artefacts include such bronze ritual articles as figurines, vessels, sceptres, bells and moulds, some at least of which appear to have been of Indian origin. Finds of Chinese origin include ceramics, copper coins, bronze mirrors and iron articles. Other artefacts include Middle Eastern glassware, Southeast Asian ingots of lead, silver, tin and bronze, foodstuffs such as candle-nuts, and other organic material including tiger bones, sambar antlers, an elephant tooth and tusk, worked ivory pieces and pieces of benzoin (Flecker, 2002, pp. 29-120).

copper alloy), door fittings and mirrors.¹⁵⁹ Based on the graphs of the excavation report, it is apparent that the distribution of the major cargo mainly follows two different patterns: artefacts occurred along the length of the site such as the door fittings, tin ingots and ceramics, or they were centred around one or several separate regions such as the mirrors. Because of the shapes of the fittings, which were not loose items of cargo but rather were attached to completed doors (but could roll once the door disintegrated) and the buoyancy of the doors them (which allowed displacement by current), the original placement of door fitting is difficult to conclude.¹⁶⁰ Therefore, the thesis will mainly focus on the other three classes of objects.



Figure 2.11 *The Location of the Intan and Cirebon wreck*

The tin and bronze ingots and copper items each feature separate distribution patterns in which each category of the object was close to each other. Great quantities of tin ingots, packed densely,¹⁶¹ were found at the southern end, but with substantial numbers

¹⁵⁹ 7309 pieces of ceramics have been recovered and recorded (Flecker, 2002, p. 101); The number of bronze ingots, tin ingots and copper alloy found from the wreck site is 865, 792 and 479 respectively (Flecker, 2002, p. 30); The finds of door fittings and mirrors (including handles) were counted as 596 and 652 (Flecker, 2002, p. 29). Their numbers are significantly bigger than other cargos on board.

¹⁶⁰ Flecker, 2002, pp. 45-51.

¹⁶¹ According to the excavation report, in many cases, pyramidal ingots were recovered stuck together, base to base with all edges aligned, sufficient to conclude that they were intact stowed in this manner. Each layer of ingots must have been stacked with alternate ingots placed upright and upside-down, to fully utilize hole space (Flecker, 2002, p. 80).

at the far north as in Grid H, implying that tin was stowed along the full length of the vessel.¹⁶² An interesting finding regarding the distribution of tin ingots is that there is a U-shaped pattern at the southern end of the site, an indication of tin being stowed around another commodity and at the bottom of the hold.¹⁶³ The distribution of bronze ingots, on the other hand, peaks in two separate regions: the southern end (Grid C10) and the midship north (Grid F7).¹⁶⁴ Grid C10 is also the same area where tin is concentrated, and hence bronze and tin ingots were likely stowed together. When discussing the overall distribution of bronze ingots, it is important to bear in mind that some 196 kg of bronze ingots were recovered prior to the documented earlier excavation, with their recovery reputedly conducted in Grids E and F. With a mean weight of 2 kg, around 100 bronze ingots would supposedly have been located in the central area of the wreck site.¹⁶⁵ If that is true, then there would have been more of a continuum between peaks. Scrap and sheet copper alloy follows the similar distribution pattern to the bronze ingots, with a higher concentration at the southern end of the site, but also extending to just north of midships, and slightly to the west.¹⁶⁶ It is reasonable to conclude that scrap bronze was stowed low down in the ship, together with the bronze and tin ingots, as their weight stowed at midship instead of at the far ends would serve as ballast to stabilize the vessel under sail. The higher concentration at the southern end is more likely because the ship was orientated northwest/southeast.

Liebner once argued that ownership is reflected by the placement of cargo batches. If the load was owned, managed, and to have been marketed by a number of merchants, then the composition of items found in (any) certain compartments should noticeably vary from the arrangement of objects un-earthed from (any) other sections. Such arrangements would result in a number of individually composed “vertical stacks” of

¹⁶² As mentioned above, the concentration at the south end also seen on the distribution of door fittings is probably due to the orientation of the ship which means that the south side of the ship hit the seabed first and causing the objects on board shift to the south as well. However, if great numbers of items still were located at the far north side of the wreck site, then it is clearly that they were stowed along the full length of the ship.

¹⁶³ The distribution pattern of tin ingots is clearly demonstrated in the Graph 5.18 of the excavation report (Flecker, 2002, p. 82).

¹⁶⁴ As seen in the Graph 5.17 of the excavation report (Flecker, 2002, p. 79)

¹⁶⁵ Flecker, 2002, p.80.

¹⁶⁶ Flecker, 2002, p. 80.

cargo consignments (Fig 2.12). On the other hand, if the load was owned by a single authority, the stowage design should follow the requirement of seamanship, which will lead to the “horizontal stack” of cargo (Fig 2.13).¹⁶⁷ One should question the likelihood of this argument’s outcomes. Indeed, under certain circumstances, such as of products loaded from different ports and different resellers, the composition of a certain type of cargo handled by a single authority could vary in provenance, quality and quantity between every compartment. On the contrary, for the sake of saving space, cargo belonging to different owners could be packed densely and uniformly with the use of other ownership indicators such as wooden tags or ink marks, instead of relying on location in the ship to mark ownership. Nevertheless, in the case of the metal ingots and copper alloy cargos on the Intan wreck, such indicators were absent, and their stowage pattern, which was along the full length of the vessel or centred around the midship as ballast, seems to support the assumption of the “horizontal stack.” Therefore, the trading of these metals was most likely organized by a single merchant or only a few merchants.

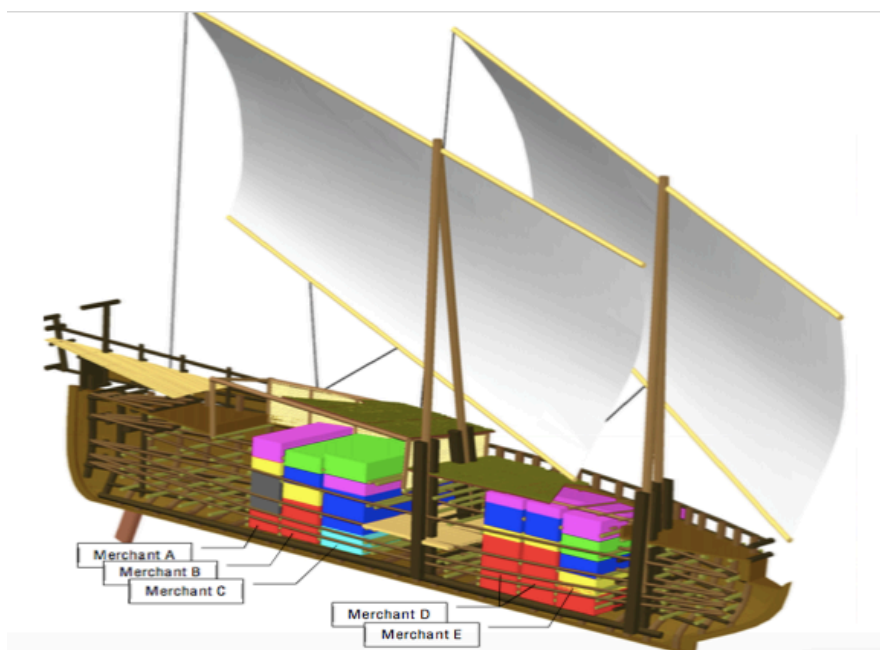


Figure 2.12 Proposed “vertical stacks” of cargo consignments

¹⁶⁷ Liebner, 2009.

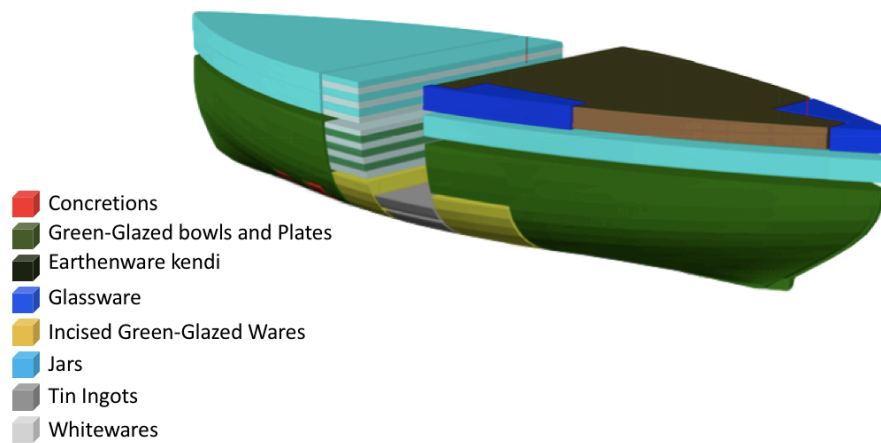


Figure 2.13 *Approximate stowage scheme of main consignments of Cirebon Cargo*

The distribution of mirrors (255 Indonesian mirrors, 302 Indonesian mirror handles,¹⁶⁸ and 95 Chinese mirrors) shows quite different patterns. The distribution of Chinese mirrors compares closely to that of Indonesian mirrors. In both cases, there are two separate consignments, one at the end of the site and the other just north of the centre, and in both cases, the northern concentration is higher.¹⁶⁹ In the southern area, Chinese mirrors are concentrated in Grids C8 and C10, whereas Indonesian mirrors are concentrated in Grids B8, B9 and C10. In the northern area, the Chinese mirrors are concentrated around Grid F6, whereas the Indonesian mirrors centred around F7.¹⁷⁰ The fact that the Indonesian mirrors and Chinese mirrors were stowed at probably two different consignments suggests that at least two merchants were trading the same kinds of commodities.

Compared with the cargos mentioned above, the distribution of ceramics is more complicated. The ceramics were spread out circularly with an area almost devoid of ceramics.¹⁷¹ This unusual distribution pattern is probably a consequence of the wrecking process, during which the ceramics shifted to the west, leaving the area where their vessel once laid relatively empty. As for the longitudinal distribution, overall, the

¹⁶⁸ Most of the handles and mirrors were found separately and only one had the handle still attached, which is because the mirrors and mirrors handles were cast separately and then brazed together (Flecker, 2002, p. 58).

¹⁶⁹ Flecker, 2002, p. 59.

¹⁷⁰ As seen in the Graph 5.74 of the excavation report (Flecker, 2002, p. 59).

¹⁷¹ As seen in the Graph 6.1 of the excavation report (Flecker, 2002, p. 119).

peak concentration occurred in the north and south. However, according to Flecker, during the earlier undocumented recovery, considerable quantities of ceramics had been removed from the central grid area.¹⁷² If you take this into account, the concentration would not have been quite so pronounced. On the other hand, the major types of ceramics onboard have different distribution patterns. Brown/green glazed pots, the predominant ceramic type,¹⁷³ were recovered in substantial quantities along the full length of the site. Considering earlier recoveries, they may have been packed fairly uniformly from the south to midships, but a more significant number was certainly packed to the north.¹⁷⁴ Fine-paste bottles and kendis¹⁷⁵ were packed in the bow and stern areas, but not in between.¹⁷⁶ Qingbai wares, mainly small and very small dishes,¹⁷⁷ show a markedly different distribution from the fine-paste wares. The majority of the small dishes were recovered from midships north, although there was an isolated concentration to the south; the very small dishes appear to have been stowed all along the ship.¹⁷⁸ Yue wares were also found along the full length of the ship,¹⁷⁹ but different shapes varied in distribution: medium-sized ewers were found from midship to south; small size ewers were found exclusively to the very north of the site; jars decorated with a fishbone pattern were found to the very south and from midships north, but none in the between; lotus decorated jars occur fairly uniformly all along the site.¹⁸⁰

Based on the description of the distribution pattern of ceramics, we know that even though ceramics were found along the full length of the ship, the cargos were not

¹⁷² However, the exact number of the ceramics salvaged prior to the documented excavation is unknown (Flecker, 2002, p. 120).

¹⁷³ Among the 7309 pieces of ceramics found from the wreck site, 4855 were registered as brown ware pots. (Flecker, 2002, p. 116)

¹⁷⁴ Flecker, 2002, p. 120.

¹⁷⁵ According to the excavation report, the number of the examples of fine-paste bottles and kendis is 78 and 148 respectively (Flecker, 2002, p. 117). Despite of the difference in numbers, they were found in the same areas of the wreck site. But no overall figures are available.

¹⁷⁶ As seen in the Graph 6.3 (Flecker, 2002, p. 119).

¹⁷⁷ Total 795 Qingbai wares are surfaced and registered as examples in the excavation report, among which 639 are dishes (Flecker, 2002, p. 115). But no overall figures are available.

¹⁷⁸ As seen in the Graph 6.4 (Flecker, 2002, p. 119).

¹⁷⁹ Total 1051 Yue wares are surfaced and registered as examples in the excavation report, among which 148 are ewers and 297 are jars (Flecker, 2002, p. 106). But no overall figures are available.

¹⁸⁰ Flecker, 2002, p. 119.

packed uniformly. The stern area (the south end of the wreck site) was loaded with brown ware pots, fine-paste wares, qingbai wares, Yue-type jars with a decoration of fishbone and lotus, and medium-sized ewers. At the bow area (the north end of the wreck site), some of the types mentioned above such as the qingbai small dishes and Yue-type jars with the fishbone pattern were not seen, but the Yue-type small size ewers were found exclusively in this region. Moreover, for the items stowed at both stern and bow areas such as brown ware pots, they differed in qualities. The midships area is devoid of fine-paste wares and mainly packed with qingbai wares, Yue-type jars and ewers. There is also a difference between the midship north and south. It seems that the composition of ceramics found in certain compartments noticeably varies from the arrangement of objects excavated from other sections. Considering that the ceramic cargos were probably picked up at an entrepôt port in south-eastern Sumatra,¹⁸¹ this difference is likely because the compartments were leased to several merchants who oversaw the trade of different types of ceramics. It indicates that the cargos were owned and marketed by individual merchants, rather than a single authority.

Besides the major merchandise mentioned above, there were also traders in Middle East glass beads and glasswares, and dealers in human trafficking.¹⁸² It appears that on the ship, the trade of metal ingots and alloys was organized by a single or few authorities, while the other commodities were owned by different merchants. It is reasonable to assume that the metals, tens of thousands of them packed densely at the bottom of the ship, was heading to a fairly limited number of destinations, possibly Java.¹⁸³ At the same time, the other merchandise including ceramics might be traded at an extensive

¹⁸¹ This assumption is based on the sinking location, the mixed cargo and the cargo stowage pattern (tin was stowed along the full length of the ship, and beneath the ceramic cargo).

¹⁸² There were 44 human bones found on the wreck. Usually just one or two people did not try or were not able to escape the sinking ship. It seems that several people remained trapped within the ship, and the possible reason is that the ship was carrying slaves (Flecker, 2002, p. 93)

¹⁸³ This is mainly because Java is virtually devoid of commercially extractable mineral deposits. Java needed to import all the base metal fundamental to the mechanism: gold and silver for currency, iron for tool making and cooking vessels, and copper and tin for casting bronze statues and vessels (Flecker, 2002, p. 81).

number of ports-of-call during the voyage to Java or sold at the final destination along with the metals.

Turning to the Cirebon ship, a mid-late tenth-century Southeast Asian merchant ship salvaged from the north Java coast (Fig 2.11), the overall arrangement of its cargo is similar to that on the Intan ship. Chinese ceramics, which dominate the merchandise found accounting for 75% of the ca. 500,000 retrieved items, were found uniformly along the full length of the ship. Other items, including Fatimid glassware from the Middle East, many thousands of pearls and precious stones probably from Indian Ocean ports, several hundred kilograms of raw Afghani lapis lazuli, lead and tin ingots, and a wide collection of aromatic substances were distributed around one or several separate consignments.¹⁸⁴

Analysis and reconstruction of the wreck assumed that the Cirebon ship's hold was divided by crossbeams into sections similar to the compartments apportioned to individual merchants described in Chinese sources and seen in Chinese wrecks, such as the Quanzhou Bay and Nanhai No.1.¹⁸⁵ However, the available data on the distribution of ceramics cargos on the Cirebon ship indicates that the stowage pattern followed the requirement of seamanship, instead of reflecting the different ownerships. Green-glazed bowls and plates as the major type of the ceramics cargo¹⁸⁶ were densely packed in the lower hold, topped by the lighter, less compact consignments of jars, ewers and kendis (Fig 2.13 above).¹⁸⁷ There is no significant difference in the longitudinal direction as we have observed on the Intan wreck. The only identifiable 'vertical stack' of specific pottery that might indicate an individual consignment is the concentration of white wares stowed behind the 'tween-deck' (the space between the upper deck and

¹⁸⁴ Liebner, 2009, pp.16-23.

¹⁸⁵ A feature of the Cirebon ship model is the 'compartments' inside the cargo space formed by the transverse/longitudinal beams (Liebner, 2009, p. 33).

¹⁸⁶ The various types of green-glazed bowls and plates account for 75% of the ceramic cargos on Cirebon wreck (Liebner, 2009, p. 42).

¹⁸⁷ According to the excavation report, the vast majority of the various kinds of bowls was found inside the area delimited by the hull's remains, and thus initially must have been stored in the deeper sections of the ship's hold, while the bulk of the other types of ceramics were unearthed in areas surrounding the wreck, and hence most probably had been loaded on top of the tightly stacked bowls (Liebner, 2009, p. 38).

the lower cargo hold in the hull of a vessel) (Fig 2.13).¹⁸⁸ However, Liebner argues that this pattern could also indicate an ‘opportunistic’ use of the cargo space still available after the green-glazed wares had been taken aboard.¹⁸⁹ In the absence of other ownership indicators, the overall arrangement of the ceramic cargo suggests that they were handled by a single authority.

Another argument to support the assumption that the purchase and handling of the ceramics on the Cirebon wreck were organized under a single authority is the highly uniform character of the ceramics. As mentioned above, the various types of green-glazed bowls dominated the shipment of the Cirebon Wreck, among which, 46% belongs to the <bowl 001> category.¹⁹⁰ Moreover, not only the vast majority of the green-glazed stonewares but also much of the white wares and earthenwares are composed of a limited number of general shapes.¹⁹¹ One would expect a cargo assembled by several individual merchants to exhibit a much higher variety of shapes and types of ceramics, collected from a much wider range of producers, compared to that seen on the Intan ship.

On the other hand, distribution of the consignment of the ‘western’ merchandise in the ship’s cargo confirms the concept of peddler trade, meaning that a certain type of product was owned by several merchants. Each of them marketed a limited number of items. There were traders in the Middle Eastern glasswares who had packed their batches of beakers and bottles on the vessel’s foredeck, and dealers in the fine scents of Persia, whose flasks were stowed somewhere on starboard deck.¹⁹² The jewellery came in at least three different consignments, marked by contrasting proportions of the

¹⁸⁸ Liebner, 2014, pp. 301-302.

¹⁸⁹ Liebner, 2014, p. 302.

¹⁹⁰ Liebner, 2009, p. 42.

¹⁹¹ Liebner, 2014, p. 303

¹⁹² According to the excavation report, size and form of the vessels and fragments of glass wares have been divided into larger objects, mainly bottles and cups, and small ‘perfume flasks’. The wreck site produced 39 (largely) complete vessels and 14 complete small flasks. The concentration of larger glass objects at [K21:N23:R19:P17] yielded 17 (largely) intact vessels, marking a consignment of glasswares initially stowed over the ship’s bows. It is well possible that other glass items recorded in the vicinity of this concentration had belonged to the same shipment. Contrastingly, perfume flasks the scattered off starboard bows and concentrated at the abaft and astern areas, which suggests that these had not been stowed with the bottles and cups (Liebner, 2014, pp. 168-169).

precious stones retrieved from distinct quarters of the site.¹⁹³ The several hundreds of ingots were placed in the deep centre of the hull, which were assumed to have been taken aboard after the hold had been filled with the Chinese trade ceramics to fore and aft (Fig 2.13).¹⁹⁴

According to Liebner, the Cirebon ship was heading toward the island of Java, mainly due of the lack of exploitable deposits of metal ores in Java, and also because it is not logical that traders would carry cargoes composed of Chinese, Indian and Middle Eastern goods in the direction of the Straits of Malacca, where these commodities were trading.¹⁹⁵ The lower hold was filled with Chinese ceramics and Chinese metal wares while non-Chinese cargo was only found in either the vicinity of the ‘tween-deck or above the stacks of green-glazed ceramics, which indicates that the ship took on all the Chinese goods at a Chinese port, possibly Guangzhou, and then other products at other Southeast Asian ports.¹⁹⁶ And just as the metal ingots on Intan wreck, the intended market of the ceramics on Cirebon ship was fairly limited, while other products might be sold at several ports of call during the voyage to Java.

Based on the distribution pattern of the recovered objects from the Intan and Cirebon wrecks, it can be concluded that the primary cargos were loaded uniformly in the lower hold of the ship, while other merchandise either were stowed in few separate compartments such as the ‘western’ products on both wrecks, or distributed widely with the composition of certain compartments showing distinct differences such as the

¹⁹³ Several thousand precious and semi-precious stones, pearls and beads, and nearly 500 pieces of gold leaf and (fragments of) gold and silver jewellery were recovered from the wreck site. The main concentrations of these findings show marked differences in their respective compositions: the proposed cache of gold objects in the lower midship is associated with high counts of pearls; starboard off the remains of the ship was found the highest amount of garnets, here possible related to the second highest count of crumbled gold foil and other fragments of jewellery; rubies and, partially, sapphires were concentrated off portside (Liebner, 2014, pp. 183-184).

¹⁹⁴ It is estimated that the Cirebon vessel carried at least 40 tons of ingots, bars and readily fashioned implements of various metals. While several hundred of these “pyramid” ingots were retrieved, only eight are unambiguously identifiable in the databases. No overall numbers are available. Only three are associated with grid records. However, according to the divers’ reports the ingots were concentrated around the proposed ‘tween-deck (Liebner, 2014, pp. 201-202)..

¹⁹⁵ Liebner, 2009, p. 42.

¹⁹⁶ The distribution of cargos suggest that they were not loaded together. Because the pragmatics of judicious loading demand to begin at the hold’s two extremities, gradually breaking down sections of cargo space to fore and aft until the ship’s centre is reached (Liebner, 2014, p. 297).

ceramics on the Intan wreck. Likely, the voyage of the ships was mainly conducted at the request of one or only a few authorities with abundant assets who handled bulk selling, and the remaining space was leased to some individual traders who did small-scale business.

3.2 The distribution of cargos on the Nanhai No.1 and Quanzhou Bay wreck

The available data indicates that in contrast to the Intan and Cirebon wrecks, the major cargos of the Nanhai No.1 and Quanzhou Bay wrecks were owned or marketed by various merchants.

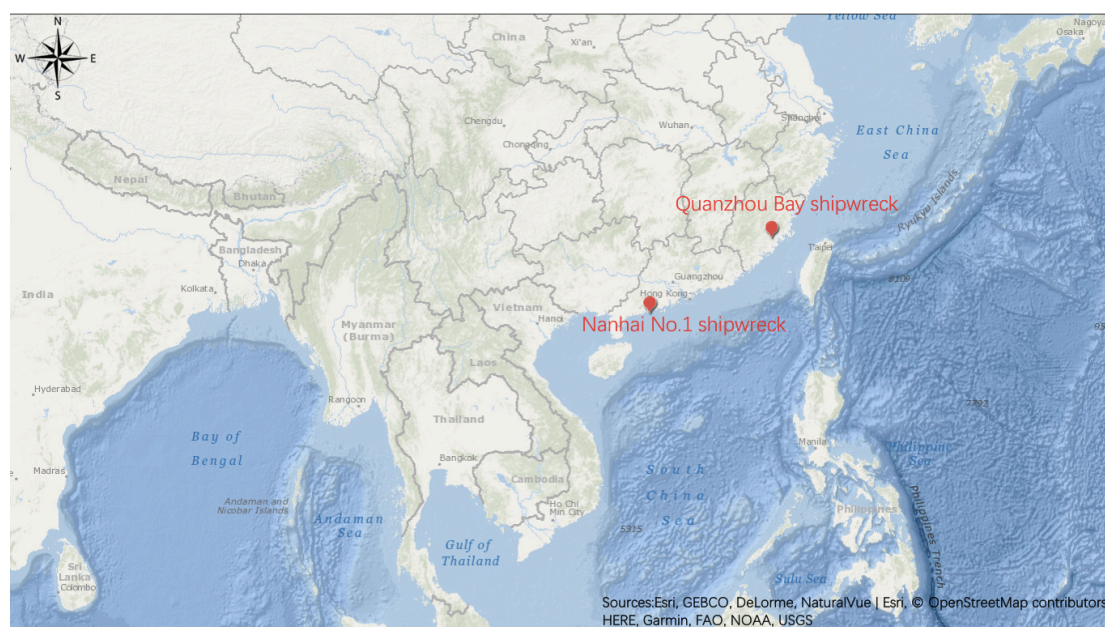


Figure 2.14 *The Location of the Nanhai No.1 and Quanzhou Bay wreck*

The Nanhai No.1 wreck was a mid-thirteenth century Chinese merchant ship destined for Southeast Asia, but which sunk shortly after its renovation at Guangzhou (Fig 2.14). The ship structure of Nanhai No.1 is well preserved, with fourteen crossbeams that divided it into fifteen compartments.¹⁹⁷ The consignments of each compartment varies. According to the 2016 excavation report of the Nanhai No.1 wreck, the bulk of cargo

¹⁹⁷ Wang Yuanlin and Xiao Dashun, 2016; The Archaeological Team of Quanzhou Bay Wreck, 1975.

are Chinese ceramics and ironwares such as pots and nails.¹⁹⁸ The ceramics were placed inside the compartment while the iron wares were mainly located on the deck with some on top of the ceramics, which indicates that ceramics were loaded first. Ceramics and iron wares were found along the full length of the ship but were not loaded uniformly. Due to the lack of available data regarding the other finds on the deck and the total weight or volume of the iron wares, it is difficult to conclude whether the placement of the iron wares was a reflection of different ownership or was to maximize the usage of space. Therefore, I will mainly address the distribution of ceramic cargos.

Compared to the ceramic cargos on the Intan and Cirebon wrecks, which as mentioned above are each mainly dominated by one specific type of vessel, the ceramics cargo on the Nanhai No.1 wreck displays a much more diverse composition. According to the excavation reports, the recovered ceramics are mainly assigned to six kiln complexes: Jingdezhen 景德镇, Longquan 龙泉, Dehua 德化, Cizao 磁灶, Mingqingyi 闽清义 and Jian kiln 建窑. They nearly covers all of the Chinese ceramics types exported to the Southeast Asian region during the Southern Song dynasty.¹⁹⁹ Overall the shapes of the recovered ceramics include bowls, plates, jars, bottles, vases, boxes, cups, and small dishes. The ceramic cargo from each compartment vary in vessel shapes and types.²⁰⁰ It is worth noting again that variation in the shipment amongst compartments is not necessarily caused by different ownership. There are two other explanations. First, it could be because the cargo was picked up at different ports. For example, hypothetically, if products from kiln sites near Fuzhou, such as Longquan, Jingdezhen, Mingqingyi and North Fujian, were loaded at Fuzhou while ceramics made at regions adjacent to Quanzhou, such as Dehua and Cizao, were loaded at Quanzhou, then cargos in compartments could differ in provenance and vessel shapes. In such a case, it is

¹⁹⁸ During the excavation in 2014, 14000 pieces of artifacts, 2575 examples and 55 tones of coagulation (mainly formed by iron pots and nails) were recovered. The recovered objects include around 13000 porcelains, 151 gold ware and 124 silver wares, 17000 coins, lacquered wares, large amounts of bivalves and some plant seeds etc.(Wang Yuanlin and Xiao Dashun , 2016).

¹⁹⁹ This is mainly based on the excavation report published in 2011 and 2018, and the study of the provenance of the ceramics on Nanhai No.1 wreck will be elaborated in Chapter six.

²⁰⁰ See Appendix C.

reasonable to assume that merchandise from the same production sites would be packed close together. However, on the Nanhai No.1 wreck, besides the Jian wares and Mingqingyi wares, ceramics from the same kiln complexes tend to be distributed widely.²⁰¹ This indicates that it is unlikely that the Nanhai No.1 wreck was loaded at multiple ports.

The second explanation is that a single authority purchased ceramics from various resellers who handled products originating from different kiln sites, which would lead to variation in provenance, quantity, quality, vessel shape and decoration between certain compartments. The Nanhai No. 1 wreck includes some variation in vessel decoration between compartments. For example, a lobed rim is a decoration form seen on all of the Qingbai bowls from the Nanhai No. 1 wreck, but ones with concentric rings of petals and incised with the “children at play figure” are exclusively found in compartment 5. The same goes for the green-glazed bowls of the Longquan kiln complex: while incised plants and flowers are the most commonly seen design, small bowls with raised lines on the exterior were only found in compartment 8. Under the assumption that the cargo was under single ownership, when loading the ship the primary consideration would have been to maximize the use of compartment space, to reduce the cargo breakage rate, and balancing the ship for safe sailing, in which case the densely packed bowls and dishes would be placed together at the bottom hold as ballast and then topped by other vessels, which is seen on the Cirebon wreck. However, on the Nanhai No.1 wreck, the arrangement does not follow this pattern. Some compartments were only found to contain bowls (as in compartment 11, 12, 13) while others also comprised vessels of various forms, such as compartment 8, which included small dishes, big and small jars, bottles, and vases along with the bowls (Fig. 2.15). Therefore, the most plausible theory to explain the cargo variation between compartments on the Nanhai No.1 wreck is that the ceramics were owned by multiple traders who marketed different types of products. And the difference in ceramic types

²⁰¹ See Appendix C.

and vessel shapes among compartments. The appearance of some unique decoration in a specific compartment, are likely due to the choices of individual merchants.



Figure 2.15 *The distribution of ceramic cargos in each compartment of Nanhai No.1 wreck*

The further analysis of the placement of ceramic cargos on the Nanhai No.1 suggests the possible existence of two merchant groups who marketed products of different quality. The fine Jingdezhen wares were mainly discovered in the fore compartments (compartment 2 to 8). Some were also found in the stern compartment, but it might be the living chamber and the ceramics stacked there could be used for display or daily utensils for the rich on board.²⁰² The aft hold (compartment 9 to 14) was mainly composed by wares of lower quality from Fujian kilns. Moreover, in terms of the vessel's types and decoration, the ceramic cargos of the fore compartments are more diverse than those of the aft regions.²⁰³ If more investment in craftsmanship results in higher value and hence higher price, then ceramics of the bow and stern compartments were supposed to cater to consumers with different purchasing power. The former were sold to the rich, while the latter were intended for the common folk. Why there was such separate arrangement is unclear. But it is reasonable to assume that if the combined value of ceramic cargos in fore compartments is higher than that of aft compartments,

²⁰² Some golden ornaments were discovered in the stern compartment and probably were the personal belongings of the rich merchants. Also, some delicate lacquered wares which were identified as boxes and plates, distributed in the stern compartment (Wang Yuanlin and Xiao Dashun , 2016). These findings all suggest that people of wealth were on board. It is reasonable to assume that they could and would choose the ceramics of higher quality for their daily use.

²⁰³ See Appendix C.

then merchants who owned the cargos of higher value tended to be richer and of higher status. Hence, there were two different merchant groups on board, and the hold was assigned accordingly.

Another interesting finding regarding the placement of ceramics cargo is that in every compartment, qingbai bowls of the Jingdezhen kiln complex and qingbai bowls of the Minqingyi kiln complex were not found together.²⁰⁴ The Minqingyi kiln products, which are named green-glazed wares in the 2014 excavation report, in my opinion, more resemble the glaze colour of qingbai wares.²⁰⁵ In terms of the purity of clay, the gloss of glaze, the smoothness of the surface and the finishing touch of the edge, Jingdezhen qingbai wares exceed Minqingyi wares. The distinct placement of these two types indicates that in the maritime ceramic trade during the Southern Song Dynasty, even the small-scale traders specialized in products of different types and quality and aimed for different markets.

The ceramic cargos on the Nanhai No.1 wreck, as discussed above, were owned by several merchants, among which, some marketed the products of higher quality and some of lower value. However, because the 2014 excavation report does not reveal the stowage pattern of the ceramics and more importantly, the publication of the overall excavation is not available yet, we cannot conclude whether the ceramics loaded at the bottom of the hold were intended for one singular or limited numbers of destination, or would be traded at numbers of ports-of-call.

The Quanzhou Bay wreck, unlike wrecks above which sank during their way to the next ports and were found with all their cargos on board at the seabed, was unearthed in the cultural layer of the Houzhu 后渚 port site in Quanzhou (Fig 2.14) and the

²⁰⁴ See Appendix C.

²⁰⁵ The major products of Minqingyi kiln during the period of Southern Song Dynasty, according to the kiln site excavation report, are qingbai wares and only few green glazed and brown wares were recovered (Yang Zelin, 2016). Other works on the ceramics cargo of Nanhai No.1 wreck all refer the Minqingyi kiln wares as qingbai instead of green glazed (Li Jianan, 2010). More importantly, my own visit to the wreck museum also confirm the fact that compared with the Longquan celadon, the glaze colour of Minqingyi kiln wares is much similar to the Jingdezhen qingbai wares.

majority of the cargo was absent. According to the reconstruction of the ship conducted by Jeremy Green and Nick Burningham, the bottom was relatively intact while the upper hull was deliberately removed.²⁰⁶ It seems that after making it back to Quanzhou, the ship was caught into some accident. The consideration of historical records and the discoveries of valuable spice and timber on the shipwreck leads Chen and Wu to posit that the ship was destroyed during warfare at Quanzhou in 1277.²⁰⁷ They argue that before the siege of Quanzhou, the majority of cargo on board had already been sold, and when war broke out since the ship was still berthed at the port, the ship was destroyed and the remaining cargo lost. Hence, even though most of the cargos had been taken off, some were still left behind when the ship was destroyed, to be recovered on the wreck. The intact bottom of Quanzhou Bay wreck reveals that there were initially twelve crossbeams and thirteen compartments.

From the shipwreck, 2350 kg of wood incense (not dehydrated, originating from Malay region: gharuwood, sandalwood and lakawood), spice, mainly pepper, 504 coins, and dozens of ceramics were recovered.²⁰⁸ But the most interesting finds are 95 pieces of the wood tags which were discovered in every compartment except 4, 8 and 10.²⁰⁹ The tags were found among the remains of the cargo with some string attached to them (Fig 2.16).²¹⁰ It is obvious that they were once fastened to the cargo and used as ownerships labels. Among the identified characters on the wooden tags,²¹¹ there are 35 different names. Nanjia 南家 is the one that the most common, seen seventeen times, mainly in compartment 6. It is followed by 曾幹水记 Cenggan Shuiji (eleven times), Ligan Shuiji 林幹水记 and Chang Jun 昶郡 (both five times). It is of note that the wood

²⁰⁶ Green and Burningham, 1988.

²⁰⁷ Chen Gaohua and Wu Tai, 1978.

²⁰⁸ The Archaeological Team of Quanzhou Bay Wreck, 1975.

²⁰⁹ See Appendix D.

²¹⁰ The Archaeological Team of Quanzhou Bay Wreck, 1975.

²¹¹ Eight pieces of wood tag had no words on them and another ten with unrecognizable characters (The Archaeological Team of Quanzhou Bay Wreck, 1975)

tags with the same characters tended to be closely distributed, mainly in compartment 5 and 6.²¹²



Figure 2.16 The wooden tags found on the Quanzhou Bay wreck

The wood tags suggest that, just as the ceramics on the Nanhai No.1 wreck, the main cargo on the Quanzhou Bay wreck--incense wood--was owned by several merchants, the majority being small-scale traders. This assumption is drawn from the fact that the wooden tags for each name varied in number. The close distribution of the wood tags with the same character indicates that the cargo owned by one singular merchant or shop were probably loaded from one port. One client imported a large number of products from one place. The existence of well-established relationships between the production sites and their 'bulk clients' could be proposed, which allowed for the regular supply, transport and initial marketing of substantial amounts of products.

4. Conclusion

The South China Sea is the first leg of the long-distance trans-Asian trade route leading from China to the Mediterranean. Judging from the shipwrecks and the surfaced objects, the trading circle involved merchant ships originated in China, Southeast Asia and the Middle East, and was fed by the manufactured artefacts as well as raw materials originated from a vast territory.

²¹² For example, among the 17 wood tags of Nanjia Jihao 南家记号, 16 were located at compartment 6 and the other one in compartment 5. Of the 11 wood tags of Cenggan Shuiji 曾幹水记, 6 distributed in compartment 5, 4 in compartment 6 and 1 in compartment 3 (see Appendix D).

In a way, the South China Sea was the Mediterranean Sea on the east end. However, unlike the Mediterranean Sea trade, which experienced a progressive increase from about 600 BC to 200 BC and peaked in the first century AD,²¹³ no shipwrecks prior to the ninth century have been discovered in the South China Sea, even though historical records and some terrestrial finds indicate that the trade route existed as early as Han dynasty.²¹⁴ The cargos of the Mediterranean Sea shipwrecks are mainly amphorae (the storage and transportation container of liquid commodities such as wine, olive oil, and fish sauce), ceramics including fine wares and coarse potteries, stones such as obelisks from Egypt and marble for architecture.²¹⁵ There was also the presence of prestige goods such as gold jewellery and luxury glassware as seen on the famous Antikythera Shipwreck (dated to the second half of the first century BC),²¹⁶ but the bulk cargo appealed to a wide market. The shipments were likely in the hand of individual merchants, and the abundance of shipwrecks reflects active private trade.

On the contrary, the long-distance trade conducted in the South China Sea before the ninth century was mostly driven by the upper class's interests in high-value

²¹³ Such theory is supported by the graphical analysis of Mediterranean shipwrecks from BC 1500 to 1500 AD done by Andrew Wilson and study of the terrestrial distribution of amphorae and fine wares done by Andrew Wilson and Damian Robinson. This thesis adopts Andrew Wilson's work of Mediterranean shipwrecks instead of A.J Parker's because I think Wilson work is more precise on account of two reasons. One is that Wilson included the shipwrecks discovered after the publish year of Parker's catalogue (1992). The second reason is that Wilson graphed the Mediterranean shipwrecks according to an equal probability of sinking in any year during the date range of each wreck while Parker graphed all wrecks at the mid-point of the date range. Parker's method neglected the factor of probability and hence had high possibility of mis-assigning shipwrecks to the wrong date group. The graph of known shipwreck number alone indicates that after the peak in the first century AD, there was a massive drop in the second century AD, which contradicted with the finds on land. Combining the underwater and terrestrial evidence, A. Wilson proposes a theory that the sudden drop of wrecks number in the second century AD was due to the replacement of amphora by barrel instead of decrease in maritime trade. The Mediterranean Sea trade, according to the distribution of amphorae and fine wares, continued to flourish until seventh century (Damian Robinson and Andrew Wilson, 2011).

²¹⁴ As mentioned above, the sea-borne route leading from South China to Southeast Asia and even west is recorded in Han Shu 汉书 (The Historical book of Han Dynasty). At important ports of the Han Dynasty such as Guangzhou and Hepu, objects possibly originated from Middle East were recovered. For example, a string of glass beads and a glass bowl have been found in sites of Guangzhou. A silver box whose style and decoration resemble the silver vessels found in Susa (Iran, 5th century B.C) was recovered from the tomb of Nanyue King (The Administrative Committee of Cultural Relics etc. 1991, pp. 22-29). At the Liaowei cemetery of the Eastern Han Dynasty and Three-Kingdoms period, string ornaments made of crystal, agate, amber or glass beads, glass wares and a turquoise-glazed jar were located (Guangxi Institute of Cultural Relics et al., .2012)

²¹⁵ Grain due of the perishability cannot be found among the wrecks 'cargos, but it is estimated that some of the largest ships, especially in the Roman period, may have been primarily grain transports (Robinson and Wilson, 2011, p. 39).

²¹⁶ The Antikythera wreck, found and salvaged at the Greek island of Antikythera in 1900, is the largest ancient shipwreck ever discovered so far. It is believed that it was a massive grain carrier. (Weinberg etc., 1965).

manufactured goods or exotic objects.²¹⁷ The value and high price of this merchandise limited the participation of private merchants. The nature of the trade was interregional exchange between royalty or elites, which may be one of the explanations of the scarcity of shipwrecks in the South China Sea. However, after the ninth century, the flow of goods and the individuals involved changed. The recovered objects from the South China Sea shipwrecks between the ninth to the thirteenth centuries were the combination of a few high-value items, such as the Middle East glasswares, gold and silver artefacts, and the rare incense wood which could be cherished personal belongings, gifts for the elites or high-priced commodities, and a large amount of merchandise of modest quality, including ceramics, metals in the forms of ingots, sheet and scrap, or pots, woods and spices. The cargos, as reflected in the distribution patterns, were either owned by a singular authority and heading for a specific destination, or handled by small-scale traders and sold at several ports-of-call. The ships were either designated for long-distance, direct trading between the eastern and the western ends of the Indian Ocean, such as the Belitung wreck,²¹⁸ or more often transported goods within the South China Sea trading circle.

The study of shipwrecks and their contents lead to other questions: how should we understand the absence of Arabic wrecks after the ninth century and the appearance of Chinese wrecks after the tenth century, and who were the shippers and merchants that owned and marketed these cargos? The origin of shipwrecks does not indicate who was on board, nor the ownership of the cargo. To answer these questions, we need to combine the findings from shipwrecks with historical records and terrestrial discoveries in ports or metropolitan areas of China and Southeast Asia, which is the topic of the next chapter.

²¹⁷ This topic has been addressed by Wang Guangwu and Yao Nan (1988), Martin Stuart-Fox (2003), and Derek Heng Thiam Soon (2008).

²¹⁸ Flecker, 2010, pp. 118-119.

Chapter Three

Merchants in the South China Sea trading circle

The topic of the traders plying the South China Sea during the tenth to the thirteenth centuries has been addressed.²¹⁹ Most research to date focuses on historical records. I intend to revisit the topic with the materials recovered from the shipwreck sites. The shipwrecks discovered in the South China Sea and dated to before the fourteenth century, are estimated to have originated from South China, Southeast Asia and the Middle East. Therefore, even though the merchants and mariners involved in the South China Sea trading circle during the Song period are not confined to these three areas, in this chapter I will concentrate on these regions.

This chapter is divided into three sections to address the Arabic, Chinese and Southeast Asian merchants and mariners in the South China Sea trading circle. The main question of the first section is the apparent contradiction between the absence of Arab wrecks after the ninth century and the active Arabic community in South China during the Song period (960-1279) which was recorded in Chinese documents and demonstrated by the relevant terrestrial discoveries. This question will be addressed through the identification of possible personal items on the Intan and Nanhai No.1 wrecks and study of the stories of Arabic merchants from Chinese sources. As for the subject of section two, the Chinese merchants involved in South China—Southeast Asia maritime trade, I focus on their identities. The question of who were they and what were their roles in the South China Sea trading circle will be addressed through the research of non-commercial artefacts on the Intan wreck, the ink marks on ceramic cargos from the several shipwrecks and wooden tags on Quanzhou Bay wreck. The last section aims to demonstrate that based on the quality, quantity and loading pattern of the bulk cargo,

²¹⁹ Heng, 2008; Clark, 2002; Hall, 1985.

and the estimated trade route of the four Southeast Asian shipwrecks (Cirebon, Intan, Pulau Buaya and Java Sea wreck), there were two kinds of Southeast Asian traders conducting the maritime business, state-sponsored and individual.

1. The Arabic merchants

1.1 The absence of Arabic wrecks after the ninth century

Arabic merchants entered the South China Sea trading circle as early as 671 according to a historical source.²²⁰ The Belitung wreck, a ninth-century Arabic merchant ship, was part of the great enterprise that linked the east and west extremes of the Indian Ocean network. But after the ninth century, no more shipwrecks originating from the Middle East have been found in the South China Sea.

The question of why no Arabic wrecks of later periods were found in the South China Sea has been addressed by other scholars. Based on comparisons of the cargo from the Belitung, Intan and Cirebon wrecks, Janice Stargardt argued that the absence of Arabic wrecks after the ninth century is because in the space of around a hundred years the trade network of the Indian Ocean had become segmented, and Southeast Asian ships and mariners dominated the eastern segment of the Indian Ocean trade.²²¹ The description of the Muslim Persians and Arabs (in Chinese called Dashi 大食)²²² in Zhufan Zhi seems to be consistent with Stargardt's argument:

²²⁰ Yijing, was a Tang-era Chinese Buddhist monk who had travelled from China to India through sea-borne route to further study Buddhism. In one of his book, *Datang Xiyu Qiufa Gaoseng Zhuan* 大唐西域求法高僧传 (Buddhist Monks' Pilgrimages of the Tang Dynasty), it is recorded that in the second year of Xianheng (671), he met Feng Xiaoquan in Yangzhou, the governor of Gongzhou in early autumn. And he travelled with him to Guangzhou, where he boarded a Persian boat with help of Feng Xiaoquan, heading south to Southeast Asian. The original text is "于时咸亨二年，坐夏杨府。初秋，忽遇龚州使君冯孝詮，随至广府，与波斯舶主期会南行。"(Datang Xiyu Qiufa Gaoseng Zhuan, volume two, p. 152). The text is translated by myself.

²²¹ Stargardt, 2014.

²²² Dashi is the name that first appeared in Tang texts and continued to be used in later periods to refer to the Arabian empires and the Arabians.

“Dashi, located at the northwest of Quanzhou, is the furthest region from Quanzhou. It is very difficult for merchant ships to reach Dashi. If sailing from Quanzhou, first it takes more than forty days to arrive at Lanli 蓝里 (also named Poluoguo 婆罗国, located at the northwest part of Sumatra island) where ships will call at ports to trade and spend the winter before taking on the voyage next year. After the seasonal wind comes, the ships will sail again for around sixty days before finally arriving at Dashi... (Therefore) the products from Dashi are usually shipped to Srivijaya 三佛齐 (the southeast region of Sumatra) and then resold to China.”²²³

It seems that due to the long distance between China and Dashi, exchanging products at a mid-way entrepôt such as Srivijaya was a more favourable choice than conducting a direct voyage. The lack of Arabian wrecks and the appearance of Southeast Asian and Chinese wrecks in the South China Sea, the mixed cargo on one shipwreck, and the increasing number of finds of Chinese ceramics in Southeast Asia seem to be consistent with the notion that Arabian ships, mariners and merchants withdrew from the eastern segment of Indian Ocean trade and were replaced by the Southeast Asian and Chinese counterparts.

The problem of this argument is that it equates the absence of Arabic ships with the absence of Arabic merchants or mariners in the trading network. The records of active Arabian merchants in official documents of Song dynasty and the findings of mosques and Muslim gravestone indicate that Arabians still played a significant role in the maritime trade with China.

²²³ The text in the thesis is translated by myself. The original text is “大食在泉之西北，去泉州最远。番舶难于直达，自泉发船四十余日，至蓝里博易住冬，次年再发，顺风六十余日方至其国...本国所产，多运载与三佛齐贸易，贾转贩以至中国。” (Zhufan Zhi, p. 89).

1.2 The evidence for an active Arabic community in South China

By examining the description of Dashi in Songhuiyao Jigao 宋会要辑稿 (Compiled Government Documents of Song China), Yuhai 玉海 (a reference book edited by Wang Yingling 王应麟 during Southern Song dynasty), and Songshi (an official history book of Song dynasty finished in 1345), Yang Fuxue calculates that Arabian empires had sent envoys with tribute to the Song court fifty-two times between 968 to 1168, which is even more than the forty times during Tang dynasty.²²⁴ These visits, as discussed in Chapter one, had different meanings for the Song Court and the envoys.²²⁵ As far as the Song court was concerned, it was more about demonstrating the power of imperial virtue, while from the perspective of the Arabic envoys, the nature of the tribute was more commercial than diplomatic. The Arabian envoys were mostly driven by the profit of tributary trade rather than establishing a diplomatic relationship. The multiple visits reflect the activity of Arabian merchants at that time.

Discoveries of Islamic architectures, such as tombs and temple, also indicate an active and influential Arabic community during the Song period. In Yangzhou, Xianhe temple 仙鹤寺, one of the four most famous ancient Islamic temples, was founded at the end of the Song Dynasty (1275 AD) and reconstructed between 1328 to 1398, according to Weiyang Zhi 维扬志, local chronicles edited during Ming Dynasty.²²⁶ The construction of the temple was funded by Puhading 普哈丁, a well-known Arabic merchant. Puhading died in Yangzhou in 1275 before he could return to the Islamic world, and was buried in a graveyard by the east coast of the Grand Canal.²²⁷ Tombs of other distinguished Muslims during the Song, Yuan and Ming Dynasties are also in the cemetery.²²⁸

²²⁴ Yang Fuxue and Cheng Aifeng, 2008.

²²⁵ See Chapter one, section 1, pp. 4-5

²²⁶ Chen Congzhou, 1973.

²²⁷ The Grand Canal, also known as the Beijing–Hangzhou Grand Canal, links the Yellow river and Yangtze river and passes through the province of Hebei, Shangdong, Jiangsu and Zhejiang to the city of Hangzhou

²²⁸ Liu Zhiping, 1985, pp. 198-203.

Islamic architectures dated to Song Dynasty (960-1279) is also found in Quanzhou, Guangzhou and Hangzhou. The Islamic temple of Quanzhou, Qingjing 清净寺 is located in Tonghuaimen Street 通淮门大街, a gathering place for Arabs during the Yuan period. The primary building and door of the temple were dated to the Song Dynasty based on Arabic inscriptions at the rear door.²²⁹ A survey of the surviving Arabic tomb inscriptions found throughout Quanzhou also demonstrates the continuing prominence of Arabic traders in the local community even into the fourteenth century.²³⁰ The Islamic temple in Guangzhou, the Huaisheng Temple 怀圣寺, is the oldest known Islamic architecture in China. The Yuan Dynasty inscription which records the original layout of the temple and the reconstruction in 1343 indicates that the temple was originally built during the Tang Dynasty. However, the architectural style of the Light Tower 光塔, part of the temple, which survived the fire in 1343 suggests it is a building of the Song Dynasty.²³¹ In Hangzhou, three tombs made with multi-layered stone bases were discovered under the city wall of Qingbo door 清波门. The stone bases were engraved with exquisite patterns. According to the tomb monuments carved with Arabic inscriptions, the tomb owners were three well-known Muslims during the Song Dynasty.²³²

The Islamic architecture mentioned above, are all located at important port cities such as Guangzhou, Quanzhou, or the metropolises of that time such as Yangzhou and Hangzhou. The original scale of the temples cannot be observed now, but the fact that they were repaired or reconstructed over hundreds of years suggests that they were buildings that drew attention. It is reasonable to assume that constructions like these required not only the investment of a significant amount of money but also the support of local governments. Clearly, the Muslim community was thriving and growing. It is possible that some of its growth resulted from native conversion, although one doubts

²²⁹ Han Zhenhua, 1997.

²³⁰ Clark, 2002, p. 176.

²³¹ Liu Zhiping, 1985, pp. 10-13.

²³² Liu Zhiping, 1985, p. 197.

that coverts were numerous. It is certain that foreigners (mainly Arabic) provided its main energy.²³³

Besides the architecture, Chinese historical records also support the argument that Arabic merchants were powerful and of significance during the Song period (960-1279). Xinyaduoluo 辛押陀罗, an Arabic merchant who gained a large fortune during his decades' staying in Guangzhou, was appointed as Fanzhang 蕃长, the leader of the foreign community in Guangzhou who manage the affairs in Fanfang 蕃坊²³⁴ and promoted the overseas trade on behalf of the Song court during the years of Xining 熙宁(1068-1077).²³⁵ Xinyaduoluo, who received gifts from the court when he returned home, was apparently a well-known and prestigious merchant at that time.²³⁶

In Quanzhou, Pu Shougeng 蒲寿庚, another renowned Arabic merchant, was appointed as the Tiju Shibosi 提举市舶司 (mercantile shipping superintendent) in the year of 1276, an official position in charge of the maritime trade.²³⁷ Since by that time Quanzhou already became the most important port in China, a position like this meant great power. Pu was the only foreigner appointed to this position which was usually given to people who had an official background or were from the royal family.²³⁸

²³³ It is possible that some of the Muslim that resided in Song China were Southeast Asian. However, only since the twelfth century did Islam spread to significant parts of the population and the earliest Islamic state in Southeast Asia emerged during the thirteenth and fourteenth century (Hall, 2001). The majority of the Muslim traders during the Song period appeared to be Arabic.

²³⁴ Fanfang 蕃坊 was the region that set aside as the residential areas for the foreigners in Guangzhou. It was the method to maintain social stability with the increasing number of foreigners coming into Guangzhou. It started during Tang period and was adopted by Song court (Huang Wenkuan, 1987).

²³⁵ In the 490th volume of Song Shi, it was recorded that during the years of Xining, the envoy of Dashi Xinyaduoluo was the Fanzhang of Guangzhou to manage the foreigner affairs. The original text is “熙宁中，其使辛押陀罗统察蕃长司公事，诏广州载度。” (Song shi, volume 490, p. 14123).

²³⁶ According to the Fanyi (Foreigners) volume of Songhuiyao Jigao, on the 21st day of the 6th month, the fifth year of Xining period, an edict by the Shenzong emperor decreed that Xinyaduoluo, the tribute envoy from Wuxun kingdom of Dashi, shall be bestowed with a white horse and a set of saddle bridle upon his returning home. On his imploration to supervise all affairs related to foreigners, it should be determined in line with the situation by local authorities in Guangzhou. His offer of fund to contribute to the repair (or construction) of city walls in Guangzhou is not accepted. The original text is “(神宗熙宁) 五年六月二十一日诏大食勿巡国进奉使辛押陀罗辞归蕃，特赐白马一疋、鞍辔一副，所乞统察蕃长司公事，令广州相度，其进助修广州城钱银不许。”(Songhuiyao Jigao, Fanyi volume four, p. 92).

²³⁷ In the 47th volume of Song Shi, it was recorded that “it was recorded that Pu Shougeng was appointed to supervise Bosi of Quanzhou and he had thirty years monopoly of the profit from the maritime trade arising there. 初，蒲寿庚提举泉州舶司，擅番舶利者三十年。” (Song shi, volume 47, p. 942).

²³⁸ Yang Qingjiang and Chen Cangsang, 1987, pp. 2-15.

The success and fame of Xinyaduoluo and Pu Shougeng cannot only be seen as personal achievements. Because they did not simply accumulate a significant sum of money, they were also appointed to positions that allowed them to exercise influence over the foreigners' community and maritime trade. Their appointment indicates that the Song court thought highly of the Arabic merchant groups and Arabic merchants were powerful and not to be neglected.

1.3 The trade modes of Arabic merchants in the South China Sea

Therefore, the question is that since Arabic merchants were active in China during the Song Dynasty, why no Arabic shipwrecks were found in the South China Sea after the ninth century? One obvious answer is that the lack of the discoveries of Arabic shipwrecks does not equate as the absence of Arabic ships. The underdevelopment of maritime archaeology in Southeast Asia and China (compared with Western countries) limits the discovery of shipwrecks in the South China Sea. It is possible that we just have not found it/them yet. After all, only twenty-seven shipwrecks (and wreck sites) of the ninth to the thirteenth centuries have been located and salvaged or excavated so far.

But the fact is that the first and only Arabic ship, the Belitung wreck, was found in 1998 and after thirty years more than twenty wrecks dated between the ninth to the thirteenth centuries have been discovered, none of which has been identified as Arabic. It seems that the limitation set by maritime archaeology is not sufficient to explain the absence of shipwreck evidence. The disproportion between the findings of Arabic, Southeast Asian and Chinese wrecks of the ninth to the thirteenth centuries in the South China Sea at least indicates that the Arabic ships plying in this sea water were rare compared to those from Southeast Asia and China.

The conflict between the lower participation of Arabic ships and the active and influential Arabic merchant community in South China may be better explained as an

outcome of different trade modes of the Indian Ocean during the Song Dynasty. There are two possibilities. One is that Arabic merchants exploited the ships and mariners of China and Southeast Asia to do their shipping. They did not sail on these ships themselves. Alternatively, Arabic merchants chartered Chinese or Southeast Asian ships to conduct their own business. The two hypotheses are not mutually exclusive.

1.3.1 The Arabs on non-Arabic ships

The objects on board can be categorized into cargo, utensils of shipboard use and personal belongings. The differences between them are that cargo appears in bulk and in uniform types, while utensils and personal belongings are found in smaller quantity, usually in a used condition, and may not be placed among the bulk cargo. Based on these standards, some objects from Southeast Asian and Chinese ships are suggested as possible personal belongings of Arabs.

The most persuasive findings to support the idea that Arabic merchants used non-Arabic ships as the carriers of their cargo are the wooden tags with the name Yali 亚里 on it from the Quanzhou Bay wreck, a Chinese merchant ship.²³⁹ Yali was not a common Chinese name. On the contrary, its homophone referred to people from Dashi in Chinese historical documents. In Songhuiyao Jigao, it recorded that Pu Yali 蒲亚里, a merchant from Dashi was robbed of gold, silver, silk, and other valuable objects by pirates during the fourth year of the Shaoxing reign (1134).²⁴⁰ “Yali” from the historical records might not be the same people on the Quanzhou Bay wreck, considering the huge time gap between the robbery and the sinking of the ship (the end of thirteenth century). However, judging from the same pronunciation, it is possible that “Yali” on the Quanzhou Bay wreck also referred to a merchant from the Arabic world.

²³⁹ The Archaeological Team of Quanzhou Bay Wreck, 1975.

²⁴⁰ The original text is “大食进奉使人蒲亚里将进贡回赐到钱置大银六百铤及金银、器物、疋帛,被贼数十人持刃上船杀死蕃牧四人,损伤亚里,尽数劫夺金银等前去。”(Songhuiyao Jigao, Fanyi volume four, p. 93).

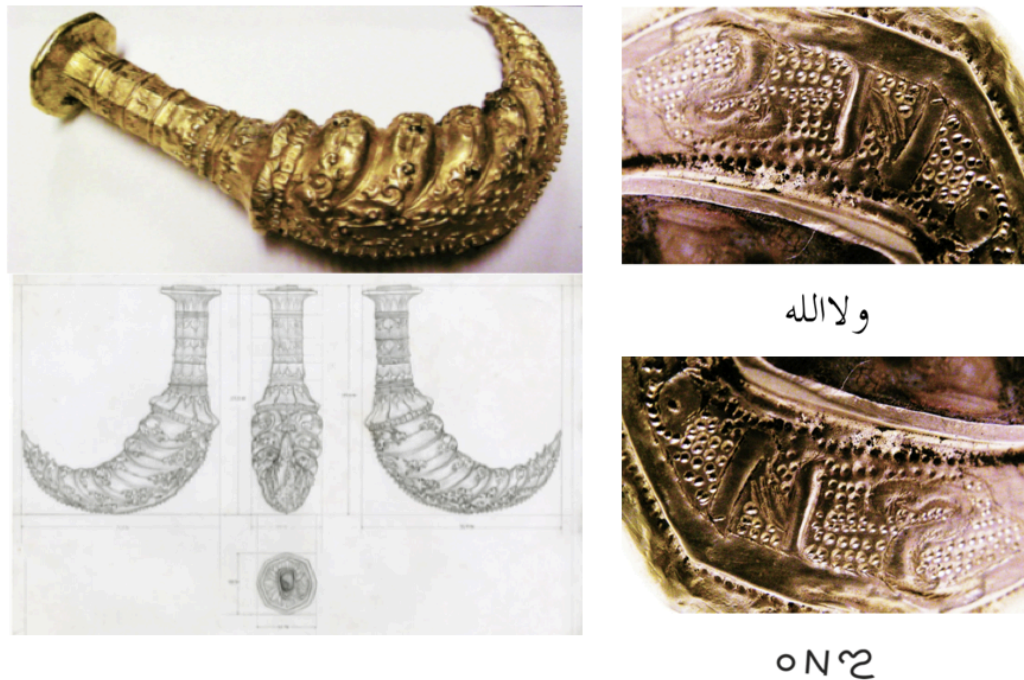


Figure 3.1 The golden hilt on the Cirebon wreck and the possible readings of the letters



Figure 3.2 The Buddhist paraphernalia found on the Cirebon wreck

On the Cirebon wreck, a Southeast Asian ship, some artefacts were most likely to be non-commercial items, among which a pair of golden hilts and a number of wooden beads with Arabic writing suggest the existence of Arabic merchants (Fig 3.1, 3.2). The interesting part of the hilts is that even though they were incised with a short string of Arabic letters, which can be interpreted as “Just Allah” or “there is no god but Allah” (Fig 3.1), the hilts’ workmanship and floral ornamentations are more typical of

Southeast Asian than Near Eastern tradition.²⁴¹ Since the pair of hilts had Arabic inscription and were discovered off the starboard bows, not on the vessel's foredeck or the starboard deck where hundreds of Middle Eastern glasswares were packed, it is possible that the hilts were cherished personal belongings of Arabs who had them made in Southeast Asia. The wooden beads, the majority of which bear the two Arabic word, الله and الملك (the possible reading are "Allahu Almaliku, 'God, the King'", or Almulku Lillahi, 'The kingdom belongs to Allah'), appear to be part of one or several misbahas, the Islamic rosary, which further support the possibility of the presence of Arabs (Fig 3.2).²⁴² However, it is worth mentioning that there were also Buddhist monks and Southeast Asian mariners on board since the paraphernalia of Hindu-Buddhist ritual and some daily utensils of Indonesian style were also found (Fig 3.3, 3.4).²⁴³



Figure 3.3 *The Buddhist paraphernalia found on the Cirebon wreck*



Figure 3.4 *The daily utensils found on the Cirebon wreck*

²⁴¹ Liebner, 2014, p. 189.

²⁴² Liebner, 2014, p. 190.

²⁴³ The daily utensils such as kitchen jars and pots, a set of a grinder base and its roller are still seen in traditional kitchens in Indonesian villages (Liebner, 2014, pp. 192, 206-207).

On the Nanhai No.1 wreck, a Chinese ship, more personal items that possibly belonged to Arabs were discovered, including some golden ornaments and a tin pot (Fig 3.5).²⁴⁴ By examining the ornaments unearthed from one hundred and fourteen Song tombs and sites, I find no similar objects like the chest ornaments and gilding waistband on the Nanhai No. 1, and the earring and rings on the wreck bear very different decorations compared with their counterparts from domestic sites as well (Fig 3.6 below).²⁴⁵ More importantly, hair clasps, the most commonly seen ornaments in domestic sites, were not discovered on the Nanhai No.1.²⁴⁶ However, there is a resemblance between the rings and waistband and their counterparts in Near East. The earrings with decahedron could be an imitation of the loop earring with beads, a type seen in the Arabic world.²⁴⁷ The weaving technique of the waistband was also adopted in making necklaces in the Arabic world.²⁴⁸ It appears that while these ornaments could have been made in China, they belonged to a non-Chinese, possibly Arabic, ornament systems.



Figure 3.5 Possible personal belongings of Arabic merchants on Nanhai No.1 wreck
(1.tin pot 2.gilding waistband 3.chest ornaments 4,8.earrings 5,6,7.rings)

²⁴⁴ A gilding waistband and a tin pot was salvaged in 1987 and during the excavation in 2014 six chest ornaments, six rings, four bracelets and twenty-four earrings were reported (The Administrative Committee of Cultural Relics, 1991, pp. 87-88; Wang Yuanlin and Xiao Dashun, 2016).

²⁴⁵ While the rings on Nanhai No.1 wreck all have square or hexagonal bezels, which were supposed to hold the stone or gem in setting (Fig 3.5:5-7), the counterparts from Song tombs are mostly simple round rings and the similar form of bezel is not found (Fig 3.6: 1-5). The loop earrings decorated with golden decahedron from Nanhai No.1 wreck (Fig 3.5: 4,8) are also not seen among the various types of earrings unearthed from Song tombs and hoards (Fig 3.6: 6-16).

²⁴⁶ Hair clasp was an ornament used by men and women in ancient Chinese society. In the same database mentioned in the text, sixty out of one hundred and fourteen Song tombs and sites were discovered with hair clasp. The materials are diverse including gold, silver, wood, bronze, horn, bamboo.(Ding Cuiping, 2009, pp. 3-13).

²⁴⁷ Ghabbān et al., 2010, p. 348.

²⁴⁸ Ghabbān et al., 2010, p. 396.



Figure 3.6 Rings (1-5) and earrings (6-16) unearthed from Song tombs and hoards

It is not conclusive whether the gold ornaments came on board the ship as unsold articles of trade, “second- hand” merchandise, or cherished personal belongings, but judging from the fact that the majority of the gold ornaments, except the waistband, were found in a small lacquer box located at the portside of the ship, they were not loaded among the cargo.²⁴⁹ Therefore, it is possible that they were the personal items of Arabs. Another important find to support the possibility of the existence of Arabs is a tin pot which was recovered together with the gilded waistband.²⁵⁰ This type of pot called tang ping 汤瓶 in Chinese is an indispensable utensil for bathing before praying and was used by Muslims.²⁵¹

These findings indicate the presence of Arabs on non-Arabic ships. Whether they were the owners of the cargo or travellers cannot be revealed by the recovered artefacts. The historical records from the Song Dynasty, however, describe Arabic merchants who sailed on non-Arabic ships, a situation similar to that suggested for the Cirebon ship. Linwai Daida 岭外代答, a book that was written by Zhou Qufei 周去非 and published in 1178, recorded the traffic and trade between South China and foreign countries including Dashi. It stated that for merchants from Dashi to come to China, they would first travel south in small ships to Gulin 故临 (the current Quilon at southeast India) and then change to big ships to get to Srivijaya, from which they would finally arrive at China.²⁵² The comparison of the estimated length and width between

²⁴⁹ Wang Yuanlin and Xiao Dashun, 2016.

²⁵⁰ The Administrative Committee of Cultural Relics, Guangdong Province, 1991, p. 87.

²⁵¹ Ma Wenkuan, 2006, p. 135.

²⁵² The original text is “大食国之来也，以小舟运而南行，至故临国易大舟而东行，至三佛齐乃复如三佛齐”

Chinese and Southeast Asian shipwrecks and the Belitung wreck indicates that the big ships in the text should refer to the larger-scale Chinese or Southeast Asian ships.²⁵³ The reason for the ship transfer is probably because Arabic ships were designed to be relatively light and small on account of the narrow terrain and shallow water of Persian Gulf, whereas the bigger Chinese or Southeast Asian ships had a better chance to stand the severe storms of the South China Sea. Therefore, it appears that for Arabic merchants plying the waters between South China and Southeast Asia, using foreign ships to conduct business was a well-known and common practice and it is possible that the Arabs on the Cirebon and Nanhai No.1 wrecks were merchants who came on board to oversee the trading of their cargo.

1.3.2 The Arabs based at South China ports

The other possibility to explain the contradiction between the absence of Arabic wrecks after the ninth century and the presence of an active Arabic community between the tenth and thirteenth centuries in South China is that, instead of taking on the long journey themselves, Arabic merchants exploited the ships and mariners of China and Southeast Asia and organized the sea-borne trade from the ports. Sailing requires taking advantage of the monsoon winds. Most vessels came to China from May to June (by the lunar calendar) when there was a southwest wind, and sailed back from November to December by dint of the northeast wind.²⁵⁴ Therefore, most foreign merchants would need to stay in China for about six months. However, as mentioned above, visits of some Arabs lasted for years and some even ended up passing away in China. During

之入中国。” (Lingwai Daida, p. 126).

²⁵³ The length overall (length overall of a ship is keel length plus the length of stern overhang and bow overhang) of Belitung is estimated to be 18 meters and the tonnage of ceramics, the major cargo on board is probably about 25 metric tons. The LOA of Nanhai No.1 is 30.4 meters and the tonnage of the ship could have been on the order of 600 tons. LOA of another well preserved Chinese wreck, Quanzhou Bay wreck is about 25 meters and tonnage can reach 200. Huaguangjiao No.1 is relatively smaller, length 20 meters and tonnage more than 60 tons. The length overall of two Southeast Asian wrecks, Cirebon and Java Sea is 25 meters and 26 meters respectively. But judging from the cargo on board, loaded displacement of Cirebon wreck was at least 225 tons, and Java Sea wreck 400 to 500 tons. These are the wrecks whose length and tonnage have been published. Through these number, we can see that despite of the different size among Chinese and Southeast Asian wrecks, they are all larger than Belitung wreck, the only Arabic ship.

²⁵⁴ Jitsuzō Kuwabara (translated by Chen Yuqing), 2009, p.101.

their stays, by managing the sea-borne trade from the ports, they accumulated a significant fortune and even became part of the elite class of Song society. The typical examples are Fo Lian 佛莲 and Pu Shougeng's 蒲寿庚 family. The former was a ship-owner of eighty sea-going vessels in Quanzhou,²⁵⁵ while the latter was once the wealthiest Arabic merchant and in charge of the maritime trade between Zhan Cheng 占城 (now south-central Vietnam) and China.²⁵⁶ Considering their wealth and status, it is reasonable to assume that they did not sail themselves but organized the trade at the port cities.

These two possibilities represent two types of merchants of the South China Sea trading circle. The first type were called Shenshang 绅商, those who owned a large amount of capital and invested in maritime trade such as Fo Lian and Pu Shougeng's family; the second type were shippers who came on board and marketed the products themselves just as the Arabs on the Cirebon, Nanhai No.1 and Quanzhou Bay wrecks. The shippers could be self-employed selling the cargos owned by themselves, or agents of Shenshang, conducting business on behalf of other merchants. The concept of Shenshang applies to the rich and the upper class who participated in commercial activities. The study of the Arabic communities in South China during the Song period indicates that the Arabic merchants were also part of this group.

1.4 Discussion

With the development of the shipbuilding industry, the permission of private sea-going sailing in China and the more direct participation in maritime trade of Southeast Asians,

²⁵⁵ According to Guixing Zashi 癸辛杂识, the miscellanea written by Zhou Mi 周密 at the beginning of Yuan Dynasty (1271-1368), Fo Lian 佛莲 was an Arabic merchant who lived in Quanzhou (also died in Quanzhou in 1293) and owned eighty sea-going ships. The original text is that: “泉南有巨贾南蕃回回佛莲者, 蒲氏之婿也, 其家富甚, 凡发海舶八十艘。” (Guixing Zashi, p. 126).

²⁵⁶ According to Ying Shi 程史, the memoirs of Qiu He 丘珂, Pu's ancestor once lived in Zhan Cheng and then moved to Guangzhou where he became the richest Arabic merchants. Pu's family was in charge of the maritime trade between Zhan Cheng and China, and he built a grand mansion in Guangzhou. The original text is that: “杂居广州城内之海獠中, 蒲姓最以富豪闻。本占城贵人, 留华管掌彼国贸易事务, 居久之。建宏壮邸宅与广州城内。” (Ying Shi, Volume 11).

Arab merchants used Chinese and Southeast Asian ships to carry their cargo. They could come on board to oversee the shipping or entrust their merchandise to agents. Compared to sailing in their own ships across a vast and unfamiliar territory, the Arabic merchants chose a safer and less risky way to conduct their business. Therefore, the lack of Arabic shipwrecks dated between the tenth to the thirteenth centuries cannot be equated to a withdrawal of Arabic merchants from the South China Sea trading circle but should rather be seen as a consequence of a different method of conducting maritime trade.

The reasons that Arabic merchants were based in South China ports are not only because of the facilities they provided or the Chinese market but also the great acceptance of foreign merchants in Song society. Marriage between local Chinese women and Arabic merchants was recorded, among whom were ladies from the royal family.²⁵⁷ For the foreign merchants who built a family and passed away in China, the inheritance right of their descendant was protected by laws as well.²⁵⁸ Moreover, as mentioned above, some Arabic merchants became part of the ruling class and were appointed to an important position. The recognition for foreigners who contributed to the development of maritime trade reflects that Song society was commercial and open.

²⁵⁷ *Pingzhou ketan* 萍州可谈 is a work finished in 1119 by Zhu Yu 朱彧 that records what the author saw and heard during his stays in Guangzhou. According to volume two of this work, during the reign period of Yuanyou (1084-1096), a foreign merchant with a [Chinese-style] surname Liu in Fanfang ('Foreigners District') of Guangzhou married a woman from the royal family. The highest official title he ever achieved is Zuoban Dianzhi (lit. Left Row Palace Guard, which is of the Senior Ninth Rank in the Song system. The original text is "元祐间, 广州蕃坊刘姓人娶宗女, 官至左班殿直。" (*Pingzhou Ketan*, volume 2, p. 138).

²⁵⁸ Lu Yun, 2014.

2. The Chinese merchants

2.1 The appearance of Chinese wrecks after the tenth century

By contrast with the absence of Arabic wrecks between the tenth to the thirteenth centuries, the earliest Chinese wrecks discovered in the South China Sea were dated to this period. Ceramics of jars, cups and bowls dated to Tang or previous Dynasties were found in the adjacent water of Paracel Islands,²⁵⁹ and many Yue wares (mainly bowls and dishes) dated to the Five Dynasties period were discovered at the southwest of Haitian Island, Fujian province (Fenliuwei-yu shipwreck site),²⁶⁰ which indicates the passing-by of merchant ships or the existence of shipwrecks. Nevertheless, the earliest wreck with surviving hull structure that can be identified to be of Chinese origin is dated to the Song Dynasty, even though the sea-borne route from South China to Southeast Asia was recorded as early as Han Dynasty.²⁶¹

The lack of underwater evidence, as mentioned above, is not equal to the absence of trade. It is possible that no remains of ships and cargo can be found because the load was perishable.²⁶² However, it is more likely that as various scholars have established, in China large ocean-going junks began to be built on a large scale in the tenth century with the establishment of the Song Dynasty.²⁶³

²⁵⁹ The Administrative Committee of Cultural Relics, et al., 1991, pp.43, 60-61, 57.

²⁶⁰ Yang Zelin et al., 2011.

²⁶¹ In *Dili Zhi* 地理志, *Han Shu* 汉书 (the geography chronicle of the Han Dynasty), it was recorded that : “Departing from Xuwen 徐闻 (located in Guangdong province) , Ships sailed for five months before arriving at Duyuan 都元 (located in Malay Peninsula) , from which it took four months to Yilumo 邑卢没 (located at the Burma coast). And then sailed for around twenty days to reach at Chenli 諶离 (another ancient kingdom located at the Burma coast) . From Chenli 諶离 to Huangzhi 黄支 (located at the South India), the final destination, it required walking for ten days to Fugandulu 夫甘都卢 (located at the Central Burma) and then sailed west for more than two months. 自日南障塞、徐闻、合浦船行可五月，有都元国；又船行可四月，有邑卢没国；又船行可二十余日，有諶离国；步行可十余日，有夫甘都卢国。自夫甘都卢国船行可二月余，有黄支国，民俗略与珠瑊相类。” (Han Shu , *Dili Zhi*, p. 1671).

²⁶² Only until Late Tang Dynasty that ceramics became a major exported item. Before that Chinese produces sold abroad were mainly silks or grains. In biography of Shi Jilong of *Jin Shu* 晋书·石季龙传, it was recorded that “ 300000 hu of grain (1 hu equals to 50 kg) were shipped to Gaoguli in 300 ships. 以船三百艘运谷三十万斛诣高丽，使典农中将军王典率众万余屯田于海滨。” (Jin Shu, Shi Jilong Zhuan.)

²⁶³ This is made very clear in Lo Jung-pang's early articles (Jung-Pang Lo, 1955, 1969) and in the more recent

As discussed in chapter one, in order to increase fiscal revenue to solve the financial plight of the Song court, from the late tenth century, the government gradually liberalized Chinese maritime trade by permitting private shipping.²⁶⁴ Hence, in the coastal province of South China especially Fujian, the shipbuilding industry thrived. By the twelfth century, in just nine coastal counties of Fuzhou, there was a total of three hundred and seventy-two private sea-going vessels.²⁶⁵ Making a living through sailing and trading in their own ships was commonly seen in Zhangzhou 漳州, Quanzhou 泉州, Fuzhou 福州 and Xinghua 兴化, a practice facilitated by the government which forbade the imposition of excessive taxes and miscellaneous levies on these traders.²⁶⁶

Fujian became the centre of the thriving shipbuilding industry, and a new type of sea craft called the Fu Boat 福船 was created. The relatively well-preserved Chinese sea-going wrecks, the Nanhai No.1, Huaguang Reef No.1, and Quanzhou Bay, vary in sizes but share similar hull forms and were originally built in Fujian.²⁶⁷ On these sea-going craft, the technique seen on riverine vessels such as plank edges joined by iron nails and a watertight compartment structure was used.²⁶⁸ Nevertheless, as far as the hull form is concerned, the sea-going vessels were significantly different from the traditional flat-bottomed, keel-less riverine craft. Furthermore, multiple masts, an indication of sophisticated high-seas sailing skills and an essential feature of the Chinese sea-going ships, were not seen on the riverine craft.²⁶⁹

works of Wolters (Wolters, 1986, p.35).

²⁶⁴ See Chapter one, section 1, p. 2-3.

²⁶⁵ The original text is “海船户，沿海九县，三百七十三只。” (Sanshan Zhi, Volume 14).

²⁶⁶ The original text is “（嘉定五年）九月二十八日，臣僚言：「窃见漳、泉、福、兴化，凡滨海之民所造舟船，乃自备财力兴贩牟利而已。朝廷以备边之务不可弛，间籍定其数，更番以备防托。奈何州县创例科取，胥吏并缘搔扰百出，利归于下，怨归于上。乞行下漳、泉、福、兴化等郡禁戢，沿海诸邑凡大小海船除防托差使外，应干科敛无名色钱并行蠲免。如温、台、明等有海船去处，亦一例禁戢，毋得非法科取。若水居小船，不应丈尺，不得拘籍骚扰。如违，许船户越诉，官吏计赃，重寘典宪。」从之。”

(Songhuiyao Jigao, Xingfa Volume Two).

²⁶⁷ See Chapter two, section 2.2, p. 42.

²⁶⁸ Some riverine vessels were made with multiple planks but some are not. Also, filling the plank gap with organic material were commonly seen among riverine vessels.

²⁶⁹ According to the remains of the riverine crafts dated to Tang and Song periods, they were rigged with one mast or no mast at all.

By contrast, the hull features of Chinese sea-going craft showed a resemblance to these of the Southeast Asian ships. The reconstruction of three Southeast Asian wrecks, the Pontian boat (cal AD 260 to 430),²⁷⁰ a Butuan boat (cal AD 1270 to 1410)²⁷¹ and the Cirebon wreck,²⁷² indicated that they all had V-shaped hull form with a keel, like the Chinese wrecks. In *Yiqie Jing Yinyi* 一切经音义, the eighth-century Chinese text, Southeast Asian ships were described as vessels with considerable tonnage and rigged with multiple masts.²⁷³ Therefore, it seems that the Chinese sea-going vessels had combined the traditional technique used on Chinese riverine craft and the hull-form and multiple masts structure seen on Southeast Asian ships. As Manguin argues, based on the description of foreign boats in Chinese records, this combination was the result of the constant visits from Southeast Asian ships to South China ports.²⁷⁴ The ships with a V-shaped hull, built in Quanzhou, are first mentioned in *Xuanhe Fengshi Gaoli Tujing* 宣和奉使高丽图经, a book written in 1123. The earliest Chinese seacraft so far dated to the twelfth century is the Huaguang Reef No.1 wreck. Therefore, it seems that when the Southern Chinese started developing their own ocean-going fleets at the beginning of the second millennium A.D., they were influenced by the Southeast Asian ships.

2.2 The Chinese merchants on three shipwrecks: Intan, Nanhai No.1 and Quanzhou Bay

During the Song Dynasty, maritime trade became a competition not only between foreigners and Chinese traders with official backgrounds and abundant capital reserves but also from peddlers of lower social classes who were given limited space in the ship's hold. While the stories of the former were recorded in historical documents, those of the latter were usually left untold. This section aims to illustrate the participation of these lesser-known Chinese merchants or peddlers by examining the non-commercial

²⁷⁰ Manguin, 1985, pp. 333-335.

²⁷¹ Clark, 1993.

²⁷² Liebner, 2014.

²⁷³ The translation of the relevant text in Chapter two, section 2.1.2, p. 39.

²⁷⁴ Manguin, 1993.

artefacts on the Intan wreck, the ink marks on ceramic cargos from several shipwrecks, and wooden tags on the Quanzhou Bay wreck.

2.2.1 The ceramic pillows on the Intan wreck

Among the vast array of artefacts recovered from the Intan wreck (a Southeast Asian merchant ship), two ceramics pillows may indicate the existence of Chinese merchants on board.



Figure 3.7 Two ceramic pillows on the Intan wreck

These pillows have very distinguishing features. One is an elaborately decorated openwork pillow with carved and incised scrolling foliage forming the body (Fig 3.7 left); the other is in the form of a rather comical lion (Fig 3.7 right).²⁷⁵ It is unlikely that these pillows were merchandise. For one thing, they are just two; for another, ceramic pillows were not popular products in the Southeast Asian market. The overseas findings of Chinese ceramic pillows are mainly located in Japan.²⁷⁶ Moreover, among the ceramic cargos from the other shipwrecks, no other ceramic pillows have been found. The scarcity of ceramic pillows in Southeast Asia is due to the different cultural background. In *The Customs of Cambodia* (named *Zhenla fengtuji* 真腊风土记 in Chinese), a book written by the Yuan dynasty Chinese official Zhou Daguan 周达观 who stayed in Angkor between 1296 and 1297, it records that the Cambodians slept

²⁷⁵ Flecker, 2002, pp. 111-112

²⁷⁶ Kong Chao, 2014, pp. 104-106.

with a straw mat on the floor and does not mention the use of pillows.²⁷⁷ Since the two ceramic pillows were not commodities, why were they taken on board?

The most plausible explanation is that the pillows were personal belongings of Chinese merchants who oversaw the shipping of some ceramic cargo. The reason that owners of the pillows were Chinese merchants instead of Southeast Asian sailors or merchants is first that the latter did not have a habit of using ceramic pillows. Second, considering that the cargos were loaded at an entrepôt port in southeast Sumatra instead of South China,²⁷⁸ they are unlikely to be souvenirs bought by Southeast Asian sailors or merchants. The two pillows were discovered among the ceramic cargos but at entirely separate locations,²⁷⁹ which could be because small merchants were only provided with a few inches of space in the compartment and they slept on top of their cargos, as recorded in Pingzhou ketan 萍州可谈.²⁸⁰ The finding of two ceramic pillows on the Intan wreck indicates that individual Chinese traders used foreign ships to conduct their business.

2.2.2 The ink marks on the ceramic cargos from the Nanhai No.1 wreck

After the liberation of private shipping during the Song period, increasing numbers of Chinese ships sailed between South China and Southeast Asia, carrying cargo owned by multiple merchants. The best example of this are the ink marks found on the Nanhai No.1 wreck, which were used by merchants to identify their products among the densely packed cargo.

²⁷⁷ The original text is “睡只以竹席卧于地.” (The Custom of Cambodia, p. 166).

²⁷⁸ Judging from the location, the cargo composition and the cargo stowage pattern which is tin was stowed along the full length of the ship and beneath the ceramic cargo, great chances are that the Intan ship took on a full mixed cargo at an entrepôt port, and the port is most likely to have been in southeast Sumatra, the stronghold of the Srivijaya Empire (Flecker, 2002, pp. 122-123).

²⁷⁹ Flecker, 2002, pp.111-112.

²⁸⁰ In volume two of Pingzhou ketan, it records that “the seagoing vessels can be several zhang deep and wide (1 zhang=3.33 meters). The cargo hold is shared by merchants and each can have a space of few inches (1 inch=31.68 cm), where cargos are placed and merchants sleep on top of their cargos. Cargos are mainly ceramics which are packed densely leaving no empty room. 船舶深阔各数十丈，商人分占贮货，人得数尺许，下以贮物，夜卧其上，货多陶器，大小相套，无少隙地。” (Pingzhou ketan, volume two, p. 132).

My study of the ink marks on ceramics recovered from domestic sites shows that ink marks mainly appear on used objects instead of newly produced products. After examining the ceramics excavated from the major kiln sites for producing exported cargos during the Song Dynasty, including Yue, Cizao, Dehua, Minqingyi, Putian, Chaozhou, Xicun and Jingdezhen, I find that at kiln sites while carved and stamp marks are commonly seen, ink marks seldom appear.²⁸¹ Among the crudely carved marks or Chinese characters, some may have served the purpose of indicating where the pieces should be placed in the kiln; some are names, possibly potters' labels; some are trademarks or slogans of shops. Regardless of the meanings, these marks were made before firing and could not be modified afterwards, unlike ink marks which were added after the firing and can be altered subsequently. Hence, ink marks did not have the effect of advertising and anti-forgery, which explains why they were not often seen at kiln sites. The domestic finds of ceramics with ink marks are mainly located at town sites and temples.²⁸² The characters mostly refer to names and titles, while others indicate location or blessing words. It appears that writing ink marks on the purchased items was a common behaviour among consumers, which probably served the purpose of labelling ownership. Therefore, it is reasonable to assume that ink marks on the wrecks' ceramics were also an indication of ownership. The discovery on the Tanjung Simpang shipwreck further supports this assumption. On the Tanjung Simpang wreck, the same

²⁸¹ At Yue kiln sites, many carved marks are found on ceramics and saggars which according to their meanings can be classified as names, dates, numbers, position, poems and others. But no ink marks are reported to be seen (Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, pp. 367-368); The white or qingbai glazed bowls and boxes recovered from Dehua kiln sites and dated to the Mid-Northern Song to Mid Southern Song period are often carved with Chinese characters or symbols at the bottom, while some of the coarse green-glazed bowls of the later period were found with ink mark on its interior wall (Fujian Museum, 1990; Lin Zhonggan and Zhang Wenyin, 1992); At the kiln sites of Cizao, no ink marks are reported to be found on ceramics or saggars, while few bowls, jars and ewers were carved and stamped with characters (Fujian Museum and Jinjiang Museum, 2011); During the 2015 survey, no ink marks are reported to be found on ceramics but some stamp and carved characters are seen at the bottom of bowls or plates (Yang Zelin, 2016); In the survey report of Putian kiln sites, there is no mention of ink marks but some bowls' bottom are stamped with words such as Six, Nine or Sky (Ke Fengmei and Chen Hao, 1995); At Chaozhou kiln sites, no ink marks or carved marks are reported to be found on ceramics but on the exterior wall of saggars, carved words or symbols are constantly seen (Museum of Guangdong Province, 1981); There are two ways of writing words on ceramics at the Xicun kiln sites. One is to write with glaze on the interior before it is fired. The other is to leave ink mark at the bottom after it is fired. The latter is thought to be personal utensils of potters instead of commodities. There are also carved marks such as names, auspicious words and number on saggars (The Administrative Committee of Cultural Relics, Guangzhou City, 1958, p. 60); On Hutian Jingdezhen kiln sites, the majority of characters found on ceramics are stamped and carved. Very few are ink marks (Jiangxi Provincial Institute of Cultural Relics and Archaeology and Jingdezhen Museum of Civilian Kiln, 2007, pp. 431-439).

²⁸² Zhang Yong, 2016.

mark is found on ceramics as well as on one stack of gongs (Fig 3.8).²⁸³ It suggests that the set of marks identifies not the potter but the owner or merchant, who would need to identify his goods at the ship's destination.



Figure 3.8 The same mark on a bronze gong (left) and a ceramic item (right) from the Tanjung Simpang shipwreck

Among the twenty-seven wrecks and shipwreck sites, the most abundant finds of ceramics with ink marks are from the Nanhai No.1. The majority of the marks are names of the merchants, among which the name “Lin Shang 林上” is commonly seen.²⁸⁴ “Lin” should be the surname and “Shang” the last name of the merchant.²⁸⁵ The wares with the “Lin Shang” mark on their base were all excavated from one location, which is supposed to be the front left compartment.²⁸⁶ Moreover, despite the fact that green wares and brown wares were also found at the same area, the mark only appeared on ceramics from the Dehua kilns including big plates, bowls and small boxes (Fig 3.9 below). It indicates that Lin was a merchant dealing in Dehua white wares and his goods were placed together. These findings further support my conclusion in chapter two: the

²⁸³ The information mentioned in the text is from the website: <https://maritimeasia.ws/tsimpang/marks.html> (20/06/2018: 15:56)

²⁸⁴ Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011, pp. 71-73.

²⁸⁵ Lin Tangou, 2018.

²⁸⁶ Chen Bo, 2013.

ceramics on the Nanhai No.1 wreck were owned by multiple merchants, and some of them might specialize in one specific type of products.²⁸⁷



Figure 3.9 Dehua white wares with the “Lin Shang” ink mark on the base from the Nanhai No.1 wreck

Another interesting discovery of the ink marks on the Nanhai No.1 wreck is that even though ceramics onboard are attributed to six kiln complexes, I noticed that the ink marks mostly appeared on products from the Dehua and Cizao kilns. So far there is one Jingdezhen qingbai ware found with “Ci 賜” character (meaning a gift granted by the superior) on its base,²⁸⁸ and no ink marks are reported on Longquan celadons, black wares of Jian kilns and green wares of the Mingqingyi kilns. This discovery is of course not conclusive because it is based on the findings during the 2011 and 2014-2015 excavation and the publication of the following years’ excavation has not yet come out. However, the available data at least indicates that findings of ink marks on ceramics of the Dehua and Cizao kiln sites and those belonging to other kiln complexes are disproportional. The reason that no ink marks were found on Jian wares could be simply because the distinguishing glaze colour and single ownership made ink marks unnecessary.²⁸⁹ But why were no, or so few, ink marks identified from the Jingdezhen

²⁸⁷ See Chapter two, section 3.2, p. 54.

²⁸⁸ This information is gained during the conversation with Professor Mark Pollard. He attended the meeting held at Nanhai No.1 museum and has seen a fragment of a Jingdezhen qingbai glazed bowl with the “賜” ink mark on the base.

²⁸⁹ Ceramics of Dehua and Cizao kiln sites were commonly seen and almost found in every compartment on the wreck. It appears that cargos in the same compartment did not belong to one person. Hence, to distinguish their own properties among products of the same type and the same shape, merchants had to leave a mark. On the contrary, black wares of Jian kiln were the exclusive finds in compartment No.7. The glaze colour of Jian wares is

qingbai wares, Longquan celadons and Mingqingyi wares? It is not likely that they were owned by a limited number of traders, considering that ceramics of the same type and shape were placed separately in different compartments. It could be that the same type of ceramic cargo in one compartment belonged to one merchant and hence ink marks were not needed. In this case, the merchants or merchant groups who handled the Jingdezhen qingbai wares, Longquan celadons and Mingqingyi green wares were few in number, compared with the traders of the Dehua white wares and Cizao brown wares.

2.2.3 The wooden tags on the Quanzhou Bay wreck

Unlike the Nanhai No.1, the Quanzhou Bay wreck was an inward-bound merchant ship on which the major cargos were spice and incense, and wooden tags were used to label ownership instead of ink marks. The names on the wooden tags reveal that merchants involved in the maritime trade came from different social classes.

Several studies have been done on the wooden tags from Quanzhou Bay wreck, among which I find Fu Zongwen's interpretation the most convincing.²⁹⁰ According to Fu, Nanjia 南家, the name that appeared the most on the wooden tags was mainly distributed in compartment No.6,²⁹¹ and referred to the Nanwaizong Zhengsi 南外宗正司 meaning "Southern Exterior Imperial Branch Household".²⁹² It was composed of the descendants of the first Song emperor, Taizu, founded in Nanjing in 1102 and

enough to separate them from other ceramics. The fact that no ink marks were reported to be found on these wares indicates that they probably were owned by one trader.

²⁹⁰ Besides Fu Zongwen, scholars such as Chen Gaohua and Wu Tai, Zhuang Weiji and Zhuang Jinghui all have interpreted the names on the wooden tags. The biggest different between their opinions is the understanding about the name Nanjia. Chen and Wu believes that Nanjia was a discriminatory word used by the Northerners to refer to the Southerners during the Jin and Yuan dynasty (Chen Gaohua and Wu Tai, 1978). However, I find this interpretation not convincing. Because the ship was damaged due to the counterattack of the Song army against the Yuan army at 1277, by which time even though the ruling of the Song court was bound to end, the discrimination policy against the Southerners conducted by the Yuan dynasty should not be widely implemented and accepted yet. The other two scholars Zhuang Weiji and Zhuang Jinghui argue that Nanjia was the abbreviation for the merchants or shops which sold Southeast Asian products (Zhuang Weiji and Zhuang Jinghui, 1980). Considering that almost all the merchandise recovered from the shipwreck originated from Southeast Asia, this interpretation does not make much sense either. By comparison, Fu's argument that Nanjia referred to Nanwaizong zhengsi is more logical. Moreover, under this interpretation, other names such as Zhugu guoji, Chousi, Anjun ect all have a reasonable explanation as well.

²⁹¹ See Appendix D.

²⁹² Fu Zongwen, 1989.

relocated in Quanzhou shortly after the loss of the North to the invading Jurchen.²⁹³ After the relocation, the imperial branch family's involvement in maritime trade became more active. One obvious evidence is that no royal family members were appointed as Tiju Shibosi (mercantile shipping superintendent) during the Northern Song period, while among the eighty-seven Tiju Shibosi of Southern Song period, ten were from the royal family.²⁹⁴ By exploiting their privilege, the imperial branch family grew to be one of the most influential groups of maritime traders in Quanzhou.²⁹⁵ Therefore, its name appearing on the wooden tags is not only reasonable but also highly possible.

Besides Nanjia, the rest of the names on the wooden tags can be divided into three groups: job titles, individual merchants or shops, and imperial clans. There are three types of job titles which are the senior officers, crew members and servants working for the big house.²⁹⁶ It is noted that these servants were not housemaid but agents who managed the private properties or business on behalf of the landlords, and they were not poor or socially inferior but instead quite rich and privileged. There is an interesting distribution pattern regarding the wooden tags referring to the big house servants. As seen in Table 3.1 (below), the tags of Zenggan 曾幹 and Lingan 林幹 were all found in the same compartments (mainly Compartment No.5 and No.6), while the tags of other servants were all located in Compartment No.10. The reason for this distribution could be that the servants Zeng and Lin worked for the same house, and the other three served other different masters. The wooden tags of the crew members were, however, all found singulaly and located quite separately (Table 3.1). It indicates that spare space in the compartments was assigned to the crew, which might be their payment for working on the ship.

²⁹³ Clark, 2002, p. 174.

²⁹⁴ Yang Qingjiang and Chen Cangsong, 1987, pp. 2-18.

²⁹⁵ The other two were the local and foreign merchant group (Fu Zongwen, 1989)

²⁹⁶ Fu Zongwen, 1989.

The second group names on the wooden tags are those referring to individual merchants and shops. Except for Wuxing and Wuxing shuiji 吴兴/吴兴水记 (total five pieces and located in compartment No.5 and No.6), the wooden tags of other merchants and shops were found singularly and there is no pattern to their distribution (Table 3.2 below). It would appear that because of insufficient money to organize their own sea-going journey or for the sake of spreading risk, these traders rented some space of other people's ships to conduct their business just as the Chinese merchants on the Intan wreck. They probably had a personal relationship with the captain or other crew members.²⁹⁷ The last group of names on the wooden tags are those referring to the imperial clan.²⁹⁸ This find suggests that some royal family members took part in maritime trade on their own as well as joining the official organization, Nanwaizong.

²⁹⁷ Bao Hui was the Zhuanyun shi of Guangdong (an official in charge of the transportation) during the reign of Lizong (1205-1264). He wrote in his book Bizhou Gaolue 敝帚稿略 that the people who lived in the coastal areas all had known the maritime merchants very well either because they came from the same hometown or through introduction. The so-called "Daixie zhe" were those who paid for a space on the ship and they combined their investment together to purchase the foreign products. The amount of money they invested ranged from ten strings of bronze coins to hundreds of strings. The original text is "盖因有海商，或是乡人，或是知识，海上之民，无不与之相熟。所谓带泄者，乃以钱附搭其船，转相结托，以买番货而归。少或十贯，多或百贯，常获数倍之货。" (Bizhou Gaolue Volume 1, Jintongqian Shengshenzhuang).

²⁹⁸ These names which are Anjun 安郡, Hejun 河郡, Zhaojun 兆郡 and Changjun 昶郡 were their titles conferred upon by the emperor (Fu Zongwen, 1989). There is no clear pattern of their distribution as well, except that they were mainly located in the fore compartments (The Archaeological Team of Quanzhou Bay Wreck, 1975).

	name	meaning	number	distribution
senior Officer	Zhuku guoji 朱库国记	caption	1	Found in compartment 13
	Chousi 稠司	account manager	1	Found in compartment 9
crew members	Zhangshi 张什	the head of sailors named Zhang	1	Found in compartment 10
	Qiuding shuiji 丘碇水记	the worker who handled the anchor named Qiu	1	Found in compartment 5
	Zhangban 张绊	the worker who handled mooring rope named Zhang	1	Found in compartment 10
	Yanggong 杨工	sailor named Yang	1	Found in compartment 12
	Yougong 尤工	sailor named You	1	Found in compartment 12
	Chengong Xiaoji 陈工小记	sailor named Chen	1	Found in compartment 10
	Sanjiugong 三九工	sailor named Sanjiu	1	Found in compartment 1
	Anchuiji 安厨记	the cook named An	1	Found in compartment 7
servants working for the big houses	Zenggan 曾幹	servant named Zeng	11	1 in compartment 3, 6 in compartment 5, and 4 in compartment 6
	Lingan 林幹	servant named Lin	5	1 in compartment 3, 2 in compartment 5 and 2 in compartment 6
	Zhanggan 张幹	servant named Zhang	1	Found in compartment 10
	Ganji 幹记	the big house servants	1	Found in compartment 10

Table 3.1 The job titles referred by the wooden tags on the Quanzhou Bay wreck

name	meaning	number	distribution
Wuxing/ Wuxing shuiji 吴兴/吴兴水记	Merchant named Wuxing	5	1 found in compartment 5, 4 in compartment 6
Wangmei 王美	Merchant named Wangmei	1	Found in compartment 10
Yali 哑哩	Merchant named Yali	1	Found in compartment 10
Liushi 六十	Merchant named Liushi	1	Found in compartment 13
Shanzhong 山中	Merchant named Shanzhong	1	Found in compartment 1
Xihe jianggua 西河酱瓜	Pickles shop named Xihe	1	Found in compartment 1
Lixian xiangji 礼贤香记	Incense or spice shop named Lixian	1	Found in compartment 3
Goujian jihao 狗间记号	Shop named Goujian	1	Found in compartment 12

Table 3.2 *The merchants and shops referred by the wooden tags on the Quanzhou Bay wreck*

Based on the interpretation of the names on the wooden tags as well as their number and location, it can be concluded that while the imperial branch family was the major owner of cargo on board, significant space was leased to other traders. Their identities were very complex and include the representatives of the ruling class, such as the servants of the big landlords and the officials working for the imperial branch family, merchants and crew members. We can imagine members of the royal family were not actually on the ship but rather entrusted their business to someone, possibly the servants who managed their properties. Evidence to support this assumption is that the Zenggan and Lingan wooden tags were mainly found in Compartment No. 5 and 6, as were the Nanjia and Changjun wood tags. This suggests that the servants named Ceng and Lin were working for these royal families and oversaw their cargo on the ship.

As seen on the excavated objects from the individual compartment, traders with different social status marketed cargos of varying value. The highly-priced items such as frankincense and ambergris mainly were discovered in Compartments No.3, 5 and 6 where the Nanjia wood tags were located.²⁹⁹ The major cargo (judging from the remained volume) , wood incense and pepper was distributed through out the wreck and were found in every compartment except No.13.³⁰⁰ Compared to the frankincense and ambergris, the wood incense and pepper were less exclusive and intended for a larger consumer market. They were imported in huge amounts from various regions of Southeast Asia during the Song period,³⁰¹ and in the case of Quanzhou Bay wreck, they were marketed not only by the rich but also the sailors and merchants on the ship. The findings on the Quanzhou Bay wreck illustrate that while this sea-going trade between Quanzhou and Southeast Asia might be mainly financed by parties from the upper class, people from the lower class were also able to participate.

²⁹⁹ The Archaeological Team of Quanzhou Bay Wreck, 1975.

³⁰⁰ The Archaeological Team of Quanzhou Bay Wreck, 1975.

³⁰¹ Li Yukun, 1998.

2.3 The expansion of Chinese merchants into Southeast Asia

The Nanhai No.1 and Quanzhou Bay wrecks, one sailing from and the other returning to Quanzhou, indicate a direct trade route between South China ports and Southeast Asia but their destination in Southeast Asia remained unknown. However, the location of other Chinese shipwrecks reveals a deep involvement of Chinese merchants in the Southeast Asian trading network.

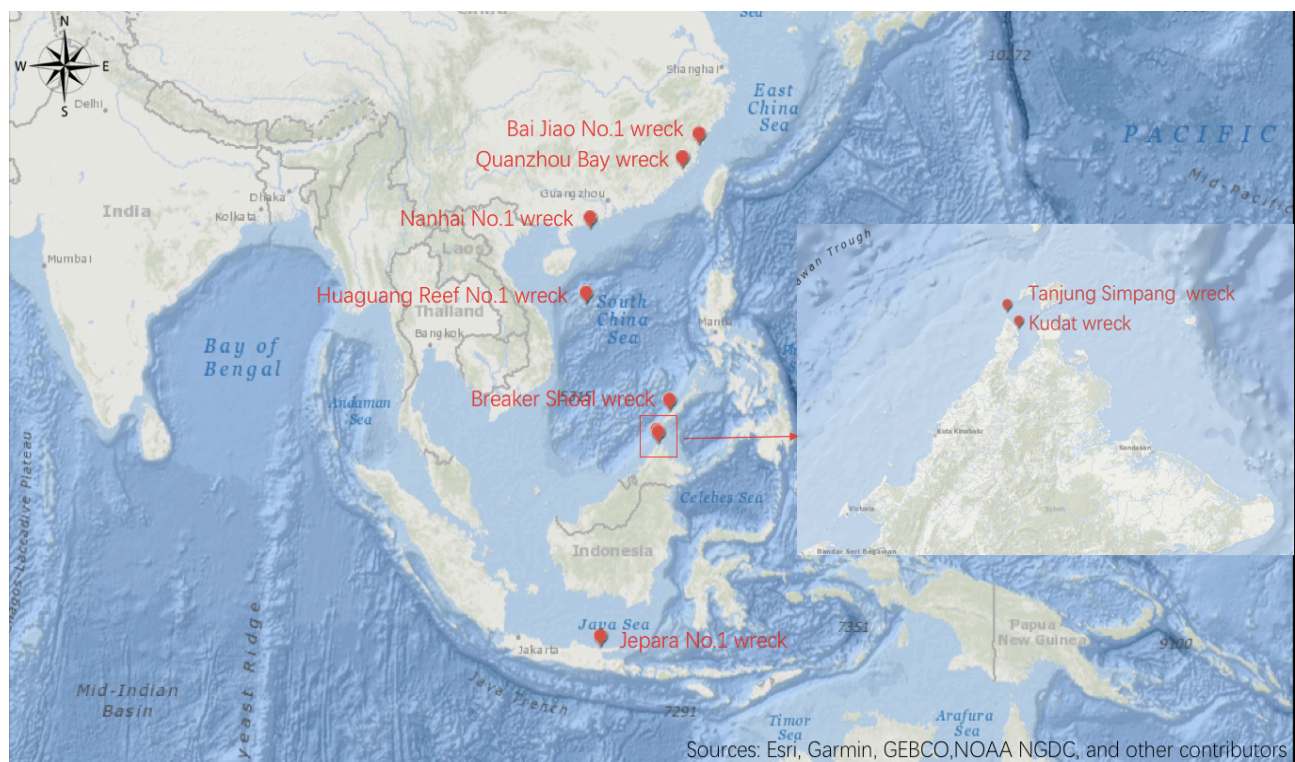


Figure 3.10 Map of the Chinese shipwrecks found in the South China Sea

It is noteworthy that the wrecks that were identified as built in China were found not only in water close to China (the Nanhai No.1, Bai Jiao No.1 and Huaguang Reef wreck), or at ancient Chinese port sites (the Quanzhou Bay wreck), but also in the adjacent waters of Malaysia (the Tanjung Simpang and Kudat Wreck), Indonesia (Jepara wreck), and even as far as the Philippines (Breaker Shoal wreck) (Fig 3.10). The recovered objects from these wrecks are mainly Chinese ceramics. The wide range of Southeast Asian and Middle Eastern products seen on the Intan and Cirebon wrecks was not found. In all likelihood, the Chinese wrecks sunk in Southeast Asia sailed from

South China to transport Chinese merchandise within the Java Sea and Sulu Sea region. This suggests that instead of just shipping cargo to entrepôt such as Palembang (southeast Sumatra), Chinese merchant ships conducted business directly with the production regions of raw materials and marketed ceramics in various locations.

Just as the Arabic community in China, the Chinese merchants who mainly originated from Guangdong and Fujian province, also went beyond their initial settlements and extended their trading bases to Southeast Asia. At the site of Kota Cina (an important early trading site on the east coast of Sumatra),³⁰² many thousands of Chinese coins were recovered; most were surface finds. An analysis of the 1064 identifiable coins revealed that they dated as far back as the Sui dynasty (589-618), with the majority attributable to the Northern Song dynasty (960-1125), and the latest being cast during the Duzong 度宗 reign of the Southern Song dynasty (1264-1274).³⁰³ McKinnon argues that the coins at Kota Cina were for use as currency, rather than a source of metal. It would seem to be the most plausible explanation that best fits the evidence. As seen in the Intan wreck, metals such as bronze, tin and silver were usually traded in the form of ingots, which are easier to pack in great numbers. Chinese coins were also found on board but concentrated in the southern end of the wreck and in much smaller number compared to the metal ingots.³⁰⁴ Hence, the Chinese coins were probably the cash owned by the people on the ships rather than a source of metal. The introduction and use of Chinese cash in Southeast Asia might have been due to the establishment of communities of immigrant Chinese and their need for a medium of exchange for their day-to-day transactions.³⁰⁵

Even though Chinese merchants emerged as major players in the South China Sea trading circle during the Song period, and their commercial activities were no longer

³⁰² The name “Kota Cina” which can be translated as “a fortified settlement occupied by Chinese” would appear to arise from the folk memory reflecting the presence of Chinese at the site (McKinnon, 1984, p. 8).

³⁰³ McKinnon, 1984, pp. 106,112

³⁰⁴ Total 137 of Chinese coins were recovered. The number of bronze ingots, tin ingots and silver ingots reached 864, 792 and 94 (Flecker, 2002, pp. 29-30).

³⁰⁵ McKinnon, 1984, p. 109.

confined to a regionally dominant entrepôt such as Srivijaya-Palembang, it is unlikely that they went beyond coastal ports to further inland cities or settlements. Before the sixteenth century, the way foreign merchants conducted business in Southeast Asian ports was through the establishment of trade relationships with the community leaders who, after receiving gifts from the foreigners, allowed the native traders to take the cargos in the interior to exchange for local products.³⁰⁶

2.4 Discussion

Chinese merchants became major participants in the South China Sea trading circle between the tenth and the thirteenth centuries, and their identities ranged from members of the royal family to sailors and small merchants.

The entry of private Chinese merchants into Southeast Asia had begun during the early tenth century or late ninth century. Chinese merchants boarded Malay ships and traded in the Southern Seas before the appearance of Chinese vessels in the South China Sea. In the later period, with the development of the private shipbuilding industry, more and more Chinese merchants sailed in their own ships, which explains the large proportion of Chinese wrecks among the current findings (eight out of seventeen). These merchants who came from various social classes and sold different products travelled together on the same ship. In the trade of export ceramics, as seen on the Nanhai No.1 wreck, some merchants marketed one specific type of merchandise, suggesting that in the twelfth century specialist retailers already existed in the overseas ceramic market. Moreover, judging from the location of shipwrecks, at least after the twelfth century, Chinese merchants were dealing directly with the sources of goods and raw materials on Palawan, Borneo and Java, eliminating their earlier need for a dominant entrepôt

³⁰⁶ Peralta, 1974, pp. 67-68; Hall, 2010, p. 43.

port of the Srivijaya type. With more frequent visits of Chinese ships, settlements of Chinese merchants were established in Southeast Asian coastal area.

This expansion enriched Chinese knowledge about Southeast Asia, which explains why multiple publications regarding the culture and customs of ancient kingdoms in Southeast Asia came out during this period. Also, it inevitably led to the change in the exported ceramic industry in South China, a topic that will be elaborated in the next chapter.

3 The Southeast Asian merchants

As early as in the first centuries, Southeast Asia ships and seamen, identified by the term Kunlun in Chinese records, sailed the route between Southeast Asia and China.³⁰⁷ Initially, the Southeast Asian ships and crews served as shippers of foreign cargos, and the role of Southeast Asian ports in international trade was to provide facilities for foreign merchants who were passing through on their way to China or India or laying over until the next season's winds allowed a return voyage.³⁰⁸ However, in the fourth and fifth centuries, Southeast Asian merchants began to market their own spices and aromatics as substitutes for foreign commodities and then built upon this substitution to introduce other indigenous products into the South China Sea trading circle.³⁰⁹ Due to the expanding Chinese market for Southeast Asian products, by the fifth century, the southern coast of Sumatra was the location from which the local commodities of the Java Sea region were shipped. Therefore, the Srivijaya state, whose heartland was southeast Sumatra, rose and dominated maritime commerce passing through Southeast Asia between A.D 670 and 1025.³¹⁰

After the eleventh century, Sivijaya's dominant position in the Straits of Melaka region was weakened, marked by the Chola's raid on the Srivijayan capital in 1025, which

³⁰⁷ Wolters, 1967, p. 154.

³⁰⁸ Wolters, 1967, p. 158.

³⁰⁹ Hall, 1985, p. 28.

³¹⁰ Hall, 1985, p. 78.

corresponded to their rise in maritime power in east Java.³¹¹ With Srivijaya slowly embarking on a course of decay, a more diffuse trade pattern emerged which gave foreign merchants direct access to forest products and allowed them to market ceramics directly in various localities in Southeast Asia instead of shipping them first to Srivijaya for redistribution.³¹² This change is not only reflected in the discoveries of Chinese shipwrecks but Southeast Asian ones as well.

Based on the study of the possible route of some shipwrecks, Southeast Asia merchants carried two kinds of external trade. The first was trade directed outside the archipelago toward China such as the Cirebon and Java Sea wreck. The second was trading within the archipelago like the Intan and Pulau Buaya wreck.

3.1 The inner-archipelago trade

3.1.1 The sailing routes of the Intan and Pulau Buaya wreck

The sinking location of the Intan and Pulau Buaya wrecks (Fig 3.11 below) and the different cargo composition suggests that these two merchant ships conducted quite different sailing routes.

³¹¹ Hall, 2004.

³¹² So, 1998.



Figure 3.11 Location of the Intan and and Pulau Buaya wreck

As mentioned before, the Intan wreck was an early-mid tenth-century Southeast Asian merchant ship carrying a mixed cargo among which the majority of goods were Southeast Asian ingots of tin and bronze (2 tons), Chinese ceramic (7309 pieces) and bronze mirrors (653 pieces), with some Middle Eastern glassware, bronze ritual artefacts, and aromatic resin of Indonesia origin, and Thailand fine paste wares.³¹³ It is believed that the Intan ship was voyaging from an entrepôt port at Sumatra to Java when it met with disaster.³¹⁴

Considering the hostility between central and east Java (ruled by the Medang Kingdom) and Sumatra (ruled by Srivijaya) during the tenth century, it is more likely that the Intan wreck was sailing towards west Java.³¹⁵ West Java which was known for its high-

³¹³ Combined with findings recovered prior to the documented excavation which amounts to some 196 kg and the 829 dome ingots and 36 bar ingots recovered during the excavation, It may be assumed that approximately 1000 bronze ingots were originally shipped. With a mean weight of 2 kg, the bronze cargo would have weighted in the order of 2 tons, similar to the estimated weight of the tin cargo (Flecker, 2002, pp. 79-80). The sample number of Chinese ceramic and bronze mirrors are 7309 and 653 respectively (Flecker, 2002, p. 29).

³¹⁴ Flecker, 2002, pp. 122-123.

³¹⁵ During 10th century, the west Java under the reign of Sunda Kingdom (a Sundanese kingdom from 669 to around 1579) was the allies of Srivijaya empire, but the central and east Java ruled by Medang Kingdom (a Javanese Hindu-Buddhist kingdom that flourished between the 8th and 10th centuries) was on rivalry with Srivijaya as indicated by the Srivijaya attack recorded in the Anjukladang inscription (937) and Medang Kingdom's naval invasion against Srivijaya in 990 (Cœdès, 1968, p. 130).

quality pepper and rice cultivation.³¹⁶ It served as the land-based allies of the Srivijaya empire and delivered local production to Sumatran ports for the exchange of a portion of the income and goods from the trade route.³¹⁷ The luxurious objects, including delicate white wares, ivory works, silver ingots, and golden jewellery on the Intan wreck were likely intended for the local rulers who generated a large amount of wealth by being part of the Srivijaya empire's trade network.

The Pulau Buaya wreck, located at the Riau Archipelago (Fig 3.11), was a late-eleventh century to early-twelfth century merchant ship of unknown origin. Based on the recovered cooking vessels, it can be asserted that there were Southeast Asians on board.³¹⁸ Compared with the Intan wreck, the cargo composition of the Pulau Buaya is simpler and the combined volume is much smaller. Chinese ceramics (around 32000 pieces) and metal objects including copper ingots (about 4.6kg) and rings (129 pieces), bars of tin (48 pieces) and some iron wares, make up the most significant component of the cargo.³¹⁹ There are also several pieces of glassware of possible Middle Eastern origin and small quantities of fine-paste earthenwares from Thailand.³²⁰ The ritual artefacts, golden jewellery and other organic merchandise seen on Intan wreck were not found. Even though the majority of the cargos were originally from China, the packing material of the iron woks suggests that the Chinese commodities were loaded at a Southeast Asian entrepôt rather than a Chinese port,³²¹ which is more likely located

³¹⁶ In Zhufanzhi, it records that Xintuo guo which referred to West Java, was an agricultural-oriented kingdom and the peppers originated from Xintuo small in granule and heavy in quality, were better than those from Tuban (at the North coast of Java (Zhufan Zhi, volume 1, p. 49).

³¹⁷ Hall, 1985, p. 101.

³¹⁸ Some personal belongings which were found in small numbers and with used marks were of Southeast Asian origin including coarse earthenware cooking pots and a stove of archaic form, so there should be Southeast Asia sailors and merchants on board (Hu Shuyang, 2014).

³¹⁹ The copper finds constitute the major component of the metal items, which are mainly 4.6 kg of pure copper ingots, 129 ring-shaped copper, others including a large bronze basin, a bronze mirror and 8 bronze gongs (Ridho and McKinnon, 1998, pp. 76, 78, 82, 85). The iron wares include a number of stacks of woks and one bundle of iron bars with trapezoidal cross-section (Ridho and McKinnon, 1998, p. 84). Besides those mentioned in the text, there are some metal items of unascertained metallic content, including 18 rectangular slab ingots with mounded or incised Chinese characters, 45 truncated pyramidal ingots and a cylindrical ingot of Southeast Asian origin (Ridho and McKinnon, 1998, pp. 80, 82)

³²⁰ Ridho and McKinnon, 1998, p. 64.

³²¹ The most interesting discovery of the Pulau Buaya wreck is that the iron cauldrons and blades from China were tied up using *Borassus flabellifer* fiber, a kind of plant fiber mainly produced in Southeast Asia, which is clearly different from the packing material (bamboosplites) found on the Chinese wreck--Nanhai No.1 and Huaguang Reef No.1 (Hu Shuyang, 2014). It seems that the ironware after being shipped to some Southeast Asian port from China, was re-packed with local material before loaded on the Pulau Buaya wreck. Therefore, the wreck did not

on the east coast of the Malay Peninsula rather than Sumatra or the Java islands based on the following arguments.

First of all, the Pulau Buaya wreck carried copper and tin ingots, of which the Malay Peninsula had abundant deposits,³²² and Thai fine-paste earthenwares which the Malay Peninsula had better access to than entrepôts on other islands.³²³ For ships sunk along the Riau Archipelago, which is sited at the east mouth of the Malacca Strait and not far away from the Malay Peninsula, it makes more sense that these products were imported from the close-by source region than ports further away. Second, as recorded in the Song documents, the east coast of Malay Peninsula was frequented by Chinese merchants,³²⁴ and the discoveries of foreign ceramics including Chinese and Middle Eastern also indicate that the east coast of Malay Peninsula once served as entrepôt where Chinese ceramics and other foreign products were exchanged.³²⁵ Therefore, the ship was sailing from the Malay Peninsula toward insular Southeast Asia, not the other way around as suggested by other scholars.³²⁶ After departure and its initial sojourn on the Riau Archipelago, it is possible that the Pulau Buaya ship would continue its voyage along Sumatra's north-eastern seaboard, calling at a number of small ports on that shore.

3.1.2 The ownership of the major cargo on the Intan and Pulau Buaya wrecks

take on the Chinese commodities at a Chinese port but rather a Southeast Asian enterpot.

³²² Malay Peninsula had rich tin and bronze/copper deposits. Mainland Southeast Asia had been a major copper resource for insular Southeast Asia during much of the first and second millennia (Bronson, 1992, pp. 63-114). Therefore, for a ship carrying substantial group of copper finds and tins ingots, it doesn't make much sense that it was sailing toward region with abundant metal deposit.

³²³ Thailand fine-paste earthenwares entered the insular Southeast Asia market through the coastal ports of Malay Peninsula. For a ship that sunk in the Riau Archipelago which was an important stopping point on the route between Malay Peninsula and Sumatra, the Thailand earthenwares is more likely loaded at the former instead of the latter

³²⁴ The east coast of Malay Peninsula was on the maritime passage connecting South China and insular Southeast Asia. To reach Sumatra or Java islands, one of the regular route is to sail via the ancient states of Vietnam, Cambodia, and the Malay Peninsula to Palembang and Java in Indonesia. In the historical documents of the Song Dynasty, it recorded seven place names which are identified as location at east coast of Malay Peninsula and frequented by Chinese merchants (Li Donghua, 1986, pp. 153-157).

³²⁵ Miksic, 2009, p. 76; Aurora, 1987, p. 77.

³²⁶ Hu Shuyang, 2014.

The Intan wreck surpasses the Pulau Buaya in terms of the combined cargo volume and value, which reflects the difference in the cargo ownerships.

The major cargo on the Intan wreck, metal ingots and alloys, likely belonged to the ruler of West Java. As discussed in chapter two, the study of cargos distribution indicates that the trade of a large amount of tin/bronze ingots and copper alloys was organized by a single, or few, authorities and headed to a fairly limited number of destinations.³²⁷ The copper, bronze and tin were mainly used for casting bronze statues and vessels, the basic requirements for ceremony and ritual.³²⁸ It is difficult to imagine that a small number of private merchants would import such a large amount of metal ingots for the use in ceremonies. On the contrary, facing the prevalent problem of political fragmentation due to the loose state structure,³²⁹ the Srivijaya empire used beliefs and ceremony as well as sharing its wealth among the allies to maintain the loyalty of the regional landlords.³³⁰ These metal ingots could be the local rulers' share of Srivijayan wealth.

The other commodities on the Intan wreck, including Chinese ceramics, mirrors, Middle Eastern glass beads and glasswares, were handled by multiple merchants instead of one single authority.³³¹ The reconstruction of the Intan wreck indicates that there are compartments inside the cargo space formed by the transverse/longitudinal beams,³³² which could be rented by individual merchants to store their merchandise. The identities of these merchants remain unclear but considering some of these products were of high-quality and made for a luxurious lifestyle, their owners were thought to be rich and had a connection with local rulers, the possible customers of the products.

³²⁷ See Chapter two, section 3.1, p. 42-45.

³²⁸ Flecker, 2002, p. 81.

³²⁹ The core of the domain which was administered directly by the state's central administration was the area near the capital. As for the peripheral areas which referred to those bordering the core, they were in a tributary relationship to the state. Even though the state might claim to have administratively annexed these areas, its real control was minimal, as local elites remained in power while paying homage to the centre (Hall, 1985, pp.11-12).

³³⁰ Hall, 1985, p. 89.

³³¹ See Chapter two, section 3.1, p. 45-48.

³³² Flecker, 2002, p. 301.

The major cargo on the Pulau Buaya wreck, however, was more likely intended for daily use. The majority of ceramics are utensils of medium and low-quality including bowls, jars and ewers,³³³ and iron as the other bulk cargo of the Pulau Buaya wreck was imported for tool making. As for copper ingots, the volume on the Pulau Buaya wreck (4.6kg) is significantly lower compared with those on Intan wreck (2 tons), which makes it feasible for private trading. Therefore, judging from the types, uses and volume, the cargo on the Pulau Buaya wreck does not seem to be products under government monopoly or to be used for official programs, but for the mass market. It is likely that the people who owned and marketed these items were private merchants. Considering the sinking location and the long sailing history of Malay seamen, they were most likely Malay shipper and merchants.

Malay seamen were known for their navigation skills and during the Srivijaya era, they were transporting goods within the South China Sea circle.³³⁴ The Telaga Batu inscription, a seventh-century Srivijaya inscription carved on an andesite stone discovered in Palembang (South Sumatra), has recorded the titles and duties of the officials of the Srivijaya state, among which a term referring to shippers and merchants was given the Malay form rather than in the formal Sanskrit employed for the other titles in the inscription.³³⁵ It indicates that there were Malay traders and shippers sailing between the Malay Peninsula and Sumatra and other regions, the proposed route of the Pulau Buaya wreck.

3.1.3 Discussion

The Intan and Pulau Buaya wrecks reveal one direction of the inner archipelago trade. Here the mixed cargos assembled at the *entrepôt* are redistributed to other regions of

³³³ Ridho and McKinnon, 1998, p. 6-35.

³³⁴ Wolters, 1967, pp. 154-156.

³³⁵ In the Telaga Batu inscription, last group were those people associated with commerce. First encountered are the royal officials known as *tuha an vatakvurah*, "supervisors of trade and craft." Next appear the *puhawang*, "shippers", and *vaniyaga*, "merchants" which was in Malay form instead of the formal Sanskrit form (Hall, 1985, p. 98).

Southeast Asia. In the case of the Intan wreck, the entrepôt was located in southeast Sumatra and the trade was conducted on a state level, while the cargo on the Pulau Buaya wreck was loaded on the east coast of the Malay Peninsula and was possibly owned by private merchants.

The other direction not directly disclosed from the findings of these two wrecks is the process of indigenous products shipping to the entrepôt. During the Song period, the distributing centre of the goods from the Java Sea had changed from the southeast Sumatra coast to the Javan coast. It is worth noting that the establishment of these two regions primary position in Southeast Asia maritime trade was based on different economic systems. The southeast Sumatra coast had become commercially prominent due to its strategic location relative to the Strait of Malacca and the Java Sea. At the edge of both, the Srivijayan realm monopolized the flow of Southeast Asian commodities into the channels of international trade.³³⁶ With Srivijaya gradually declining in power during the eleventh century, the Sumatran coast inevitably lost its commercial stature. Java's success, however, was based on a mutual dependency that came to exist between Java and the islands of the eastern archipelago. For example, the eastern archipelago's populations, such as Balinese and Malukunese, concentrated on producing spice which was in great demand in international markets for the exchange of Javanese rice and cloth.³³⁷ With the popular merchandise spice shipped to Java, it attracted foreign merchants to conduct their business there. Therefore, a type of economic relationship based upon mutual dependency instead of an elaborate distribution system came into existence. It led to more direct transactions within and outside the Southeast Asian archipelago. This change is further demonstrated in the following section.

³³⁶ Hall, 1985, p. 212.

³³⁷ Hall, 2004.

3.2 The Southeast Asia-China trade

3.2.1 The sailing routes of the Cirebon and Java Sea wrecks

Sunk in the Java Sea (Fig 3.12), based on the cargo composition and distribution and the remained packing materials, the Cirebon and Java Sea vessels were conducting a similar journey, both sailing back to Java from China.



Figure 3.12 Location of the Cirebon and Java sea wrecks

The Cirebon wreck was a late tenth-century Southeast Asian merchant ship carrying a mixed cargo (mainly Chinese ceramics, glassware from the Middle East, pearls and precious stones probably from Indian Ocean ports, lead and tin ingots, and a wide collection of aromatic substances) on a voyage back to Java.³³⁸ As discussed in Chapter two, judging from the cargo distribution pattern, unlike the Intan wreck, the Cirebon wreck was more likely to take on all the Chinese merchandise first at a Chinese port, possibly Guangzhou, and then other products at Southeast Asian ports.³³⁹ As for the

³³⁸ Liebner, 2014, pp. 115-166.

³³⁹ See Chapter two, section 3.1, pp. 51-52.

destination of the ship, Liebner assumes that after an initial sojourn in Central Java, the vessel would continue its voyage towards the northeastern half of the island.³⁴⁰

The Java Sea wreck, located at the western edge of Java Sea, was a Southeast Asian merchant ship dated to the mid-late twelfth century.³⁴¹ It was found carrying a bulk cargo of Chinese iron (estimated weight of 340 tons) and ceramics (estimated weight of 25 and 30 tons) and some non-Chinese cargo including earthenware kendis from Thailand (about 360 pieces), aromatic resins from Sumatra (8 pieces) and ivory from Vietnam (16 pieces).³⁴² Judging from the distribution pattern of the recovered cargo, it appears that iron was stowed first in the lower portion of every hold and topped by Chinese ceramics.³⁴³ The ivory and resins were placed in the stern of the ship on the starboard side, the vicinity of which was left devoid of bulky cargo.³⁴⁴ The plausible explanation for the placement is that the iron and ceramics were loaded at a Chinese port and on the way back to Java the ship made one or perhaps several ports of call. The fact that individual iron bars were separated by a compound consisting of lime and tung oil,³⁴⁵ which was seen on Chinese ships for caulking and sealing iron fastenings,³⁴⁶ further supports the assumption that the iron was packed and loaded at a Chinese port. The destination of the vessel, as suggested by Micheal Flecker, in all

³⁴⁰ The assumption is based on the calculation of the possible length of a sea voyage after the last stop judging from the volume of fresh water stored in the extant jars (Liebner, 2014: 295-296). It is also because after the move of Java's political authority to the eastern half of the island in the 920s, the commercial potential of the central have contracted and the market was not big enough to consume such large amount of imports (Liebner, 2014, p. 297)

³⁴¹ While the cargo of the Java Sea Wreck is almost exclusively from China, the ship was definitely not built there. The wood identification and the evidence of construction technique indicate that it was probably an Indonesia ship (Flecker, 2003). The few scatter figurines and finials which were connected with the folklore and religious ceremonies of Java island seem to be personal belongings instead of merchandise or souvenirs considering that the ship was voyaging back to Java (Mathers and Flecker, 1997, pp. 84-85). Moreover, the four different sets of balance weights whose forms were definitely non-Chinese but possible Southeast Asian further suggest that the cargos were shipped and marketed by Southeast Asian merchants (Mathers and Flecker, 1997, p. 83; National Museum of China and The Palace Museum, 19984, p. 161)

³⁴² Mathers and Flecker, 1997, pp. 70, 80-81; Flecker, 2003.

³⁴³ Mathers and Flecker, 1997, p. 70.

³⁴⁴ Mathers and Flecker, 1997, p. 81.

³⁴⁵ Mathers and Flecker, 1997, p. 79.

³⁴⁶ As discussed in Chapter two, on the Chinese sea-going vessels it is observed that the gap between planks was filled with organic compound of hemp thread and Tong oil (section 2.1.1, p. 38).

likelihood could be Tuban (East Java), where the cargo would be distributed to the vast island network to the east of Java where all the important spices were produced.³⁴⁷

Even though the Cirebon and Java Sea wrecks both sailed from China back to East Java, the reason why they conducted direct trade with China instead of taking on the mixed cargo at an entrepôt like the Intan wreck is not the same. In the case of the Cirebon wreck, it was likely due to the rivalry between Srivijaya (centred in southeast Sumatra) and the Medang Kingdom (centred in Central and East Java) during the tenth century. As for the Java Sea wreck, it is a reflection of the decline of Srivijaya's domination over South China Sea trading circles. During the twelfth century, Javan coastal ports replaced the southeast Sumatran coast to become the intermediary of the international spice trade. Based on the description in *Zhufan Zhi*, Java was a wealthy land and famous for its spice production which attracted Chinese merchants to trade with bronze coins against government regulation.³⁴⁸ The direct interactions between South China and Java made trading through other distribution centres such as Sumatra unnecessary. The Java Sea wreck indicates that the interaction is not of one-way but two-way. Not only did Chinese merchants have direct access to indigenous products and the imported goods of Java islands, but the merchants based on the Javan coast could also choose what they want to import from China directly.

3.2.2 The ownership of major cargo on the Cirebon and Java Sea wrecks

As for the question of who organized the trading voyage of the Cirebon and Java Sea wrecks, it is difficult to answer with certainty. However, judging from the date of the wreck, the type, amount and loading pattern of the main cargo (Chinese ceramics), the merchants who managed the products on Cirebon wreck were likely under the purview of state-sponsored trade.

³⁴⁷ Flecker, 2003.

³⁴⁸ The original text is “此番胡椒萃聚，商舶利倍徙之获，往往冒禁，潜载铜钱博换。”(*Zhufan Zhi*, Volume 1, P. 55).

A potter's mark-戊辰/徐记烧 dated 968 suggests that the Cirebon wreck sailed to China in the mid-late tenth century,³⁴⁹ which is the thriving period of the Medang Kingdom. The overall number of the registered ceramic objects is 154,010 (shards not included), and it was estimated that 500,000 pieces of ceramics were to be marketed.³⁵⁰ As discussed in chapter two, the highly uniform character of the ceramics and the stowage pattern which followed the requirement of seamanship indicate that the purchase and handling of the ceramics on the Cirebon wreck was organized by a single authority.³⁵¹ One can imagine that it would be difficult for a single authority representing individual Southeast Asian merchants to generate sufficient funds and assets to supply capital and commodities for the exchange of such a large amount of Chinese ceramics. Moreover, some of the Yue-type green-glazed, which accounts for 90% of the ceramics, were of very high quality and similar to those unearthed from royal sites of the same period.³⁵² Combined with the fact that the production of Yue kilns at the mid-late tenth century was under official supervision,³⁵³ it is reasonable to assume that the purchase and sale of such amounts of Yue wares was a state-level exchange. Therefore, the journey of the Cirebon wreck was likely sponsored by the Medang Kingdom.

It is worth noting that besides their official assignment, the merchants who were the representation of the ruler of Southeast Asian kingdoms also conducted their own business on the side. According to Chinese records, the merchants carried self-owned cargo and traded them for Chinese merchandise at the destination ports or on their way to the capital.³⁵⁴ As seen on the Cirebon wreck, apart from the densely packed bulk cargo, there were also 'western' goods including Fatimid glassware and hundreds of

³⁴⁹ Liebner, 2014, p. 120.

³⁵⁰ Liebner, 2014, p. 113.

³⁵¹ See Chapter two, section 3.1, pp. 49-50

³⁵² Qin Dashu and Ren Linhai, 2018.

³⁵³ As recorded in historical documents, during the early Northern Song period, thousands of hundreds of high-quality Yue wares were sent to the court as tribute, and an official was appointed to supervise the production of Yue kiln on imperial order (Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, pp. 370-371).

³⁵⁴ Chen Shaofeng, 2013, pp. 134-136.

pieces of jewellery which was distributed around several separate consignments. Considering the value of these items, some of them might belong to the envoys who either were the officials in charge of the maritime trade or famous traders who had a close relationship with the royal family.

The ownership of the main cargo on the Java sea wreck (ceramics and iron wares), however, is more uncertain. First of all, with the available data about the distribution of recovered iron and ceramics, it is not possible to determine whether their loading was determined by the preference of individual merchants or was governed by a single authority shipping a large consignment.³⁵⁵ Second, compared with those on the Cirebon wreck, the amount of ceramic cargo on the Java Sea wreck (around 100,000 pieces) is much smaller, and the types and shape are more diverse.³⁵⁶ Their purchase could be sponsored by the local ruler or handled by private merchants.

3.2.3 Discussion

The Cirebon and Java Sea wrecks embarked on a journey along a similar route but were motivated by different reasons. The former was likely under the auspices of the Medang Kingdom and avoiding the Srivijayan distribution network was due to the hostility between the two kingdoms. The Java Sea vessel was a profit-oriented adventure, conducting direct trade with China was because the Srivijayan distribution network had already collapsed.

During the Song period, we see an increasing presence of Southeast Asian individual merchants in Chinese ports. They could come to China by joining a trading journey such as the merchants who rented the compartments on the Intan wreck. The activities of the individual merchants at first were confined to the designated international ports (Guangzhou, Mingzhou and Hangzhou). But since the trade at these ports would have

³⁵⁵ Mathers and Flecker, 1997, p. 70.

³⁵⁶ Flecker, 2003.

been dominated by state-sponsored traders, the private traders attempted to access the domestic markets beyond the international ports against the regulations. Eventually, by 1019 the Song government extended market access and allowed foreign merchants to trade within the boundaries of the prefectures in which the ports were located.³⁵⁷ The advent of Southern Song rule in 1127, which saw a broadening and diffusion in China's maritime trade, and a shift in the court's handling of its trade and diplomatic relations, resulted in traders operating outside of the purview of state-sponsored trade beginning to rise in importance in China's maritime economy.³⁵⁸ As recorded in *Zhufan Zhi* and *Yunlu manchao* 云麓漫钞 (a personal note of Zhao Yanwei 赵彦卫 written in 1206 and based on the archives of the Quanzhou Maritime Affairs Office), traders who frequented the port of Quanzhou include those from minor Malay ports such as Kuala Berang, Pahang and Kompei.³⁵⁹ Malay representation at the southern Chinese ports was no longer under the auspices of Srivijaya alone. According to Derek Heng, by the thirteenth century, the state-sponsored representation at the Chinese ports was eclipsed by a more informal and general representation.³⁶⁰

4. Conclusion

This chapter aims to answer the question of who were the merchants and mariners plying the South China Sea and how they participated in maritime trade. Through the research of the shipwreck materials, the study of historical records and terrestrial discoveries, it can be inferred that between the tenth to the thirteenth centuries merchants from the Arab world, Southeast Asia and China all played an important role in the South China Sea trading circle, but their identities and ways of getting involved varied.

³⁵⁷ Chen Shaofeng, 2013, pp. 137-138.

³⁵⁸ So, 1998.

³⁵⁹ Clark, 1991, pp. 130-131; Li Donghua, 1986, pp. 153-157.

³⁶⁰ Heng, 2009, p. 121.

The Arabic merchants based in South China ports were an active and influential community. They tended to be rich and had high social status, some of whom closely engaged with the elite of Song society, and some even became part of the ruling class. They seldom sailed in Arabic ships but instead used Chinese and Southeast Asian vessels to carry their cargo. They could come on board to oversee the shipping or entrust their merchandise with an agent. The Chinese merchants, however, were the contrary. During the Song Dynasty, they experienced a change from renting space in foreign ships to leading their own sea-going adventures and came from various social classes. Some were royal family members who could manage a large volume of expensive incense wood, while the majority were small merchants who were assigned limited space in the cargo hold and marketed products aiming for mass consumers. The term ‘small merchants’ does not merely refer to traders who specialized in the maritime business but also involved citizens who invested jointly for a sea-going journey to earn extra money and sailors who marketed a small amount of goods on the side. Regardless of their identities, they were all driven by profit and expanded the foreign market and hence broadened the South China Sea trading circle.

As for the Southeast Asians who conducted inward and outward bound Southeast Asian archipelago trade, at first, they were mainly representatives of the local rulers. The state-level exchange between the Song court and Southeast Asian kingdoms was carried out in the tributary form during the Northern Song period.³⁶¹ But during the Southern Song period, the envoys and cargos sent by the rulers of Southeast Asian kingdoms were treated in the same way as any other parties who came to China to conduct maritime business.³⁶² At this point, tribute barely served any diplomatic or political purpose but became a commercial activity. Beside the state-sponsored trade, there were also individual merchants involved in the maritime business. After the eleventh century, the

³⁶¹ During the Northern Song period, envoys needed to bring the cargos to the capital and after the amount and the price being calculated, Song court would award gifts of equal or even high value in return, mainly money, gold/silver wares and silks (Li Jinming and Liao Dake, 1995, pp. 110-113).

³⁶² During the Southern Song period, no more sending tributes to the capital, just like any other imported goods, the products were taxed and sold to the government at a fixed price at the arrived port, and the process was handled by shibosi as well (Li Jinming and Liao Dake, 1995, p. 115).

Srivijaya-centric distribution system gradually fell apart, and a more diffuse trading pattern was formed in Southeast Asia, which led to more direct interaction between each region. As a consequence, traders from minor ports started to frequent China, and individual merchants gradually grew in number and importance.

The changes in the identities of maritime traders and their ways of engaging in sea-borne trade inevitably lead to the change in the type, quality and quantity of export cargo, which will be the topic of the next chapters.

Chapter Four

Chinese ceramic recovered from the Five Dynasties and Northern Song period shipwrecks (907-1127)

After addressing the context of ceramic cargo-shipwrecks, how the trade was conducted and by whom, chapter four focuses on the Chinese ceramics recovered from the shipwrecks sunk between the tenth to early twelfth centuries. This chapter aims to answer two questions: where were the Chinese ceramics produced and are there any special types or decorations made specifically for Southeast Asia?

For the first question, I systematically compare the glaze colour, clay body, vessel form, and decoration style between the finds on the wrecks and those from domestic sites, especially kiln sites, to pinpoint the provenance. If carved or stamped marks exist, they will also be taken into consideration. For the second, data collection of counterparts of some ceramic types from shipwrecks was conducted to examine whether they were also used in Song society. It mainly concentrates on discoveries excavated at tombs, city sites and hoards and I have extracted all of this information from unpublished and published sources. It explores not only the presence or absence of certain vessels from domestic sites but also whether they were used differently in China and Southeast Asia. After addressing these two main questions, in the discussion section I demonstrate the changes of dominant ceramics types within this period and interpret the reason behind this.

1. Chinese ceramics recovered from shipwrecks dated to the Five Dynasties and early Northern Song period (the tenth century)

The shipwrecks (and shipwreck sites) in South China dated to this period are the Fenliuweiuyu, Intan, Cirebon and Karawang. The Fenliuweiuyu wreck site was found in the coastal area of Fujian province, while the other three were discovered in the Java Sea (Fig 4.1). There is also the Musi River wreck discovered on the Musi River bed close to the modern town of Palembang (Sumatra Indonesia) (Fig 4.1). Chinese ceramics account for the major proportion of the artefacts from all five shipwrecks. But at the Fenliuweiuyu and Musi River wreck sites, only Chinese ceramics are mentioned in the archaeological reports, and no other objects are said to been recovered, which could either be because of the simple cargo composition, the corrosion of other commodities, or leaving atefacts in situ. The Intan, Cirebon and Karawang wrecks, on the other hand, carry mixed cargo and more work has been done which allow data analysis of ceramic types and forms.

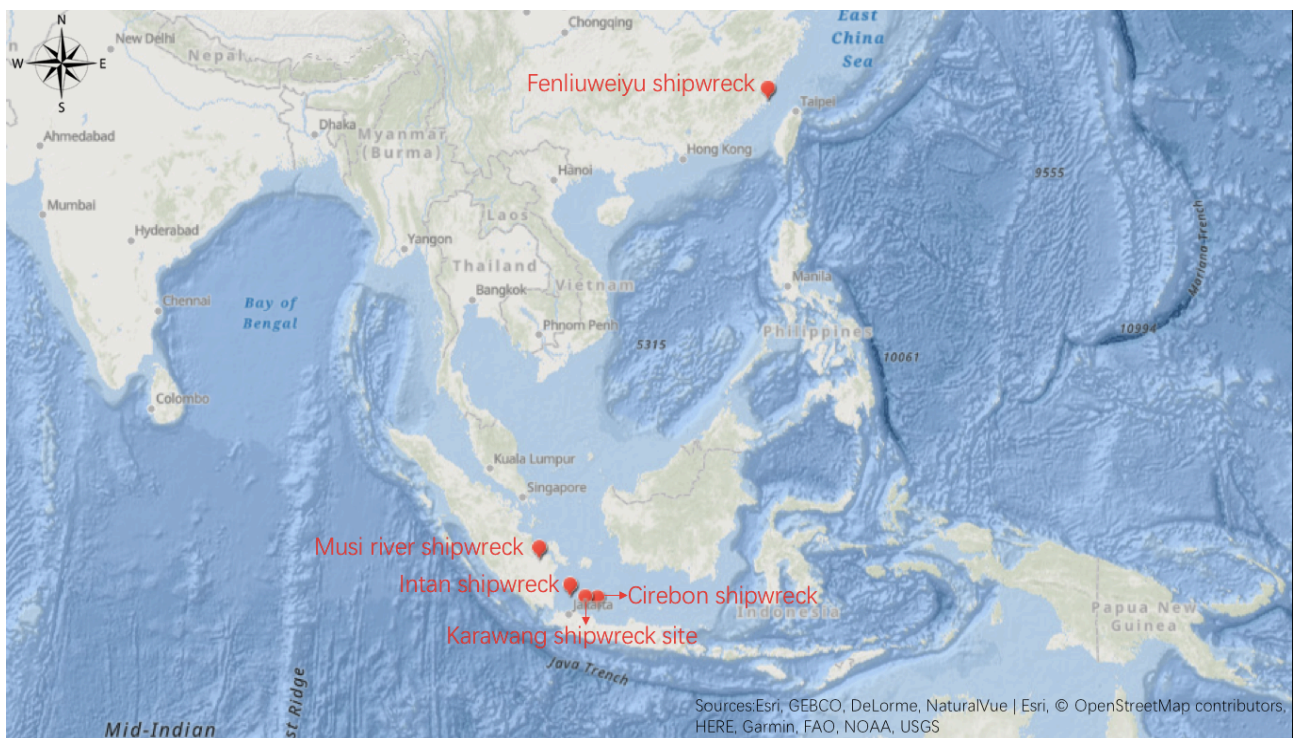


Figure 4.1 Map of the tenth-century shipwrecks in the South China Sea

1.1. Provenance and types of Chinese ceramics

1.1.1 Finds from each shipwreck

a. The Fenliuweiyu shipwreck site

The Fenliuweiyu wreck is located in the southwest of Haitan Island, Pingtan water, Fujian province (Fig 4.2). During the 2010 underwater archaeological survey, no remnants of a hull was found but the concentrated distribution of artefacts and the uniform shape of ceramics indicated it was a site of a shipwreck.³⁶³

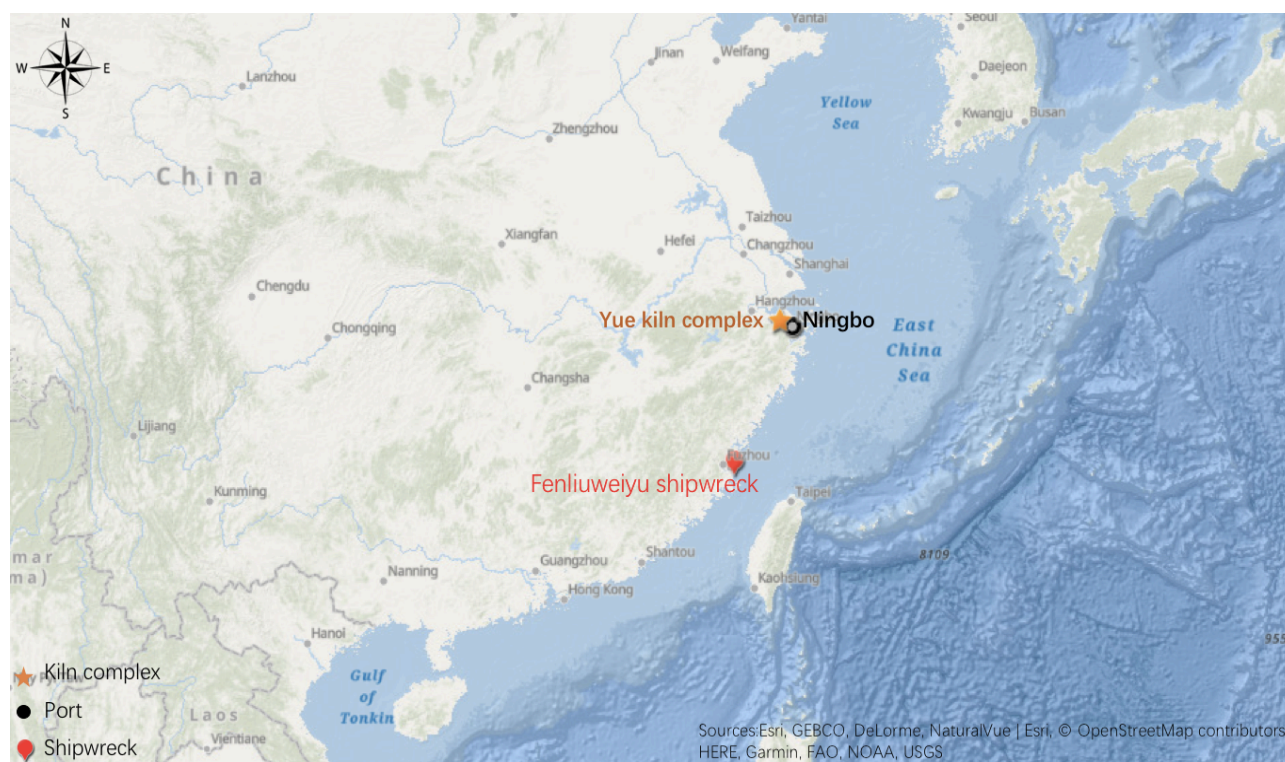


Figure 4.2 Location of the Yue kiln complex and Fenliuweiyu shipwreck site

The recovered objects from the site are all green-glazed wares including bowls, dishes and a few cup-stands.³⁶⁴ Judging from the compact body, the greyish-green glaze and the identical forms with the kiln production, it can be concluded that they were

³⁶³ Yang Zelin 羊泽林 et al., 2011.

³⁶⁴ Yang Zelin 羊泽林, 2012.

produced at the Yue kiln complex (Fig 4.3). The excavated wares from the Fenliuweiuyu wreck are dated to the Five Dynasties (907-960) according to the lobed rim form seen on most of the objects, the absence of carved and incised decoration and the rings of firing clay support on the interior of the vessels, which are the core characteristics of Phase Two production of the Silongkou Yue kiln.³⁶⁵

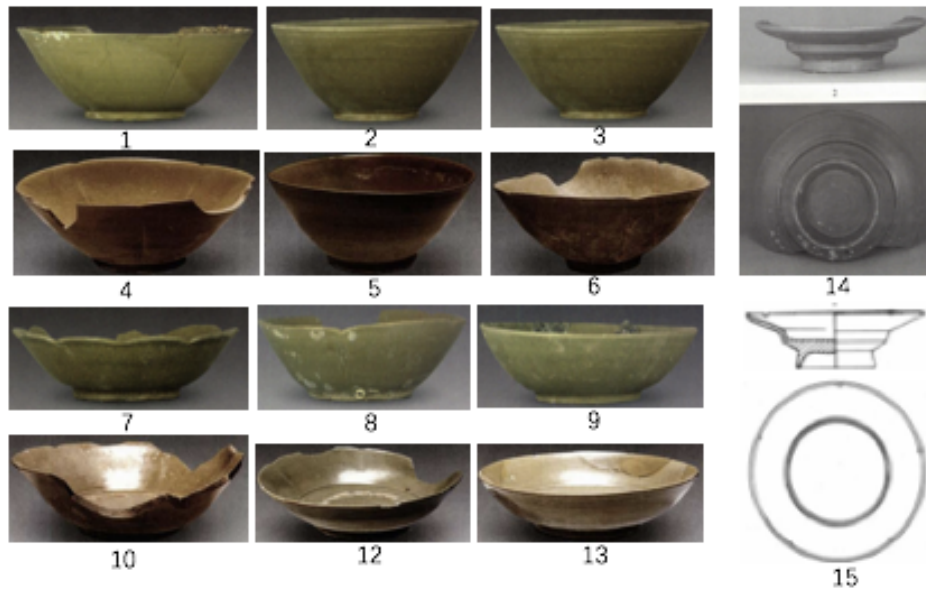


Figure 4.3 The Yue wares from the Fenliuweiuyu shipwreck site (1,2,3,7,8,9,14) and Silongkou kiln site (4,5,6,10,12,13,15)

The Fenliuweiuyu wreck is, so far, the earliest shipwreck site found in the coastal area of China. It sailed from Mingzhou (current Ningbo, Zhejiang province) which was the major port for exporting Yue wares since the Tang Dynasty.³⁶⁶ The destination is argued to be Indonesia based on the following grounds. First of all, the Tang and Five Dynasties Yue wares have been excavated from domestic sites centre around three regions: the border between the Five Dynasties and Liao Dynasty (northeast China), the central plain, and Zhejiang province (surrounding area of the production sites). Further south and west of Zhejiang province including Fujian and Guangdong province,

³⁶⁵ Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, p. 347.

³⁶⁶ The center production region of Yue kiln is located closely with Mingzhou and at the dock site of Heyi road at Ningbo more than seven hundred traded ceramics were uncovered among which the majority are Yue-type ware (Lin Shimin, 1981, p. 105)

Yue wares are absent.³⁶⁷ Therefore, even though the wreck was sunk in the coastal area of Fujian province, it is unlikely that the Yue wares were meant for the South China domestic markets. Secondly, the Tang and Five Dynasties Yue wares in Southeast Asia are mainly found on Indonesian islands such as Java, Sumatra, Sulawesi, South Borneo.³⁶⁸ A large amount of Yue wares on shipwrecks of a similar period, the Intan and Cirebon, further suggest that the Island of Java was an important consumer market. To sum up, the Fenliuweiyu wreck was most probably a sea-going vessel exporting Yue wares from Mingzhou to Indonesia.

b. The Musi River shipwreck

Unlike previous shipwrecks sunk in the sea, the Musi River shipwreck was a small riverboat found on the Musi River bed close to the modern town of Palembang in Sumatra (Fig 4.4 below). The recovered cargo includes around ten thousand high-quality white porcelain bowls and a small percentage of white wares with a less vitrified body and glaze.³⁶⁹ The interior and exterior surface of the former (except the base in the shape of a jade disc) are all covered with white glazed and no glaze degradation indicates that they were fired at high temperature (Fig 4.5 below). Moreover, the bowls are uniform in shape and of similar dimensions (diameter between 14 and 15.3 cm).³⁷⁰ The glaze, clay and overall workmanship point the provenance to the Xing or Ding kilns of the late ninth or early tenth century. A small proportion of white wares of inferior quality appears to have been produced at a different kiln, possibly Fanchang, due to the different cut of the foot, the glaze coverage which stops a couple of centimetres above the foot rim, and the clay and glaze of lesser quality.³⁷¹

³⁶⁷ Xu Ying, 2016, pp. 54-62.

³⁶⁸ Ren Rongxing, 1994.

³⁶⁹ Gardellin, 2014.

³⁷⁰ Gardellin, 2014.

³⁷¹ Gardellin, 2014.

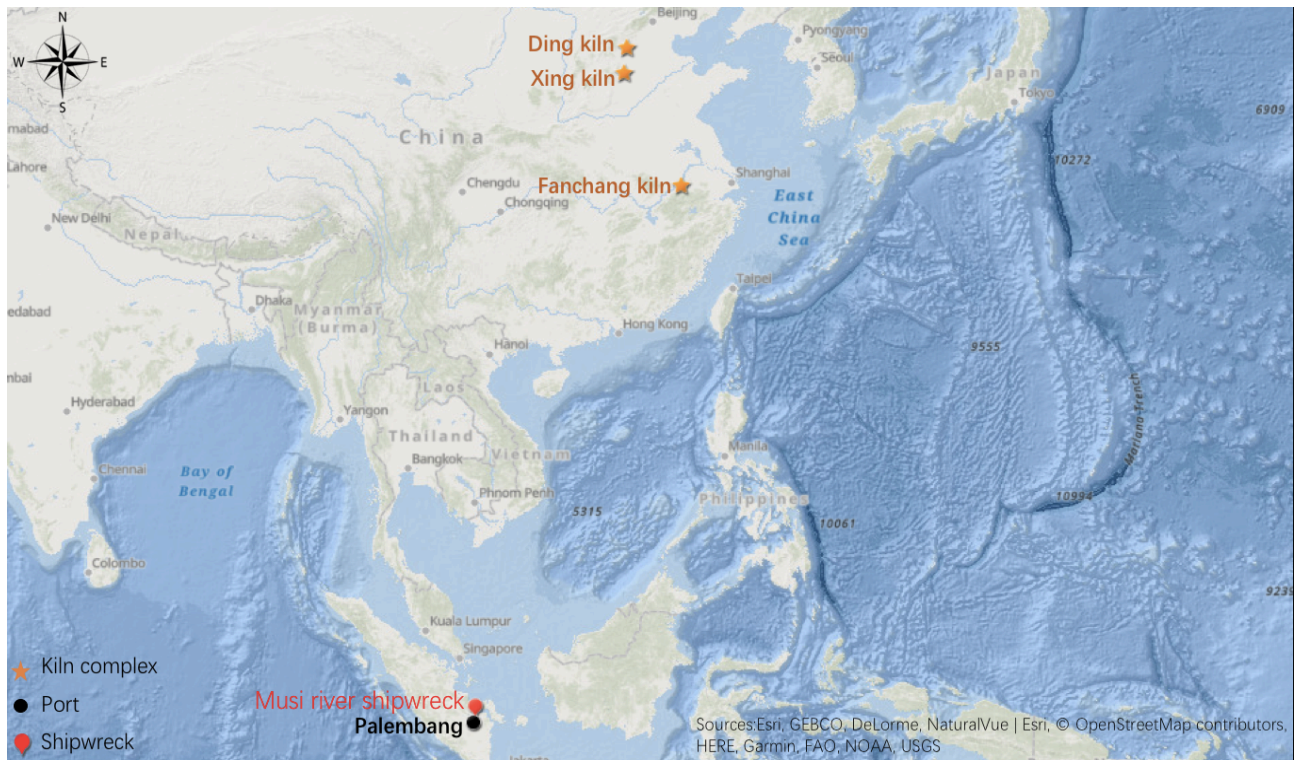


Figure 4.4 Location of the major kiln complexes and the Musi river shipwreck



Figure 4.5 The white-glazed bowls on the Musi River shipwreck

Without further information regarding the shipwreck, it is impossible to estimate the ship's original route. Nevertheless, the discoveries of the early tenth century white stonewares in Sumatra, which are so far mainly concentrated on Palembang region, may suggest that the ship uploaded the ceramics at a harbour for the transfer to an inland settlement site within the Palembang area.³⁷²

³⁷² White glaze folded-rim bowls with bi-type footings dated to late Tang and Five dynasties were uncovered at Bulik Seguntang (West Palembang), the Museum Badaruddin site and Candi Angsoka site (Central Palembang) (Guy, 1986, p. 20; Manguin, 1992, pp. 68-69). Outside Palembang, such vessel was reported to be found at Kebuntebu site in Purajaya (Northwest Lampung) (Mckinnon, 1993, pp.227-238).

c. The Intan wreck

The Chinese ceramics on the Intan wreck are divided into four categories: coarse green/brown glazed wares, Yue-type wares, qingbai wares and white wares. The green/brown wares account for 71% of the recovered Chinese ceramics, followed by Yue-type wares (15%), qingbai wares (11%) and white wares (3%) (Chart 4.1).³⁷³

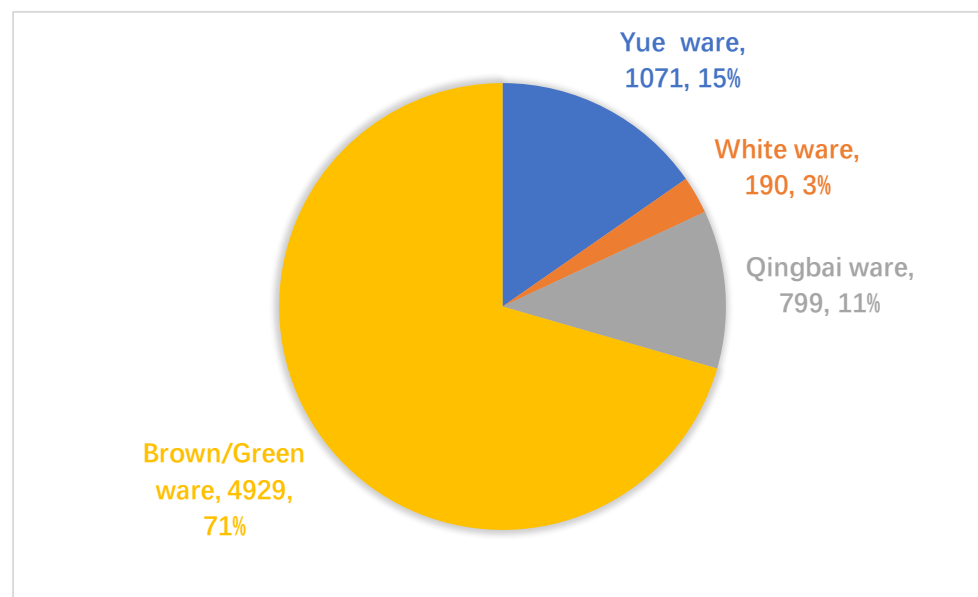


Chart 4.1 *The proportion of Chinese ceramic types on the Intan wreck*

Among the green/brown glazed examples, 99% are small pots (diameter between 10 to 15cm) with a big mouth, an everted or rolled rim, depressed body and a flat base, either with or without four handles (Chart 4.2 below). They have brown glaze on the exterior which stopped well short of the flat foot and greenish glaze on the interior with buff-brown clay.³⁷⁴ The clay, glaze and form of the small pots match the finds at the Bijiashan kiln (Fig 4.6 below). The Bijiashan kiln, located at Chaozhou Guangdong province (Fig 4.7 below), began production in the Tang Dynasty, reached its peak during the mid-eleventh century and was abandoned before the twelfth century. At the kiln site, dozens of pots with similar form and grey-brown clay were excavated, among

³⁷³ Flecker, 2002, pp. 104-117.

³⁷⁴ Flecker, 2002, p. 116.

which the majority are unglazed, and several are found with brown glaze on the outside and green glaze on the inside.³⁷⁵

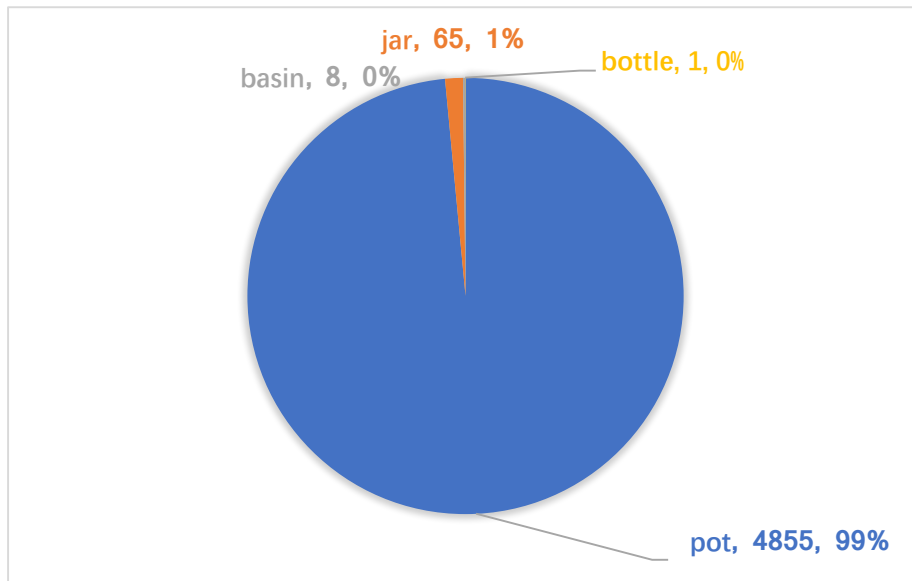


Chart 4.2 *The proportion of green/brown ware vessel forms on the Intan wreck*

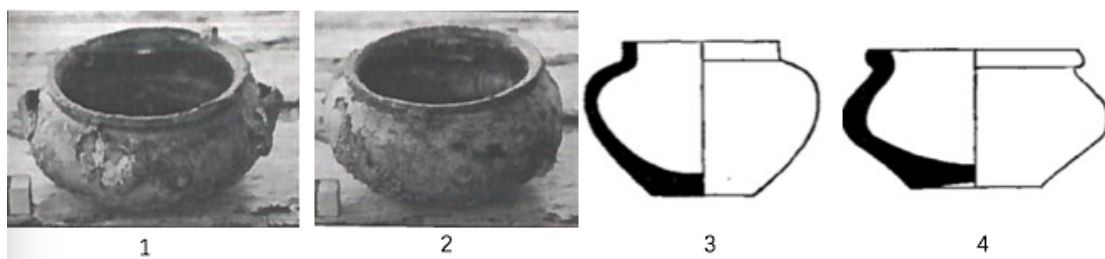


Figure 4.6 *The brown/green glazed pots from the Intan wreck (1,2) and Bijiashan kiln site (3,4)³⁷⁶*

³⁷⁵ Musuem of Guangdong Province, 1981, p. 22.

³⁷⁶ Beside the similarity in vessel form, the pot produced at Bijiashan kiln and those excavated from the Intan shipwreck are both found with brown glaze on the outside and green glaze on the inside. Moreover, their sizes are similar as well. The mouth-rim of the Bijiashan pots are around 11cm and they are about 5 cm height (Huang Yuzhi and Yang Shaoxiang, 1983), just like the Intan pot.

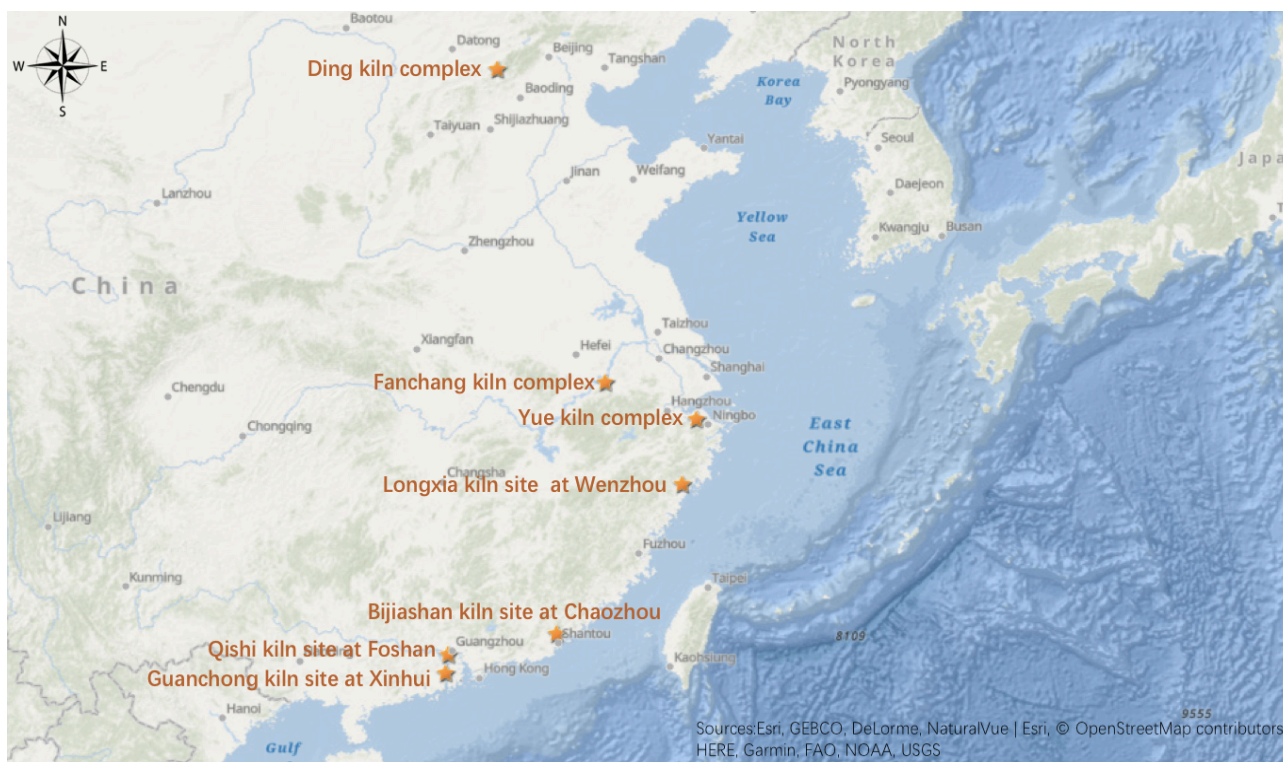


Figure 4.7 *The kiln sites of the Chinese ceramics on the Intan wreck*

The scale of production at the Bijiashan site was high, enabling the manufacture of more than 8000 small pots at one firing. The length of the uncovered dragon kilns range from 27.85 to 65.5 meters.³⁷⁷ If we take kiln No.1, for example, the length of the kiln floor is 24.71 meters, the width 2.58-2.89 meters and the height of accommodation space is assumed to be 2 meters, then the volume of the kiln is about 127 to 142 cubic meters. The loading capacity for small pots (0.06 meters high and 0.15 meters diameter) is 12031 to 13477 pots. Given a 30% rejection rate, one firing could produce between 8421 to 9433 pieces of small pots.

The number of brown/green big jars is considerable lower compared with the small pots (Chart 4.2 above), and it is possible that they were storage vessels instead of merchandise. Their form and glaze resemble the big jars from the Belitung wreck, and they were likely produced at a central Guangdong kiln sites such as Qishi kiln at Foshan and Guanchong kiln at Xinhui (Fig 4.8). These kiln sites are located close to Guangzhou

³⁷⁷ Musuem of Guangdong Province, 1981, p. 2-10.

and have a lengthy river network running by which enables easy transportation from the production site to the port (Fig 4.6).³⁷⁸

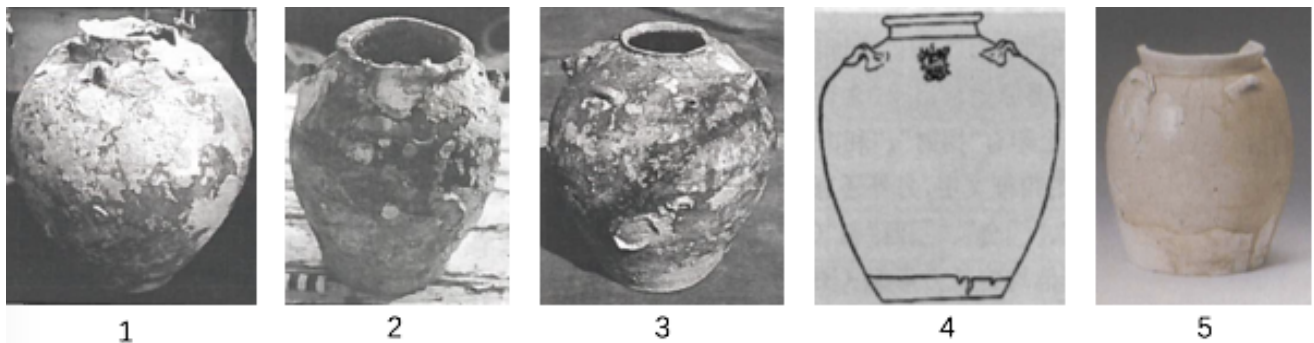


Figure 4.8 The big jars from the Intan wreck (1,2,3) and Guangdong kiln sites (4,5)³⁷⁹

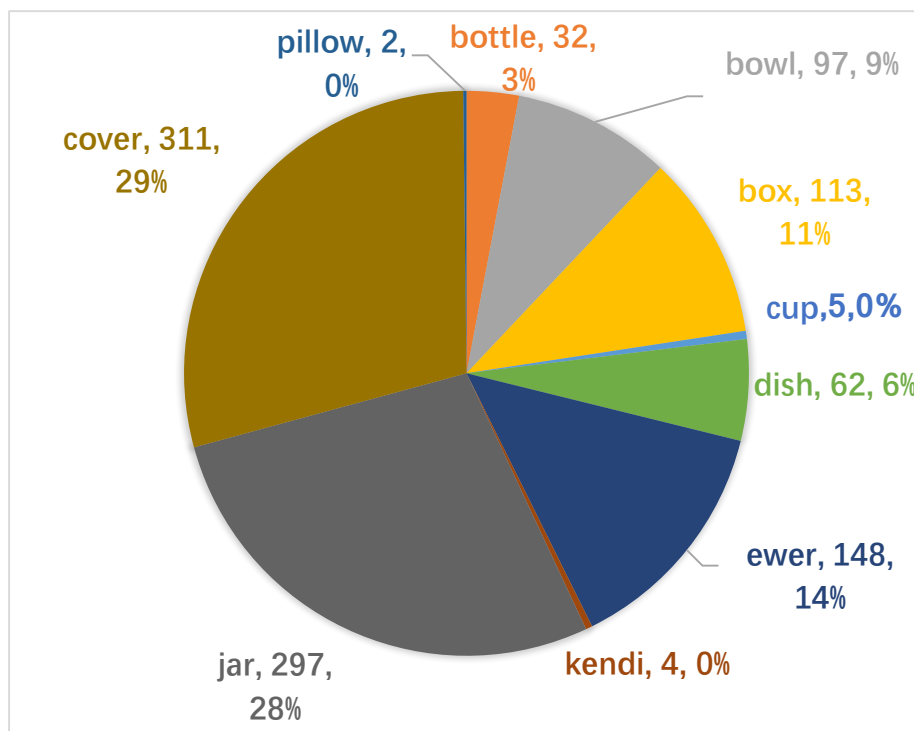


Chart 4.3 The proportion of Yue-type ware vessel forms on the Intan wreck

Among the recovered examples of Yue-type wares, the major vessel forms are jars, ewers and dishes (Chart 4.3). The Yue-type wares suffered glaze degradation and are usually found with only traces of green glaze remaining.³⁸⁰ The speculation that they

³⁷⁸ Liu Chengji, 2000; Huang Xiaohui, 2016; Chen Zhiliang, 1978.

³⁷⁹ Big coarse brown/green glazed jars are commonly found at central Guangdong kiln sites (Liu Chengji, 2000; Huang Xiaohui, 2016), but they are also recovered at other Guangdong kiln sites such as Bijiaoshan or Xicun, even though at these kiln sites they do not account as a major vessel type.

³⁸⁰ Flecker, 2002, pp. 106-111.

were produced at Yue or in Yue-type kilns is based on the form and decoration style. The ewer with a trumpet mouth, a grooved trap handle and bulbous body, small bottle with long and flanged neck, and doomed and tiered lid from the Intan wreck (Fig 4.9:1,3,5), are identical to the finds excavated at Silongkou kiln (Fig 4.9:2,4,6). Vessels similar to the cylindrical jars with two ear handles on the wreck (Fig 4.9:7) are found in the Kang Mausoleum at Linan, Zhejiang province (dated 939 A.D), which are products of Yue kilns (Fig 4.9:8). The small squat jars (Fig 4.9:9,10) match the small jars from Shanglinhu kilns in size and form (Fig 4.9:11,12). The small jars with a carved lotus decoration are also the common Yue-type form (Fig 4.9:13,14). On some wares, there are incised patterns identical to those on Yue wares. A covered box from the Intan wreck has an incised double parrot design on the cover which has been seen on the interior of bowls and dishes from the Silongkou kiln (Fig 4.10:1-3). The decoration of a parrot and scrolling foliage on an ewer from the wreck is very similar to a parrot design often found on the interior wall of open vessels excavated at the Silongkou kiln (Fig 4.10: 4,5). The incised lotus petals and leaves on the lids, bottles, kendis, cups and small jars are very commonly seen on Yue wares as well.



Figure 4.9 *The Yue-type wares from the Intan wreck (1,3,5,7,9,10,13) and domestic sites (2,4,6,8,11,12,14)*

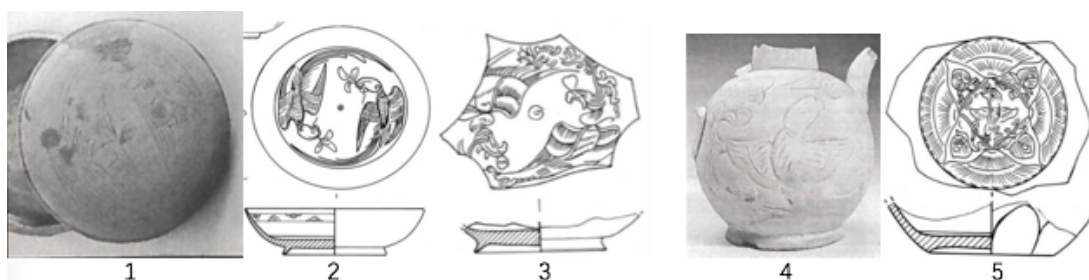


Figure 4.10 The incised decoration on Yue-type wares from the Intan wreck (1,4) and the Silongkou kiln site (2,3,5)

From these stylistic similarities, it is reasonable to assume that they were Yue-type wares and produced at the Yue kiln complex in Zhejiang province or in other provinces such as Jiangxi and Anhui whose production simulated the style of Yue wares.³⁸¹ The appearance of incised and carved decoration is characteristic of Phase Three production of the Silongkou kiln, which is dated to the early Northern Song period (960-1022).³⁸² But the majority of the Yue-type wares are plain, and some of the vessel forms resemble those of the Late Tang and Five Dynasties. It would appear that the Yue-type ceramic cargo of the Intan wreck was produced around the middle of the tenth century.

³⁸¹ Yue kiln 越窑 first appeared in documents of Tang Dynasty. The centre of the Yue kiln complexes during the Tang and Song Dynasties is at Cixi Shanglin lake area 慈溪上林湖 which reached its peak between the Five Dynasties and Early Song, i.e. the tenth century. The subcenters, which are the Yaosiqian located at Shangyu and Dongqianhu area at Ningbo, are the outcomes of the expansion of Shanglin lake kiln complexes and flourished during the mid-late Northern Song period. After the Northern Song Dynasty, the production of Yue kiln went into decline and Longquan kilns rose to become the center of celadon production. Yue ware refers specially to ceramics that were produced in north-eastern region of Zhejiang province, which includes Ningbo, Shaoxing, Taizhou, Jinhua, Hangzhou and Huzhou. Yue-type wares are ceramics which share the similar thin grey-green glaze and replicate the form and style of Yue ware. They were produced at other part of Zhejiang province and in other provinces such as Jiangxi, Anhui, Fujian, Jiangsu and Hunan (Zheng Jianming, 2018; Li Bingseng and Guo Lusha, 2018).

³⁸² Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, p. 348.

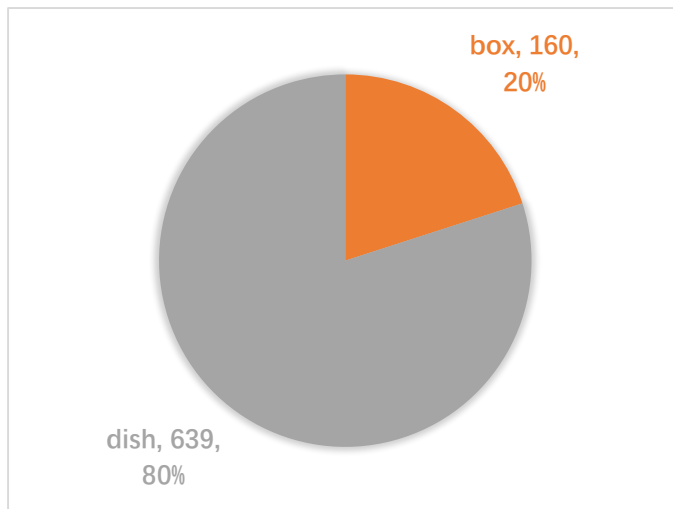


Chart 4.4 *The proportion of qingbai ware vessel forms on the Intan wreck*

The qingbai wares on the wreck refer to a number of vessels that have a pale glaze with the hint of blue; the vessel forms are boxes and dishes (Chart 4.4). In the excavation report, Flecker suggests a possible origin, the Jingdezhen kiln.³⁸³ However, the date of the wreck and the vessel forms indicate they are more likely originated from the Fanchang kiln, Anhui province (Fig 4.7). The production of qingbai wares from the Jingdezhen kiln started in the early eleventh century, while the wreck is dated to around the mid-tenth century. The tenth-century remains of the Jingdezhen kiln site are simple: green and white wares with only three vessel forms (bowls, dishes and ewers). The cultural stratum of the tenth century is meagre, and the range is relatively small.³⁸⁴ All of this suggests limited production capacity and hence that the kiln is unlikely to have been able to produce commodities for export sale. The Fanchang kiln, on the other hand, started the production of white wares and qingbai wares during the Five Dynasties and reached its peak in the early-mid Northern Song period.³⁸⁵ Its products appeared in the tombs of royal families of the Southern Tang Kingdom (937-976),³⁸⁶ which means that the Fanchang kiln already gained its reputation of being the producer of fine ceramics in the tenth century. It may explain why the commodities of the Fanchang kiln, an

³⁸³ Flecker, 2002, p. 115.

³⁸⁴ Jiangxi Provincial Institute of Cultural Relics and Archaeology and Jingdezhen Museum of Civilian Kiln, 2007.

³⁸⁵ Anhui Provincial Institute of Cultural Relics and Archaeology and Cultural Relics Bureau of Fanchang County, 2016.

³⁸⁶ Nanjing Museum, 1957.

inland kiln site, were known to export traders. In terms of the scale of production of the Fanchang kiln, judging by the size of uncovered dragon kilns at Kejiachong and Luochong (the two major kiln sites of Fanchang), it was able to satisfy the needs of domestic and overseas markets.³⁸⁷ Moreover, there are qingbai dishes and boxes on the Intan wreck identical to the finds from the Luochong site (Fig 4.11).

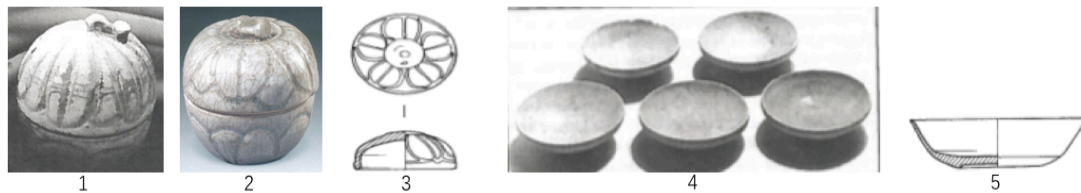


Figure 4.11 The qingbai wares from the Intan wreck (1,4) and the Luochong kiln site (2,3,5)

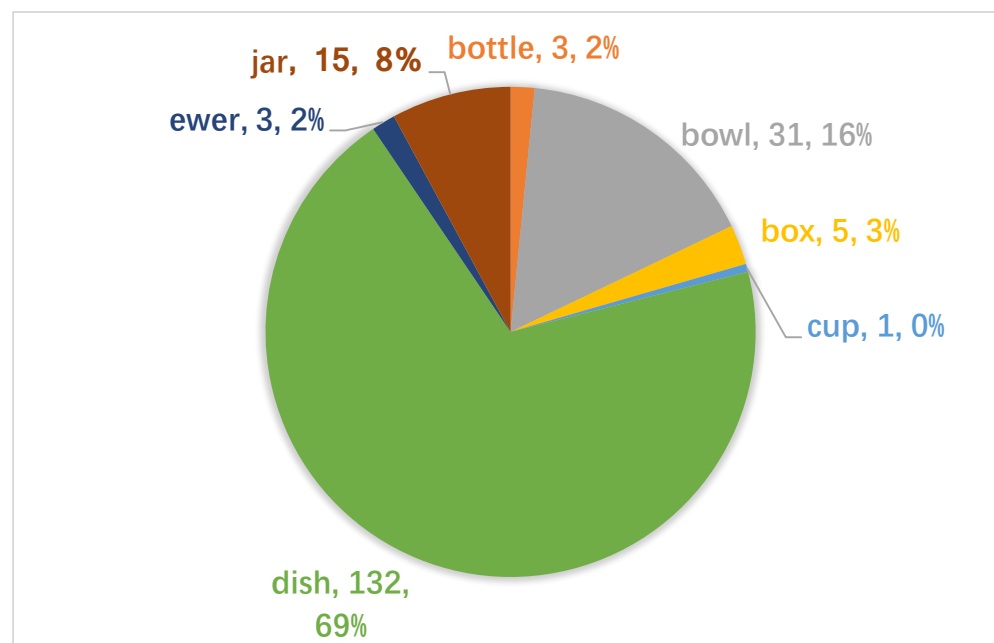


Chart 4.5 The proportion of white ware vessel forms on the Intan wreck

³⁸⁷ The Kejiachong kiln site was the production center of Fanchang kiln. During the 2013 survey, more than 20 kilns were uncovered, the distribution area reached 400000 square meters and the richest cultural stratum of the 10th century was more than 4 meters thick (Anhui Provincial Institute of Cultural Relics and Archaeology and Cultural Relics Bureau of Fanchang County, 2016); At 1996 a kiln around 50 meters long and dated to the Five Dynasties was excavated and at 2002, a kiln nearly 60 meters long was uncovered (Anhui Provincial Institute of Cultural Relics and Archaeology and Cultural Relics Bureau of Fanchang County, 2006; Yang Yuzhang and Zhang Juzhong , 2006) ; At another important kiln site—Luochong, a more than 50 meters long and 2.8-2 meters wide kiln which was built at the Five Dynasties was excavated (Anhui Provincial Institute of Cultural Relics and Archaeology and Cultural Relics Bureau of Fanchang County, 2016).

The white wares refer to the ceramics made of white or light clay (the content of iron oxide is usually less than 1%), covered with transparent glaze or opaque white glaze and fired at around 1200°C.³⁸⁸ There were only around two hundred white wares found on the Intan wreck site; mainly dishes and bowls (Chart 4.5). The quality of vessels varies, probably indicating their different provenance. Dishes can be divided into large (diameter 14-21cm) with white glaze extending all the way to the foot and small ones (diameter 8-12cm) of lesser quality.³⁸⁹ The decoration style is also different. The former has five equally spaced indentations in the everted mouth rim, while the latter has slightly raised ribs on the wall.³⁹⁰ The similar form of large dishes with a lobed mouth rim is found at Ding kiln sites (Fig 4.12: 1,2). Ding kiln located at Xingtai, Hebei province (Fig 4.6), started to produce white wares in the late Tang and Five Dynasties and eventually replaced Xing kiln as the producer of highly esteemed white wares at the beginning of the Song Dynasty.³⁹¹ The smaller dishes are likely to originate from the Fanchang kiln where vessels matching the description were discovered. The medium or large bowls with everted mouth rim and no decoration on the Intan wreck are the typical vessel form of the Fanchang kiln in the Five Dynasties (Fig 4.12: 3-5). Moreover, the fact that the bowls' glaze stops short of a wide foot is consistent with the dipping glazing method adopted at Fanchang kiln. The fine jars with well-defined lobed decoration (Fig 4.12: 6), while argued by another scholar to be products of the Fanchang kiln,³⁹² no vessels of such form are found at the kiln sites. They are, however, are identical to the Ding wares found in Chifeng, Beijing and Changsha (Fig 4.12: 7-9). To sum up, the white wares on the Intan wreck are mainly products of the Fanchang and Ding kilns.

³⁸⁸ Wang Rui, 2009.

³⁸⁹ Flecker, 2002, pp. 113-114.

³⁹⁰ Flecker, 2002, pp. 113-114.

³⁹¹ Quan Kuishan, 2008.

³⁹² Qin Dashu, 2007.

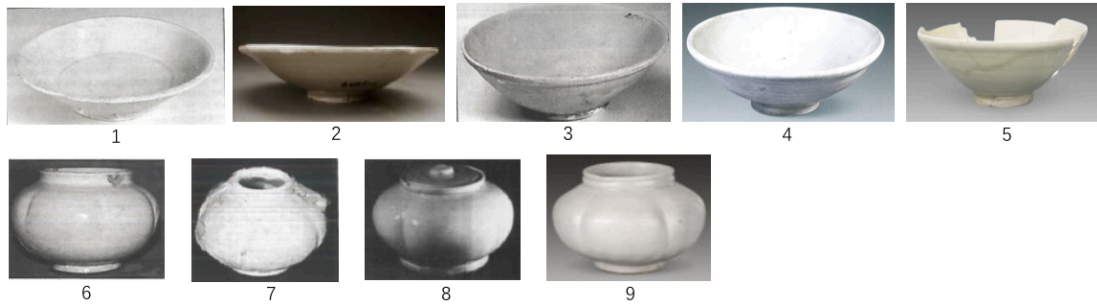


Figure 4.12 The white-glazed wares from the Intan wreck (1,3,6,7) and domestic sites (2,4,5,8,9)

At the Intan shipwreck site, 6989 pieces of Chinese ceramics were recovered and registered. Taken into account earlier undocumented recovery episodes and about a 30% breakage rate, the overall number could have been around 12,000. The 10,000 plus excavated artefacts displayed wide ranges of vessel forms and were mainly produced in South China but also included high-quality white wares from the Ding kiln (Fig 4.6).

d. The Cirebon wreck

The Chinese ceramics on the Cirebon wreck are mainly green wares with some white wares (Chart 4.6).

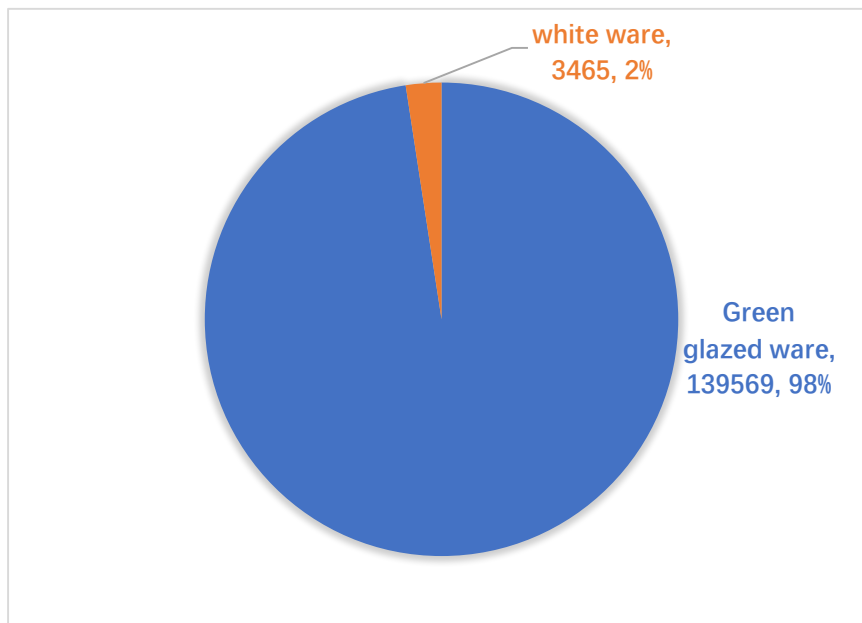


Chart 4.6 The proportion of Chinese ceramic types on the Cirebon wreck

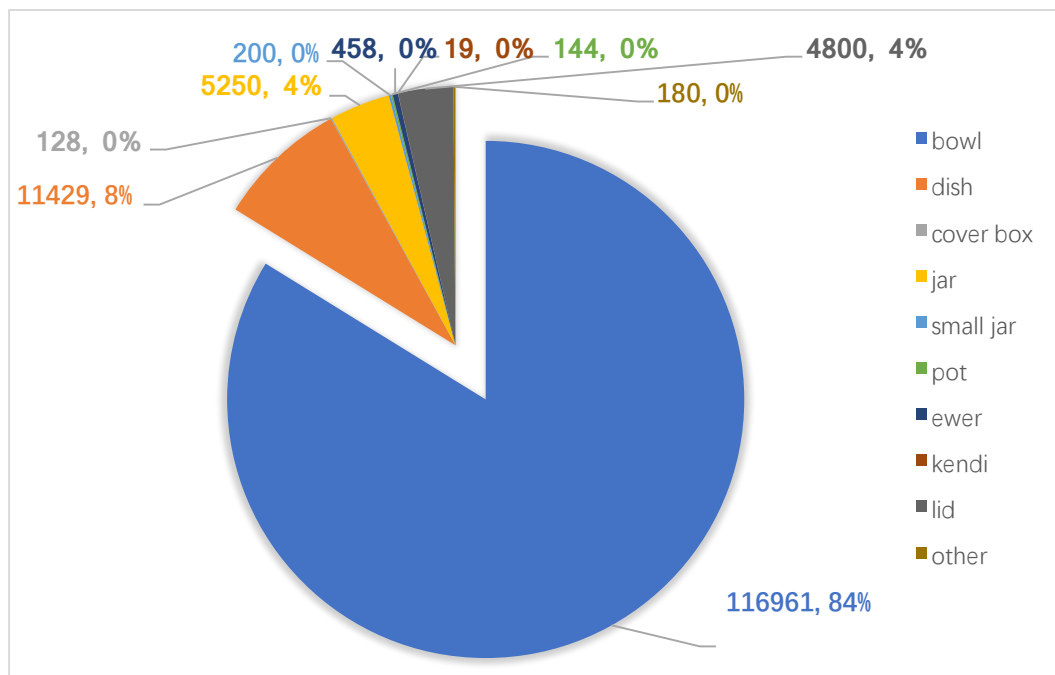


Chart 4.7 The proportion of Yue-type ware vessel forms on the Cirebon wreck

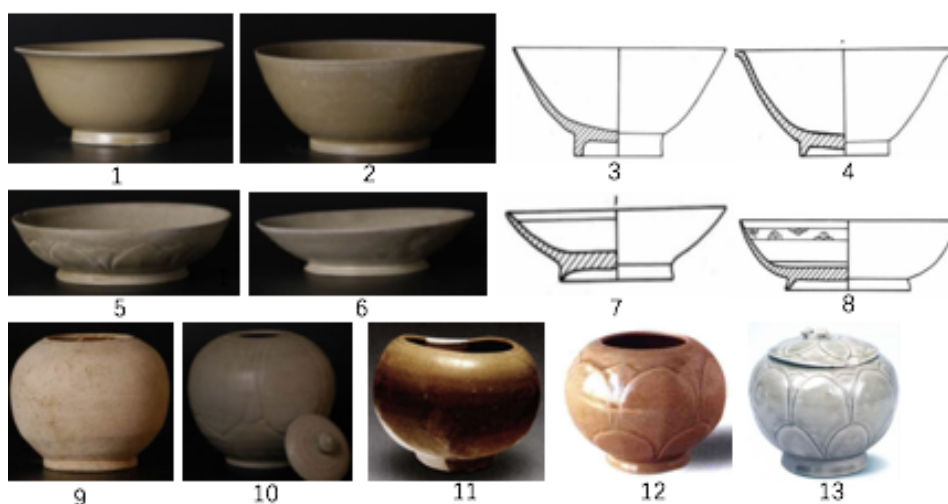


Figure 4.13 The Yue-type wares from the Cirebon wreck (1,2,5,6,9,10) and the Silongkou kiln site (3,4,7,8,11,12)

The close resemblance of glaze, clay and overall workmanship of the vast majority of the green wares imply that the vessels were from related manufacturing backgrounds, if not a single production site.³⁹³ They are mostly bowls, dishes and jars (Chart 4.7) and share the same green greyish glaze, compact clay body and vessel form with the finds of Silongkou kiln (Fig 4.13) and have the reddish-burnt

³⁹³ Liebner, 2014, pp. 120-122

spur-marks on the interior of open vessels that commonly are noted as characteristic of Yue wares of the tenth century.³⁹⁴ More importantly, a number of bowls, dishes, covered boxes, jars and ewers display the elegant engravings which are identical to the incised designs seen on Yue wares from the Silongkou kiln including the dragon, two parrots, butterfly motifs and cross pattern (Fig 4.14). Such detailed repetition of elaborate motifs could have been possible only by an experienced and sufficiently proficient hand and/or through the use of templates and/or fine-pointed moulds. The resemblance of a wide range of designs on the green-glazed wares from the shipwreck with decorations of the kiln site thus could pinpoint their production. Therefore, it is very likely that the bulk of green wares on the Cirebon wreck are produced at the Silongkou Yue kiln, which during the mid-late tenth century experienced a production boom.³⁹⁵

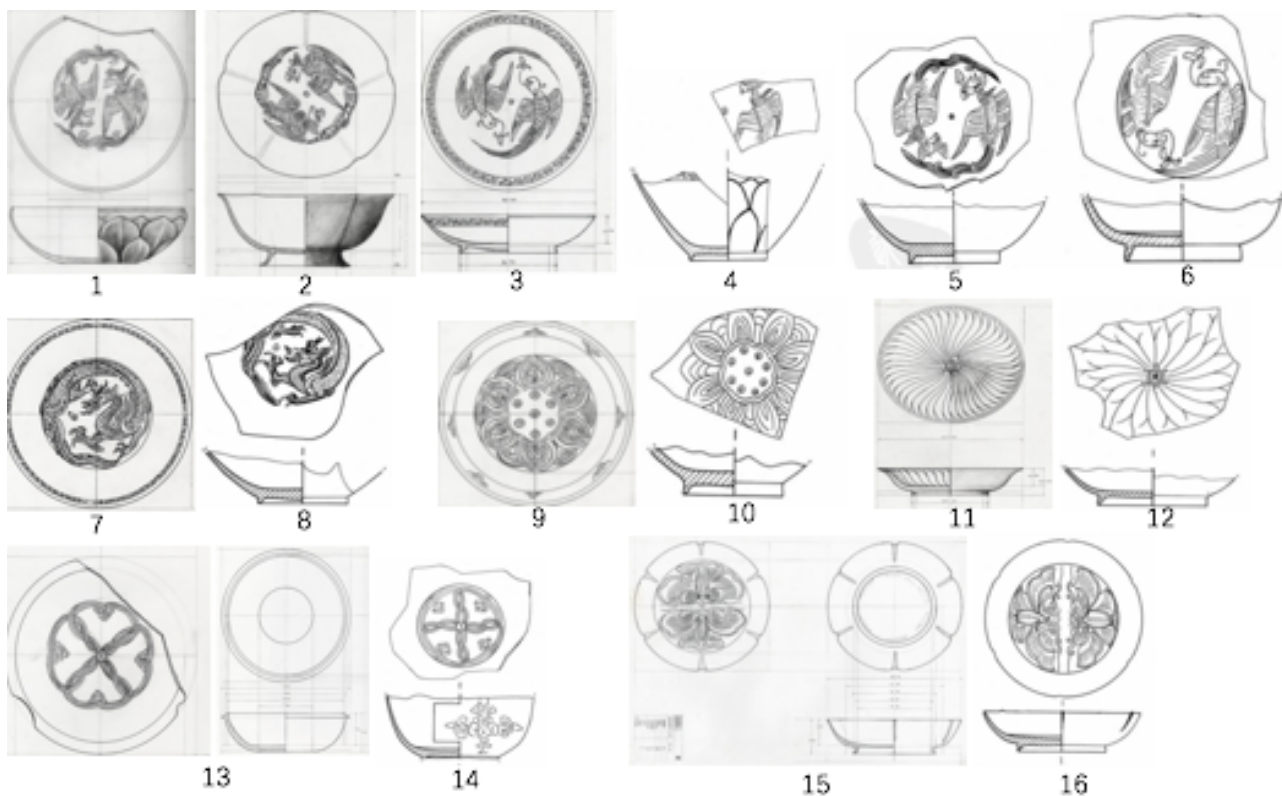


Figure 4.14 *The incised pattern on Yue wares from the Cirebon wreck (1,2,3,7,9,11,13,15) and the Silongkou kiln site (4,5,6,8,10,12,14,16)*

³⁹⁴ Liebner, 2014, Fig 2.2-11, p. 88; Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, pp.353-354.

³⁹⁵ Zhejiang Provincial Institute of Cultural Relics and Archaeology and School of Archaeology and Museology of Peking University, 2002, pp. 347,350.

The white wares on the Cirebon wreck, which are made up mainly by bowls, covered boxes and dishes (Chart 4.8 below), originated from the Ding and Fanchang kilns, the same as the finds on Intan wreck. The bowls with everted mouth rim (Fig 4.15: 1,2) bear a close resemblance to those on the Intan wreck (Fig 4.15: 5) and bowls with slightly raised ribs on the wall (Fig 4.15: 6,7) (a typical decoration seen on white wares from Kejiachong site (Fig 4.15: 8, 9) are both products of the Fanchang kiln. A distinctive type of dish with a thinner and more compact body (Fig 4.15: 10) is the typical form of Ding ware during early Northern Song period (mid-late tenth century) (Fig 4.15: 11). The fine lobed jars (also seen on the Intan wreck) (Fig 4.15: 12,13), small jars of octagonal shape (height less than 6cm) (Fig 4.15: 17,18), and the covered boxes (Fig 4.15: 21,24) are also found among the Ding wares from domestic sites, and all are dated to the early Northern Song period (Fig 4.15: 14-16,19,20,23,24). It is of note that glaze around the mouth rim of coverd boxes on the Cirebon is scraped off (Fig 4.15: 21, 22), which is a glazing characteristic of boxes made in the Ding kilns as well (as seen in Fig 4.15: 23, 24).

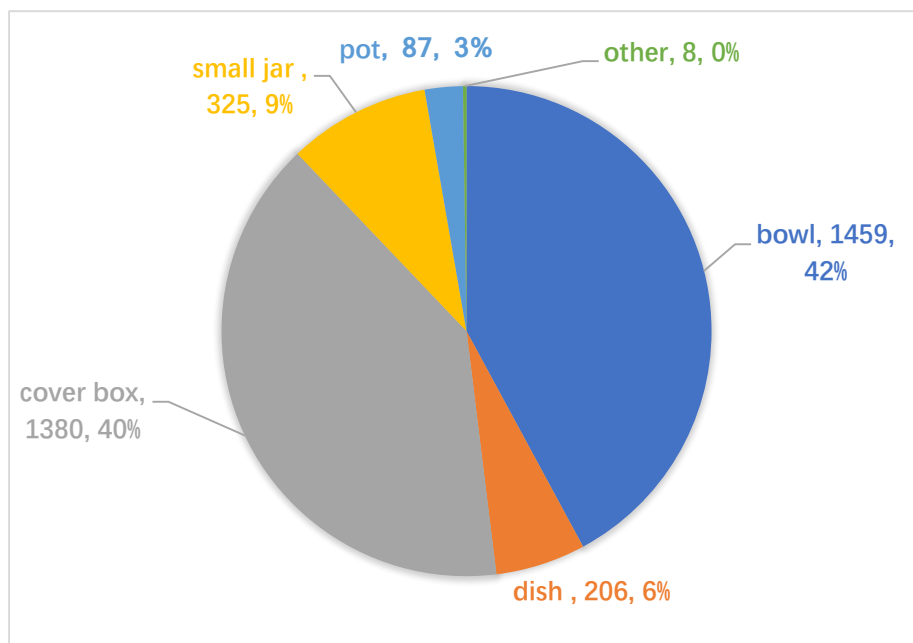


Chart 4.8 *The proportion of white ware vessel forms on the Cirebon wreck*

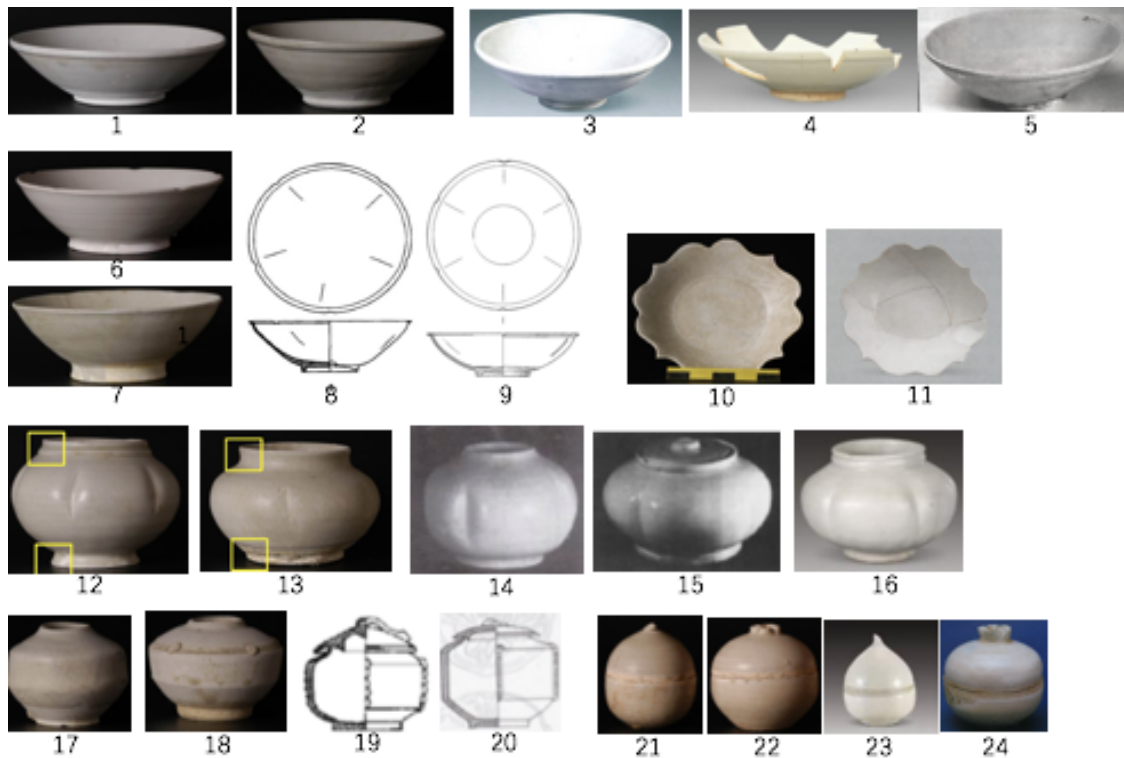


Figure 4.15 The white wares from the Cirebon wreck, Intan wreck and domestic sites

There are also some coarse green glazed big jars and pots onboard which resemble those on the Intan wreck and are likely to be products of Guangdong kilns (Fig 4.16). It is assumed that the jars were containers of freshwater and provisions. The amount of coarse green glazed pots on the Cirebon wreck (about 60 pieces) is much lesser than the Intan finds (about 6,000).



Figure 4.16 The coarse green-glazed wares from the Cirebon wreck (1,2,5,6), Intan wreck (3,7), Bijiashan kiln sites (4) and the Guanchong kiln site (8)

During the Cirebon wreck excavation, 143,034 pieces of Chinese ceramic were recovered and registered.³⁹⁶ Taking into account the 10% unrecorded objects and 30% low breakage rate, the total amount of Chinese ceramic cargo would be around 224,768, which is a conservative estimation. Among the over 200000 artefacts the majority are Yue-type wares possible from the Silongkou kiln site, while the white wares from Fanchang and Ding kilns and coarse green glazed wares from Guangdong province only make up about 2% of the cargo.

e. Karawang shipwreck site

The Chinese ceramics recovered from the Karawang shipwreck site, which is located close to the Cirebon wreck, consist of 5,952 green glazed wares and 50 white wares.³⁹⁷ The shapes of the green wares recovered at the Karawang shipwreck site and the Cirebon wreck are uniform, while the colour of their clay and glaze slightly differs and at the Karawang site no incised ceramics were found,³⁹⁸ which indicate that they both belong to the Yue kiln system but were likely produced at different kiln sites. The body of the Karawang green wares are greyish white, and the glaze colour tends to be lighter than the ones on the Cirebon wreck (Fig 4.17 below). Liebner argues that the close association of the ceramics with coins of the Kingdom of Min might point to their provenance from the Fujian kilns.³⁹⁹ However, the grey clay and dark green glaze colour from the kiln sites at Fujian during the Five Dynasties are far different from the Karawang finds and the coins more likely suggests the identity of merchants or sailing ports than the cargo provenance. By comparing the products excavated from the major Yue-type kilns so far, I find that the glaze and clay characteristics of Karawang ceramics resemble the Yue-type wares produced at the Longxia kiln site of Wenzhou, the coastal area of Zhejiang province which is dated to the tenth century and around

³⁹⁶ This number is based on the <warehouse> registration entry and refers to restorable items instead of shards (Liebner, 2014, Fig 2.1-36, p. 36).

³⁹⁷ Liebner, 2009.

³⁹⁸ Liebner, 2009.

³⁹⁹ Liebner, 2009.

320 miles from the Silongkou sites.⁴⁰⁰ The close location explains the uniform shapes and the absence of incised patterns on Karawang Yue-type wares is also consistent with the finding that products from the Longxia kiln site are mostly plain without decoration. The appearance of complex incised and engraved designs on the Cirebon Yue wares, and their absence on Karawang wares suggest that the Cirebon wreck sunk around the mid-late tenth century while the Karawang wares date from the early-mid tenth century.



Figure 4.17 *Comparable vessels of the Cirebon wreck (1,3,5) and Karawang wreck (2,4,6)*

The small numbers of white wares found at the Karawang site, their forms, clays and glazes exhibit significant similarities with these from the Cirebon wreck,⁴⁰¹ and also likely originated from Fanchang.

1.1.2 Discussion

During this period, judging by the shipwreck finds, the most commonly seen export ceramics are Yue-type green wares and white wares. Among the shipwreck cargos, the output of Yue-type green wares produced in Zhejiang province is the largest, followed by white wares from the Fanchang or Ding kilns. 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. The qingbai wares

⁴⁰⁰ Zhejiang Provincial Institute of Cultural Relics and Archaeology et al., 2012.

⁴⁰¹ Liebner, 2009.

from the Fanchang kiln found on the Intan wreck are not mentioned in the excavation reports of the other wrecks.

If we calculate the proportion of the vessel forms of examples for each ceramic type, it becomes obvious that the choices of exported ceramics on the Intan wreck differ from other wrecks. As seen in Table 4.1, bowls account for the major form of the Yue-type green wares of all shipwrecks except the Intan wreck on which jars were the main form. As for the white wares, on the other shipwrecks are bowls, while on the Intan wreck mainly are dishes. The coarse green/brown glazed pots which made up over half of the recovered artefacts of the Intan wreck, only a few dozen were found on the Cirebon shipwreck. It appears that there are two categories of the Intan ceramic cargos: the commodities of higher quality including Yue-type, white and qingbai wares which are mainly for display, and the pots for daily uses. This distinction is not observed from the other four shipwrecks of the same period on which the quality of the ceramic cargo varies but shares the same dominant form (bowl). The possible explanation for the variance in the proportion of vessel forms between the Intan and the other shipwrecks is that the market for the Intan wreck, west Java, had different consumption tendency of imported ceramics from other regions and merchants adapted to the difference accordingly. As for the different composition of ceramic types, it was likely because the traders who owned and marketed the Chinese ceramics on the Intan wreck were peddlers who did not have sufficient assets to import a large amount of Yue wares.

Ceramic type Shipwreck	Yue-type green wares	Coarse green wares	Qingbai wares	White wares
The Fenliuweiye wreck	bowls and dishes (majority); cup-stands and ewers (few):			
The Musi River shipwreck				bowls (majority):
The Intan shipwreck	Jars (28%); covers (29%); Ewers (14%); boxes (11%); bowls (9%); dishes (6%)	pots (99%); jars (1%)	dishes (80%); boxes (20%)	Dishes (69%); bowls (16%); jars (8%); boxes (3%); ewers (2%); bottles (2%)
The Karawang shipwreck site	bowls (majority); others including jars, pots, covers, kendis			
The Cirebon wreck	Bowls (84%); dishes (8%); jars (4%); lids (4%); others including ewers, small jars, pots, kendis and boxes	few Jars and pots		bowls (42%); boxes (40%); small jars (9%); dishes (6%); pots (3%)

Table 4.1 *The vessel forms of five shipwrecks dated to The Five Dynasties and early Song period*

Another observation regarding the types of Chinese ceramics is that the Fenliuweiuyu and Musi River wreck cargoes show high uniformity while on the other three wrecks the composition is more diverse. Only Yue wares and white wares were recovered from the Fenliuweiuyu and Musi River wreck sites and the vessel shapes are mainly bowls and dishes. Whereas, the Chinese ceramic cargos on the Karawang, Intan and Cirebon wrecks, which are all found closely located in the northwest region of Java Sea, are composed by Yue-type green wares, white wares and coarse green/brown wares. Even though the majority of the recovered artefacts are also bowls, various vessel forms including jars, pots, ewers, covered boxes and kendis were recovered as well. The differences in the Chinese ceramic cargo composition among these five shipwrecks indicates that during the tenth century there were two ways of conducting the ceramic trade in the South China Sea: carrying a large amount of vessels of various types and shapes on one journey, or specializing in one specific type. With the development of the export ceramics industry and its expansion into overseas markets, bulk shipment of single ceramic type and vessel form declined and do not characterise the shipwrecks of later periods.

1.2 Shape and decoration made for the Southeast Asian market

The definition of vessel form and decoration made specifically for the Southeast Asian market is that they appear on shipwrecks in a certain quantity but are seldom seen at domestic sites in China, except at kiln sites. This section also examines whether some objects were used differently at their destination, research mainly based on the interpretation of relevant scenes in bas-reliefs at local temples and the function of similar local earthenware with some reference to ethnology. In this section, I incorporate findings of all five shipwrecks and divide them into three categories based on ceramic types.

1.2.1 Yue wares

By studying the Yue wares on the tenth-century shipwrecks, we can see that, on the one hand, there are similarities among the shipwreck finds such as the identical forms of bowls, small jars, ewers, boxes and the repeated use of lotus patterns on different vessels, which is an indication that they originated from same kiln system in a similar period, even though the quantity, the variety of vessel form and the delicacy of decoration of Yue wares on the Cirebon wreck exceed those on the other wrecks. On the other hand, some objects and ornaments are rarely seen in domestic contexts or were given a different function after being exported such as the round lidded jars with contracted mouth and straight foot,⁴⁰² a vessel form discovered on the Intan, Cirebon and Karawang shipwrecks (Fig 4.18: 6-10).

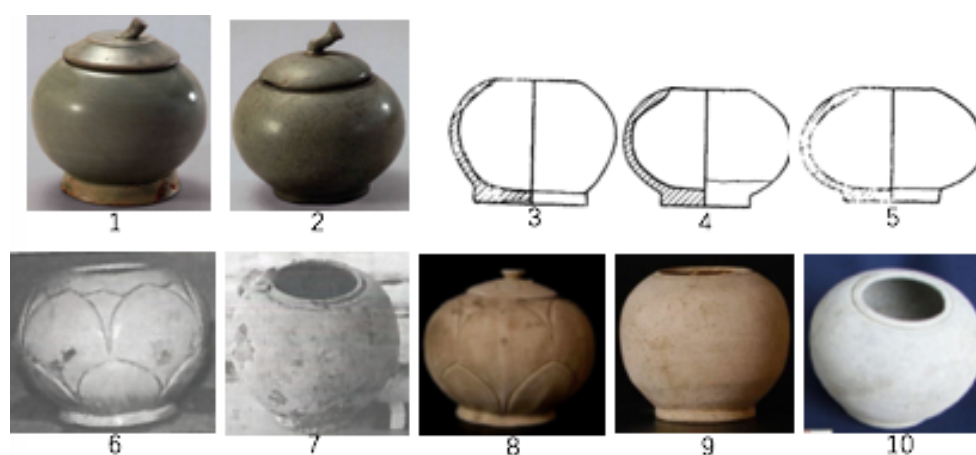


Figure 4.18 The comparable jars of the tenth-century shipwrecks (6-10) and domestic sites (1-5)

The height of the shipwreck jars varies from 6 to 13 cm, and the majority are plain with some decorated with a carved lotus. Among the excavated Yue wares from the Tang Dynasty and Five Dynasties tombs in Jiangsu and Zhejiang province, we see very similar discoveries (Fig 4.18:1-5).⁴⁰³ This type of jar called shuiyu 水盂 in Chinese

⁴⁰² Even though lots of the jars were found without cover, the shape of the mouth rim and the fact that the comparable domestic finds are commonly found with covers and among the shipwreck cargos some lids and jars fit perfectly indicate that they were lidded vessels.

⁴⁰³ Zhang Yulan, 2000; Liu Jianguo, 1985; Heritage Center of Linan City et al., 2010.

was the jar-like water dropper in ancient Chinese society and used to contain a small amount of water to make a few drops onto the surface of an inkstone. It was a device designed primarily for East Asian calligraphy. While papermaking technology would have been introduced to Java by the tenth century,⁴⁰⁴ the calligraphy embedded in Chinese elite culture and the matching tools were not widely accepted. The surviving inscriptions from ancient Java are mainly epigraphy and palm-leaf manuscripts which were introduced from the India subcontinent and remained the main writing material of Java until the eighteenth century.⁴⁰⁵ In addition, the more common type of water droppers, 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,⁴⁰⁶ and is also absent at contemporary terrestrial sites.⁴⁰⁷ All the evidence suggest 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.



Figure 4.19 *The eleventh-century lime pots of Khmer ceramic*

So, the question is how they were used by the Javanese? The quantity and shape of these small jars suggests 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

⁴⁰⁴ the papermaking technology had been introduced to Vietnam at third century and by the time of Tang Dynasty it had also been introduced to India through the overland silk road (Wang Yan, 2010, p. 93). Considering the close contact between India and Southeast Asia, it is possible that the papermaking technology has spread into Java through India

⁴⁰⁵ Griffiths, 2012.

⁴⁰⁶ Among the ceramic cargos surfaced from the tenth century shipwreck or shipwreck sites, only one water dropper with a missing handle reports to be found on Intan wreck (Flecker, 2002, p. 112).

⁴⁰⁷ Hundreds of fourteenth century qingbai and blue and white water droppers have been found in South Sulawesi, but few are reported to have come from East Java. Since there were good trade relations between China and Majapahit in the fourteenth century, this fact suggests different local preferences for certain kinds of wares (Adhyatman, 1981, p. 143).

terms of its form and size (Fig 4.19).⁴⁰⁸ Lime pots were containers of lime powder, one of the components necessary for betel chewing, a millennia-old tradition firmly embedded in the Southeast Asia society and embraced by all ages and classes.⁴⁰⁹ Since this type of jar was discovered on three shipwrecks in relatively large numbers,⁴¹⁰ it is likely that they were exported as objects needed for a popular custom such as betel chewing. Therefore, it seems that the calligraphy tools in China were transformed into containers used in local traditions after being exported to Java.



Figure 4.20 *The Yue-type small pots from the Cirebon (1) and Karawang shipwreck (2), and similar earthenware pots from the Cirebon wreck (3)*

Another Yue-type form of particular interest is the small pot with a depressed body, big opening with everted rim and straight foot, which were found in a relatively small number (more than one hundred) on the Cirebon and Karawang wrecks (Fig 4.20: 1,2). Their broadest diameter ranges between 10 to 13 cm and height 4 to 6.8 cm.⁴¹¹ They are likely to be vessels made specially for the Southeast Asian market by the Yue-type kiln potters based on the discovery of no similar products from domestic tombs or settlement sites in China so far.⁴¹² The identical form was found among the Southeast Asian earthenware from the same shipwreck (Fig 4.20: 3). The shape of the bottom and the decoration on the upper body of the local earthenware indicates that they were

⁴⁰⁸ A pot that contained lime is readily identified by a white or pink residue on the interior. The well-preserved lime pots from Khmer finds are of spherical shape and commonly decorated with eyes, beak and tail of an owl. The lime pots are usually covered with brown glaze and the height ranges from 5 to 10 cm (Stock et al., 1981, pp. 53-54).

⁴⁰⁹ Reid, 1985.

⁴¹⁰ The warehouse record of Cirebon shipwreck, contains 4943 objects that can be identified as this shuiyu jars (Liebner, 2014, pp. 138-140); the number of surfaced examples of this type of jar on Intan wreck is 262 (Flecker, 2002, pp.109-110); the exact number of such jars uncovered from the Karawang shipwreck site is unknown, but 886 vessels are registered as jars (Liebner, 2009).

⁴¹¹ Liebner, 2014, Fig 2.2-123, p. 182.

⁴¹² Small pots with depressed body which are called *yu* 盂 in Chinese are found at domestic tombs and Yue-type kiln sites but they do not have the big mouth and ring foot as the shipwreck finds.

tableware instead of kitchen 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 4.21). The Yue-type small pots from the Cirebon and Karawang wrecks were likely to be used in the same manner, but their size suggests that they provided one serving instead of being sharing dish.



Figure 4.21 *Detail of the feast scene from Bas-relief of Bayon temple pyramid*

As for the decoration patterns of Yue-type wares on shipwrecks, most resemble or are identical to Chinese domestic findings with one exception: the fish incised design seen on a large bottle and three fish-shaped small jars from the Intan wreck (Fig 4.22: 1-3, below). Fish, unlike lotus, dragon or phoenix, is not a common decoration theme of Yue-type wares. The incised design has not yet been found at Chinese domestic sites including kilns, tombs, settlements or hoards. The double-fish small jars seem to be the combination of Yue-type lidded jars with two handles and the double-fish threading pots made during Tang Dynasty at Xing and Meizhou kiln (Fig 4.22: 4,5). All in all, they were a design innovation, but whether produced specifically to cater to the taste of foreign consumers remains unknown. On the other hand, despite the scarce findings of fish designs among the tenth shipwrecks, fish-shaped bottles made by the Bijiaoshan kiln, an export-oriented kiln site during the eleventh century became more commonly seen

in Southeast Asia and were discovered in Malaysia and Singapore.⁴¹³ This is interesting development of the acceptance of fish designs in the Southeast Asian market.



Figure 4.22 *The Yue-type wares with fish designs on the Intan wreck (1-3) and comparable finds from Hebei (4) and Guangdong province (5)*

Besides the discoveries above, there is one more vessel form worth mentioning; kendi which are found on the Intan and Cirebon wrecks.⁴¹⁴ Kendi is a water container originating from Indian and probably exported to China as early as the Jin Dynasty (265-420).⁴¹⁵ The earliest ceramic kendi made in China so far is dated to Sui Dynasty (581-619) and kendi continue to be produced by Chinese potters until Qing Dynasty (1636-1912) with some variation to its original shape.⁴¹⁶ Kendi are often considered as a popular traded vessel and were exported to Southeast Asia since the Northern Song period according to the overseas discoveries. Nevertheless, the fact that kendis are commonly found in the temple sites since Tang Dynasty and was described in a Southern Song poetry as a flower vase indicates that it was also widely used as a religious item. In later period, they became a daily utensil in ancient Chinese society.⁴¹⁷ 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

⁴¹³ Zeng Guangyi, 2004, pp. 18-21.

⁴¹⁴ There is one Yue-type kendi example surfaced from Intan wreck, while on Cirebon wreck the warehouse data contains 19 green-glazed stoneware kendi which represent only 1.4% of all registered kendi with vast majority of such vessels being earthenwares of possibly Southeast Asian origin (Flecker, 2002, p. 109; Liebner, 2014, pp. 143-145).

⁴¹⁵ Li Zhiyan and Huang Baoling, 1982.

⁴¹⁶ Han huaizhun, 1950.

⁴¹⁷ Ding Pengbo and Xia Demei, 2007.

period, the kendis found in China and those exported had a distinct difference in vessel shape: the former tend to have a long and thin neck and short spout (Fig 4.23:5-8), while the latter's body is rounder, neck shorter and spout longer (Fig 4.23:1-4).⁴¹⁸ It appears that after being integrated into the indigenous culture, when re-exported, the potters adjusted the vessel shape of kendis to better fit its function as a pouring vessel in Southeast Asia.



Figure 4.23 The Yue-type green glazed kendis from the Cirebon wreck (1-3), Intan wreck (4) and domestic sites (5-8)

1.2.2 White wares

The white-glazed wares recovered from the tenth-century shipwrecks are not much different from the contemporary domestic finds in China. The decoration on the cargo such as 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 findings 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 society? The daily life scene depicted in the bas-reliefs of Borobudur (a ninth-century Buddhist temple in Central Java) provides an interpretation of some vessels.

⁴¹⁸ Li Xiaoxia, 2013, pp. 15-47; Liu Qing, 2012, pp. 301-313.

The white glazed vases with a dish-shaped mouth several of which were discovered on the Cirebon wreck (Fig 4.24) became a symbol of status and wealth in Javanese society as seen from the offering and request scene of the Borobudur relief. The vessels, one on the altar and the other under the 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 (Fig 4.25, 4.26). It is apparent that the vessels were part of the setting that symbolize their status and wealth. The vessels in the scenes are very similar to the shipwreck vases. Since no such form has been found among the silver and golden wares and Southeast Asian ceramics dated to the ninth and tenth centuries,⁴¹⁹ 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.



Figure 4.24 *The white-glazed vases with a dish-shaped mouth from the Cirebon wreck*



Figure 4.25 *The 'request' scene from the Borobudur relief*

⁴¹⁹ Kal and Tropen, 1994; Miksic et al., 2009.



Figure 4.26 The 'offerings to the prince' scene from the Borobudur relief

Vessels similar to the round jars/pots (about 15cm tall) (Fig 4.27:1-5) or jarlets (height below 10cm) with a wide mouth and well-defined lobed decoration (Fig 4.27:6-11) on the Intan and Cirebon wrecks were also depicted in the bas-reliefs of Borobudur. In both scenes, the vessels were in the hands of someone paying tribute to the imperial court (Fig 4.28, 4.29). The vessel could refer to the containers of an offering made of bamboo, or the high-quality ceramics imported from China, in which case the vessel itself was the tribute. Judging by the shape and size of the white glazed jars and the fact that no matching covers were recovered, it seems that they were mainly for display instead of utilitarian use.

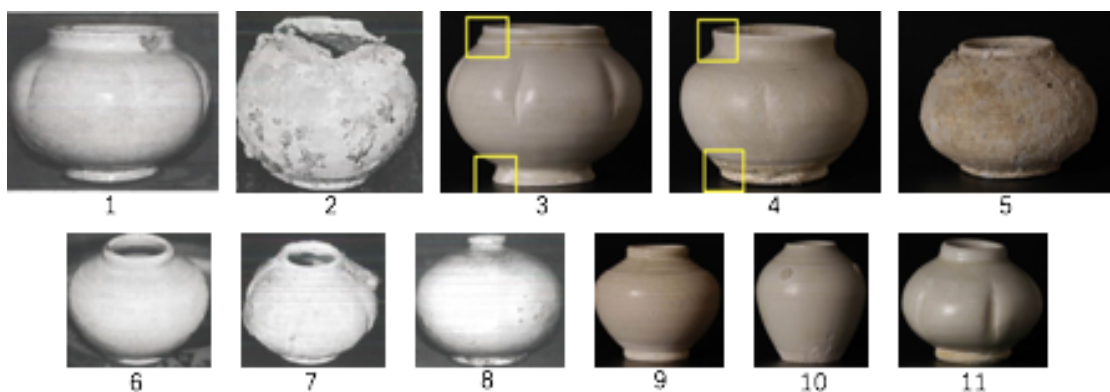


Figure 4.27 The white-glazed jars and jarlets on the Intan (1,2,6,7,8) and Cirebon wrecks (3,4,5,9,10,11)



Figure 4.28 The ‘with pots’ scene from the Borobudur relief



Figure 4.29 The ‘worshipping the queen’ scene from the Borobudur relief

1.2.3 Coarse green glazed wares

Among the coarse green glazed wares recovered from the tenth-century shipwrecks, one vessel form needs extra attention, which is the wide-mouth small pots with a depressed body and flat base (diameter 10-15cm, height 4.0-6.8cm) (Fig 4.30 below). It accounts for over half of the recovered artefacts from the Intan wreck, and dozens were also found on the Cirebon wreck. The large quantity and uniform shape indicate that they were trade items. It can be said that they are the major coarse green wares shipped to Southeast Asia during the tenth century, but few studies have been done on this object.



Figure 4.30 The coarse green glazed pots from the Intan (1,2) and Cirebon wreck (3,4)



Figure 4.31 The household scene from the Borobudur relief

In terms of the vessel form, it resembles a type of Chinese liquid container called a Yu 盂. But Chinese Yu rarely have handles on the shoulder, while half of the pots from the shipwrecks are found with four lug-handles, which is probably because in the context of a ship rope could go through the lug handles to secure the vessels to the ship. In a household scene from the bas-reliefs of Borobudur, several filled containers in similar vessel forms were placed on the upper shelf of the sitting couch (Fig 4.31). We can imagine that with handles it could be easier to remove or rearrange these vessels. On the other hand, the size and shape of these coarse green-glazed pots also resemble the Yue-type wide-mouthed squat pots mentioned previously. The former could be the inferior substitute for the latter. It seems that these pots might be used as tableware as well as containers at Java. Such vessels are reported to be found at multiple sites at Southeast Asia. For example, it constitutes the biggest proportion of Chinese ceramics

at Kampung Senangeh⁴²⁰ and is also found on the tenth to eleventh-century sites in North and Northeast Sumatra and the Philippines.⁴²¹

1.2.4 Discussion

A close examination of the shape and decoration of Chinese ceramic cargos provides some new understanding of the traded ceramics industry during the tenth century. It is widely accepted that even though large amounts were shipped abroad, the domestic market remained as the major consumer of Yue-type wares. The findings on the tenth-century shipwrecks especially on the Cirebon wreck, however, suggest otherwise. More than three hundred thousand Yue wares were loaded on one merchant ship, some of which are just as delicate as those excavated from imperial tombs. Moreover, vessel forms that appeal to the Southeast Asian market were produced. Taking together this indicates that the mid-tenth century Southeast Asia market was indispensable and one of the motivations for the Yue kiln production boom during this period.

The white wares were found in a much smaller number compared with the 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 (Henan province) and Xing kilns (Hebei province) and the earliest datable examples are those excavated from Zhangsheng's tomb at Anyang, Henan province (dated to 595).⁴²² The production of white wares spread to South China during Late Tang Dynasty (mid-ninth to the tenth century) when people in North China fled to the south due to the upheaval caused by the Anshi rebellion, which led to the increasing demand for white wares in the South China market.⁴²³ The archaeological discoveries indicate that at least during the Five Dynasties the production of white ware in the south had started and the major kiln sites are Fanchang (Anhui province), Jingdezhen (Jiangxi

⁴²⁰ Ke Jiayu, 2015, pp. 265-297.

⁴²¹ Moore, 1970.

⁴²² Li Xin, 2018.

⁴²³ Yang Junyi, 2016.

province), Ganzhou (Jiangxi province), Jizhou (Jiangxi province), Qingshan (Hubei province).⁴²⁴ The scale of these kiln sites is much smaller compared with that of the Yue kilns.⁴²⁵ It is apparent that the tenth century is the early phase of white ware production in the south, but the qingbai wares derived from it emerged to be the major ceramic type in the later period.

2. Chinese ceramics recovered from shipwrecks dated to the mid and late Northern Song period (early eleventh to early twelfth centuries)

The shipwrecks dated to the mid and late Northern Song period are the Xicun Belitung wreck, Xicun Riau wreck, Pulau Buaya wreck, North Reef No.4 and No.5 shipwreck site. The Xicun Riau and Pulau Buaya wrecks sunk in the coastal waters of the Riau Archipelago, the Xicun Belitung wreck located near Belitung Island in the Bangka straits while the other two shipwreck sites were discovered during the 2009-2010 underwater survey of Parcel Islands (Fig 4.32). Only the Pulau Buaya wreck has been excavated with only survey being conducted on the other four shipwrecks and shipwreck sites. Consequently, the relevant articles provide only limited information, and so this section mainly focuses on the findings of the Pulau Buaya wreck.

⁴²⁴ Huang Yijun, 2008.

⁴²⁵ So far more than two hundred Yue kiln sites dated to tenth century were discovered at Zhejiang province (So, 2004, p. 154).

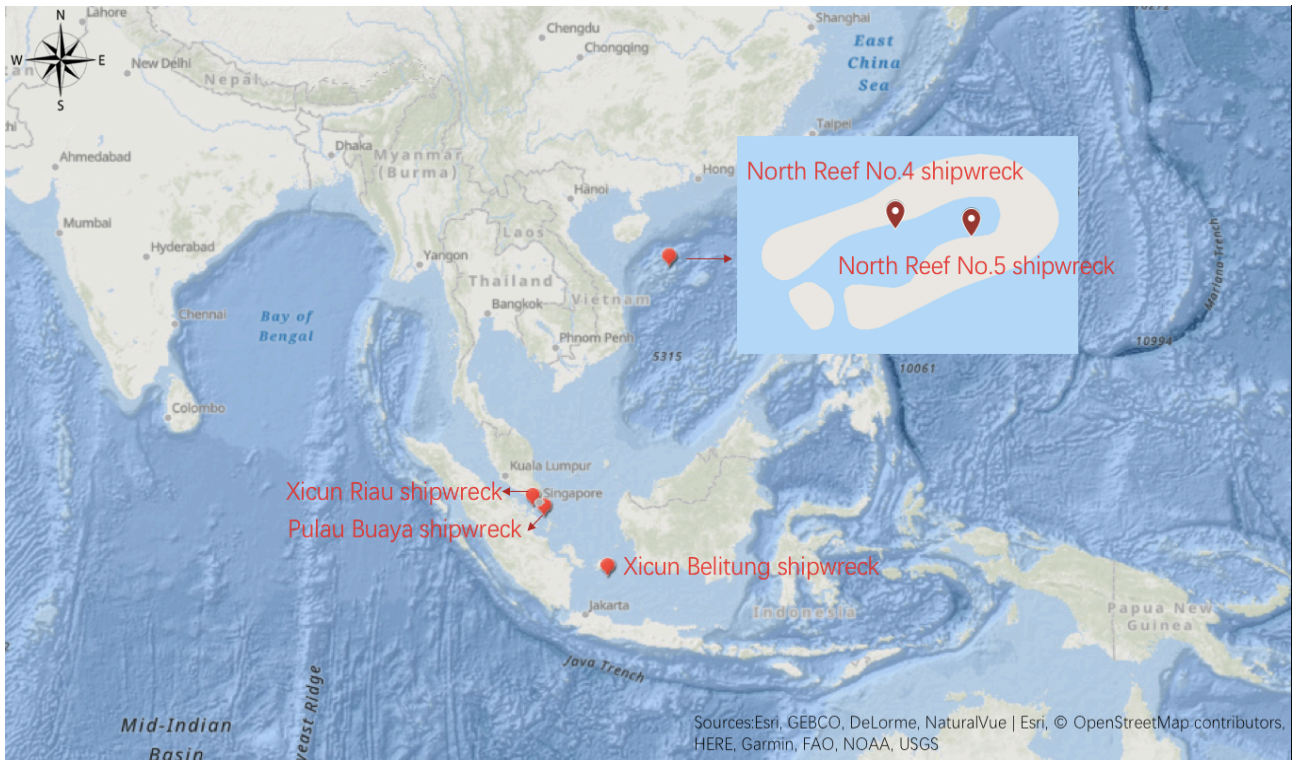


Figure 4.32 Map of the mid and late Northern Song Dynasty wrecks found in the South China Sea

2.1. Types and provenance of Chinese ceramics

2.1.1 Finds from each shipwreck

a. The Xicun Belitung wreck site

No licensed salvage was conducted on the Xicun Belitung wreck and the ceramics referred to here are those appearing on the Jakarta antiquities market offered by Indonesia dealers.⁴²⁶ So far, a large part of the cargo appears to be still on the seabed and the information available is incomplete.

A significant proportion of the wares appearing on the market from this wreck are big dishes with a grey stoneware body and light olive glaze, others include large white

⁴²⁶ Gardellin, 2014.

glazed bowls and greyish glazed small jars.⁴²⁷ The size of the dishes is uniform (diameter of 230mm) but there are two varieties of the style of foot and decoration: the first type has a flat rim and a wide, well-finished foot rim, and the interior wall is decorated with a band of ovoid flowers created with impressed half-circles; the second type has a very low foot and the decoration is more complex, a peony in the centre surrounded by a scroll alternating a peony and a diagonal stem with leaves (Fig 4.33). Green glazed dishes impressed with a floral pattern are the typical vessel type from the Xicun kiln located at Guangzhou (Fig 4.34).⁴²⁸ Despite the difference in foot shape and decoration, the high similarity of the body and glaze suggest that these two types of dishes were products of the same kiln site.⁴²⁹

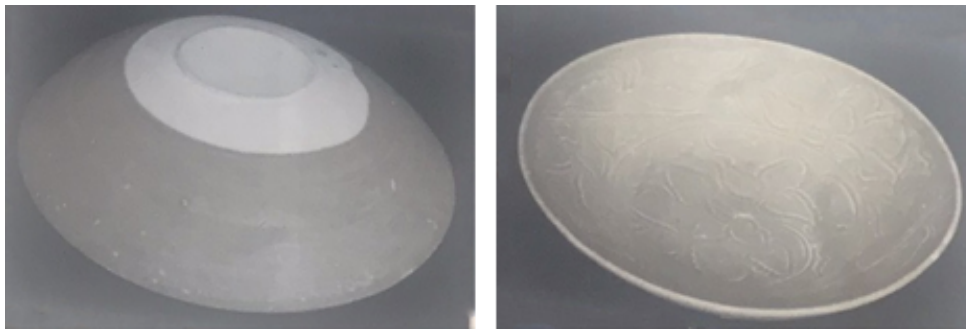


Figure 4.33 *The large impressed dishes from the Xicun Belitung wreck*

The white-glazed large bowls with thickened lip and white body are similar to bowls which are attributed to the Fanchang kilns and recovered from the Intan, Karawang and Cirebon wrecks. The small spherical jars with a white body, covered by a greyish glaze and decorated in bow-string lines around the mouth and banana leaves on the external walls, could be products of the Xicun kiln since vessels which fit that description were found at the kiln site.⁴³⁰

⁴²⁷ Gardellin, 2014.

⁴²⁸ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, p. 71.

⁴²⁹ Gardellin, 2014.

⁴³⁰ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, fig 36-12.

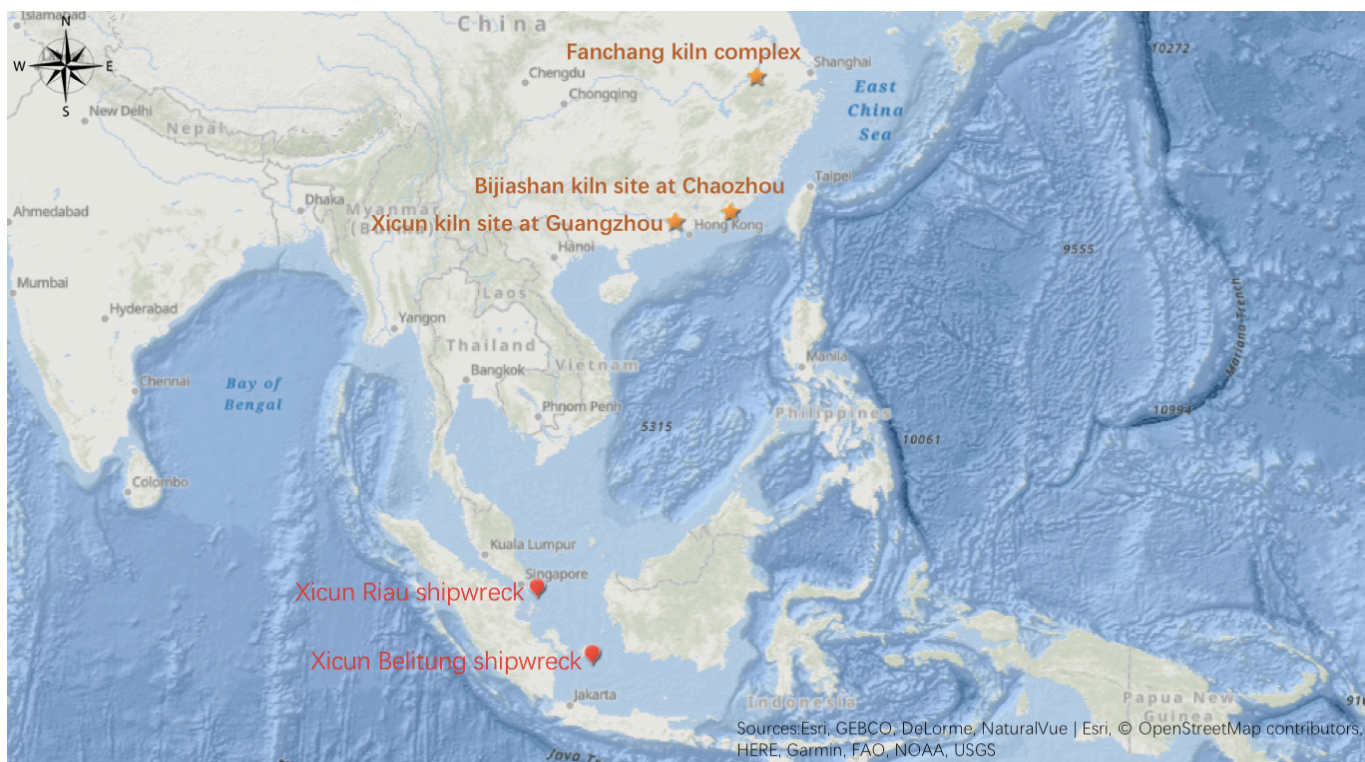


Figure 4.34 Location of the Xicun Riau and Belitung wreck and the production kiln sites of Chinese ceramics

To conclude, the recovered ceramics from this wreck mainly originated from the Xicun kiln whose production started in early the Northern Song period and went into decline during the Southern Song.⁴³¹ Combined with the discoveries of thickened-lip bowls, a typical vessel form of the Fanchang kiln dated from the Five Dynasties to early-mid Northern Song Dynasty, the Xicun Belitung wreck probably sank between the late tenth century to the early eleventh century.

Due to the lack of information regarding the ship remains and other cargo, it is impossible to identify the origin of the shipwreck as well as the departure port and destination.

⁴³¹ The Administrative Committee of Cultural Relics, Guangzhou City, 1958, pp. 10-12; The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, pp. 66-68.

b. The Xicun Riau Wreck

The wreck was discovered in the Riau Archipelago of Indonesia, North of Karimun island. There was a joint salvage conducted by Indonesian and Japanese companies in 2012, but no excavation report has been published.

The recovered ceramics include greyish green glazed large dishes with floral decoration painted in iron oxide in the cavetto (a diameter of respectively 220mm and 330mm), brown glazed dishes with impressed floral motifs in the centre, qingbai bowls and brown-glazed round bottles.⁴³² At the Xicun kiln site, green glazed basins with a very similar size, vessel shape and identical motif pattern to the shipwreck cargo were found (Fig 4.35). Hence, there is little doubt that the greenish-grey glazed large dishes were produced at Xicun. However, the origin of the brown glazed dishes with impressed decoration is inconclusive. There are very few findings of brown dishes impressed with floral motifs at kiln sites dated to the Northern Song period.⁴³³ Nevertheless, similar vessels unearthed at Sulawesi, Sumatra and the Philippines were attributed to the Xicun kiln.⁴³⁴

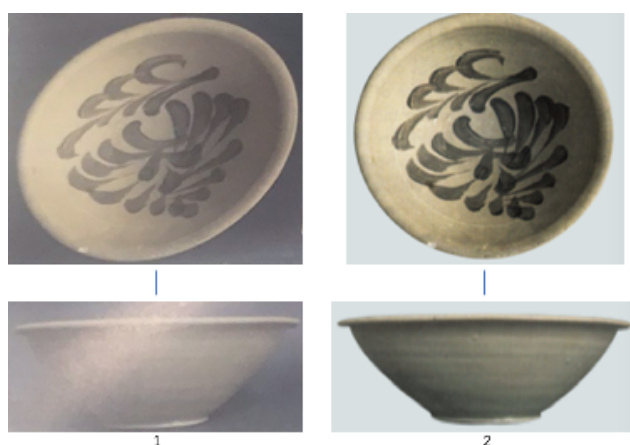


Figure 4.35 Large painted dishes from the Xicun Riau wreck (1) and comparable find from the Xicun kiln (2)

⁴³² Gardellin, 2014.

⁴³³ Brown wares were commonly seen at Guangdong and South Fukien kiln sites during Northern Song period, but most plain, some with incised pattern, rarely found with impressed decoration.

⁴³⁴ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, pp. 81-82

The qingbai bowls with a light bluish glaze, plain body and a circular incision around the base inside are likely products of the Bijiaoshan kiln located at Chaozhou. Here the majority of excavated ceramics are qingbai ware and similar vessels to these found on the Xicun wrecks were reported to be found.⁴³⁵ The brown-glazed, round bottles with a small mouth and grey body on the shipwreck are thought to originate from the Xicun kiln as finds similar to these from the shipwreck were discovered at the kiln site.⁴³⁶

Since Bijiaoshan and Xicun are both kiln sites of the Northern Song Dynasty, the shipwreck is dated to the same period. According to one of the Indonesian divers who participated in the salvage, the shipwreck is forty meters long.⁴³⁷ But there is no further information regarding the ship remains and other salvaged objects. Therefore, the origin and route of the shipwreck remain unclear.

c. The shipwrecks sites found in the waters of Paracel Islands

Two shipwreck sites were discovered during the 2009-2010 underwater survey of Paracel Islands: North Reef No.4 and No.5. Despite the lack of ship remains, the wide distribution of relics (an area about 10,000 square meters and 5,000 square meters respectively) and rather uniform ceramic types suggest the existence of the shipwrecks.⁴³⁸ Nevertheless, no salvage was conducted, and the recovered information is limited.

According to the survey report, the ceramics surfaced from North Reef No.4 shipwreck site are mainly qingbai/white wares which are similar to the products of the Bijiaoshan kiln (Chaozhou) and Nanhai kilns (near Quanzhou) (Fig 4.36), and a small proportion of earthenwares.⁴³⁹ But it has been noted by another scholar that there are also green

⁴³⁵ Museum of Guangdong Province, 1981, pp.11-12.

⁴³⁶ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987: fig 45-5,6.

⁴³⁷ Gardellin, 2014.

⁴³⁸ Zhao Jiabin, 2012, pp. 173,175.

⁴³⁹ Zhao Jiabin, 2012, pp. 173-174.

wares from Longquan or Songxi kilns (North Fujian) on board (Fig 4.36).⁴⁴⁰ The vessel forms include bowls, dishes, boxes and jars.



Figure 4.36 Location of the North Reef shipwreck sites and the production kiln sites of the Chinese ceramics

The ceramics found at North Reef No.5 shipwreck site are qingbai wares and the vessel forms are big dishes, boxes and jars.⁴⁴¹ The grey and rather coarse clay body and the fact that identical wares were discovered at the kiln site indicate that they were products of the Bijiashan kiln (Fig 4.37 below).

These two shipwreck sites are closely located but differ in their cargo composition. It appears that the ceramics from North Reef No.4 site are more diverse and dated to late Northern Song to early Southern Song period, while at North Reef No.5 shipwreck site the recovered ceramics so far show a single provenance and are estimated to be of the Northern Song period.

⁴⁴⁰ Meng Yuanzhao, 2018.

⁴⁴¹ Zhao Jiabing, 2012, pp. 174-175.

Even though the destination of these cargos remains unknown, the shipwreck location and the provenance of the ceramics imply that they sailed from Guangzhou.

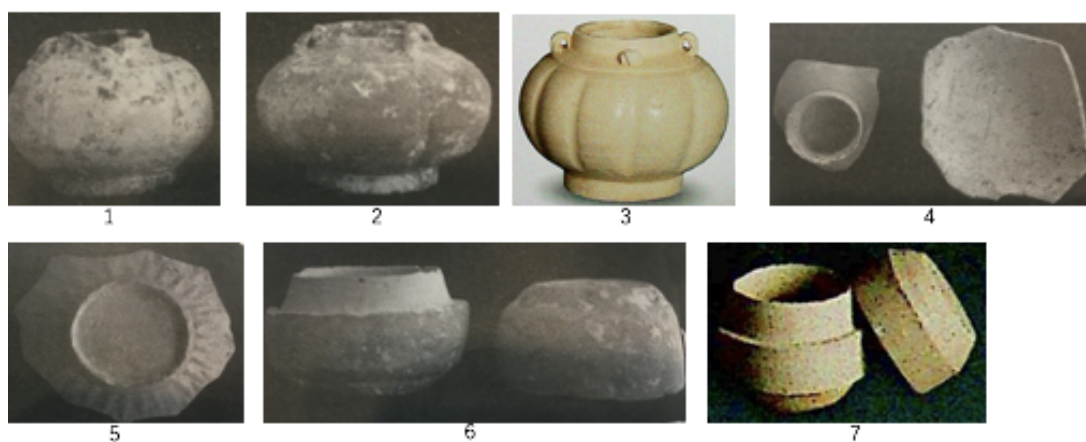


Figure 4.37 The qingbai wares from the North Reef No.5 shipwreck site (1,2,4,5,6) and comparable finds from the Bijiashan kiln site at Chaozhou (3,7)

d. The Pulau Buaya wreck

Qingbai wares make up the major proportion of the Chinese ceramics of the Pulau Buaya wreck, followed by green glazed wares and brown glazed wares. In term of the vessel form, there are mainly bowls, vases and jars.⁴⁴²

The qingbai glazed bowls are present in three varieties based on shape, decoration and glaze colour and are attributed to different provenances. The first type which appeared in large numbers are bowls with a flared mouth, high foot ring and incised deer motif and comb pattern in the centre; a unique decoration of Fujian kiln sites (Fig 4.38:1).⁴⁴³ Among the major Fujian kiln sites, the Yongfu kiln in Zhangping (Southwest Fujian) (Fig 4.39 below) is where qingbai bowls with identical incised motifs and similar vessel shape are commonly seen (Fig 4.38:2,3,4).⁴⁴⁴ Moreover, the kiln's scale of production also enabled a large output of exported ceramics.⁴⁴⁵ The second type has a similar

⁴⁴² Ridho and McKinnon, 1998, pp. 6-35.

⁴⁴³ Deer became a popular motif during Song Dynasty because deer (鹿) homophonic with official ranking (禄) in Chinese was taken as a good omen. Deer motif was seen on wares from Jingdezhen, Yaozhou and Fujian kiln sites. However, the combination of deer motif and comb pattern is the featured decoration of Fujian ceramics.

⁴⁴⁴ Ye Wencheng, 2005, pp. 58-68.

⁴⁴⁵ Take kiln No.1 and No.2 at Shangyaoyu site as example, the overall area is about 12000 square meters and the

shape to the first, but was covered by greyish qingbai glaze and incised with a thin-lined lotus pattern on the exterior wall (Fig 4.40:1, below). It is believed that this type was produced at the Luowangjing kiln site (Zhangzhou, South Fujian) (Fig 4.39) where such qingbai bowls were its typical vessel form (Fig 4.40:2).⁴⁴⁶ The third type of qingbai bowls, five of which were found intact and placed together in a big jar, has a straight mouth as well as flat bottom, and covered by bluish, pure and bright glaze (Fig 4.41:1 below). The exterior wall adornment, a lotus petal pattern, applied using the oblique knife technique was frequently used by potters at the Jingdezhen Hutian kiln (Fig 4.41:1,2).⁴⁴⁷ All features of this type of qingbai bowls pinpoint its provenance as the Jingdezhen kilns.

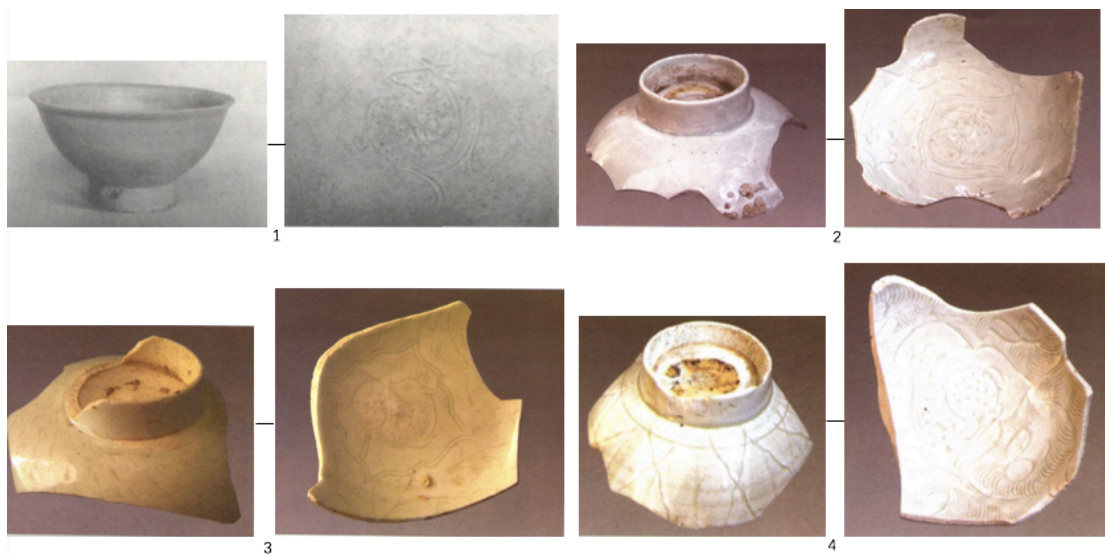


Figure 4.38 The qingbai bowls with deer motifs from the Pulau Buaya wreck (1) and comparable finds from the Yongfu kiln site at Zhangping (2,3,4)

length of remain kiln with damaged main body is approximately 25 meters (Ye Wencheng, 2005, pp. 20-22).

⁴⁴⁶ Ye Wencheng, 2005, pp. 17-18.

⁴⁴⁷ Jiangxi Provincial Institute of Cultural Relics and Archaeology et al., 2007, pp. 453-454.

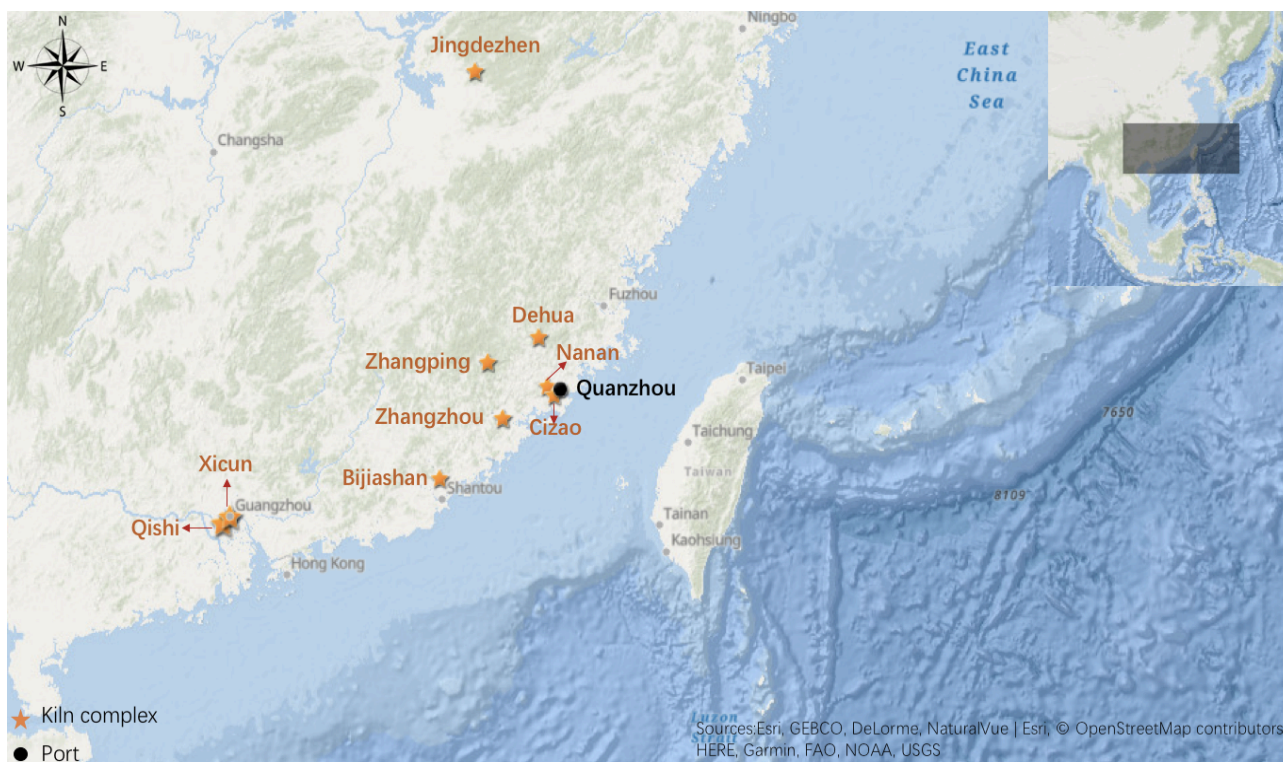


Figure 4.39 The production kiln sites of the Chinese ceramic on the Pulau Buaya wreck

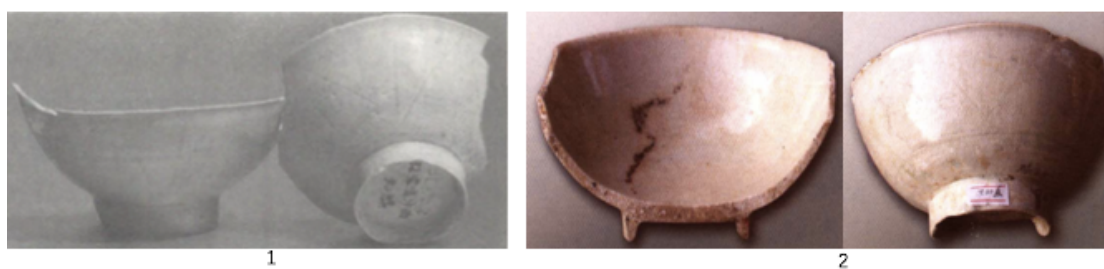


Figure 4.40 The qingbai bowls with incised lotus motifs from the Pulau Buaya wreck (1) and comparable finds from the Luowangjing kiln site at Zhangzhou (2)



Figure 4.41 The qingbai bowls with carved lotus motifs from the Pulau Buaya wreck (1) and comparable finds from a tomb at Wuyuan Jiangxi province (1127) (2), and the Hutian kiln site at Jingdezhen (3)

There are also three types of qingbai vases from Pulau Buaya wreck. The first and second are both ridged-melon shaped vases with a long neck, a body decorated with distinct lobes and flared foot. They differ in the form of their mouths: the first type which has the cup-shaped mouth (Fig 4.42:1) is identical to the Type I vase of the Chaozhou Bijiaoshan kiln site (Fig 4.42:2);⁴⁴⁸ the second type with horn-shaped mouth and blueish glaze (Fig 4.42:3) seems to origin from the Jingdezhen Hutian kiln site where similar vessels were found (Fig 4.42:4).⁴⁴⁹ The third type of qingbai vase with a floral-shaped mouth, flared neck, squat body and low foot ring (Fig 4.42:5) is identical to the Type I vase of the Wanpinglun kiln site at Gaide town, Dehua county (near Quanzhou) where such vessels are the major form and appear in large quantities (Fig 4.42:6).⁴⁵⁰

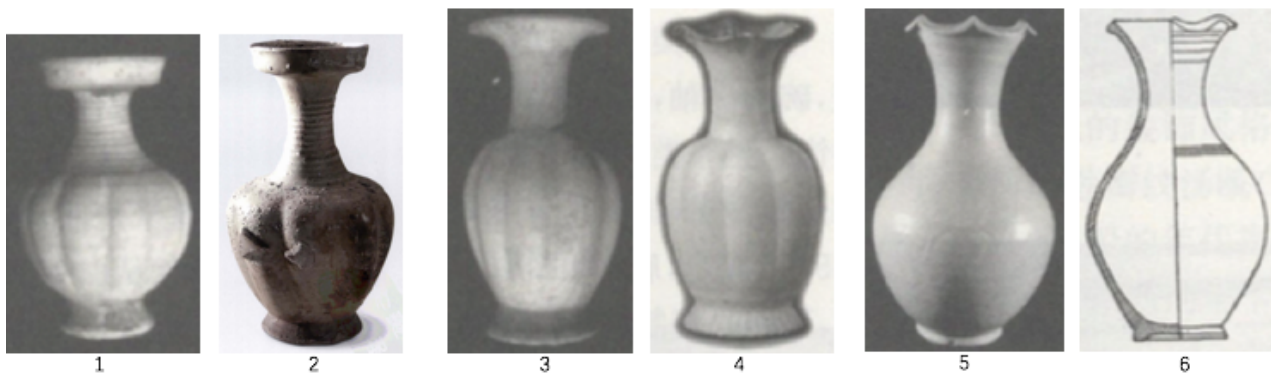


Figure 4.42 The qingbai vases from Pulau Buaya wreck (1,3,5) and comparable finds from the Bijiaoshan (2), Hutian (4), and Wanpinglun kiln site (6)

Only two qingbai glazed boxes were found with an intact bottom and cover: one in the shape of ridged-melon and the other octangle (Fig 4.43:1,3). The bluish glaze colour and the vessel form suggest that the covered boxes originated from the Hutian kiln (Fig 4.43:2,4).⁴⁵¹ Moreover, the impressed mark of “Heizi Ji 合子记” seen on these two

⁴⁴⁸ At Jingdezhen Hutian kiln site, ridged-melon vases with a cup-shaped mouth are also found but they are all small vase with height around 5-6cm. Vases taller than 10cm as the shipwreck findings are not reported (Jiangxi Provincial Institute of Cultural Relics and Archaeology et al., 2007, p. 173).

⁴⁴⁹ Jiangxi Provincial Institute of Cultural Relics and Archaeology et al., 2007, pp.168-169.

⁴⁵⁰ Even though several fragments of the vase with floral shape mouth are also reported to be found at Hutian kiln site (Jingdezhen), there are no intact objects and compared with the Dehua findings they are in much smaller number (Fujian Museum, 1990, p. 69; Jiangxi Provincial Institute of Cultural Relics and Archaeology et al., 2007, p. 171).

⁴⁵¹ While qingbai glazed covered boxes account as the major vessel type of some kiln site in Guangdong and Fujian province, vessel shape resembling the shipwreck findings were reported to be found in Hutian kiln.

boxes are a typical trade mark of Jingdezhen boxes and are not discovered on wares from other kiln sites (Fig 4.43:1-3).⁴⁵² There are also some qingbai ewers on board and according to Hu, similar vessels were produced at the Jingdezhen and Chaozhou kiln sites.⁴⁵³

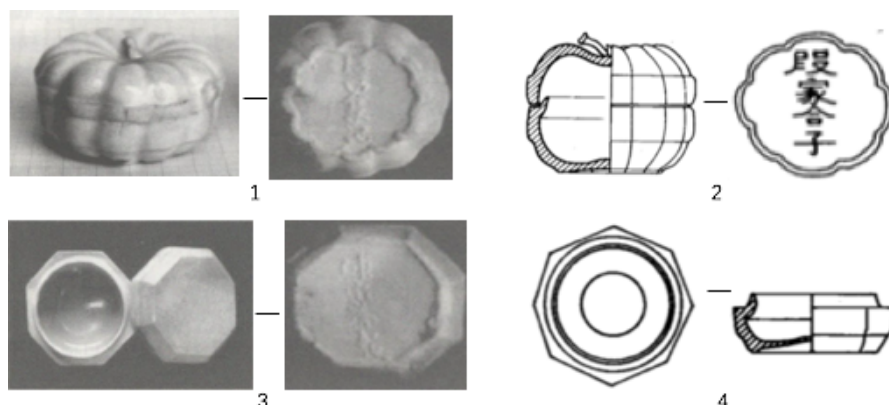


Figure 4.43 The qingbai covered boxes from the Pulau Buaya wreck (1,3) and comparable finds from the Hutian kiln site (2,4)

A major proportion of the ceramics is made up by plain cone-shaped bowls with a thickening mouth rim and low foot ring whose glaze colour ranges from white to greyish green and with a diameter between 13 to 15 cm and height 4.5 to 5 cm (Fig 4.44, below).⁴⁵⁴ It is noted that two of the bowls were found with several ink marks at the bottom which imply the delivery date, cargo quantities and cargo owner's name.⁴⁵⁵ The wide range of glaze colour and the ink marks suggest that this large amount of bowls might be products of one firing. Vessels resembling the shape, size and the greyish white body were unearthed in Bijiaoshan kiln site.⁴⁵⁶

⁴⁵² Liu Xiuping, 2013.

⁴⁵³ Hu Shuyang, 2014.

⁴⁵⁴ Hu Shuyang, 2014.

⁴⁵⁵ The identified characters are “九月廿” (September twenty), “陈” (Chen, Surname), “石” (shi) “四床” (Four chuang). Chuang 床 and shi 石 are the measure words in ancient China (Hu Shuyang, 2014).

⁴⁵⁶ The cone-shaped bowl is a very common vessel form that were produced at various kiln sites during the Song period including Jingdezhen, Dehua et al (Liu Xinyuan, 1980). Nevertheless, the ones produced at Jingdezhen are of higher-quality and the ones from Dehua are usually found with incised pattern on the inside wall (Fujian Museum, 1990, p15). The cone-shaped bowls from Bijiaoshan kiln, on the other hand, often plain and with thicken mouth rim, have more resemblance with the shipwreck findings (Li Bingyan, 2004, p. 49).

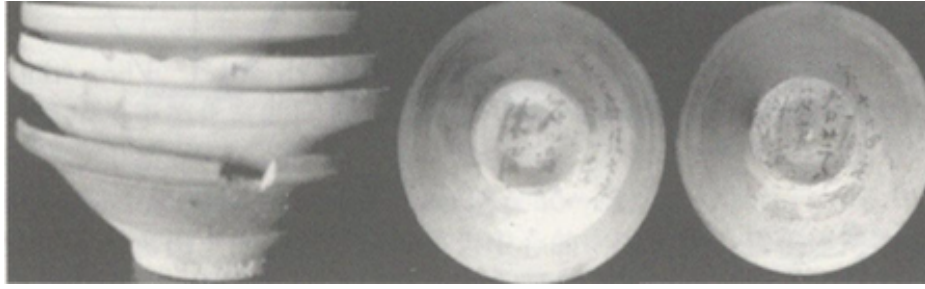


Figure 4.44 *The plain cone-shaped bowls from the Pulau Buaya wreck*

The greyish-green glazed bowls have a shape and clay colour that resembles the cone-shaped bowls mentioned above but the mouth rim is round instead of thickening, and their size is also bigger (diameter 16.5 cm and height 8.5 cm) (Fig 4.45). Bowls that fit these descriptions are reported to be the major vessel type of the Dehua and Xicun kiln sites.⁴⁵⁷ The brown paint decoration seen on one of the Pulau Buaya samples indicates that they are more likely products of the Xicun kiln.⁴⁵⁸ Another type of greyish green glazed ware found in large numbers on the shipwreck is small jars with four handles decorated with well-defined lobes on the body (height 7.5 cm, diameter 9 cm) (Fig 4.46:1).⁴⁵⁹ The thin and crazing glaze was applied short of the bottom and carelessly. The provenance of these jars seems to be the Xicun kiln since identical vessels have been found at the site (Fig 4.46:2,3).⁴⁶⁰



Figure 4.45 *The greyish green glazed bowls from the Pulau Buaya wreck*

⁴⁵⁷ Fujian Museum, 1990, p. 59; Guangzhou City et al., 1987, p. 17.

⁴⁵⁸ Brown painting was the featured decoration of Xicun kiln and is not found among Dehua ceramics.

⁴⁵⁹ Hu Shuyang, 2014

⁴⁶⁰ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, pp. 25-26.

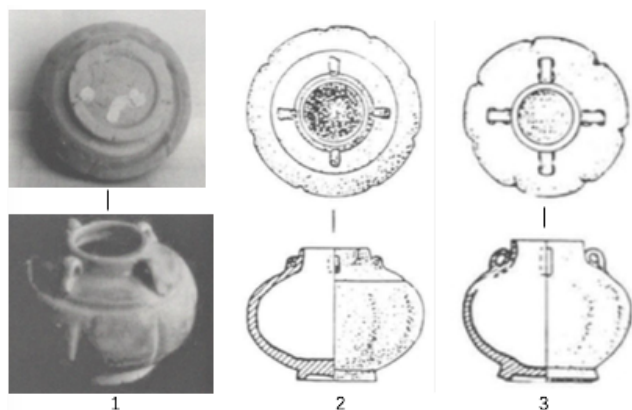


Figure 4.46 The grayish green glazed small jars from the Pulau Buaya wreck (1) and comparable finds from the Xicun kiln site (2,3)

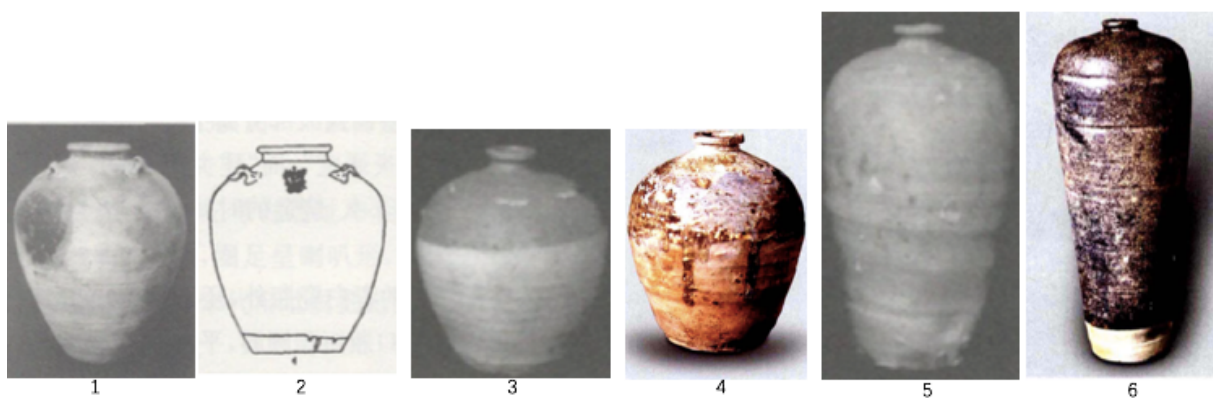


Figure 4.47 The brown glazed wares from the Pulau Buaya wreck (1,3,5) and comparable finds from the Qishi (2) and Cizao kiln sites (4,6)

The brown glazed wares are mainly made up by the coarse small-mouthed vases and big jars with folded rim, flat base and four lug handles, both of which appeared in large numbers.⁴⁶¹ The jars, which resemble the vessel form of big jars on the Intan wreck and are found with stamp chrysanthemum pattern on the shoulder (Fig 4.47:1), are likely to be products of the Qishi kiln (Guangdong province) (Fig 4.47:2).⁴⁶² The small-mouth vases whose glaze either was short of the bottom or stopped at the upper part of the body (Fig 4.47:3, 5), on the other hand, are the typical vessel type of the Jinjiaoyi Mountain kiln site, Cizao county (Fujian province) (Fig 4.47:4, 6).⁴⁶³

⁴⁶¹ Hu Shuyang, 2014

⁴⁶² As illustrated in the Intan shipwreck section, the big jars were produced at Qishi kiln. Moreover, stamp motif on the shoulder is a unique decoration seen on Qishi jars.

⁴⁶³ Fujian Museum et al., 2011, pp.170, 230, 320.

The vessel form and provenance suggests that the shipwreck sunk between the late Northern Song period to early Southern Song period. The qingbai glazed bowls with flared rim, deep body and high foot ring are the commonly seen vessel form of the mid-late Northern Song period,⁴⁶⁴ and the qingbai vases with floral shape mouth produced at the Dehua kiln are dated to same period, based on the coins unearthed from the same layer.⁴⁶⁵ However, there are also objects dated to the early Southern Song such as the horn-shaped mouth vase for the Jingdezhen kiln site.⁴⁶⁶ More importantly, the qingbai glazed bowls with a straight mouth and flat bottom are identical to the one found in a tomb with a precise date of 1127.⁴⁶⁷ Therefore, the late Northern Song period to early Southern Song period seems to be the most plausible date for the shipwreck.

To conclude, the Chinese ceramics surfaced from Pulau Buaya wreck all originated from South China namely: the Zhangping, Zhangzhou, Dehua and Cizao kiln sites from Fujian province; the Xicun and Chaozhou kiln sites from Guangdong province, and the Hutian kiln at Jingdezhen (Fig 4.39).

2.1.2 Discussion

It is difficult to draw any explicit comparison between ceramic cargos recovered from these five shipwrecks because no thorough excavation was conducted on the Xicun Belitung and Riau wrecks and North Reef No.4/5 shipwreck sites. However, based on the recovered vessels, it appears that during the mid and late Northern Song Dynasty the exported Chinese ceramics were first dominated by the Xicun and Chaozhou kilns and then included wares not only from Guangdong province but also from Fujian province and the Jingdezhen kiln site in the later period. Moreover, even though wares produced at Xicun and Chaozhou still account for the major proportion of recovered ceramics from the Pulau Buaya wreck, they are mainly coarsely made bowls without

⁴⁶⁴ Liu Xinyuan, 1980.

⁴⁶⁵ Fujian Museum, 1990, p. 76.

⁴⁶⁶ Jiangxi Provincial Institute of Cultural Relics and Archaeology etc., 2007, pp. 456-457.

⁴⁶⁷ Liu Tao, 2004, pp. 103.

decoration. The Xicun kiln's green glazed large dishes with brown painting and impressed motifs seen on the Riau and Belitung wrecks are no longer report to be found. On the contrary, vessels of higher quality and with incised patterns that originated from Fujian province appeared in bulk on the Pulau Buaya wreck. The shift in the exported ceramics types reflects the decline of the Guangdong kilns and rise of the Fujian traded ceramic industry during the late Northern Song period.

Why did the significant change occur between the late-eleventh century to early-twelfth century? The weight of scholarly opinion is that the establishment of Shibosi 市舶司 (mercantile shipping superintendency) at Quanzhou in 1087 provided a geographical advantage for kiln sites in Fujian province.⁴⁶⁸ This could explain the development of the Fujian ceramic industry but it is not enough to justify the decline of the Guangdong ceramic industry in foreign trade during Southern Song period.⁴⁶⁹ In my opinion, a very influential community of Fujian merchants had developed during the Northern Song period, and more importantly, the prosperity of the local manufacturing industry in Fujian province are the underlying reasons behind the rise of Fujian and fall of Guangdong. Before becoming deeply involved in the ceramic trade, Fujian was already the centre of ship-building and exporting textiles, iron, tea and paper to other regions in China and abroad.⁴⁷⁰ The development of manufactural industries inevitably led to the development of the commodity economy and the growth of merchant groups, among which the maritime traders were the representative.⁴⁷¹ The establishment of the official Song maritime trade superintendency in Quanzhou was the indication of the importance of the southern Fujian merchants in the overseas trading economy. Since besides the geographical position, Guangdong wares did not display any other distinct advantages, and as Fujian province had more developed manufacturing industries which provided more types of commodities for export, it became a reasonable choice

⁴⁶⁸ Meng Yuanzhao, 2018; Wang Xintain, 2007; Li Yukun, 1998.

⁴⁶⁹ The problem of this argument is that Guangzhou remained as the major port. It is estimated that Nanhai No.1 ship after loading the commodities at Quanzhou, berthed at Guangzhou for renovation before taking on the journey.

⁴⁷⁰ Shiba Yoshinobu (translated by Zhuang Jinghui), 1997, pp. 429-431.

⁴⁷¹ Shiba Yoshinobu (translated by Zhuang Jinghui), 1997, p. 433.

especially for Fujian merchants to purchase products in Fujian instead of Guangdong after the establishment of shibosi at Quanzhou.⁴⁷² With the loss of its customer base, the kiln sites in Guangdong scaled down to supply the local market. Therefore, the decline of the Guangdong ceramics industry was not a passive choice due to the lack of raw material,⁴⁷³ or the diminishing geographical advantage, but rather due to the selection made by merchants based on available products and regional competitiveness.

2.2 Shape and decoration made for the Southeast Asian market

This section is divided into three sub-sections based on glaze colours to discuss the existence of shape and decoration explicitly made for the Southeast Asian market and the function of some ceramic types after they were exported. Certain vessels which although did not appear on shipwrecks were the typical trade-wares of this period and so are also included in the discussion.

2.2.1 Green glazed wares

As far as the ceramic types are concerned, the vessels from these five shipwrecks and shipwreck sites are mainly green-glazed wares and qingbai wares with some brown and white-glazed wares, among which the green-glazed big dishes with brown painting are most significant discoveries. They appear on the Xicun Riau wreck but are not found on shipwrecks of later periods. Such a vessel was probably made to cater to the need of overseas markets judging by its decoration style.

While the brown painting is a commonly seen decoration on Chinese ceramics, the discoveries of green-glazed big dishes decorated with brown painting are rare on domestic sites. Brown painting first appeared on green wares during the late third

⁴⁷² It is reasonable to assume that the Fujian merchants had better connection with the local craftsmen and hence better price. Going to Guangdong to purchase similar products of similar quality at the first place was mainly because Guangzhou was the only designated port for shipping abroad at the beginning.

⁴⁷³ According to the research about the distribution of ceramic raw materials, Guangdong province has most abundant Gaolin reserve accounting for 30.9% of the total reserve in China (Yao Yuan, 2017).

century⁴⁷⁴ 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 kiln in the mid-late Tang Dynasty,⁴⁷⁵ after which brown painting was increasingly applied on white or brown glazed wares.⁴⁷⁶ By the time of the Song period, green wares with brown painting were seldom found at domestic archaeological sites besides the Xicun and Leizhou kiln sites. More importantly, regardless of glaze colour, vessels with brown painting dated to 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.⁴⁷⁷ Therefore, based on the domestic finds, it appears that dishes with brown painting were against the aesthetic standards of Song society. On the other hand, big dishes decorated with brown painting were located at multiple sites in Southeast Asia including Sarawak, the Philippines, Pulau Timao, South Sulawesi, South Borneo and Indonesia.⁴⁷⁸ The more abundant overseas discoveries further demonstrate that the big dishes with brown painting were products made for Southeast Asian markets.

It is believed that the production of green-glazed wares with brown painting at the Xicun kiln was due to the influence of Changsha wares considering the resemblance of the boldly painted floral patterns seen on Xicun dishes and Changsha bowls (Fig 4.48) and the fact that Changsha wares were once exported from Guangdong to foreign countries.⁴⁷⁹ However, these green-glazed bowls and dishes painted in brown pigment

⁴⁷⁴ Yi Jiasheng, 1988.

⁴⁷⁵ The best example to illustrate the export of Changsha ware during late Tang Dynasty is the hundreds of thousands of Changsha wares on the Belitung wreck.

⁴⁷⁶ At the Song Dynasty kiln sites famous for production brown painting wares such as Cizhou and Jizhou kiln, they were applied on white or brown wares (Department of Archaeology, Peking University et al., 1997, pp. 49, 183; Gao Liren, 2002, pp. 145-149; Jiang Xuanyi, 1958, pp. 19-21).

⁴⁷⁷ Among the wares painted with brown pigments unearthed from Cizhou kiln, a higher proportion are jars and vases (Department of Archaeology, Peking University et al., 1997); And there is no mention of bowls and dishes with brown painting in the excavation report of Jizhou kiln (Gao Liren, 2002, p. 42); As for the green wares decorated with brown painting produced at Leizhou kiln and uncovered so far, 69% are jars and 12% are pillows, only three bowls and one dish (Yang Xiaodong, 2001).

⁴⁷⁸ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, pp. 75-82.

⁴⁷⁹ Guangzhou was the designated port of overseas commerce during Tang Dynasty and several Changsha wares were found at Guangdong province (The Administrative Committee of Cultural Relics, Guangdong Province et al., 1991, p. 59).

were rarely found after the Northern Song period, indicating that its production at least on a large scale ceased.



Figure 4.48 The brown painting motif of Changsha bowls (1,2) and Xicun bowls (3,4)

2.2.2 Qingbai wares

Qingbai wares became a major exported ceramic type during this period, and the shipwreck cargoes resemble contemporary domestic finds in China. Nevertheless, one particular vessel form though not found on the shipwrecks is worth mentioning, the fish-shaped bottle made at Chaozhou kiln (Fig 4.49).



Figure 4.49 The fish-shaped qingbai glazed bottle made at Chaozhou kiln

As stated previously, bottles in the shape of fish or double fish had already been produced during Tang Dynasty,⁴⁸⁰ but Chaozhou fish-shaped bottle have very different

⁴⁸⁰ See chapter four, section 1.2.1, pp. 135-136.

features: a big head, V-shaped mouth filled with sharp teeth, more pointed and wider fin and flat body (Fig 4.49). It is believed that such a form is a combination of the Makara motif and the shape of Sparidae fish.⁴⁸¹ The Makara is a sea beast from Hindu myth with good and evil sides whose original image is a big mouth with sharp tooth, long nose, bulgy eyes and fish-body (Fig 4.50 below). After introduced to China, it was ascribed a new meaning as a powerful protector of the long and dangerous journey.⁴⁸² The earliest example of the Makara motif found in China appears on the stone bed unearthed from the tomb of Anjia 安伽 (579).⁴⁸³ In the later periods, such a motif was made into the ceramic vessel form, as well as silverware and was also adopted as a decoration pattern on vessels (Fig 4.51 below). During Chinese craftsmen's adoption and recreation of the Makara motif, there is some variation to the original form. By the time of the Song Dynasty, the long nose was gone, and wings added. It seems that the head of Chaozhou fish-shaped bottle resembles the Makara, but the body has another 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.⁴⁸⁴ It appears that Chaozhou fish-shaped bottle is an invention that combined a traditional mythological motif and a local marine creature. Such vessels are not found at domestic sites besides the Chaozhou kiln site, however, some have been were discovered in Singapore and Malaysia,⁴⁸⁵ which indicates that such bottles likely targeted the overseas market.



Figure 4.50 *The Makara motif from Amaravati, South India (BC 200- AD 250)*

⁴⁸¹ Zheng Jingbing, 2015.

⁴⁸² Yang Boda, 2001.

⁴⁸³ Wang Fei, 2013, p. 5.

⁴⁸⁴ Zheng Jingbing, 2015.

⁴⁸⁵ The Administrative Committee of Cultural Relics, Guangdong Province et al., 1991, p. 81.



Figure 4.51 *The Makara-shaped ornament and vessels and the Makara motif found in China*

2.2.3 Brown-glazed wares

The small-mouthed vases and big jars with four handles (height 40-65 cm) which accounted for only a small part of recovered vessels on earlier shipwrecks appear in large numbers on the Pulau Buaya wreck. This change, however, does not indicate the increasing popularity of such vessels at 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 are usually plain without decoration. Although some of the Pulau Buaya wreck jars were found with stamped marks on the shoulder,⁴⁸⁶ they more likely bore the function of advisement or identification instead of mere decoration.⁴⁸⁷ One question regarding these jars is whether they were dispatched from China as merchandise in their own right or as containers or provisions for the crew. Judging by the shipwreck discoveries, these jars when first used were containers of food such as pickles, teas and herbs, or for liquor such as water or alcohol,⁴⁸⁸ and some were the containers of stacked ceramics.⁴⁸⁹ Moreover, brown-glazed big jars with shoulder-

⁴⁸⁶ The stamp marks are mainly floral patterns (Hu Shuyang, 2014).

⁴⁸⁷ There is trace of rope round the shoulder bands on the jar which indicates that the bands were for string (Quanzhou Maritime Museum, 2017, pp. 40,46). The stamp mark's position allowed it to be seen when lifted or transported.

⁴⁸⁸ The discovery of jar sherds with “清酒” (fine rice wine) at Sarawak suggests that the jar was once a container of alcohol (Moore, 1970). In some big jars salvaged from the Nanhai No.1 wreck, there are remaining fruit pits (Hu Siyuan, 2019)

⁴⁸⁹ As seen on Belitung wreck, bowls were stacked inside a big jar (Flecker, 2010, p. 110).

bands were also produced in Thailand and imported to other islands such as Borneo from the eleventh century onward.⁴⁹⁰ In terms of cost and risk control, it does not make sense for merchants to ship similar products from a further destination. Therefore, a 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 recorded in the Songhuiyao Jigao 宋会要辑稿 (Compiled Government Documents of Song China).⁴⁹¹

Even though these big coarse jars produced in the vicinity of ports were containers of commercial substances, whether they remained as such after being imported and used in the local society varies. Wang 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 that no intact examples, only fragments, were found at ports and city sites.⁴⁹² On the other hand, brown-glazed stoneware jars unearthed in the Philippines are mainly from mortuary contexts, either burial caves, cemeteries, or isolated graves and are better-preserved.⁴⁹³ In Indonesia, glazed jars with dragon motifs made after the fourteenth century became heirloom objects symbolizing wealth and social prestige.⁴⁹⁴

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.⁴⁹⁵ 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

⁴⁹⁰ Harrison, 1984, pp. 128-133.

⁴⁹¹ “The cargo traded at the ports are things foreign countries are lack of and in need such as ceramic, tea and wine. 阜通货物，彼此所阙者，如瓷器、茗、醴之属，皆所愿得。” (Songhuiyao Jigao, Xingfa Volume Two: 144) ; And according to Zhufanzhi, places which imported wine from Quanzhou during Song Dynasty includes Champa 占城 (Central Vietman) , Kmir 真腊 (current Cambodian) , Srivijaya 三佛齐 (current Sumatra) , Tambralinga 单马令 (current Malaya, Thailand) , Langkasuka 凌牙斯加 (current Northeast Malaya) etc. (Zhufan Zhi Jiaoshi 诸蕃志校释, pp. 9, 19,36,43,45).

⁴⁹² Wong Wai-yee, 2011.

⁴⁹³ Sinopoli et al., 2006.

⁴⁹⁴ Harrison, 1984, pp. 14-20.

⁴⁹⁵ The potential functions of such vases include: being used as a container for holy water at ceremonies (Adhyatman, 1990, p. 71), acting as mercury jar (Treloar, 1972; Miksic, 2013, pp. 320-321), and wine bottle (Zainie, 1967; Xu Qingquan, 1983),

vases and some household potsherds were uncovered together with a grinding stone carved with character “酒库造碾” (grinding stone of wine storage room) at the local office site of the Song Dynasty, which, as demonstrated by Zeng and Chen, indicates that small-mouthed vases were wine containers.⁴⁹⁶ 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 government site excavated in 1979,⁴⁹⁷ and on the Quanzhou Bay wreck a returning Chinese merchant ships from Southeast Asia, several small-mouthed vases were found.⁴⁹⁸ Moreover, the 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 County published in 1765, it is stated that wine was one of the major products of the district.⁴⁹⁹ 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 in Southeast Asia from the twelfth century. However, after export, the reuse of the wine containers in the consumption sites might differ from their original function. They could serve as containers of holy water in ceremonies or for transporting mercury.⁵⁰⁰

2.2.4 Discussion

Between the early eleventh century to early twelfth century, trade-oriented kiln sites appeared in Guangdong province, the Guangzhou Xicun and Chaozhou Bijiaoshan kilns where certain vessel forms and decorations were made to cater to the taste of the overseas market and whose products were found more abundantly in Southeast Asia

⁴⁹⁶ Zeng Pingsha and Chen Jianying, 2005.

⁴⁹⁷ Xu Qingquan, 1983.

⁴⁹⁸ Quanzhou Maritime Museum, 2017, p. 47.

⁴⁹⁹ Wong Wai-yee, 2016.

⁵⁰⁰ See footnote 495.

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 traded ceramic industry in Guangdong province can be divided into three regions: the Xicun kiln-centric Pearl River Delta region, the Bijiashan kiln-centric Chaozhou region, and the Shiwan and Qishi kiln-centric Foshan region (Fig 4.52 below). Each region had its own featured products. The Shiwan and Qishi kilns were known for their coarsely-made green or brown-glazed wares among which the most abundant output was big jars and basins.⁵⁰¹ As for the Bijiashan kiln, nearly half of the excavated ceramics are qingbai wares, which were the imitation of Jingdezhen qingbai wares, followed by some green and brown-glazed wares and a few white wares.⁵⁰² The product characteristics of the Xicun kiln is the diverse decoration seen on green-glazed wares, including incised patterns, brown painting, incised patterns combined with brown painting, and impressed motifs.⁵⁰³ There are also some brown-glazed wares and very delicate qingbai wares found at the kiln site.⁵⁰⁴ The products of the Xicun kiln belong to various kiln systems: green wares painted in brown pigment originated from Changsha wares, qingbai wares were the imitation of Jingdezhen wares and the impressed green-glazed wares copies of Yaozhou wares (Shanxi province). The product diversity of the Xicun kiln gives the impression that the potters were trying everything they thought might sell in the overseas market.

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. Therefore, the product advantage was the low price and the superior geographical position close to the export ports for the overseas market.

⁵⁰¹ Chen Zhiliang, 1978; Huang Xiaohui, 2016.

⁵⁰² Among the 1300 pieces of ceramics unearthed at the Bijiasha kiln in 1980, 43.15% are qingbai wares, 11.43% green glazed wares, 12.61% brown glazed wares, 7.16% white wares, 11.44% others including non-glazed wares (Museum of Guangdong Province, 1981, p. 10).

⁵⁰³ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, pp. 70-71.

⁵⁰⁴ The Administrative Committee of Cultural Relics, Guangzhou City et al., 1987, p. 13.

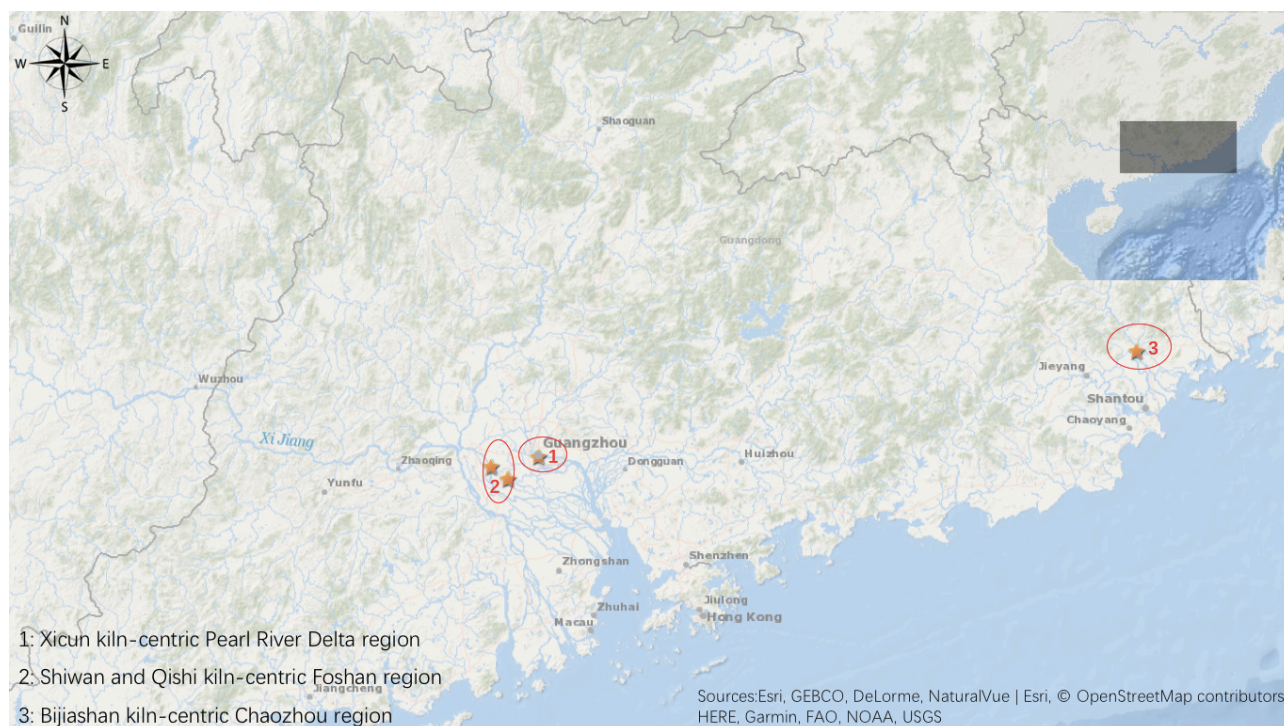


Figure 4.52 Location of the Qishi, Xicun and Bijiaoshan kiln sites

Qingbai wares were exported in much greater numbers than the previous period as suggested by the shipwreck finds. It first appeared in the mid-late tenth century at several kiln sites including Fanchang (Anhui province), Qinshan (Hubei province) and Jingdezhen and was widely produced after the eleventh century.⁵⁰⁵ The invention of qingbai ware is believed to an accident during the production of white wares. As seen in Table 4.2 and 4.3, the clay and glaze chemical component analysis of white and qingbai wares sherds from the Qinshan 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 the not thorough elutriation process or thick glazing, possible “mistakes” during the making of white wares. The study of the glaze component of Jingdezhen white and qingbai wares further supports this conclusion.⁵⁰⁶

⁵⁰⁵ The excavated qingbai ware kilns are located at various region in South China including Jingdezhen, Baishe (Nanfeng, Jiangxi province), Yonghe (Jian, Jiangxi province), Zhonghe (Teng county, Guangxi province), Chaozhou, Xicun (Guangdong province), Dehua, Wanyaoxiang, Nanan, Tongan (all at Quanzhou) etc. The qingbai wares produced at kiln sites of different regions display different features at firing technique, vessel form and chemical component (Cui Mingfang et al., 2014).

⁵⁰⁶ Huang Yijun, 2006: Table 3.

Therefore, in the beginning qingbai ware was a by-product of white ware but it was widely appreciated and became the major ceramic type of the Song Dynasty.⁵⁰⁷ At the same time, a large number of qingbai wares were shipped abroad. The production of qingbai wares from kiln sites in Guangdong province, such as the Xicun and Chaozhou kilns and in the surrounding area of Quanzhou, such as the Wanyaoxiang, Nanan and Tongan kilns, aimed at the overseas market, while famous national kilns such as those at Fanchang and Dehua provided both domestic and foreign markets.

⁵⁰⁷ The Song tombs with exact date and buried with qingbai wares are located at South and North China including Jiangsu, Shanghai, Zhejiang, Sichuan Jiangxi, Fujian, Hubei, Anhui, Guangdong, Shanxi, Hebei, Henan, Beijing, Gansu, Liaoning and Inner Mongolia (Sun Lin, 2007, pp. 2-9).

Name	Serial number	The percentage of oxide (%)									
		SiO ₂	Al ₂ O ₃	CaO	MgO	K ₂ O	Na ₂ O	Fe ₂ O ₃	TiO ₂	MnO	P ₂ O ₅
White-glazed bowl sherds	WS1-WS6	72.6-73.7	20.3-22.1	0.2-0.3	0.1	3.8-4.5	0.1-0.2	0.5-0.6	0.2	0.01	0.1
Qingbai-glazed bowl sherds	WY1-WY5	71.8-74.8	18.8-22.0	0.6-1.0	0.1-0.3	3.2-4.0	< 0.1	0.5-1.1	0.2	0.01-0.04	0.1-0.2

Table 4.2 *The chemical composition of the body of Qingshan wares dated from the Five dynasties to Northern Song period*

Name	Serial number	The percentage of oxide (%)									
		SiO ₂	Al ₂ O ₃	CaO	MgO	K ₂ O	Na ₂ O	Fe ₂ O ₃	TiO ₂	MnO	P ₂ O ₅
White-glazed bowl sherds	WS1-WS6	65.5-71.5	13.5-14.7	6.1-13.6	0.5-1.5	3.0-5.2	0.1-0.4	0.4-0.9	0.2	0.1-0.3	0.1-0.9
Qingbai-glazed bowl sherds	WY1-WY5	60.7-67.2	14.7-18.7	8.0-14.3	1.0-1.8	2.6-3.1	0.2-0.3	0.8-1.4	0.2	0.2-0.3	0.7-1.3

Table 4.3 *The chemical composition of the glaze of Qingshan wares dated from the Five dynasties to Northern Song period*

3. Conclusion

Between the tenth century to the early twelfth century, shipwreck ceramic cargoes dated from the Five Dynasties to the Northern Song period show coherent characteristics as well as significant difference.

In terms of their ceramic types, the typical combination of the tenth century are Yue-type greyish green wares, white wares and coarse brown or green-glazed wares, with qingbai wares being rarely seen. During the early eleventh century to early twelfth century, while the previous types were still found on shipwrecks, qingbai wares replaced Yue-type wares and accounted for the major proportion of ceramic cargo on several wrecks, and a new type of green ware, the olive glazed ware with colour ranging from dark green to yellowish green, appeared. As far as the ceramic provenance is concerned, we see the disappearance of Northern China kilns in the later period and the shift of the industrial centre of expert ceramic production from Zhejiang to Guangdong and then to Fujian province.

Underlying the shift is the migration of potters. The production of qingbai wares in Fujian province started during mid-late Northern Song period at the Nanan and Zhangpu kiln sites. Since South Fujian had no tradition of white wares making,⁵⁰⁸ it is logical to assume that the technology and the qingbai ceramic forms/glazes were introduced from outside. The most probable source is the Chaozhou kiln in eastern Guangdong given the close geographical position between these two regions, similar inventories of vessel shape and decoration and the same firing and stacking method.⁵⁰⁹ It is likely that during the decline of the Chaozhou kiln in the mid-late Northern Song period, potters at Chaozhou left for South Fujian where maritime trade started booming creating new opportunities, or as suggested by So Kee-lang, there was an organized

⁵⁰⁸ Zeng Fan, 2001, pp. 152-156.

⁵⁰⁹ Ye Wencheng, 2005, pp. 15-20; Fujian Museum et al., 2008; Museum of Guangdong Province, 1981, pp. 11-33.

migration of potters from Chaozhou to South Fujian initiated and funded by South Fujian merchants.⁵¹⁰ This rather free flow of potters was made possible by the Song government's introduction of the Hegu system, and the abolishment of the old system of using unpaid labourers to produce ceramics in government workshops.⁵¹¹

The comparative research between forms and decoration of shipwreck cargos and domestic finds indicates that at the Yue kiln complex, Bijiaoshan and Xicun kiln sites, some vessels were produced to cater to the aesthetic standard and needs of the Southeast Asian market and the export of ceramic types was selective, which points toward a closely integrated operation between the producers and the commercial agents not only in decisions about in what quantity to make but also what to produce. One can imagine that with tremendous production costs,⁵¹² 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 had a better understanding of what was demanded in the overseas markets.

Between the Five Dynasties and Northern Song Dynasty, the ceramic industry in several regions was closely integrated into maritime trade, each with a major phase of prominence, as the major producer of traded ceramics. In the Southern Song period, the ceramic types and provenance experience more changes, which is the topic of the next chapters.

⁵¹⁰ So, 2000:193-197.

⁵¹¹ Wang Guangyao, 2002.

⁵¹² It is estimated by Su that if a kiln fire fifteen times a years and each fire produce 30000 pieces, then the production cost of a kiln per year would be 22500 min (1 min=1 liang=1000 wen) (So, 2004, p.154).

Chapter Five

Chinese ceramic recovered from the early Southern Song period shipwrecks (1127-1180)

In the chronological order, this chapter discusses the Chinese ceramic cargoes recovered from the ships that were wrecked during the early Southern Song period (1127-1180). The same methodology used in the previous chapter is used here to answer the same questions: where were the Chinese ceramics produced, and are there any particular types or decorations explicitly made for Southeast Asia? A detailed study regarding ceramic provenance, vessel forms and shapes, and decoration reveals some major changes in the ceramic industry and provide a new perspective about the trading network between South China and Southeast Asia

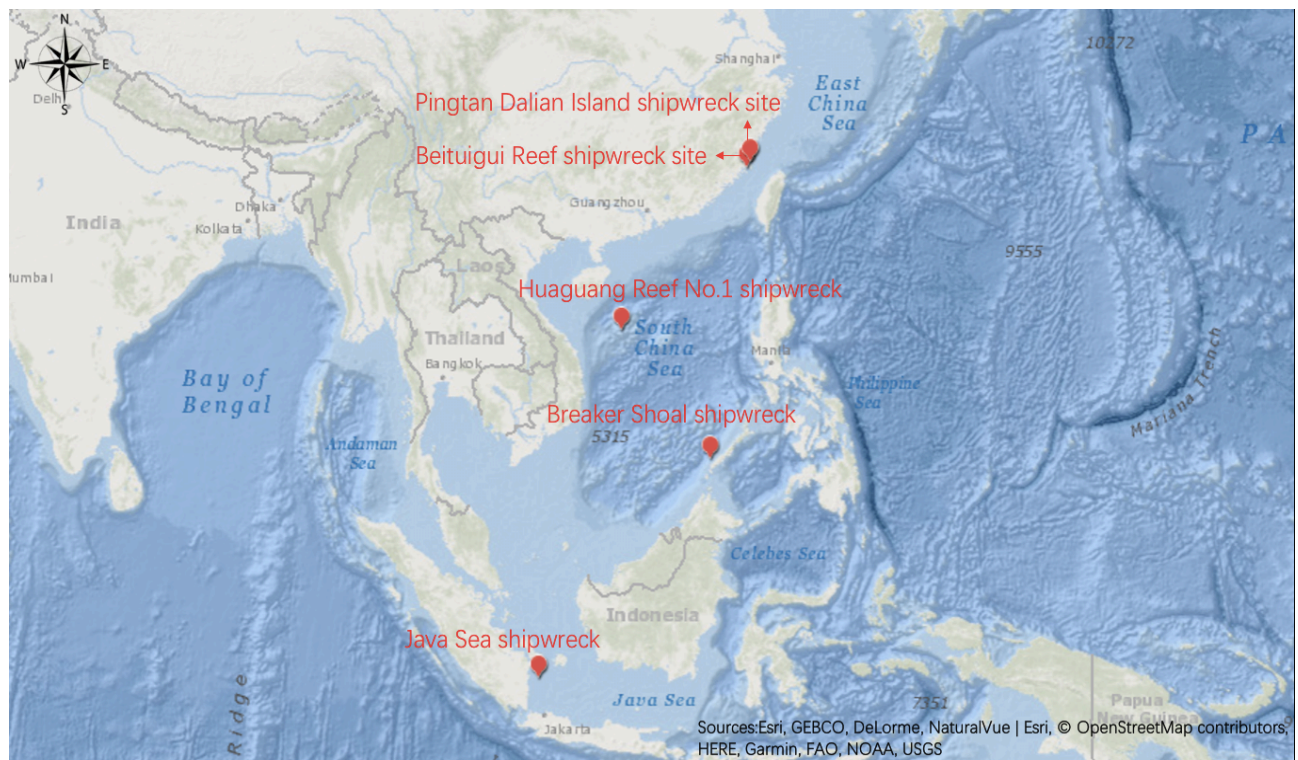


Figure 5.1 Map of the shipwrecks sunk in the South China Sea during the early Southern Song period

The shipwrecks dated to this period are the Beitugui Reef No.1 shipwreck, the Pingtan Dalian Island shipwreck site, the Java Sea shipwreck, the Breaker Shoal shipwreck site and the Huaguang Reef No.1 shipwreck (Fig 5.1). The first two were yielded through underwater survey, with excavation conducted on the other three shipwrecks. Therefore, this chapter mainly focuses on the ceramic cargoes from the Java Sea, Breaker Shoal and Huaguang Reef No.1 shipwrecks.

1. Types and provenance of Chinese ceramics

The provenance of Chinese ceramics is first assigned by typological study between the finds on the shipwrecks and their counterparts from domestic sites in China especially kiln sites, following this the glaze and clay chemical component analysis of certain ceramic types is included to refine the interpretations.

1.1 The finds of each shipwreck

a. The Beitugui Reef No.1 shipwreck site

The Beitugui Reef No.1 shipwreck site was found on the northeast side of Nanri island (Putian, Fujian province) during the 2008 underwater archaeological survey of Putian coastal waters. The remains of the hull were shallowly buried which left the site exposed and seriously damaged. Therefore, no excavation was conducted, and only part of the ceramics and coins and two anchor stones were collected.⁵¹³

The majority of the recovered ceramics are green-glazed bowls, with a few green-glazed dishes and a fragment of qingbai ware. Most of the green-glazed bowls are decorated with an incised cursive floral design and wisps of combing on the interior and striations on the exterior (Fig 5.2: 1,2); plain green-glazed bowls are small in

⁵¹³ Li Jianfa et al.,2009.

number.⁵¹⁴ The clay of the decorated bowls is greyish white and the glaze is crazed and light green in colour, which fully covers the interior and exterior surface of the bowls except the base.⁵¹⁵ Vessels with an identical shape, incised pattern and similar size were unearthed at kiln sites in the east region of Longquan, and the clay and glaze features match the shipwreck examples (Fig 5.2: 3,4).⁵¹⁶ This type vessel, however, was imitated by other kilns in Zhejiang and Fujian province among which some of the products from the Huichang site at Songxi and the Wanyaobei site at Pucheng (North Fujian) (Fig 5.3 below) are so similar to the Longquan wares that from visual observation it is difficult to tell them apart.⁵¹⁷ Therefore, the provenance of decorated green-glazed bowls is likely to be the Longquan kilns or/and the Songxi and Pucheng kilns. The green-glazed dishes display the same clay, glaze and similar incised design as the bowls, which indicates that they might also have been produced at the same kiln sites. The sherd of a qingbai bowl is argued to be from Jingdezhen due to the compact and thinly-potted clay body.⁵¹⁸

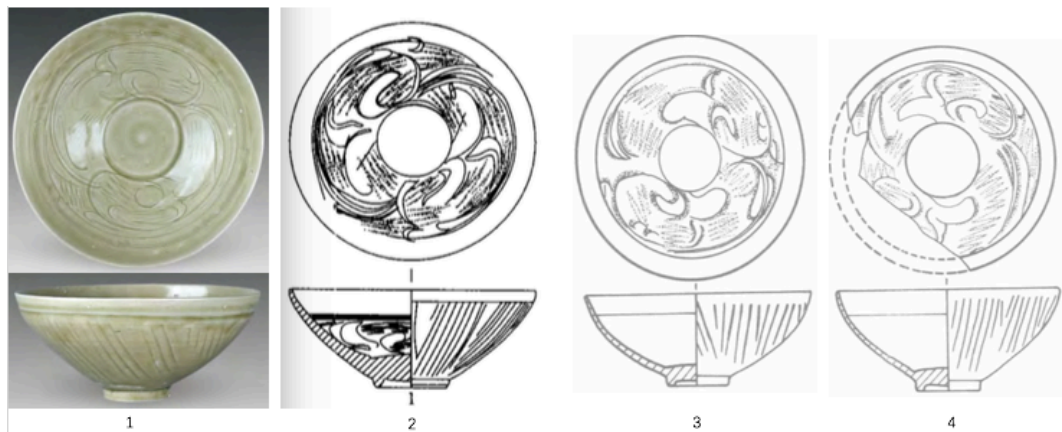


Figure 5.2 The green-glazed bowls from the Beitugui Reef No.1 shipwreck (1,2) and Longquan kiln sites (3,4)

⁵¹⁴ Li Jianan, 2010.

⁵¹⁵ Li Jianan, 2010.

⁵¹⁶ Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, p. 209.

⁵¹⁷ Dong Jianli, 2011,

⁵¹⁸ Li Jianan, 2010.



Figure 5.3 Location of the kiln complexes and the Pingtan and Beitugui Reef shipwrecks

The shipwreck is dated to the early Southern Song period because the Longquan wares that are identical to the recovered decorated green-glazed bowls were made between later Northern Song to early Southern Song period.⁵¹⁹ Furthermore, among the one hundred and twenty-two recovered coins the majority belong to the mid and late Northern Song with few being cast during the early Southern Song period (1131).⁵²⁰

The bulk of the ceramic cargo originated from the Longquan kilns and/or kiln sites in North Fujian which would have access to the Minjiang River and its tributaries for transporting goods to Fuzhou (Fig 5.3). Combined with the wrecks' location,⁵²¹ it appears that the ship sailed from the port of Fuzhou, then if had not sunk would probably have headed on to Quanzhou to load more cargo before heading to Southeast Asia.

⁵¹⁹ Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, p. 243.

⁵²⁰ Song Pengbo, et al., 2014.

⁵²¹ It sunk in the coastal water of Putian, a city laying between Fuzhou and Quanzhou.

b. The Pingtan Dalian Island shipwreck site

The shipwreck site was discovered in the coastal waters of Fuzhou during a 2009-2010 underwater survey of Fujian province.⁵²² No remain of the hull is reported and the collected relics are all green-glazed wares among which bowl is the dominant vessel form, with dishes and saucers also being recovered.

The thickly-potted bowls and dishes were made of grey clay and fully covered by thin green glaze. They are decorated with an incised wave and lotus pattern on the interior and curved striations on the exterior wall (Fig 5.4).⁵²³ Similar vessel shapes and decoration were unearthed at Longquan and the Huichang kiln site at Songxi.⁵²⁴

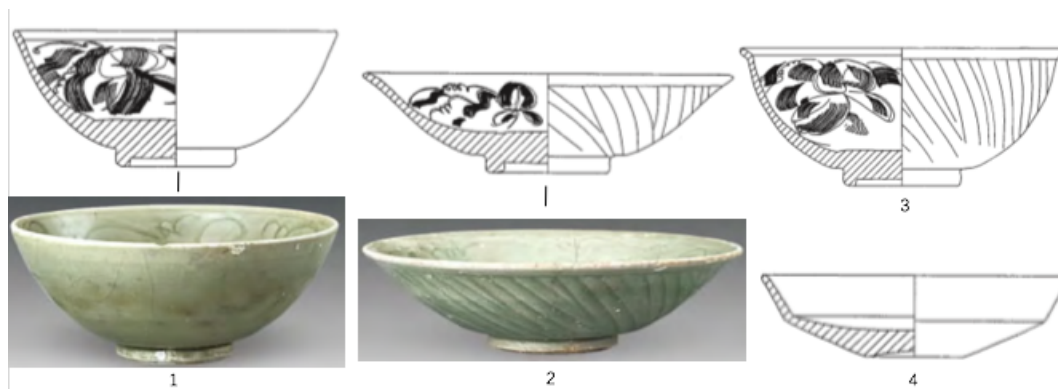


Figure 5.4 *The green-glazed bowls from the Pingtan Dalian Island shipwreck site*

Longquan wares with forms identical with the shipwreck finds are dated to the early Southern Song period, which suggests a similar date for the shipwreck.⁵²⁵ The location of the site and the ceramics cargo, which mainly originated from North Fujian or Longquan, pinpoint Fuzhou as its departure port (Fig 5.3). Nevertheless, the destination or its next stop is unclear with such limited information.

⁵²² Song Pengbo, et al., 2014.

⁵²³ Song Pengbo, et al., 2014.

⁵²⁴ Yang Zelin, 2016.

⁵²⁵ The IV type bowl and II type dish of Longquan kiln resemble the bowls and saucers surfaced from the shipwreck site and they are concluded to vessel made during early Southern Song (Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, pp. 243-244).

c. The Java Sea wreck

The Chinese ceramic cargo on the Java Sea wreck can be divided into five groups: qingbai ware, green ware, brown ware, lead-green ware and black ware. Based on the numbers in the excavation report, qingbai ware accounts for 95% of the recovered Chinese ceramics, with the other 5% being made up by the other four ceramic types (Chart 5.1).

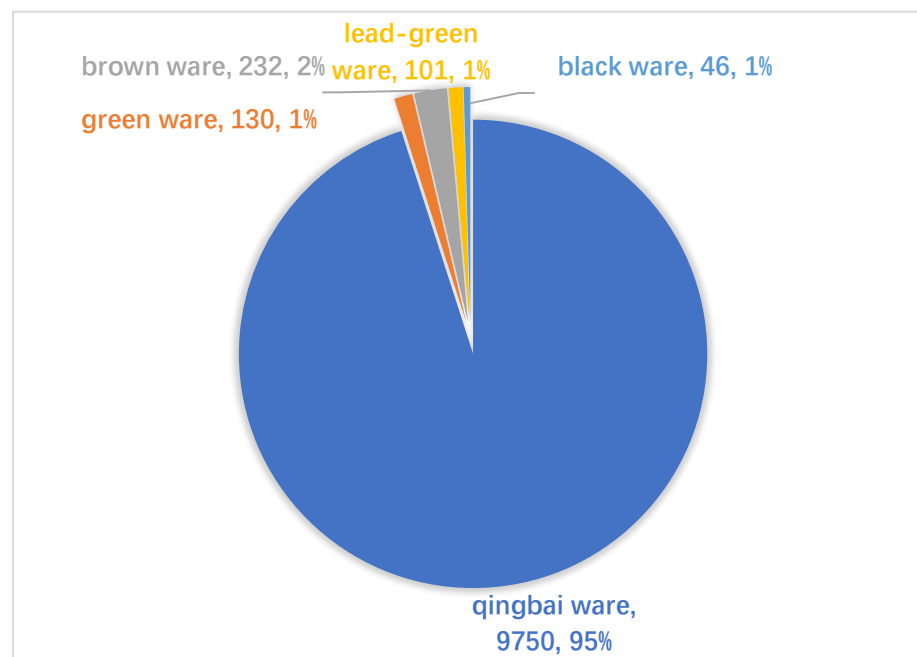


Chart 5.1 *The proportion of Chinese ceramic types on the Java Sea wreck*

The qingbai wares display different clay, glaze features and decoration and thus clearly originated from different kilns. Qingbai Type I ceramics are characterized by their greyish-white paste and glazes ranging from greyish-white to greyish-green, among which the majority are bowls but also include more than one thousand saucers.⁵²⁶ Based on potting technique, glaze and adornment style, this type of qingbai ware can be further divided into two groups: the first is composed of thickly-potted vessels with glaze running unevenly to the lower wall, most are plain or decorated with the simple

⁵²⁶ Among the surfaced example of this type qingbai ware, there are 7048 pieces of bowls and 1411 pieces of saucers (Mathers and Flecker, 1997, pp. 153-164).

combed pattern on the interior surface or a lobed rim, some have an unglazed stacking ring cut onto the interior (Fig 5.5); the second refers to wares with a carefully-carved footring and relatively thinly-potted body, fully covered in glaze (except the base) and the interior wall incised with rather dense floral or combed cloud motifs (Fig 5.6 below). Such features correspond with the product characteristics of the Minqingyi kiln during the early to mid-late Southern Song period (Fig 5.7 below).⁵²⁷ The provenance based on stylistic analysis is confirmed by the compositional analysis done by Xu. The pXRF data unambiguously assign this type of qingbai ware to the Minqing kiln complex which located near Fuzhou (Fig 5.8 below).⁵²⁸

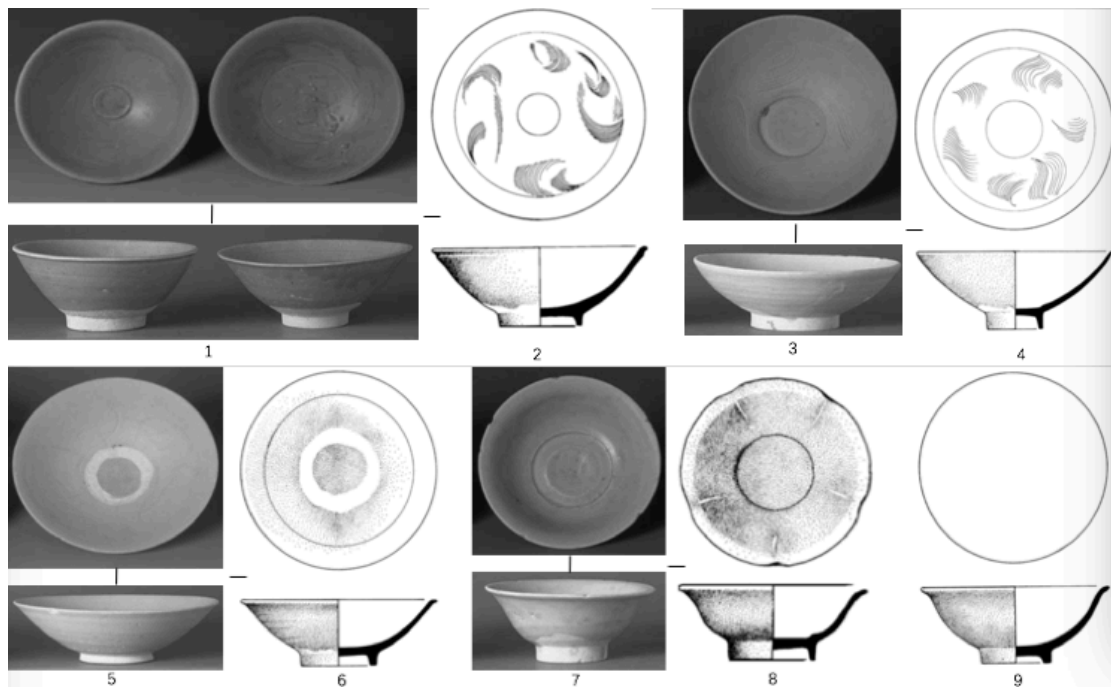


Figure 5.5 The qingbai Type I bowls from the Java Sea shipwreck

⁵²⁷ Yang Zelin, 2016.

⁵²⁸ Xu Wenpeng, et al., 2019.

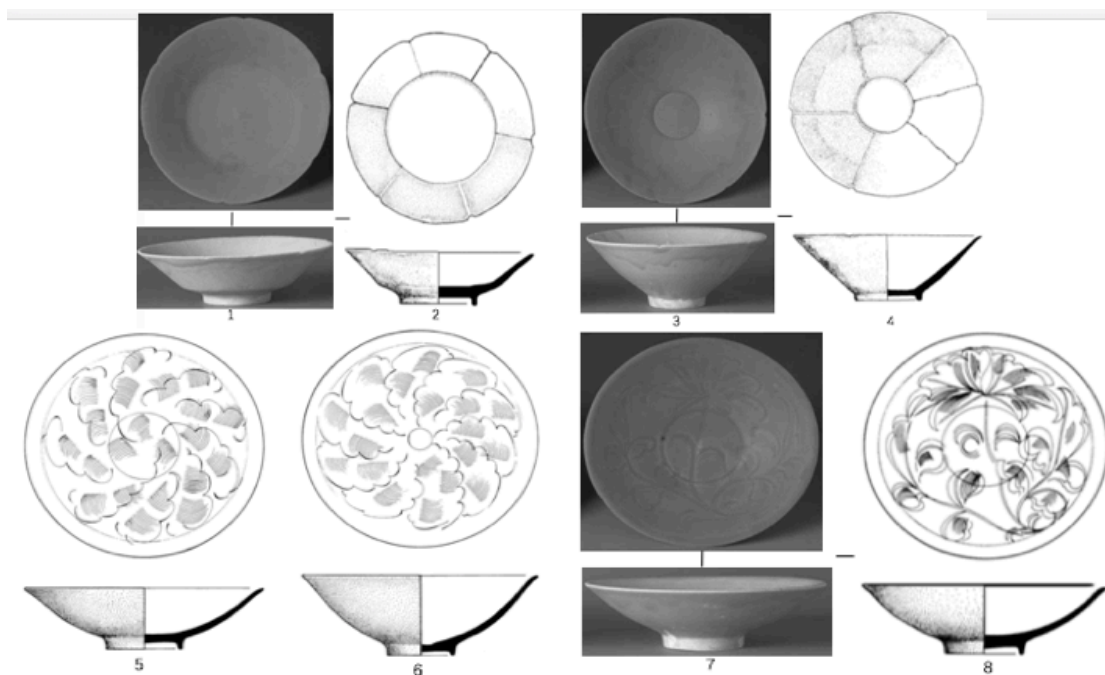


Figure 5.6 The qingbai Type I bowls from the Java Sea shipwreck

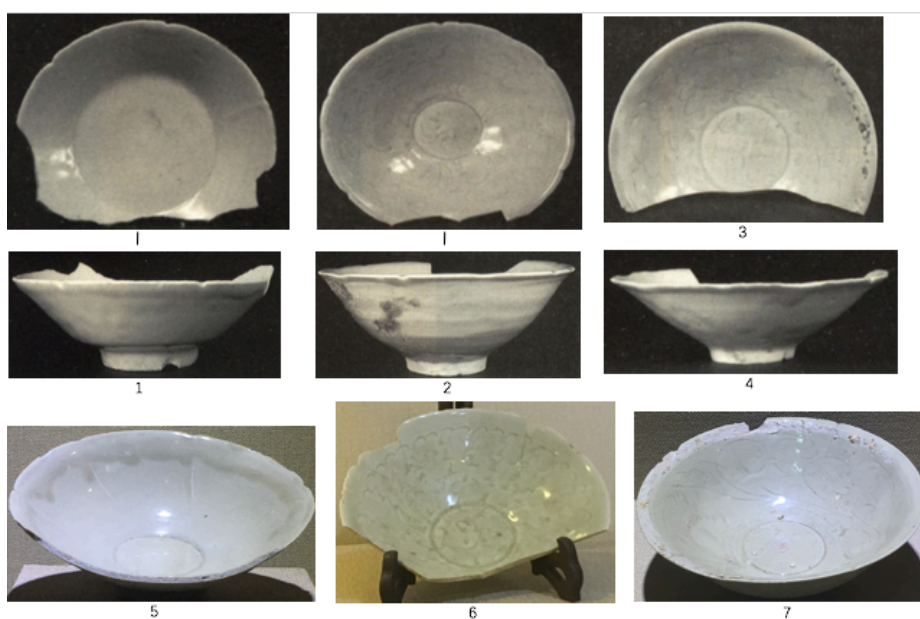


Figure 5.7 The qingbai wares unearthed from the Minqingyi kiln sites

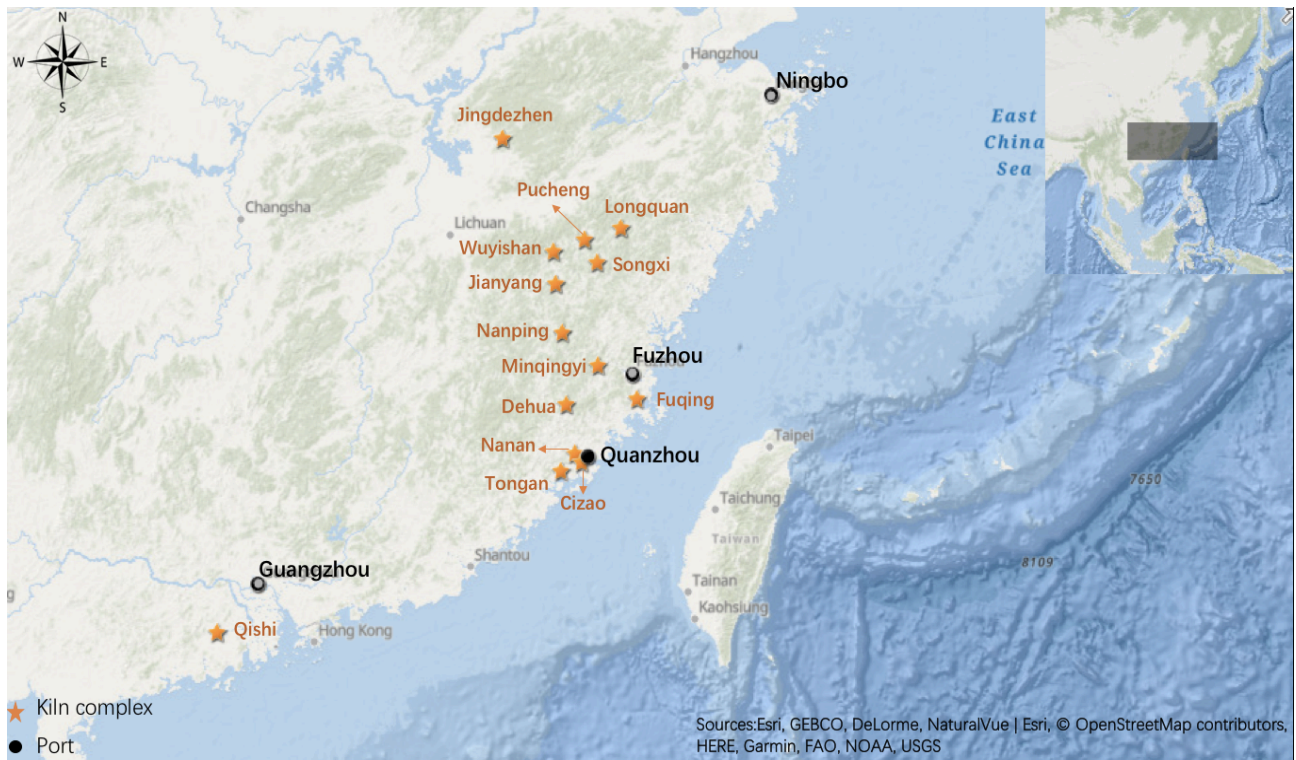


Figure 5.8 Location of the major ports and production kiln sites of the Chinese ceramics on the Java Sea Wreck

Qingbai Type II ceramics feature a sugary white paste and light bluish-white or greyish-white glaze. The majority are moulded boxes and small bottles.⁵²⁹ The boxes vary in size and shape but most have a floral spray (often a peony) in relief on the centre cover (Fig 5.9).⁵³⁰ The Dehua kiln is known for producing qingbai covered boxes and identical ones have been found at the Wanpinglun kiln site (Fig 5.10).⁵³¹ Nevertheless, Dehua is not the only manufacturer of qingbai boxes and others including the Wan kiln site at Xiameng, Huajiashan at Jianyang, Nan'an at Quanzhou, and Dakou at Pucheng were known to have product them (Fig 5.8). The products of Huajiashan and Dakou

⁵²⁹ Among the surfaced example of this type qingbai ware, there are at least 1168 pieces of boxes (268 complete covered boxes, 600 covers and 900 bottoms), 70 moulded bottles and one fragment of a ewer (Mathers and Flecker, 1997, pp. 131-136).

⁵³⁰ The diameter of covered boxes ranges from 5cm to 11cm, and the vessel shape of the surfaced examples includes circular with bands of vertical ribs around the shoulder and lower section, octagonal, melon-shaped (Mathers and Flecker, 1997, pp. 132-136).

⁵³¹ During the excavation of the lower layer of the Wanpinglun kiln site, covered boxes account for the most abundant vessel form among the unearthed ceramics (Fujian Museum, 1990, p. 35).

resemble the Dehua ones.⁵³² The compositional analysis assigns the majority of the covered boxes of this type to the Dehua kiln and a few to the Huajiashan kiln.⁵³³

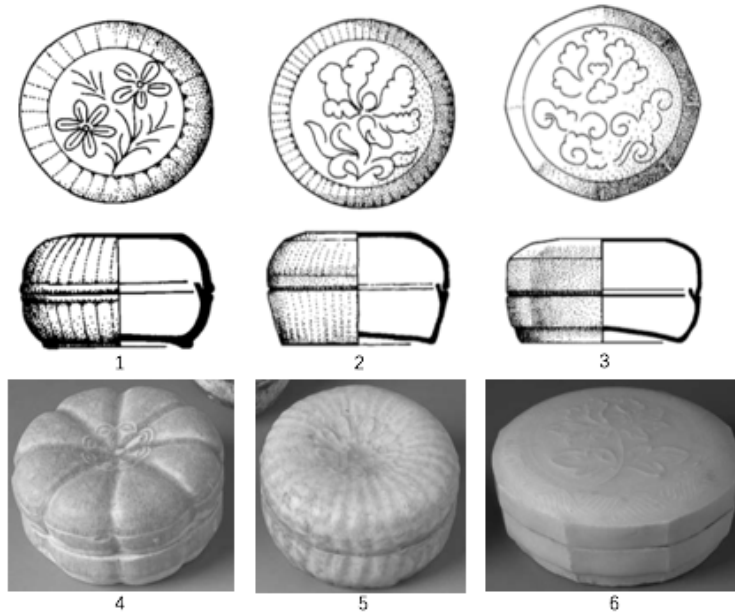


Figure 5.9 The qingbai Type II boxes from the Java Sea shipwreck

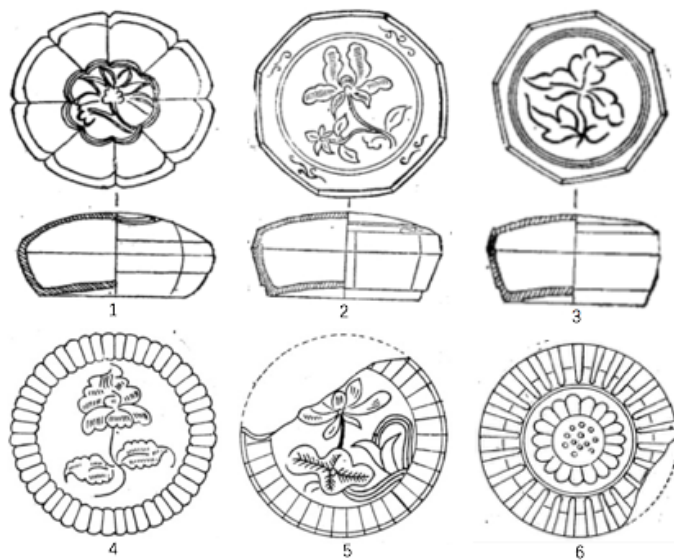


Figure 5.10 The qingbai boxes from the lower layer of Wanpinglun kiln site

⁵³² Liu Xiuping, 2013; Lin Zhonggan and Zhao Hongzhang, 1988.

⁵³³ Among twenty-two samples of this type qingbai ware, nineteen were assigned to Dehua and three to Huajiashan (Xu, Niziolek, and Feinman, 2019).

Qingbai Type III ceramics are the finest pieces, characterized by their fine white paste, thin body, and translucent bluish glaze. The common form is a moulded bowl or dish with a foliate design, with ewers, vases and covered boxes also found (Fig 5.11:1,3,5,7).⁵³⁴ During the Song and Yuan periods, the finest qingbai wares were produced at Jingdezhen, Jiangxi province. There are examples unearthed at the kiln site resembling the dishes, ewer and boxes on board the wreck (Fig 5.11:2,4,6,8). Several compositional studies by Niziolek confirm that this type of ceramics originated from Jingdezhen.⁵³⁵ Some other qingbai wares from the Java Sea wreck are probably from other Fujian kilns such as Pucheng and Fuqing (Fig 5.12).⁵³⁶

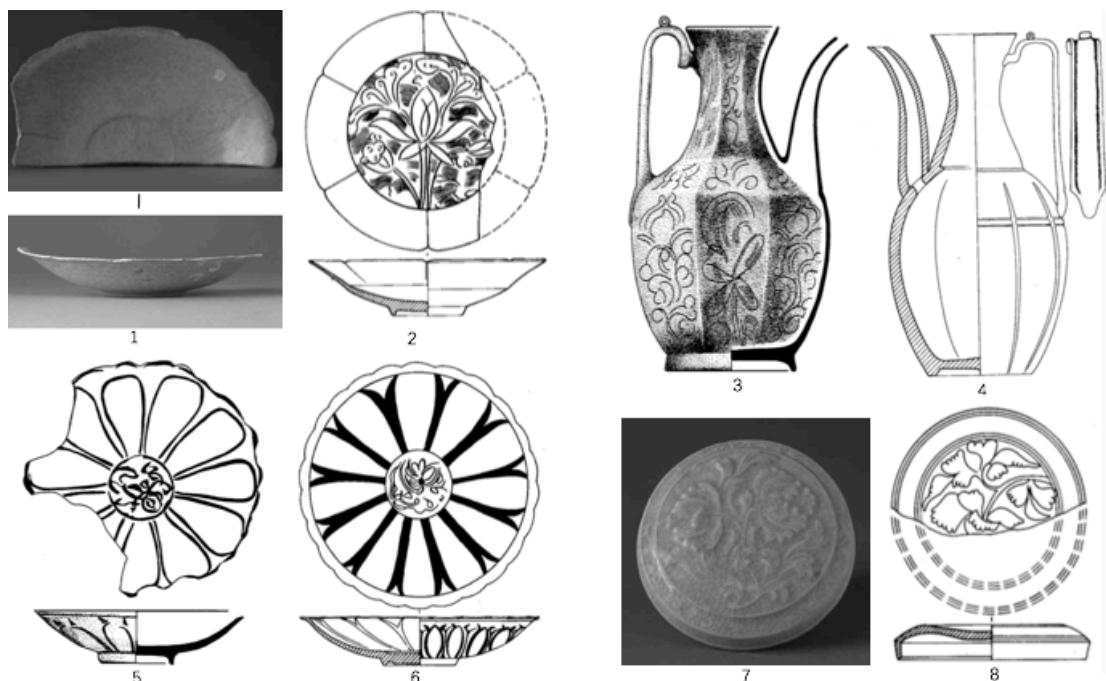


Figure 5.11 The qingbai Type III wares from the Java Sea shipwreck (1,3,5,7) and similar examples from the Hutian kiln site (2,4,6,8)

⁵³⁴ Mathers and Flecker, 1997, pp. 138-146.

⁵³⁵ Niziolek, 2018 ; Niziolek, 2015.

⁵³⁶ The spouted pot is the typical vessel form of the Dakou kiln site of Pucheng which is usually decorated with moulded motif and covered by fine qingbai glaze as the shipwreck findings (Lin Zhonggan and Zhao Hongzhang, 1988; Zeng Fan, 2001, p. 122); The vessel shape of the bottle with long sinuous dragon in sculptural relief around the tall neck is identical to the lead-green wares mention in the following text which were originated from Shikeng kiln site of Fuqing. Since qingbai wares were also yielded at the kiln site, it is reasonable to assume that such vessel was also produced at Fuqing (Ouyang Xijun, 2005: 51-53) ; The big bowls (diameter 22cm) with dense floral scrolling on the interior and traces of a circular kiln stacking scar on the base could be products of Zhangpu or Zhangping kiln since such decoration and stacking method was adopted at both kiln sites (Mei Huaquan, 1987; Luo Yisheng, 2005, pp. 18-19).



Figure 5.12 *The other qingbai wares from the Java Sea shipwreck*

As seen in Chart 5.2, the Minqingyi kiln was the main producer of the qingbai wares from the Java Sea wreck, making up more than 80% of the recovered examples, followed by Dehua kiln and Jingdezhen vessels which appear in smaller numbers.⁵³⁷ The common vessel forms of qingbai wares from the three provenances vary: Minqingyi kiln bowls, Dehua kiln covered boxes, Jingdezhen dishes. While the quality of Dehua and Jingdezhen wares on board is consistent, Minqingyi wares vary: the plain bowls of lower quality account for the major proportion, and bowls of higher quality with dense motifs as the second (Chart 5.2).

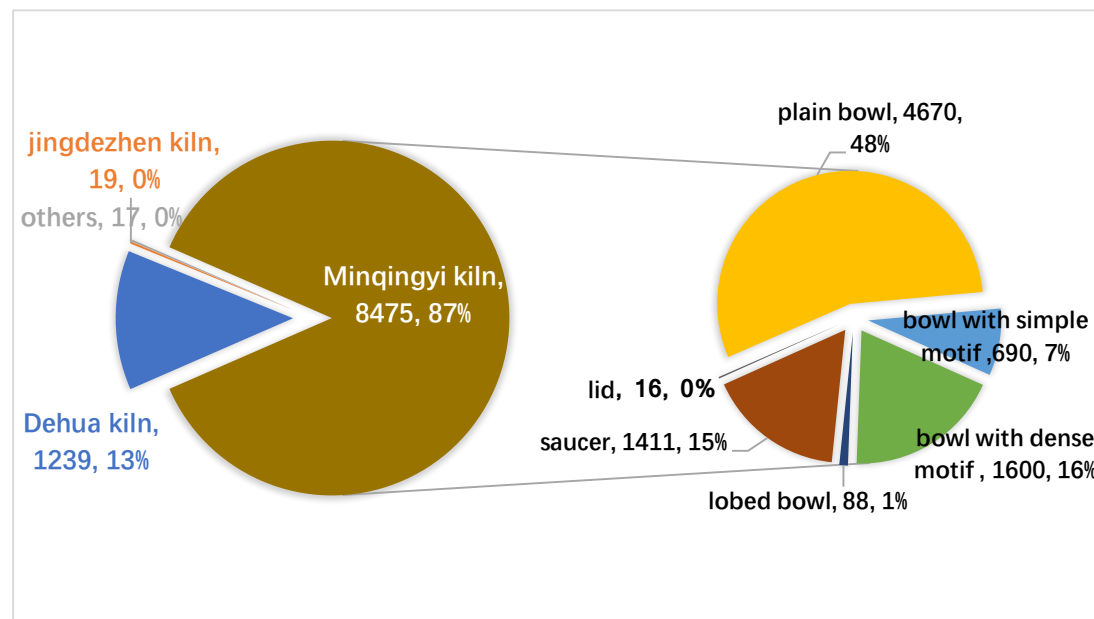


Chart 5.2 *The proportion of each qingbai ware type on the Java Sea wreck and the Minqingyi ware vessel forms*

⁵³⁷ The calculation is based on surfaced examples in the excavation report. Some of the qingbai-glazed boxes which similar to Dehua ware in appearance but might be made at other kiln sites in terms of glaze and clay composition, are all classified as Dehua ware. However, judge from the previous discussion they do not account for large proportion and will not affect the conclusion in the text.

The vessel forms of the recovered green wares are bowls and dishes (Chart 5.3 below). They are all relatively heavily potted and most are decorated with cursive carved and incised designs on the interior and exterior surface (Fig 5.13 below).⁵³⁸ The glaze, which varies in shades of green but tends to be dark rather than light ends unevenly at the lower wall or just above the foot. Such vessels were widely produced at Fujian and Zhejiang province, and for the majority of green wares from the Java Sea wreck, visual inspection is not sufficient to pinpoint their production site.⁵³⁹ Nevertheless, some of the vessels display decoration or shapes that are unique features of a specific kiln. There are twenty-seven bowls with an unusual mouth that curves inward then out (Fig 5.13:3). It is a major vessel shape of black ware but not commonly seen among green ware expect at the Fuqing kiln, which was located near Fuzhou (Fig 5.8) and where numbers of green-glazed bowls with the same shape and decorated with a very similar incised pattern were unearthed (Fig 5.14:1,2). The shape of seven big dishes with diameter between 22 to 24cm and an impressed Chinese character “ Ji 吉” at the centre are possible products of the Huichang kiln site at Songxi or the Luodong kiln site at Nanan (Fig 5.8) where the “Ji” mark is commonly seen on the green-glaze dishes (Fig 5.14:3-5).⁵⁴⁰

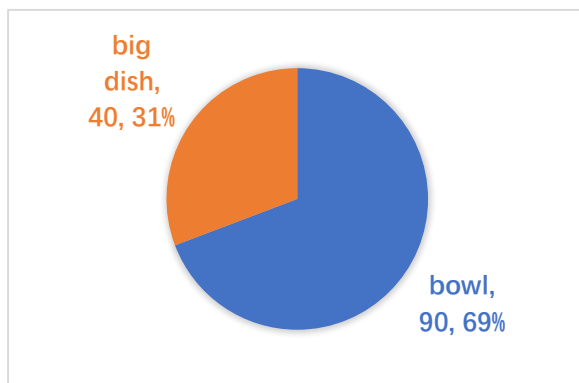


Chart 5.3 *The proportion of green ware vessel forms on the Java Sea wreck*

⁵³⁸ Usually incised on the interior with a cursive, stylized floral design or cloud-like motif with combing, and on the exterior with striations down the walls (Mathers and Flecker, 1997, pp. 149-152).

⁵³⁹ Dong Jianli, 2011.

⁵⁴⁰ Lin Zhonggan and Zhao Hongzhang, 1989; Yang Zelin and Yang Jingwei, 2017.

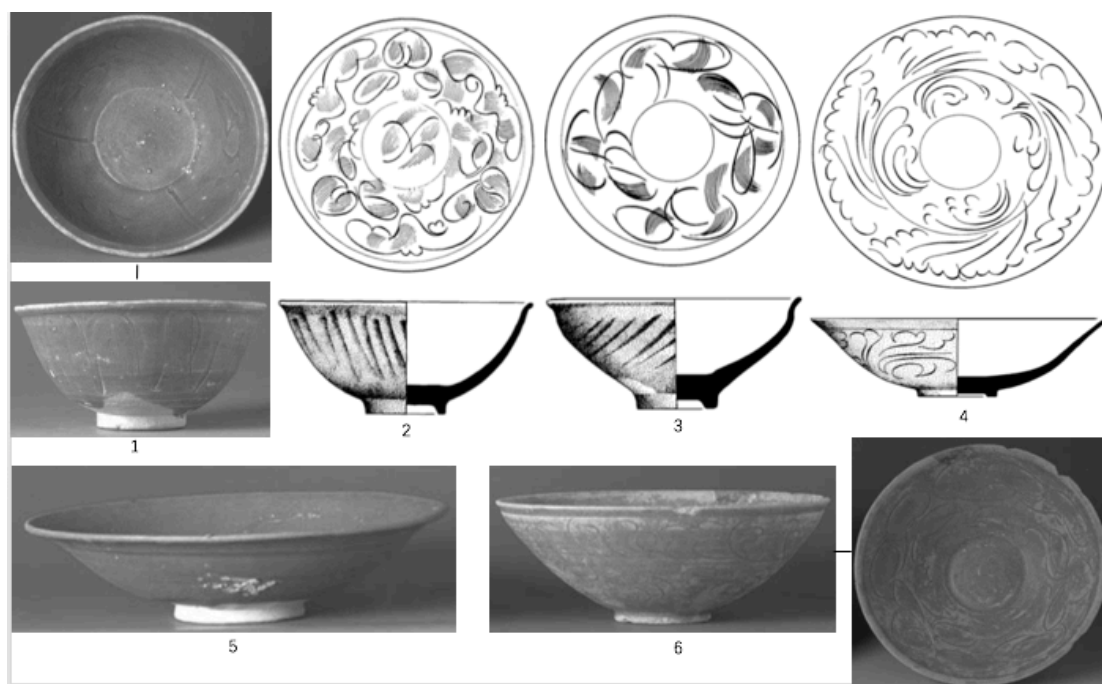


Figure 5.13 *The green wares from the Java Sea shipwreck*



Figure 5.14 *The similar green-glazed bowls from domestic kiln sites*

Lead-green glazed ware refers to vessels covered in a bright shade of green lead glaze. This was a low-temperature glaze that would have been applied after the first biscuit firing of the pottery when their clay body is hard and greyish-white.⁵⁴¹ Few examples

⁵⁴¹ Trace of the glaze is still apparent present on some wares, but on others it is completely gone due to erosion (Mathers and Flecker, 1997, p. 116).

are plain, the majority are decorated with a painted motif which is sometimes in simple underglaze black but more often has a white design in relief or incised against the black ground (Fig 5.15 below). The painting is applied before the biscuit firing. The vessel forms of the lead-green glazed ware range from bowls and dishes to ewers and covered boxes.⁵⁴² Even though the Cizhou kiln complex in the north is known for producing painted wares, the composition of the pastes used for such vessels from the Java Sea wreck suggests that they were made in the southern part of China rather than the north.⁵⁴³ So far, among the kilns of South China, fragments of biscuit firing pottery painted with underglaze black and decorated with white motifs against a black ground were found at Wuyishan, Nanping (both in north Fujian) and Fuqing (near Fuzhou) (Fig 5.16 below).⁵⁴⁴ Moreover, the excavation of the Wudaoqiao kiln site at Wuyishan has yielded a sherd of a lead-green glazed incense burner painted with underglaze black.⁵⁴⁵ As for Cizao (near Quanzhou) where more abundant lead-glazed wares were unearthed, finds of them painted in underglaze black is scarce and no discoveries have been made of wares decorated with white motifs against a black ground.⁵⁴⁶ Therefore, based on stylistic analysis the painted lead-glazed wares were most likely produced at a north Fujian such as Wuyishan or Nanping, or from the Fujian east coastal region, namely the Fuqing kiln. The few plain examples could originate from Cizao (Fig 5.8). The variable result of the composition study of the painted lead-glazed ware paste also indicates that they were made at multiple locations.⁵⁴⁷

⁵⁴² Mathers and Flecker, 1997, pp. 116-130.

⁵⁴³ In the analysis conducted by Niziolek, the lead-green painted wares from the Java Sea wreck have amount of SiO_2 and Al_2O_3 ranging from 74.28-73.86% and 19.92-20.61% respectively (Niziolek, 2015) ; The percentage of SiO_2 in the paste of wares produced in the South ranges from 70% to 75%, and Al_2O_3 nearly 20%, while the amount of SiO_2 for the North ware is below 65% and Al_2O_3 about or more than 30% (Xiong Yingfei and Gong Yuwu, 2008). Judging by paste composition, the lead-green painted wares from the Java Sea wreck were originated from the South kiln sites

⁵⁴⁴ The Underwater Archaeology Research Center of National Museum et al., 2015, pp. 164-170 ; Fujian Museum, 2000; Wang Shiliang et al., 2018; Ouyang Xijun 2005, p. 26.

⁵⁴⁵ The Underwater Archaeology Research Center of National Museum et al., 2015, p. 171.

⁵⁴⁶ Fujian Museum et al., 2011, pp. 30-33, 53, 110. Moreover, at Jizhou (Jiangxi province) there are also lead green glazed unearthed. However, they were decorated with incised or impressed pattern painting instead of painting. And the loose clay body of Jizhou ware is inconsistent with the clay feature of the shipwreck findings (Zhang Wenjiang and Li Yuyuan, 2014).

⁵⁴⁷ Niziolek, 2018.



Figure 5.15 The lead-green wares from the Java Sea shipwreck



Figure 5.16 The fragments of the painted wares from domestic kiln sites

The recovered black wares of the Java Sea wreck are all bowls, and they are in a standard size and shape valued as a tea-drinking bowl featuring a slight curve around the mouthrim.⁵⁴⁸ Such black ware was a major product of the Jizhou kiln (Jiangxi province), and Jianyang, Nanping, Wuyishan and Fuqing kiln at Fujian province. The characteristic of the glaze of the shipwreck finds which is thin at the mouthrim but flowing thickly onto the lower exterior walls and the rough, grainy grey clay suggest Fuqing and Jianyang as a more likely provenance.⁵⁴⁹

The brown wares from the Java Sea wreck are mainly jars in various shapes and sizes.⁵⁵⁰ Most vessels find parallels at the Cizao kiln sites (Fig 5.17). But some jars with four handles and a stamped mark around the upper shoulder are thought to be products of the Qishi kiln, Guangdong province.⁵⁵¹

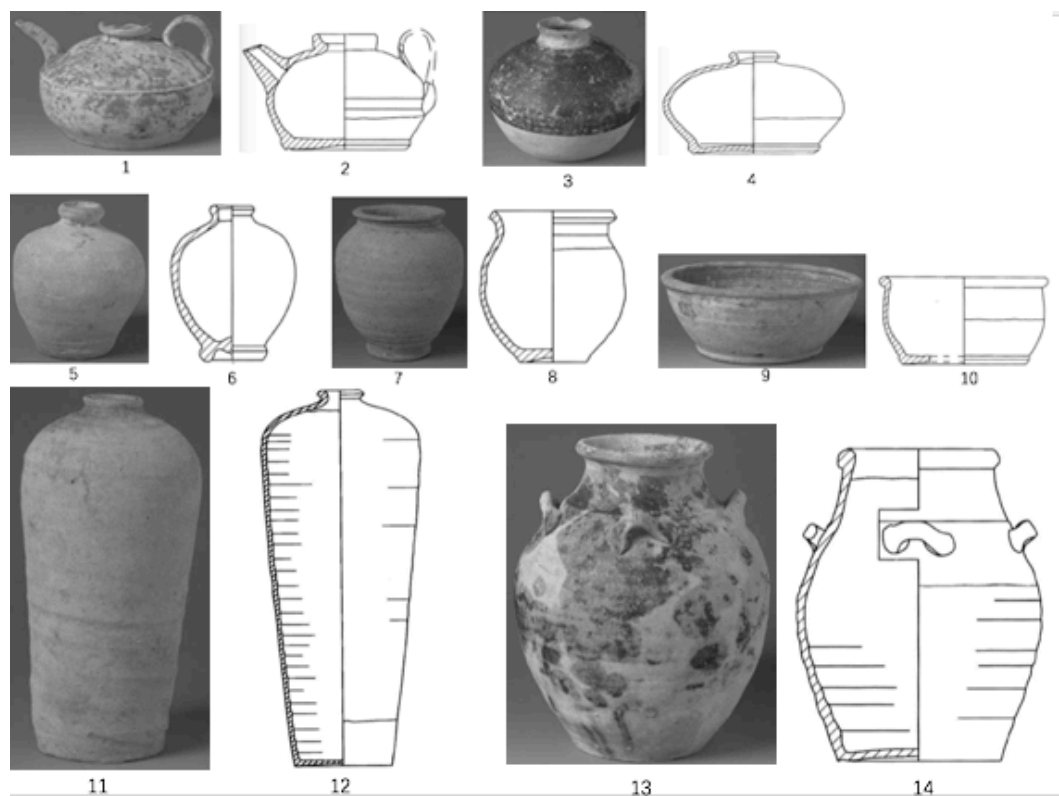


Figure 5.17 The brown wares from the Java Sea wreck (1,3,5,7,9,11,13) and the comparable finds from the Cizao kiln site (2,4,6,8,10,12,14)

⁵⁴⁸ Mathers and Flecker, 1997, pp. 130-131.

⁵⁴⁹ Ouyang Xijun, 2005, pp. 50-53; Li Jianan, 1995.

⁵⁵⁰ Mathers and Flecker, 1997, pp. 165-172.

⁵⁵¹ Mathers and Flecker, 1997, pp. 170.

The largest proportion of Chinese ceramics in the Java Sea wreck collection are qingbai wares from the Mingqingyi complex, which is near the port of Fuzhou. There are other ceramic types also assigned to the kilns located at the Immediate prefecture of Fuzhou such as Fuqing. As for products from kilns in north Fujian, namely Jianyang, Wuyishan, Nanping, Songxi and the Jingdezhen complex, they all had access to the Minjiang River and its tributaries for transporting goods to Fuzhou (Fig 5.8).⁵⁵² It appears that as Xu argues, instead of Quanzhou being the initial port of lading as previously thought, the ship probably sailed from the port of Fuzhou and then on to Quanzhou to load Dehua wares and green-glazed wares from nearby kilns such as Nanan. The destination of the ship, as proposed by Flecker, is east Java possibly Tuban.⁵⁵³

The Java Sea wreck is dated to the early Southern Song period based on the stylistic analysis of the ceramic cargo and more importantly the stamped marks found on several pieces. The bottom of a covered box was stamped with the Chinese character “Jianning fu 建宁府”, the toponym of Jianzhou only adopted after 1162, and two cyclical date - “丙辰年” and “丙子年” were seen on the shoulder of storage jars which refer the years of 1136 and 1156 respectively.⁵⁵⁴

d. The Breaker Shoal shipwreck site

The shipwreck site, located at the Breaker Shoal, south-west of Palawan, was accidentally discovered by local fishermen in 1991 and then a one-month excavation was conducted.⁵⁵⁵ While no remain of wood was revealed, around one thousand pieces of Chinese ceramic were recovered.

⁵⁵² Tatsuya Mori, 2016.

⁵⁵³ Flecker, 2003.

⁵⁵⁴ Liu Wei, 2016.

⁵⁵⁵ Dupoizat, 1995, p. 205.



Figure 5.18 The qingbai wares from the Breaker Shoal shipwreck site

The Chinese ceramic cargo on board is mainly composed of green wares and qingbai wares, with some painted wares, and lack and brown wares.⁵⁵⁶ The ceramic cargoes of the Breaker Shoal shipwreck site and the Java Sea wreck are highly consistent in terms of ceramic types, vessel form, glaze and clay features and decoration, which suggests an identical or similar provenance. The qingbai wares, like those on the Java Sea wreck, can be classified into four types based on visual inspection. Type I is the qingbai glazed bowls that displays the same clay, glaze features and incised motifs as the qingbai wares of higher quality from the Minqingyi kiln on the Java Sea wreck (Fig 5.18:1,2,3,4).⁵⁵⁷ Type II are the covered boxes and small bottles with bluish qingbai glaze, decoration and shapes identical to the Dehua wares from the Java Sea wreck (Fig 5.18:7,8).⁵⁵⁸ Type III are thinly-potted bowls and dishes made of a fine white body, and covered by translucent bluish glaze; they are the same shape as the Jingdezhen wares on the Java Sea wreck (Fig 5.18:5,6).⁵⁵⁹ Type IV refers to the several small spouted pots with a

⁵⁵⁶ Dupoizat, 1995, pp. 207-221.

⁵⁵⁷ The qingbai ware bowl, with greyish-white body and greyish-green glaze, have tears of glaze around the mouth rim just as the JWS findings (Dupoizat, 1995, pp. 207-208).

⁵⁵⁸ Dupoizat, 1995, pp. 215-216.

⁵⁵⁹ Dupoizat, 1995, pp. 217-218.

fine white body and glaze ranging from greyish to bluish white and decorated with moulded lotus petal (Fig 5.19:1,2,3).⁵⁶⁰ Such vessels are the featured products of the Dakou kiln site at Pucheng (north Fujian) and the excavated pots from the kiln complex match the size, shape, glaze colour and decoration of the shipwreck finds (Fig 5.19:4,5,6).⁵⁶¹ Due to the incomplete data, the precise proportion of each type cannot be obtained. Nevertheless, the bowl from the Minqingyi kiln appears to be the major form since more than three hundred pieces were recovered.⁵⁶²



Figure 5.19 The qingbai pots the Breaker Shoal shipwreck site (1-3) and the comparable finds from the Dakou kiln site (4-6)

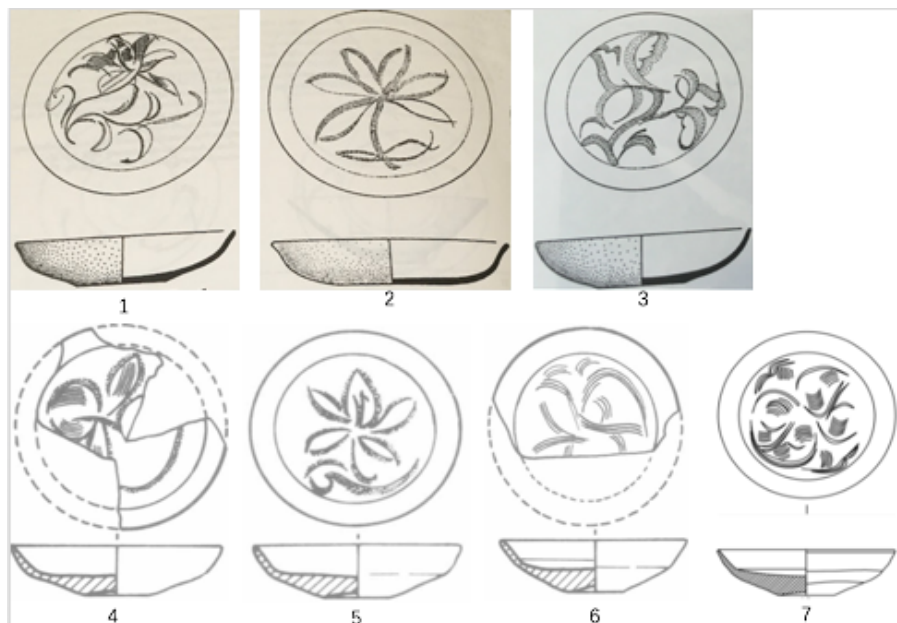


Figure 5.20 The saucers from the Breaker Shoal shipwreck site (1-3) and the comparable finds from the Longquan (4-6) and Songxi kiln site (7)

⁵⁶⁰ The pots are 6.5cm high (Dupoizat, 1995, pp. 216-217).

⁵⁶¹ Lin Zhonggan and Zhao Hongzhang, 1988; Yang Zelin, 2018.

⁵⁶² Dupoizat, 1995, p. 207.

The green wares, mainly saucers, bowls, big dishes and ewers, display a wide range of glaze colour, different potting and firing techniques, which indicates a number of provenance.⁵⁶³ Around three hundred saucers with a flat base (about 10cm diameter), covered by olive-toned green or greyish glazes and decorated with a central floral motif or combed designs on the interior are thought to originate from different kiln sites.⁵⁶⁴ The olive-green glazed ones were likely to be produced at Longqung or Songxi since saucers of a similar shape, size and incised with the same motif have been found among the kiln complex (Fig 5.20 above).⁵⁶⁵ In contrast, the ones with greyish glaze are assigned to the Minqingyi kiln as such vessels are found among the Minqingyi wares on the Java Sea wreck.⁵⁶⁶ More than two hundred bowls were recovered from the shipwreck site, all incised with curving lines on the interior walls and striations on the exterior, most having everted rims and rounded sides, and with glaze colour ranging from ochre to green (Fig 5.21: 1-3, below).⁵⁶⁷ In addition, some have an unglazed ring in the center of the interior. Bowls in a similar shape, with the same decoration style and stacking rings, were unearthed at Nan'an, a kiln near the port of Quanzhou (Fig 5.21: 4).⁵⁶⁸ Among about forty big dishes, sixteen were found with the Chinese character “Ji” in the centre like the ones on the Java Sea wreck;⁵⁶⁹ these might also have been produced in Nan'an or Songxi (Fig 5.21: 5). As well as bowls and dishes, there are forty-five green-glazed ewers in the ceramic collection of the Breaker Shoal shipwreck site (Fig 5.21: 7),⁵⁷⁰ which might originate from the Jinjiaoyi kiln site in Cizao (near Quanzhou) where the ewer is the major form (Fig.21: 8).⁵⁷¹

⁵⁶³ Big dish refers to those with diameter more than 20cm and small dish are with diameter around 10cm. Dish are the ones with size in between.

⁵⁶⁴ Dupoizat, 1995, pp. 211-212.

⁵⁶⁵ Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005: 231; Yang Zelin and Yang Jingwei, 2017.

⁵⁶⁶ Mathers and Flecker, 1997, pp. 153-154.

⁵⁶⁷ 92 bowls have everted rims and rounded sides. 27 are of conical shape (Dupoizat, 1995, pp. 210-211).

⁵⁶⁸ Yang Zelin, 2016.

⁵⁶⁹ Dupoizat, 1995, p. 209.

⁵⁷⁰ Dupoizat, 1995, p. 214.

⁵⁷¹ Fujian Museum, 2011, p. 213.



Figure 5.21 The green-glazed bowls, dishes and ewers from the Breaker Shoal shipwreck site (1-3,5-7) and comparable finds from the Nanan (4) and Cizao kiln sites (8)

The painted wares on the Breaker Shoal shipwreck site, mostly ewers and vases in various shapes, are of a similar decoration style as those on the Java Sea wreck and some pieces have an identical form (Fig 5.22: 2-5, below). Nevertheless, unlike the Java Sea wreck finds, no trace of lead green glaze is reported to be found on these painted wares,⁵⁷² which could be due to erosion but is more likely because they are biscuit fired without any glazing. As has been discussed above, such pieces have been found at the kiln complex of Fuqing, Nanping and Wuyishan, among which Fuqing yielded vase fragments with a very similar motif to the shipwreck painted wares and a layer of white slip was applied in the same way as those found on the shipwreck (Fig 5.16: 2,3). As well as painted wares, there are five small vases with a pinkish-beige body and turquoise glaze on board (Fig 5.22: 1). Turquoise ware is a type of low-temperature glazed ware produced in the northern Cizhou-type kilns, and the shipwreck finds are possibly from the Guantai kiln site, where sherds from identical vases have been

⁵⁷² Dupoizat, 1995, pp. 220-221.

excavated.⁵⁷³ So far, in South China no kiln site dated to the Song Period is reported to yield such a discovery,⁵⁷⁴ therefore, it appears that among the Chinese ceramic cargo of the Breaker Shoal shipwreck site, there are also products from the north.



Figure 5.22 The turquoise-glazed small vase (1) and painted wares from the Breaker Shoal shipwreck site (2-5)

As for the black-glazed ware, only a fragment of a conical-shaped bowl with fine brown “hare’s fur” markings on the interior wall is mentioned.⁵⁷⁵ Such vessels were made in various kilns in Fujian.⁵⁷⁶ The brown wares resemble those on the Java Sea Wreck, and the majority likely came from the Cizao kiln as well (Fig 5.23).



Figure 5.23 The brown-glazed wares from the Breaker Shoal shipwreck site

⁵⁷³ Turquoise wares have been found at Dangyangyu kiln site and Guantai kiln site of Cizhou. At Guantai site there are fragments of vases but at Dangyangyu site there aren't (Wang Jianbao, 2011; Department of Archaeology, Peking University et al., 1997, p. 313).

⁵⁷⁴ Li Peining, 2005, p. 21-25.

⁵⁷⁵ Dupoizat, 1995, p. 212.

⁵⁷⁶ Zeng fan, 2001, pp. 166-171.

The Chinese ceramic cargo of the Breaker Shoal shipwreck are mainly the products of Fujian province, namely the kilns located in North Fujian (Songxi and Pucheng), kilns near the port of Fuzhou (Fuqing and Mingqing) and Quanzhou (Dehua, Cizao and Nan'an), others including Jingdezhen in Jiangxi, Longquan in Zhejiang and Qishi in Guangdong province (Fig 5.8). Besides ceramics, an anchor stock was excavated which is of the same type as those found in Quanzhou Bay, as well as lead ingots and occasional rare iron ingots were also recovered.⁵⁷⁷ The metal ingots were not necessarily from China, although this cannot be ruled out. Combined with the location of the wreck, it could be a Chinese ship sailing from Fuzhou, on to Quanzhou, then crossing the South China Sea reaching Luzon or another Philippine island to unload and upload some cargos before heading toward Palawan where it sank (Fig 5.24). If the journey were to continue, the next stop would probably be Borneo where multiple examples of the ceramics found on the wreck have been discovered.⁵⁷⁸

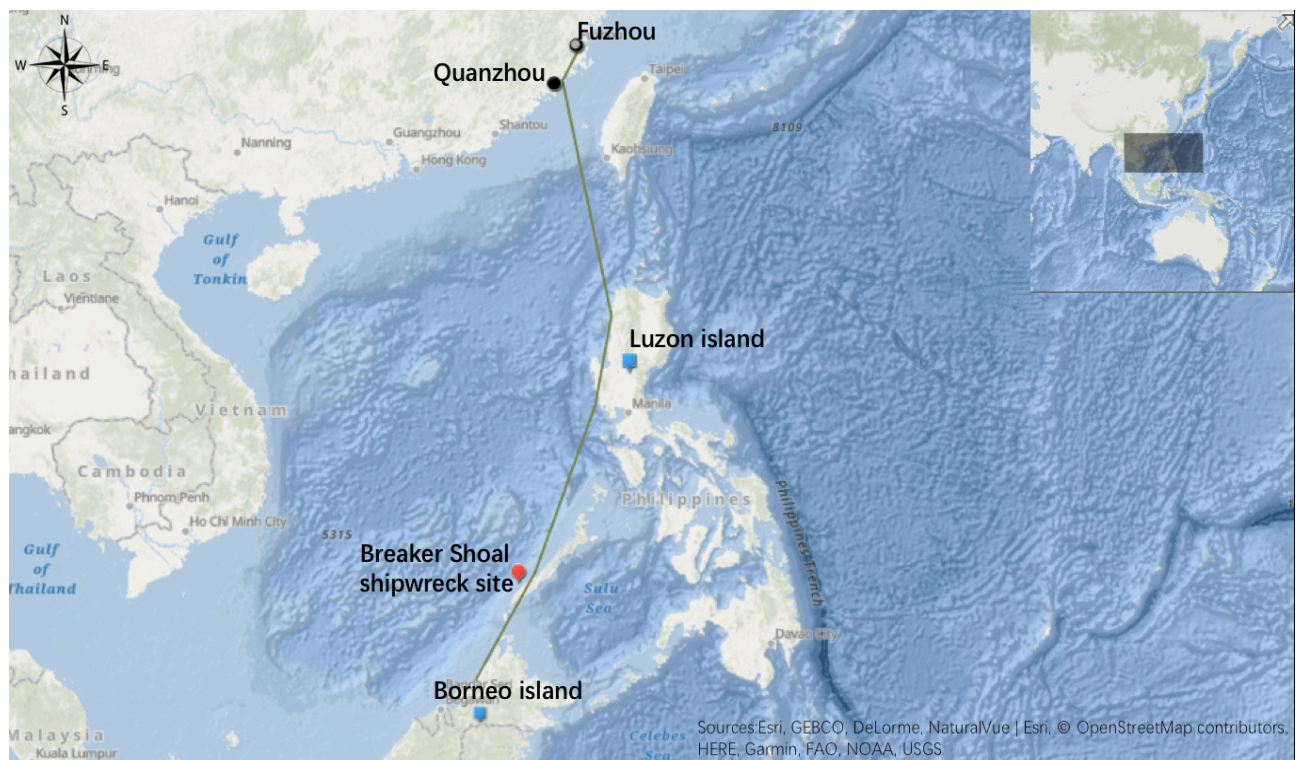


Figure 5.24 The proposed sea-borne route of Breaker Shoal shipwreck site

⁵⁷⁷ Dupoizat, 1995, p. 207.

⁵⁷⁸ Shariffuddin and Omar, 1979, pp. 65-73.

Due to the resemblance of the ceramic cargo between the Breaker Shoal and the Java Sea wreck, the Breaker Shoal vessel is also dated to the early Southern Song period. Further evidence to support the dating is the same “Jianning Fu 建宁府” mark at the bottom of a covered box.⁵⁷⁹

e. The Huaguang Reef No.1 wreck

Huaguang Reef No.1 wreck, located at the inner side of the Huaguang Reef (Paracel Island), was discovered in 1996 by local fishermen. In 1998, a trial excavation was conducted with around one thousand artefacts recovered, and in 2007 during a fifty-day excavation, more than ten thousand pieces of objects were recovered, both complete and damaged.⁵⁸⁰ In both excavations, ceramics account for more than 80% of the excavated artefacts.⁵⁸¹ Because the report of the 2007 excavation has not been published, the data on the ceramics are based on the result of the trial excavation.

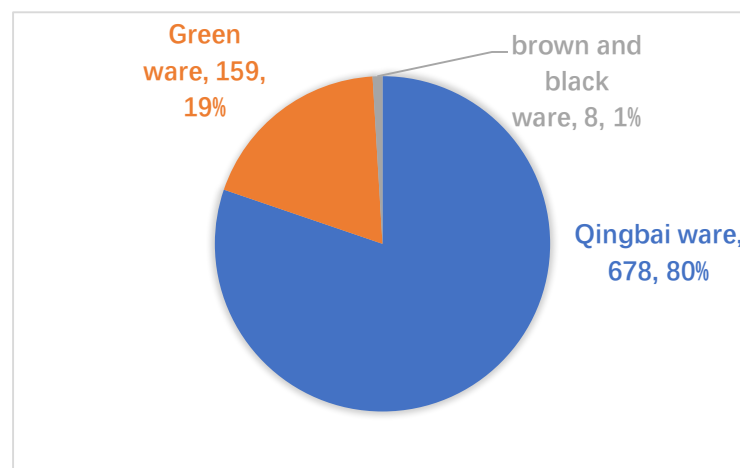


Chart 5.4 *The proportion of Chinese ceramic types on the Huaguang Reef No.1 wreck*

⁵⁷⁹ Goddio, 1997, p. 47.

⁵⁸⁰ Sun Jian et al., 2007; Zhao Jiabing, 2012, pp. 13-56; Zhejiang Museum, 2011; Lv Zhangshen, 2015.

⁵⁸¹ During the trial excavation, among the 1000 pieces, 845 are ceramics (The Underwater Archaeology Research Centre of National Museum, 2006, p. 66), and as for the whole excavation, more than 8000 out of 10000 are ceramics (Sun Jian et al., 2007).

Among the 845 objects recovered ceramics during the trial excavation, 678 are qingbai wares, 159 green wares, and only eight brown and black wares (chart 5.4). The qingbai wares on the Huaguang Reef No.1 wreck are similar to those on the Java Sea wreck and are also from the Minqingyi, Dehua and Jingdezhen kilns. The Minqingyi wares, mainly bowls and dishes, make up the major proportion (Fig 5.25:1-7), followed by the Dehua wares, mostly boxes and small bottles (Fig 5.25:10-12, 15-19), with a few Jingdezhen wares, including a bowl, dish, vase and ewer (Fig 5.25:8,9,13,14). It has been noted that the Jingdezhen wares, which appeared in small number and in non-repetitive shapes, were more likely gifts instead of part of the bulk cargo.⁵⁸²



Figure 5.25 The qingbai wares from the Huaguang Reef No.1 shipwreck

⁵⁸² Sun Jian et al., 2007.

The green wares, commonly found in the form of big bowls and dishes, are classified into four groups. The first one is green ware of lower quality, with green or green yellowish glaze ending short of the base and decorated with cursive incised and combed patterns. The major form are bowls (Fig 5.26:1,2, below).⁵⁸³ Such vessels were widely produced in Fujian, and the Tingxi kiln site at Tongan county is the most well-known.⁵⁸⁴ Nevertheless, the product features of various kilns are rather similar and there is at present no clear standard to tell them apart. The second group is thickly-potted green ware fully covered by olive-green or green yellowish glaze and incised with a more dense and complicated motif that can be seen on the finer products among the green wares on board this ship. The major forms are bowls and dishes (Fig 5.26:3,4,5).⁵⁸⁵ This type of green ware is assigned to Pucheng and Songxi (both in North Fujian) or Longquan (in Zhejiang province) where vessels with the same glaze and decoration features have also been unearthed.⁵⁸⁶ The third group are bowls and dishes with the “Ji” mark at the centre of the interior, which as mentioned in the previously can be sourced to the Luoding kiln at Nanan or the Huichang kiln site at Songxi (Fig 5.26:6). The fourth group is made up of jars and vases with rough clay and brown spots spreading over the green glaze (Fig 5.26:7,8), which likely originated from the Cizao kiln.

The black-glazed ware on the Huaguang Reef No.1 wreck has more diverse vessel forms than those on other shipwrecks. Besides the common tea-drinking bowls, there are also vases, kendis and small-mouthed bottles, which are identical to the brown glazed counterparts and both seem to be products of Cizao (Fig 5.27:1-5). The black-glazed bowls with a trace of golden foil and on “oil spot” on the interior wall (Fig 5.27:6),⁵⁸⁷ however, are from other kiln sites, possibly Jianyang or Wuyishan.⁵⁸⁸

⁵⁸³ The Underwater Archaeology Research Center of National Museum et al. 2006, pp. 110-118.

⁵⁸⁴ Besides Tingxi kiln at Tongan, other major kiln sites for producing such green-glazed wares include Chayang at Nanping, Banlu at Pucheng, Dongzhang at Fuqing, Zhuangbian at Putian and Dongtian at Nanan (Zeng Fan, 2001, pp. 157-165; Yang Zelin, 2016; Lin Zhonggan and Zhang Wenxin, 1990).

⁵⁸⁵ The Underwater Archaeology Research Center of National Museum et al. 2006, pp. 119-126.

⁵⁸⁶ Dong Jianli, 2011; Lin Zhonggan and Zhao Hongzhang, 1988, 1989.

⁵⁸⁷ “Oil spot” or “you di” in Chinese is surface crystals formed by the migration of iron within the glaze while the glaze is molten.

⁵⁸⁸ Li Jianan, 2008.



Figure 5.26 The green-glazed wares from the Huaguang Reef No.1 shipwreck



Figure 5.27 The black and brown wares from the Huaguang Reef No.1 shipwreck

The Chinese ceramics on the Huaguang Reef No.1 wreck were mostly made in Fujian province, including the kilns in the north of Fujian (Songxi, Pucheng, Jianyang and Wuyishan), kilns located in the Immediate prefecture of Quanzhou (Dehua, Cizao, Nan'an) and Fuzhou (Minqingyi), while the Jingdezhen and Longquan wares account for a much smaller proportion (Fig 5.8). In addition, just as in the case of the Breaker Shoal and the Java Sea wrecks, qingbai wares from the Minqingyi kiln complex are the primary ceramic type,⁵⁸⁹ which suggests that instead of loading all the ceramics at

⁵⁸⁹ Among 845 surfaced Chinese ceramics, nearly 500 are Minqingyi wares (The Underwater Archaeology

Quanzhou, it is more likely that the ship sailed from the port of Fuzhou then on to Quanzhou. The destination of the wreck, judging by the wreck location and the ceramic cargo of mostly low and medium quality and copies of the well-made Jingdezhen and Longquan wares should be Southeast Asia.

The Huaguang Reef No.1 wreck has a similar ceramic composition to that of the Breaker Shoal and the Java Sea wrecks and is also dated to the same period, the early Southern Song. A mark incised on the interior wall of a green-glazed bowl, which indicates that the bowl was produced in 1162 further supports the dating.⁵⁹⁰

1.2 Discussion

A significant feature of the ceramic cargoes on the shipwrecks during the early Southern Song period is their high uniformity in terms of ceramic types, vessel form, shape, and decoration especially among the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks.⁵⁹¹ On these three shipwrecks, qingbai and green ware are the main ceramic types and the vessel forms within each type are very similar. Bowls and boxes made up the major proportion of qingbai wares on all three shipwrecks (Chart 5.5, below)⁵⁹² and for green wares, it is bowls and big dishes (Chart 5.6, below).⁵⁹³ Moreover, the vessel shape and decoration show a high resemblance, and we see identical vessels among cargoes of the three shipwrecks cargo. Nevertheless, the ceramics on the Java Sea wreck was aimed for east Java while the Breaker Shoal wreck was probably bound for Borneo. The similar ceramic composition, despite the

Research Center of National Museum, 2006, pp. 66-110).

⁵⁹⁰ Meng Yuanzhao, 2018.

⁵⁹¹ The ceramic type of the other two shipwreck sites, Beitugui Reef and Pingtan Daliao Island, is rather monotonous. The recovered ceramics from the former are mainly green wares with only one fragment of a qingbai bowl, as for the latter they are exclusively green wares. It could be due to the lack of systematic excavation.

⁵⁹² The proportion of qingbai ware vessel forms of Huaguang Reef No.1 wreck and Java Sea wreck is stated by Chart 5.5. As for ceramics salvaged from the Breaker Shoal shipwreck site, there is no precise number of each vessel form. However, in the excavation report, it is stated that more than three hundred of qingbai ware bowls and multiple covered boxes were recovered (Dupoizat, 1995, pp. 207, 215-216).

⁵⁹³ The proportion of green ware vessel forms of Huaguang Reef No.1 wreck and Java Sea wreck is stated by Chart 5.6. As for green wares salvaged from the Breaker Shoal shipwreck site, it is stated that more than two hundred green-glazed bowls and about three hundred dishes (big and small) were recovered (Dupoizat, 1995, pp. 210-211).

difference in the targeted market, reflects that there were regular types and sources of products when choosing what to ship to Southeast Asia regardless of the variation in the use of different regions.⁵⁹⁴

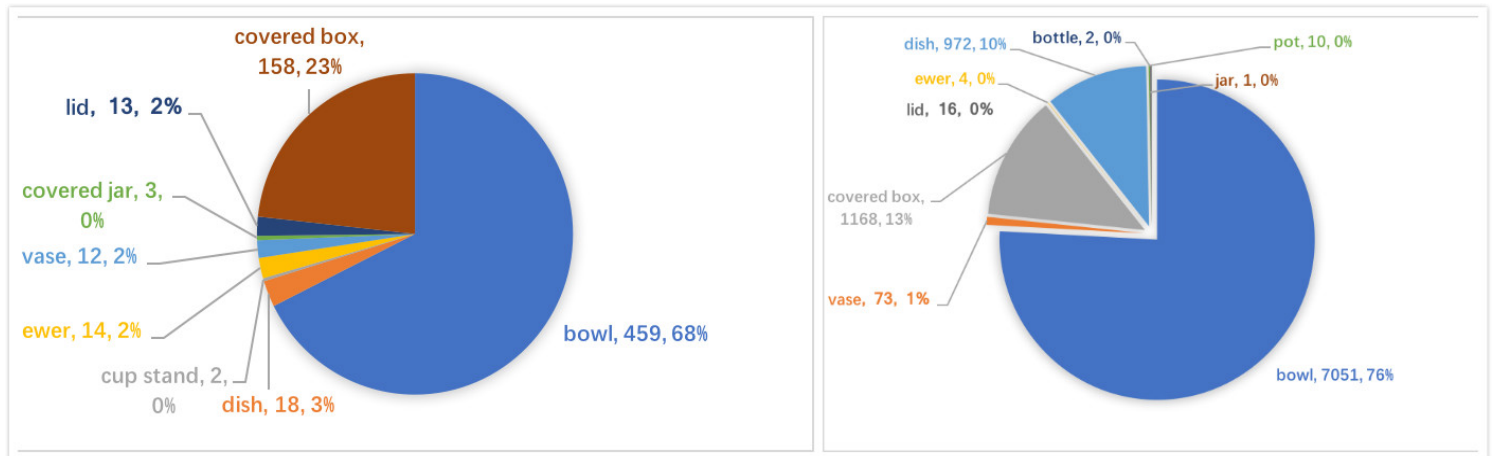


Chart 5.5 The proportion of vessel forms of qingbai wares on the Huaguang Reef No.1 wreck (left) and the Java Sea wreck (right)

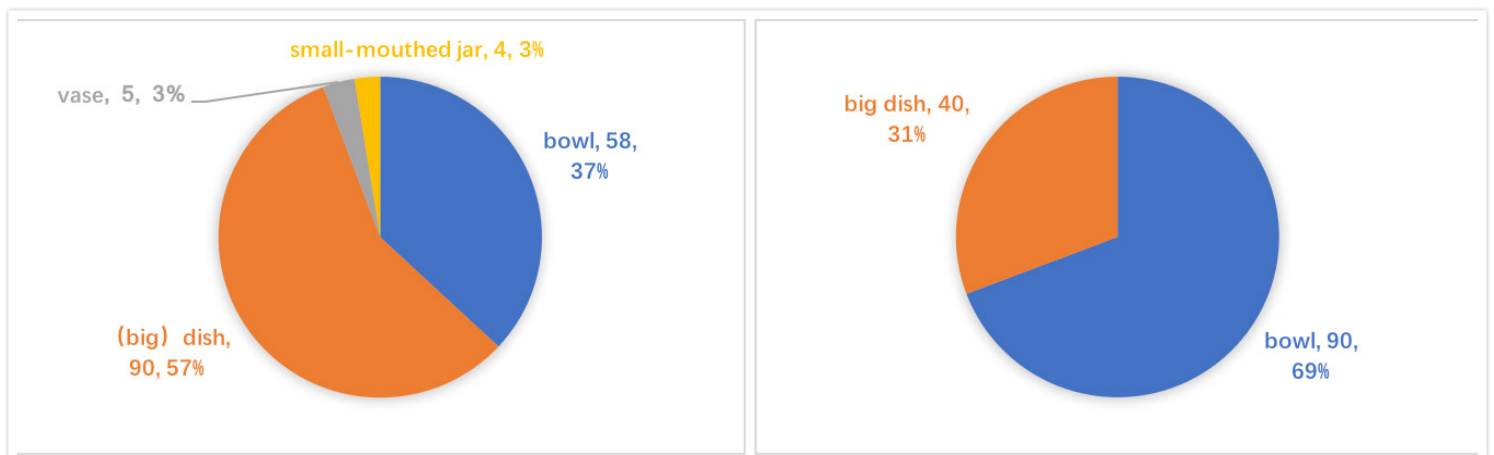


Chart 5.6 The proportion of vessel forms of green wares on the Huaguang Reef No.1 wreck (left) and the Java Sea wreck (right)

As for the provenance, the ceramic cargoes recovered from the five shipwrecks and shipwreck sites during the early Southern Song period were mainly from the kilns of Fujian province which can be further divided into three regions: North Fujian, the

⁵⁹⁴ The Java sites where Song ceramics were found are mainly primarily trading and entrepôt with administrative centre and place of worship such as Krawang (Aurora, 1987, pp. 75-76), While in Borneo, beside dwelling ruins and ancient inhabitant sites, many Chinese ceramics were unearthed from burials (Harrison, 1954, pp. 11-23).

surrounding areas of Fuzhou and Quanzhou (Fig 5.28 below). The products of the first two regions, especially Minqingyi wares account for a huge proportion of the shipwreck cargoes, and they were usually shipped through Fuzhou, giving a new understanding of the role of this port in the ceramic trade between South China and Southeast Asia. The shipwreck findings suggest that it is possible that the ships loaded certain ceramic types at Fuzhou and then went on to Quanzhou to pick up more. There is, of course, another possibility that ceramics from North Fujian and the Fuzhou area were assembled at Quanzhou before being shipped abroad. This possibility, however, contradicts the finding that ceramics unearthed at Quanzhou and dated to the Song period are mostly produced locally or were fine products from the well-known kiln sites such as Jingdezhen, Longquan and Jianyang.⁵⁹⁵ It has been noted that Fuzhou was a port of departure on the sea route to East Asia and locations such as Japan and Goguryeo.⁵⁹⁶ Now we know it was also an important lading port for exporting ceramics to Southeast Asia.

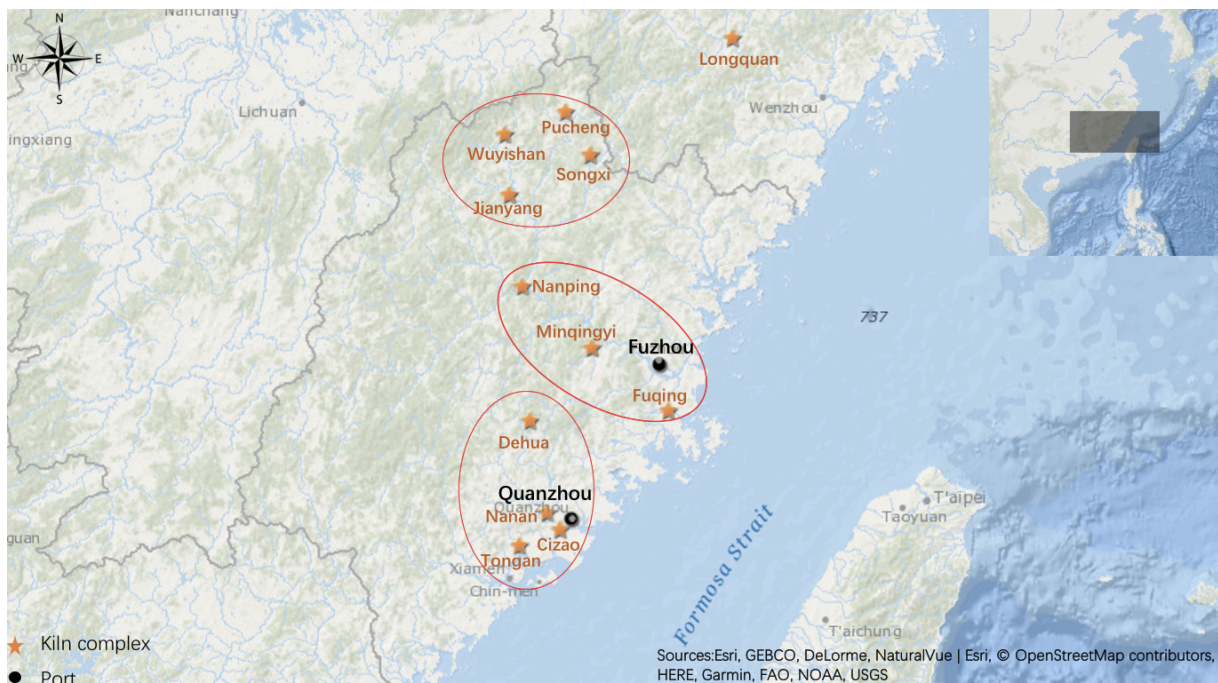


Figure 5.28 *The Locations of the major kiln complexes in Fujian province*

⁵⁹⁵ Zhuang Weiji, 1956; Chen Peng and Zeng Qingsheng, 1983; Wu Jinpeng, 2000; Fujian Museum et.al., 2003; Cultural Relics Management of Quanzhou et.al., 1975.

⁵⁹⁶ Lin Zhonggan et.al., 1978.

Besides the ceramic cargoes that originated from the south, there are five turquoise-glazed small vases from the Breaker Shoal wreck site, which were made in North China, possibly in the Cizhou kiln (Hebei province) (Fig 5.29). During the Southern Song period, this region was under the control of the Jin Dynasty, and among the ports in South China, Cizhou wares were the most abundant at Mingzhou (Current Ningbo, Zhejiang province) (Fig 5.29).⁵⁹⁷ It is possible that the turquoise-glazed small vases were shipped to Fuzhou through Mingzhou.

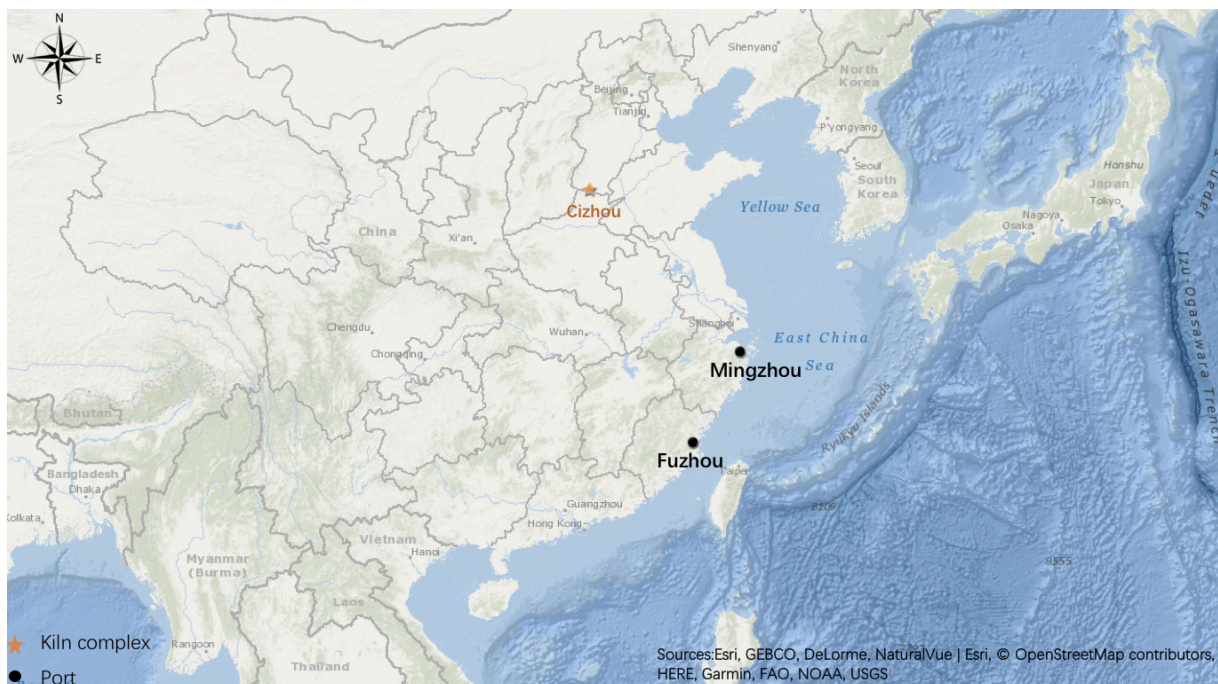


Figure 5.29 Location of the Cizhou kiln complex and the ports of Mingzhou and Fuzhou

2. Shape and decoration made for the Southeast Asian market

This section examines the shape, size, decoration and quality of the qingbai wares and green wares, the main ceramic types among the shipwreck cargoes, and black-and-white painted wares, which did not appear on the shipwrecks before this period, to discuss the difference between the exported vessels and those consumed in China. The

⁵⁹⁷ Lin Shimin, 1997.

relevant terrestrial findings in Southeast Asia are also included to illustrate the consumer market and function of the ceramic after they were shipped to this region.

2.1 Qingbai wares

The qingbai wares from the shipwrecks are mainly made up of bowls and dishes from the Mingqingyi kiln, and boxes and small moulded vases from the Dehua kiln. Other types included small pots from Pucheng and few exquisite vases, ewers, boxes, dishes and bowls from Jingdezhen.

Mingqingyi was a maritime trade-oriented kiln site whose products were found more abundantly in shipwrecks and overseas, mainly Japan, Korean and Southeast Asia, than in China.⁵⁹⁸ The exception to this being the port site of Shanghai through which ceramics were shipped to East Asia.⁵⁹⁹ The Mingqingyi wares on the shipwrecks (mainly bowls and dishes) are of two different qualities: ones with crude potting usually with simple decoration or plain, and the better made which were often decorated with dense incised motifs. An interesting discovery is that the lower quality examples tend to be smaller in their mouth diameter while the more delicate ones are usually bigger.⁶⁰⁰ Such division indicates that they might have a different function: the former were daily tablewares and the latter were used in special events such as a feast or a ritual with sharing dishes. Nevertheless, the vessel shape and decoration, such as the lotus and scroll motif of the exported Mingqingyi wares, do not display much difference from domestic consumer goods.

The covered boxes from the shipwrecks, which vary in size (diameter ranging from 12 to 5 cm) and are mainly oblate with a flat slightly concave base and impressed or

⁵⁹⁸ Yang Zelin, 2016.

⁵⁹⁹ Gao Wenhong and Wang Jianwen, 2017.

⁶⁰⁰ As seen in the excavation report of the Java Sea wreck, Huaguang Reef No.1 wreck and Breaker Shoal shipwreck site, the mouthrim diameter of bowls of lower quality is usually 12 to 17 cm, while the ones of higher quality is 16 to 20 cm (Mathers and Flecker, 1997, pp. 153-160; the Underwater Archaeology Research Center of National Museum, 2006, pp. 66-84; Dupoizat, 1995, pp. 207-211).

stamped decoration on the cover (Fig 5.9, 5.18:8, 5.25:10-12), are commonly found in tombs in South China during the Song period. Nevertheless, finds from China were not necessarily from Dehua.⁶⁰¹ Despite the similarity in shape, size and decoration between the shipwreck objects and Chinese finds, how they were used after being exported could change. Such boxes which are thought to be containers of cosmetics such as powder or incense in Chinese markets based on the inscription on the boxes and relevant historical records,⁶⁰² could be linked to ritual or funerary functions as well as being household containers judging by the findings in Southeast Asia. In Cambodia, white-glazed covered boxes were unearthed at the Royal Palace site near Phimeanakas and within the complex of the Bayon temple.⁶⁰³ It is noted that in the former, qingbai covered boxes dominant the large quantity of imported wares. Unlike Cambodia, where Chinese wares seem to have been restricted to the upper class and the religious complexes, in insular Southeast Asia they were distributed more widely among the general population during the twelfth and thirteenth centuries.⁶⁰⁴ In Sumatra, numerous sherds of imported Chinese ceramics of the Song and Yuan period, including covered boxes, have been recovered during excavation at Kota Cina and from an inland site in Northwest Lampung.⁶⁰⁵ In Borneo, at a dwelling in Sungei Jaong and a possible storage site in Benat Hilir (both at Santubong, Malaysia), some small fine small boxes were found along with some golden objects.⁶⁰⁶ In the Philippines, fragments of boxes in various sizes were unearthed from the Butuan Balangay area (a trade-cum-settlement site) and a total of seventeen white covered boxes were recovered from fourteen tombs

⁶⁰¹ This kind of boxes are found in the Song tombs at Sichuan, Fujian, Jiangxi, Anhui and Jiangsu province (Cultural Relics and Archaeology Research Center of Chengdu, 2010, pp. 398-403; Xu Jing, 2018, p. 28; Zhang Bai, 2008, pp. 79,120; Sun Lin, 2007, fig 9; Zhanghui, 2016, p. 83; Xi Xiaoyun, 2016, pp. 33,34). However, the covered boxes from the shipwreck ceramic collection are the compressed type with stamped or impressed decoration and the other popular types of covered boxes during this period which include the taller ones and the ones with ring foot were not found among the shipwreck cargos

⁶⁰² Wang Guoying, 2005; Liu Xiuping, 2013.

⁶⁰³ Overall it appears that quite early and over a large period of time, Angkor Thom received sizable amounts of imported ceramics, mostly from China. In the vicinity of Phimeanakas sanctuary, the very large proportion of covered boxes could most probably be linked to ritual or funerary functions (Miksic et al., 2009, p. 77).; On the platform of the Northern Library complex of Bayon a total of 27 Dehua covered boxes most with stamped decoration were recovered (Nakagawa, et al., 2000, pp. 359-360).

⁶⁰⁴ Miksic et al., 2009, pp. 76-78.

⁶⁰⁵ McKinnon, 1984, pp. 215,219; McKinnon, 1993.

⁶⁰⁶ Harrison, 1954, pp. 12-13; Ke Jiayu, 2015, pp. 285-287.

of the Santa Ana cemeteries, which comprised the ancient Manila elite or the ruling strata of society during the late eleventh to the early fourteenth century.⁶⁰⁷ The different contexts where the imported boxes were found reveals that regions in Southeast Asia developed various consumption behaviours toward the same vessel type. There were those who made extensive use of covered boxes for ritual and burial, such as the Bayon temple in Cambodia and Santa Ana cemeteries in Manila, the Philippines. These ceramics were also used as household containers or for display. In the latter category are Sumatra, Sarawak and Butuan, where such ceramics are found at settlements, not in a burial context.

Unlike the covered boxes, the small moulded vases which are another common vessel type of the Dehua qingbai ware from the shipwreck ceramic cargoes (Fig 5.18:7, 5.25:15-17,), are much less often seen in Chinese sites (except kiln sites) and are considered to be a trade vessel type. The vases have an average height of 11 cm (some 6 cm), on flaring mouthrim and a footrim and decorated with raised ribbing on the main body. Even though several vases of similar shape have been found in domestic tombs and on city sites, they tend to be larger and have a lobed body made by wheeling instead of moulding.⁶⁰⁸ These moulded vases from the shipwrecks could be seen as miniature replicas of larger wares, and the reduction in size was likely for their mass production.⁶⁰⁹ Nevertheless, compared with their counterparts made by wheeling, such vessels have a rougher appearance and finished edge. It appears that in the production of the small vases, quantity or efficiency was weighted more than quality. Judging by its size, flaring mouthrim and lack of matching cover, these ceramics were most likely display utensils for containing flowers or sticks of incense.⁶¹⁰

⁶⁰⁷ Brown, et.al., 1989, pp. 71-79; Locsin, 1964, p. 84.

⁶⁰⁸ Similar vases unearthed from Song sites at Anhui, Sichuan and Jiangsu province, and from foundation site of Jingjue temple (Nanjing) and Zhongbao Island (Three Gorges), are mostly taller than 11cm, none below 10cm and some are as tall as 20cm (Zhanghui, 2016, p. 34; Huang Xiaofeng, 2002, p. 16; Xi Xiaoyun, 2016, p. 40; Liu Tao, 2004, p. 107; The Three Gorges Archaeological Team, State Bureau of Cultural Relics, 2001, p. 275).

⁶⁰⁹ Because moulding was a more efficient way for making ceramics and moulding smaller objects had less technique difficulties and higher successful rate

⁶¹⁰ Containers of water or wine were much larger and usually found with covers. As for bottle of perfume, they tended to have long, thin neck and small mouth to retain the aroma. Therefore, these small vases are unlikely to be

Another discovery worth mentioning is that the small moulded vases are usually found together with the covered boxes in Southeast Asia. For example, the trade-cum-settlement site in Butuan (the Philippines), the Kota Cina site (North Sumatra), the dwelling and possible storage site in Borneo (Malaysia) and the Santa Ana cemeteries (the Philippines) all yield covered boxes with the small moulded vases.⁶¹¹ Such a phenomenon is probably because the two vessel types were from the same kiln complex and they were often sold together to maritime merchants, as seen on the shipwrecks.⁶¹² The fact that the the same vessels were exported to different regions in Southeast Asia reflects that in the ceramic trade between South China and Southeast Asia during the Song period what the customers received, to a large extent, was not necessarily what they wanted but what was supplied to them. This ultimately depended on which maritime merchant they contacted and what cargo the supplier prepared. In some cases, particular ceramic types were made to cater to the taste of the foreign market, such as the Changsha and Xicun painted wares. But more often, vessels with common shapes and decoration that were already known to the potters, or easy for mass-production, were the major export ceramics.

Unlike the Mingqingyi and Dehua kilns, Jingdezhen during the early Southern Song period was not a kiln targeting overseas markets. Their products are commonly found in China, and the Jingdezhen wares on the shipwreck are in limited numbers and not of uniform shape. We even see motifs depicting the figures and story of Daoism on Jingdezhen bowls and dishes from the Breaker Shoal and Huaguang Reef No.1 wrecks (Fig 5.18:5, 5.25:8). It is more likely that these fine wares came on board as gifts rather than part of a bulk cargo.

containers for preserving liquid.

⁶¹¹ Brown, et.al., 1989, pp. 71-79; Mckinnon, 1984, p. 217; Harrison, 1954, pp. 12-13; Ke Jiayu, 2015, p. 286; Locsin, 1964, p. 87

⁶¹² The ceramic cargos of the Java Sea, Breaker Shoal and Huaguang Reef No.1 wreck include both the covered boxes and small vases.

2.2 Green wares

The green wares from the shipwrecks were mainly dishes and bowls with striations on the exterior and combed and incised motifs on the interior wall. Such designs first appeared on finds from the Longquan kiln complex from the mid to late Northern Song period⁶¹³ and was widely copied by potters at Fujian at the end of the Northern Song period.⁶¹⁴ While some kiln sites in north Fujian such as Huichang in Songxi and Wanyaobei at Pucheng adopted the firing and glazing technique of Longquan and managed to produce quite similar vessels, products from the majority of Fujian kilns yielding such green wares displayed distinct differences in terms of simple and cursive incised style of motifs, non-fully glazed coverage on the exterior and the roughly finished edge. Judging by the characteristics of the products, the green wares from the shipwrecks were mostly made in Fujian province with a smaller proportion probably originating from Longquan, Zhejiang province.

These type of Fujian green-glazed wares were aimed at the East and Southeast Asian market instead of the internal Chinese markets (except in the local area of the kiln site), where their counterparts of higher quality, Longquan wares, were more commonly seen.⁶¹⁵ Nevertheless, it does not mean that Longquan wares were not exported to Southeast Asia, but rather that Fujian green-glazed wares were exclusive to East and Southeast Asia and account for a bigger proportion of the terrestrial findings of Southern Song green glazed wares in these regions especially during the early period.⁶¹⁶ Exporting larger amounts of lower-quality goods to Southeast Asian markets indicates that the ceramic trade between South China and Southeast Asia during the early Southern Song period was not luxury-centred. It further suggests that the merchants

⁶¹³ Zhu Boqian, 1989, p. 64; Zhang Xiang, 1989, p. 90; Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, pp. 402-407.

⁶¹⁴ It was first spread to north Fujian where the kiln sites were located nearest to Longquan. By the end of Northern Song period, kilns of other area such as Chayang kiln at Nanping, Dongzhang kiln at Fuqing, Zhuangbian kiln at Putian, Cizao kiln at Jinjiang, Dingxi kiln at Tongan were found with vessels with such design as well (Li Jianan, 2010).

⁶¹⁵ Xiang Kunpeng, 2012; Tatsuya Mori, 2008, pp. 428-429; Tatsuo Sasaki, 1994, pp. 325.

⁶¹⁶ Liu Jingxian, 2013.

involved were not necessary traders with abundant capital reserves but also could be peddlers from the poorer classes, as noted in chapter three.⁶¹⁷

Despite the regular vessel shapes and motifs, some dishes and bowls on the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks are of a large size (mouth diameter more than 20cm),⁶¹⁸ which is not commonly seen among the contemporaneous green-glazed wares unearthed at the Longquan kiln complex and domestic sites in China.⁶¹⁹ Large green-glazed tablewares were not suitable for dining in Song China, which is usually depicted as one or two people sitting around a square high wooden table.⁶²⁰ Hence, such large dishes and bowls were probably explicitly made to cater to the dietary custom of sitting on the floor and getting food from a large plate in Southeast Asia, as depicted in the feast scene from the Bayon temple (Fig 5.30).



Figure 5.30 Detail of the feast scene from the Bayon temple pyramid

⁶¹⁷ See chapter three, section 2.2.3, pp. 82-88.

⁶¹⁸ Among the green-glazed wares recovered from the trial excavation of Huaguang Reef No.1 wreck, the mouthrim of all the dishes is larger than 20cm and a type of bowls (9 pieces, 119) have mouthrim with diameter above 20cm as well (The Underwater Archaeology Research Center of National Museum, 2006, pp. 121-129, 119); The Java Sea wreck ceramic cargos also include 63 pieces of green-glazed big dishes and bowls, same as the Breaker Shoal shipwreck site (Mathers and Flecker, 1997, pp. 149-152; Dupoizat, 1995, p. 209).

⁶¹⁹ Judge from the unearthed Song-period bowls and dishes from the east region of Longquan kiln site, only few bowls and dishes are described as with mouthrim larger than 20 cm (Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, pp. 218, 219, 222, 229). Most vessel have diameter between 10 to 20 cm

⁶²⁰ Su Pai, 2002, p. 114.

2.3 Painted wares

The black and white painted ware which only appears on the Java Sea and Breaker Shoal wrecks, is not a common or regularly exported ceramic type from two perspectives. Firstly, even though the decoration style as a whole resembles the Cizhou-type ceramics, which were widely produced in North China and at the Jizhou kiln in Jiangxi province,⁶²¹ the majority of painted wares from the shipwrecks are decorated with the white design in relief or incised against the black ground. This displays a contrast effect of simple underglaze black and has only been found at few kiln sites in Fujian during the Song period.⁶²² Such painted wares on the shipwrecks were not a common ceramic type during the Song period. Secondly, besides the small number of painted wares on the Java Sea and Breaker Shoal wrecks, sites in Southeast Asia yielding such wares are also scarce. So far, only Borneo (Sungei Buah and Benat Hilir site, Malaysia) is reported to yield Cizhou-type painted wares,⁶²³ and at Trowulan (east Java) lead-glazed wares were found in large numbers though no further information is available about whether it was decorated with painted motifs.⁶²⁴ The terrestrial discoveries accord with the proposed destination of the Java Sea and Breaker Shoal wrecks which are east Java and Borneo respectively.

Why such unique vessels were exported to these two regions remains unclear, however, the underwater discoveries and terrestrial finds in Southeast Asia indicate that it was organized and intentional trading behaviour. First of all, in neither Borneo nor Trowulan are the painted wares found in small quantities. At the Sungei Buah site good quality painted wares were found over a wide area and at Trowulan, lead-glazed wares are the predominant Chinese ceramic type. Secondly, the painted wares from the Java Sea wreck were acquired from dispersed kiln sites, some from the north Fujian

⁶²¹ Liu Tao, 2003; Zhang Wenjiang, et.al., 2014.

⁶²² During the Yuan Dynasty, such decoration was seen on the white and green wares unearthed at the Lianggongtang kiln site, Quzhou, Zhejiang province (The Zhejiang provincial institute of archaeology, 1993, pp. 280-285).

⁶²³ Harrison, 1954, pp. 12-13; Ke Jiayu, 2015, p. 292.

⁶²⁴ Roxas-Lim, 1987, p. 74-75.

and others from the eastern coastal region,⁶²⁵ which suggests that maritime merchants deliberately selected and purchased such vessels. Choosing multiple suppliers is probably because single kilns did not produce enough to satisfy the need of the overseas market as indicated by the limited amounts of such wares at kiln sites.

The painted wares on the shipwrecks, unlike the earlier painted wares shipped to Southeast Asia (Changsha and Xicun wares) are mainly vases and ewers instead of bowls or dishes. Consequently, they would most likely be used for display in household or for ceremonies since they are found at settlement sites instead of cemeteries.

2.4 Discussion

During the early Southern Song period, we see the active participation of the Fujian ceramic industry in maritime trade from the perspective of quantity and variety. They not only account for the biggest proportion of the ceramic cargoes on the shipwrecks and also produced specific ceramic types to sell abroad. The majority of Fujian traded wares, namely the qingbai and green wares, are copies of the renowned Jingdezhen wares and the Longquan green-glazed wares which only made up a small proportion of the shipwreck cargoes. In terms of vessel shape and decoration motifs, there is no distinct difference between the goods consumed in China and those exported except the small moulded vases and some large tableware whose sizes were adjusted to meet the needs of the Southeast Asian market.

So why were the relatively cheap copies exported instead of the original high quality ones? So Kee-Long proposes a plausible explanation. He states that exquisite and luxurious products were suitable for a centralized trading pattern in which maritime trade was conducted between the ruling class of the centralized bureaucratic state, such as Srivijaya and merchants with abundant funding. Hence it provided a predictable

⁶²⁵ See chapter five, section 1.1, pp. 185-186.

consumer market and lowered the trading cost which enabled the merchants to further invest in the production of luxuries. For regions with a loose political structure, such as the Philippine archipelago, merchants would need to deal with multiple local rulers who did not have consumption capacity for a large amount of high-quality products and the partnership with whom was also difficult to maintain.⁶²⁶ Therefore, merchants shifted to a mass market and traded in ceramics of poorer quality in large numbers. Such pattern enabled the participation of small merchants and involved more regions in the trading circle. But at the same time, it weighted quantity over quality and efficiency over fineness, which explains the overall inferior products of the Fujian ceramic industry during the Song period.

3. Conclusion

During the early Southern Song Dynasty, in a short period of about sixty years, we see Fujian province rise to become the dominant producer in the ceramic trade between South China and Southeast Asia, which lasted for the next century. The study reveals that not only were kiln sites located in the surrounding region of the ports of Quanzhou and Fuzhou but also others far inland were involved in maritime commerce, which indicates a higher-level integration. This phenomenon could be due to the considerably higher share of maritime trade in the hands of local traders, who had a better connection with the local ceramic industry and who are more likely than the foreign sojourner trader to invest heavily in the local economy.

The provenance study also provides a new understanding of the role of Fuzhou in the ceramic trade between South China and Southeast Asia. Among the ceramics from Fujian province, those from the north and vessels produced at kilns near Fuzhou, primarily the Mingqingyi qingbai wares which account for a huge proportion of the ceramic cargoes on the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks, were

⁶²⁶ So, 2000: 210-217.

thought to be shipped through the port of Fuzhou. It appears that for these merchant ships Fuzhou instead of Quanzhou was the initial port of lading. Due to the Fujian ceramic industry's high-level of integration with maritime commerce, Fuzhou became an important port city not only on the route sailing toward East Asia but also toward Southeast Asia as well.

In terms of vessel forms, shapes and decoration motifs, we see much similarity among the ceramic cargoes of the three major shipwrecks of this period, and no distinguishable difference between the goods consumed in China and exported ceramics, except the small moulded vases and some large tableware whose size was adjusted to meet the needs of the Southeast Asian market. Nevertheless, for the same vessels, how they were used after being shipped to different regions varied. Some local inhabitants integrated Chinese ceramics into their belief and culinary system, while others maintained their original function as daily utensils.

The ceramic cargoes of the shipwrecks during the early Southern Song period are mainly qingbai wares and green wares originating from Fujian province, the majority of which can be seen as inferior copies of the renowned Jingdezhen and Longquan wares. The Jingdezhen and Longquan wares only account for a relatively small proportion of the cargoes, which was about to change in the later periods.

Chapter Six

Chinese ceramic recovered from the mid and late Southern Song period shipwrecks (1180-1279)

In this chapter, we come to the last temporal period of the thesis. The discoveries of shipwrecks and shipwreck sites dated to this period are the most abundant, but few were systematically salvaged or excavated and properly published, with detailed analyses on most of the shipwrecks unavailable. Therefore, as well as trying to answer the questions of provenance and what types or decorations explicitly made for Southeast Asia, this chapter mainly focuses on the cross-comparison between the shipwrecks and those lost in the earlier Southern Song period to reflect upon changes in the traded ceramic industry.

1. Chinese ceramics recovered from shipwrecks dated to the mid Southern Song period (1180-1220)

The shipwrecks dated to this period include the Nanhai No.1, Tanjung Simpang, Jepara, Kudat and Investigator Shoal (Fig 6.1). While there has been thorough and systemic excavation conducted on the Nanhai No.1 shipwreck and multiple reports regarding the finds have been published, the other shipwrecks have been looted and lack scientific excavation and consequently the available information is limited. Moreover, the Nanhai No.1 wreck has yielded the most abundant ceramic cargo compared to any other Song Dynasty shipwreck. Therefore, this section will mainly concentrate on the interpretation of the findings on the Nanhai No.1 wreck.

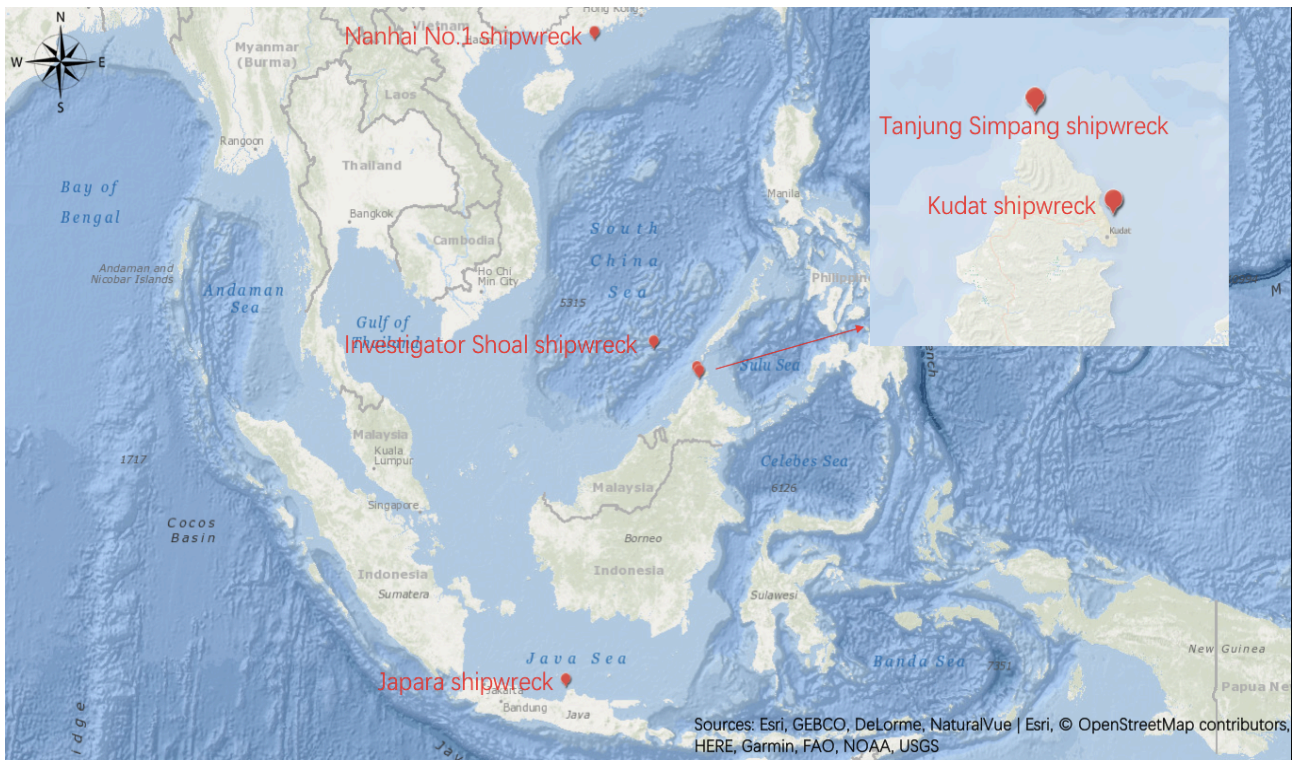


Figure 6.1 Map of the shipwrecks sunk in the South China Sea during the mid-Southern Song period

1.1. Types and provenance of Chinese ceramics

1.1.1 Finds from each shipwreck

a. The Nanhai No.1 wreck

The Nanhai No.1 wreck was found close to the Chuanshan Archipelago of Guangdong province in 1987 and the excavation is still on-going. Up until January 2019, 143,000 pieces of artefacts have been recovered, among which 142,000 are Chinese ceramics. Other artefacts includes metal wares (total 642 pieces), lacquerwares (98) and glass wares (26).⁶²⁷ The finds referred to here are mainly from the newly published detailed report of the excavation between 2014 and 2015.

⁶²⁷ The metal wares include 188 pieces of gold wares, 198 silver wares, 196 copper wares, 60 lead and tin wares and 13 iron wares (Hu Siyuan, 2019).

The ceramic cargo on the Nanhai No.1 wreck can be divided into five groups: green ware, qingbai ware, brown ware, lead-green ware and black ware with the first two being the major types. The green wares displaying different clay, glaze features and decoration were clearly originally from different kilns. Green Type I ware is characterized by a thick, compact body, more lustrous glaze with colour ranging from greyish green to yellowish green, and full glaze coverage on the interior and exterior except for the footring (Fig 6.2),⁶²⁸ which is consistent with the product features of Longquan celadon during the Southern Song period.⁶²⁹ The forms of such vessels on the Nanhai No.1 wreck are limited, mainly bowls and dishes with a piece of a square vase being the only exception.⁶³⁰ The green Type I ware on board are often found with incised patterns on the interior wall (mainly lotus motifs) leaving the exterior plain; only a few dishes are decorated with curved striations on the outside (Fig 6.3:1-6,13-17). We see vessels of very similar shape, size and decoration among the celadons unearthed at the Longquan kiln sites, which are dated to the mid-late Southern Song period (Fig 6.3:7-12, 18-22).⁶³¹



Figure 6.2 *The green Type I wares from the Nanhai No.1 shipwreck*

⁶²⁸ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 183.

⁶²⁹ Zhejiang Provincial Institute of Cultural Relics and Archaeology, 2005, pp. 394-396.

⁶³⁰ The shape and size of the bowls and dishes vary. The size of the bowls ranges from diameter 19.7cm and height 8.7 cm to diameter 11.4 cm and height from 5.6 cm. The difference of the bowls' vessel shape is mainly reflected by the mouth rim which includes wide, open mouth rim, flaring mouth rim, and flaring, lobed mouth rim (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 182-200; Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011, pp. 80-83). The Longquan dishes can be divided into two groups: those with footrim and those with flat base. The diameter of the former ranges between 15.2 to 18.9 cm and height 3.3 to 5.6 cm, while the latter is of a smaller size, diameter around 13cm and height round 3.6 cm (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 200-215).

⁶³¹ Zhu Boqian, 1989, p. 64; Zhang Xiang, 1989, p. 90; Ren Shilong, 1984, pp. 121-127.

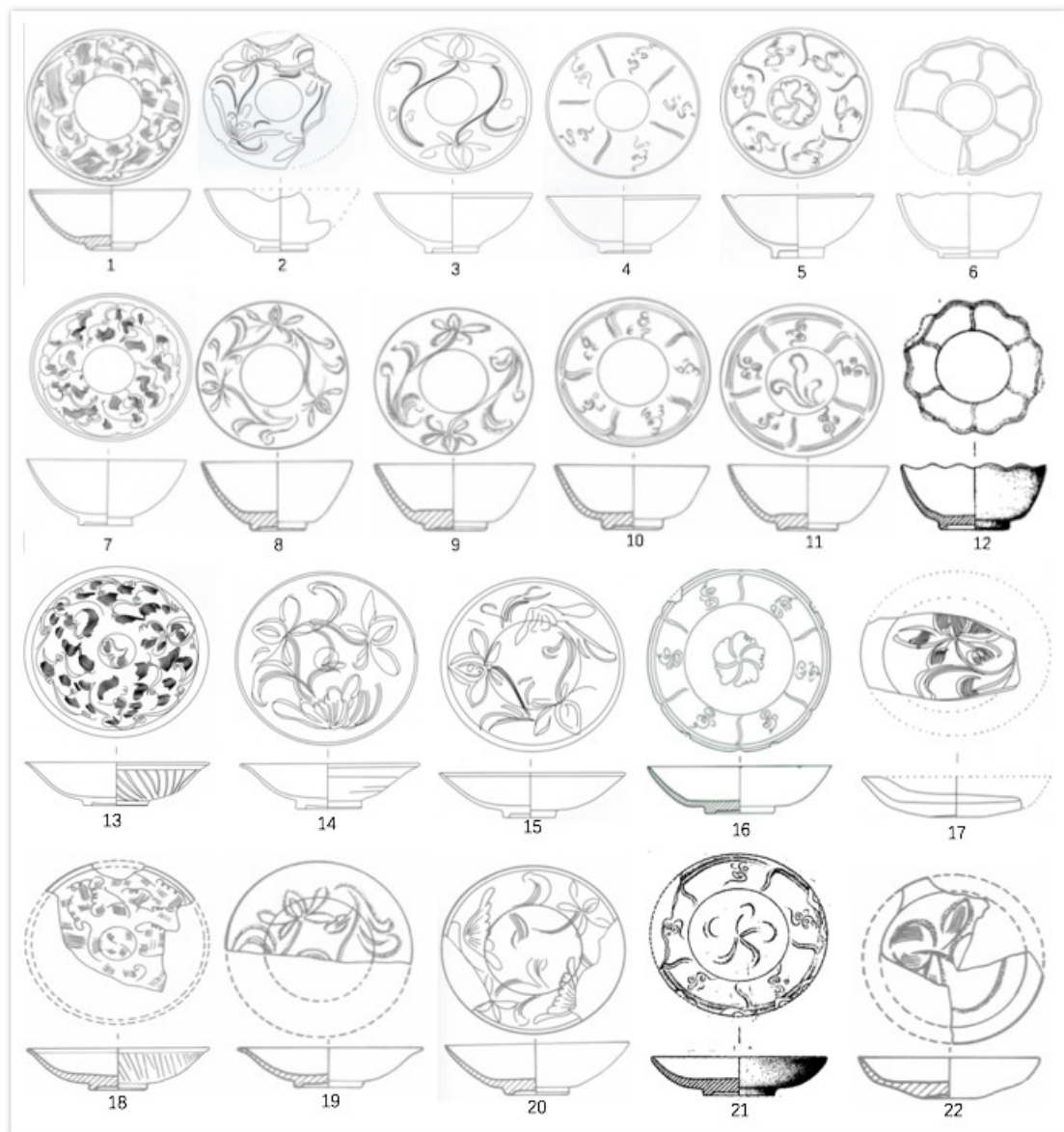


Figure 6.3 The green Type I wares from the Nanhai No.1 shipwreck (1-6,13-17) and the comparable finds from the Longquan kiln complex (7-12, 18-22)

The Longquan celadons account for a relatively large proportion of the ceramic cargo of the Nanhai No.1 wreck and are located in the fore hold, middle deck and back hold.⁶³² Comparing the Nanhai No.1 Longquan celadons with the Longquan wares and comparable finds from North Fujian from the previous shipwrecks such as the Java sea, Breaker shoal and Huaguang Reef No.1, we see that the decoration style shifted from

⁶³² Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 183.

incision on both sides to most being on the inner wall and from dense floral and combed motifs to relatively more sparse patterns.



Figure 6.4 The green Type II wares from the Nanhai No.1 shipwreck

Green Type II ware has a of coarser clay body, thin yellowish-green glaze ending short of the foot, a rough surface and unsmooth finish cut, which indicates poor potting (Fig 6.4). The majority are bowls with fa laring mouthrim of a similar size (diameter 17 to 18 cm, height around 7 to 8 cm).⁶³³ Some are plain without decoration but more commonly seen are simple and cursive incised patterns (mainly lotus petal and leaves) on the interior and striations on the exterior (Fig 6.4). Such vessels were widely produced in Fujian province during the Southern Song period (Fig 6.5).⁶³⁴ By comparison, besides the difference in quality, the Longquan celadons and the green glazed wares from Fujian province on the Nanhai No.1 wreck also display different decoration style: the former are found with incisions mostly only on the interior wall and the latter with it on both sides. This type of green ware makes up a relatively small proportion of the ceramic cargo of the Nanhai No.1 wreck and is mainly distributed in the af-compartments.⁶³⁵ Its product features resemble their counterparts from the

⁶³³ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 344-356.

⁶³⁴ Such kiln sites can be divided into three regions, the south including the Dongyao site at Xiamen, Yingshan and Xiandong site at Zhangpu, Tingxi at Tongan, Nankeng at Nanan; the east including Dongqing kiln site at Fuqing, Zhuangbian at Putian; and the north including Huichang at Songxi, Wanyaobei at Pucheng, Yulinting at Wuyishan, Chayang at Nanping etc. (Fig 6.5) (Yang Zelin, 2016; Dong Jianli, 2011).

⁶³⁵ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 344.

shipwrecks of the earlier periods, except for the change in the incised pattern. The earlier one entails simple motifs such as sketchily depicted scrolls and curving lines but also denser patterns such as cloud-like designs with wisps of combing and stylized floral designs. These on the Nanhai No.1 wreck are mainly cursive lotus motifs. Such a change is consistent with the decoration development of green ware produced in Fujian province during the the middle Southern Song period.⁶³⁶

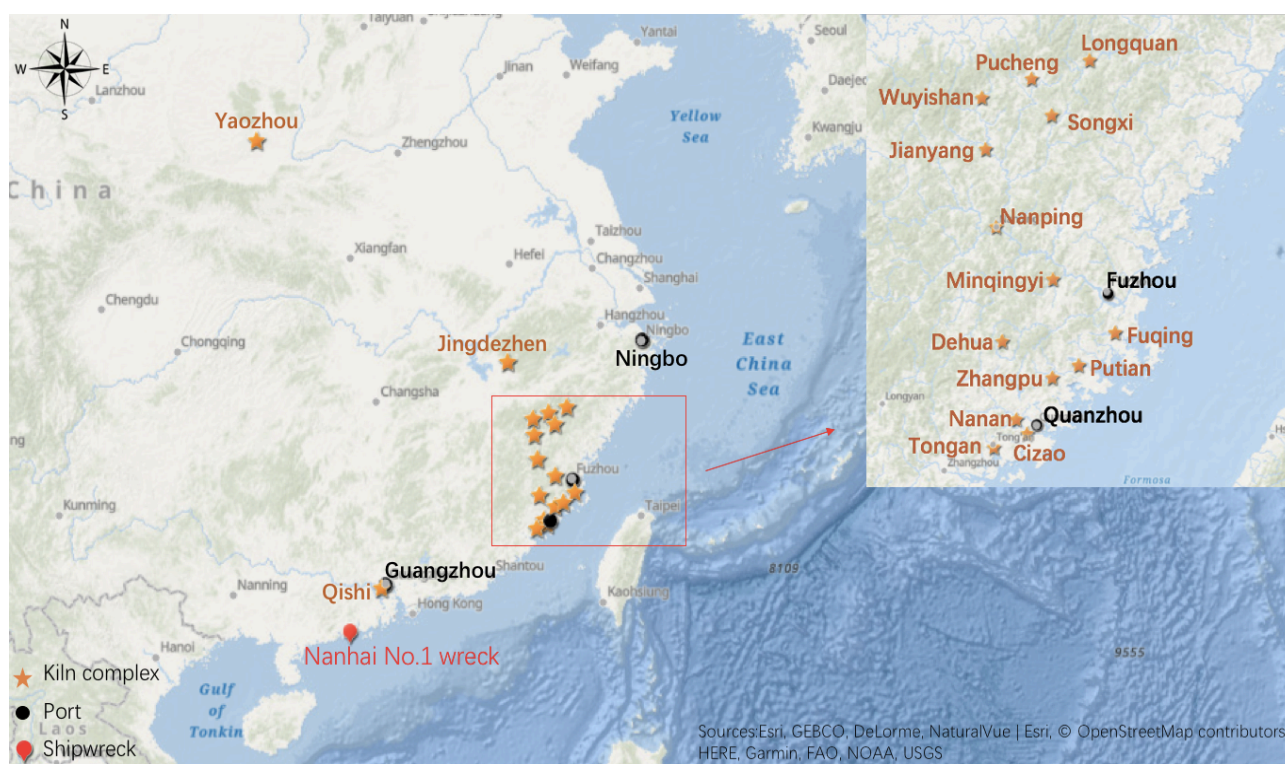


Figure 6.5 Location of the major kiln complexes, ports and the Nanhai No.1 shipwreck

Green Type III ware refers to those with a compact reddish body with sand inclusions and dark or yellowish-green glaze that does not cover the whole exterior body.⁶³⁷ The majority are jars and pots with few bowls and basins, which are mainly plain, although some are decorated with an underglaze black/brown spotting pattern (Fig 6.6:1-5). The small pots with a wide mouth and an everted or rolled rim are reminiscent of the similar vessels on the Intan and Cirebon wrecks (Fig 6.6: 2,4). The green Type III ware is most

⁶³⁶ Yang Zelin, 2016.

⁶³⁷ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 309-313.

likely produced at the Cizao kiln where jars and pots of similar shape and clay body were unearthed, and underglaze spotting is commonly found on green-glazed wares.⁶³⁸ There are only a small number of such vessels on the Nanhai No.1 wreck and it is possible that they came on board as the daily utensils of the crews instead of merchandise.



Figure 6.6 The green Type III (1-5) and Type IV (6) wares from Nanhai No.1 shipwreck

Green Type IV wares are two pieces of bowls made with a compact, greyish white fine clay and fully covered by more bright and glassy glaze.⁶³⁹ The exterior is plain but the inside bottom and upper wall are carved with dense floral patterns displaying a relief-effect that is not seen on the other green wares on the Nanhai No.1 wreck (Fig 6.6: 6). The product features match the Yaozhou wares from Shaanxi province (Fig 6.5).⁶⁴⁰ Yaozhou wares have not appeared on shipwrecks before, but ceramics from kilns in North China have been found in small quantities among the previous shipwreck cargoes.⁶⁴¹ The very limited number of the Yaozhou wares on the Nanhai No.1 wreck suggests that they were likely gifts or souvenirs rather than merchandise.

To sum up, the green wares on the Nanhai No.1 wreck are mainly Longquan celadons with a smaller proportion produced in Fujian province and very few pieces from

⁶³⁸ Fujian Museum and Jinjiang Museum, 2011, pp. 72, 76, 80.

⁶³⁹ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 362.

⁶⁴⁰ Shenxi Institute of Archaeology, 1965, p. 22; Zhuo Zhengxi, 1999.

⁶⁴¹ For example, the turquoise-glazed small bottles on the Breaker Shoal wreck, and the Ding white wares from the Intan and Cirebon wreck.

Yaozhou. As for the vessel forms, bowls and dishes make up the vast majority, jars, vases and basins also being discovered.

The qingbai wares on the Nanhai No.1 wreck are mainly attributed to three kilns: Jingdezhen, Dehua and Minqingyi.⁶⁴² Although their products have already been found on the previous shipwrecks, a close examination of the vessel forms, decoration and cargo proportion reveals some significant changes in the traded ceramic industry. The Jingdezhen qingbai wares, characterized by their compact, thin clay body and bluish glaze, are mainly bowls, dishes and saucers in different sizes and shapes (Fig 6.7:1-10).⁶⁴³ Their mouthrim, with and without glazing, indicates there are two stacking methods: upright and face down. The most commonly seen decoration is dense impressed floral designs on the interior wall (Fig 6.7:4-8), while some bowls are incised with a children-playing pattern (Fig 6.7:1,2). The Jingdezhen qingbai glazed wares on the Nanhai No.1 wreck are consistent with the product features of Jingdezhen wares unearthed at the Hutian kiln dated to the mid-late Southern Song period. Some identical decoration motifs to those found on the shipwreck were also found at the kiln site (Fig 6.7: 11-15).

⁶⁴² Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018 ; Wang Yuanlin and Xiao Dashun, 2016; Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011 ; Zhou Xiangdong, 2012.

⁶⁴³ The Jingdezhen qingbai glazed bowls on the Nanhai No.1 wreck can be divided into three types: the ones with wide and open mouth (diameter around 20cm, height around 6 cm), the ones with lobes on the wall which at the mouth are drawn to make a foliated rim (diameter around 12cm, height around 5 cm) and the small plump round bowls (diameter around 11cm, height around 5 cm) (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 158-168). The Jingdezhen qingbai glazed dishes have two sizes: the one with diameter around 18cm and height around 3 cm, and the other with diameter around 14cm, height around 3 cm. The difference of the dishes' vessel shape is mainly reflected by the mouth rim which includes everted rim, everted foliated rim, straight foliated rim and flaring rim (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 169-181). The saucers are with everted or straight mouth rim and flat or slight concave base whose size is smaller than the dishes and bowls (diameter around 9cm, height around 1.6 cm (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 181-182).

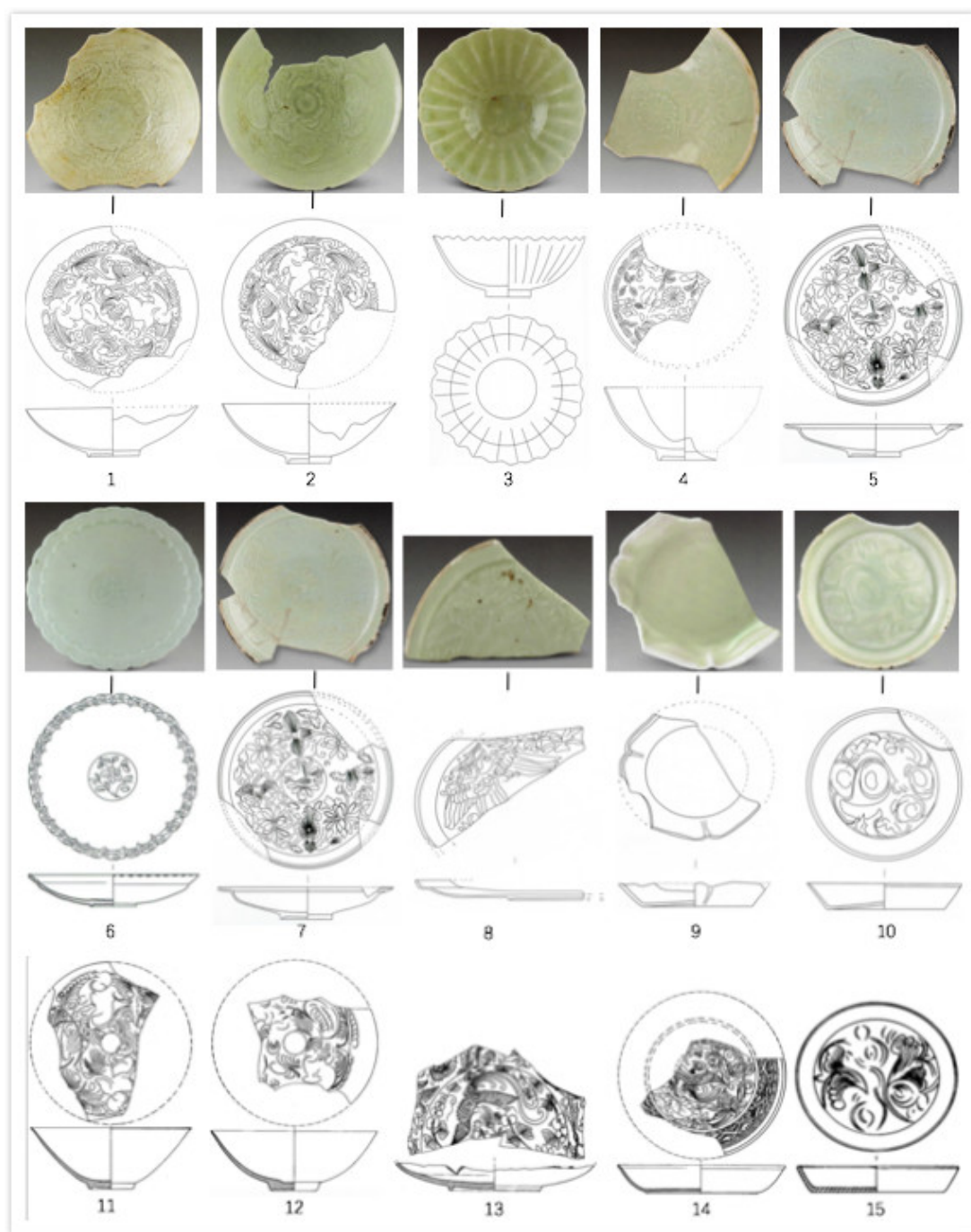


Figure 6.7 The Jingdezhen ware from the Nanhai No.1 shipwreck (1-10) and the comparable finds from the Hutian kiln site (11-15)

Compared to those on the previous shipwrecks, Jingdezhen wares on the Nanhai No.1 wreck account for a larger proportion of the cargo but are of lower quality. Unlike the Jingdezhen wares on the Java Sea, Huaguang Reef No.1 and Breaker Shoal wreck, which are of limited number, the Nanhai No.1 wreck Jingdezhen wares are packed densely together and are a major ceramic cargo.⁶⁴⁴ However, the glaze of the Jingdezhen wares on the Nanhai No.1 wreck is less translucent and more yellowish. Moreover, despite the larger amount, their vessel forms and shapes are less diverse compared with the Jingdezhen wares on the Java Sea and Huaguang Reef No.1 wrecks, which include not only tableware but also various vases, ewers and boxes. The carved motif with relief-effect is also replaced by the repeated stamped pattern. The more uniform vessel form and decoration and the adoption of the face-down stacking firing method suggests that during the Nanhai No.1 period, which is the mid-late Southern Song, qingbai ware production at the Jingdezhen kiln complex emphasised large-scale output instead of the delicacy of the ceramics and hence the degradation of the quality. Nevertheless, it is during this period that the amount of Jingdezhen qingbai wares increased.

⁶⁴⁴ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 158.

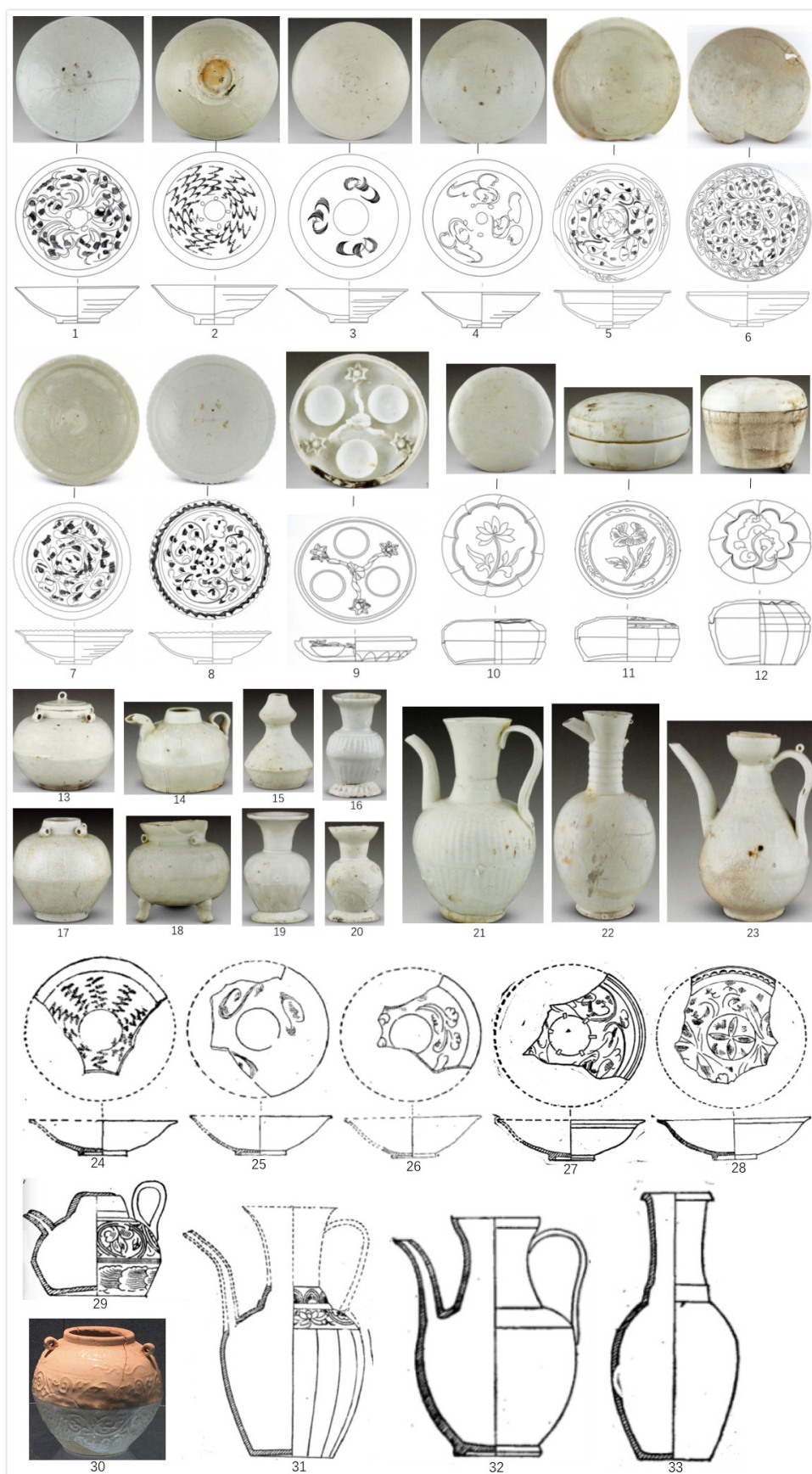


Figure 6.8 The Dehua ware from the Nanhai No.1 shipwreck (1-23) and the comparable finds from the Wanpinglun kiln site, Dehua county (24-33)

The Dehua qingbai wares on the Nanhai No.1 wreck which are found in large quantities and distributed in every compartment, resemble their counterparts on the previous shipwrecks in terms of the quality of glaze and clay, but their forms and shapes are much more abundant, and new types of decoration appear.⁶⁴⁵ The Dehua wares on the Nanhai No.1 wreck include bowls, dishes, covered boxes, small jars, vases, ewers, kendis and incense burners (Fig 6.8:1-23, above), the majority of which can find their parallels among the qingbai wares unearthed at the Dehua kiln sites (Fig 6.8:24-33). The major difference in the vessel form from the Dehua wares on the previous shipwrecks is the appearance of a large number of big bowls and dishes (diameter 25-31cm, height 6-9cm) incised with floral and combing patterns on the interior wall and often found with five stacking marks on the inner bottom (Fig 6.8:1-8).⁶⁴⁶ The size of these bowls and dishes is larger than those of any other ceramic type onboard, and the incised motifs which are reminiscence of the Mingqingyi qingbai wares, are not seen on the earlier exported Dehua wares which are mainly decorated with moulded patterns. Another major change is that while the Dehua wares from earlier shipwrecks are mostly boxes and small vases, the Nanhai No.1 Dehua wares display more diverse forms and shapes.⁶⁴⁷ Such richness, however, is only seen on the Nanhai No.1 wreck and not observed on the shipwrecks of later periods as well.

A large amount of Mingqingyi wares on the Nanhai No.1 wreck, mainly bowls distributed in the aft-compartments No.11, 12 and 13,⁶⁴⁸ are very similar to their counterparts on the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks in terms of the features of clay, glaze, vessel shapes and decorations. Moreover, the Nanhai No.1

⁶⁴⁵ The Nanhai No.1 Dehua wares are made of white greyish compact clay body and covered by thin, opaque whitish glaze which usually ends at the footrim (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 217).

⁶⁴⁶ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 263-272

⁶⁴⁷ For example, the covered boxes on the Nanhai No.1 wreck, besides the melon-shaped, the octagonal ones and the round ones with bands of vertical ribs which already appear on the other shipwreck, there are also the big boxes with multiple sub-boxes and very small ink-pad boxes that are not seen on shipwrecks before (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 248-262). Also the ewers have four different shapes beside the commonly seen type with flared mouth and long neck (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 227-234).

⁶⁴⁸ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 320.

Minqingyi wares can also be divided into two groups based on the difference in their quality, just as the Minqingyi wares on the Java Sea and Huaguang Reef No.1 wrecks (Fig 6.9).⁶⁴⁹

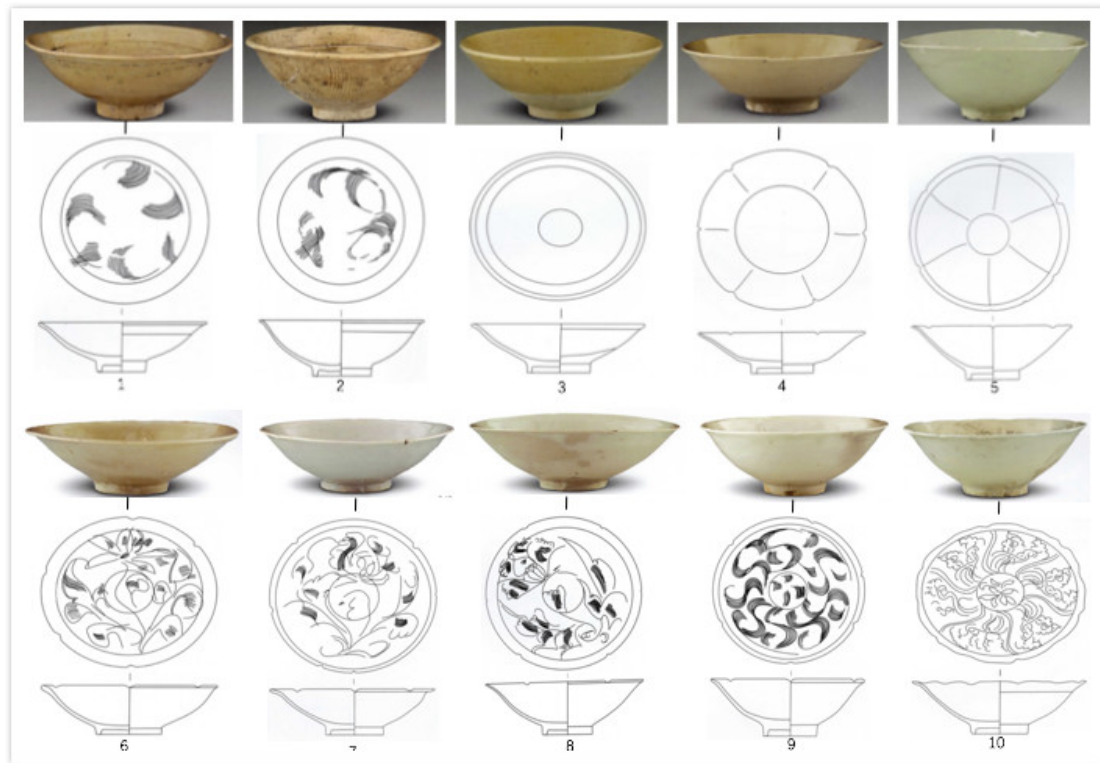


Figure 6.9 The Minqingyi ware from the Nanhai No.1 shipwreck

As well as the Jingdezhen, Dehua and Minqingyi kins, some qingbai wares probably originated from Nan'an, a kiln near Quanzhou (Fig 6.5). They are bowls of a compact grey body, greyish glaze running unevenly to the lower wall, plain or decorated with simple combed patterns on the interior wall (Fig 6.10).⁶⁵⁰ The vessel shape and decoration bear no distinguishing features, but the glaze and clay are more consistent with the products of Nan'an instead of Minqingyi or Dehua.⁶⁵¹ The mouth diameter of such bowls is 21.5 to 23.8 cm, which is between that of Minqingyi wares and Dehua

⁶⁴⁹ Just as the Minqingyi wares on the Java Sea and Huaguang Reef No.1 wreck, the group with lesser quality is characterized by thickly-potted body, yellowish glaze running unevenly to the lower wall, plain or simple decoration on the interior surface (Fig. 6.9: 1-5); the one with higher quality is composed by bowls with lobed rim, fully covered in whitish glaze (except the base) and the interior wall incised with rather dense floral or combed cloud motifs (Fig. 6.9: 6-10) (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 320-344)

⁶⁵⁰ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 356-360.

⁶⁵¹ Chen Jingshan, 2016.

wares. The products of the Nanan kiln are not the major ceramic cargo and are mainly distributed in the small compartment within compartments No.12 and 14.⁶⁵²

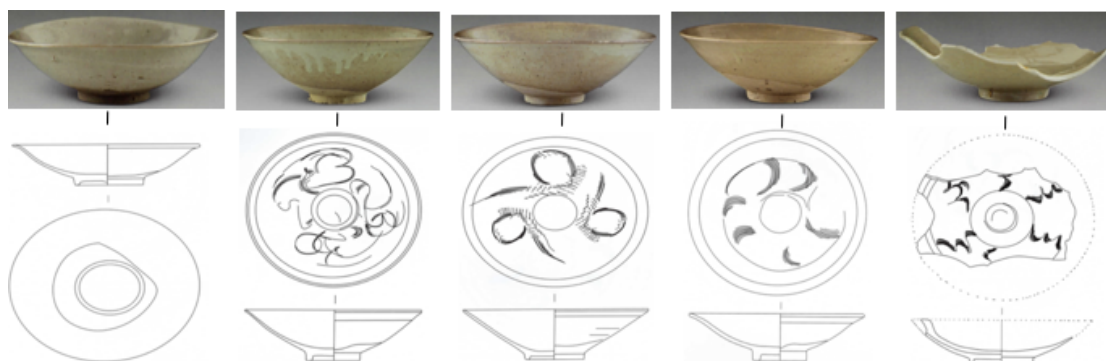


Figure 6.10 *The other qingbai wares from the Nanhai No.1 shipwreck*

The brown glazed wares on the Nanhai No.1 wreck, made of a reddish rough clay body and partially covered by glaze in various colour tones, are mostly jars with handles, small-mouthed compressed jars and meiping (tall vases with a small mouth) (Fig 6.11 below).⁶⁵³ They are plain without decoration except for stamped marks on the shoulders of some jars which refer to names of merchants or potters, trademarks, dates and names of the cargo.⁶⁵⁴ The Nanhai No.1 brown wares are almost identical to those on the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks, some of which even have the same stamped marks.⁶⁵⁵ The majority are also likely to be products of the Cizao and Qishi kilns. The brown glazed jars and meiping which take up the most space in some compartments, are considered to be the major ceramic types of the Nanhai No.1 wreck besides the green and qingbai wares.

⁶⁵² Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 356

⁶⁵³ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2008, pp. 278-298.

⁶⁵⁴ There is a stamped mark that can be read as “Yuyechun 玉液春” meaning good wine (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2008, pp. 278-283)

⁶⁵⁵ We see a stamped mark “Bing Zi Nian Hao 丙子年号” (a cyclical date/60-year cycle) on storage jars from the Java Sea (Mathers and Flecker, 1997, p. 170) and Nanhai No.1 wreck (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2008, p. 278)



Figure 6.11 *The brown wares from the Nanhai No.1 shipwreck*

The lead-green glazed wares on the Nanhai No.1 wreck are concentrated in compartments No.2 and No.3 and are mainly vases in various shapes. Other types include kendis, boxes, incense burners, dishes and small bowls (Fig 6.12:1-8, below).⁶⁵⁶ By comparison, even though some vessels, such as the pear-shaped vases and the double-gourd-shaped vases, have also been found on the Java Sea shipwreck (Fig 6.12:3,5), the Nanhai No.1 lead-green glazed wares display more abundant vessel forms and their decoration styles also vary. The former is characterized by underglaze painting, mainly the white floral pattern against a black ground, while the latter focus on body adornment, namely carved and stamped decoration and the black painting, is mostly simple spotting (not necessarily underglaze). The more complicated floral motifs in white against underglaze black ground is also seen but on fewer examples. The majority of the Nanhai No.1 lead-green glazed wares were produced at the Cizao kiln, which yielded quite a few lead-green glazed wares, some of which have similar shapes and decorations as the shipwreck cargoes (Fig 6.12: 9-13).⁶⁵⁷ However, the vases with floral motif in white against underglaze black ground, as argued in chapter five, are more likely to have been from the North Fujian kiln sites, such as Fuqing or Wuyishan.⁶⁵⁸

⁶⁵⁶ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2008, pp. 277, 299-308.

⁶⁵⁷ Wang Yuanlin and Xiao Dashun, 2016; Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018: 277; Guangdong Provincial Institute of Cultural Relics and Archaeology, 2011, p. 71.

⁶⁵⁸ See chapter five, section 1.1, pp 185-187.



Figure 6.12 The lead-green wares from the Nanhai No.1 shipwreck (1-8) and the comparable findings from the Cizao kiln complex (9-13)

The black wares were located in compartment No.7 and at the stern, and just as those on the previous shipwrecks, are in small numbers and mostly tea-drinking bowls.⁶⁵⁹ Such vessels were widely produced in Fujian province, especially in the north region including Cizao, Jianyang, Fuqing, Nanping and Wuyishan,⁶⁶⁰ multiple provenances have been suggested by other scholars.⁶⁶¹ Judging by the greyish white clay body and unevenly-applied bright black glaze, they are more likely to be from the Dongzhang kiln site at Fuqing.

Now we can conclude that the majority of the Nanhai No.1 ceramic cargo was produced at the Longquan, Jingdezhen, Dehua, Mingqingyi and Cizao kiln sites, with a smaller proportion from kilns near Quanzhou, North Fujian and in Guangdong province such as Nanan, Fuqing and Qishi (Fig 6.5). Overall, despite the continued dominance of the kilns in Fujian province in the traded ceramic markets, the output of the Longquan and

⁶⁵⁹ The tea-drinking bowls are characterized by a slight curve on the mouth rim. Other vessel forms include bowls and jars.

⁶⁶⁰ Zeng Fan, 2001, pp. 166-171.

⁶⁶¹ Wang and Xiao suggest the tea-drinking bowls were from Jian kiln (Wang Yuanlin and Xiao Dashun, 2016), but in the excavation report of 2014-2015 it is said the bowls and jars were originated from Cizao and the tea-drinking bowls from Fuqing (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 314, 361).

Jingdezhen had increased. The provenance study also makes us realize that the Cizao kiln yielded not one but several ceramic types for export, including brown, green and lead-green glazed wares.

Based on the coins found on the shipwreck⁶⁶² and the study of the ceramic cargo, the Nanhai No.1 wreck is dated to the mid-late Southern Song period. The sinking location suggests that it called at Guangzhou for repairs or to pick up some cargos, such as the big jars from the Qishi kiln, before sailing toward Southeast Asia. The majority of the ceramic cargo, however, was loaded at Quanzhou, or perhaps first at Fuzhou to load Mingqingyi, Longquan and Jingdezhen wares and others produced in North Fujian before sailing on to Quanzhou.⁶⁶³

b. The Tanjung Simpang ship

Our understanding about the ceramic cargo of the Tanjung Simpang ship, located at the north of Sabah (Malaysia), is limited because the site has been extensively looted and no excavation was conducted.⁶⁶⁴ The information referred to here is mainly from a website and an introduction to the shipwreck by Flecker in a symposium.⁶⁶⁵

⁶⁶² The latest coins were cast between 1165-1173 (Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, p. 458)

⁶⁶³ One proposed way for shipping the Longquan and Jingdezhen wares to Fujian is crossing the mountainous region, reaching the Minjiang river through which the cargos are transported to Fuzhou and then further down to Quanzhou (Tatsuya Mori, 2016); The multiple discoveries of the Longquan and Jingdezhen wares at North Fujian such as Pucheng, and at the Minjiang river region such as Nanping and Fuzhou support this assumption (Zhang Bai, 2008, pp. 84, 85, 87, 91, 107, 114).

⁶⁶⁴ <http://www.maritimeasia.ws/tsimpang/index.html> (18/08/2019, 16:20)

⁶⁶⁵ Flecker, 2015, pp. 111-136.



Figure 6.13 *The salvaged ceramic cargo from the Tanjung Simpang shipwreck*

Despite having been looted, during an underwater inspection 303 ceramic artefacts (retaining over 50% of their original shape) and some 250 kg of shards were recovered, among which the majority are green and qingbai wares.⁶⁶⁶ The green wares are bowls and dishes of various glaze and quality, which were likely produced in Fujian province (Fig 6.13:1-4).⁶⁶⁷ The qingbai wares have more diverse vessel forms, including bowls, covered boxes, ewer and saucers, which resemble the products of the Dehua and Mingqingyi kilns (Fig 6.13:5,6,7,11). There are also some brown wares on board the majority of which are similar to the Cizao brown-glazed wares on other shipwrecks (Fig 6.13:9,10,12), except for one teapot of an unusual shape (Fig 6.13:8).

Judging by the limited information, the ceramic cargo of the Tanjung Simpang shipwreck mainly originated from Fujian. While most of the recovered Chinese ceramics can find their counterparts on the Nanhai No.1 wreck, the Nanhai No.1 wreck cargo displays more diverse ceramic types and vessel forms and was of higher quality. Nevertheless, such understanding does not necessarily reflect the true picture of the ceramic cargo of the Tanjung Simpang ship, because the lack of the finer and more delicate artefacts, such as Jingdezhen wares, could be due to its looting.

⁶⁶⁶ <http://www.maritimeasia.ws/tsimpang/index.html> (18/08/2019, 16:20)

⁶⁶⁷ Flecker, 2015, p. 131.

The similarity between the ceramic cargo of the Tanjung Simpang shipwreck and the Nanhai No.1 wreck suggests that the Tanjung Simpang is also a shipwreck of the mid-Southern Song period. The timber identification indicates that the ship was probably built in China and based on the abundance of Fujian ceramics along with sixty-one Chinese bronze gongs,⁶⁶⁸ the ship was travelling from China, possibly Quanzhou. As for the destination, it is likely to be Brunei or other locations in Borneo as indicated by the sinking location and the large quantities of the Chinese green and qingbai wares found at sites in the Sarawak River delta and the Kota Batu area of Brunei (Fig 6.14).⁶⁶⁹

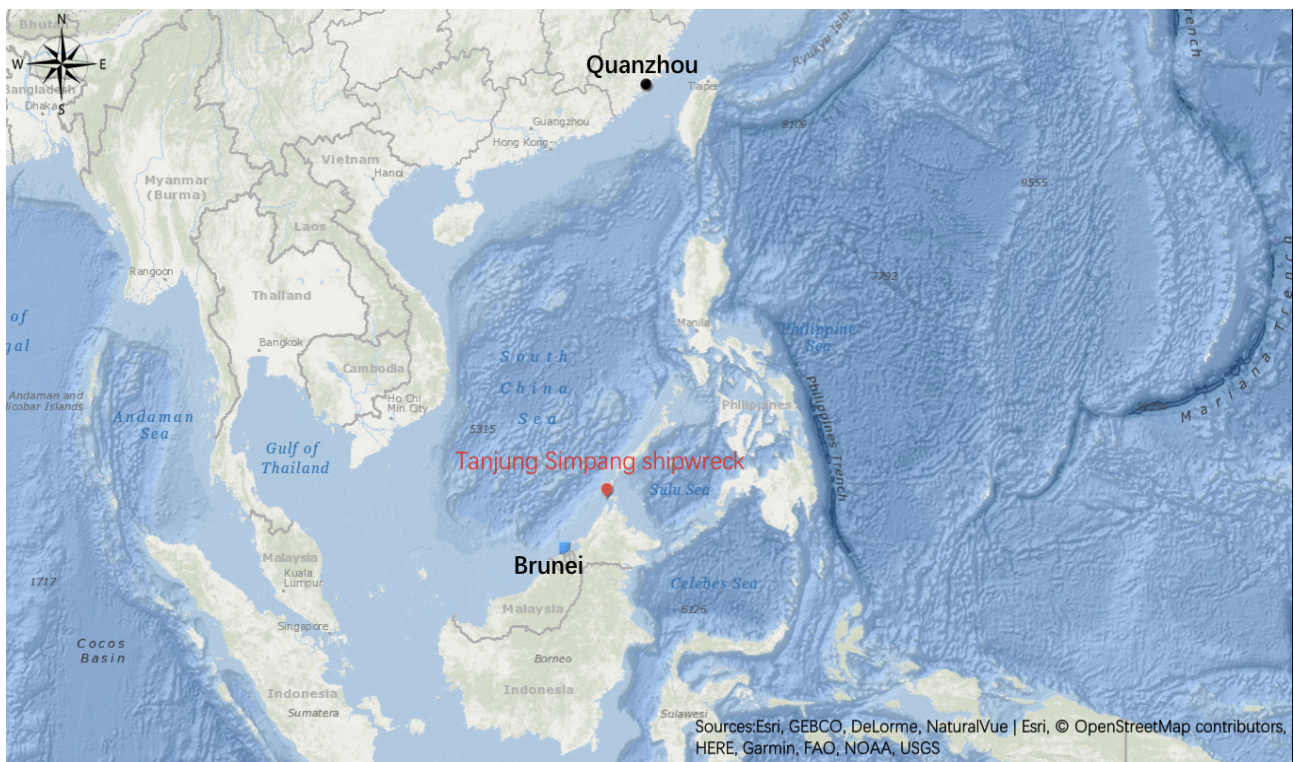


Figure 6.14 Location of the Tanjung Simpang shipwreck and its possible dispatch port and destination

c. The Jepara Shipwreck

The Jepara Shipwreck was discovered in the offshore of Jepara (Central Java, Indonesia) in the early 2000s, but no systematic and scientific excavation was conducted to recover

⁶⁶⁸ <http://www.maritimeasia.ws/tsimpang/index.html> (18/08/2019, 16:20)

⁶⁶⁹ Flecker, 2015, p. 133.

the artefacts. Because of the unavailability of the full shipwreck report by Djuana and Mckinnon, the information referred to here is from the summary of the report posted on a website. Due to the lack of any detailed introduction and pictures, my understanding of the provenance of the ceramic cargo is mainly based on other scholars' interpretation.

The Jepara shipwreck carried a substantial quantity of green and qingbai wares. The green wares are mainly bowls carved with lotus motifs on the inside, possibly from the Longquan kiln and bowls with incised or/and combed patterns on the interior wall and striations on the exterior wall, likely from Fujian.⁶⁷⁰ The qingbai wares include big bowls, covered boxes, vases, ewers and kendis, which resemble the products of the Dehua and Mingqingyi kilns.⁶⁷¹ Other ceramic types, such as brown-glazed kendis and vases with iron black floral motifs, are in a small number and there is no mention of Jingdezhen wares.⁶⁷² It appears that Fujian ceramics make up the vast majority of the Jepara Shipwreck ceramic cargo.

Similar to the Tanjung Simpang wreck, the vessel forms and shapes of the green and qingbai wares on the Jepara shipwreck are quite in line with those of the Nanhai No.1 wreck. There is a major difference regarding the ceramic cargo, which is the absence of the Jingdezhen wares. Nevertheless, because of the lack of systematic excavation, this is not necessarily a true reflection of the cargo composition of the Jepara shipwreck.

⁶⁷⁰ <http://www.koh-antique.com/jepara/jepara%20wreck.htm> (21/08/2019, 10:58)

⁶⁷¹ <http://www.koh-antique.com/jepara/jepara%20wreck.htm> (21/08/2019, 10:58)

⁶⁷² <http://www.koh-antique.com/jepara/jepara%20wreck.htm> (21/08/2019, 10:58)

The Jepara shipwreck is dated to the mid-Southern Song period due to the similarity of ceramic types and vessel forms with the Tanjung Simpang wreck. With Chinese ceramics being the major cargo, and no mention of other Southeast Asian artefacts, it appears that the Jepara Shipwreck sailed from China, possibly Quanzhou. The likely destination could be Jepara, a new port that emerged during the eleventh century, or Tuban on the coast of East Java (Fig 6.15).

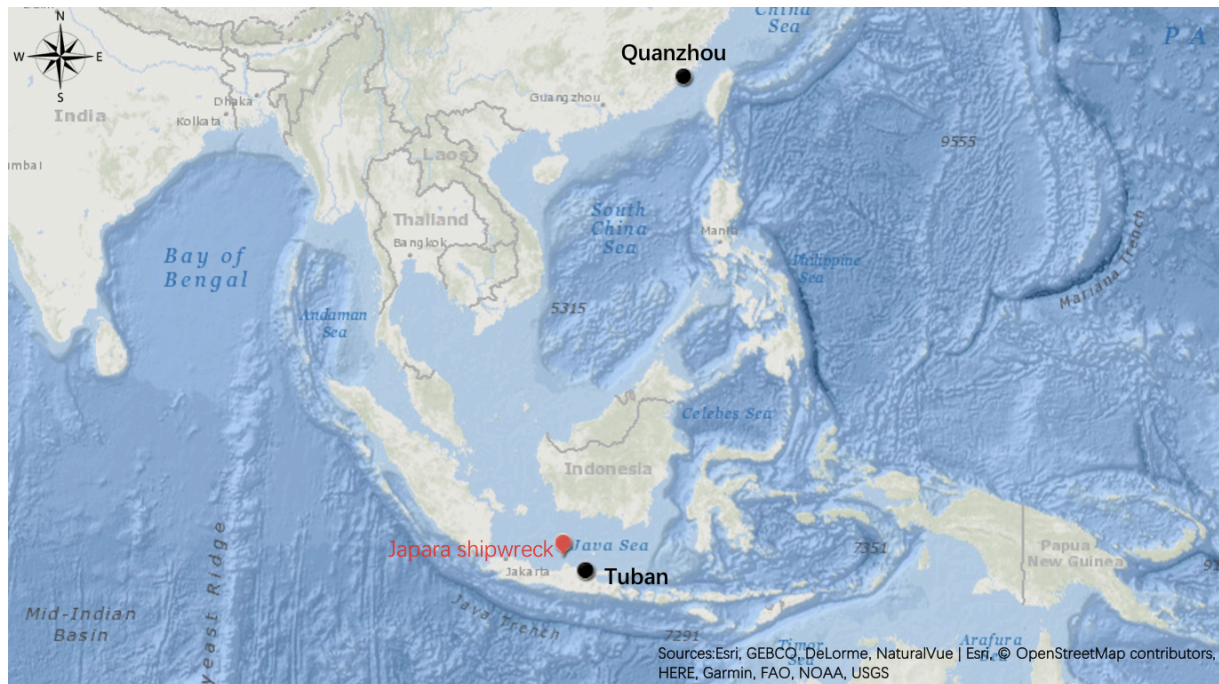


Figure 6.15 Location of the Jepara shipwreck and its possible dispatch port and destination

d. The Kudat and Investigator Shoal shipwrecks

The Kudat shipwreck is located close to the Tanjung Simpang (northern tip of Borneo)⁶⁷³ and the Investigator Shoal shipwrecks found at Kalayaan Group of Islands (Fig 6.1).⁶⁷⁴ Both shipwrecks have been partially excavated, but the condition of the wrecks indicate that the looting of the cargo had already taken place before their official recovery.

⁶⁷³ <http://koh-antique.com/kudat%20shipwreck/kudatwreck.htm> (21/08/2019, 10:58)

⁶⁷⁴ Dizon, 2003.

It is reported that the remaining ceramic cargoes of both ships resemble those on the Jeparu shipwreck, namely green-glazed wares with incised motifs from Fujian, green-glazed dishes with carved floral motif from Longquan, qingbai ewers and covered boxes from Fujian province, possibly Dehua, and brown-glazed jars and kendis from Guangdong province or Fujian (possible Cizao).⁶⁷⁵

The location of the Investigator Shoal shipwreck suggests that it sank on the route from the Philippines toward Borneo.

1.1.2 Discussion

The ceramic provenance of the mid-late Southern Song shipwrecks, represented by the much better preserved Nanhai No.1 wreck, reflect a major change in the export ceramic industry: the increased proportion of Jingdezhen qingbai ware and Longquan green-glazed ware in foreign markets.

As stated previously, during the mid-late Southern Song period, the production of Jingdezhen kiln sites experienced a decline in quality. This was mainly caused by: the exhaustion of the upper-layer of porcelain clay, which was more accessible and of better quality;⁶⁷⁶ the unreasonable taxation imposed after the mid-Southern Song whose assessment was based on the length of the kilns instead of the number of finished products;⁶⁷⁷ and the constant warfare with the Jin Dynasty and the most unfavourable agreement signed after the defeat of the Southern Song in 1208 which required a large amount of tribute to be paid to the Jin Dynasty every year resulting in excessive taxation on the labouring people.⁶⁷⁸ All these factors contributed to the higher cost and risk of producing vessels of fine clay body and bluish translucent glaze compared to before.

⁶⁷⁵ <http://koh-antique.com/kudat%20shipwreck/kudatwreck.htm> (21/08/2019, 10:58); Liu Wei, 2016.

⁶⁷⁶ Chen Yuqian, 2005, pp. 13-19; Jiangxi Provincial Institute of Cultural Relics and Archaeology and Jingdezhen Museum of Civilian Kiln, 2007, p. 467.

⁶⁷⁷ Liu Xinyuan, 1981.

⁶⁷⁸ The agreement called Jiading Heyi required a yearly tribute of 300000 liang silver (one liang silver equal 10000 to 15000 pieces of coins) from the Song government to the Jin Dynasty which is more than the amount (200000 liang) agreed upon in the previous deal called Shaoxing Heyi signed in 1141 (Chen Zhen, 2003, p. 496).

With such a social and economic crisis, increasing the output of each firing and lowering the costs naturally became the priority. Although production was boosted, the Chinese domestic market was not expanded. As a result, the kiln owners and potters turned their eyes to the overseas market.⁶⁷⁹ In terms of terrestrial finds, even though Jingdezhen qingbai wares were still not as common as Dehua wares in Southeast Asia during the Song period, they have been found in multiple regions including: Cambodia (The Northern Library of Bayon, Angkor Thom),⁶⁸⁰ south Thailand (Ratchaburi province),⁶⁸¹ Malaysia (the delta region of Sadong river),⁶⁸² and Indonesia (Barus in Northwest Sumatra).⁶⁸³

Although the Longquan kin complex has already been identified as one of the provenances of the green wares on the earlier shipwrecks, it is on the Nanhai No.1 wreck that Longquan ware becomes a major ceramic type and their quantity exceed and those of the Fujian green-glazed wares.⁶⁸⁴ The terrestrial discoveries of the Longquan wares in Southeast Asia which appear more often during the mid-late Southern Song period, also support the idea that there was an increased output of Longquan wares after the mid-Southern Song period.⁶⁸⁵ However, it is noted that overall during the Song

⁶⁷⁹ Some people argue that the survival crisis faced by the Jingdezhen potters and kiln owners and the increased proportion of Jingdezhen wares in the oversea market is due to the loss of the North China market (Zhou Jingjing, 2011); This opinion, however, contradicts with the historical fact that there have been constant conflict and wars between the Jin Dynasty and the Southern Song Dynasty ever since the early Southern Song period and hence the trade between the North and South China was often interrupted which is reflected by the scarcity of the South China ceramic including Jingdezhen wares in the north during the Southern Song period (Teng Yazhu, 2016, pp. 36-81).

⁶⁸⁰ Nakagawa et al., 2000, p. 1360.

⁶⁸¹ Ho Chuimei, 1994, pp. 213-225.

⁶⁸² Ke Jiayu, 2015, pp. 265-297.

⁶⁸³ Miksic, 2009, p. 73.

⁶⁸⁴ As mentioned in the excavation report, Longquan celadons account as the major ceramic type and distribute in every compartment while the Fujian celadons are found in a smaller number and concentrate in the stern compartment.

⁶⁸⁵ The earliest Longquan wares found at Southeast Asia so far are two five-spouted funerary jars that were made in the Northern Song (Bautista, 1991, p. 30). The vast majority of the Longquan wares appeared at Southeast Asia after the 12th century, among which most were dated to the thirteenth to fourteenth century. The Longquan wares of the early-mid Southern Song period i.e. the twelfth to thirteenth century are recognized at some sites at Thailand (Ho Chuimei, 1994, pp. 213-225), Philippine (Bautista, 1991, pp. 29-33), Indonesia (Mckinnon, 1984, p. 253) and Malaysia (Ke Jiayu, 2015, pp. 265-297). But the Longquan celadons of the mid-late Southern Song period to the Yuan i.e. the thirteenth to fourteenth century are more commonly found and appeared in a larger number with the Kota Cina (Indonesia) and Santa Ana (Philippine) as the typical example. At the Kota Cina site only three specimens of Longquan celadon with incised underglazed decoration dated to the twelfth century are known, while there are numerous typical Longquan celadon sherds with underglaze applique decoration at Kota Cina which made their appearance after thirteenth century (Mckinnon, 1984, p. 253). At the Santa Ana site, celadons form the second largest group of the recovered ceramics next to brown wares, the majority of which are Longquan type, i.e. having a greyish to greyish-white body opaque glaze varying in colour through different tones of grey, olive, green

period the Fujian green-glazed wares are more commonly seen in Southeast Asia than the Longquan celadons.⁶⁸⁶

1.2 Shape and decoration made for the Southeast Asian market

Despite the increased output for foreign markets, Jingdezhen and Longquan wares do not display much distinct difference from those found in China in terms of the vessel form, shape, size and decoration.⁶⁸⁷ This section will mainly focus on the qingbai wares from Dehua kiln which produced some specific vessels for foreign markets.

The vessel forms of the qingbai wares from the shipwrecks during this period are similar to those found on the early-Southern Song shipwrecks,⁶⁸⁸ except that there is a more diverse array of Dehua wares, especially the appearance of bowls and dishes among which the majority are big bowls and dishes with a mouthrim diameter more than 25cm (Fig 6.16).

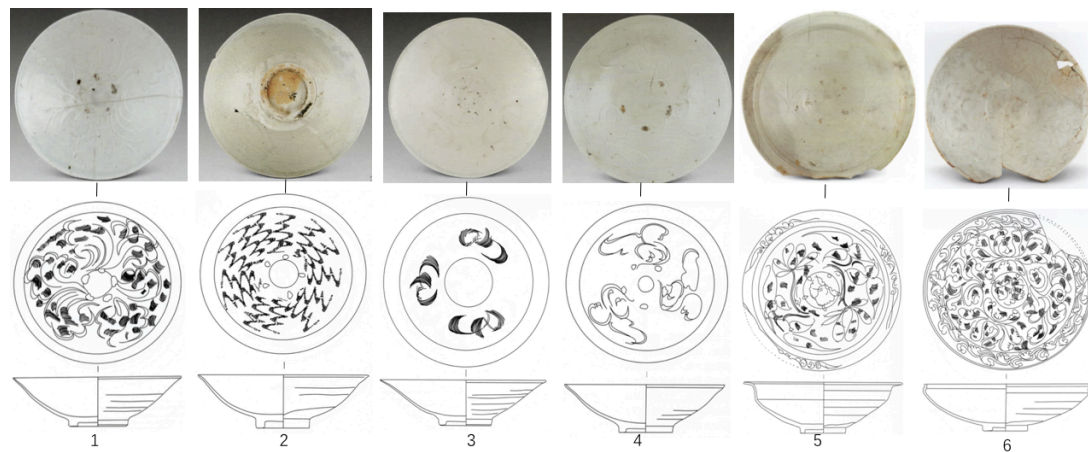


Figure 6.16 The Dehua big bowls and dishes with incised decoration from the Nanhai

No.1 wreck

and blue-green (Locsin, 1967, p. 70-82). Some of the bowls and dishes are decorated with carved lotus pedals on the exterior or raised double-fish design at the centre (Locsin, 1967, pp. 70-72, 77), the decoration of which type made their appearance after the mid-Southern Song period i.e. the thirteenth century.

⁶⁸⁶ Xiang Kunpeng, 2000.

⁶⁸⁷ The Longquan celadons on the Nanhai No.1 wreck characterized by the thin glaze with wide range of colour and incised floral pattern on the interior wall are similar to the Longquan wares discovered at domestic sites in terms of vessel shape, size and decoration (Xi Xiaoyun, 2016, pp. 62, 68, 74; Xu Jing, 2018, p. 41).

⁶⁸⁸ Namely, the qingbai wares from the shipwrecks are mainly made up by bowls from Mingqingyi kiln, boxes, small moulded vases, bowls, dishes, ewers, jars and kendis from Dehua kiln, exquisite dishes, bowls and saucers from Jingdezhen, others including bowls probably from Nanai kiln.

The Dehua big bowls and dishes incised with floral and combing patterns on the interior wall are a type of ceramic cargo peculiar to this period (Fig 6.16). Their decoration resembles the dense motifs seen on the higher-quality Mingqingyi bowls from the Java Sea, Breaker Shoal and Huaguang Reef No.1 wrecks, but their size is significantly larger and they are often found with five small spurmarks on the interior base which are not observed on the Mingqingyi wares. This type of vessel is one of the major forms of the lower layer of the Wanlunping Dehua kiln site dated from the late Northern Song to the mid Southern Song period,⁶⁸⁹ but they are not found at other sites in China. As stated previously, large table wares were more suitable for the dining customs of Southeast Asia rather than the Song society and they were likely made specifically for the foreign market.⁶⁹⁰ As for the adoption of incised decoration rather than the moulded pattern that was commonly seen on the previously exported Dehua wares, it is difficult to explain such a change. Nevertheless, it is reasonable to assume that with a large quantity of the Mingqingyi bowls arriving at Quanzhou, the potters at Dehua would be made aware of the popularity of such designs in the overseas market. At the same time, the Mingqingyi bowls with their dense incised and combed pattern can still be seen on the Nanhai No.1 wreck, even though their lotus motif is more cursive than the those on the earlier shipwrecks (Fig 6.17).



Figure 6.17 The Mingqingyi bowls with incised decoration from the Nanhai No.1 wreck

⁶⁸⁹ Lin Zhonggan and Zhang Wenyin, 1992.

⁶⁹⁰ See chapter five, section 2.2, pp. 210-211.

Another Dehua vessel type that appeared during the mid-late Southern Song period, and probably made for the Southeast Asian market, are the spherical small jars with two or four ears (average height 10cm) (Fig 6.18).⁶⁹¹ Qingbai-glazed small jars were not uncommon among the Song ceramics unearthed on Chinese sites (mainly tombs), but those with ears are rarely seen, and the domestic findings tend to have wider open mouth than their shipwreck counterparts.⁶⁹² The same small jars have been found at Sumatra,⁶⁹³ Sarawak,⁶⁹⁴ Malaysia,⁶⁹⁵ the Philippines⁶⁹⁶ and Cambodia.⁶⁹⁷ It is worth noting that we also see celadons, lead-glazed wares and blue-and-white wares in similar shapes exported to Southeast Asia.⁶⁹⁸ It appears that this type of small jars had an enduring popularity in Southeast Asia. Their use, based on the size and the fact that some small jars on the Nanhai No.1 wreck were found together with matching lids,⁶⁹⁹ was likely to be containers of items often preserved in small doses such as medicine or incense.



Figure 6.18 *The Dehua small spherical small jars from the Nanhai No.1 wreck*

⁶⁹¹ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 238-245.

⁶⁹² Among the 52 pieces of white or qingbai glazed small jars found at North China such as Liaoning, Hebei, Shandong, Anhui province, Inner Mongolia and Tianjin city, and at South China such as Jiangxi, Jiangsu, Fujian and Zhejiang province, only 6 are with handles (Teng Yazhu, 2016, p. 25; Xu Longguo, 2000; Sun Lin, 2007, p. 26; Jin Lianyu, 2010, p. 53; Xi Xiaoyun, 2016, p. 21; Chen Mingzhong et al., 2018; Zhang Bai, 2008, p. 80).

⁶⁹³ At Kota Cina, small jars with two ears and moulded decoration are found (Mckinnon, 1984, p. 216).

⁶⁹⁴ Harrison, 1959.

⁶⁹⁵ Ke Jiayu, 2015, pp. 265-297.

⁶⁹⁶ Among the 46 pieces of qingbai wares unearthed at Santa Ana, more than 10 are small jars with handles (Locsin, 1967, p. 90).

⁶⁹⁷ Nakagawa et al., 2000, pp. 359-360.

⁶⁹⁸ At Santa Ana, other than the qingbai jarlets, there are also 58 two-eared jarlets of other ceramic types were unearthed, among which 34 are celadon, 7 are lead-glazed ware and 17 blue-and-white wares (Locsin, 1967, pp. 44, 81, 100); At Thailand Longquan jarlets with two handles are reported to be found at multiple sites (Ho Chuimei, 1994, pp. 213-225).

⁶⁹⁹ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 220.

Unlike Dehua wares, Mingqingyi wares from the Nanhai No.1 wreck are quite in line with those found on the earlier shipwrecks, except for some changes in decoration motifs. Nevertheless, it is worth mentioning the existence of a certain amount of under-fired Mingqingyi wares on the Nanhai No.1 wreck.⁷⁰⁰ The export of under-fired Mingqingyi wares suggests that the demand for Chinese ceramics was so high in the overseas market that even low-quality products were desirable.

2 Chinese ceramics recovered from shipwrecks dated to the late Southern Song period (1220-1279)

Six shipwrecks and shipwreck sites dated to late Southern Song period have been discovered in the South China Sea. The Quanzhou Bay wreck was a homebound merchant ship where the ceramics on board are personal belongings or daily utensils.⁷⁰¹ The Bai Jiao No.1 wreck was most likely sailing towards East Asia, rather than Southeast Asia based on the types of the recovered ceramics and its sinking location.⁷⁰² Therefore, this section will mainly focus on the other four shipwrecks and shipwreck sites, among which three were found in the offshore waters of Fujian province and one in the Philippines (Fig 6.19).

⁷⁰⁰ Guangdong Provincial Institute of Cultural Relics and Archaeology et al., 2018, pp. 320.

⁷⁰¹ Chen Gaohua and Wu Tai, 1978.

⁷⁰² Zhang Wei et al., 1999, pp. 201-202.

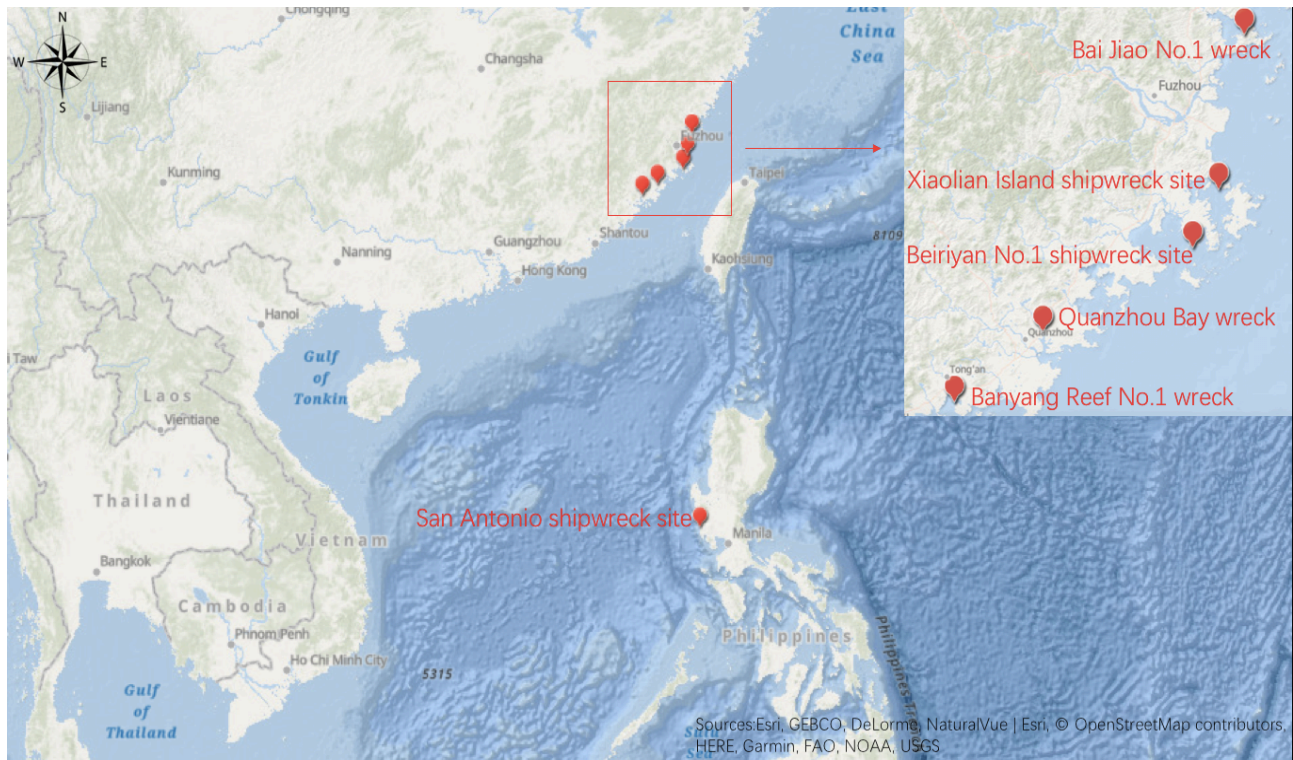


Figure 6.19 Map of the shipwrecks in the South China Sea during the late-Southern Song period

2.1 Types and provenance of Chinese ceramics

2.1.1 Finds from each shipwreck

a. The Banyang Reef No.1 shipwreck

The Banyang Reef No.1 shipwreck was discovered in the offshore waters of Xiamen Fujian province, during a 2012 underwater archaeological survey.⁷⁰³ The shipwreck has been looted, but the remains of the wooden hull and some of the ceramic cargo along with few coins and fragments of lacquerwares have been recovered.

⁷⁰³ The Survey Team of Underwater Archaeological in Fujian, 2014.

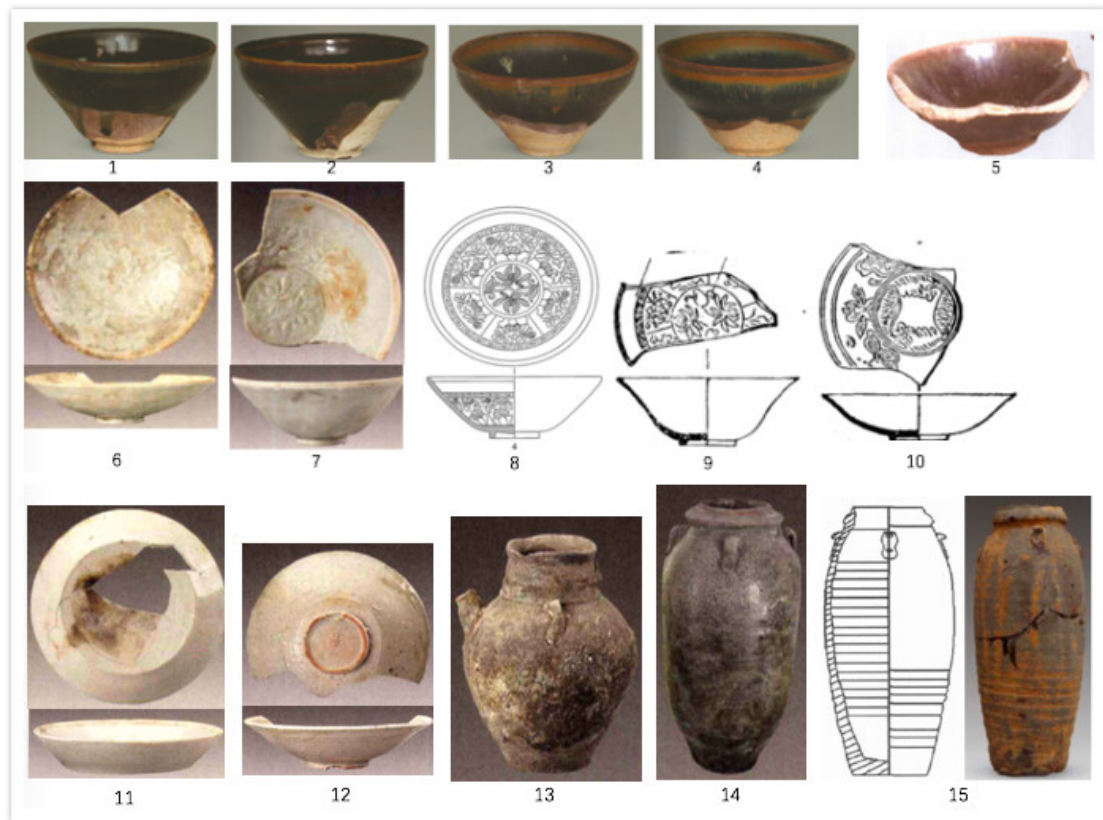


Figure 6.20 The ceramic cargo from the Banyang Reef No.1 shipwreck (1-4,6,7,11-14) and comparable finds from Fuqing (5), Pucheng kiln sites (8-10) and Yangzhou townsite (15)

Among the recovered ceramics, the majority are black-glazed tea-drinking bowls, with a few qingbai bowls, saucers and brown-glaze vases (Fig 6.20). The tea-drinking bowls are of a standard size (height 4.0-6.1cm, diameter around 11cm) and shape.⁷⁰⁴ They are made of rough grey clay and characterized by the black glaze which is thin at the mouthrim but flows thickly and unevenly onto the lower exterior wall.⁷⁰⁵ A closer observation reveals that the glaze had been applied twice to deliver a lustrous surface and some of the bowls are decorated with “hare’s fur” on the mouthrim (Fig 6.20:1-4). The glaze features of the ceramic cargo match with the products of the Dongzhang kiln site in Fuqing county (Fig 6.20: 5).⁷⁰⁶

⁷⁰⁴ Nanjing Museum and Ningbo Museum, 2017, pp. 204-205.

⁷⁰⁵ The Survey Team of Underwater Archaeological in Fujian, 2014.

⁷⁰⁶ Compared with the Jian wares, the black wares produced at Dongzhang kiln site (Fuqing) are covered by thinner glaze and the clay body tend to be brownish as the shipwreck findings. Moreover, the tea-drinking bowls

The qingbai wares are divided into two groups based on their quality. Group one is composed of bowls made of a compact white clay body and fully covered by a thin glaze except the foot and mouthrim. They are commonly found with impressed decoration, such as the floral or children playing motif, on the interior wall (Fig 6.20: 6,7).⁷⁰⁷ The unglazed mouthrim suggests that when firing they were stacked upside down. Judging by the glaze and clay features, firing method and decoration style, such vessels are most likely to have originate from the Dakou kiln at Pucheng (North Fujian) or the Hutian kiln at Jingdezhen where qingbai bowls with very similar patterns have been excavated (Fig 6.20: 8-10).⁷⁰⁸ Group two refers to the bowls and saucers characterized by a rather rough clay body and grey or greyish white glaze ending short of the footring (Fig 6.20: 11, 12).⁷⁰⁹ Some vessels are incised with a combing motif on the interior wall but the majority are plain without decoration and the unglazed circle on the inner bottom and the unglazed mouthrim suggests that there were two types of firing methods: face-up and face-down.⁷¹⁰ The product features are consistent with the qingbai wares from the Lingchuan kiln site at Putian.⁷¹¹

The brown-glazed vases are tall and narrow and similar to the small-mouthed vases from earlier shipwrecks, although with have a wider base, a slightly constricted mouth and a folded sloping rim. Some are also found with four handles on the shoulder (Fig 6.20: 14). Known as “Hanping” in Chinese, they were commonly produced at Yixing, Jiangsu province during the Southern Song and Yuan Dynasty and were used probably as wine containers (Fig 6.20: 15).⁷¹² To sum up, the excavated cargo of the Banyang Reef No.1 wreck are mainly from kiln sites around Fuzhou, such as Fuqing and Putian,

unearthed at the kiln site also display a surface with two-layer glaze which suggest that the potters at the Dongzhang kiln site also adopted the double dipping glazing method (Ouyang Xijun, 2005, pp. 29-30).

⁷⁰⁷ The Survey Team of Underwater Archaeological in Fujian, “The Underwater Archaeological Survey in the Fujian Coastal Area, 2014.

⁷⁰⁸ The Dakou kiln site yielded a type of high-quality qingbai wares with compact and white clay body and lustrous glaze (Yang Zelin, 2018); Its vessel forms, firing method and decoration were influenced by the Jingdezhen kiln and hence very similar products were produced (Lin Zhonggan and Zhao Hongzhang, 1988, pp. 63-71).

⁷⁰⁹ Li Jianan, 2012, p. 68.

⁷¹⁰ Li Jianan, 2012, p. 68.

⁷¹¹ Ke Fengmei and Chen Hao, 1995.

⁷¹² Gao Xintian, 2005.

kiln sites in North Fujian, such as Pucheng, Xiying at Jiangsu, and possibly the Hutian kiln at Jingdezhen (Fig 6.21).



Figure 6.21 Location of the major kiln complexes, ports and the Banyang Reef No.1 wreck

The shipwreck is dated to the late Southern Song period based on the finds of the coins among which the latest ones were cast between 1195 to 1200 and that similar vessels have been unearthed from tombs of the end of the Southern Song period.⁷¹³ The ceramic provenances suggest that the ship sailed from Fuzhou or Quanzhou but sunk on its southward route. If not caught in the accident, the ship would likely have passed through Penghu islands and headed towards the Philippines where black tea-drinking bowls and Hanping have been found (Fig 6.21).⁷¹⁴ The route of sailing from Quanzhou, Xiamen to Penghu island and then to the Philippines is recorded in historical documents and supported by the discoveries of various Song-Yuan ceramics on Penghu island.⁷¹⁵

⁷¹³ Liu Wei, 2016.

⁷¹⁴ Brown et al., 1989, pp. 71-79; Locsin, 1967, p. 115.

⁷¹⁵ Xu Benzhang, 1988, pp. 126-130.

b. The Beiriyuan No.1 shipwreck site

Located in the waters of Xinghua Bay (east of Putian), the Beiriyuan No.1 shipwreck site was discovered during the 2008 underwater archaeological survey of the coastal region of Fujian province.⁷¹⁶

More than ten pieces of artefacts were collected, all of which qingbai wares including bowls, dishes and ewers.⁷¹⁷ The qingbai bowls and dishes with unglazed mouthrim and decorated with impressed motifs are similar to the Group One qingbai wares on the Banyang Reef No.1 wreck and likely also originated from the kiln sites in North Fujian or Jingdezhen (Fig 6.22: 1,2).⁷¹⁸



Figure 6.22 The ceramic cargos from the Beiriyuan No.1 shipwreck site (1,2), Xiaolian Island shipwreck site (3,4,7-12), and comparable finds from the Dayao (5) and Jincun kiln sites of Longquan county (6)

The monotonous ceramic cargo combination (all qingbai wares) and the wreck location indicate that the ship was sailing from Fuzhou where it loaded the vessels from North

⁷¹⁶ Li Jianfa et al., 2009.

⁷¹⁷ Li Jianfa et al., 2009.

⁷¹⁸ Li Jianan, 2012: 64.

Fujian when it was caught in the accident heading toward Quanzhou. It could have been undertaking local internal coastal transportation, or if a sea-going merchant ship after calling at Quanzhou, it would have embarked on a journey towards Southeast Asia.

c. The Xiaolian Island shipwreck site

The Xiaolian Island shipwreck site was discovered in the offshore waters of Xiaolian island (southeast of Fuzhou) during the 2008 underwater archaeological survey of the coastal region of Fujian province (Fig 6.19).⁷¹⁹ Several anchor stones and various ceramics were collected.

The ceramics include green-glazed wares, black wares, qingbai wares and brown-glazed ware. The celadon bowls and dishes were fully covered (except the foot or footring) by thick glaze and carved with lotus petals on the exterior wall which produce a relief effect, or were decorated with an applique double-fish motif on the interior bottom, are products of the Jincun or/and Dayao kiln sites of Longquan (Fig 6.22:3,4).⁷²⁰ Identical vessels have been excavated from these kiln sites and the product features of this ceramic cargo are consistent with those dated to the late Southern Song period to early Yuan Dynasty (Fig 6.22:5,6).⁷²¹ The black-glazed tea-drinking bowls and qingbai wares with thin glaze likely originated from Fujian province (Fig 6.22:7-9).⁷²² Besides high-fired ceramics, there are also many brown-glazed wares which include the Hanping seen on the Banyang Reef No.1 shipwreck and produced at Jiangsu province, possibly the Yixing kiln (Fig 6.22:10-12).⁷²³ In conclusion, the ceramic cargos uncovered at the Xiaolian Island shipwreck site are composed of wares from Fujian, Zhejiang and Jiangsu province (Fig 6.23).

⁷¹⁹ The Survey Team of Underwater Archaeological in Fujian, 2014.

⁷²⁰ Li Jianan, 2012, p. 69.

⁷²¹ Zhang Xiang, 1989: 68-92; Zhu Boqian, 1989, pp. 51-58, 67.

⁷²² Li Jianan, 2012, p. 69.

⁷²³ The Survey Team of Underwater Archaeological in Fujian, 2014.

The typological study of the Longquan celadons suggests a date of the late Southern Song period to the early Yuan Dynasty for this shipwreck. Based on the location and cargo provenance, the ceramics were likely loaded at Fuzhou and the ship sank on its southward journey to Quanzhou or Southeast Asia (Fig 6.23)

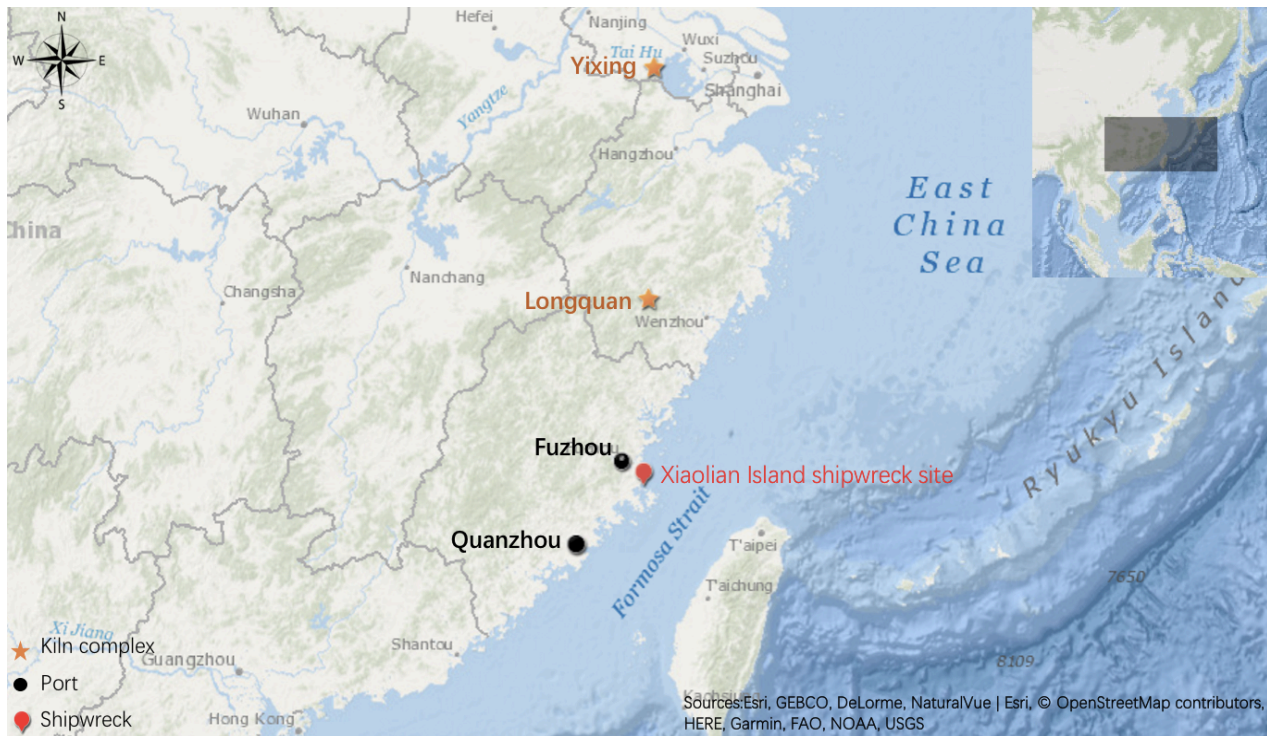


Figure 6.23 Location of major kiln complexes, ports and the Xiaolian Island shipwreck site

d. The San Antonio shipwreck site

The shipwreck site was located in the coastal waters of San Antonio (Province of Zambales, North Philippines) and uncovered during a three-week survey of Philippine underwater archaeological sites in 1988 (Fig 6.19).⁷²⁴

The recovered ceramics include coarsely made plates and basins covered by pale green mottled degraded glaze, bowls with a fine body and green-grey glaze, as well as green-glazed jars, some of which have stamps on the shoulder.⁷²⁵ The limited information is

⁷²⁴ Clark, 1989.

⁷²⁵ Clark, 1989.

not enough to deduce the provenance, but such vessels were produced in the kilns surrounding Quanzhou, such as the Nanan and Cizao kiln sites.

The dating of the shipwreck site is based on the discovery of similar plates unearthed in Hong Kong together with Jingdezhen wares, which are dated to late Southern Song period.⁷²⁶

2.1.2 Discussion

The recovered ceramics from the four shipwrecks and shipwreck sites are mainly qingbai bowls and dishes with full glaze coverage (except the foot and mouthrim), and a dense impressed pattern on the interior wall. These were made in North Fujian kiln sites such as the Dakou kiln at Pucheng or the Hutian kiln site at Jingdezhen. Other finds include celadon bowls and dishes from the Longquan kiln complex, black-glazed tea-drinking bowls and coarsely made green-glazed and qingbai-glazed wares possibly from Fujian province, and brown-glazed jars and vases, among which the type called Hanping was produced at Jiangsu province.

A major difference in terms of the ceramic provenance is the absence of Dehua qingbai wares, the result of which is that the vessel forms of ceramic cargoes became rather limited, confined to mainly bowls and dishes.⁷²⁷ Such a change corresponds with the decline in production of qingbai wares in the upper layer of the Wanpinglun site (the major kiln site of Dehua ware during the Song period), which is dated from late Southern Song to the early Yuan Dynasty. During this period, greyish green-glazed wares replaced qingbai wares as the dominant ceramic type of the kiln site, the quality of the clay and glaze descended, and the dense impressed and incised pattern disappeared.⁷²⁸ Nevertheless, the downturn in the production of qingbai wares

⁷²⁶ Liu Wei. 2016.

⁷²⁷ The absence of Dehua wares on the Beiriyuan No.1 and Xiaolian Island shipwreck site is because they sunk before reaching Quanzhou. But such explanation cannot account for the case of the Banyang Reef No.1 shipwreck and San Antonio shipwreck site.

⁷²⁸ Lin Zhonggan and Zhang Wenying, 1992; Fujian Museum, 1990, pp. 59-72, 143-144.

production at the Dehua kiln sites did not last long. After the early Yuan period, qingbai and white wares made of a white compact clay body, covered entirely by fine opaque glaze and often decorated with impressed dense floral motifs became the major type and were exported to the overseas market in great numbers.⁷²⁹

In contrast to the absence of the Dehua wares, Hanping, a new-type of brown-glazed vase originating from Jiangsu province, made its appearance on the shipwrecks during the late Southern Song Dynasty. Such a discovery, however, does not indicate the participation of the Jiangsu kiln sites in the maritime ceramic trade. The low quality of Hanping, which is reflected by its coarse and low-firing body, unsmooth surface and unevenly applied glaze, make it unlikely for merchants to export them from inland kiln sites remote from the port cities. It is, therefore, more reasonable to assume that they came on board as a package of merchandise. Hanping was commonly used as a wine container in Zhejiang and Jiangsu provinces between the Southern Song and Yuan Dynasty, where the wine industry was thriving.⁷³⁰ Wine was recorded as one of the major commodities exported overseas, and small-mouthed vases made in the Cizao kiln and found on multiple shipwrecks were their containers.⁷³¹ The discovery of Hanping on the wrecks suggests that since the late Southern Song period besides Fujian province, the wine industry of Zhejiang and Jiangsu provinces also engaged in maritime trade with Southeast Asia.

⁷²⁹ Xu Benzhang et al., 1979; Lin Zhonggan and Zhang Wenyin, 1992; Fujian Museum, 1990, pp. 81-95.

⁷³⁰ At Linan (current Hangzhou, Zhejiang province), the capital of the Southern Song Dynasty, drinking was prevailing among all classes and more importantly the famous wines were almost all produced in the Zhejiang and Jiangsu province (Zhu Ruixi and Zhang Bangwei, 1998, pp. 51-53).

⁷³¹ See chapter four, section 2.2.3, p. 165.

2.2 Shape and decoration made for the Southeast Asian market

The vessel forms, size and decoration of the ceramics recovered from these four shipwrecks and shipwreck sites do not display any distinct difference from their counterparts unearthed from the sites in China, but in comparison with the ceramic cargoes of the earlier shipwrecks, there is a change worth mentioning: the increased proportion of black-glazed tea-drinking bowls on the Banyang Reef No.1 wreck.

The black-glazed tea-drinking bowls, which are only found in limited numbers on the previous shipwrecks, are the major ceramic type on the Banyang Reef No.1 wreck. The rising popularity of this type of bowl in South China during the Song Dynasty is due to the tea-tasting custom called “Doucha 斗茶”, which assessed the quality of various teas based on the colour of the tea soup and the foam on the surface, and the temmoku glaze provided an ideal contrast background for these observations.⁷³² It is believed that the main overseas market of the tea-drinking bowl is East Asia, especially Japan, where the tea culture of the Song China was accepted by local society and become popular not only among the privilege few but also the common people,⁷³³ which is reflected by numerous findings of such vessels around Japan.⁷³⁴ So far, underwater finds of black-glazed tea-drinking bowls are also mainly discovered on the route from South China to Japan, such as the Bai Jiao No.1 and Xinan wrecks.⁷³⁵ The tea-drinking bowls on the Xinan wreck are thought to be collected heirlooms with repairs instead of newly made products, which indicates that such vessels were highly valued and in high demanded in Japan even after the Song dynasty and the end of production at the Jian kiln.⁷³⁶

⁷³² The assessed standard was that the whiter the soup colour, the better the tea quality. And the foam was assessed based on the colour and the water mark on the wall: the purer and whiter the foam and the later the water mark appeared on the wall, the better. Therefore, black-glazed ware was the ideal vessels for observing.

⁷³³ Wang Ziyi, 2004, pp. 90, 94, 98.

⁷³⁴ Wang Ziyi, 2004, p. 101.

⁷³⁵ Li Jianan, 2001.

⁷³⁶ Feng Xianming, 1985.

In comparison, the discoveries of black-glazed tea-drinking bowls in Southeast Asia are scarce. A Few were found in the Balangay area of the Philippines, the Benat Hilir site in Malaysia and Kota Cina site in Sumatra.⁷³⁷ Except for the Banyang Reef No.1 wreck, black-glazed tea-drinking bowls only account for a very small proportion of the ceramic cargoes on the shipwrecks dated to the Song Dynasty as well as those from the later period that sailed toward Southeast Asia. The unpopularity of such vessel in Southeast Asia is most likely due to the lack of the tea-drinking custom in the local dining habits. The unusual ceramic composition of the Banyang Reef No.1 wreck makes one wonder whether the vessels on board were intended for an immigrant Chinese community rather than the local inhabitants. The Song Dynasty historical documents record that some maritime merchants from Fujian and Guangdong remained and settled at Jiaozhi (current Vietnam) and Goryeo (current Korean Peninsula).⁷³⁸ The Kota Cina site, a major trading centre during the Southern Song period, was also once occupied by overseas Chinese along with some inhabitants of Indian origin and local people.⁷³⁹ As the communities of Chinese settlers were established, they generated a consumer market whose needs and tastes were different from those of the indigenous society. The tea-drinking bowls on the Banyang Reef No.1 wreck suggest that the consumer market of Chinese settlers could yield enough profit to make a sea-going journey targeting their demand risk-worthy, but at the same time, its scale was not big enough to make such a trading journey regularly.

3. Conclusion

Between the middle to late Southern Song period (i.e. early to late thirteenth century), the Chinese ceramics shipped to Southeast Asia were still mainly green-glazed wares

⁷³⁷ Brown et al., 1989, pp. 71-79; Ke Jiayu, 2015, p. 294; Mckinnon, 1984, pp. 278-280.

⁷³⁸ Shiba Yoshinobu (translated by Zhuang Jinghui), 1983.

⁷³⁹ Mckinnon, 1977

and qingbai wares. The interpretation of their provenance, vessel form and decoration reveals some essential changes in the export ceramic industry.

In terms of the cargo provenance, based on the shipwreck finds, ceramics from the Fujian kiln sites still dominated the Southeast Asian market during this period, but there was an increased proportion of Longquan and Jingdezhen wares. To overcome the crisis posed by the unfavourable tax policy and the shortage of the fine clay, potters at the Jingdezhen kiln sites adopted the face-down stacking method and used stamped decoration to boost output and lower costs. The qingbai wares with unglazed mouthrim and stamped motifs, made of less purified clay body and covered by thinner glaze replaced the earlier delicate ones to become the major ceramic type at the Jingdezhen kiln sites. With increased production, more Jingdezhen qingbai wares flowed into the overseas markets.

In the thirteenth century, Longquan wares became one of the main traded ceramic types, which is reflected by their more abundant discoveries on the shipwrecks and on terrestrial sites in Southeast Asia. During this period, its product features experienced two stages of change. In the early thirteenth century, Longquan wares displayed a different decoration style from the previous period, changing from two-side to one-side incision, while the Fujian green wares roughly maintain the previous style of decoration. In the later thirteenth century, Longquan ware was characterized by carved motifs of relief effect and thicker and non-translucent glaze whose colour resembles the colour of jade.

Another significant change of the ceramic cargo composition is the absence of Dehua wares on shipwrecks of the late thirteenth century. Dehua qingbai wares were exported to Southeast Asia since the early Southern Song period (early twelfth century). The abundant Dehua wares in various shapes and forms found on the Nanhai No.1 wreck indicates that it remained the major exported ceramic type during the middle Southern Song period (late twelfth to early thirteenth century). Nevertheless, on the shipwrecks

dated to the late Southern Song period, there are no discoveries of the typical Dehua boxes, small vases and jars which are commonly seen on the previous shipwrecks. With the disappearance of the Dehua wares, the vessel forms of the qingbai wares became much less diverse and limited to mainly bowls and dishes. During the late Southern Song period, we also see a shipwreck whose ceramic cargo was mainly composed of black-glazed tea-drinking bowls, which is never observed on any other merchant ships sailing toward Southeast Asia. In my opinion, the intended consumers of this shipwreck cargo were Chinese settlers in Southeast Asia instead of the local inhabitants. The relatively small consumer market perhaps explains the scarcity of such a cargo.

The comparative research between forms and decoration of shipwreck cargoes and finds from China indicates that at the Dehua kiln sites vessels, such as big bowls and dishes, and small jars with handles, were produced to cater to the needs of the Southeast Asian market. As for the Longquan and Jingdezhen wares, they are mainly bowls and dishes of standard size and commonly seen with floral patterns which do not display any distinguishable difference from their counterparts excavated in China.

In the span of about one hundred years, the renowned Jingdezhen and Longquan kilns finally expanded beyond the domestic market and managed to produce a larger amount for export. Their increased production would become even more obvious in the later period. Such change was bound to have a significant influence on the Fujian ceramic industry. With more quality goods flowing into the market, inferior copies might be cast out. But this is the story of another dynasty.

Chapter Seven

Conclusion

The preceding chapters have addressed questions about the way in which the ceramic trade between Song China and Southeast Asia was carried out, the merchants who were involved and crucially the exchanged cargos, mainly based on the shipwreck materials. Together, these allow the development within the South China Sea trading circle between the tenth century to the thirteenth century to be revealed.

1. The trading patterns

In chapter two, the question of how maritime trade was conducted was explored by looking into the distribution pattern of cargos on the Intan, Cirebon, Nanhai No.1 and Quanzhou Bay wrecks. The methodology adopted was that if the cargo was owned and managed by several merchants, then the composition of items found in (any) compartments should noticeably vary from the arrangement of objects from (any) other sections. The corollary of this is that if a single authority owned the load, then the stowage design should follow the requirements of seamanship, and the distinct difference between the cargo composition of (any) compartments would not be observed. Through the detailed analysis of the cargo distribution, I argue that the voyages of some merchant ships were conducted at the request of a single or few authorities who undertook trade in bulk, with the remained few spaces leased to small-scale individual traders. The major cargo on board was aimed for a single directional destination, as represented by the Inan and Cirebon wrecks. In the later period of this study, the sea-going journey changed to become more frequently a joint operation of multiple traders and the major cargo was handled by small-scale merchants or peddlers and probably sold at a number of ports-of-call as seen on the Nanhai No.1 and Quanzhou Bay wrecks. Among the pedlars, some appear to have specialized in one

particular type of product, as reflected by the examination of the distribution of ceramic cargo on the Nanhai No.1 wreck.

With the development of sea-borne trade, the network of the South China Sea was bound to become more diffused especially after the eleventh century when Srivijaya gradually began to decline as a polity and lost its control over the flow of Southeast Asian commodities into the channels of international trade. The Sumatra-centred distribution system collapsed. Merchants from minor Malay ports started to frequent Quanzhou, and Chinese merchants also dealt directly with the sources of supply on Palawan, Borneo and Java. As we can see from the shipwreck finds, between the twelfth and thirteenth century, the trade arteries that connect South China and Southeast Asia included the well-documented western route which started at Guangdong, then turned to Hainan, continued towards the Vietnamese coast from where it led to the east Malayan coast and then Sumatra and Java.⁷⁴⁰ Some merchant ships also undertook an eastern route which headed from Quanzhou, through the west coast of Luzon and the Sulu Sea to northern Borneo.⁷⁴¹

2. The identities of maritime merchants

In chapter three, the question of the identities of the merchants who participated in the South China Sea trading circle is approached by a combined study of historical records and archaeological finds mainly the possible personal belongings on some shipwrecks, the ink marks seen on the cargoes and the wooden tags from the Quanzhou Bay wreck. The personal belongings were identified through their quantity, use and location among the shipwreck artefacts. The names referred to by the ink marks and seen on the wooden tags were interpreted to extract the personal information of the traders.

⁷⁴⁰ There are other two possible directions of this route after the Vietnamese coast, one went into the Gulf of Siam, the other turn to the north-western tip of Borneo.

⁷⁴¹ Compared with the western route, the eastern route is underrepresented in Chinese records such as *Lingwai daida* and *Zhufan zhi* (Ptak, 2001, pp. 403, 404, 411, 412)

A significant change in the South China Sea trading circle during the Song period is the increasing participation of individual Chinese merchants. Up until the tenth century, China's maritime trade with Southeast Asia was essentially a state monopoly, meaning that the internal trade of foreign products was in the hand of the court and overseas private shipping was prohibited.⁷⁴² It was only after the late tenth century that Chinese citizens were permitted to participate in the internal trade in specific types of foreign products, and the liberation of private shipping, that the state's policy toward maritime trade changed from monopoly to stewardship.⁷⁴³ The Chinese merchants who boarded Malay ships and chartered limited space to conduct their business in the tenth century, as illustrated by the discovery of two ceramic pillows on the Intan wreck, sailed in their ships in the later period and even established a settlement of Chinese merchants in the Southeast Asian coastal area (Kota Cina). The identities of the Chinese merchants, as indicated by the names on the wooden tags from the Quanzhou Bay wreck, were not confined to traders with an official background or abundant asset, but also included those of lower social status, such as sailors, small merchants, or simple citizens who wished to earn additional income by investing in this risky business. The discovery that on the Nanhai No.1 wreck, one specific ink mark only appears on one type of ceramics suggests that in the twelfth century specialist retailers already existed in the overseas ceramic market.

In contrast to the appearance of Chinese shipwrecks in the South China Sea during the Song period is the absence of Arab ones. Arab merchants were still an active and influential community in South China, as demonstrated by Islamic architecture at the major ports and big cities. Therefore, the lack of Arab shipwrecks should not be seen as a withdrawal of Islamic merchants from the South China Sea trading circle. Instead,

⁷⁴² Heng, 2009, p. 22.

⁷⁴³ In 982, while the state still monopolized eight items from overseas (tortoise shell, elephant tusk, rhinoceros horn, a special kind of steel used for weapons, water-lizard skin for making drums, coral, agate, and frankincense) which were bought by the government at its own prices and sold to the people only after they had satisfied the needs of the imperial household and the bureaucrats, there thirty-seven types of foreign products that were allowed to be freely traded among Chinese citizen after being taxed (Lo, 1969). And in 991 private merchant ships were allowed to sail at designated ports such as Guangzhou, and later Hangzhou and Mingzhou (Heng, 2009, p. 23-24)

it was more likely due to the increasing participation in the maritime trade of Chinese and Southeast Asians, and rather than sail in their own ships across a vast and unfamiliar territory, Islamic merchants chose to use Chinese and Southeast Asian ships to carry their cargo. They could come on board to oversee the shipping or entrust their merchandise with an agent. The historical records show that the Arab merchants based in South China tended to be rich and had high social status. The composition of Southeast Asian maritime traders, on the other hand, experienced a shift from mainly the representation of local rulers to an increasing number of private merchants, as illustrated by the possible ownership of the major cargoes on four Southeast Asian shipwrecks-- The Intan, Pulau Buaya, Cirebon and Java Sea.

3. The shift of exported ceramic types and production centres

The understanding of the trade pattern and maritime merchants provides a new perspective from which to interpret the reasons behind the shift of exported ceramic types. At the turn of the eleventh century, as demonstrated in chapter four, qingbai wares replaced Yue-type wares. They accounted for the major proportion of ceramic cargo on several shipwrecks. A new type of greenware, which is olive-glazed ware with a colour ranging from dark green to yellowish-green also appeared. At the same time, the delicate white wares from North China kiln are no longer seen. These changes are related to the shift of the centers of production of traded ceramics from Zhejiang to Guangdong province. Why were high-quality products abandoned and inferior ones chosen? The underlying reason is that the parties involved in trade had changed. During the tenth century, the major participant on the Chinese side in the South China trading circle was the state government. When deciding what to be exchanged for the luxurious exotic goods needed in the court, high-quality Yue wares, thousands of which were sent to the court as tribute and whose production was under official supervision, were naturally the choice. However, during the eleventh century, state involvement in the maritime trade was scaled back. Instead of participating directly in maritime trading,

the Song court sought to benefit fiscally from the growth of trade by levying customs duties on all imports. By the time of the late eleventh century, China's maritime trade with Southeast Asia was largely in the hands of private individuals.⁷⁴⁴ From the perspective of private merchants, who likely had smaller amount of investment capital than the Chinese state and whose targeted market was not necessarily the ruling class of the Southeast Asian kingdom, the mediocre ceramics produced in Guangdong province could satisfy the need of lowering production and transportation costs. Hence, from then on, export-oriented kiln sites started to appear in the coastal region where designated ports were located.

At the turn of the twelfth century, there is another shift in the production centre of trade ceramics, which is seen in the ceramic cargoes from the Late Northern Song shipwrecks. Qingbai and green-glazed wares from Fujian province replaced Guangdong wares to become the dominant type of trade ceramic. The featured products from the Xicun and Bijiaoshan kiln sites were no longer found among the shipwreck cargoes. Why were Fujian wares chosen over Guangdong wares? Even though the establishment of Shibosi (mercantile shipping superintendency) at Quanzhou in 1082 provided Fujian with the geographical advantage and diminished the need to conduct business through Guangzhou, this geographical factor was not the primary reason. Regarding the rise of Fujian and fall of Guangdong, I believe it is mainly because of a very influential community of Fujian merchants during the Northern Song period and more importantly the prosperity of the local manufacturing industry in Fujian province. The establishment of Shibosi at Quanzhou was the reflection of the development of the local economy and a recognition of the important influence of this Fujian merchant community, not the cause of it. Due to the scale of maritime trade in the hands of Fujian traders, who had good connections with the local ceramic industry, during the Southern Song period not

⁷⁴⁴ Heng, 2008.

only ceramics produced in the surrounding region of the ports of Quanzhou and Fuzhou, but also those from kiln sites far inland were shipped abroad.

After the twelfth century, despite the continuous dominance of the Fujian province kiln sites in the ceramic trade, the exports of the Longquan and Jingdezhen wares had increased as illustrated in chapter six. For example, the Jingdezhen qingbai wares only appeared in limited numbers on the earlier shipwrecks, whereas they began to be boarded in bulk on the Nanhai No.1 wreck and were found in uniform vessel forms on other later period shipwrecks as well. Jingdezhen and Longquan were famous kilns and once produced tribute porcelains needed in the Song court,⁷⁴⁵ but they were not classified as state-run workshops during the Song period. Their increased proportion in the overseas market was due to increased production, which was a reaction to overcome the crisis posed by an unfavourable tax policy. While the output of the kilns was enhanced, the Chinese market did not expand accordingly, which generated a surplus for export. Therefore, unlike the Yue kiln whose export was boosted by the state, the increased proportion of Jingdezhen and Longquan wares in the foreign market was a commercial activity.

4. The uniformity and variation of the ceramics cargos

During the Song Dynasty, the ceramic cargos on most shipwrecks dated to the same period show a high similarity, which is especially the case of the three major early Southern shipwrecks: Java Sea, Breaker Shoal and Huaguang Reef No.1. On these shipwrecks there is high consistency of ceramic types, vessel shapes and decoration, as demonstrated in chapter five. But, there are two exceptions, the Intan and Banyang Reef No.1 wrecks, whose ceramic cargos vary significantly from other contemporaneous shipwrecks. In the case of the Intan wreck, coarse green or brown glazed wares from Guangdong province which only account for a small proportion on the other shipwrecks,

⁷⁴⁵ Jiangxi Provincial Institute of Cultural Relics and Archaeology et al., 2007, p. 484; Shen Qionghua, 2012, p. 369-380.

make up over half of its ceramic cargo, and the dominant vessel form are pots rather than bowls. Such variation was probably because the traders who owned and marketed the Chinese ceramics on the Intan wreck were peddlers who did not have an abundant of capital to import a large amount of Yue wares, and also because West Java, the destination of Intan wreck, had different consumption patterns for imported ceramics compared to other regions and merchants adapted to the difference accordingly. As for the Banyang Reef No.1 wreck, in comparison with the ceramic cargoes of any other Song shipwrecks, the distinction is the domination of black-glazed tea-drinking bowls among the recovered ceramics. I believe that such an unusual finding was because the vessels onboard were intended for Chinese settlers in Southeast Asia instead of the local inhabitants. In these two cases, the merchants who marketed the Chinese ceramics had a better understanding of their consumers and hence the variation in cargo composition. In most cases, however, there was high uniformity among the ceramic cargos of contemporaneous shipwrecks despite the differences in the market they were sailing towards. This suggests that there were regular types and sources for export ceramics when choosing what to ship to Southeast Asia regardless of the variation in the tastes of different regions and the variety of regionally-specific to which the ceramics would have been put. It means that during the Song period, Southeast Asia as a consumer was in a passive state. What they received, to a large extent, was not necessarily what they preferred but what was supplied to them, which ultimately depended on which maritime merchant they contacted and what cargo the supplier prepared. Furthermore, vessels with common shapes and decorations that were well known to the potters and easy for mass-production were usually the primary exported type.

Nevertheless, it does not mean that there was no difference between the ceramics shipped abroad and those consumed in China. Some effort and alternation was made to cater to the needs of the Southeast Asia market. For example, 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,

tablewares of large diameter, green-glazed dishes with brown painting, fish-shaped bottles, small moulded vases with a flared mouth rim and small spherical jars with two or four ears. Among them, in the case of brown-painted dishes and fish-shaped bottles, the decoration was made to cater to the aesthetic tastes of Southeast Asian market, while for the majority others the alternation of the vessel shape was out of consideration for their function in the region. It is also of note that even for wares that were commonly seen in Chinese market, how they were used after export might differ significantly from its original function as illustrated by the round lidded jars with a contracted mouth which were calligraphy tools in China but became lime pots in Southeast Asia.

Through the studies of shipwrecks, during the Song period, we can see an integrated economic network that transcended all defined political units and was mainly undertaken by private merchants of various social status. In the export ceramics industry, efficiency was valued more than quality. For the first time in ancient Chinese history, medium-low-quality products became the major commodities in long-distance trade. The large-scale exchange of bulk cargoes replacing the state-level trade of a tribute nature marked the beginning of a world economy. It is also from this period that Chinese ceramics started to make its name around the world.

In the thesis, I demonstrate two different types of trading patterns, large-scale under a single authority and small-scale merchants or peddler trade, by analysing the distribution patterns of cargoes on the shipwrecks and extracting information about the maritime merchants' identities from a combined study of historical documents and archaeological discoveries. Also, new understandings about the existence of vessel shapes and decoration made for the overseas market and the function of the exported ceramics are provided. A more complete picture of the ceramic trade in the South China Sea during the Song period is revealed. In the future, more shipwrecks are expected to be discovered particularly in Chinese coastal regions with the yearly underwater survey. Exciting as it may sound, without proper excavation and publication, new discoveries

will not necessarily bring further information. There have been maritime archaeology technical handbooks written by the leading experts in the field which guide you through every step from position fixing, to artefact recording and cultural resource management, of underwater survey and excavation.⁷⁴⁶ UNESCO also provides information on the best practices for underwater cultural heritage management that not only support scientific research in accordance with the Convention and the Rules but also increase public awareness, appreciation and the protection of heritage.⁷⁴⁷ The list is to provide good examples for other countries to learn from and adopt the same or similar methods. So, the challenge is actually to apply the standardised scientific procedure in practice. A regulation that requires on-site staff to stick to the rules while investing more resources in protecting shipwreck sites from looting might be the foremost task, especially in the waters of Southeast Asia. For publication, not only the excavation or survey process and the description and number of recovered artefacts, but also their recorded position should be given. Only by doing so, can we uncover more untold stories of the sea-going adventures of merchants in the South China Sea.

⁷⁴⁶ Green, 2004; Bowens, 2009.

⁷⁴⁷ See website: <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/underwater-cultural-heritage/best-practices-of-underwater-cultural-heritage/> (05/06/2020)

Appendix A

The salvaged/excavated ninth to thirteenth shipwrecks in South China Sea

Name	Location	Investigator	Time of investigate or salvage	Nature of the project	Publication
Belitung Wreck	Belitung Island, Indonesia	SE GBR salvage company(German)	10/1998--4/1999	semi-scientific excavation	Krahl and Effeny ed., 2010; Flecker, 2000, 199-217
Intan Wreck	North Java Sea, Indonesia	PTSS(Indonesia) and SE GmbH&Co(German)	8/1997-11/1997	semi-scientific excavation	Flecker, 2002.
Cirebon Wreck	North Java Sea, Indonesia	PTPPS (Indonesia) and Cosmix(Swedish)	4/2003-10/2005	semi-scientific excavation	Liebner, 2014.
Karawang site	North Java Sea, Indonesia	PTPPS (Indonesia)	9/2008	semi-scientific excavation	Liebner, 2009
Musi River wreck	Palembang, Indonesia	found by local divers but not salvaged	2012	Not salvaged	Gardellin, 2014, pp.15-20

Name	Location	Investigator	Time of investigate or salvage	Nature of the project	Publication
Fenliuweiye site	Fujian, China	Underwater Archaeological Survey Team of Fujian	4/2010-5/2010	scientific excavation	Zhongguo Guojia Bowuguan Guankan, 2011, 11, pp. 18-25; Yang Zelin, 2012, pp. 112-19
Xicun Riau Wreck	Riau Archipelago, Indonesia	being pillaged but not salvaged yet	2012	not salvaged	Gardellin, 2013, pp. 15–19
Xicun Belitung Wreck	Belitung island, Indonesia	being pillaged but not salvaged yet	2012	not salvaged	Gardellin, 2013, pp. 15–19
Pulau Buaya Wreck	Pulau Buaya Island, Indonesia	Unknown	1989	semi-scientific excavation	Hu Shuyang, 2014, pp.48–67
North Reef No.4 site	Paracel Island, China	Underwater Archaeological Team of Xisha	4/2010	scientific survey	Zhao Jiabing, 2012, pp. 171–84
North Reef No.5 site	Paracel Island, China	Underwater Archaeological Team of Xisha	4/2010	scientific survey	Zhao Jiabing, 2012, pp. 171–84
Beitugui Reef No.1 site	Fujian, China	Underwater Archaeological Survey Team of Fujian	2008	scientific survey	Wenwu, 2014, 2, pp. 29–40
Pingtian dalian island site	Fujian, China	Underwater Archaeological Survey Team of Fujian	2009-2010	scientific survey	Wenwu, 2014, 2, pp. 29–40

Name	Location	Investigator	Time of investigate or salvage	Nature of the project	Publication
Java Sea Wreck	West Java Sea, Indonesia	PSR salvage company (US)	9/2016-11/2016	semi-scientific excavation	Mathers and Flecker, 1997
Breaker Shoal site	Palawan, Philippine	European Institute of Underwater Archaeology	1991	semi-scientific excavation	Dupoizat, 1995
Huaguang Reef No.1 Wreck	Paracel Island, China	Underwater Archaeological Team of Xisha	3/2007-4/2007	scientific excavation	The Underwater Archaeology Research Center of National Museum, and Bureau of Cultural Relics of Hainan Province, 2006, pp. 35-50+66-139
Nanhai No.1 Wreck	Guangdong, China	Underwater Archaeological Team of Nanhai	2007-2016	scientific excavation	Kaoguo, 2016, 12, pp. 56–83+2.
Tanjung Simpang Wreck	North Sabah, Malaysia	Nanhai Marine Archaeology Sdn. Bhd(Swedish)	4/2003	commercial salvage	http://www.maritimeasia.ws/tsimpang/index.html
Jepara Wreck	Jepara, Indonesia	Unknown	early 21st century	commercial salvage	http://www.koh- antique.com/jepara/jepara%20wreck.ht m
Kudat Wreck	Kudat, Malaysia	Nanhai Marine Archaeology Sdn. Bhd(Swedish)	4/2003	commercial salvage	http://koh- antique.com/kudat%20shipwreck/kudat wreck.htm

Name	Location	Investigator	Time of investigate or salvage	Nature of the project	Publication
Investigator Shoal Wreck	Kalayaan Group of Islands, Philippine	Unknown	2003	semi-scientific excavation	Dizon, 2003, pp. 1-25
Banyang Reef No.1 wreck	Fujian, China	Underwater Archaeological Survey Team of Fujian	10/2010	scientific excavation	Wenwu, 2014, 2, pp. 29–40
Beiriyuan No.1 site	Fujian, China	Underwater Archaeological Survey Team of Fujian	2008	scientific survey	Fujian Wenbo, 2009, 2, pp. 1–8
Xiaolian Island site	Fujian, China	The Survey Team of Underwater Archaeological in Fujian	2009	scientific survey	Wenwu, 2014, 2, pp. 29–40
San Antonio site	Province of Zambales, Philippine	National Museum of Philippine and Western Australian Maritime Museum	2/1988	scientific excavation	Clark, 1989, pp. 255–62.
Bai Jiao No.1 Wreck	Fujian, China	The China-Australian training program	1990/1995	scientific excavation	Kenderdine, 1995, pp.247–66
Quanzhou Bay Wreck	Quanzhou, China	Excavation Team of Quanzhou Museum	6/1974-8/1974	scientific excavation	Wenwu, 1975, 10, pp. 1-18+101; Quanzhou Overseas Transportation History Museum, 2017.

Appendix B

The dating and origin of ninth-thirteenth shipwrecks in South China Sea

Name	Date	Origin	Evidence of dating	Evidence of origin	Possible route	Reference
Belitung wreck	Mid ninth century	Arab	radiocarbon dating of organic materials; typological study of ceramic cargo; a potter mark dated 826	construction techniques (very timber was fastened with stitching) ; hull form; identification of timber species	From Yangzhou, midway stopping at Southeast Asia, to Middle East	Flecker, 2000, pp. 199-217
Intan wreck	918--960	Southeast Asia	radiocarbon dating of organic materials; typological study of ceramic cargo	construction techniques (evidence of dowels or treenails) ; identification of timber species	From south-eastern Sumatra to West Java	Flecker, 2002.
Cirebon wreck	968--1000	Southeast Asia	coins; a potter mark dated 968; typological study of ceramic cargo	construction techniques(the hull had been constructed in the "lashed-lug/doweled" technique) ; identification of timber species	From Guangzhou to Central and East Java	Liebner, 2014.

Name	Date	Origin	Evidence of dating	Evidence of origin	Possible route	Reference
Musi River wreck	late ninth or early tenth century	Possible Southeast Asia	typological study of ceramic cargo	it was a small riverine boat; hence it is likely that it was of indigenous tradition	From Palembang to uncertain inland settlement sites	Gardellin, 2014, pp. 15–18.
Xicun Riau Wreck	eleventh to twelfth century	unknown	typological study of ceramic cargo	remains of hull were found but not salvaged	unknown	Gardellin, 2013, pp. 15–19
Pulau Buaya wreck	late eleventh to mid twelfth century	unknown	typological study of ceramic cargo	No remains of hull were found; no analysis of wood species	From Malay Peninsula to insular Southeast Asia	Hu Shuyang, 2014
Java Sea wreck	mid-late twelfth century	Southeast Asia (possibly Indonesia)	radiocarbon-dating of aromatic resin; typological study of ceramic cargo	construction technique(timber was fastened by treenail) ; identification of timber species; the pattern of the iron concretion	From South China (possible Quanzhou), midway stopping at southeast Sumatra, to East Java	Mathers and Flecker, 1997
Breaker Shoal wreck	mid-late twelfth century	(possibly) China	typological study of ceramic cargo	no remains of hull were found; an anchor stock that is of the same kind as the Quanzhou Bay wreck	From Fuzhou, then Quanzhou, midway stopping at a Philippine Archipelago (possible Luzon), to Palawan	Dupoizat, 1995.

Name	Date	Origin	Evidence of dating	Evidence of origin	Possible route	Reference
Huaguang Reef No.1 wreck	mid-late twelfth century	China	typological study of ceramic cargo	construction techniques (timber was fastened with iron nails and plank gap was filled with fibre) ; multi-layered planking; hull form	From Fuzhou, then Quanzhou, to Southeast Asia	The Underwater Archaeology Research Centre of National Museum et al., 2006, pp. 66-139
Tanjung Simpang wreck	late twelfth century to mid thirteenth century	(possibly) China	typological study of ceramic cargo	identification of timber species (possibly pine, fir or cedar)	From Quanzhou, to Borneo (possible Brunei)	http://www.maritimeasia.ws/tsimpang/index.html
Nanhai No.1 wreck	late twelfth century to mid thirteenth century	China	coins; typological study of ceramic cargo	hull form ; identification of timber species	From Quanzhou or Fuzhou, then Guangzhou, to Southeast Asia	Kaogu, 2016, 12, pp. 56–83+2
Jepara wreck	late twelfth century to mid thirteenth century	possibly China	coins; typological study of ceramic cargo	no analysis of the timber, but there was a stone anchor similar to the Quanzhou bay wreck	From Quanzhou to east Java (possible Jepara or Tuban)	http://www.koh-antique.com/jepara/jepara%20wreck.htm
Kudat wreck	late twelfth century to mid thirteenth century	possibly China	typological study of ceramic cargo	reasons are not given on website	unknown	http://koh-antique.com/kudat%20shipwreck/kudatwreck.htm

Name	Date	Origin	Evidence of dating	Evidence of origin	Possible route	Reference
Investigator Shoal Wreck	late twelfth century to mid thirteenth century	unknown	typological study of ceramic cargo	Wooden fragments and granite anchor were salvaged but no study or analysis has been done	from Philippine toward Borneo.	Dizon, 2003, pp. 1–25
Banyang Reef No.1 wreck	late thirteenth century	unknown	coins; typological study of ceramic cargo	no analysis of the hull remains	from Quanzhou, the Xiamen, midway stopping at Penghu island, to Philippine	Wenwu, 2014, 2, pp. 29–40
Bai Jiao No.1 wreck	late thirteenth to early fourteenth century	China	radiocarbon dating of wood sample; typological study of ceramic cargo	construction techniques (timber was fastened with iron nails); identification of timber species	From Fuzhou, to Japan	Kenderdine, 1995, pp. 247– 66.
Quanzhou Bay wreck	late thirteenth century	China	hull form; coins; typological study of ceramic cargo	construction techniques (timber was fastened with iron nails and plank gap was filled with fibre); multi-layered planking; hull form; identification of timber species	From Southeast Asia, back to Quanzhou	Wenwu, 1975, 10, pp. 1- 18+101

Appendix C

The distribution of ceramics on the Nanhai No.1 wreck

Ceramic type \ Compartment	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	Stern (left)	Stern (right)
Jingdezhen qingbai ware (bowls)	✓	✓		✓											
Jingdezhen qingbai ware (plates)					✓										
Jingdezhen qingbai ware (cups)							✓								✓
Longquan celadon (bowls/plates)	✓	✓	✓	✓		✓	✓		✓				✓		✓
Longquan celadon (dishes)							✓								
Longquan celadon (cups)							✓								
Dehua white wares (bowls/plates)	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	
Dehua white wares (vases with flared rim)	✓	✓					✓								
Dehua white wares (boxes)	✓	✓		✓	✓				✓						
Dehua white wares (double gourd vases)		✓													

Ceramic type / Compartment	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	Stern (left)	Stern (right)
Dehua white wares (bottles)				√			√		√						
Dehua white wares (jars with two handles)					√		√								
Dehua white wares (jars with four handles)							√						√		
Cizao brown wares (jars)	√	√					√	√							
Cizao brown wares (meiping vases)	√	√	√	√			√								
Cizao green wares (dishes)							√								
Cizao green wares (vases)									√						
Minqingyi green wares (bowls)			√					√	√	√	√	√			
Jian black wares (cups)						√									

Source: based on data from Wang Yuanlin and Xiao Dashun, 2016, pp. 56-83+2

Appendix D

The distribution of wooden tags on the Quanzhou Bay wreck

Compartments Names on the wooden tags	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13
Chang Jun 昶郡			1			4							
He Jun 河郡	1												
Zhao Jun 兆郡	1												
An Jun 安郡	1												
? Jun ? 郡						1							
Dahe Jun? 大和郡 ?													1
Xihe Jianggua 西河酱瓜	1												
Cenggan Shuiji 曾幹水记			1		6	4							
Lingan Shuiji 林幹水记			1		2	2							
Zhanggan Shuiji 张幹水记										1			

Compartments Names on the wooden tags	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13
Gan Ji 幹记										1			
Wuxing Shuiji 吴兴水记						1							
Wuxing 吴兴					1	3							
Qiuding Shuiji 丘碇水记					1								
? ? Shuiji ? ? 水记						3							1
Zhuku Guoji 朱库国记													1
Chengong Xiaoji 陈工小记										1			
Li ? Xiangji 礼 ? 香记			1										
Nanjia Jihao 南家记号													1
Nanjia 南家					1	16							
Goujian Jihao ?? 狗间记号 ? ?												1	
Jihao 记号										1			
Zeng Gan 曾干					1	2							
Zhang Gan 张干										1			
Ya Li 哑哩										1			
Xiao Cheng 小陈	1												
Zhang Shien 张什										1			

Compartment Names on the wooden tags	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13
Zhang Ban 张绊										1			
Wang Mei 王美										1			
Yang Gong 杨工												1	
You Gong 尤工												1	
Sanjiu Gong 三九工													1
Liu Shi 六十													1
Shan Zhong 山中	1												
Anchu Ji 安厨记							1						
Chou Si 稠司 (Probably)									1				
Unidentified character						6				2		2	
No words	1	3				1			1			2	

Source: based on data from The Archaeological Team of Quanzhou Bay Wreck, 1975, pp. 1-18+101

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