

MING GAP AND THE REVIVAL OF COMMERCIAL PRODUCTION OF BLUE AND WHITE PORCELAIN IN CHINA

Yew Seng Tai

School of Archaeology and Museology, Peking University, Beijing City, China; taiyewseng@gmail.com

ABSTRACT

This paper listed the blue and white porcelains excavated with date inscriptions or from datable tombs in China and shows that there was a 'Ming Gap' of blue and white porcelain in China too. Previously, Ming Gap was thought to be restricted to Southeast Asia. This author argues that no blue and white porcelain was allowed to produce in commercial kilns in early Ming Dynasty. But, when the needed raw material, cobalt--which relied on trade in the time of Ming Ban--could be produced locally, the commercial production of blue and white porcelain restarted.

INTRODUCTION

This paper discusses the reasons for the shortage of commercial blue and white porcelain and the revival of its production in Ming China. The materials used in this paper are excavated from datable tombs or possess date inscriptions. There is an adequate amount of material for both analysis and pinpointing a precise date for the re-emergence of blue and white porcelain. Because of this, the large number of blue and white porcelains from hoards, ancient city sites, and shipwrecks excavated in China that lack such temporal precision are not included in this paper.

While the number of blue and white wares excavated in China is sufficient for systematic analysis, little research has been done on this topic, in contrast to research on export wares, where much attention has been drawn to the Ming Gap.

MING GAP

The term 'Ming Gap' was first used by Tom Harrisson (1958:273-277). He mentioned that sites spanning over 100 miles along the southwest Borneo coast had no sign of human activity during Ming dynasty, not even the broken porcelain that is normal for that period.

Roxanna Brown (2004:xi-xii) confirmed the existence of Ming Gap in her PhD dissertation. She listed 15 shipwrecks with Chinese and Southeast Asia ceramics in the region and identified two types of shortages. The first is a general shortage of Chinese ceramic during 1325-1380. The second is a specific severe shortage of blue and white porcelain, which she called the Ming Gap, during 1352-1487. She has proven that China had 100% share of ceramic market before 1325, but the market share decreased to 50% from 1368 to 1424-1430 (Hongwu reign and Zheng He voyages), and further decreased to 5% from 1424-1430 to 1487. It rebounded from 1488 to 1505 (Hongzhi reign) and decreased again for the next 60 years. China regained monopoly in ceramic trade after 1573.

COMPARISON OF SHIPWRECK AND DATABLE TOMB CERAMICS

To explain the reasons of shortages, we need to examine the information on blue and white porcelains in China during these periods. Table 1 lists Yuan and Ming blue and white porcelains with date inscriptions, along with those from datable tombs. It does not include heirlooms, items brought from the markets, items excavated without date inscription, items not from datable tombs, or items with obvious characteristics of the previous era which fail to correspond to their burial date. Those items not included are listed on Tables 4 through 6. The latter tables require special attention, because they are properly excavated items discovered in datable tombs, but considered Yuan products by researchers. On Table 1, after the blue and white dish of 1353, there is a time span of 84 years before the next commercial blue and white porcelain appears in 1437. The incense burner in Table 4 has an earlier date of 1351. It is not included due to the colour of its glaze. The David Vases in the Percival David Foundation collection are two other blue and white wares with dates of 1351. They are not included in this analysis, since we are focusing on items excavated in China.

Year	Location	Unearthed from	Item (Inscription)	Qty	Ref
1353	Suixi, Anhui	Tomb of Sun	Dish	1	(Wang et al. 2009:37)
1437	Xinjiang, Jiangxi	Tomb of Zhu Pan Shi, eldest son of Prince Ningxian	Jar with lid	5	(Ku et al. 1973: 64-66, 54)
1442	Nanjing, Jiangsu	Base of Hongjue Temple	Jar with lid	5	(Cai 1956:73)
1447	Dexing, Jiangxi	Tomb of Zhang Shuwei	Vase Incense Burner	2 1	(Sun 2000:295-298)
1448	Taichang, Jiangsu	Tombs of Mr & Mrs Chai	Jar with lid	2	(Xu et al. 1993: 52-54, 32)
1451	Dexing, Jiangxi	Tomb of Zhang	Vase Tripod incense burner	2 1	(Sun 2000:295-298)
1453	Jingdezhen, Jiangxi	Tomb of Yan Sheng	Vase Incense burner Dish Bowl	4 1 1 1	(Ouyang et al. 1981:46-50)
1456	Jingdezhen, Jiangxi	Tomb of Mdm Yuan Longzhen	Dish Bowl Vase Incense burner	1 2 2 2	(Ouyang et al. 1981:46-50)
1457-1464	Jingdezhen, Jiangxi	Hutian kiln site	Bowl (Made in the reign of Tianshun, Great Ming dynasty)	1	(Liu et al. 1980:39-49)
1459	Dongguan, Guangdong	Tomb of Luo Hengxin	Jar with lid	5	(Guangdong Provincial Museum et al. 1991:43-50)
1464	Pingwu, Sichuan	Tombs of Mr & Mrs Wang Xi	Washer Plate Bowl	1 67 1	(CPAM Sichuan Province et al. 1987:1-42)
1467	Boyang, Jiangxi	-	Jar with lid	2	(Yang 1983:85-95)
1467	Yongxiu, Jiangxi	Tomb of Mdm Lu (Wife of Minister of Defense Wei Yuan)	Bowl	2	(Jiangxi Provincial Museum 1973:286-289)
1480	Linchuan, Jiangxi	-	Tripot incense burner	1	(Ku et al. 1973: 64-66, 54)
1484	Qingjiang, Jiangxi	A tomb	Incense burner (Written with ink: Brought by Jiang Huanbi when passing Jingdezhen on 1st day of 7th month, 20th year of the Chenghua reign[22nd July 1484])	1	(Huang 1984:24)

Table 1. Yuan and Ming blue and white porcelains with date inscriptions or from datable tombs (1352-1487). Porcelains dated later are excluded. They are out of the time frame of Ming Gap.

TAI: MING GAP AND THE REVIVAL OF COMMERCIAL PRODUCTION OF BLUE AND WHITE PORCELAIN

Dated	Country	Shipwreck	Ceramic and Quantity
Yuan Dynasty	Unknown	Red Sea	19 blue and white porcelains
Yuan Dynasty	Shandong, China	Heze	3 blue and white porcelains
1370	Malaysia	Turiang	6475 pieces of ceramics , including 2400 pieces made in China, mainly Longquan wares and jars from other southern China kilns
1380	Malaysia	Nanyang	Investigation: 402 Thai samples, estimated up to 10,000 pieces, including Jars made in China
1400	Malaysia	Longquan	10,000 pieces of ceramics, 40% made in China, mainly celadons from Longquan and white wares from southern China
1460	Malaysia	Royal Nanhai	20,973 pieces of ceramics, including 6 blue and white wares and 1 celadon made in China
1436-1464	Philippine	Pandanan	75 pieces of blue and white porcelains in 4722 items, 75% of it are made in Vietnam
1490	Philippine	Lena Shoal	3000 blue and white porcelains
1490	Philippine	Santa Cruz	11,500 pieces of ceramics

Table 2. Shipwreck ceramics from Yuan to Ming (1490). Shipwrecks dating later are excluded. They are out of the time frame of Ming Gap.

Time Period	Year	Description	Reference
3rd year of the Zhengtong reign	1439	On the Bingyin day of 12th month, 3rd year of the Zhengtong reign (1st Jan 1439), (the emperor) ordered the Duchayuan to post the notice of banning the production, selling and presenting to officer as gift of naval blue on white ground porcelain in the kilns of Jiangxi. Offender will be sentenced to death and the family will be banished to a frontier post.	<i>Ming Yingzong Shilu</i> , Vol. 49
9th month, 12th year of the Zhengtong reign	1447	The soldiers and businessmen of the post stations and towns along the roads of Northern and Southern Capitals, Shanxi, Henan, Huguang, Gansu, Datong and Liaodong, are not allowed to sell naval blue on white ground wares to foreign emissaries.	<i>Ming Yingzong Shilu</i> , Vol.161
12th year of the Zhengtong reign	1448	On the Jiayu day of 12th month, 12th year of the Zhengtong reign (22nd Jan 1448), (the emperor) banned the private production of yellow, purple, pink, green, naval blue, light blue and naval blue on white ground (now blue and white) coloured ceramics in Raozhou (now Jingdezhen), Jiangxi. (The emperor) ordered the office of Duchayuan to post notice there. Offender will be sentenced to death by the slow process of slicing, property will be confiscated and male family member will be sent to a frontier post as soldier. Those failed to report this offence will be prosecuted too.	<i>Ming Yingzong Shilu</i> , Vol.161

Table 3. Banning orders of coloured ceramics.

Year	Location	From	Characteristic (Date inscription)	Qty	Reference
1319	Jiujiang, Jiangxi	Datable tomb	Jar with pagoda lid [Applied qingbai monster mask]	1	(Jiujiang Municipal Museum 1981:83)
1338	Fengcheng, Jiangxi	Datable tomb of Mdm Ling	Figures [Qingbai ware, underglaze copper red]	2	(Yang et al. 1981:72-74)
			Jar with pagoda lid (Offering on the renyin day of the 6th month of wuyin year, the Great Yuan dynasty; used by Mdm Ling of Liu family)[Qingbai ware, underglaze copper red, inscription written in cobalt blue]	1	
			Granary [Qingbai ware, underglaze copper red, epitaph written in cobalt blue]	1	
1347	Yaan, Sicuan		Jar with lid (Offering in 7th year of the Zhizheng reign)[Qingbai ware]	1	(Li 1988:79)
1351	Guangji, Hubei	Tomb of Mdm Shu	Incense burner (11th year of the Zhizheng reign) [Qingbai glaze]	1	(Wu 1992:45-95)
1351	London	PDF	David Vases (In Jitang Commune of Dejiao Neighbourhood, Shuncheng Village of Yushan Prefecture, Xinzhou, devotee Zhang Wen Jin offered an incense burner and a pair of vases, wishing the family purified and the children healthy. On the first day of 4th month, 11th year of the Zhizheng reign (26th April 1351). Presented with all respect to General Hu Jingyi in Xingyuan Zudian Temple.)	2	

Table 4. Yuan dynasty blue and white porcelain with date inscription. The reasons they are not listed in Table 1 are given in square brackets.

Year	Related Location	Characteristic (Date inscription)	Qty
1437	1986 in Hong Kong / The Art Institute of Chicago	Vase(Devotee Cheng Jin offered on 1st day of 1st month, second year of the Zhengtong reign (5th Feb 1437))	1
1443	Guangdong Provincial Museum	Brush rack (8th year of the Zhengtong reign (31st Jan 1443-19th Jan 1444))	1
1450	Ji'an, Jiangxi	Tablet (21st day of 6th month, 1st year of the Jingtai reign (29th July 1450))	1
1451	Sotheby's, London	Jar	1
1461	Hong Kong Museum of Art	Vase	1
1463	Taiyuan, Shanxi	Incense burner (Ma in Datong, 7th year of the Tianshun reign / Written by Ma in Datong, 7th year of the Tianshun reign (20th Jan 1463-6th Feb 1464))	1
1457-1464	Palace Museum, Beijing	Incense burner (Tianshun reign [26th Jan 1457-26th Jan 1465])	1

Table 5. Ming dynasty blue and white porcelain with inscription. This group is not included in the primary analysis because excavation reports are unavailable. This does not affect the paper's conclusions. Items dated later are not included. They are out of the time frame of Ming Gap.

Year of burial	Location	Owner	Item Inscription [Date suggested]	Qty	Reference
1371	Jiangning, Nanjing	Marquis Wang Xingzu	Stem cup [Late Yuan dynasty]	1	(Nanjing Municipal Museum 1972:31-33, plate 6 and 7)
1389	Jiangning, Nanjing	Duchess Yu Tonghai	Shards of Meiping vase [Zhizheng type]	2 pcs	(Nanjing Municipal Museum et al. 1999:18-26, plate 3)
1392	Jiangning, Nanjing	Prince of Qianning, Mu Ying	Meiping vase [Zhizheng type]	1	(Anonymous 1951:101-128)
1395	Anhui	Prince of Dongou, Tang He	Jar with lid [Yuan]	1	(Museum of the City of Pengpu 1977:35-39, plate 4)
1410	Nanjing	Mdm Wang	Meiping vase (Four four) [Yuan (Cheng 2000:130-136)]	1	(Nanjing Municipal Museum 1997:29-32)
1418	Langzhaishan, Nanjing	Lady Ye	Bowl	1	(Zhang 2008:157)

Table 6. Ming blue and white from datable tomb with characteristics of Yuan wares.

Nevertheless, the time span is not affected. It shows that there was a time gap of blue and white porcelain in China too. This is corresponding to the Ming gap of shipwrecks ceramic, shown in the Table 2.

According to Table 2, Royal Nanhai (1460) had 7 Chinese wares including 6 blue and white porcelains. This was followed by Pandanan, with about 70 interregnum (1436-1464) blue and white wares. 30 years after the Royal Nanhai, a ship with blue and white cargo sunk in Philippine waters. The Lena Shoal carried about 3000 pieces of blue and white porcelains. Goddio believes these goods were heading for Turkey or Persia (Goddio et al. 2000:11). This shipwreck data shows that there was an increase in the momentum of trade after blue and white porcelain exports restarted. Comparing Table 2 with Table 1, the blue and white in China and Southeast Asia have corresponding time gap. This raised a question: if the Ming gap was the result of Ming ban, the shortage of Chinese porcelain should be in Southeast Asia but not China. Why did the disappearance and re-emergence of blue and white porcelain in China correspond to similar phenomena among the wares in Southeast Asian shipwrecks?

REASONS FOR THE MING GAP

From 1352 to 1487, a series of incidents interrupted the production of Chinese ceramics. Rebels led by Xiang Pushou

attacked Jingdezhen in 1352. It changed hands several times and eventually fell under the control of Zhu Yuanzhang in 1361 (Xi 1873:875, 877). The porcelain production department of the Yuan dynasty, 'Fuliang Ciju' (Porcelain Bureau of Fuliang – now Jingdezhen), probably stopped its operation during this time (Liu, 1982:18). The David Vases (1351) from the Percival David Foundation, the incense burner (1351) and the dish from the Tomb of Sun (1353) mentioned above were probably the last batch of blue and white porcelain produced before the war. Zhu Yuanzhang founded the Ming dynasty in 1368 and reunited China in 1387. He banned private voyage. Although his successor, Zhu Di, sent Zheng He overseas to establish missions, they were different from commercial endeavors. The qualities, quantities, types and distribution of ceramics were unavoidably affected. Furthermore, some of the emperors did not enforce the Ming ban, which resulted in surges of ceramic exports during the ban.

Perhaps, another important factor is the Ming court's attitude towards porcelain, which was different from that of the Song and Yuan dynasties. The Ming dynasty set up the imperial kiln in Jingdezhen to produce the ceramics for the imperial court. Unselected porcelains were smashed and buried in the compound of the Zhuashan kiln site in Jingdezhen (Quan 2005:54-63) so they would not enter the market. The Southern Song (1127-1279) imperial kilns had

handled some of their unselected ceramics the same way (Qin 2005:64-79), but only limited themselves to imperial ritual wares, which they considered sacred. Whether or not there was imperial kiln in Yuan dynasty is unknown, but potters in Jingdezhen were working for the Porcelain Bureau of Fuliang (now Jingdezhen). They were allowed to sell their products after they had fulfilled their duties, as were the other artisans in Yuan dynasty. (Franke 1994:654) The methods of producing the new variant of porcelain (the blue and white wares) had proliferated. The Ming dynasty wanted to stop it, though the reasons for this may not have been economic; the presence of blue and white wares in Ming tombs, as seen on Table 6, demonstrates that they may have been awarded as honours to the generals who helped to found the empire. Conversely, they may have played a role as ritual wares in said generals' funerals. If the blue and white wares were freely available, it defeats the purpose.

In the early stage of blue and white porcelain production, during Yuan dynasty, the cobalt used for underglaze painting was imported, the potters worked for the 'Porcelain Bureau' (Fuliang Ciju), and the designers were probably court artists (Liu 1982:9-20). The imperial government controlled most of the important factors of the production: the imported materials, the designs and the labourers. When the resources were unavailable, commercial kilns were not able to produce this ware. The breakthrough probably occurred in the Xuande reign (1426-1435). According to the analysis of the cobalt on the fragments excavated from the imperial kiln sites, the Hongwu (1368-1398) and Yongle (1403-1424) blue and white porcelains used imported cobalt, which contains high amount of iron and low level of manganese. On the other hand, the fragments from Xuande stratum used local cobalt, which contains low level of iron and high level of manganese (Li 1996:163-167). This implies that, from the Xuande reign, blue and white porcelain production did not depend on imported cobalt. If one of the most important materials for producing blue and white porcelain could be obtained locally, commercial potters would be able to restart the production. When said production sprang up like mushrooms in the early Zhengtong (1436-1449) reign, the emperor ordered the banning of coloured ceramics, like those on Table 3.

There are two important dates on Tables 2 and 3. The first is the second year of the Zhengtong reign, which marked the re-appearance of blue and white porcelain. The second date is the third year of the Zhengtong reign (1439), which according to *Yingzong Shilu*, is the year blue and white porcelain was banned. This shows that the imperial court tried to stop the commercial production of blue and white porcelain. Ten years later, the court reiterated the order, which shows that the commercial production of blue and white porcelain was unstoppable; by 1490, it had developed into a major export product, as we can see from ceramics recovered in the Lena Shoal shipwreck.

By virtue of the banning of coloured wares in 1438, commercial kilns were not allowed to produce yellow, purple, pink, green, navy blue, light blue, and 'blue-on-white-ground' wares. They were only allowed to produce white ware, brown ware, black ware and celadon. If this is so, the discoveries of Turiang (1370-1400) and Longquan (1424-1440) are significant. Longquan contained an estimated 40,000 pieces of Chinese ceramics (40% of the cargo), mainly Longquan celadons and southern China white wares. On board the Turiang, 35% of the cargo is Chinese ceramics, mainly Guangdong wares (green-glazed, brown-glazed and monochrome) and Longquan celadons. Their cargos reflect the types of ceramics allowed to produce in China commercial kilns during that period.

One thing to take note of is the severe punishment for producing and selling blue and white porcelains and coloured wares. Although the Ming dynasty had one of the toughest laws in Chinese history, the 4th emperor Ren Zong (1378-1425) banned the cruel punishment of slicing to death, unless the sovereignty of the emperor is challenged. That such a punishment was applied to the potters who produced coloured wares shows that these wares were considered sacred at this period of time. They may have been designed to be used in the imperial rituals, presented to the generals, and as gifts to the foreign states, as it was banned to sell blue and white porcelains to foreigners (Table 3).

CONCLUSION

By comparing the blue and white porcelains excavated with date inscriptions and dates from tombs, we learn that there was a gap in the production of this porcelain in China from 1354 to 1436. While it began with the eruption of war, it did not end with the establishment of the new Ming Empire, but was instead prolonged through the order to ban coloured wares production by commercial kilns. The Ming ban probably made it difficult for the skilled potters, already freed from the Porcelain Bureau, to get the needed imported raw material. But when they were provided with locally produced cobalt, the commercial production of blue and white porcelain restarted.

Given the background of Ming Ban, it seems easy to make the connection between it and the Ming Gap. This study has proven that it is not the case. The nature of Ming Ban was not to ban trading, but to control pirating. To some extent, it did allow local Chinese traders to trade with the representatives of the heads of foreign states in China, and foreign traders to trade with the representatives of Chinese emperors overseas. This is a way to stamp out piracy. If blue and white ware production was allowed in commercial kilns of China for export, there will be some traces of it in overseas. Nonetheless the ban made trading more difficult, and may have caused some of the Chinese potters to set up their workshops overseas to circumvent the policy.

REFERENCES

- Anonymous. 1951. Investigation Report of Ancient Relics in Nanjing and Surrounding Areas. *Cultural Relics References (Wenwu Cankao Ziliao)* 7: 101-128. (In Chinese)
- Brown, R.M. 2004. *The Ming Gap and Shipwreck Ceramics in Southeast Asia*. Unpublished Ph.D. dissertation, University of California, Los Angeles.
- Cai, S. 1956. Relics Discovered in a Pagoda of Hongjue Buddhist Monastery in Niushoushan, Nanjing. *Culture Relics Reference (Wenwu Cankao Ziliao)* 11: 73. (In Chinese)
- Cheng, X. 2000. A Study of Meiping from Ming Aristocrat Tombs in Nanjing. *China Ancient Ceramics Studies* 6: 130-136. (In Chinese)
- CPAM Sichuan Province, Cultural Centre of the City of Mianyang and CPAM Pingwu County. 1987. Tombs of Wang Xi's Family of the Ming Dynasty at Pingwu, Sichuan. *Wenwu (Cultural Relics)* 7: 1-42. (In Chinese)
- Franke, H. and D. Twitchett. 1994. *The Cambridge History of China, Vol 6: Alien Regimes and Border States, 907-1368*. New York: Cambridge University Press.
- Feng, B. 1959. Ming Tombs Discovered in Xigucheng Village, Anci County. *Cultural Relics* 1: 71. (In Chinese)
- Goddio F., S. Pierson, and M. Crick. 2000. *Sunken Treasure: Fifteenth Century Chinese Ceramics from the Lena Cargo*. London: Periplus.
- Guangdong Provincial Museum and Museum of the City of Dongguan. 1991. Excavation of the Ming Tombs of Luo Hengxin Family in Dongguan, Guangdong. *Wenwu (Cultural Relics)* 11:43-50. (In Chinese)
- Harrison, T. 1958. 'Ming Gap' and Kota Batu, Brunei (with appeal for help). *The Sarawak Museum Journal New Series* 8(11)/Old Series (26): 273-77.
- Huang, Y. 1984. Blue and White Incense Burner with Design of Scrolling Flora, Chenghua reign, Ming Dynasty. *Wenwu (Cultural Relics)* 3: 24. (In Chinese)
- Jiangxi Provincial Museum. 1973. Ming tombs of Yushan, Linchuan and Yongxiu Counties, Jiangxi. *Kaogu (Archaeology)* 5: 286-289. (In Chinese)
- Jiujiang Municipal Museum. 1981. Blue and White Porcelain Vase with Peony Design and Pagoda on Lid. *Wenwu (Cultural Relics)* 1: 83. (In Chinese)
- Ku, H. and P. Chen. 1973. Some Blue and White Porcelains of the Yuan and Ming Dynasties. *Wen Wu (Cultural Relics)* 12: 64-66, 54. (In Chinese)
- Li, J. and Z. Zhang, Z. Deng, X. Liu. 1996. A Study of the Techniques of Yuan and Early Ming Blue and White Porcelain Imperial Wares. *Chang Foundation Museum Bulletin* 1: 163-167. (In Chinese)
- Li, Z. 1988. Hoard of Yuan Dynasty Porcelain Discovered in Yaan City. *Sichuan Cultural Relics (Sichuan Wenwu)* 5: 79. (In Chinese)
- Liu, X. and K. Bai. 1980. Reconnaissance of Ancient Kiln Sites at Hutian in Jingdezhen. *Wen Wu (Cultural Relics)* 11: 39-49. (In Chinese)
- Liu, X. 1982. Research on the Yuan Blue-and-white Wares with Unique Patterns Decoration, Fouliang Porcelain Bureau and Huaju Bureau. *Journal of Jingdezhen Ceramic Institute* 3: 9-20. (In Chinese)
- Museum of the City of Pengpu. 1977. Excavation of the Ming Dynasty Tomb of T'ang Ho. *Wen Wu (Cultural Relics)* 2: 35-39, plate 4. (In Chinese)
- Nanjing Municipal Museum. 1972. Preliminary Excavation Report of Ming Tomb of Wang Xingzu in Nanjing. *Kaogu (Archaeology)* 4: 31-33, plate 6 and 7. (In Chinese)
- Nanjing Municipal Museum. 1997. Preliminary Excavation Report of Ming Tombs in Southern Suburb of Nanjing. *Relics from the South* 1: 29-32. (In Chinese)
- Nanjing Municipal Museum, Yuhuatai Culture and Cultural Relics Bureau. 1999. Preliminary Excavation Report of Ming Tombs in Qijiashan, Nanjing City, Jiangsu. *Kaogu (Archaeology)* 10: 18-26, plate 3. (In Chinese)
- Ouyang, S. and Y. Huang. 1981. The Underglazed Red Porcelains and the Blue and White Unearthed in the Tombs of the Reign of Ming Emperor Jing Tai. *Wen Wu (Cultural Relics)* 2: 46-50. (In Chinese)
- Quan, K. 2005. On the Arrangement of Royal Porcelain Failing Selection in the Ming and Qing Dynasties. *Cultural Relics* 5: 54-63. (In Chinese)
- Qin, D. 2005. Production and Producers of the Ritual Ceramics in the Song Dynasty. *Cultural Relics* 5: 64-79. (In Chinese)
- Sun, Y. 2000. Research on Blue and White Porcelain from Datable Tombs of Zhengtong and Jingtai Reign of Ming

- Dynasty in Dexing, Jiangxi. *China Ancient Ceramic Studies (Zhongguo Gu Taoci Yanjiu)* 6: 295-298. (In Chinese)
- Wang, D. and J. Bian. 2009. *Porcelain Treasures in Yuan Dynasty*. Beijing: Wenwu Publishing. (In Chinese)
- Wang, N. and X. Shen. 2000. Brief Description of Ming Dynasty Interregnum Blue and White Porcelain with Date Inscription. *China Ancient Ceramic Studies (Zhongguo Gu Taoci Yanjiu)* 6: 282-289. (In Chinese)
- Wu, S. 1992. Blue and White discovered in Jiujiang, Jiangxi. *Cultural Relics* 6: 45-95. (In Chinese)
- Xi, De and Shi, Jingfen. 1873. *Raozhou Fuzhi*. (Local Gazetteer of Raozhou Prefecture) Taipei: Chengwen Chubanshe. (In Chinese)
- Xu, Y., R. Ren and J. Jiang. 1993. Analyzing Some Decorative Features of Blue-and-White Porcelain's Designs During Zhengtong, Jingtai and Tianshun Period of Ming Dynasty. *Jingdezhen's Ceramic* 59-60(Spring Summer): 52-54, 32. (In Chinese)
- Yang, H. 1983. Blue and White Porcelain Unearthed from Datable Tombs of Ming Dynasty in Jiangxi. *Jiangxi History and Cultural Relics (Jiangxi Lishi Wenwu)* 3: 85-95. (In Chinese)
- Yang, H. and L. Wan. 1981. Underglazed Red, Blue and White Porcelain with Date Inscription of Yuan Dynasty Discovered in Fengcheng, Jiangxi. *Wenwu (Cultural Relics)* 11: 72-74. (In Chinese)
- Zhang, B. 2008. *Complete Collection of Ceramic Art Unearthed in China 7 Jiangsu*. Beijing: Science Press. (In Chinese)