

Potsherds Narrate: Studying the Social Structure of Bronze Age Hong Kong through Pottery Analysis

1. Introduction: Why is the Social Structure of Bronze Age Hong Kong Studied?

It is a general assumption in the field of Chinese archaeology that Bronze Age cultures in the South were always relatively backward compared to cultures in the North (i.e. the Central Plains), as the Shang and the Zhou cultures (ca. 3611-2232 BP) (Liu and Xu 2007) had a complete hierarchical social system, while those in the South still lived in simple egalitarian societies. Was it really the case in Southern China that these cultures were nowhere near a complex society? In this study, Hong Kong's Bronze Age cultures (ca. 3600-2500 BP) will be explored in hope of answering this question.

The bronze items found in Hong Kong are limited compared to those discovered in Shang sites, and the items are not in burials. In addition, the majority of bronze items found in HK are implements instead of sophisticated vessels, so they are not ideal object of study for detecting social stratification. On the other hand, one of the salient cultural characteristics of the Bronze Age Hong Kong is pottery with a double-F decorative motif, which is found only in the Lingnan region (including Hong Kong) and appeared only in the Bronze Age, lasting for approximately 1,100 years. For this reason, the double-F is the focus of this study. I selected pottery from three archaeological sites in Hong Kong as database, and my research questions and methods are as follows:

- (a) Did pottery standardization and product uniformity exist in Bronze Age Hong Kong? I will study how pottery was produced, compare the technological properties (wall thickness, firing) and stylistic attributes (motif width and length) of the three sites, and examine the production structure of pottery in Bronze Age Hong Kong. The high degree of similarities among different aspects will provide us with information that standardization, thus economic specialization, and social stratification

likely existed. Two other types of pottery – the lozenge-patterned and the cord-marked are also included for comparison purposes.

- (b) Was there a social elite in Bronze Age Hong Kong, which indicates certain degree of social complexity? I will investigate whether there were pottery vessels exclusively for the social elite by comparing the manufacturing and rarity of potsherds (those that appear at a relatively low frequency) in the three sites.

2. Background Information of the Three Sites – Tai Wan, Sha Po New Village, Sha Ha

According the Antiquities and Monuments Office (AMO), there are currently 66 Bronze Age sites in Hong Kong (AMO 2010). Three Bronze Age sites were selected for this study – Tai Wan and Sha Po New Village on Lamma Island, and Sha Ha in Sai Kung. Lamma Island is situated in the southwest of Hong Kong Island, and the Tai Wan site is located on the west of the Island (Au 2004: 215). First excavated in the 1930s, and re-excavated in 1979, 1990 and 1996, Tai Wan is one of the most important archaeological sites of Hong Kong (Au 2004: 213-214).

Sha Po New Village is also located on Lamma Island, right next to Yung Shue Wan, a small bay northwest of Lamma Island. The site was first detected during a survey in 1982. In 1985, a trial excavation was conducted, and in between 2003 and 2004, the AMO carried out a small-scale excavation (AMO 2007: 1).

Sai Kung is located in the southeastern New Territories (mainland) that comprises several peninsulas and over 70 islands of various sizes (AMO 2005: 24). It was first detected through survey in 1998, and a rescue excavation was organized in 2001 and 2002. In 2005, Sha Ha was again excavated by the Chinese Academy of Social Sciences and The Chinese University of Hong Kong for a special study on Hong Kong's Prehistoric period.

3. Materials and Results

The Double-F, the Lozenge-patterned, and the Cord-marked

A total of 74 double-F potsherds were studied with nine from Tai Wan, 18 from Sha Po New Village, and 47 from Sha Ha. The double-F is fired at a relatively high temperature between 1020 to 1150°C (Ng 2002: 117), which lies in the category of earthenware with a porosity of 10 to 25% fired between 900 to 1200°C (Rice 1987: 5). Most of the double-F pottery of the three sites is hard (cannot be scratched by fingernail), and the majority of the double-F is smooth when felt against fingertips. The pottery is mostly wheel-thrown but some were also made through paddle-and-anvil. Core colors are mostly gray, while some are pale yellow. Surface colors are often different from core colors, which show conditions of incomplete oxidation and reduced firing. The double-F motif is applied through stamping on the upper body of the vessel and only appears on urns and jars. The stamp is usually carved in a $\frac{1}{2} \cdot 1 \cdot \frac{1}{2}$ pattern where the upper half of the “F” is on the left and the lower half is on the right. The double-F styles are divided into five types: double-hooked (重鈎), double-headed (雙頭), round-headed (圓頭), hook-shaped (鈎形), straight body with hooked heads (鈎形直身), and applied in two ways – the “yang” (陽紋), also known as raised and the “yin” (陰紋), also known as impressed (Xu 1984).

A total of 24 lozenge-patterned potsherds were studied with five from Tai Wan, 10 from Sha Po New Village, and nine from Sha Ha. The lozenge-patterned motif is also another type of earthenware, also categorized as “hard geometric pottery fired at relatively high temperature formed by slow wheel and paddle-and-anvil. Like the double-F, firing shows conditions of incomplete oxidation and reduced firing. The lozenge pattern is also stamped on the upper body of urns and jars so it was thought to serve as storage vessels (Meacham 1978). The lozenge also has different styles – filled square, filled diamond, surrounded by double, single or without borders.

The cord-marked pottery on the other hand, is terra-cotta with high porosity of 30% or more (Rice 1987: 5) that is also known as coarse pottery in Hong Kong, fired at 500 to 800°C (Meacham 1978: 127). 39 cord-marked potsherds were studied where six were from Sha Po New Village and 33 from Sha Ha. Tai Wan was excluded due to its unavailability. It was not made on the slow wheel, inclusions were numerous and often visible to the naked eye. Because it was fired at a lower temperature, it is looser. The cord marks were thought to be added when cords wrapped around paddles or stamps were used for surface treatment and not for aesthetic purposes, rather for more functionalistic purposes (Rice 1987), thus it explains the gritty nature of coarse pottery, and the larger variety of vessels found treated with cord marks like bowls, lids, basins, cauldrons, pots, etc (AMO 2005).

4. Discussion

4.1 Intra-regional Variation: Tai Wan vs. Sha Po New Village

Because Tai Wan and Sha Po New Village are located on Lamma Island, the two are specifically compared sites in terms of measurement variation with the use of Coefficient of Variation (CV) to see if they are particularly similar. The measurements are mainly extracted from wall thicknesses and motif widths and lengths. Individual site variations of the double-F wall thickness show that Tai Wan has a CV of 25% while Sha Po New Village has a CV of 22%. Motif widths and lengths cannot be measured within the sites due to the very few pieces. However, when the two sites are combined, motif widths and lengths of the double-F, are divided into five sets of measurement variation based on the double-F styles they share: hook-shaped, impressed and slanted to the right; hook-shaped, raised, and slanted to the right; hook-shaped, impressed, and slanted to the left; round-headed, raised, and slanted to the right; round-headed, raised, and slanted to the left (Table 1). If CV of each set is lower than 10%, it will be very likely that the unit motif stamp used is extremely similar, if not the same. Results show that all CVs are above 10%, some even reaching 30%. Clearly, it shows that Tai Wan

and Sha Po New Village do not seem to have a standardized production within the site, nor do they have any similarities when combined.

The lozenge-patterned on the other hand, seem to show similar results (Table 2). Tai Wan's thickness variation is 18.7%, while Sha Po New Village's CV is 22%. When combined, the wall thickness variation is 26%. Again like the double-F motif stamp, the lozenge pattern motif widths and lengths are divided into five sets: filled square with double border; filled square with single border; filled diamond with double border; filled diamond single border; and filled diamond without border. Results show that there are also no signs of standardization in lozenge-patterned pottery production because CVs are all above 10%. Motif widths and lengths form a single unit, so even if a motif width has a CV of 6%, it does not mean the stamp was the same if the motif length CV was not below 10%.

4.2 Inter-regional Variation: Tai Wan vs. Sha Po New Village vs. Sha Ha

Using the same method, all three sites are put together for comparison. This time, besides the double-F and the lozenge-patterned, the cord-marked pottery is added, though only Sha Po New Village and Sha Ha can be used for comparison.

Like previous comparison between Tai Wan and Sha Po New Village, CVs of all measurements seem to be above 10% (Table 3). Sha Ha itself has a thickness variation of 27%, Tai Wan has a CV of 25% while Sha Po New Village has a CV of 22%. When combined together, the wall thickness CV still remains around 26%, while motif widths and lengths have CVs above 10%. The same applies to the lozenge-patterned (Table 4) and the cord-marked. The cord-marked CV is measured again by wall thickness, which shows a CV of 24% and by cord width, which shows a CV of 31%.

4.3 Rarity and Frequency of the Potsherds

Despite the differences in manufacturing and utilization, the three types of pottery are also found relatively few among the assemblage. Sha Po New Village for example, it was

recorded that hard pottery took up 12.08% of the total pottery count, in which the double-F took up 1.19% and the lozenge-patterned 1.30%. Coarse pottery on the other hand took up 87.68% of the total pottery count, among which the cord-marked only took up 0.42% (AMO 2007: 15) (Table 5). Here, it shows that the double-F, the lozenge-patterned pottery, and the cord-marked are equally few, if not rare.

Burials are also examined to infer information on social structure and significance of certain artifacts. In Tai Wan's 1996 excavation, the nine burials indicate a burial system where certain burials were to have certain types of artifacts and must not be mixed or put together with another type. For example, M1 would only have pottery (often cord-marked) as burial goods and never stone or jade items, while M6 would only have stone or jade items and never pottery (Au 2004). Because jade ornaments according to the report were found only in burials, it is possible that jade held a more significant status. In Sha Ha, the excavation yielded more than 10 prehistoric burials. All burials were furnished with a few pottery vessels and stone artifacts. Stone slotted rings used as personal ornaments were commonly found at the burials at Tai Wan on Lamma Island, Yung Long in Tuen Mun, Tung Wan Tsai North on Ma Wan Island but have not been found as grave goods in Sha Ha (AMO 2005: 31-32). Pottery buried was usually of cord-marked and lozenge-patterned but not the double-F.

5. Concluding Remarks: Status Difference Existed

The CV results all being over 10% show that standardization did not exist, which means it was unlikely that centralized production existed. All three sites show two different firing conditions: incomplete oxidation and reduced firing. Reduced firing indicates that some potters may have developed a closed atmosphere for pottery to be fired – simple kilns perhaps were in use while others (with incomplete oxidation) were still fired in open fire. Different firing conditions may suggest that pottery was still manufactured individually or in

mini workshops, not yet to the point of having full-time pottery specialists producing for someone with high status who controlled and distributed resources. There may not have been a centralized craft center that had pottery manufactured at a single site and distributed to other sites; but seeing pottery sharing similar qualities and properties e.g. double-F styles show there was definitely an exchange of information on how pottery should be produced.

The burials do indicate that some sort of status difference existed, but perhaps not to be considered as those with ranks or status. Burials of the two sites actually reveal very different values among the people. People of Tai Wan seemed to cherish jade artifacts that included slotted rings, while people of Sha Ha buried none of those. Both sites found pottery in their graves but were only limited to cord-marked and lozenge-patterned, but never the double-F. Despite the equal low frequency of all three types of pottery, the double-F did not seem to be significant enough to be included in burial customs, or represent social status. The double-F were perhaps rare and limited, but not to the point of being exotic. In an analogy to modern days, the double-F is like some very elegant, exquisite, and expensive dinnerware, but not necessarily exotic enough like limited editions or antiques to be considered as prestige. As to why the lozenge-patterned was chosen to be buried, it probably was purely out of preferences.

To sum up, Bronze Age Hong Kong has reached the stage of an emerging complex society, hopefully further studies will help us understand more about its social structure.

Appendix

	Mean	Standard Deviation	CV
Wall Thickness	0.67	0.16	24%
Hook-shaped, Impressed, Slanted to the Right			
Motif Width	2.45	0.80	33%
Motif Length	3.10	0.46	15%
Hook-shaped, Raised, Slanted to the Right			
Motif Width	2.80	0.31	11%
Motif Length	2.90	0.36	12%
Hook-shaped, Impressed, Slanted to the Left			
Motif Width	2.50	0.29	12%
Motif Length	2.50	0.00	0%
Round-headed, Raised, Slanted to the Right			
Motif Width	2.75	1.06	39%
Motif Length	3.00	0.71	24%
Round-headed, Raised, Slanted to the Left			
Motif Width	2.80	0.57	20%
Motif Length	2.73	0.66	24%

Table 1. Combined Tai Wan and Sha Po New Village Double-F Measurement Variations

	Mean	Standard Deviation	CV
Wall Thickness	0.61	0.16	26%
Filled Square Double Border			
Motif Width	1.7	0.1	6%
Motif Length	1.07	0.32	30%
Filled Square Single Border			
Motif Width	0.78	0.15	19%
Motif Length	0.68	0.23	33%
Filled Diamond Double Border			
Motif Width	1.53	0.39	26%
Motif Length	0.7	0.00	0%
Filled Diamond Single Border			
Motif Width	1.37	0.29	21%
Motif Length	0.73	0.06	8%
Filled Diamond No Border			
Motif Width	0.80	0.14	18%
Motif Length	0.45	0.07	16%

Table 2. Combined Tai Wan and Sha Po New Village Lozenge-Patterned Measurement Variations

	Mean	Standard Deviation	CV
Wall Thickness	0.67	0.17	26%
Hook-shaped, Impressed, Slanted to the Right			
Motif Width	2.92	0.84	29%
Motif Length	2.91	0.33	11%
Hook-shaped, Raised, Slanted to the Right			
Motif Width	2.70	0.29	11%
Motif Length	2.90	0.24	8%
Hook-shaped, Impressed, Slanted to the Left			
Motif Width	2.68	0.49	18%
Motif Length	2.85	0.73	26%
Round-headed, Raised, Slanted to the Right			
Motif Width	3.05	0.90	30%
Motif Length	2.33	0.62	27%
Round-headed, Raised, Slanted to the Left			
Motif Width	2.88	0.51	18%
Motif Length	2.68	0.72	27%

Table 3. Combined Tai Wan, Sha Po New Village, Sha Ha Double-F Measurement Variations

	Mean	Standard Deviation	CV
Wall Thickness	0.61	0.14	23%
Filled Square Double Border			
Motif Width	1.3	0.57	44%
Motif Length	0.88	0.35	40%
Filled Square Single Border			
Motif Width	0.78	0.15	19%
Motif Length	0.68	0.23	33%
Filled Diamond Double Border			
Motif Width	1.45	0.72	21%
Motif Length	0.30	0.03	4%
Filled Diamond Single Border			
Motif Width	1.23	0.32	26%
Motif Length	0.68	0.08	11%
Filled Diamond No Border			
Motif Width	0.83	0.12	14%
Motif Length	0.50	0.10	20%

Table 4. Combined Tai Wan, Sha Po New Village, Sha Ha Lozenge-Patterned Measurement Variations

Sha Po New Village Double-F	Rarity
	0.144%
Lozenge-Patterned	0.157%
Cord-Marked	0.368%

Table 5. Rarity of Sha Po New Village Potsherds

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