



A reconsideration of a Chinese inscription carved on lacquerware unearthed from Barrow No. 7 of the Tsaram Xiongnu cemetery (Buryatia, Russia): new reflections on the organization of the central workshops of the Han

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Abstract

This paper reports one Chinese lacquerware unearthed from Barrow No. 7 of the Tsaram Xiongnu cemetery. The lacquerware was broken, but we composed photographs of fragments and reconstructed the design pattern. Through the reconstruction, we know that this ware decorated using the *zhui hua* technique, with similar designs seen on some vessels and boxes unearthed from Han tombs. The reading of the Chinese inscription was reported in 2007, but I correct some characters. The inscriptions were carved on objects for the control of product management. This inscription also shows that this ware was made in the Kao Gong factory, but the members of the inspectors are listed differently than other inscriptions. It is difficult to determine the reason of this difference, but it might reflect some reform of product organization. The inscription also lacks the year number, but by comparison to other inscriptions, we propose that this ware was produced in the later part of the Former Han and before 5 BCE.

Keywords *zhui hua* lacquer · Chinese inscription · Lacquer workshop · Han dynasty · Product management

1 Introduction

The Trans-Baikal Archaeological Expedition of the Institute of the History of Material Culture, Russian Academy of Sciences, investigated a Xiongnu elite tomb (Barrow No. 7) excavated in the Tsaram Valley, located 1.5 km to the south of Naushki, Republic of Buryatia, Russia. Barrow No. 7 is a square mound with a dromos, and it has 10 adjacent sacrificial burials to its east and west sides. The excavations continued from 1997 to 2005, unearthing a huge amount finds, including Chinese items (Miniaev and Sakharovskaia 2002; 2007). The Chinese items were rich in variety, including a chariot, mirrors, and lacquerwares. These objects were important not only as historical evidence of contacts between the Xiongnu and Han, but also as a means to cross-date the Xiongnu tombs. Especially attracting our interest was a lacquerware with a Chinese inscription.

The inscription on this lacquerware has studied by Michèle Pirazzoli-t'Serstevens (2007, 2008). When I first read her report, I had some doubts against the reading, because the reading was outside the ordinary rules concerning Han inscriptions.¹ Therefore, I made contact with her and with Sergej Miniaev, the supervisor of the archaeological expedition to Tsaram, in order to reconfirm some characters in the pictures. Here I report the initial result of the re-identification of these characters and a new examination of the reading in which I describe a characteristic point of this inscription.

2 Excavation and reconstruction of the lacquerware

The structure of Barrow No. 7 consisted of an inner and outer log chamber—with a surrounding space, or corridor, along each side of the inner chamber between it and the outer

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¹ The first paper (Pirazzoli-t'Serstevens 2007) shows only one image, of the beginning of the inscription, related to its date. Pirazzoli-t'Serstevens (2008) shows an image of the complete inscription.

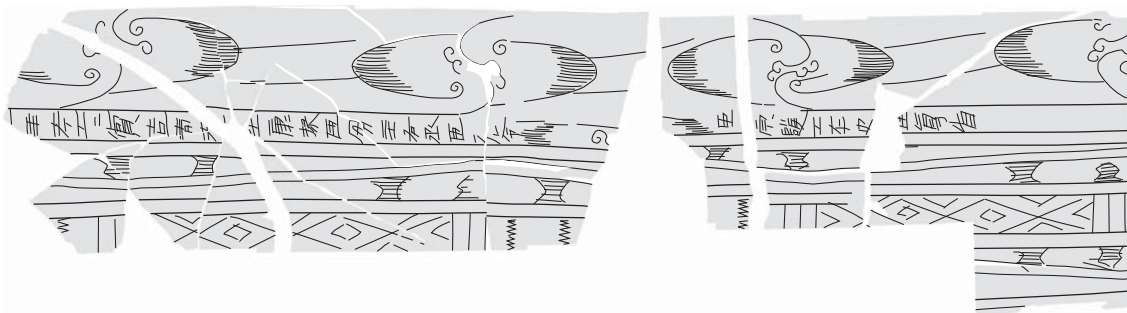


Fig. 1 The drawing of lacquer fragments (tomb No. 7, Tsaram)

chamber—and a coffin. The lacquerware with the Chinese inscription was found with funeral doll No. 2, which laid in the western corridor, near the south-west corner. The lacquerware had been crushed by the bottom beam of the outer chamber (Miniaev and Sakharovskaia 2007: 51). Therefore, I had to assemble photographs to reconstruct the lacquerware beyond the two large fragments that had been refitted. These two fragments do not have a contact point to each other, but it is possible to arrange them using the design pattern, the order of the inscription, and the testimony of excavator. Figure 1 shows a drawing traced over the composite of the photographs.

3 Design and decoration technique

Because of the crushing of the Tsaram lacquerware vessel, I do not know for certain the vessel form, but the excavation report provides some related information, as it says that inside of the lacquerware was a piece of mica, two wooden combs and a collection of iron needles in a wooden holster (Miniaev and Sakharovskaia 2007:51). If so, this vessel should be a *lian* cosmetic box, but further considerations about its design and possible other vessel forms are still needed. Its decoration, however, can still be identified. This lacquerware has fine decoration carved by needle points. This technique is called *zhui hua* 錐畫, named after a word appearing on the list of grave goods from Mawangdui 馬王堆 Tomb No. 3. Wooden slip No. 271 from this Western Han tomb has an inscription that says, “布曾檢一錐畫 尺三寸.” The slip is referring to two lacquer boxes associated with it. These boxes have fine carved decoration on the surface: therefore, it is possible to identify the term *zhui hua* 錐畫 as indicating this decoration technique. *Zhui hua* lacquers were studied by Fu Juyou (2007: 70-71), who dates the earliest usage of this technique to the Former Han period, with no known examples from the Warring States period.

The design on the Barrow No. 7 lacquerware consists of three lines of different patterns. The first pattern is composed by alternate compartments of continuous rhombuses and vertical lines or zigzags. The second pattern is parted by two

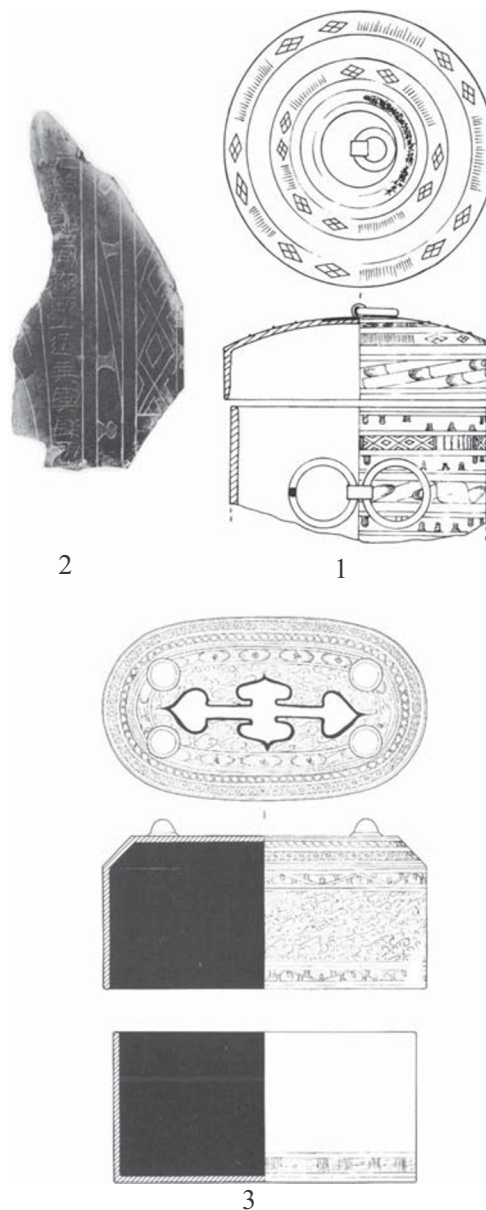


Fig. 2 Lacquerwares with similar designs. 1. *Zun* vessel, Yaoziling Tomb No. 2: 61; 2. A lacquer fragment from the robbed tomb of Lelang (stored in Shisui Rokkaku); 3. An oval box, Tushandun Tomb No. 6, Coffin No. 2: 6

oblique lines within two straight lines, and slanted line shields are added on each side alternately. The third pattern is the swirling cloud pattern, *yun qi wen* 雲氣文, in Chinese art, and it is sequence of ellipses composed by two C-shapes.

The set of these three patterns is also found on a lacquerware excavated in Yaoziling 鷓子嶺 Tomb No. 2 (Fig. 2.1 and List 1), and the set of two of these patterns is found on a lacquer fragment from a robbed tomb at Lelang 樂浪 (Fig. 2.2). Several of the patterns resemble those on an oval lacquer box from Tomb No. 6 at Tushandun 土山屯 (Qingdao shi wen wu bao hu kao gu yan jiu suo et al. 2017) (Fig. 2.3). The lacquerwares from Yaoziling and Lelang have an inscription. The former was made in the Kao Gong 考工 workshop in 8 BCE, and the vessel form is identified as the lid of a *zun* 樽.² The latter ware was made in the Shu Commandery west workshop (Xi Gong 西工) in 4 CE.³ The dates that these provide—8 BCE and 4 CE—serve to cross-date other examples of these patterns on lacquerwares, including that from Tsaram. Pirazzoli-t'Serstevens (2007: 58) also concludes that the possible date for the Tsaram vessel is between 8 BCE and 4 CE: although she did not directly present these examples, her consideration also depended on them.

4 The identification of the characters

The reason why such objects as the lacquerware have inscriptions on them is for management. This system was called *wu le gong ming* 物勒工名, a record of the producers' names on the object. It aimed to assign clear responsibilities to the producers and inspectors of the objects.

The inscription on the Tsaram vessel is placed within two carved lines, and it has lost the upper part. Twenty-nine characters of the inscription remain, which I number from 1 to 29 (Fig. 3). The strange point of this inscription is a division between characters 20 and 21, and that there are fine art carvings. I have never seen such a division on other lacquerwares, but I consider that the arrangement of the two lacquer fragments is correct, because it is possible to read the sentence until character 29 without contradiction.

Next, I identified each character, with the result shown in Fig. 4. My identification differs from Pirazzoli-t'Serstevens's concerning three characters (14, 19, and 22).

Character 14: Pirazzoli-t'Serstevens identifies character 14 as *an* 安. If I directly write the strokes of character 14, it becomes 冑. The under part of the character *an* has

² Another vessel resembling that from Yaoziling M2:61 was found in Tomb No. 194 at Seokam-ri 石巖里. This vessel has not been reported except in one photo (Umehara 1943: pl. 9). Therefore, I cannot confirm whether or not it is *zhui hua* lacquer.

³ The inscription reads: 元始四年,蜀郡西工造,乘輿髹雕畫...

two crossing strokes (Fig. 5.1), but character 14 does not cross. Therefore, this character is not *an*. 冑 appears on the *ding* 鼎 vessel of *Yongshi* 永始 year three (永始三年乘輿鼎) (Fig. 5.2) and the *ding* vessel of the *Yongshi* era (永始乘輿鼎) (Fig. 5.3). Sometimes this character is identified as *kai* 開 in the modern Chinese font, but Xu Zhengkao (2007: 687) has corrected it as *peng* 朋. I consider that his identification is correct, because it is possible to reconfirm it with related characters, too. Those characters appear in two unearthed documents from Mawangdui Tomb No. 3. The character 冑 appears in *Miscellany of Fortune about Astronomy* 天文雜占 (Fig. 5.4), and 冑 also appears in *Documents of School of Diplomacy in the Warring States Period* 戰國縱橫家書 (Fig. 5.5). Both of these characters contain 冑 in their form,⁴ and two characters are *beng* 崩 in the modern Chinese font. This character *beng* means “collapse”, and one of them is used in the sentence “山陵崩”: “If a high mausoleum collapses...” (an allusion to death). We can read this character in a sentence without contradiction: therefore a chain of identification is proven correct.

Character 19: I also cannot identify this character. But the left-hand radical of this character should be 冑 (the “step” radical) (Fig. 5.6).

Character 22: I identify character 22 as *zong* 宗, but it might be *quan* 泉. Sometimes it is difficult to distinguish these two characters in handwriting (Fig. 5.7-10). Character 22 is the name of a man: therefore, it is not possible to identify this character based on writing rules or meaning.

5 The reading of the inscription

Pirazzoli-t'Serstevens (2007: 57) has already provided a reading of this inscription, and her reading is fundamentally right. But based on the corrections I have made to some of the characters above, I present the reading again:

...In the [number] year, the master artisan of the *Kao Gong* 考工 imperial workshop, *Shang* 賞, made. Managed by the workshop official *Se Fu* 耆夫, your servant *Kang* 康; the workshop official *Yuan*, your servant *Peng*. Inspected by the assistant director of the right, *You Cheng* 右丞, your servant [name]; the director *Ling* 令, your servant *Zong* 宗; workshop inspector *Hu Gong Zu Shi* 護工卒史, your servant *Zun* 尊.

⁴ 冑 is 山 (the “mountain” radical)+冑. 冑 is 土 (the “earth” radical) + 冑.

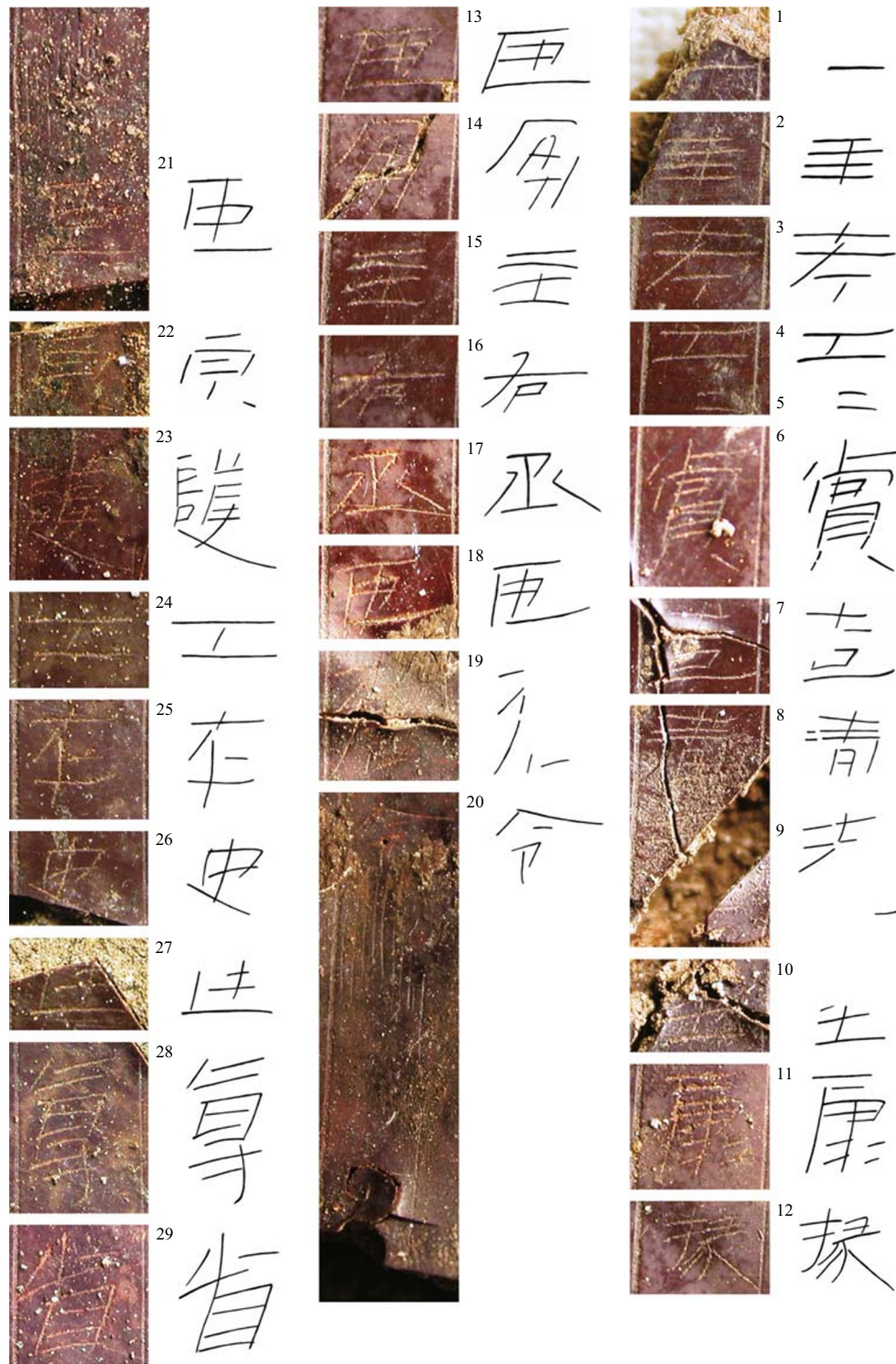


Fig. 3 Characters on lacquer fragments (tomb No. 7, Tsaram)

Characters 1 to 2: This part indicates the date of manufacture.

□ 年 *nian*: The character *nian* is year. Therefore, the character above should be the number for this year, but most of character 1 is missing.

Characters 3 to 7: This part identifies the production factory and artisans.

考 *kao* 工 *gong*: Kao Gong is an imperial workshop. According to the *Table of Nobility Ranks and Government Offices*, in the *History of the Former Han*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20	21	22	23	24	25	26	27	28	29
Pirazzoli-t' Serestevens	□	年	考	工	二	賞	造	畜	夫	臣	康	掾	臣	安	主	右	丞	臣	□	□	令	臣	□	護	工	卒	史	臣	尊	省
otani	□	年	考	工	二	賞	造	畜	[夫]	臣	康	掾	臣	朋	主	右	丞	臣	臣		令	臣	[宗]	護	工	卒	史	臣	尊	省

Fig. 4 The inscription (tomb No. 7, Tsaram)

『漢書』官公卿表, a workshop named *Kao Gong Shi* 考工室 belonged under the *Shao Fu* 少府 in the early part of the Former Han period.⁵ In 108 BCE, the time of Emperor *Wudi* 武帝, the name of the workshop changed from *Kao Gong Shi* to *Kao Gong*.

賞^{shang} 造^{zao}: is a repetition mark referring to the previous character; so this is also *gong* 工, and it means “artisan.” *Zao* is a verb meaning “produced.” *Shang* is the name of the artisan who made this lacquerware.

Characters 8 to 29: This part records those responsible for quality control. Products of central factories were checked by officials, who were recorded in ascending order from the lowest to the highest in rank:

For the lower, production management stage: 護 *Hu* → 佐 *Zuo* → 畜夫 *Se Fu* → 令史 *Ling Shi* → 掾 *Yuan*
 For the upper, final inspection stage: 右丞 *You Cheng* → 令 *Ling*

Each person is recorded according to this formula: his function + 臣 *chen* (your servant) + name”. Following the last name in the list for each stage is a verb, either 主 *zhu* (supervised/managed) for the lower stage officials directly managing the production or 省 *xing* (inspected) for the upper stage officials responsible for inspection of the finished product.

A problem with this inscription is the appearance of the *Hu Gong Zu Shi* 護工卒史 in the final inspection stage. This is a factor that before led me to doubt the reading by Pirazzoli-t’Serstevens. Before turning to a closer examination of this problem, I would like to consider inscriptions related to the production system of the Former Han period.

⁵ Offices and workshops of the *Shao Fu* were located in the North-West corner of the Weiyangong 未央宮 Palace (see *San fu huang tu* 三輔黃圖 vol. 6 and the words “Gate of workshop 作室門” in the *Han shu* 漢書 [History of the Former Han]). *Kao Gong* was also a workshop under the *Shao Fu*, but Shigeru Katō (1918-1919 [1965: 88]) assumed that it was located at a different place than them. He depends on an article in “Biography of Wu An, Marquis Tian Fen,” in *Records of the Grand Historian*, where *Kao Gong* is located out of the court, and it owned a vast space: (『史記』107 魏其武安侯列傳: 嘗請考工地益宅, 上怒曰, 君何不遂取武庫, 是後乃退).

6 Consideration about officials appeared in inscriptions

Before I attempt to go forward with the inquiry about the official, *Hu Gong Zu Shi*, I should first present a general understanding about workshops and the production system based on studies of lacquerwares. Inscriptions on lacquerwares were gathered and studied by Seiji Umehara (1943), Akira Machida (1974), and Hong Shi (2005). The contents of these inscriptions describe the production system as below:

1. Lacquerwares were made in a central factories and district factories.⁶ The former includes the *Kao Gong* workshop and the *Gong Gong* 供工 workshop located in the capital city, Chang’an 長安. The latter refers to the *Xi Gong* 西工 western workshop in *Shu* 蜀 Commandery and the workshop of *Guanghan* 廣漢 Commandery.
2. Some wares bear the inscription *cheng yu* 乘輿, meaning they are for the use of the emperor. These high ranking wares were made in all four workshops.
3. Some lacquerwares with similar artistic design are produced in all four workshops. Therefore it is difficult to distinguish which workshop an item was produced in purely from the standpoint of artistic design.
4. The formula for inscriptions is different between the central factories and the district factories. The former has three stages inscriptions: “made-managed-inspected” (造-主-省), while the latter features two stage inscriptions: “made-managed” (造-主). However, some inscriptions from the central factories also are two stage inscriptions: 造-省

⁶ These two terms, central factory and district factory, are direct translations of 中央工官 and 地方工官. The difference between “central” or “district” only depends on the location of the workshop, and they are not equal to a “national workshop” or “provincial workshop.” From the view point of management, both of the factories were controlled by the center. (From the view point of finance, financial matters during the Han were divided between government finance and imperial finance. Government finance was managed by *Da Si Nong* 大司農, while imperial finance was managed by the *Shao Fu* 少府. Because the *Kao Gong* belonged to the *Shao Fu* and provided products for the royal court and government offices, it can be translated as imperial workshops. There is no information about *Gong Gong* in historical documents, but *Gong Gong* might also be the same situation as the *Kao Gong*. On the other hand, there are different considerations about which office controlled the western workshop in *Shu* Commandery and the workshop of *Guanghan* Commandery. On this, see the differing views of Machida (1974) and Fang Shiming (1982). On the economy and estates of the Han period, see works by Katō Shigeru (1918) and Yamada Katsuyoshi (1993).

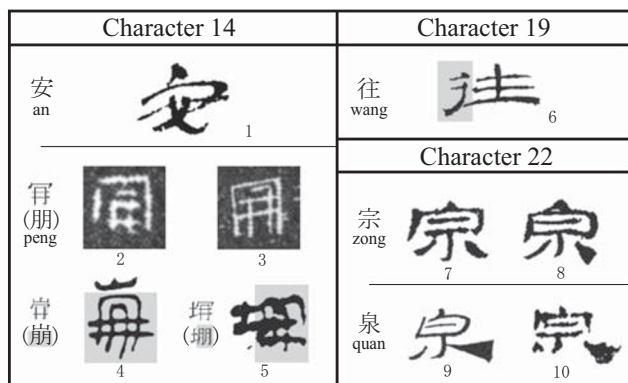


Fig. 5 Three characters. 1, 8. Writing slips of Juyan 居延漢簡; 2. *Ding* vessel of Yongshi era 永始乘興鼎 (vol. 1, p. 4); 3. *Ding* vessel of Yongshi year 3 (vol. 1, p. 5); 4. Tomb No. 3 of Mawangdui; 6, 7. Writing slips of Mazuizi in Wuyi; 9. Writing slips of Juyan (1972–1974)

Next, I can return to the problem of the term *Hu Gong Zu Shi* on the Tsaram lacquerware. Quality control in the central factories was divided into two stages, and the last official is a director of the workshop, *ling* 令, in general. Only one lacquerware, a *pan* 盤 basin from Baonüdü 寶女墩, has an inscription in which the last official is *Hu Gong Zu Shi*. I think that this is not enough information if we want to examine quality control and inspectors in the central factories. Objects that have inscriptions referring to the central factories in which it was produced are not only lacquerwares, but also include bronze vessels, bronze furniture, and bronze weapons, etc. Of course, these objects have different manufacturing processes than lacquerwares, but the formula of inscriptions, especially the sections concerning product control, feature the same formula. List 1 features a list of all inscriptions related to central factories, and Fig. 6 contains a classification of each element in the inscriptions. Figure 6 shows that there are four objects inscribed *Hu Gong Zu Shi*: an arrow shaft made in 77 BCE, a *yan zu* 雁足 lamp of the Jingning 竟寧 era (33 BCE), the *pan* basin from Baonüdü (28 BCE), and the lacquerware from Tsaram.

The next consideration is the nature of the position of the *Hu Gong Zu Shi* official listed in the inscriptions of the central factories, about which little attention has been given, so there is no specific previous studies about it. On the other hand, the *Hu Gong Zu Shi* appearing in inscriptions from the district factories has been noted. For this discussion, I present inscriptions related with to the west workshop in Shu Commandery and the workshop of Guanghan Commandery⁷ that appear

⁷ Inscriptions on *ge* 戈 daggers shows that two workshops existed under Shu Commandery in the Qin 秦 era. They are a west workshop (*xi gong* 西工) and the east workshop (*dong gong* 東工). The west workshop continues into the Han era, but the name “east workshop” disappears. We understand that Guanghan Commandery was established by the cession of territories from Shu 蜀 and Ba 巴 commanderies in 201 BCE, so the east workshop must have changed its name to Guanghan at that time.

Fig. 6 Inscriptions from the central factories. **Materials:** B: bronze, C: casting mold (sand mold), L: lacquer ware, S: Silver, W: wood. **Cheng :** R: the assistant director of the right, *You Cheng* 右丞; L: the assistant director of the left, *Zuo Cheng* 左丞. **Workshops:** Gong Gong 供工; Kao Gong 考工; You Gong 右工.

until 16 BCE (Fig. 7). The formula of the inscriptions changes over time, and the order of the *Hu Gong Zu Shi* changes between 85 BCE and 62 BCE. This change is a problem from the view point of rank. The quality control of the district factories is one stage, and officials are recorded from the highest to the lowest in rank. The highest official is a director of the workshop, *chang* 長, who received the same treatment as an administrative director of a *xian* 縣 that has fewer than 10,000 families, and who had a salary 300–500 *shi* 石.⁸ On the other hand, a *Hu Gong Zu Shi* is probably a kind of *Zu Shi* 卒史, which is a lower-class official who had a salary of 100 *shi*. Therefore, it is strange that the term *Hu Gong Zu Shi* become that used for the top inspectors after 62 BCE.

About this contradiction, Sato Taketoshi (1962) gives a hint. He writes that the *Hu Gong Zu Shi* is a kind of *Zu Shi*, and this official is dispatched to workshops, so the word “Hu Gong” (protect/supervise the workshop) was added to the official’s name (Satō 1962: 275). Yet there are two different views about what organization dispatched the *Hu Gong Zu Shi*. One opinion holds that the *Hu Gong Zu Shi* is dispatched from the upper organization of workshops. Machida (1974: 39) writes that the *Hu Gong Zu Shi* was dispatched from the Shao Fu for supervising, so therefore, even if he is low-class official, his name becomes listed at the top after 62 BCE. Another opinion is that the *Hu Gong Zu Shi* is dispatched from the commandery. Fang Shiming (1982: 144) writes that district workshops had belonged to the *Da Si Nong* 大司農 originally, so workshops and the commandery had no contact. However, the jurisdiction of the district workshops gradually transferred from the *Da Si Nong* to the commandery. The appearance of *Hu Gong Zu Shi* reflects this change of jurisdiction, so the term appears in the inscription from 85 BCE. The commandery strengthened its control over workshops, so *Hu Gong Zu Shi* became listed at the top of the order in the inscriptions after 62 BCE (Fang 1982: 144). Because I am not dealing here with *Hu Gong Zu Shi* as it appears in district workshops, I do not discuss any more about it, and I turn to the main subject.

⁸ See *Hou Han shu* (History of the Latter Han): 『後漢書』 118百官五: 其郡有鹽官, 鐵官, 工官, 都水官者, 隨事廣狹置令, 長及丞, 秩次皆如縣, 道, 無分士, 給均本吏。

№	object	object	material	era, year	BCE/CE	Emperor	workshop	1 st stage		2 nd stage				3 rd stage			order					
								乘輿 / 臣	craftsman	護	佐	衛	大夫	令史	掾	others		丞	令	others		
1	Tsaram, barrow 7		L	-	-		KaoGong	?-臣	賁			康		朋		R	□	[宗]	護工卒史	尊	→	
2	Arrow shaft (JianShui JinGuan) [GuanSu]	箭 (眉水金閣遺跡) [甘肅]	W	元鳳 YuanFeng 3	-77	Zhao-di 昭帝	KaoGong	-	賢友									常	通	執金吾 護工卒史	喜	←
3	YanZu lamb of YuanKang era	元康雁足鏡	B	元康 YuanKang 1	-65	Yuan-di 宣帝	KaoGong	-	賢友											執金吾 護工卒史	喜	←
4	Bian vessel owned by ZhaoTaiGong	昭臺宮扁	B	元康 YuanKang 3	-63		KaoGong	-	賢[友]												執金吾 護工卒史	喜
5	YunDou of WuFeng era	五鳳斗	B	五鳳 WuFeng 1	-57	KaoGong	-	賢[友]												護工卒史	尊	→
6	Xi vessel [QiuJiang, XiAn, XianXi]	洗 [曲江公社, 陝西西安]	B	初元 ChuYuan 4	-45	GongGong	-	殷	成	忠												→
7	Ear cup (Tomb №17 of JongBack-ri) [Pyongyang]	耳杯 (貞栢里 17 号墓) [平壤]	L	永光 YongGuang 1	-43	YouGong	-	賜	[意]													→
8	Ear cup (Tomb №17 of JongBack-ri) [Pyongyang]	耳杯 (貞栢里 17 号墓) [平壤]	L	永光 YongGuang 1	-43	GongGong	-	肆														→
9	YanZu lamp (Tomb of LiuJiaCun) [Baoli, ShanXi]	雁足燈 (六甲村漢墓) [陝西寶雞]	B	建昭 JianZhao 3	-36	Yuan-di 元帝	KaoGong	-	憲	建												→
10	XingDeng lamp of JianZhao era	建昭行燈	B	建昭 JianZhao 3	-36		KaoGong	-	憲	建												
11	YanZu lamp of JianZhao era	建昭雁足鏡	B	建昭 JianZhao 3	-36	KaoGong	-	輔	建	博												→
12	YanZu lamp owned by ZhongGong	中宮雁足鏡	B	竟寧 JingNing 1	-33	KaoGong	-	輔	建	博												→
13	YanZu lamp of JingNing era	竟寧雁足鏡	B	竟寧 JingNing 1	-33	KaoGong	-	護	武	朝												→
14	Pan basin (BaoNiDun, tomb № 104:28) [HanJiang, JiangSu]	盤 (寶女墩 M104:28) [江蘇泗陽]	L	河平 HePing 1	-28	GongGong	-	忠	武	昌												→
15	Jing vessel (Neraku museum)	鏡 (寧樂美術館藏)	B	河平 HePing 1	-28	GongGong	-	昌	武	昌?												→
16	Zhong vessel [GanSu, QingYang]	鐘 [甘肅慶陽]	B	陽朔 YangShuo 4	-21	KaoGong	-	章	譚	譚												→
17	Pan basin (YaoZhang, tomb №102:47) [HanJiang, JiangSu]	盤 (姚莊 M102:47) [江蘇泗陽]	L	鴻嘉 HongJia 3	-18	KaoGong	-	爽	章	並												→
18	Zhi cup (YaoZhang, tomb №2:64) [YongZhou, HuNan]	卮 (姚莊 M2:64) [湖南永州]	L	鴻嘉 HongJia 5	-16	GongGong	-	敞	望	護												→
19	Xuan basin (Gol Mod-1, barrow 20)	旋	L	永始 YongShi 1	-16	GongGong	-	[-臣]	[武]	[敬]												→
20	Hu vessel owned by DuLing DongYuan	杜陵東園壺	B	永始 YongShi 1	-16	GongGong	-	長	昌	宗												→
21	Ding vessel of YongShi era	永始鼎	B	永始 YongShi 2	-15	KaoGong	乘輿-臣	林	博	康												→
22	Ding vessel of YongShi three year	永始三年鼎	B	永始 YongShi 3	-14	KaoGong	乘輿-臣	蒲	立	彭												→
23	GaoDeng lamp of YongShi era	永始高燈	B	永始 YongShi 3	-14	KaoGong	-	誼		康												→
24	Fang vessel of YongYan era	元延方	B	元延 YuanYan 2	-11	GongGong	-	長	普	建												→
25	Pan basin (BaoNiDun, tomb № 104:29) [HanJiang, JiangSu]	盤 (寶女墩 M104:29) [江蘇泗陽]	L	元延 YuanYan 3	-10	GongGong	乘輿-臣	彊	紀	彭												→
26	Ding vessel of YuanYan era	元延鼎	B	元延 YuanYan 3	-10	GongGong	乘輿-臣	彊	武	彭												→
27	Ding vessel of YuanYan era №2	元延鼎(2)	B	元延 YuanYan 3	-10	KaoGong	乘輿-臣	方	彭	慶												→
28	Ear cup, №1 (Noyon Uul, barrow 20)	耳杯 (1)	L	元延 YuanYan 4	-9	KaoGong	乘輿-臣	通	文	熱												→
29	Ear cup, №2 (Noyon Uul, barrow 20)	耳杯 (2)	L	-	-	-	-	?	-臣													→
30	Lid of Zun vessel (YaoZiLing, tomb №2:61) [YongZhou, HuNan]	樽蓋 (姚子嶺 M2:61) [湖南永州]	L	綏和 SuiHe 1	-8	KaoGong	乘輿-臣	宗	陸	譚												→
31	Ear cup (MaZuiZi, tomb №62) [WuWei, GanSu]	耳杯 (磨嘴子 62 号墓) [甘肅武威]	L	綏和 SuiHe 1	-8	KaoGong	乘輿-臣	並	彭	譚												→
32	Lid of Zun cup (YaoZiLing, tomb №2:64) [YongZhou, HuNan]	樽蓋 (姚子嶺 M2:64) [湖南永州]	L	綏和 SuiHe 1	-8	GongGong	-	考														→
33	Lid of Zun vessel (Seokam-ri, tomb №194) [Pyongyang]	樽蓋 (石峽里 194 号墓) [西墳] [平壤]	L	綏和 SuiHe 1	-8	GongGong	-	彭														→
34	Ear cup (LeLang tomb) [Pyongyang]	耳杯 (樂浪古墳) [平壤]	L	綏和 SuiHe 1	-8	GongGong	-	燕														→
35	YanZu lamp of SuiHe era	綏和雁足鏡	B	綏和 SuiHe 1	-8	GongGong	-	譚	相	博												→
36	Fang vessel of JianPing era	建平方	B	建平 JianPing 2	-5	GongGong	-	□														→
37	Bell inscribed JiaZhi YaoZhong	嘉至插鐘	B	建平 JianPing 2	-5	GongGong	-	懼														→
38	Zhong bell of Jianping era	建平鐘	B	建平 JianPing 2	-5	GongGong	-	懼														→
39	Under tray of an incense burner (Fuji Yurinkan)	薰爐承盤 (藤井有鄰館)	B	建平 JianPing 4	-3	KaoGong	乘輿-臣	由	陸	雷												→
40	Lamp [QIshan, ShanXi]	燈 [陝西岐山]	B	元壽 YuanShou 2	-1	GongGong	-	長														→
41	Fang vessel of YuanShi era	元始方	B	元始 YuanShi 4	4	Ping-di 平帝	KaoGong	-	禮	耿												→
42	Zhong bell of JuShe era	居攝鐘	B	居攝 JuShe 1	6	RuZi 孺子嬰	KaoGong	-	□													→
43	Pan basin (Seokam-ri, tomb №201) [Pyongyang]	盤 (石峽里 201 号墓) [平壤]	L	居攝 JuShe 3	8		KaoGong	-	威													
44	Pan basin (Seokam-ri, tomb №201) [Pyongyang]	盤 (石峽里 201 号墓) [平壤]	L	居攝 JuShe 3	8	(GongGong)	-	□														→
45	Ear cup (Seokam-ri, tomb №201) [Pyongyang]	耳杯 (石峽里 201 号墓) [平壤]	L	居攝 JuShe 3	8	GongGong	-	服														→
46	Pan basin (LeLang tomb) [Pyongyang]	盤 (樂浪古墳) [平壤]	L	初始 ChuShi 1	8	GongGong	乘輿-臣	服														→
47	Bell inscribed HouQiZheng (new)	新侯騎鉦	B	始建國地皇 ShiJianGuo DiHuang 2	10	Wang Mang 王莽	YouGong	-	海													→
48	A pair mold of WuShu coins	建武泉范	C	建武 JianWu 2	26	Guan Wu-di 光武帝	KaoGong	-	儀													→
49	A pair mold of WuShu coins	建武泉范	C	建武 JianWu 2	26		KaoGong	-	儀													
50	Ding vessel of DaGuan (Osaka city museum of fine arts, The rubbed copy №B-34-2569)	大官鼎 (大阪市立美術館, 拓本 B-34-2569)	B	建武 JianWu 18	42	KaoGong	-	王康														→
51	Zhong vessel of TaiGuan	太官鐘	B	建武 JianWu 20	44	KaoGong	-															→
52	Silver bar inscribed ZhongYuan era	中元銀錠	S	建武中元 JianWu ZhongYuan 2	57	KaoGong	-	郭工	造工													→
53	Launch equipment of crossbow	鐵	B	建初 JianChu 5	80	Zhang-di 章帝	KaoGong	-	張口初													→
54	Launch equipment of crossbow [Huan, GanSu]	鐵 [甘肅省環縣徵收]	B	永元 YongYuan 5	93	KaoGong	-	壽伯	蘇													→
55	Launch equipment of crossbow	鐵	B	永元 YongYuan 6	94	KaoGong	-	袁口	王小													→
56	Launch equipment of crossbow	鐵	B	永元 YongYuan 6	94	KaoGong	-	張興	王小													→
57	Launch equipment of crossbow (ZhangJiaWang, tomb №4:29) [LingBao, HeNan]	鐵 (張家灣 M4:29) [河南靈寶]	B	永元 YongYuan 6	94	He-di 和帝	KaoGong	-	吳孟	王山												→
58	Launch equipment of crossbow (PuZhen ZhuanChang, tomb №2:5) [HanZhong, Xianxi]	鐵 (鋪鎮磚廠 M2:5) [陝西漢中]	B	永元 YongYuan 6	94		KaoGong	-	田孫													
59	Launch equipment of crossbow	鐵	B	永元 YongYuan 7	95	KaoGong	-	寧仲														→
60	Launch equipment of crossbow	鐵	B	永元 YongYuan 11	99	KaoGong	-	史小	王小													→

List 1 Inscriptions of central factories

2	「元鳳三年，執金吾護工卒史喜，考工令通，丞常，令史奉省…」
3	「元康元年，考工賢友繕，作府齋夫建護，萬年般長當時主，令長平，右丞義省，重二斤十三兩」
4	「昭臺宮銅扁，容八升，并重十五斤十二兩，元康三年，考工賢友繕，作府齋夫建護，長當時，令賀省」
5	「五鳳元年四月，考工賢友繕，作府齋夫趙良，平陽付守長吳安光主，左丞萬福並省，重三斤十二兩」第二」
6	「初元四年，供工股造，護誼成，佐忠主，守右丞音，守令宜省，重廿五斤」內者」
7	「永光元年，右工賜繕，[護][意]，齋夫熹主，右丞裁，令曷省」
8	「永光元年，供工，[檠][漆]工賀，泃工宗，涂工…宣，令建省」
9	「建昭三年，考工憲造，銅雁足鏡，重三斤九兩，護建，齋夫福，掾光主，左丞宮，令相省，五年十二月輸，中宮內者，第一，故家」
10	「建昭三年，考工憲造，銅行鏡，重二斤一兩，護建，齋夫福，掾光主，右丞宮，令相省，五年十二月輸」中宮內者，第十三故家」
11	「建昭三年，考工輔，為內者造銅雁足鏡，重三斤八兩，護建，佐博，齋夫福，掾光主，右丞宮，令相省」中宮內者，第五」故家」今陽平家，畫一至三，陽朔元年賜」後大廚」
12	「中宮銅雁足鏡，高一尺一寸，重八斤五兩，竟寧元年，考工輔，為內者造，護建，佐博，齋夫福，掾光主，右丞宮，令相省」
13	「竟寧元年，考工工護為內者造，銅雁足鏡，重三斤十二兩，護武，齋夫霸，掾廣漢主，右丞質，守令尊，護工卒史不禁省，中宮內者，第廿五，受內者」
14	「河平元年，供工，[檠][漆]畫工順，泃工煥繕，護忠，齋夫昌主，右丞譚，令譚，護工卒史音省」The outside of bottom: 「中官」
15	「河平元年，供工昌造，銅鏡，容二斗，重十四斤四兩，護武，口口昌主，右丞譚，令譚省」
16	「陽朔四年，考工口為湯官造，卅煉銅鍾，容五斗，重廿三斤，工敏，護章，佐譚，齋夫譚，掾彭祖主，右丞賀，令護省，外湯官，第卅九」
17	「鴻嘉三年，考工襄造，泃工譚，守佐章，齋夫並，掾咸主，守右丞襄，守令禁省」
18	「鴻嘉五年，供工工敏造，護望，守齋夫護，掾宗主，右丞茂，令咸省，一口…」
19	「…[鈔]黃銅尺五寸旋，永始元年[供]工工[武]造，護臣[敬]口口…[掾]臣昌主，右丞臣口，守令臣並省」
20	「杜陵東園銅壺，容三斗，重十五斤，永始元年，供工長造，護昌，守齋夫宗，掾通主，守左丞博，守令並省」
21	「乘輿，十煉銅鼎，容一斗，并重十斤四兩，永始二年，考工林造，護臣博，守佐臣襄，齋夫臣康，掾臣朋主，守右丞臣問，守令臣立省，第一」
22	「乘輿，十煉銅鼎，容二斗，并重十八斤，永始三年，考工蒲造，佐臣立，守齋夫臣彭，掾臣朋主，守右丞臣光，令臣禁省，第二百八十」
23	「永始三年，考工誼為內者造，銅高鏡，重十九斤四兩，齋夫康，掾孝主，右丞蒼，守令放省」
24	「銅鈔，容六斗，元延二年，供工長繕鋼，佐普，守齋夫建主，守右丞賽，令脩宗省」
25	「[乘][輿]，[檠]泃畫鈔黃銅斗飯槃，元延三年，供工彊造，畫工政，塗工彭，泃工章，護臣紀，齋夫臣彭，掾臣承主，守右丞臣放，守令臣興省」外底：朱漆：「中官」
26	「乘輿，十煉銅鼎，容一斗，并重十一斤三兩，元延三年，供工彊造，護臣武，齋夫臣彭，兼掾臣豐主，守右丞臣放，守令臣賽省」
27	「乘輿，十煉銅鼎，容五升，并重十斤十五兩，元延三年，考工方為中私官造，佐臣彭，守齋夫臣襄，掾臣孝主，右丞臣譚，守令臣廣世省」
28	「乘輿，[檠]泃畫木黃耳一升十六簫格，元延四年，考工通繕，泃工憲，守佐臣文，齋夫臣勳，掾臣文主，右丞臣光，令臣譚省」
29	「…[掾]臣孝主，守右丞臣忠，守令臣畫省」
30	「乘輿，[檠]泃畫鈔黃塗辟耳三升樽蓋，綏和元年，考工宗繕，泃工豐，護臣隆，佐臣訓，守齋夫臣談，掾臣章，守右丞口，令臣口口」
31	「乘輿，[檠]泃畫木黃耳一升十六簫格，綏和元年，考工並造，泃工豐，護臣彭，佐臣訓，齋夫臣孝主，守右丞臣忠，守令臣豐省」
32	「綏和元年，供工考造，掾肇，守右丞口，守令口占」
33	「綏和元年，供工彭造，掾臨主，守右丞何，守令鳳凰省」
34	「綏和元年，供工憲造，掾臨主，守右丞何，守令鳳凰省」
35	「綏和元年，供工譚為內者造銅雁足鏡，護相守，齋夫博，掾並主，右丞揚，令賀省，重六斤」
36	「銅鈔，容六斗，重卅六斤，建平二年，供工口造」
37	「建平二年，供工俛造，齋夫合，守令史循，掾式主，左丞輔，守令豐省」嘉至搖鐘，甲堵，中羽」
38	「建平二年，供工俛造，齋夫合，守令史循，掾式主，左丞輔，守令豐省」The inside of bell by convex characters: 「九己」
39	「乘輿，十煉銅口口口口，建平四年，考工由造，左臣隆，齋夫臣雷，守令史臣彭主，右丞臣封，令臣譚省，大宮萬一一」
40	「銅鏡，重十八斤十二兩，元壽二年，供工長造，齋夫[參]，掾荆主，守左丞質，令就省」
41	「銅鈔，容六斗，重廿九斤，元始四年，考工禮造，守佐臣，守令史由，兼掾荆主，左丞平，守令禁省」
42	「居攝元年，考工口口繕，守齋夫口，守令史獲，掾貞主，守左丞口，令口省」
43	「…[檠]泃畫鈔銀塗辟耳三升樽蓋，居攝三年，考工虞造，守令史音，掾質主，守右丞月，守令口省」The outside of bottom by red lacquer: 「壽」
44	「[檠]泃畫鈔銀塗辟耳三升樽蓋，容一斗，居攝三年…口，守令史並，掾慶主，右丞口，令就省」
45	「…口畫木銅銀塗辟耳格，容二升，居攝三年，供工服造，守令史並，掾…令就省」
46	「乘輿，[檠]泃畫鈔黃金塗辟耳，容一斗，初始元年，供工服造，守令史並，掾臣慶主，右丞臣參，令臣就省」內側一方：黑漆：「西張」
47	「侯騎鉦，重九斤五兩，新始建國地皇上戊二年，右工海造，齋夫放，掾口，守左丞況，令嘉掌，共工大夫弘省」
48	「建武二年三月丙申，大僕臨掾蒼，考工令通，丞或，令史鳳，工周儀造」
49	「建武二年三月丙申，大僕臨掾蒼，考工令通，丞或，令史鳳，工周儀造」
50	「大官銅[鼎]，容三斗，建武十八年，王工康造，考工令史鳳，丞或，令通主，大[僕臨]掾崇省」第一」
51	「太官銅鍾，容一斛，建武二十年，工伍興造，考工令史曰，丞或，令通主，太僕監掾蒼省」
52	「中元二年，考工所造」
53	「建初五年，考工所造，八石鏡，郭工張口初作，祭酒史，大[僕][監]掾福，令延，丞京，掾口，史口主」
54	「永元五年，考工所造，六石鏡，郭工輿伯作，造工蘇，太僕護工掾州，令恭，丞霸，掾閭，史成，主」乙五十四」
55	「永元六年，考工所造，四石鏡，郭工袁口作，造工王小，大僕護工掾口，口共，丞霸，掾珍，史咸主」
56	「永元六年，考工所造，六石鏡，郭工張吳作，造工王小，大僕護工掾口，[令]恭，丞霸，掾珍，史咸主」
57	「永元六年，考工所造，八石鏡，郭工吳孟作，造工王山，太僕監右工掾[闡]，令倫，丞詩，掾右，史旦主」
58	「永元六年，考工所造，六石六鏡，郭工田孫作，造工王山，太僕監工掾口，令恭，丞霸，掾珍，史咸主」
59	「永元七年，考工所造，六石鏡，郭工甯仲作，大僕監工掾崇，令恭，丞商，掾閭，史珍主」
60	「永元十一年，考工所造，六石鏡，郭工史小，造工王少，大僕監右工掾口，令掾，丞信，掾珍，史福主」

Sources: 2. Juyan expedition 1978; 3, 10-13, 23, 35, 37, 42, 47. Rong Geng 1931 vol. 3; 4, 5, 48, 49, 52. Rong Geng 1931 vol. 4; 6. Xi'an sheng wen wu bao hu 2005 Table 98; 7, 8, 33, 34, 43-46. Umehara 1943; 9. Li Zhengcao 1988; 14, 25. Yangzhou bo wu guan 2000; 18, 30, 32. Hunan wen wu kao gu 2001; 15, 39, 60. Osaka City Museum of Fine Arts 1975 pls. 178, 201, 21; 16. Jing and Liu 1989; 17. Yangzhou bo wu guan 2000; 18, 30, 32. Hunan wen wu kao gu 2001; 19. Yeruul-Erdene and Otani 2015; 20, 37. Rong Geng 1931 vol.7; 21, 22, 26, 27. Rong Geng 1931 vol. 1; 24, 36, 41. Rong Geng 1931 vol.2; 28. Chistyakova 2009; 29. Polos'mak et al. 2011; 31. Gansu sheng bo wu guan 1972; 40. Pang Wenlong 1991; 50. Osaka City Museum of Fine Arts 1989; 51. Xue Shangong 1797; 53, 55, 56, 59. Rong Geng 1931 vol. 6; 54. Xu and Liu 1986; 57. Henan sheng bo wu guan 1975; 58. He Xincheng 1989

	Object	Object	Material	Era, Year	BCE/CE	Emperor	Workshop	Others	長	丞	掾	職工卒史	令史	齒夫	佐	Order	Verb
1	Ge dagger axe (BaiHe xiang) [QingChuan, SiChuan]	戈 (白河鄉) [四川青川]	B	9	-238	Qin-Shi-Huang 始皇帝	東工 DongGong	相邦呂不韋 蜀守金文居 東工師宦								O→C	造
2	Ge dagger axe (XiaoTianXi, tomb №3) [FuLing, SiChuan]	戈 (小田溪3號墓) [四川涪陵]	B	26	-221	始皇帝	東工 DongGong	蜀守武 東工師宦	業							O→C	造
3	Jian vessel	劍	B	2	-87		蜀西工 Shu XiGong		僭					中章	廣成	-	造
4	Ear cup (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	始元 ShiYuan 2	-85	Zhao-di 昭帝	蜀西工 Shu XiGong		廣成	何放		勝	母[夷]	榮喜	勝	O→C	造
5	Ear cup (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	始元 ShiYuan 2	-85		蜀西工 Shu XiGong		廣成	何放		勝	母[夷]	榮喜	勝	O→C	造
6	Ear cup (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	始元 ShiYuan 2	-85		蜀西工 Shu XiGong		廣成	何放		勝	母[夷]	榮喜	勝	O→C	-
7	Pan basin (BuoNüDun, tomb №104:26) [Hanjiang, JiangSu]	雲女墩 104 號墓 (M104:26) [江蘇蘇州]	L	元康 YuanKang 4	-62	Xuan-di 宣帝	廣漢 GuangHan	護工卒史 漢工卒史 佐上	工官長 意	建			舜			O→C	造
8	Ke vessel (YaoZhang, tomb №102:46) [Hanjiang, JiangSu]	姚庄 102 號墓 (M102:46) [江蘇邳江]	L	河平 HePing 2	-27		廣漢郡 GuangHan-jun	博	處	廟						C→O	造-主
9	Pan basin (LeLang tomb)	樂浪古墳 [平壤]	L	河平 HePing 3	-26		蜀郡西工 Shu-jun, XiGong									-	造-?
10	Ke vessel (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	陽朔 YangShuo 2	-23	Cheng-di 成帝	廣漢郡工官 Guang-Han-jun GongGuan	成	延	為					宜王	C→O	造-主
11	Pan basin (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	永始 YongShi 1	-16		蜀郡西工 Shu-jun, XiGong	安	孝	碧			通			C→O	造-主
12	Pan basin (Sookam-ri, tomb №194) [Pyongyang]	右藏里 194 號墓 (丙墳) [平壤]	L	永始 YongShi 1	-16		蜀郡西工 Shu-jun, XiGong	安	孝	碧			通			C→O	造-主

Fig. 7 Inscriptions from the west workshop of Shu Commandery and the workshop of Guanghan Commandery made until 16 BCE. **Materials:** B: bronze, L: lacquerware; **Workshop:** E: East Workshop (Dong Gong) of Shu, W: West Workshop (Xi Gong) of Shu; **Order:** O: officials, C: craftsmen. **Sources:** 1. Yin Xiande 1991; 2. Sichuan sheng bo wu guan 1974; 3. Rong Geng 1931 vol. 4: 4-6, 9-12. Umehara 1943; 7. Yangzhou bo wu guan and Hanjiang xian tu shu guan 1991; 8. Yangzhou bo wu guan 2000

List 2 Inscriptions of west workshop of Shu commandery and workshop of Guanghan commandery until 16 BCE

1	「九年，相邦呂不韋造，蜀守金，東工師宦，戈三，成都」 [蜀東工]
2	「武」 [廿六年，蜀守武造，東工師宦，丞業，工交]
3	「二年，蜀西工長備，令史後得，齒夫中章，佐廣成，工員造，容五石，重九十五斤」 On the mouth of vessel: 「酒」
4	「始元二年，蜀西工長廣成，丞何放，護工卒史勝，守令史母 [夷]，齒夫榮喜，佐勝，榮工當，畫工文造」
5	「始元二年，蜀西工長廣成，丞何放，護工卒史勝，守令史母 [夷]，齒夫榮喜，佐勝，榮工當，畫工將夫，畫工定造」
6	「始元二年，蜀西工長廣成，丞何放，護工卒史勝，守令史母 [夷]，齒夫榮喜，佐勝，榮工當，畫工將夫，...」
7	「元康四年，廣漢護工卒史佐 [上]，工官長意，守丞建，令史舜，漆治樂工順，食邑金和黃塗工護郡，畫工錄直，涓工馬年造」 外底·朱漆：「中官」
8	「河平二年，廣漢郡工官，乘與木二升棗，素工商，樑工長，上工賜，銅鉤金鑲工軍，畫工強，造工順造，護工卒史博，長處，丞霸，據黨主」
9	「河平三年，蜀郡西工造，乘與具母中緇飯...工導，...」
10	「陽朔二年，廣漢郡工官造，乘與影畫木黃鉤棗，容二斗，素工寬，樑工嚴，上工貴，銅鉤黃塗工敷，畫工長，彭工導，清工博，造工同造，護工卒史成，長延，丞為，據黨，佐宜王主」
11	「永始元年，蜀郡西工造，乘與影畫行黃鉤飯棗，容一斗，樑工廣，上工廣，銅鉤黃塗工政，畫工年，彭工威，清工東，造工林造，護工卒史安，長孝，丞碧，據譚，守令史通主」
12	「永始元年，蜀郡西工造，乘與影畫行黃鉤飯棗，容一斗，樑工章，上工章，銅鉤黃塗工甲，畫工恭，彭工之，清工東，造工林造，護工卒史安，長孝，丞碧，據譚，守令史通主」

	ShuXi GuangHan	HeNan 河南	YingChuan 潁川	NanYang 南陽
-103			-103	
-102		-102	-102	
-101				
-100		-100		
-99				
-98		-98		
-97		-97		
-96		-96		
-95		-95		
-94		-94		
-93		-93		
-92			-92	
-91				
-90		-90		
-89				
-88			-88	-88
-87	-87			
-86		-86	-86	-86
-85	-85	-85	-85	-85
-84		-84	-84	-84
-83		-83	-83	-83
-82		-82	-82	-82
-81		-81	-81	-81
-80		-80		
-79		-79	-79	-79
-78		-78		
-77		-77	-77	
-76		-76		
-75		-75	-75	
-74				
-73		-73		
-72				
-71		-71		
-70				
-69				
-68				-68
-67				
-66			-66	-66
-65				
-64			-64	
-63			-63	-63
-62	-62	-62		
-61		-61	-61	
-60				
-59				
-58				
-57			-57	-57
-56			-56	
-55				
-54			-54	
-53			-53	
-52				
-51		-51	-51	

1	Not appear Hu Gong Zu Shi
2	Director→Vise director→Hu Gong Zu Shi
3	Hu Gong Zu Shi→Director→Vise director

*The director of ShuXi and GuangHang is chang 長, and the director of HeNan, YingChuan and NanYang is ling 令

Fig. 8 The appearance and order of Hu Gong Zu Shi in district factories

The *Hu Gong Zu Shi* that appeared in the central workshops is also a lower-class official, so it is a contradiction that his name becomes listed last in the inscriptions. But the reason for this contradiction is the same as the case from the district factories, that is, he was also dispatched from another organization. For the first example, an arrow shaft from the Jinguan 金關 site in Jianshui 肩水 is carved with the name of *Zhi Jin Wu Hu Gong Zu Shi* 金吾執金吾護工卒史 (Table 1: 2). *Zhi Jin Wu* is an office guarding near the emperor. This inscription indicates that this arrow shaft was made in the Kao Gong workshop and ordered by the *Zhi Jin Wu* office, so the *Hu Gong Zu Shi* of the *Zhi Jin Wu* office was dispatched to the Kao Gong workshop for inspection, and his name was listed later than the director of the Kao Gong workshop. A second example is for the trigger mechanism of a cross bow, but in this case, dating to the Later Han, the *Tai Pu* 太僕 office dispatched *Hu Gong Yuan* 護工掾 to the Kao Gong workshop for the inspection (Table 1: 54–56). The Kao Gong workshop belonged not to the Shao Fu but to the Tai Pu after the Later Han period, so it is no wonder that the *Hu Gong Yuan*, which is probably a kind of *yuan* 掾, which is also a lower-class official, appeared later than the director of the Kao Gong.

The above examples include the name of an office before the *Hu Gong Zu Shi*, but the other three inscriptions only include the *Hu Gong Zu Shi*. If this *Hu Gong Zu Shi* is a *Zu Shi* of the Kao Gong workshop, the inscription does not need to attach the name of the workshop, but the member of rank *Zu Shi* should be an inspector in the second stage (the production management stage). Since his name is last in the inscription, and he inspects the entire process, therefore, I suppose that this *Hu Gong Zu Shi* is dispatched from the Shao Fu for the inspection.

The formula of the inscriptions changes over time, and the order of the appearance of the *Hu Gong Zu Shi* can indicate the dating in the case of the district factories (Fig. 8). In the case of the central factories, however, it cannot be said whether or not the appearance of *Hu Gong Zu Shi* becomes a marker of its date. This is because examples are too few at present, and there are inscriptions that do not record the *Hu Gong Zu Shi* in 33 BCE and 28 BCE, too (Table 1: 12, 15).⁹

Finally, I point out some indicators that can be used in dating. The first is the formula of *cheng yu* 乘輿 ware inscriptions. If the objects are made for the use of emperor, the name of officials are written with the character *chen* 臣 (“your servant”). The oldest known example of this formula appeared in 16 BCE (Fig. 6.19). The second is the term *Ling Shi* 令史, and this official does not appear in the inscription from Tsaram. It

⁹ Pirazzoli-t’Serstevens (2007: 58) points out that the first example of the three stage inscription was probably not earlier than 36–27 BCE. This dating derives only from lacquerwares. When I include other kinds of objects, the first example of a three stage inscription is the *yan zu* lamp in 65 BCE (List 1: 3). Therefore, we cannot use the 36–27 BCE dating any longer. I previously dated this lacquerware between 38 BCE and 28 BCE (Otani 2014: 59, annotation 25). At that time, I thought that the appearance of *Hu Gong Zu Shi* was a criterion for dating. I correct my opinion with this paper.

is known that the appearance of Ling Shi is late in inscriptions of the central factories, that is, from 5 BCE (Fig. 6.37). After considering all these criteria, we can propose that the Tsaram lacquerware was made in the late part of the Former Han period¹⁰: it should date before 5 BCE, and it especially is most likely to date to the decade before 5 BCE.

7 Conclusion

This paper re-examined a lacquerware with inscription unearthed from Barrow No. 7 of the Tsaram cemetery. This lacquerware was examined by Michèle Pirazzoli-t'Serstevens (2007, 2008), but many of its details had not been reported at that time. For this re-examination of the inscription, I first reconstructed this ware by composite photographs. I reconfirmed Pirazzoli-t'Serstevens's identification is fundamentally right, but I corrected three characters. After this, I reconsidered this inscription by comparing it with other inscriptions of the Han era. The lacquerware from Tsaram was made in the Kao Gong workshop, so it has a three stage inscription. But the members of the inspectors are listed differently than other inscriptions, with *Hu Gong Zu Shi* appearing as the last member of the inspectors. This lacquer ware is the first unearthed object that has such an inscription.

At present, we know that these characteristic formulae existed in 33 BCE and 28 BCE, but it cannot be said if this formula has an exact range of dating. I can add three traits for dating of this lacquerware by comparison with other inscriptions. The first trait is the artistic pattern. There are two objects with similar patterns, and they also have inscriptions dating 8 BCE and 4 CE. The second trait is the terms *cheng yu* 乘輿 and *chen* 臣, which express high ranking wares for the use of the emperor. The earliest known example of this formula dates to 16 BCE. The third trait is the lack of a *Ling Shi* 令史 official. The term *Ling Shi* does not appear in inscriptions until 5 BCE. These four traits, while they cannot provide a specific year for the production of this vessel, are still useful for dating this lacquerware. After consideration of all these factors, it can be supposed that this lacquerware was produced in the later part of the Former Han period and before 5 BCE. This date, in turn, can be used as one of the dating criteria for Barrow No. 7 of the Tsaram cemetery.

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¹⁰ A calibrated ¹⁴C determination (TKA-20324) for this lacquerware is as follows: 1 SD: 38 BCE-9 BCE (30.9%), 4 BCE-25 CE (34.8%), 44 CE-46 AD (2.6%); 2 SD: 46 BCE-58 CE (95.4%).

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