

THE GE OF THE SHIZHAISHAN CULTURAL COMPLEX

Po-yi Chiang

The Australian National University; po-yi.chiang@anu.edu.au

ABSTRACT

The *ge* 戈, a halberd-type bronze weapon, was one of the most widely used weapons during the Bronze and early Iron Age of China. It was common 3500-2200 years ago in northern China and remained in use until the late Western Han Dynasty in southwestern China. This paper discusses the chronological distribution, functions, and possible stylistic origin of *ge* from the Shizhaishan cultural complex, a Bronze-Iron Age culture distributed over central and northeastern Yunnan. The analysis indicates that this weapon was first adopted beginning in the Spring and Autumn period of northeastern Yunnan (c. 800–750 BCE) and use then peaked during the late Warring States period and Western Han Dynasty in the Lake Dian region. The *ge* of the Shizhaishan cultural complex possibly had more functions than their northern counterparts and the Shizhaishan people possibly transformed them in size, shape and decoration in order to meet the local tastes. Furthermore, the typological evidence suggests that the stylistic origin of Shizhaishan *ge* was Sichuan.

INTRODUCTION

The *ge* 戈, a halberd-type bronze weapon, was one of the most widely used weapons during the Bronze and early Iron Age of China. It was common c.3500-2200 years ago and remained in use until the late Western Han Dynasty and the early Eastern Han in southwestern China (c. 1950 years ago). This weapon was hafted at right angles to a relatively thin shaft which was thickened and bent back slightly at its upper end. Initially, they were used by foot soldiers and later adopted by chariot-mounted warriors (Lu Jingyen 2001:20-21; Ma Chengyuan 2008:52; Shen Rong 1992; Wang Zhenhua 1996).

The study of ancient bronze *ge* came into its own during the Song 宋 Dynasty of China (AD 960–1279), as a by-product of traditional antiquarianism. The catalogues of an-

cient bronzes compiled by the Song antiquarians initiated the tradition of using terms derived from classical texts, mostly from the Warring States text *Kaogongji* 考工記, to designate artefact types, components and types of decoration. For convenience in this paper, I adopt the same terminology, detailed in Figure 1.

The form of bronze *ge* underwent a series of refinements from its adoption to abandonment. The earliest bronze *ge* discovered so far are two from Erlitou 二里頭 (Erlitou Working Team 1976), Henan Province. One (K3:2), dated to Erlitou III (c. 1700 BCE) (Institute of Archaeology 1999:392; Li Liu 2004:226; Li Liu and Hong Xu 2007; Li Liu and Xingcan Cheng 2003:29, 2006:63; Xia Shang Zhou 2000; Zheng Guang 1996), has a slender blade (*yuan*), no hilt (*lang*), and a bent tang (*nei*) with an animal pattern; the other, a surface find and thus not precisely dated, also has a slender blade, no hilt, and a straight tang with saw-tooth relief at the proximal end. Each *ge* has a tiny perforation at the top of the blade, most likely for a nail to allow for a secure attachment of the *ge* to its wooden pole (Figure 2). In the 1940s and

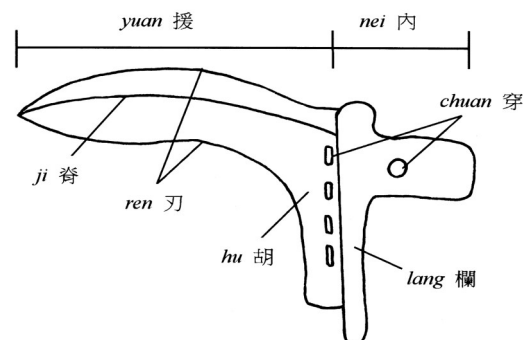


Figure 1. The major components of the Chinese *ge*

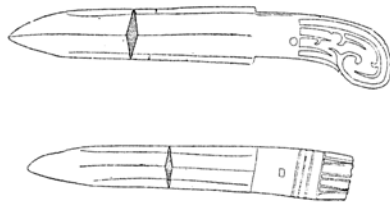


Figure 2. Two ge from Erlitou (reproduced from Erlitou Working Team 1976).

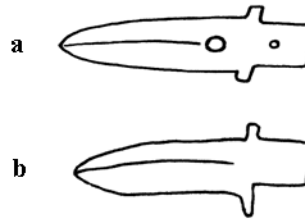


Figure 3. (a) Typical ge of the middle Shang Dynasty. (b) Typical ge of the late Shang Dynasty.



Figure 4. Bronze ge with shaft tube.

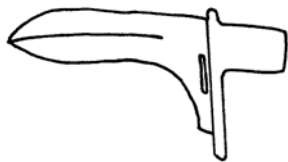


Figure 5. Typical bronze ge of the early Western Zhou Dynasty.

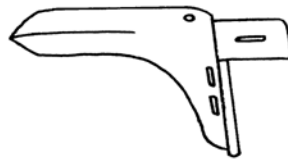


Figure 6. Typical bronze ge of the late Western Zhou and early Spring and Autumn periods.

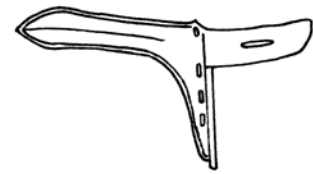


Figure 7. Typical bronze ge of the Warring States period.

1950s, Karlgren (1945:135-139) and Loehr (1956:55) once debated on the issue of what the bronze *ge* was descended from. The former contended that the bronze *ge* was a transformation of the Ordos bronze knife, which has a bent handle with an animal head terminal. However, the latter argued that the bronze *ge* was derived from a bronze axe with a rectangular tang. Their debate also raised another issue of whether the straight or bent tang developed first. However, the earliest Erlitou bronze *ge* does not resolve these issues.

According to archaeological evidence, bronze *ge* with straight tangs dominated in the early Shang Dynasty (c. 1500–1400 BCE). They generally had slender blades and symmetrically placed tangs narrower than the blades. Some specimens also had perforations in the blade or tang, perhaps for lashing. In order to prevent the weapon from pushing backwards through the hilt during use, the slight projecting hilt was devised during the middle Shang Dynasty (Shen Rong 1992; Wang Zhenhua 1996). Compared with the Erlitou *ge*, those of the middle Shang were broader and the blades more tongue shaped. During the late Shang (c. 1200–1100 BCE) period, the tang tended to move asymmetrically with respect to the longitudinal axis of the blade, allowing the hilt to become more prominent and the proximal end (*hu*) of the blade to expand (Figure 3). The bronze *ge* with straight tangs were then gradually replaced during the terminal part of the Shang Dynasty by forms with bent tangs (Yang Xizhang 1986). Generally speaking, the overall dimensions of late Shang *ge* were broader than those of earlier periods. The *hu* generally

had one hole for lashing, although some had two or three.

Apart from the bronze *ge* with flat tangs mentioned above, some bronze *ge* with shaft tubes also appeared during the late Shang (Figure 4). It is believed that the shaft tubes resolved the inconvenience of mortising the shaft for hafting, thus increasing strength. Nevertheless, the tube offered added problems with secure affixation of the weapon. Moreover, casting of a shafting tube required more complicated metallurgical techniques than a flat tang (Wang Zhenhua 1996). The *ge* with a perforated *hu* was easier to make, and shaft holes ceased to be made by the end of the Shang Dynasty (Pan Changyu 2003; Yang Xizhang 1986).

Early Western Zhou (c. 1000–900 BCE) bronze *ge* were similar to those of the late Shang. The straight tang and short *hu* became widespread, while the bent tang more common in Shang times gradually lost its predominance. With the passage of time, the Western Zhou *ge* underwent slight refinements. For example, the *hu* became more prominent and joined to the blade by a curving obtuse angle (Figure 5). This suggests that functioning as a hook as well as a chopping weapon was emphasized, possibly influenced by the adoption of chariots for warfare (Shen Rong 1992). In addition, a pair of protruding ‘wings’ at the base of the tang, appearing early in the Western Zhou, were replaced by a more formalized and prominent hilt. Some of these wings were cast as dragons or tiger heads, others decorated with cloud patterns.

During the late Western Zhou and the early Spring and Autumn period (c. 800–750 BCE), the tip of blade was

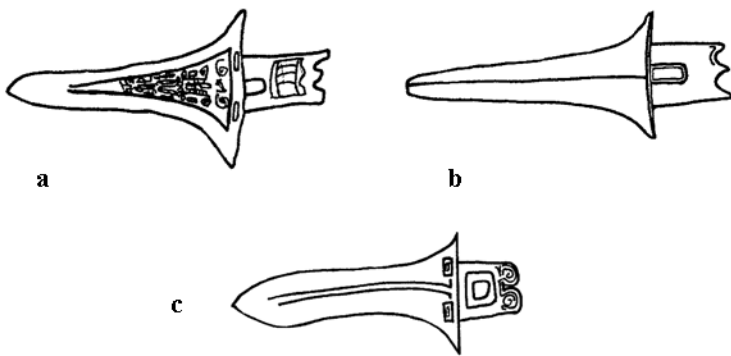


Figure 8. (a) Type Ia ge of the Shizhaishan cultural complex. (b) Type Ia ge of the Shizhaishan cultural complex. (c) Type Ia ge of the Shizhaishan cultural complex.

shaped into an equilateral triangle, while the longitudinal axis of the tang became more angled with respect to that of the blade (Wang Zhenhua 1996). The most common Spring and Autumn *ge* shape had a long *hu* generally with two lashing holes. Another lashing hole was placed at the top of the blade (Figure 6). During the middle Spring and Autumn period (c. 650–550 BCE), the blade acquired a slightly bent axis and a slightly broadened distal end.

The development of the bronze *ge* underwent major changes during the Warring States period (476–221 BCE). The blade, slightly curved longitudinally, now had a long and curved proximal edge and a convex distal edge, terminating in a tip with a bevelled edge. The distal end of the blade was slightly broader than the proximal part. In addition, the shape and function of the tang changed as well, becoming elongated so that it could be used as an additional weapon in its own right (Figure 7). By and large, these new designs made the bronze *ge* more effective in use and became prevalent during the Warring States period (Wang Zhenhua 1996). However, the bronze *ge* in northern China ceased to exist during the Qin and the early Western Han Dynasty, possibly owing to the later prevalence of single-edged knives and the abandonment of chariots in warfare.

THE *GE* OF THE SHIZHAISHAN CULTURAL COMPLEX

Since the first excavation at Shizhaishan in 1955, Chinese archaeologists have unearthed more than 570 bronze and iron *ge* from the burial sites of the Shizhaishan cultural complex. Similar to their northern counterparts, they were cast in bivalve moulds. However, the Shizhaishan pieces are unique in having hollow blades; that is, the clay cores are still contained within the blades after casting, and are still visible where the tangs meet the blades and where the blades are broken (Murowchick 1989:182-184; Trubner 1959:173). Possibly, the Shizhaishan metalsmiths had discovered that hol-

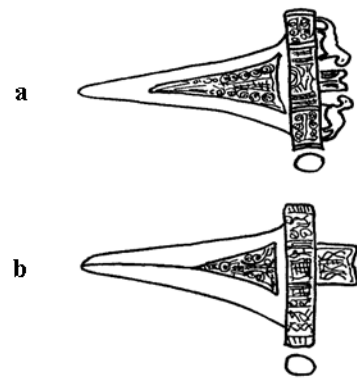


Figure 9. (a) Type Ib ge of the Shizhaishan cultural complex. (b) Type Ib ge of the Shizhaishan cultural complex.

low blades were much stronger than solid ones.

Following Tong Enzheng (1979), the *ge* of the Shizhaishan cultural complex can be grouped into two main types in terms of hafting, Type (a), tanged, and Type (b), shaft-holed. In addition, each of these two types can be further classified into four sub-types defined in terms of shape and decoration. The resulting 8 sub-types are distinguished, beyond the tang and shaft-hole hafting methods, by aspects of surface decoration, blade tip (blunt or pointed), presence or absence of a *hu*, and number and position of perforations. It is interesting, although unexplained, that the shaft-hole hafting method continued in use in Yunnan long after it disappeared during late Shang times in central China.

Type Ia (tanged)

The blade of the Type Ia *ge* is broad and sometimes symmetrical at the hilt and lacks a *hu*. Two slits to facilitate lashing occur just below the hilt. The tang, slightly bent in its longitudinal axis, also has a larger rectangular hole. Instead of having a straight proximal end, as is customary in most *ge* of Shang and Zhou date, the tang terminates irregularly. As well as the blade, the tang is sometimes decorated with cast geometric or semi-human figure patterns on both sides (Figure 8).

Type Ib (shaft-holed)

The Type Ib *ge* has a decorated shaft hole, sometimes with three dimensional animal figures. The shape of the blade is similar to that of Type Ia. Some also have a remnant tang with no hafting function on top of the shaft hole (Figure 9).

Type IIa (tanged)

The Type IIa *ge* has a slender blade with two lashing holes, narrower at the hilt than that of the Type Ia *ge*, terminating in

a blunt (non-pointed) tip. The tang has a vertical slit and terminates in two spirals. Both sides of the tang have a cast design of five strange creatures, consisting of three larger ones of semi-human character, with joined hands, enclosing within the same area two smaller animal-like creatures to which they are joined by webbed feet. The five figures are intertwined and joined to each other to form a single group in a panel. The blade, similar to those of the Type IIIa *ge* (see below), has decoration on both sides in the form of a circular field above a squarish panel, the former with a small perforation. The decoration of the panel is similar to that of tang, with two joined standing figures holding one head between them (Figure 10).

Type IIb (shaft-holed)

Type IIb *ge* are rare, and the blunt-ended blade has three longitudinal ribs. The shafting tube is usually decorated with geometric patterns, with three dimensional human or animal figures along the top (Figure 11).

Type IIIa (tanged)

The Type IIIa *ge* has the same layout of decoration as the Type IIa, but a less blunt blade tip. There is a circular decoration field above a human figure in a square field on the blade, which can be either straight or slightly bent in its long axis. The blade of the Type IIIa *ge* also has two slits at its shoulder (Figure 12).

Type IIIb (shaft-holed)

The Type IIIb *ge* has a shafting tube decorated with geometric patterns and a remnant tang on its upper surface. The decoration on the blade and tang is similar to the Type IIIa *ge* (Figure 13).

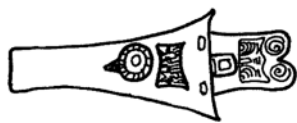


Figure 10. Type IIa *ge* of the Shizhaishan cultural complex.

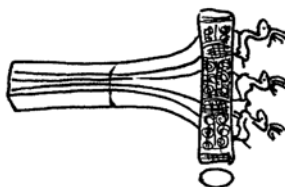


Figure 11. Type IIb *ge* of the Shizhaishan cultural complex.

Type IVa (tanged)

The essential parts of the Type IVa *ge* are the decorated *hu*, not found in the other forms, and the two projecting wings at the top of the blade. Generally speaking, the *hu* has three to four holes for lashing. Blades have diverse shapes, some being slightly wavy. The mid-rib runs from the tip of the blade and disappears into the decoration (Figure 14).

Type IVb (shaft-holed)

The Type IVb *ge* has a shaft hole, but only one example exists, from Shizhaishan M21 (Figure 15).

CHRONOLOGICAL DISTRIBUTION

To date, 15 burial sites of the Shizhaishan cultural complex have been published, including 10 sites around the Lake Dian region: Shizhaishan 石寨山 (Jiang Zhilong 1998; Sun Taichu 1956,1963; YNSBWG 1959a, 1959b), Lijiashan 李家山 (Zhang Xinning 2007; Zhang Zengqi and Wang Dadao 1975), Tianzimiao 天子廟 (Hu Shaojin 1985; Liang Yin 1994; Wang Han 1983), Yangfutou 羊甫頭 (Yang Fan 2005), Shibeicun 石碑村 (Hu Shaojin 1984; Wang Dadao and Chiou Xuanchong 1980), Xiaosongshan 小松山 (Wang Han 1984), Tuanshan 團山 (Huang Derong 1983), Wutaishan 五台山 (Wang Dadao and Ma Yinhe 1984), Datuanshan 大團山 (Kan Yong and Wang Han 1983; Wang Han 1982), Taijishan 太極山 (Zhang Zengqi and Yang Tiannan 1965); and 5 sites in northeastern Yunnan: Puchehe 普車河 (Xiong Zhengyi 1989), Fonghuanwou 鳳凰窩 (Wang Han and Liang Yin 2003), Batatai 八塔台 (Dai Zongpin 2003), Hengdalü 橫大

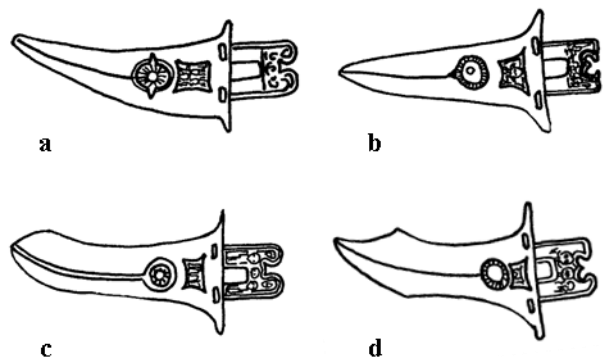


Figure 12. (a) Type IIIa *ge* of the Shizhaishan cultural complex. (b) Type IIIa *ge* of the Shizhaishan cultural complex. (c) Type IIIa *ge* of the Shizhaishan cultural complex. (d) Type IIIa *ge* of the Shizhaishan cultural complex.

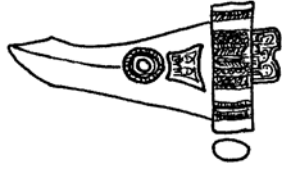


Figure 13. Type IIIb *ge* of the Shizhaishan cultural complex.

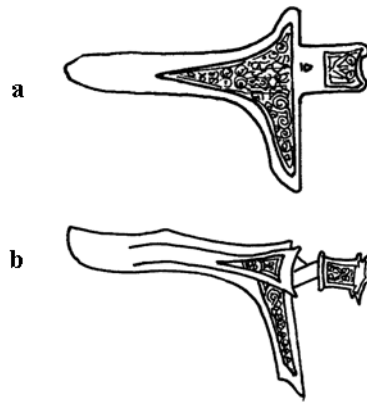


Figure 14. (a) Type IVa *ge* of the Shizhaishan cultural complex. (b) Type IVa *ge* of the Shizhaishan cultural complex.

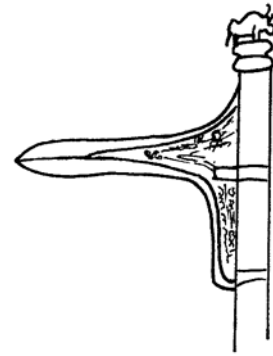


Figure 15. Type IVb *ge* of the Shizhaishan cultural complex

路 (Dai Zongpin 2003) and Pinpo 平坡 (Kang Lihong and Liu Chengwu 2006). Except for Xiaosongshan, the other 14 sites have bronze *ge* recovered. The details are listed in Table 1.

A total of 261 *ge*-bearing graves account for 11.7% of the total of 2228 Shizhaishan cultural complex graves. In terms of distribution, most of the small to medium graves usually have one or two *ge* with simple designs or no decoration, while the large graves generally have more *ge*. There are

exceptions from Yangfutou, where some small to medium graves have more than 5 *ge*. By using the published site reports for the Shizhaishan cultural complex, together with the chronological diagram (Chiang Poyi 2008:56-70), I have compiled statistical data on the numbers of *ge* and graves in a chronological format (Table 2 and Table 3). The data from 9 sites around the Lake Dian region and 5 sites in northeastern Yunnan are listed separately. In addition, the *ge* with unique design that fall outside Tong's classification (e.g. Tianzimiao

Site	Total number of <i>ge</i>	Total number of graves	Total number of graves with <i>ge</i>	Graves with <i>ge</i> / Total graves
Shizhaishan	>141	86	>21	>24.4%
Lijiashan	73	86	14	16.2%
Tianzimiao	37	67	7	10.4%
Yangfutou	244	810	143	17.7%
Shibeicun	15	182	15	8.2%
Tuanshan	4	11	2	18.1%
Wutaishan	1	13	1	7.7%
Datuanshan	1	6	1	16.7%
Taijishan	1	17	1	5.9%
Puchehe	1	39	1	2.6%
Fonghuanwou	8	161	7	4.3%
Batatai	46	353	44	12.5%
Hengdalu	3	188	3	1.6%
Pinpo	2	204	1	0.5%

Table 1. The *ge* distribution of the Shizhaishan cultural complex.

The Lake Dian region

Type	Early SA - Middle SA	Middle SA - Late SA	Late SA - Early WS	Early WS - Middle WS	Middle WS - Late WS	Late WS - Early WH	Early WH - 109 BCE	109 BCE - Late WH	Late WH - Early EH
Ia					6	16	15	10	1
IIa					1	1	11	9	
IIIa					37	62	80	71	5
IVa			1	1	19	23	27	20	
Ib					12	2	10	8	
IIb							13	3	
IIIb						1	3	4	
IVb							1		

Northeastern Yunnan

Type	Early SA - Middle SA	Middle SA - Late SA	Late SA - Early WS	Early WS - Middle WS	Middle WS - Late WS	Late WS - Early WH	Early WH - 109 BCE	109 BCE - Late WH	Late WH - Early EH
Ia		3				2		4	
IIa									
IIIa	6	21		6		7	2	3	
IVa	1	1	1		2	1			
Ib									
IIb									
IIIb									
IVb									

Table 2. Chronological distribution of *ge* by type and period

M41:147) and the undated *ge*, such as those from surface collection, are not included.

Type Ia ge

The Lake Dian sites with Type Ia *ge* include Shizhaishan, Lijiashan, Tianzimiao, Yangfutou, Shibeicun and Tuanshan. The dates extend from possibly the middle Warring States (Tianzimiao M41 and Yangfutou M19) to the early Eastern Han (Shizhaishan M9) (c. 350 BCE–50 CE). Shizhaishan has the greatest quantity of 28 Type Ia *ge* in 15 graves. The popularity of this type shows a gradual increase during the late Warring States period (c. 300–250 BCE), then a slight decline with the Western Han conquest after 109 BCE. According to the reports, 2 of the Type Ia *ge*-bearing graves are Warring States, 10 are late Warring States to early Western Han, and 9 are Western Han, prior to the Han conquest in 109 BCE. However, the number of graves slightly decreased from 9 during the early Western Han to 7 after the Han conquest and the type almost disappeared at the beginning of the Eastern Han (table 3). The similar chronological pattern can also

be identified from table 2. Up to the present, 48 Type Ia *ge* have been recovered around Lake Dian, in a total of 29 graves. Type Ia *ge*-bearing graves account for only 2.3% of the total of 1242 excavated graves in the sites (Shizhaishan, Lijiashan, Tianzimiao, Yangfutou, Shibeicun and Tuanshan) where they occur.

Sites in northeastern Yunnan with Type Ia *ge* include Batatai and Pinpo. None were found in the 188 graves excavated at Hengdalü, the 161 graves excavated at Fonghuanwou and the 39 graves excavated at Puchehe. Compared to the Lake Dian sites, the Type Ia *ge* from northeastern Yunnan reveal a discontinuous chronological pattern. They first appeared in the middle Spring and Autumn period (Batatai M218, 225 and 246) (c. 650–550 BCE). However, none occurred between the late Spring and Autumn and the middle Warring States period (c. 550–350 BCE). They reappeared again between the late Warring States period and the early Western Han (c. 250–150 BCE), but none are then found until the period between the late Western Han and the early Eastern Han Dynasty (c. 50 BCE–25 CE). The total of Type

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The Lake Dian region

Type	Early SA - Middle SA	Middle SA - Late SA	Late SA - Early WS	Early WS - Middle WS	Middle WS - Late WS	Late WS - Early WH	Early WH - 109 BCE	109 BCE - Late WH	Late WH - Early EH
Ia					2	10	9	7	1
IIa					1	1	6	9	
IIIa					11	46	38	41	3
IVa			1	1	6	13	5	10	
Ib					2	1	2	3	
IIb							5	2	
IIIb						1	3	3	
IVb							1		

Northeastern Yunnan

Type	Early SA - Middle SA	Middle SA - Late SA	Late SA - Early WS	Early WS - Middle WS	Middle WS - Late WS	Late WS - Early WH	Early WH - 109 BCE	109 BCE - Late WH	Late WH - Early EH
Ia		3				2		4	
IIa									
IIIa	6	20		5		6	2	3	
IVa	1	1	1		2	1			
Ib									
IIb									
IIIb									
IVb									

Table 3. Chronological distribution of *ge*-bearing graves by type and period

Ia *ge* in northeastern Yunnan is only 9, including the only one unearthed from the 204 graves at Pinpo.

Type Ib ge

The only 4 sites with a total of 1049 graves, to have yielded Type Ib *ge* are Shizhaishan (M12), Lijiashan (M24, M47, M51 and M57), Tianzímiao (M41) and Yangfutou (M19 and M113). The dates span the middle Warring States period to the end of Western Han Dynasty (c. 350–50 BCE). No type Ib *ge* has been recovered from the 5 sites in northeastern Yunnan.

Type IIa ge

Sites with Type IIa *ge* include Shizhaishan, Lijiashan, Tianzímiao and Yangfutou. However, none have been found in northeastern Yunnan. The total of 22 Type IIa *ge* were distributed in 17 graves, or 1.6% of the total of 1049 graves in the sites where they occur. The oldest appeared in Tianzímiao grave M41:223 during the middle to late Warring States period (c. 300–250 BCE). The chronological pattern suggests

that this weapon was popular from the beginning to the end of the Western Han, especially at Shizhaishan (15 Type IIa *ge* in 10 graves) and Lijiashan (6 Type IIa *ge* in 6 graves), and then abruptly disappeared after the late Western Han Dynasty.

Type IIb ge

The distribution of the Type IIb *ge* is confined to Shizhaishan only. Among the 86 graves there, 7 yielded a total of 16 Type IIb *ge*. They flourished between the early Western Han Dynasty and the Western Han conquest in 109 BCE, and gradually decreased during the later Western Han Dynasty.

Type IIIa ge

Type IIIa *ge* outnumber all others and have the widest distribution of the Shizhaishan cultural complex. The sites with Type IIIa *ge* include Shizhaishan, Lijiashan, Tianzímiao, Yangfutou, Shibeicun, Tuanshan, Puchehe, Fonghuanwou, Batatai and Hengdalú. The quantity of Type IIIa *ge* vary greatly by site; Shizhaishan yielded 18; Lijiashan 30; Tian-

zimiao 16; Yangfutou 178; Shibeicun 14; Fonghuanwou 7; and Batatai 35. However, the minor sites of Puchehe and Tuanshan each yielded only one, while Hengdalu yielded only 2 from a total of 188 graves.

The earliest Type IIIa *ge* recovered from the sites around Lake Dian are the 15 from Tianzimiao grave M41, dated imprecisely from the middle to late Warring States period (300–250 BCE). It is likely that some from Yangfutou were contemporary, or a little younger. All three sites are adjacent to one another and located near northeastern Lake Dian. Type IIIa *ge* are found further south close to Lakes Fuxian 撫仙 and Xingyun 星雲 after the late Warring States period, while at Shizhaishan itself it appears only during the Western Han Dynasty. The chronological distribution suggests that Type IIIa *ge* in Lake Dian region were utilized for around 300 years between the middle Warring States and the beginning of the Eastern Han. They increased from 37 examples during the Warring States period to more than 142 during the early to middle Western Han, and then abruptly decreased to about 71 examples after 109 BCE. The type almost disappeared at the beginning of the Eastern Han. In terms of grave number with Type IIIa *ge*, the same pattern is revealed. The total number of the graves with Type IIIa *ge* is 139, or 11.2% of the total of 1242 graves from all the Type IIIa *ge*-bearing graves around Lake Dian.

In northeastern Yunnan, 6 Type IIIa *ge* from Batatai are stated to have appeared at the beginning of the Spring and Autumn period, about 300 years earlier than Lake Dian. They are found singly in graves. The Type IIIa *ge* from northeastern Yunnan reveal a discontinuous chronological pattern. They increased from 6 to 21 between the early and the late Spring and Autumn period (c. 750–500 BCE), but none occurred between the late Spring and Autumn and the early Warring States period (c. 550–450 BCE). They reappeared again at Batatai between the middle to late Warring States period (c. 300–250 BCE), but none are then found until the period between the late Warring States and the late Western Han Dynasty (c. 250–50 BCE) from Puchehe (1 Type IIIa *ge*), Fonghuanwou (7 Type IIIa *ge* in 6 graves), Batatai (3 Type IIIa *ge* in 3 graves) and Hengdalu (1 Type IIIa *ge*). The total of Type IIIa *ge*-bearing graves in northeastern Yunnan is 42, or 5.7% of the total of 741 graves from Batatai, Hengdalu, Puchehe and Fonghuanwou.

Type IIIb ge

The number of the Type IIIb *ge* recovered to date is 8. Four of them came from Shizhaishan grave M10, M12 M13 and M71, and the others are from Lijiashan grave M24, M51 and M68. The oldest appeared in Lijiashan grave M24:6, dated between the late Warring States period and early Western Han (c. 250–150 BCE). It has an extremely long shafting tube that is unique from typical Type IIIb *ge*.

Type IVa ge

The Lake Dian sites with Type IVa *ge* include Shizhaishan, Lijiashan, Tianzimiao, Yangfutou, Taijishan, Wutaishan and Datuanshan. The dates extend from possibly the late Spring and Autumn period to the end of Western Han, and the earliest one is Taijishan grave M12:2. It is likely that the Type IVa *ge* from Wutaishan grave M1 is a little younger, dating from the early to middle Warring States period. Both of them are the only *ge* discovered from the total of 17 graves at Taijishan and 13 graves at Wutaishan. The site with the largest number of Type IVa *ge* is Yangfutou, yielding 40 from 11 graves, or 1.4% of the total of 810 graves. In contrast, Type IVa *ge* are more common at Shizhaishan. 9 of the total of 86 graves contain 27 Type IVa *ge*, mostly dating to the Western Han. The number of graves in sites in the Lake Dian region which have yielded Type IVa *ge* is 36, or 3.3% of the total of 1085 graves in the sites where they occur.

The data suggest that only 5 Type IVa *ge* have been found in northeastern Yunnan. Three are from Batatai, one from Hengdalu and one from Fonghuanwou. The oldest comes from Batatai grave M306, dating to the early Spring and Autumn period (c. 750–650 BCE), and the youngest came from Fonghuanwou grave M133, dating to the late Warring States or early Western Han (c. 250–150 BCE).

Type IVb ge

The only Type IVa *ge* comes from Shizhaishan M21, dated from the early Western Han Dynasty to the Western Han conquest in 109 BCE.

To summarize, the *ge* of the Shizhaishan cultural complex appeared in northeastern Yunnan at the beginning of the Spring and Autumn period (c. 750–650 BCE). Most of them belong to the Type IIIa *ge*. According to the site report (Dai Zongpin 2003), the *ge* were especially popular at Batatai until the end of Spring and Autumn period (c. 500 BCE), whereas they were not commonly seen from the other four sites in northeastern Yunnan. The use of *ge* in northeastern Yunnan lost its predominance during the Warring States period (476–221 BCE) and almost disappeared at the beginning of the Western Han. About 200 years later than northeastern Yunnan, the *ge* appear in the Lake Dian region at the end of the Spring and Autumn period. However, *ge* from this region are rare before the middle Warring States period, and only two Type IVa were recovered from Taijishan and Wutaishan (Wang Dadao and Ma Yinhe 1984; Zhang Zengqi and Yang Tiannan 1965), appearing in sites to the west and north of Lake Dian. In the Lake Dian region, *ge* were widely adopted from the middle Warring States period to the end of the Western Han (c. 500–50 BCE) and gradually disappeared at the beginning of the Eastern Han. Compared with those in northeastern Yunnan, the *ge* in the Lake Dian region have more stylistic variations. However, Type III *ge* remained the most popular, especially at Yangfutou.



Figure 16. Shizhaishan M13 — two men holding ge on the side of a Heger I drum (reproduced from Yi Xuezhong 1993).

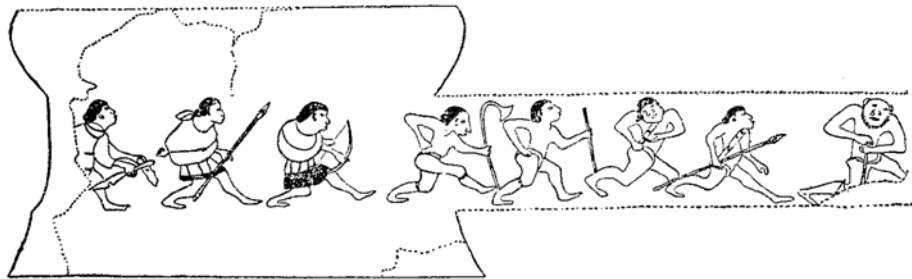


Figure 17. Shizhaishan M1. Frieze on the side of a Heger I drum, showing men holding a weapon, including a ge at left (reproduced from Sun Taichu 1956).

THE FUNCTIONS OF GE OF THE SHIZHAISHAN CULTURAL COMPLEX

Varied bronze figures, especially those on the lids of bronze cowrie container and the tympanum of bronze drums are a defining characteristic of the Shizhaishan cultural complex. Animals, architecture, and human figures are portrayed with unparalleled detail and naturalism. However, few iconographic representations have images showing the use of ge; hence making the study on the functions of Shizhaishan ge through iconography difficult.

At present, there are only three published ge-holding human images depicted on Shizhaishan bronzes. Two come from the side of a bronze drum from Shizhaishan grave M13 (Yi Xuezhong 1993; YNSBWG 1959a), and another comes from a drum-shaped cowrie container from Shizhaishan grave M1 (Sun Taichu 1956:55). The scene from Shizhaishan grave M13 depicts two well-dressed people in animal skins, possibly shamans, holding short hafts with attached ge. Both of them are carrying two unknown artefacts which were bent vertically at their upper ends on their backs. Next to the two people, there is another well-dressed person, beating a gong (Figure 16). This image suggests that Shizhaishan ge may have been ritual tools.

The scene from Shizhaishan grave M1 differs from that

of grave M13. According to the idea from the Shizhaishan report (Sun Taichu 1956:55), the image, of a ge-holding man indicated hunting, even though no prey was displayed (Figure 17). This image confirms that Shizhaishan ge had other uses, probably being hunting tools. However, the possibility of Shizhaishan ge as a kind of weapon should not be excluded since both archaeological and iconographic evidence confirm that warfare was an extremely important concern of the Shizhaishan elite. In addition, Murowchick's (1989:191-227) metallurgical studies of weaponry from the Shizhaishan cultural complex have revealed the sophistication of their casting and post-casting treatment. His elemental analyses of two ge from the British Museum have shown that they averaged 83.7% Cu, 12.8% Sn and only 0.8% Pb (Murowchick 1989:225), an appropriate alloy composition for actual battlefield use (Murowchick 2001:160)

In addition to the above functions, it should also be noted that some ge of the Shizhaishan cultural complex might be exclusive grave goods for Shizhaishan elites. These ge, with no signs of use, have distinctive adornments, such as animal figurines and geometric patterns. Based on the ideas of Binford (1971, 1972) and Wason (1994), their common existence in large, rich graves may suggest that they belonged to wealthy persons or those with high status. Taking Tianzimidiao

M41:151 for example, this Type Ib *ge* comes from the largest and richest grave at Tianzimiao which is situated in the center of cemetery (Hu Shaojin 1985), yielding 29 *ge*, 18 swords, 19 axes and other weapons, along with other bronzes, iron artefacts, pots, agate ornaments and more than 1500 cowrie shells.

By combining the metallurgical analyses of bronzes (Yang Gen 1958), including cowrie containers, scabbards, sword hilts, sword blades, spearheads and *ji* 戟 halberds, Li Xiaocen *et al.* (2004) concluded that weapons from large graves generally contained less tin than those from small graves, and that the latter received cold working after casting. Although Yang and Li's samples did not contain any *ge*, and the samples were small, it is still reasonable to speculate that the *ge* from large, rich graves generally contained less tin than those from small graves; hence they were not suitable for use in battle. As a consequence, it is believed that these luxury *ge* were specialized grave goods, possibly represented individual achievement in warfare (Yun Kuen Lee 2001:126)

The Shizhaishan *ge*, as a kind of grave good, have also been suggested as a status symbol (Yun Kuen Lee 2001:124). Lee conducted a mortuary analysis that grouped *ge*, spearheads, narrow axes, swords, axes and armours into 1 of the 17 sets of grave goods based on their likely functions as weapons. Based on this analysis Lee believed that the differentiation among his three major social classes, was the quantity of weapons buried in graves rather than their existence as grave goods, because graves in the three major classes in Lee's classification all yielded weapons

The function of the Shizhaishan *ge* as gender identity has also been speculated. Imamura (1992) suggested that Shizhaishan society was ruled both by men and women, based on three-dimensional scenes with bronze figurines on the lids of the cowrie containers found in the first and second Shizhaishan excavations and the first Lijiashan excavation. He assumed that the weapon-bearing graves belonged to males and suggested that men were more involved in warfare, whereas women were more engaged in nonmilitary activities, such as harvest festivals, ritual sowing and prayers for good harvests. However, to date, there has never been systematic biological identification of all Shizhaishan burials owing to the poor preservation of bone.

Based on the above discussion, the *ge* of the Shizhaishan cultural complex probably have more functions than their northern counterparts which served basically as an effective weapon used by foot-soldiers and warriors on chariots, in addition to being ritual tools. The Shizhaishan people possibly adopted but transformed them in size, shape and decoration in order to meet local tastes and tradition.

THE STYLISTIC ORIGIN OF *GE* OF THE SHIZHAISHAN CULTURAL COMPLEX

The stylistic origin of the *ge* in the Shizhaishan cultural complex is an interesting issue. It is clear that they were not a completely independent invention but rather a result of cultural adoption, because their development lacks local functional antecedents.

The earliest possible *ge* found in Yunnan was recovered as a surface find from the Communist Party School in Xishan 西山 district, Kunming. The site is adjacent to Wangjiadun 王家墩 (Li Yongheng and Wang Han 1983). The total length of this cupreous metal *ge* is around 32 cm, and the width of the blade is 9.8 cm (Figure 18). Mould marks along the edge (s) indicate that it was cast in a bivalve mould (Murowchick 1989:98). The date is uncertain, although Li and Wang correlated it with the assemblage from Wangjiadun, dating to the beginning of the Bronze Age of central Yunnan (Wang Dadao 1981:82). Therefore, the Xishan *ge* is probably older than any bronzes of the Shizhaishan cultural complex. Although the Xishan *ge* came from the Lake Dian region, few clues pertaining to its relationship to the Type (a) and Type (b) *ge* of the Shizhaishan cultural complex can be identified, because the Xishan *ge* is unique, of a shape not unearthed at other sites of the Shizhaishan cultural complex.

According to the data in Tables 2 and 3, the type (b) *ge* (total 57) are rare in comparison with the total of 476 type (a) *ge*. In addition, they had a shorter time span of existence than the type (a) *ge*. Within the type (a) *ge* class, type Ia *ge* account for 12%; type IIa for 4.6%; type IIIa for 63% and type IVa for 20.4%. However, if we compare the Shizhaishan *ge* with those in central China, we notice that nearly 80% of the total of 476 type (a) *ge* lack the *hu*, an essential characteristic of post-Shang *ge* in central China, and most of the Shizhaishan *ge* have two vertical slits placed at the shoulder of the blade to facilitate lashing. This supports the idea that the external factor which influenced the development of the type (a) *ge* of the Shizhaishan cultural complex came from Sichuan, rather than central China itself, since similar and older or contemporary *ge* without *hu* are widely reported from there (Feng Hanji 1980; Hou Wei and Huang Wei 1989; Tong Enzheng 1979). In addition, ancient Sichuan was the only region adjacent to central Yunnan that had a long development of *ge* prior to the early phase of the Shizhaishan cultural complex. It is possible that the Shizhaishan Type IVa *ge* were also introduced from the Shu 蜀 culture in Sichuan, where similar *ge* are found.

The first scholar to describe *ge* without *hu* from Sichuan as 'Shu Type *ge*' was Feng Hanji (1961). He divided them into five sub-types by minor variations in the shapes of the blades, and argued their evolution followed a time sequence. However, later scholars reached no consensus on dating (Feng Hanji 1961; Hou Wei and Huang Wei 1989; Li Boqian

1983; Li Xueqin 1982; Yang Xizhang 1986; Zhang Zhongpei 1963). Shu type *ge* generally have a triangular blade with a circular central perforation and an oblong tang with another perforation. Such *ge* have been mostly recovered from sites in the Chengdu 成都 plain of Sichuan. Among them, Feng's sub-type III (Figure 19) has received the most attention. These have a broad triangular blade with an oblong tang, which is symmetrical in relation to the long axis of the *ge*. A mid-rib runs from the tip of the blade to the perforation, but disappears in the upper part of the blade. Two vertical slits are placed at the shoulder of the blade. This kind of *ge* differs from typical Shang and Zhou *ge*; hence, Chinese scholars in the past have called them *kui* 戣 (Loehr 1956:50-53; Wang Zhenhua 1996:220; Yang Xizhang 1986).

The earliest Feng sub-type III *ge* in southwestern Sichuan come from the sites of Shuiguanyin 水觀音 (Wang Jiayou and Jiang Dianchao 1958; Zheng Boqing 1959) and Zhuwajie 竹瓦街 (Fan Guijie and Hu Changyu 1981; Wang Jiayou 1961), dated to late Shang or early Western Zhou. Similar ones are reported from Shang tombs at Zhengzhou 鄭州 and Anyang 安陽 in Henan, dated from the middle to late Shang, hence slightly earlier than those from Sichuan. Contemporary and similar *ge* also come from the Guanzhong 關中 and Hanzhong 漢中 basins in Shaanxi, especially from Chenggu 城固 and Yang 洋 counties in Hanzhong basin (Guo Yanli 2006: 260-280; Tang Jinyu *et al.* 1980).

Before the discovery of the Hanzhong bronzes in 1980, Zhang Zhongpei (1963) suggested that the Sichuan *ge* were derived from the Central Plains of China. However, with the Hanzhong discoveries this needs rethinking. Some scholars have suggested that the Hanzhong bronzes belonged to a local Shaanxi culture characterised by distinctive animal masks and *yue* 鉞 axes (Li Boqian 1983; Yang Xizhang 1986)

Typical *ge* of the Shang Dynasty, as mentioned above, have a slender blade, and broad-bladed *ge* with isosceles triangular shapes are relatively scarce. However, of the total of 98 Hanzhong basin *ge*, 82 belong to Fang's broad-bladed Sichuan sub-type III (Yang Xizhang 1986). This suggests that sub-type III *ge* were dominant in the Hanzhong basin, and those found in Shang tombs possibly result from cultural interaction, rather than Shang innovation

The relationships between Sichuan and the Hanzhong basin remain obscure. However, it is possible that the development of the Sichuan sub-type III *ge* was influenced from the Hanzhong basin. In the past, some scholars (Lu Liancheng and Hu Zhisheng 1983; Yang Xizhang 1986) even speculated that the Shu people descended from Hanzhong ancestors. However, the mode of contact, such as migration or interaction, is not clear. According to the ancient Chinese

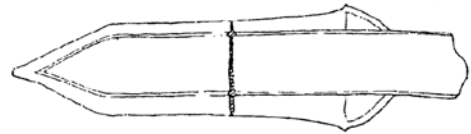


Figure 18. Xishan *ge* (reproduced from Li Yongheng and Wang Han 1983).

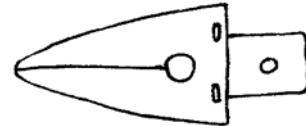


Figure 19. Shu sub-type III *ge*

text *Shangshu Mushi* 尚書·牧誓, the Shu kingdom participated in a military operation by the Zhou ruler Wu 武 who attacked the ruler Zhou 紂 of the Shang Dynasty. According to Gu Jiegang's textual research (1962, cited in Yang Xizhang 1986), the ancient Shu kingdom was originally located in the Han river 漢水 basin, centered in the Hanzhong region, although this suggestion is not universally accepted (Li Boqian 1983).

The role that ancient Sichuan, mostly the Chengdu region, played in regional interaction has been discussed by Tong Enzheng (1983, 1984, 1999). I hold that the development of the Shizhaishan Type (a) *ge* reflects Shu rather than distant Shang or Zhou influence. As for the development of the Shizhaishan Type (b) *ge*, I believe that they are a local invention, rather than the reflection of interaction between the Shizhaishan cultural complex and northern nomadic cultures, an idea suggested by Tong Enzheng (1979), partly because the possible communication between the Shizhaishan cultural complex and the northern nomadic cultures remains a debated issue (Bunker 1972:299, 1989; Chang Kwangchih 1977:453; Chiou-Peng 1985, 1989; Murowchick 1989:237-242; Rawson 1983:9; Shiratori 1980; Watson 1971:151, 1974:61-62; Zhang Zengqi 1984, 1987, 1997:274-287). Except for the art historical approach, other analytical tools, together with further extensive excavations in western Sichuan, western Yunnan and areas along the eastern edge of Tibetan plateau, will be needed for future comparisons

By examining the shapes of Shizhaishan Type (b) *ge* and the late Shang shaft-holed *ge*, I identified the difference that the Shizhaishan *ge* retain their tangs, sometimes as cast animal figures, while the late Shang shaft-holed *ge* do not have tangs. In addition, according to the site reports of the Shizhaishan cultural complex, the burials which yielded Type (b) *ge* are confined to Shizhaishan M3, M6, M7, M10, M12, M13, M21, and M22, Lijiashan M24, M51 and M68, Tian-

zimidiao M41, and Yangfutou M19 and M113. These are all large graves of high status individuals, suggesting that the Shizhaishan Type (b) *ge* are exclusive grave goods. In my opinion, the Shizhaishan Type (b) *ge* are not of Shang origin but a local invention in order to meet the tastes of high status individuals.

CONCLUSION

The large number of bronze *ge* recovered from central and northeastern Yunnan provide important insight into the study of the Shizhaishan cultural complex, especially the external influences in the transformation of the culture itself. Because their development in Yunnan lacks local functional antecedents, it is clear that the Shizhaishan *ge* were not a completely independent invention, but rather a result of cultural adoption from Sichuan, where similar *ge* are found. Based on archaeological evidence, the influence from Sichuan possibly commenced at the beginning of the Spring and Autumn period (c. 700 BCE) in northeastern Yunnan, and gradually penetrated into central Yunnan during the late Spring and Autumn period (c. 550 BCE). The Western Han conquest of the Dian kingdom in 109 BC possibly led to the *ge* gradually disappearing during the late Western Han and early Eastern Han (c. 50 BCE–50 CE). The *ge* of the Shizhaishan cultural complex possibly had more functions than their northern counterparts, probably used both as weapons and ritual tools. The Shizhaishan people adopted and transformed them to meet their social tastes and needs.

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