Identification of Writing in the Xia Period: A Study of Pottery Glyphs in the Erlitou Culture

Cao Dingyun

Keywords: writing in the Xia period pottery glyphs in the Erlitou culture oracle-bone inscriptions in the Yin Ruins

China is an old civilized country with a long history that has lasted for 5,000 years. According to reason, she must have gone through an over five-thousand-year development of writing. However, China's written history, as known so far, can be traced only to the Shang period. This writing is the oracle-bone inscriptions discovered in the Yin Ruins 殷墟, which are left over from the late Shang after Pan Geng 盘庚 moving to Yin. The earliest of them go back to the time about 3,300 years ago, leaving a great distance apart from the beginning of China's civilization history. As a type of rather mature writing, the oracle-bone inscriptions involved a number of character-making methods, including those of pictographs, associative compounds and pictophonetic characters. It is obviously inappropriate to take these inscriptions as the representative of the beginning of Chinese writing.

The House of Xia is the first dynasty in China's history. As a rather mature writing was used in the Shang period, there must be no problem as to the existence of writing in the Xia. But is this really true? It is a difficult question that has puzzled academic circles for a long time. If you take it to be true, who can show tenable evidence; if you give a negative answer, almost an overwhelming majority of the researchers believe this to have been impossible. The settlement of this problem calls for two preconditions. One is the successful archaeological excavation of the important Xia sites that can provide as much as possible relevant information. The other is the meticulous analysis and study of such information and the definite identification of the discovered marks as remains of writing. Not a single one of these conditions can be dispensed with.

The Erlitou site in Yanshi of Henan has been verified to be the Xia culture site where the capital of the late Xia Dynasty was located. It was discovered in 1959. Excavation there for several decade years has brought plentiful results and accumulated massive data, including engraved marks on pottery. While sorting and studying the unearthed material, archaeologists made identification of these pottery signs. In 1965, Prof. Fang Yousheng 方酉生 stated in the "Henan Yanshi Erlitou Yizhi Fajue Jianbao 河南偃师二里头遗址发掘简报"(Preliminary Report of Excavation on the Erlitou Site in Yanshi, Henan) that "The engraved marks discovered number 24 types… Their meanings have not been known so far. They possibly represent a kind of primitive writing and call for further research." In 1999, the Institute of Archaeology, CASS, issued the voluminous excavation report *Yanshi Erlitou* 偃师二里头 they compiled. The book publishes all the data unearthed from the site in 1959–1978, including the engraved signs on pottery, and points out that "Some of them are close to petrographs." The above-mentioned material publications and academic researches laid the foundation of further deciphering these marks.

The pottery-engraved signs published in the Yanshi Erlitou include most of those mentioned in Prof. Fang's paper, and only a very few of them remain beyond the circle. A part of incised glyphs, such as 一, 二, 三 and ×, must be numeral symbols and can be putaside. Another part, including  , , , , ,  , , ,  , ,  and  , should be assigned to writing (Fig. 1). They have close genetic relationship with oracle-bone inscriptions of later time. Below is a table for a comparative study of incised marks on Erlitou pottery with corresponding characters in oracle-bone and bronze inscriptions (Table 1).

 and are hieroglyphs for the arrowhead and should be deciphered as "矢"(arrow). In oracle-bone inscriptions, "矢" is written as , or  , a "tail" more

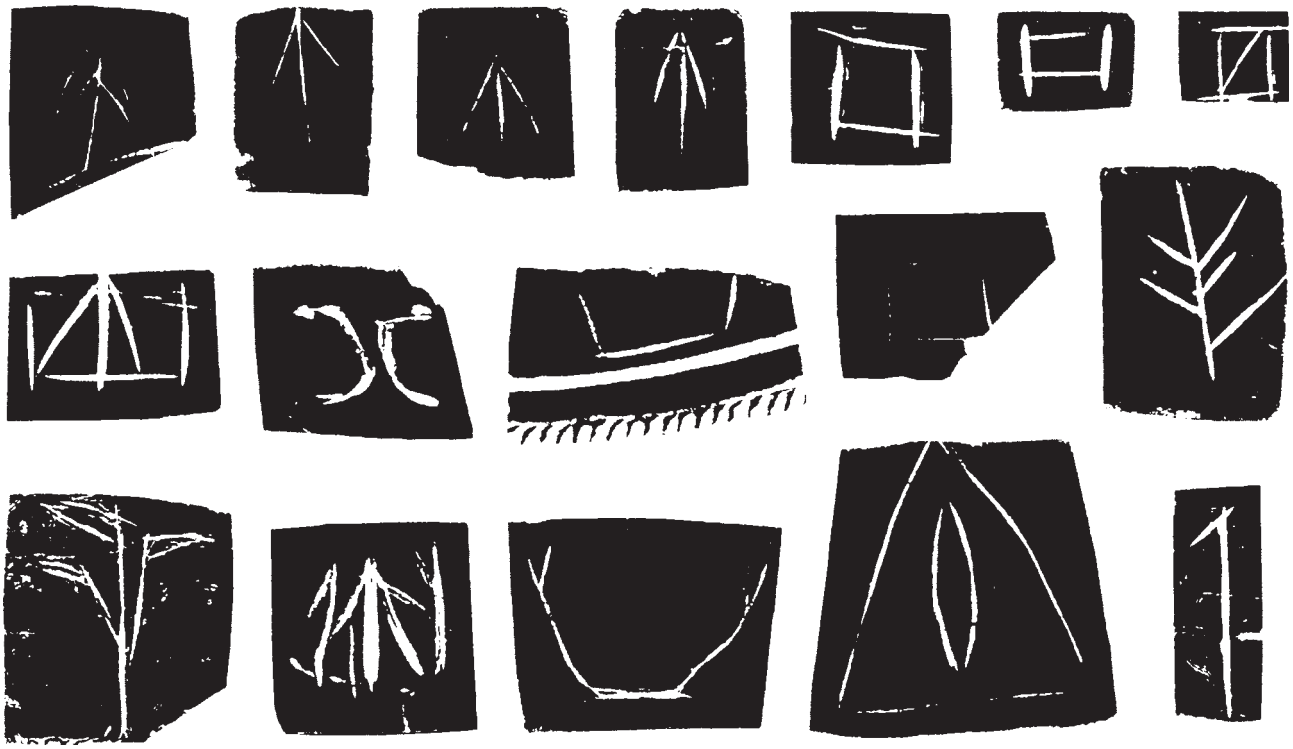


Fig. 1 Rubbings of pottery glyphs from the Erlitou site

Table 1 Decipherment of pottery glyphs in the Erlitou culture

Pottery glyph													
Corresponding oracle-bone and bronze inscription													
Decipherment	arrow	arrow	well	well	vessel	??	vessel	tree	vaginal orifice	road	walk	whip	wheat

Table 2 Comparison of the pottery glyphs for the arrow with the corresponding characters in oracle-bone inscriptions

Erlitou pottery glyph						
Correspondig oracle-bone inscription	Qian 5.27.7	Yi 5520	Jia 3117	He 336	Qian 5.1.16.	Jia 3113
Decipherment	arrow		arrow			

than the corresponding mark among the Erlitou glyphs. To take the characters of Yi 5520 and Jia 3113, their upper parts are exactly the same as the forms of the Erlitou pottery glyphs for the arrow (Table 2). Therefore the two Erlitou marks can be confirmed to be the primitive forms of the character "矢."

凵 and 冂 are hieroglyphs of the well and should be deciphered as "井" and "丼" respectively. In ancient times, people lived largely near the water. They dug wells for catching animals rather than for drawing water. Ancient wells were actually shaped like 凵 in cross section. In oracle-bone inscriptions, the character for the well has four long-projected sides, which must have resulted from its evolution. As regards the slanting line in the glyph "冂," it must have symbolized the camouflage on wells for tricking animals. The character "井" is used in oracle-bone as well as bronze inscriptions. It is derived from the "冂" (Table 3). Thus it can be concluded that 冂 is a variety of 凵 and both are primitive hieroglyphs of the character "井."

囧 is an associative compound. It consists of "矢" and "井" and can be deciphered as "丼."The combina-

tion of the well ("井") with the arrow ("矢") was for more effectively catching animals. This glyph died out later, so it has no counterpart among the Chinese characters.

 and are the glyphs for the vessel, and should be deciphered to be the characters "皿" and "" respectively. is for the flat-based vessel. In oracle-bone inscriptions, we see the pictophonetic character "盂" consisting of "于" and "皿," the lower part showing the ring-foot of the vessel. Flat-based or ring-footed, it is only a matter in shape; as vessels for containing food, the two types share the same essence. Moreover, in the character "盂" of Qian 5.5.6, the lower part symbolizes the flat-based vessel, exactly the same as the Erlitou pottery glyphs. The other sign "" is the symbol for the vessel with food contained in. In oracle-bone inscriptions, the character "" is written as , meaning mainly a sacrificial vessel, which, of course, contained food at sacrificial ceremonies. If we move out the sign for the ring-foot from the character "," the remaining upper part would be roughly the same as the "" on Erlitou pottery (Table 4). For a detailed discussion of "," I would like to recommend my essay "Yinxu Buci Nai 'Dui' Zhi Chuwen Kao 殷墟卜辞乃'敦'之初文考" (Decipherment of the '' in Yin Ruins Oracle-bone Inscriptions as the Primitive Form of the Character '敦') for reference.

 is the hieroglyph for the tree or its branch and should be deciphered to be the character "丰." In oracle-bone and bronze inscriptions, the "丰" is written as "" (Ming Cang 633; Kang Marquis *ding*-tripod 康侯鼎). The lower part "土" is the sign for soil, meaning the planting of the tree or its branch in the ground. Another relevant character in bronze inscriptions is "" in the shape of (Feng Mo Fu *you*-overtop-handled pot 莫父卣) or (Feng Diao *yi*-ewer 弔). The lower part of the latter character "" is basically identical with the "丰" on Erlitou pottery. In ancient times, the character "丰" was originally for the tree or its branch and later for "enfeoffment" as a result of meaning extension. In the then enfeoffment, the most important was the demarcation of territories, which was often made with trees or their branches planted as marks. This is well exemplified by the inscription of the San Shi *pan*-basin. It records that the re-demarcation between the Shi, Jing and San states for settling their land dispute was done just by planting willows for designating the boundaries.

 is the hieroglyph for the vaginal orifice. It was a reflection of the Xia people's worship of female

Table 3 Comparison of the pottery glyphs for the well with the corresponding characters in oracle-bone inscriptions

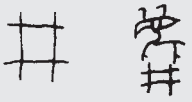
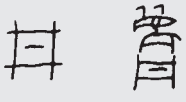
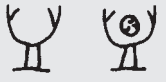
Erlitou pottery glyph		
Correspondig oracle-bone inscription	 Cui 1163 Qian 6.63.5.	 Jingjin 3050 Fuza 57
Decipherment	well	well

Table 4 Comparison of the pottery glyphs for the vessel with the corresponding characters in oracle-bone inscriptions

Erlitou pottery glyph		
Correspondig oracle-bone inscription	 Qian 5.3.7 Jia 692 Qian 5.5.6	 Jia 2473 Cun 1.1494
Decipherment	vessel	vessel

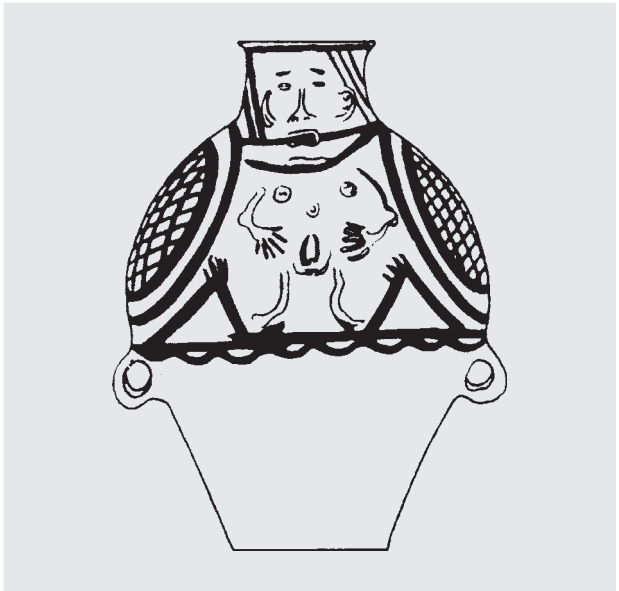


Fig. 2 Painted pottery pot with human figures from the Liuwan site

reproduction. This cult was an inevitable historical stage in the course of social development. In the cemetery of a primitive community at Liuwan 柳湾, Ledu 乐都, Qinghai 青海, archaeological excavators found a pot painted with a female figure. It represents a woman giving birth to a child, with the pudenda shown like the Erlitou pottery

glyph under discussion (Fig. 2). This glyph died out later, and its meaning was born by another character.

is an associative compound for the road and should be deciphered to be "衍" (i.e. road). It consists of "彳" and "亍." In oracle-bone inscriptions, the corresponding character is in the form "." Comparison indicates the basic structural identity of the Erlitou glyphs "" with the oracle-bone inscription "" except for the anthropomorphic figure depicted as a front view in the former but as a side view in the latter. Undoubtedly they both mean "a human being in the road" and symbolizes the road. The "" must have been an earlier version.

is a hieroglyphic cum associative mark. It shows also a road and can be deciphered to be the character for "walking" ("行"). In racle-bone inscriptions, this character is written as "," showing the road having only a single intersection. To express two intersections was bound to write the glyph as "" (Table 5). The "" among the Erlitou pottery glyphs is written just the same as the middle part of the "." Therefore the "" is an inceptive form of "行," i.e. earlier than the latter.

Table 5 Comparison of the pottery glyphs for "Walking" with the corresponding characters in oracle-bone inscriptions

Erlitou pottery glyph				
Correspondig oracle-bone inscription	Heji 4910	Ku 38	Qian 7.32.2	(??)
Decipherment	road		road	

is a single-unit hieroglyph. It does not appear in oracle-bone inscriptions, but does in bronze ones, such as the "" on the Ji Shi *gui*-food container 姞氏簋, Bo Ji *gui* 伯姬簋, etc. But what does it mean? This was unknown for the previous researchers. In oracle-bone inscriptions, there is the character "," which, according to Prof. Yu Xingwu 于省吾, can be deciphered as an early form of the character "鞭." It has the component "" and read "bing." The upper part of this component is roughly the same as the "" among the Erlitou pottery glyphs. It suggests that the "" was for the ancient whip, the "" meant holding the whip in the handle, and the "" read "bing." Therefore the "" was a still earlier form of the character "鞭 (叟)." But it also died out at a later time and so has not been handed down to the present.

is the hieroglyph for a certain crop. But it calls for some analysis as to what crop it means. In oracle-bone and bronze inscriptions, there exists the character "禾" in the shaped of (Yi 487) or (large-sized He *ding*-tetrapod 禾大方鼎). It resembles the pottery glyph, still shows some difference, mainly in the shape of the side branches. To take the other character "來"from oracle-bone and bronze inscriptions, it is written as (Jian 37. 4), (Jia 2657) and (Cui 1593) in the former and as (Ban *yan*-steamer 般甗) and (Yao *ding*-tripod 舀鼎) in the latter. Its upper part symbolizes folded leaves, while the lower part means roots. In the Erlitou pottery glyph "," the leaves are also folded, roughly resembling the corresponding part of the bronze inscription signs for "來," though the roots in the lower part have not been shown. Especially in the "來" of Cui 1593, the triangles meaning leaves are basically the same as those in the Erlitou pottery glyph. This suggests that "" should be deciphered to be "來" in an early form. It meant wheat and witnessed the cultivation of this crop by the Xia period.

The above discussed 13 Erlitou pottery glyphs, for an overwhelming majority, have their counterparts among later characters, and their meanings are very clear though some of them died out. These marks are undoubtedly remains of Xia writing, the most forceful evidence of the existence of writing in the Xia period. They go back to Phases III and IV of the Erlitou culture and must represent the writing of the late Xia.

Do these pottery glyphs belong to the earliest writing? Certainly don't. Although they are more primitive than the corresponding oracle-bone inscriptions, they are still rather complex in structure, and the simpler coexist with the more complex. There are single-unit hieroglyphs such as "矢" (arrow), "皿" (vessel), "井" (well) and "來"(wheat), as well as associative compounds such as "" (vessel), "道" (road) and "." Judging from the development law of writing itself, Chinese writing had went through a section of course prior to the writing they represent. Therefore the source of Chinese writing should be traced in archaeological cultures earlier than the Erlitou culture.

The existence of writing in the Xia period is absolutely a definite fact. But "literal historical data" in the form of plate have not so far been discovered for the Xia period. Why is that? I believe it must be concerned with the carrier of writing used at that time. Today we have not known yet what material the writing of the Xia period is

inscribed. The engraving of marks on pottery was practiced earlier than the Erlitou culture, in the Neolithic Age. Owing to the formal limitation of pottery, it was difficult to writing any text on it. The Xia is the first dynasty in China's history. As a state exercising its ruling power, it must have had its own documents, though it is difficult for us to discover them. This kind of discovery should be relied on the future.

Abbreviations

(In order of their phonetic symbols in the pinyin alphabet)

1. Cui: Guo Moruo 郭沫若 (1965). *Yinxu **Cui** Bian* 殷墟粹编. Beijing: Kexue Chubanshe 科学出版社.

2. Cun: Hu Houxuan 胡厚宣 (1955). *Jiagu Xu **Cun*** 甲骨续存. Qunlian Chubanshe 群联出版社.

3. Fu Za: Wang Xiang 王襄 (1925). ***Fu**shi Yinxu Zhengwen: **Za**shi* 簠室殷墟征文 · 杂事. Tianjin Bowuguan 天津博物院.

4. He: Sun Haibo 孙海波 (1938). *Jiaguwen Lu* 甲骨文录 **He**nan Tongzhiguan. 河南通志馆.

5. Heji: Guo Moruo 郭沫若 (1978—1982). *Jiaguwen **Heji*** 甲骨文合集. Zhonghua Shuju 中华书局.

6. Huai: Xu Jinxiong 许进雄 (1979). ***Huai**teshi Deng Shoucang Jiagu Wenzi* 怀特氏等收藏甲骨文字. Jianada Huangjia Andalue Bowuguan 加拿大皇家安大略博物馆.

7. Jia: Lishi Yuyan Yanjiusuo 历史语言研究所 (1948). *Yinxu Wenzi **Jia**bian* 殷墟文字甲编.

8. Jian: Ji Fotuo 姬佛陀 (1917). "***Jian**shoutang Suocang Yinxu Wenzi* 戩寿堂所藏殷墟文字 Yishu Congkan Disanji 艺术丛刊, 第三集.

9. Jing Jin: Hu Houxuan 胡厚宣 (1954). *Zhanhou **Jing Jin** Xinhuo Jiagu Ji* 战后京津新获甲骨集. Qunlian Chubanshe 群联出版社.

10. Ku: Fang Falian 方法敛, Bai Ruihua 白瑞华 (1935). ***Ku** Fang Er Shi Cang Jiagu Buci* 库方二氏藏甲骨卜辞. Shangwu Yinshuguan 商务印书馆.

11. Ming Cang: Xu Jinxiong 许进雄 (1972). ***Ming**yishi Suo**cang** Jiagu Wenzi* 明义氏所藏甲骨文字. Jianada Huangjia Andalue Bowuguan 加拿大皇家安大略博物馆.

12. Qian: Luo Zhenyu 罗振玉 (1913). *Yinxu Shu Qi* 殷虚书契. Guoxue Congkan 国学丛刊.

13. Tie: Liu E 刘鹗 (1903). ***Tie** Yun Cang Gui* 铁云藏龟.

14. Tun Nan: Zhongguo Shehui Kexueyuan Kaogu Yanjiusuo 中国社会科学院考古研究所(1980—1983). *Xiao**tun Nan**di Jiagu* 小屯南地甲骨. Zhonghua Shuju 中华书局.

15. Yi: Dong Zuobin 董作宾 (1948). *Yinxu Wenzi **Yi**bian* 殷墟文字乙编. Lishi Yuyan Yanjiusuo 历史语言研究所.

References

1. Cao Dingyun (2001). "Zhongguo Wenzi Qiyuan Chutan 中国文字起源初探" (A Study of the Origin of Chinese Writing). *Zhongguo Shufa* 中国书法 2001.2.

2. Cao Dingyun (2001). "Zhongguo Wenzi Qiyuan Shitan 中国文字起源试探 " (A Study of the Origin of Chinese Writing). *Yindu Xuekan* 殷都学刊 2001.3.

3. Cao Dingyun 曹定云 (2003). "Yinxu Buci 丵 Nai 'Dui' Zhi Chuwen Kao 殷墟卜辞丵乃 ' 敦 ' 之初文考." *Jinian Yinxu Jiaguwen Faxian Yibai Zhounian Guoji Xueshu Taolunhui Lunwenji* 纪念殷墟甲骨文发现一百周年国际学术讨论会论文集. Beijing: Shehui Kexue Wenxian Chubanshe 社会科学文献出版社。

4. Yu Xinwu 于省吾 (1979). *Jiagu Wenzi Shilin*甲骨文字释林. Beijing: Zhonghua Shuju 中华书局.

5. Zhongguo Kexueyuan Kaogu Yanjiusuo Luoyang Fajuedui 中国科学院考古研究所洛阳发掘队 (1965). "Henan Yanshi Erlitou Yizhi Fajue Jianbao 河南偃师二里头遗址发掘简报" (A Preliminary Report on the Excavation of Erlitou Site in Yanshi, Henan). *Kaogu* 考古 1965.5.

6. Zhongguo Shehui Kexueyuan Kaogu Yanjiusuo. (1999). *Yanshi Erlitou* 偃师二里头. Beijing: Zhongguo Dabaike Quanshu Chubanshe 中国大百科全书出版社.

Note: The original paper, published in *Kaogu* 2004.12: 76–83, with 2 figures and 5 tables, is written by Cao Dingyun. The summary is prepared by the author Cao Dingyun himself and English-translated by Mo Runxian 莫润先.