

Western Han Pier Storehouse Site of the Qianhe River, Changqing, Fengxiang County, Shaanxi

Shaanxi Provincial Institute of Archaeology
Baoji Municipal Team of Archaeology
and
Fengxiang County Museum

Key words: Shaanxi Fengxiang Western Han storehouse architecture

From March to August of 2004, Shaanxi Provincial Institute of Archaeology, Baoji Municipal Team of Archaeology and Fengxiang County Museum organized a joint operation in the discovery and excavation of a Western Han architectural site of a pier storehouse of the Qianhe 汧河 River located in Changqing 长青 Town, Fengxiang 凤翔 County, Shaanxi 陕西. This is another significant archaeological discovery in the general region following the uncovering of the sites of Qianian Palace 蕲年宫 of the Qin-Han times and the cemetery of Zhou and Qin.

I. Site Location and Stratigraphy

The site is situated on the primary terrace of the east bank of Qianhe River, west of the village of Sunjia Nantou 孙家南头, 15 km southwest of the county seat of Fengxiang. Geographically, the site is located about 170 km west of Xi'an, on the borders between Baoji City and Fengxiang County. The Qianian Palace site is sitting on a mound 600 m east of the storehouse site. About 700 m to the southeast is the site of Madaokou 马道口 (literally, intersection of horse trails), which was said to be the only way of east-west traffic in the west central part of Wei valley in the past. A *ding* 鼎 tripod bearing the inscription of

“Yuyang Palace 羽阳宫” was unearthed there. It is believed that the location of “Yuyang Palace” is in the vicinity (Fig. 1).

Stratigraphy of the site, comprising four strata, is quite simple. The north wall of unit T42 is used here for illustration. Plow zone: 30 cm thick, loose texture, dark brown color. Stratum 2: modern disturbed zone, 45 cm

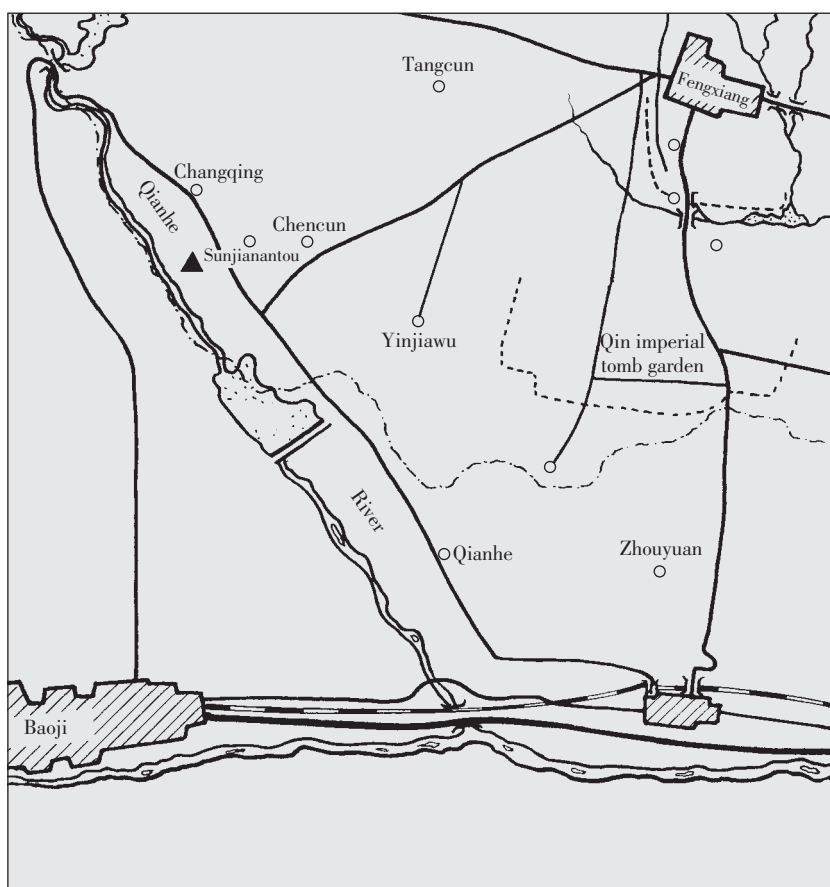


Fig. 1 Illustration of pier storehouse site of the Qianhe River

thick, compact texture, light brown color. Stratum 3: silt zone, 80 cm thick, fine and loose texture, grayish-brown color. Stratum 4: cultural deposit of the building, 155 cm below horizon. This level contains a 28 cm deposition of tile remains, which are probably the building materials dispersed upon the abandonment or dismantling of the structure. Below stratum 4 is the construction foundation, which cuts into the sterile zone.

II. Building Foundation

The building site is rectangular-shaped. It measures 216 m north-south and 33 m east-west, making 7,200 sq m of construction area; orientation of the structure is 360 degrees. Building features revealed include walls, vents, doors, post stones, etc. The whole structure was enclosed by walls on four sides. Two partition walls were

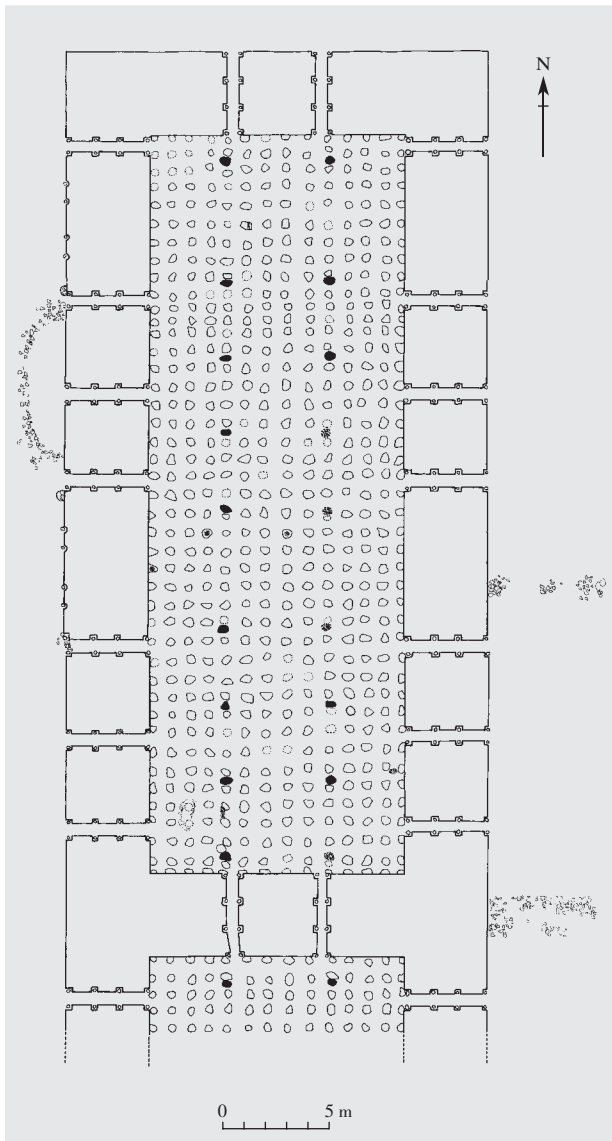


Fig. 2 Plan of the pier storehouse

erected in between the north and south walls, dividing the whole building into three equal units. The northern compartment had previously been destroyed; wherein the middle and southern compartments were relatively well-preserved by the time of excavation (Figs. 2 and 3).

Features excavated include the middle compartment and the two partition walls. The middle compartment measures 72 m from north to south, and 33 m from east to west. About 2,400 sq m of floor area has been excavated.

The upper walls had since been eroded, leaving only the foundation walls by the time of excavation. The north and south foundation walls are symmetrical, and so do the east and west walls. The foundation wall of the middle compartment is dissected into 18 disjointed sections by ventilation gaps. The lengths of wall sections vary from 5.05 to 11.15 m, but the widths are constant at 5.7 m. The remaining heights are 0.6–0.8 m. The wall foundations are built with rammed earth method. The rammed layers are 8 to 12 cm thick (Fig. 4). Inner surface of the wall is reddened from intensive baking, indicative of moisture-proof treatment.

Eighteen vents cut through the foundation walls. Two are symmetrically cut on each of the north and south foundation walls, and seven are symmetrically cut on each of the east and west walls. The lengths of the vents equal to the widths of the walls. Their widths vary slightly, 0.8–0.9 m. Four post holes are evenly set on each side of the vents. The post holes on both ends of the vents are square-shaped and cut even with the foundation wall. The post holes in the middle are mostly oval-shaped, but some are square-shaped. The diameters of post holes are 0.3–0.5 m. A foundation stone is squarely placed in each of the post holes. The inner walls of the two vents of the north foundation wall have been smoothed with a layer of clay-and-straw mortar. All the vents have a thick layer of trampled surface on the bottoms. Ash remains were found on the top of post stones and in between the floor of the symmetrical post stones.

The floor foundation of the compartment, built with 0.4–0.5 m of rammed earth, is 0.6–0.8 m lower than the foundation wall. The compartment measures 50.6 m from north to south, and 17.2 m from east to west. The floor is lined with a matrix of 602 small post stones evenly organized in 14 east-west rows and 43 north-south columns. The shapes of the post stones are irregular, but their flat tops indicate that they have been chipped and trimmed. The space between the centers of two post stones is 1–1.3 m. The first and the last post stones of

each of the rows and columns tightly hugged the foundation wall; some of them are even set into the rammed wall. Moreover, two east-west rows and nine north-south columns of large post stones are evenly-spaced in the small post stone matrix. It is about 7.2 m wide east-west and about 47.6 m long north-south. The north-south intervals of the post stones are quite regular; they are 8.2, 5.2, 5.2, 5.2, 8.2, 5.2, 5.2, and 5.2 m. The east and west wall sections corresponding to the 8.2 m intervals are the longest.

A number of charcoaled log were found on the post stones and compartment floor. The log remains are about 0.25 m in diameters and mostly 0.20–0.30 m in remaining heights, with a range of a few to 0.70 m. It is apparent that they were posts standing on top of these stones. According to the distribution of the large and small post stones, the remains of logs, plan of the structure, and contemporary and similar structures of other regions, it can be determined that the small post stones were the foundations for short posts, which formed a matrix of stilts raising the planked floor of the storehouse. The space in between the rammed floor and the planked floor was ventilated by the gaps in the foundation walls; thus solved the problem of moisture-proof. At the same time, the intensive matrix of posts enabled the structure to sustain heavy weight. The two rows of large post stones were used for the erection of the main posts supporting the roof. It is an educated guess that the roof was built with the “*xieshan* 歇山” design (a ridge on the top and high-pitched roofs on the sides). This design met the challenge of erecting a massive roof.

III. Material Remains

The site yielded a large quantity of building material remains. In addition, it also yielded small number of bronze coins of *wu zhu* 五铢, *huo bu* 货布, *huo quan* 货泉, and *da quan wu shi* 大泉五十, iron tools of spades, shovel, axes, ploughshare, and other remains, compris-



Fig. 3 Western Han pier storehouse site of the Qianhe River in Chang-qing (photo taken from south to north)



Fig. 4 Western rammed wall of the Western Han pier storehouse

ing an inventory of 415 artifacts (sets).

1. Building materials, 355 specimens, include lining bricks, flat tiles, semi-cylindrical tiles, and end tiles.

Lining bricks, two specimens. Fine-pasted grey pottery, near square shape, two sets of squared spiral and diamond patterns on the front. T6④:3, 35 cm long, 35 cm wide, 5 cm thick.

Flat tiles, 24 specimens. All fragmented. All are fine-pasted grey pottery, except one specimen of fine-pasted red pottery. T6④:14, the front is decorated with slanted thick cord marks; the back is decorated with sections of checker patterns and smoothed-out thick cord marks; 43 cm wide and 2 cm thick. T16④:20, the front is decorated with slightly disorganized thick cord marks; the back has traces of textile prints; 39.5 cm wide and 1.5 cm thick.

Semi-cylindrical tiles, 54 specimens. Most of them are fragmented. Four are fine-pasted red pottery, the

rest are fine-pasted grey pottery. Plain on the lips, fronts and backs of the tiles, cord-marked in the middles, and prints of textile on the backs. The lengths are 49.8–51 cm, the widths are 15.6–17 cm.

Tile-ends, 275 specimens. All are fine-pasted grey pottery. Most specimens are fragmentary. They are decorated with two patterns: cloud pattern and scripts of “*chang sheng wei yang* 长生未央” (longevity). The latter sums to 266 specimens, comprises the majority of the assemblage. Two cloud-patterned tile-ends are relatively complete. Both are decorated with curvy cloud pattern. Specimen T16④:64 has a semi-spheroid on the center of center circle. Two small dots decorate the outer sides of each of the curvy cloud motifs. The diameter of the face of end tile is 16 cm (Fig. 5:1). Specimen T13④:70 has two perpendicular double straight lines that make a cross and partition the tile face into four quadrants. A small dot decorates the center of each of the cloud motifs. The diameter of the tile face is 16.1 cm (Fig. 5:2). Seventeen “*chang sheng wei yang*” tile-ends are re-constructible. They have similar morphology. A semi-spheroid decorates the center of the center circle. Specimen T12④:89 has a face diameter of 16 cm (Fig. 5:4). Specimen T16④:96 has a face diameter of 16.2 cm (Fig. 5:5). The calligraphy on specimen T9④:105 are straight, strong and rugged, but the four glyphs appear to be blurred and are relatively

crowded in the limited space. It has a face diameter of 16.4 cm (Fig. 5:3).

2. Copper coin, 43 specimens. The assemblage comprises of six different coin types: *wu zhu*, *huo bu*, *da bu huang qian* 大布黄千, *da quan wu shi*, *huo quan*, and *bu quan* 布泉.

Wu zhu coin, five specimens. Style I, two specimens. The edges of the coins are even, and the glyphs are sharp. The middle two strokes of the glyph “*wu*” are bended, the “*jin* 金” part of the glyph of “*zhu*” has a small triangle at the top, and the upper and lower parts of “*zhu*” are broad and smooth. Specimen T7④:115 has a diameter of 2.5 cm (Fig. 6:1). Style II, three specimens. The edges have been trimmed and the glyphs are corroded. Specimen T9④:117 has a diameter of 2.4 cm.

Huo bu coin, 11 specimens. They are similar in morphology and size. Specimen T6④:126 is 6 cm long (Fig. 6:9).

Da bu huang qian coin, one specimen (T14④:128). The only specimen has a total length of 5.8 cm (Fig. 7:10).

Da quan wu shi coin, five specimens in two types. Type I, two specimens, even edges and sharp glyphs. T14④:131 has a diameter of 2.7 cm. Type II, three specimens, all damaged, smaller and thinner than type I coins. Specimen T13④:133 has a diameter of 2.6 cm (Fig. 6:8).

Huo quan coin, 19 specimens. Specimen T16④:140

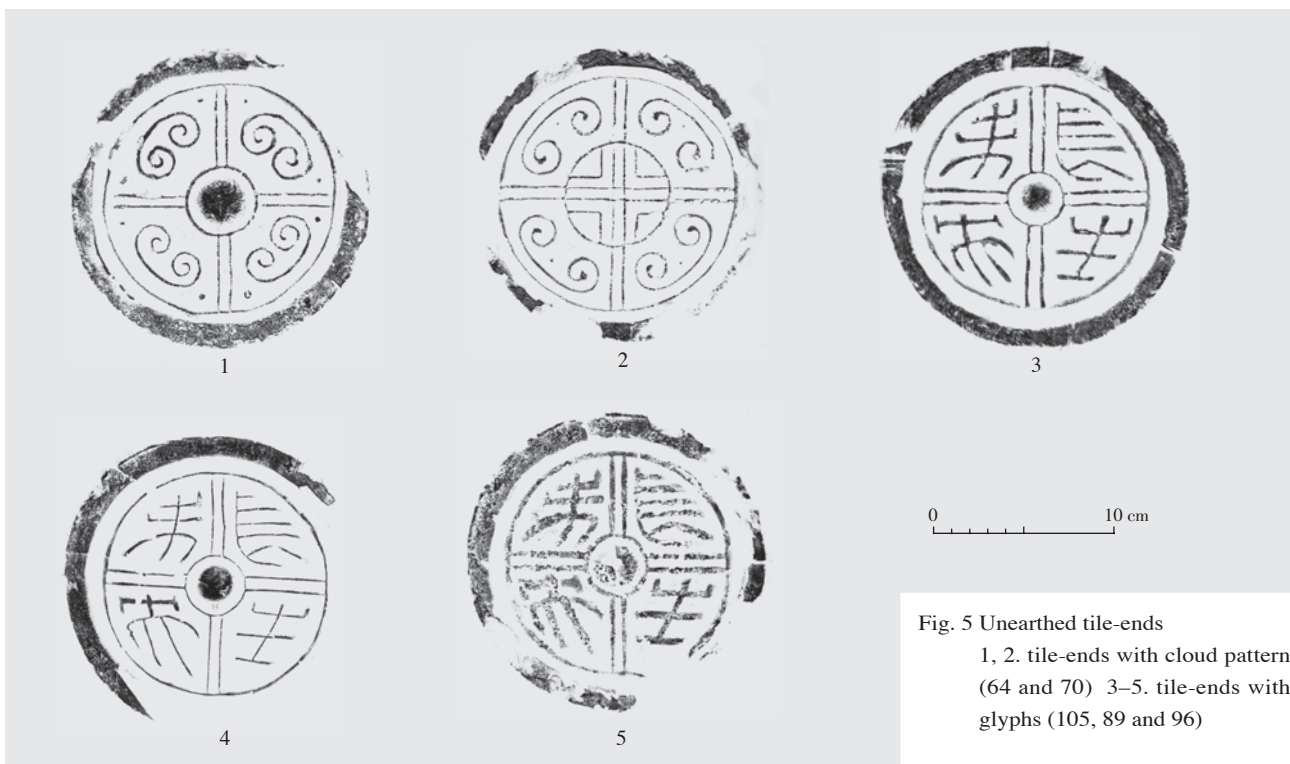


Fig. 5 Unearthed tile-ends
1, 2. tile-ends with cloud pattern (64 and 70) 3–5. tile-ends with glyphs (105, 89 and 96)

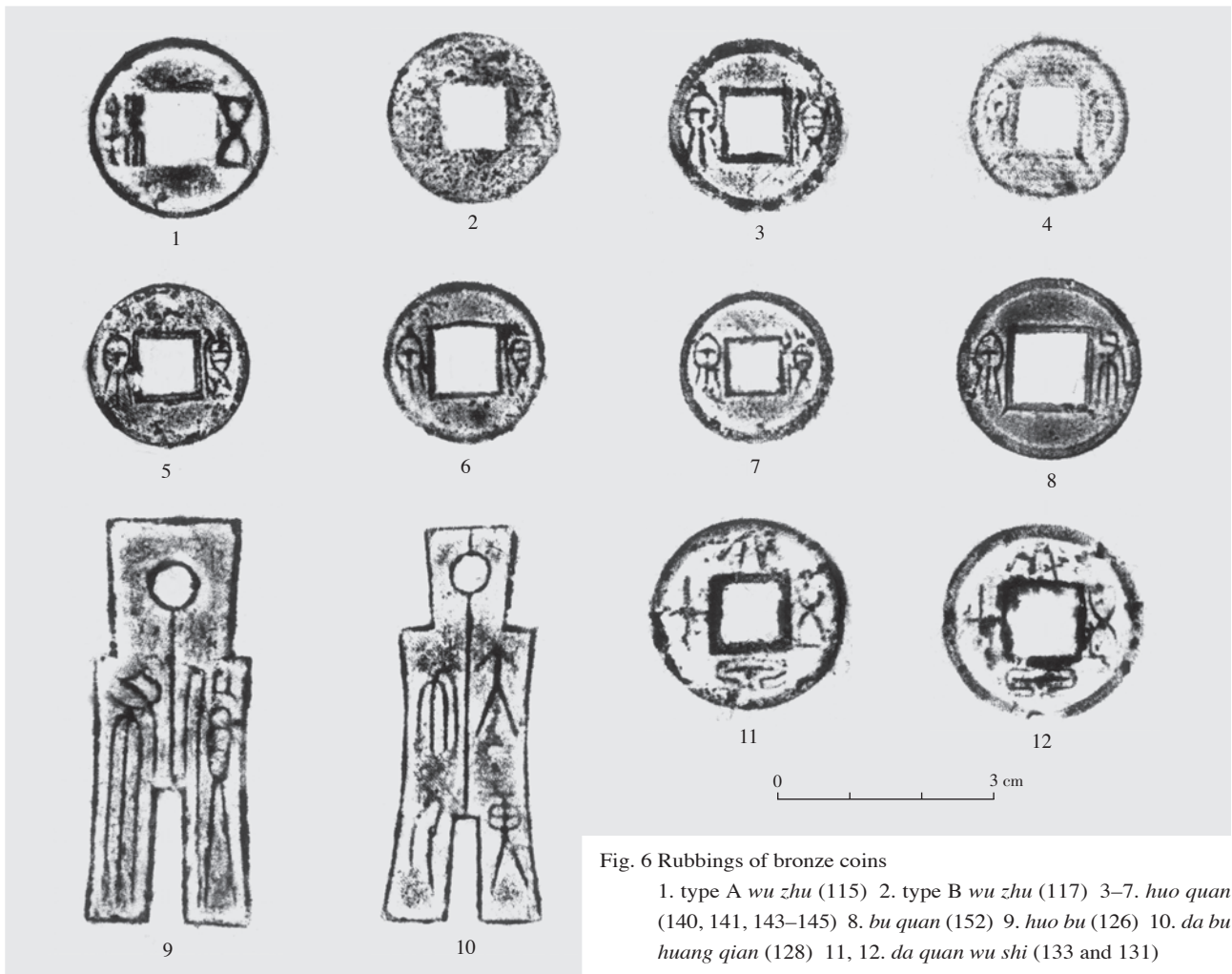


Fig. 6 Rubbings of bronze coins

1. type A *wu zhu* (115) 2. type B *wu zhu* (117) 3–7. *huo quan* (140, 141, 143–145) 8. *bu quan* (152) 9. *huo bu* (126) 10. *da bu huang qian* (128) 11, 12. *da quan wu shi* (133 and 131)

has thick body, irregular edge, sharp glyphs, and a diameter of 2.3 cm (Fig. 6:2). Specimen T5④:143 has even edge, sharp glyphs, and a diameter of 2.4 cm (Fig. 6:4). Specimen T4④:144 has a diameter of 2.2 cm (Fig. 6:5). Specimen T8④:145 has a diameter of 2.1 cm (Fig. 6:3). Moreover, there is specimen T16④:141, thick body, sharp glyphs, the inner circumference has four raised corners, and a diameter of 2.3 cm (Fig. 6:6).

Bu quan coin, two specimens. They are similar in shape and size. The outlines of both the inside and the outside are sharp, as well as the glyphs. T9④:152 has a diameter of 2.6 cm (Fig. 6:7).

3. Iron tools, eight specimens. All specimens are heavily corroded. The assemblage includes three spades, two axes, and one of each of chisel, ploughshare and shovel.

4. Others, nine specimens. The assemblage includes two bronze arrowheads, and one of each of hollowed-out bronze decoration, iron arrowhead, bronze rod, bronze belt buckle, pottery nail, pottery vessel lid, and stone adze.

IV. Conclusions

Scores of charcoalized grain were found during the excavation, indicating the structure was once used as a granary. It is not yet clear if it was also used for the hoarding of other materials at the same time.

According to the material remains, the structure was erected in the Western Han. The thick silt deposited above the foundation suggests that the abandonment and relocation of the storehouse was plausibly forced by the flooding of Qianhe River.

In the past, a Western Han tile-end with the glyphs of “*bai wan shi cang* 百万石仓” (the granary of a million *shi* [shi 石, a unit of volume]) was collected in Fengxiang. The artifact is currently housed in the Shaanxi Provincial Institute of Archaeology. The glyphs implicate a storehouse comparable in size and function of the structure reported here. We argue that this site was likely the remains of “*bai wang shi cang*” of the past.

We come to several conclusions about the functions of

the storehouse under study. First, it was similar to the imperial capital granary found at Huaxian 华县 County. It was one of the depots set up by the Western Han central government for the management of river transportation of the middle and upper Wei valley. The goals for its construction were to levy grain in this general region and timely moved them downriver to Chang'an. Second, a low mound is located 600 m to the east of the storehouse site. The mound is the site of the famous Qinian Palace. Therefore, there is a possibility that the storehouse was built to serve the Qinian Palace. From the late Warring States era to the middle of Western Han, Qinian Palace occupied a significant status because it was the symbol of the former state capital Yongcheng 雍城 of the Qin. For instance, when the first emperor of Qin Dynasty ascended to the throne at Xianyang 咸阳, the inauguration ceremony was held in Qinian Palace, in spite of the distance. Several emperors of the Western Han selected this site for the annual country ceremony. Country ceremony was a large-scale calendric ritual that consumed substantial amount of resources. Over a thousand counts of ritual paraphernalia were stored here. It is likely that the storehouse on Qianhe River was used for the storage of ritual paraphernalia and ritual-related resources levied from the four corners of the empire. Third, it was used for storage of military resources. In the early years of Western Han, the imperial administration stationed garrisons around Chang'an for the security of the empire in general, and the safeguard of the imperial capital in particular. The Qianhe River storehouse was located on the strategic node of east-west traffic. An army garrison needed a large and

well-facilitated armory. Regardless that it is inconclusive on the specific function of the storehouse, we are certain that it had the capacity to be used as granary, transfer depot and armory in specific time and specific circumstance.

The present discovery and subsequent excavation revealed a complete plan of the building foundation of a storehouse. It is another significant discovery following the discoveries of the Western Han imperial capital granary site at Huaxian County, Shaanxi and Eastern Han Hanguguan 函谷关 storehouse site at Luoyang 洛阳, Henan 河南.

Reference Works

1. Shaanxi Sheng Kaogu Yanjiusuo Qinshansi 陕西省考古研究所秦汉室 (1986). *Xinbian Qin Han Wadang Tulu* 新编秦汉瓦当图录 (New Catalogue of Qin and Han Period Tile-ends). Xi'an: Sanqin Chubanshe.
2. Shaanxi Sheng Kaogu Yanjiusuo Qinshansi (1990). *Xihan Jingshi Cang* 西汉京师仓 (Western Han Period Capital's Granary). Beijing: Wenwu Chubanshe 文物出版社.
3. Wang Guangyong 王光永 (1981). "Fengxiang xian faxian Yuyang gong tongding 凤翔县发现羽阳宫铜鼎" (A Bronze *Ding*-tripod Found in Yuyang Palace in Fengxiang County). *Kaogu yu Wenwu* 考古与文物 1981.1.
4. Wang Xueli 王学理, *et al.* (1994). *Qin Wuzhi Wenhua Shi* 秦物质文化史 (A Material History of the Qin Dynasty). Xi'an: Sanqin Chubanshe 三秦出版社.

Notes: The original paper, published in *Kaogu* 考古 2005.7: 21–28, with 10 illustrations and one page of plate, is written by a team of Tian Yaqi 田亚岐, Wang Hao 王颢, Jing Hongwei 景宏伟, Liu Yangyang 刘阳阳, and Liu Sizhe 刘思哲. This summary is prepared by Tian Yaqi and Wang Hao and English-translated by Lee Yun-Kuen 李润权.