

Relationship Between the Inner and Outer Walls at the Zhengzhou Shang City

Yuan Guangkuo and Zeng Xiaomin

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The outer wall of the Zhengzhou Shang City 郑州商城 was discovered in 1953, but after the inner wall was discovered in 1955, because the inner-wall's surface area was larger and 7 km in circumference, the attention of the academic world was mostly focused on the date and character of the inner wall. In recent years, with the accumulation of new archaeological discoveries, especially our analysis of the large quantity of Luodamiao 洛达庙 period remains excavated within the palace area of the inner city, we discovered that some of the rammed earth platforms were relatively early. After analyzing this material, and coring the Zhengzhou Shang City's outer wall, we have come to the conclusion that the Shang center at Zhengzhou is a vast settlement possessing a palace area wall, an inner wall and an outer wall (Fig. 1).

I. Topographical Nature of the Zhengzhou Shang City's Outer Boundary

From the distribution of ancient surface features and tombs, the west, north and south edges of the site are relatively high. These are still called Fenghuangtai 凤凰台, Erligang 二里岗, Duling 杜岭, Gangdu 岗杜 and so on and, as the topography of today's Zhengzhou shows, Erligang, Fenghuangtai, Erqita 二七塔 in the south-east area of the Shang City are slightly higher (about 86 m above sea level). Coring has shown that the south-east area within the outer wall was higher and in recent years rich Shang period cultural layers have been discovered here. With in the Shang City itself, the strip from Baijiazhuang 白家庄 in the eastern part to Huanghelu 黄河路 in the north is about 85 m above sea level. Where the topography obviously lowers in the east is east of today's National Highway 107 where the height above sea level is 84 m. From coring we know that within Zhengzhou Cotton Factory 郑州棉麻厂 at the center

and north of the eastern wall was once a lake. Coring there produced dark grey mud to a depth of 13 m without finding the bottom. As for the issue of the lake to the east of Zhengzhou, the poem "Chegong" of the Xiaoya section of the *Shijing* 诗·小雅·车攻 states, "to the east is marsh grass." Pucao 蒲草 means the grasses of the marsh. The Fenghuangtai area to the east of the Shang City was still a lake in the Qing Dynasty called "city lake 城湖". The *Zhengzhou Zhi* 郑州志 of the Qing Qianlong 乾隆 period records "the city lake is Pushe pond, at Zhoudong Wulibaonan, its width can exceed ten *qing*. The water is bright like a mirror and lies in front of Fenghuangtai. In the Northern Wei it was given as a gift to the Pu archer Li Chong 李冲 and thus got its name." To the east the *Zhengzhou Zhi* also records Liangjia Lake 梁家湖 and Luosi Lake 螺蛳湖. Thus, it is a fact that there was a large area of water to the east of Zhengzhou in Shang times.

II. Relationship Between the Outer and Inner Walls

The important features discovered beyond the Shang City's inner wall on all four sides suggests that the outer wall was not only located in the south but that the north and west sides probably also had an outer wall. From the results of archaeological coring, we know that the southern wall was relatively well preserved and that to the south west of the train station it joins with the west wall. Over 1600 m of the west wall have been discovered and extrapolating from the direction of its north-west extension, at its widest it could have reached the ceramic production area at the west part of Minggong Road 铭功路. Beyond the outer wall was a moat and to the north the outer wall should have reached the modern children's hospital at Dongsanjie 东三街 north. The northern wall probably ran north of the bone workshop at Zijingshan

紫荆山. About 100 m north of present day Weisanlu 纬三路 a moat has been discovered and to the east was the lake. The easternmost limit of the site was at the lake shore at Fenghuangtai. To the north shore extended past the present-day glass and shoe factories to 200 some meters outside the eastern section of the inner wall near Chengbei 城北 Road. Continuing north it passed by Baijiazhuang and Sijiazhuang 司家庄. On the south, west and north sides the widest distance between the inner and outer walls was around 1100 m. The Shang City of Zhengzhou's system of defenses were constituted by walls, a moat and the eastern lake's large body of water. We estimate that the Shang City at Zhengzhou's

surface area was about 13 sq km.

The construction method of the outer wall consisted of first digging a 1–1.8 m deep foundation ditch that was wider at the top than at the bottom, and then building a rammed earth wall on top of it. This differs from the construction of the inner wall, which was built directly upon the ground, such that of the four sides of the inner wall there are no real foundation trenches. This difference between the inner and outer wall indicates that when the outer wall was built, there was a much greater concern for its strength compared to the inner wall. The outer wall was built such that its path encircles the inner wall following the natural contours of the land, making

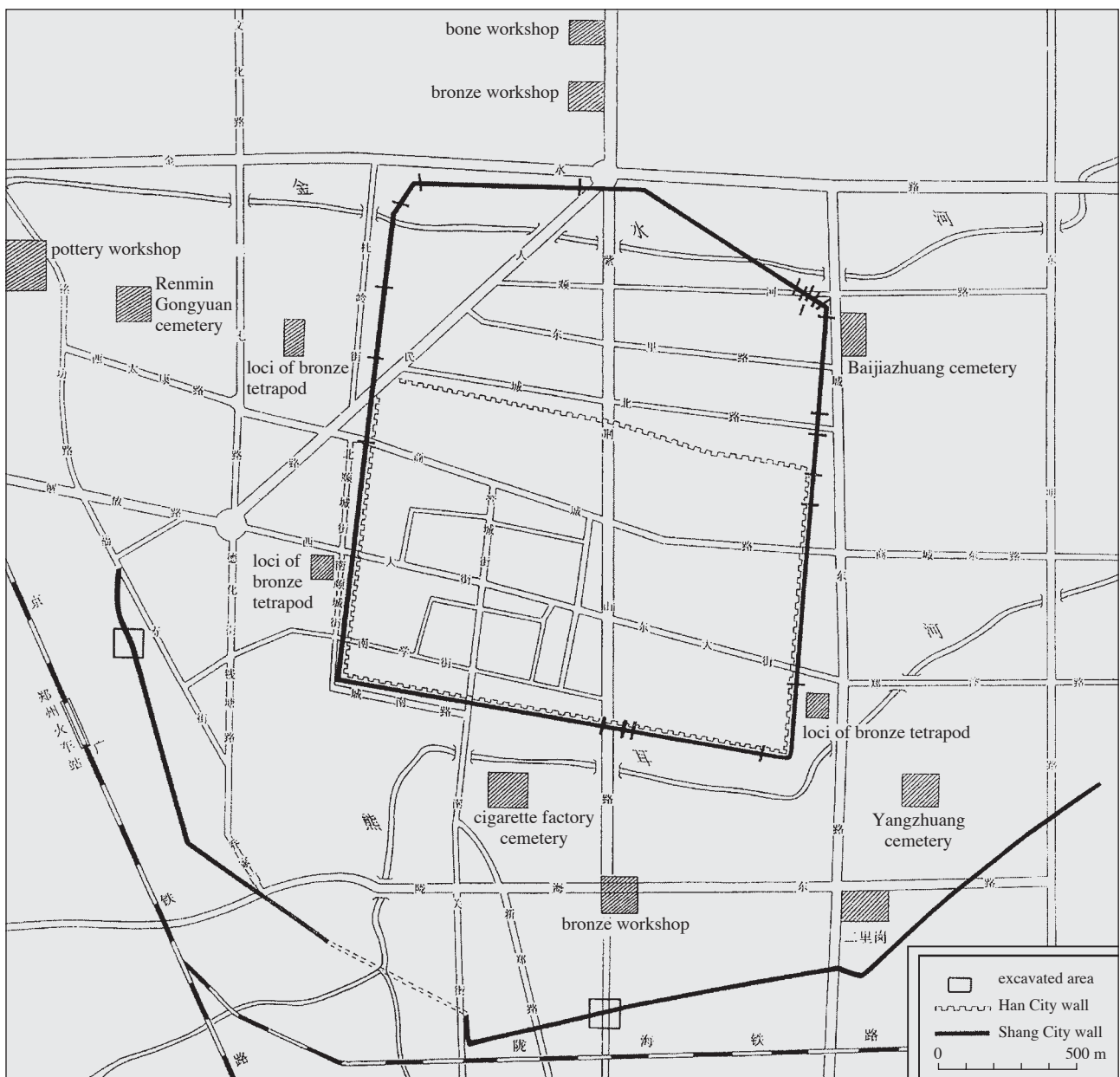


Fig. 1 Illustration of the Zhengzhou Shang City and its related surrounding sites

its defensive characteristics very obvious, whereas the inner wall was to protect the palaces and thus was more regular in plan. The relationship between the two walls suggests a complimentary function.

The archaeological evidence of recent years demonstrates that the palace foundations within the inner wall were not all distributed in the north-eastern part; they were also located in the southern section. This shows that the area within the inner walls was mostly a palace area. Other than palaces, a palace area wall, large scale defensive ditch, a large pond, drainage pipes and large scale rammed earth wells were found within the inner walls. From this we can see that the inner walls enclosed the most important living area of the contemporary ruling class. The area within the outer walls on the other hand was different, mostly consisting of craft workshops, grave yards and sacrificial pits. Moreover, the Shang period cultural layers of the inner and outer walls are very closely related, indicating they form a single cultural body. Nevertheless, they defended different things and thus served different purposes.

III. Construction Date of the Zhengzhou Shang City's Inner and Outer Walls

1. Date of the Zhengzhou Shang City's inner wall

In the 23 trenches that have been excavated at the Zhengzhou Shang City, in the early Shang rammed earth walls, most of the ceramic shards found were grey or brown with basket marking or hatching and raised lines, incised lines or cord marks added. One portion of these shards represent Longshan 龙山 culture, while the other represent Luodamiao culture. Among them was a shard from a thin cord marked *li*-tripod, the decoration of which is similar to similar vessels of the Erligang period. The same wall overlies a ditch that has been misrecognized as being of Erligang period. The main excavators of the Zhengzhou Shang City wall in recent years also have come to believe that beginning of construction on the wall might have been as early as the late portion of Lower Erligang phase I, which also suggests that the excavators have come to a new understanding of the date of the Lower Erligang phase II shards found in the wall.

As for the date of the Lower Erligang ditch discovered underneath Shang period rammed earth walls in two excavation trenches mentioned in the excavation report *Zhengzhou Shangcheng* 郑州商城, we think that its date is also possibly Luodamiao phase II at Youth Apartment 青年公寓. The main origin of the Lower Erligang culture is the Luodamiao culture found within the Shang

City. The decoration on and texture of the shards from vessels such as *li*-tripods and deep-bellied *guan*-pots found in Luodamiao culture phases I and II contexts are very similar to those of similar vessel types from the Lower Erligang period. Excavators in the early days of the Shang City's excavations were not able to distinguish them easily.

From excavations of the north, south, east and west walls we know that Lower Erligang cultural layers commonly directly overly the inner side of the wall to a depth of about 80 cm. Moreover the cultural layer overlying the inner side of the wall is also intruded into by Lower Erligang ash-pits and burials. We can be sure that the cultural layer overlying the inner side of the wall was not accumulated over a short period of time and after it was accumulated Lower Erligang people were still active in these areas for a certain period of time. This shows that the time that the Lower Erligang cultural layer that accumulated after the rammed earth wall was built was relatively long, and that the date of the wall must be earlier than the date of entire Lower Erligang period recognized by the academic world.

In 1998, the stratigraphy of excavations at the palace at Donglilu 东里路 Road revealed that underneath the Lower Erligang foundation were more layers of rammed earth foundation. For instance, F1 is a Lower Erligang phase II structure that intrudes upon F3 below it and F3's foundation is about 1.5 m thick. Moreover, F3 overlies F4. Under F4 is a Luodamiao period ash-pit which produced shards, which have the same special characteristics as the Luodamiao period ceramics of the Youth Apartment. From this we can see that there were at least three episodes of palace building and abandoning and Erligang culture in its Lower level period had developed for a certain period of time. The situation with the palaces is basically the same as that of the walls. This again proves that the inner walls and the palaces were all built before Lower Erligang. Thus, from frequency with which Luodamiao cultural layers are distributed within the inner walls, combined with the fact that both the wall and the palaces are overlain by Lower Erligang phase I cultural layers, we believe that the date of the construction of the inner wall approaches that of the Luodamiao period.

2. Concerning the date of the outer wall's construction

The Lower Erligang shards excavated from the moat demonstrate that it existed at least from before the period of those Lower Erligang period ceramics.

The belief that the outer wall dates to before or about

the same time as the period of Lower Erligang H9 is based on a ditch discovered at Nanguanwai 南关外. This ditch is southeast to northwest in orientation and there is a square pond to the west of it. This ditch is perhaps the eastern border of the Nanguanwai bronze workshop and the *jue*-tripod, *jia*-tripod and *li*-shaped *ding*-tripod from the ditch that constitute the special characteristics of the Nanguanwai culture are all the same as early period Panlongcheng 盘龙城 vessels of the same type. In addition, stamped hard ceramics and proto-porcelain were also found in this ditch at Nanguanwai, making these artifacts of southern origin the earliest so far discovered at the Zhengzhou Shang City. This is because this site was already in use in the early period of the Shang City. Thus, the outer wall of the Shang City was already constructed before the ditch at Nanguanwai formed. The special characteristics of some of the ceramic vessels like large-mouthed *zun*-vessel, *ding*, round-bellied *guan*-pot, and red-brown *guan* published in the excavation report *Zhutong Yizhi* 铸铜遗址 are very similar to similar vessel types of the Luodamiao period, and date to at least as early as Lower Erligang phase I. Thus, from the presence of Lower Erligang phase I cultural layers in the southern and western portions of the area within the outer walls, the date of the outer walls is perhaps a little later than the inner walls, probably close to the date or a little earlier than H9 of Lower Erligang phase I.

As for the absolute date of Lower Erligang, radio-carbon dating puts Zhengzhou Shang City's Luodamiao site at 1670–1640 BCE and Lower Erligang phase I is 1600 BCE. Now we have discovered that construction on the Shang City began before Lower Erligang and thus the Zhengzhou Shang City was constructed between 1640 and 1600 BCE.

Note: The original paper, published in *Kaogu* 2004.3: 59–67, with 5 illustrations, is written by Yuan Guangkuo 袁光阔 and Zeng Xiaomin 曾晓敏. The summary is prepared by the first author and English-translated by Rod Campbell 江雨德.

From the frequency of Luodamiao cultural layers within the inner walls, and the fact that the walls and the palaces are overlain by Lower Erligang phase I cultural layers, we believe that the construction of the inner city probably began around the Luodamiao period. Because of the presence of Lower Erligang phase I cultural layers in the southern and western areas within the outer walls, and the fact that the inner walls are built upon the ground surface while the outer walls were built in a foundation trench, along with the frequency of Luodamiao cultural layers within the inner walls, we believe that the outer walls were perhaps slightly later than the inner walls and that their date should be around or a bit earlier than phase I of the Lower Erligang. The outer wall was built upon the foundation of the inner wall's development.

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