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From Inside Toward Outside Of the City: The Spatial Layout Of the Mausoleum of Duke Zheng in the Spring and Autumn Period

Dong Rui,Ding Wenxuan

Abstract

The tomb of Duke Zheng in Lijialou and the other two tombs in Houduanwan were the three tombs of the Duke Zheng had excavated, all of which were located in the old city of Zheng Han. Duke Zheng of Lijialou tomb was located in the north, and closest to the Palace City of Zheng State. The layout of the mausoleums of the Duke of spring and autumn period were influenced by which of the King of the Eastern Zhou dynasty, and the three tombs of Duke Zheng were distribution from the city inside to outside. The order of the times is: the tomb of Duke Zheng in Lijialou, the No.1 tomb of Duke Zheng, and the Zhong character style tomb.

Key words

Zheng State,layout,mausoleum,chariot pit

From the viewpoint of archaeology and art history, capital cities and aristocratic tombs are useful sources for understanding how society and state governance worked in different periods. In ancient China, the mausoleum system began to take shape during the Warring States period, became more established under the Qin and Han dynasties, and remained in use until the end of the Qing dynasty[1].The Spring and Autumn period had not yet formed a mausoleum system, but its funeral rules certainly influenced the later creation of the Warring States mausoleum system. In the archaeology of the Three Dynasties, many noble tombs of the Western and Eastern Zhou have been excavated, and a large number of finely made objects have been found, which provides rich material for research on the material culture of the Zhou. From an academic angle, however, discussions remain relatively weak on how the tombs of rulers in the Spring and Autumn vassal states were laid out, and on how the capitals of these states were related to their tombs. Zheng was a strong state in the early Spring and Autumn period, and the layout of its rulers' tombs is representative among the vassal states of that time.

Archaeological excavations have confirmed three tombs of the rulers of Zheng: the Lijialou Tomb of Duke Zheng, excavated in 1923; the Houduanwan Spring and Autumn Tomb No.1, excavated in 1996; and the Houduanwan Zhong-shaped Tomb, excavated in 2002. When the Lijialou tomb was discovered in 1923, it caused a great stir both in China and abroad. The pair of square hu vessels with standing cranes unearthed there is especially important, for it represents the highest level of technique and craft in the Spring and Autumn period, and also reveals some features of social change in that period. For a long time, research on this tomb has mainly centred on several questions, such as who the tomb owner was, how the Spring and Autumn ritual system changed, and how the cultures of the Central Plains and the Jianghan Basin interacted. The question of the tomb owner's identity, in particular, has been much debated, and no agreement has yet been reached. As the other two tombs of Zheng rulers were discovered, they offered new ways to advance research on Zheng tombs. Therefore, this article takes the tombs of Zheng rulers as its point of entry, and by examining how cities and tombs were laid out in the Spring and Autumn period, and how one tomb related to another, it discusses questions about the layout of Zheng rulers' tombs and of the capital, burial rules, and chronological order, so as to understand how the tombs of rulers were laid out in the Spring and Autumn period.

1.Discovery of the Tombs of the Rulers of Zheng State

The Lijialou Tomb of Duke Zheng in Xinzheng lies near the north bank of the Shuangji River, at the southwest corner of the western city of the Zhenghan Ancient City in Xinzheng; today it sits in the courtyard of the Xinzheng City Yu Opera Troupe on South Street, and the site was once Li Rui's residence, commonly called Lijialou, but now it is the Lijiayuan Cemetery Protection Area. People learned of this tomb on 25 August 1923, when Li Rui, a local gentleman from Xinzheng County, dug a well in the Lijialou garden on South Street and brought out ancient objects. The tomb yielded 89 objects and 639 pieces of broken bronze; among these finds, bronzes were the most numerous, and the complete pieces include 21 ding(鼎), 21 chime bells(编钟), 8 li(鬲), 1 dui(敦), 3 pan(盘), 2 xi(洗), 4 yi(匜), 1

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zhou(舟), 10 gui(簋), 2 lei(罍), 1 zeng(甑), 1 fu(簠), 2 round hu(圆壶), 4 square hu(方壶), and 1 bronze stove(铜炉). These objects are now kept in five museums across four places on both sides of the Taiwan Strait (figure 1).[2]

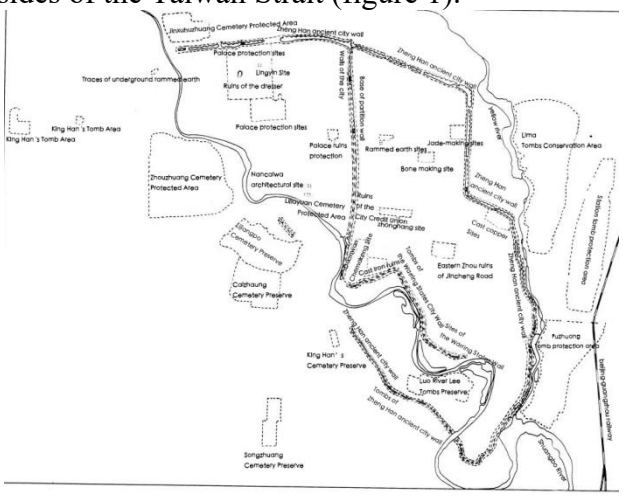


Figure 1. Location Map of the Lijialou Tomb of Duke Zheng, Xinzheng. Map. China, Spring and Autumn period. From Bronzes from the Tomb of Duke Zheng at Xinzheng

Because the Lijialou tomb of Duke Zheng was not scientifically excavated, its original size remained unclear for a long time; in 1966, the Henan Provincial Institute of Cultural Relics and Archaeology cleaned up the place where the bronzes had been found, so as to learn more about the condition and nature of the earlier digging at Lijialou. The pit was oval, about 7 metres from east to west, 6 metres from north to south, and 7 metres deep; it was wider at the top and narrower at the bottom, like the bottom of a pot. This size is largely consistent with a record in Xinzheng Chutu Guqi Tuzhi Xubian, which says that "the well pit for digging ancient objects was about four zhang from east to west and about three zhang five feet from north to south"[3].

In 1975, the cultural relics department of Henan Province carried out drilling and survey work in this area, and found a group of Spring and Autumn tombs around the tomb of Duke Zheng; these were mostly rectangular earthen pit tombs with vertical shafts, and one excavated tomb had a coffin and an outer coffin, with cinnabar spread on the bottom of the coffin, and also yielded burial goods such as bronzes, jades, and shell objects.

The other two tombs of Zheng rulers found by archaeologists are both in the Houduanwan area, in the southwestern part of the eastern city of the Zhenghan Ancient City, about 500 metres to the southeast of the Lijialou tomb of Duke Zheng. In 1996, in the southwestern part of the eastern city of the Zhenghan Ancient City, in Houduanwan village, which lies near the east side of the dividing wall between the eastern and western cities, archaeologists found a large tomb of ruler rank, that is, Tomb No.1. The tomb pit was 25 metres from north to south, 21 metres from east to west, and 7.1 metres deep; the burial chamber was 10 metres long, 8.5 metres wide, and 8 metres deep. The burial equipment consisted of three layers of thick outer coffins; because the tomb had been seriously looted, the coffin chamber could not be identified, and only more than 200 small artefacts, such as bronzes, iron objects, jades, and bone objects, were unearthed[4]. The excavators date the tomb to the middle and late Spring and Autumn period.

In 1998, archaeologists found two chariot pits 22 metres south of Tomb No.1; Chariot Pit No.1 measured 10.4 metres from east to west, 8.4 metres from north to south, and 5 metres deep (figure 2), while Chariot Pit No.2 lay about 20 metres northwest of Pit No.1, and it was larger in scale and had been backfilled after excavation.



Figure 2. Chariot and Horse Pit No.1 at Houduanwan, Zhenghan Ancient City. Photograph. China, Spring and Autumn period.

In 2001, archaeologists surveyed more than 800 tombs and 18 large and medium-sized chariot and horse pits of the Eastern Zhou period at Houduanwan village; most of these tombs are large and medium-sized tombs of the Zheng state from the Eastern Zhou period, and four are extra-large tombs measuring more than 20 metres in both length and width, while among them a large "Zhong"-shaped tomb was found to the southeast of Tomb No.1 (figure 3).



Figure 3. Chariot and Horse Pit No.3 at Houduanwan, Ancient City of Zheng-Han

In August 2002, archaeologists excavated this "Zhong"(中) -shaped tomb; it had north and south sloping ramps, with a total length of 45 metres, and the southern ramp was 21 metres long and contained 40 buried chariots, while the northern ramp was 10 metres long and contained 4, making 44 burial chariots in all. Although the chariots had been dismantled to different degrees, their shafts all pointed west, and the heads of the sacrificed horses also faced west, so this should be the tomb of a Zheng ruler (figure4).[5]

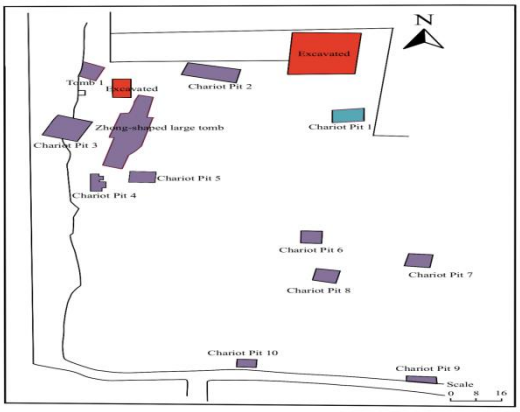


Figure 4. "Zhong"-Shaped Tomb at Zhenghan Ancient City. Photograph. China, Spring and Autumn period. Photograph by the author, Zheng State Chariot and Horse Pit Site Museum.

In February 2017, the Henan Provincial Institute of Cultural Relics and Archaeology found a chariot and horse pit a few metres northwest of the "Zhong"(中)-shaped tomb, which was Pit No. 3; excavation then followed, and 122 horses and 4 chariots were found buried in it (Figure 5), and it is now clear that Pit No.3 and the "Zhong"-shaped tomb formed one unit, with the pit serving as a burial pit attached to the tomb.

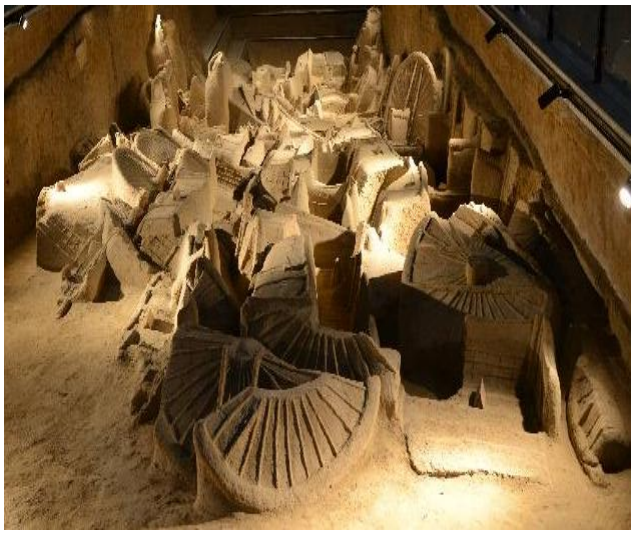


Figure 5. Chariot and Horse Pit No.3 at Houduanwan, Zhenghan Ancient City. Photograph. China, Spring and Autumn period.

Many years of archaeological survey and excavation have largely confirmed where the group of tombs of Zheng rulers is located and how it is distributed; the tombs of Zheng rulers are found in both the eastern and western cities of Zhenghan Ancient City, while the Lijialou tomb of Duke Zheng lies in the southeast of the western city, and at the southwest corner of the eastern city, close to the dividing wall between the eastern and western cities and more than 500 metres from the Lijialou tomb of Duke Zheng, there is a large cemetery area of the Zheng ducal clan. So why were the tombs of Zheng rulers distributed in this way? What is the relationship among the three tombs of Zheng rulers? What is the relationship between the tombs of Zheng rulers and Zhenghan Ancient City?

2.Overall Layout of Zhenghan Ancient City

To answer the questions above, it is first necessary to understand the overall layout of Zhenghan Ancient City; the site plan is an irregular rectangle, commonly known as the "forty-five-li Ox-Horn City," (四十五里牛角城)and tall ramparts still remain above ground, about 5,000 metres from east to west, about 4,500 metres from north to south, and 20 kilometres in circumference. A north-south dividing wall runs through the middle; local people call it "Fenjinling," (分金岭)while *Xinzheng County Annals* (新郑县志)records it as "Fenguoling" (分国岭)or "Fenguocheng"(分国城).

The functional division between the eastern and western cities has already been confirmed by archaeological survey, with the eastern city serving as the outer city and the western city as the palace city; according to surveys by the Henan Provincial Institute of Cultural Relics and Archaeology, the site is divided into eastern and western parts, and a dividing wall runs between them. The western city is the inner city, also called the main city; here one mainly finds the palace foundations of the Zheng and Han states, the tombs and accompanying burial pits of some Zheng rulers, and the palace city and ancestral temple remains of the Han state. The western city measures 2,470 metres from east to west and about 4,300 metres at its longest north-south extent; dense rammed-earth foundations lie in the central and northern parts of the city, and these form the main palace area, while the only high-platform building foundation still standing above ground in the northern part of the city was built in the Spring and Autumn period and is still called Shuzhuangtai (the Dressing Table)(梳妆台). The eastern city is the outer city; it mainly contains the aristocratic cemetery, sacrificial sites, and some rammed-earth foundations of Zheng, as well as craft workshop remains of the Zheng and Han states, such as bronze-casting and iron-casting sites.

Scholars, however, clearly disagree about the dates of the eastern and western cities; some hold that the western city was the city of Zheng and the eastern city was that of Han. Ma Shizhi argues that, on the basis of archaeological survey and trial excavation, the Zhenghan Ancient City was first built in the early Spring and Autumn period, and that only the dividing wall came somewhat later, though it too was built in the Spring and Autumn period and was put up by the people of Zhen[6]. Shi Nianhai points out: "A north-south dividing wall runs through the Zhenghan Ancient City and cuts it into two halves, east and west. Although the eastern part of the Zhenghan Ancient City was built on the foundation of the old Zheng capital, the section that joins the western city should be a new contribution of the Han capital."[7]Cai Quanfa, who surveyed the Zhenghan Ancient City for many years, believes that after Han replaced Zheng, the Han rulers built their own palace city and ancestral temple buildings near the north-central part of the western city, and also built a new dividing wall, which split the old city into two[8].

So did other vassal states also have an inner city and an outer city? The ancient city of Linzi, the capital of Qi, comes closest to the two-city system of Zhenghan Ancient City; Linzi lies in Qidu Town, 8 kilometres north of Xindian in Linzi District, Zibo City, Shandong Province, and this began in the Western Zhou period, when Duke Xian of Qi moved the Qi capital from Bogu to this place, and it continued until 221 BCE, when the Qin army destroyed Qi, so Linzi remained the capital of Qi throughout that time. The ancient city of Linzi consists of a large city and a small city; the small city lies in the southwest of the large city, and its northeast part extends into the southwest corner of the large city. Scholars also disagree about when the large and small cities were built; some think the small city came later than the large city and was built in the Warring States period, perhaps as the palace city built by Tian Qi[9]; others think the small city came earlier and was the inner city of Qi[10]; still others suggest that the palace city of Jiang Qi lay inside the large city, in its central area (figure 6)[11].

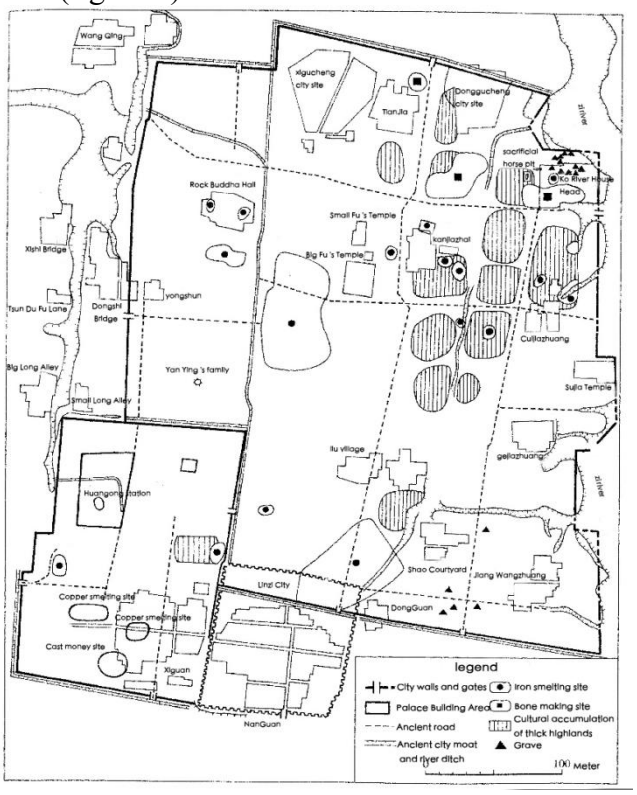


Figure 6. Plan of the Ancient City of Qi at Linzi. Line drawing. China, Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 249.

Scholars disagree about when this two-city system came into being, so more archaeological

material is needed if this question is to be examined closely; the following section therefore reviews the layout of the Eastern Zhou royal city and of the capitals of the vassal states during the Spring and Autumn period, in order to analyse this question.

The Eastern Zhou royal city is especially important as a reference for Zhenghan Ancient City, because Zheng moved its capital to Xinzheng at the same time as King Ping of Zhou moved east; after King Ping moved east, the capital was set at Wangcheng, and this continued until 256 BCE, when Qin put an end to the Eastern Zhou. The site of the Eastern Zhou royal city lies on both banks of the Jian River in Luoyang, Henan; to its west is the Jian River, to its south is the Luo River, and the Jian River passes through the western part of the city. It is presumed that the city wall was built before the middle of the Spring and Autumn period, that it was repaired and extended from the Warring States period through the Qin and Han periods, and that in the late Western Han a Han-era Henan county town was rebuilt within the abandoned site.[12]

Palace building remains in the Eastern Zhou royal city are found mainly in the southern or central part of the site, while craft workshop remains lie in the northwest, and tombs are scattered in the central part, the northeast corner, and on the west bank of the Jian River; in the 1920s, about 10 kilometres northeast of the Luoyang royal city, eight large tombs with a single ramp were found at the Jincun cemetery, in the north-western part of the Han-Wei Luoyang city, and archaeologists suggest that these may be tombs of Zhou kings and of ministers buried alongside them, dating roughly from the early to the late Warring States period (figure 7).[13]

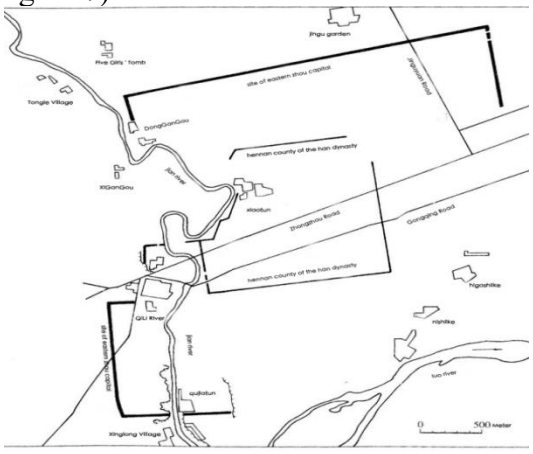


Figure 7. Plan of the Eastern Zhou Royal City. Line drawing. China, Eastern Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 231.

The Eastern Zhou royal city was clearly larger than Zhenghan Ancient City; inside it were residential areas, workshop areas, and groups of tombs, yet no dividing wall was built within the city to separate these areas.

The ancient city of Lu at Qufu is another fairly well-preserved Zhou-period city site; the ancient city of Lu was the capital of the state of Lu, which was enfeoffed to the Duke of Zhou in the early Western Zhou period, and it lies in present-day Qufu, Shandong, and from the time when Boqin, the eldest son of the Duke of Zhou, built the city until 249 BCE, when Lu was destroyed by Chu, Qufu served as a capital for more than 700 years. The plan of the ancient city of Lu at Qufu is a horizontal rectangle, and the four corners of the city wall are rounded; in the central part of the city there are many large rammed-earth building foundations, which are palace building remains, while craft workshop remains are distributed in the northern and western parts of the city.[14]The ancient city of Lu was used for a longer time, and its internal functions were fairly complete, but here too no dividing wall was built inside the city to separate different areas (figure 8).

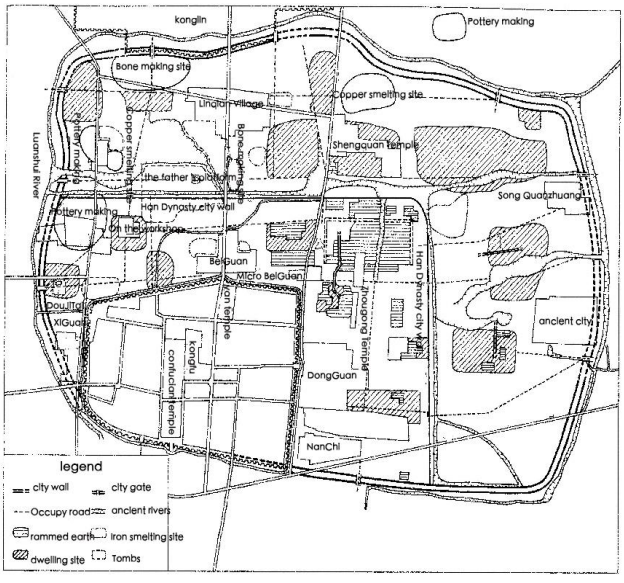


Figure 8. Schematic Map of the Distribution of Remains in the Capital of Lu at Qufu. Line drawing. China, Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 253.

Jinan City, the capital of Chu in the Spring and Autumn Period, is located 5 kilometers north of Jiangling City, Hubei Province.Since it is located in the south of Jishan, it is called Jinan City. In

the first year of King Wen of Chu in the early Spring and Autumn Period (689 BCE), the state of Chu moved its capital from Danyang to Ying, the present Jinan City. In 278 BCE, the Qin army captured the capital of Ying, and the history of Jinan City as the capital of Chu ended. The plane of the city is nearly square, and there are three rivers passing through the city, which divides the city into four districts. The existing city walls were built in the late Spring and Autumn Period or during the Spring and Autumn Period and the Warring States Period.[15] In addition to the outer city wall, there is no functional division of the city wall. （figure 9）

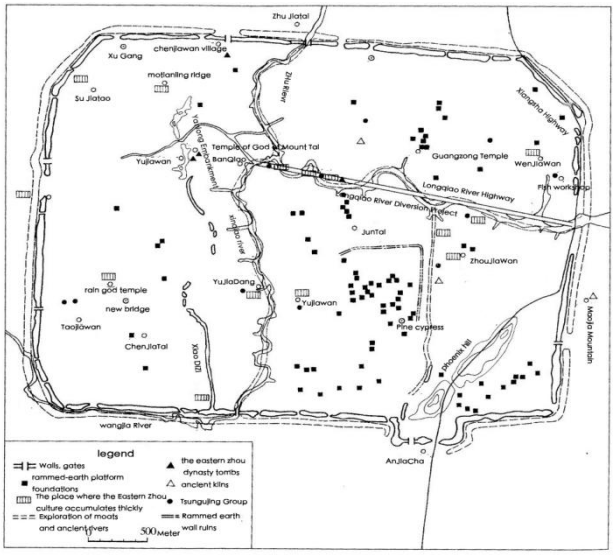


Figure 9. Plan of the Southern City of the Chu State in Jiangling. Line drawing. China, Eastern Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 260.

The capital of the Jin State is located in the Xintian old city in the northwest of the present-day Houma City in Shanxi Province. The capital was moved here in the 15 th year of Jin Jinggong (585 BCE). By 376 BCE, after the three families of Han, Zhao and Wei were divided into Jin, the Jin Huangong moved away from Xintian. There is no large city site found in Xintian Ancient City, but it is more special that there are 8 small city sites in this area. The Xintian Old City of Jin State is obviously different from the capitals of other vassal states. The reason for this phenomenon is that scholars believe that it is due to the humility of the Jin state and the strength of the vassal states. （figure 10）[16]

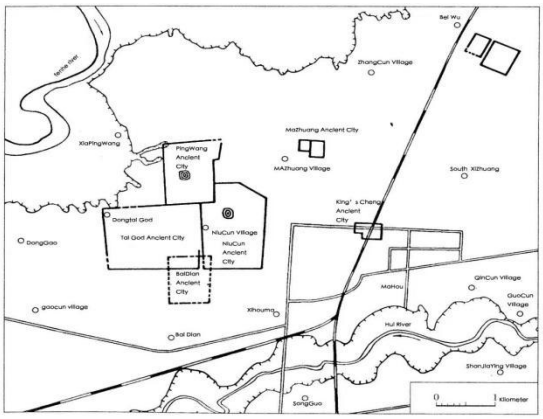


Figure 10. Plan of the Jin State Capital at Houma. Line drawing. China, Eastern Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 232.

The ancient city of Xue, located in Tengzhou City, Shandong Province, is the site of the Western Zhou Dynasty to the Spring and Autumn Period. The Kingdom of Xue was destroyed by the State of Qi in the Warring States Period, and later was the fief of Meng Changjun. The plane of the ancient city of Xue is irregular rectangle, and most of the city walls are well preserved. From the section of the city wall, the outer wall is superimposed on the inner wall, which seems to have been rammed twice, which may be related to the maintenance and reinforcement of Qi Tianwen was enfeoffed in Xue(齐田文封薛). We can see that although the ruins in the ancient city of Xue are densely distributed, there is no wall built (figure 11).

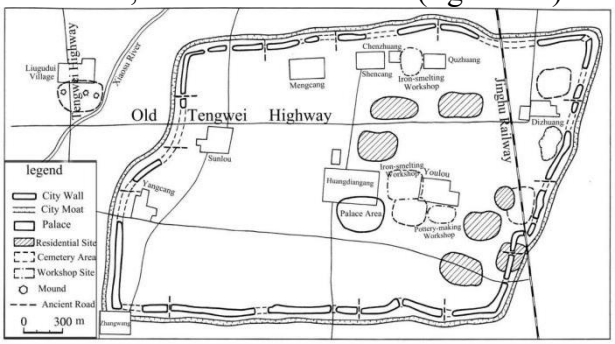


Figure 11. Plan of the Ancient City of Xue in Tengzhou. Line drawing. China, Eastern Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 265.

Located in Shangqiu, the old city of the Song Dynasty is the capital city of the Song Dynasty after King Wu of the Zhou Dynasty opened the Weizi(微子) in the Song Dynasty. A joint investigation by Chinese and American archaeologists led to the discovery of the city.[17] The plane of the city site is slightly diamond-shaped. Through the anatomical excavation of

the city wall, it can be inferred that the early buildings of the city site were used from the Western Zhou Dynasty to the Eastern Zhou Dynasty.[18]According to the investigation, no partition wall was found in the ancient city of the Song Dynasty (figure 12).

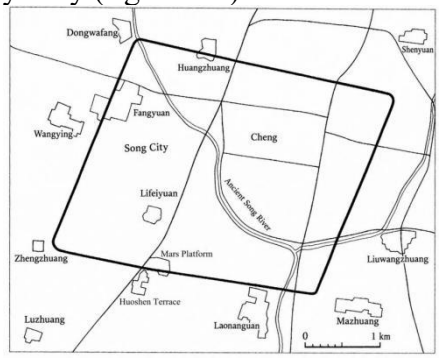


Figure 12. Plan of the Ancient City of the Song State. Line drawing. China, Eastern Zhou period. From Chinese Archaeology: Western and Eastern Zhou Volume, 267.

The era of the above capitals is mainly the Spring and Autumn period. We can find that the basic structure of the capitals of the Eastern Zhou Dynasty and the vassal states in the Spring and Autumn period is a single city system, and there is less division of the city. It shows that the capital before the Spring and Autumn period mainly focused on the construction of the peripheral city walls, and divided different areas according to the functions inside the city walls. However, in addition to the high building wall foundation of the palace building itself, the phenomenon of building partition walls in different areas is less common. So, was there a new change in the structure of the capital during the Warring States period ?

The Lingshou Ancient City of Zhongshan State in the Warring States Period was about the capital city built after Zhongshan 's restoration in 378 BCE. Lingshou Ancient City is located in Sanji Commune, Pingshan County, Hebei Province. The city site is divided into east city and west city. There is a north-south wall between the east and west cities. The east city is the palace city and the west city is the Guo city. The large-scale building site group is mainly concentrated in the East City, the handicraft workshop site is located in the middle of the west of the East City, and the Wangling District is distributed in the north of the West City (figure 13).[19]

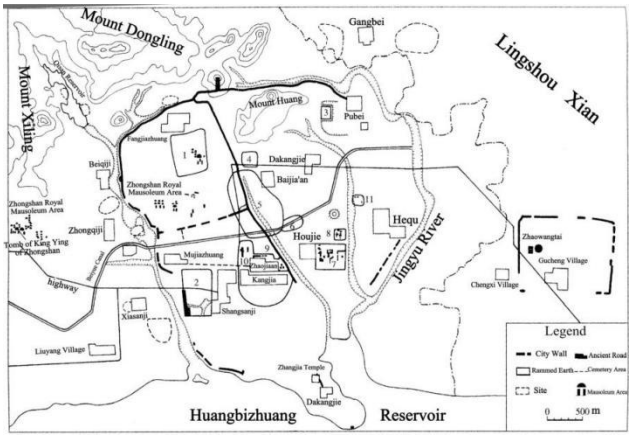


Figure 13. Plan of the Ancient City of Lingshou of the Zhongshan State. Line drawing. China, Warring States period. From Chinese Archaeology: Western and Eastern Zhou Volum , 247.

During the Warring States period, Handan, the capital of the Zhao State, was built in Handan in the first year of Zhao Jinghou(赵敬侯) (386 BCE). By 228 BCE, Qin broke Handan and destroyed Zhao. The ancient city of Handan is composed of two parts : the royal city(王城) and the ' Great North City '(大北城）. The royal city is the palace city, and the Great North City is the Guo City. According to archaeological experts, it is inferred that the palace city was built in the Warring States period, about before and after Zhao moved to Handan, while the Guocheng may have been slightly earlier (figure 14).[20]

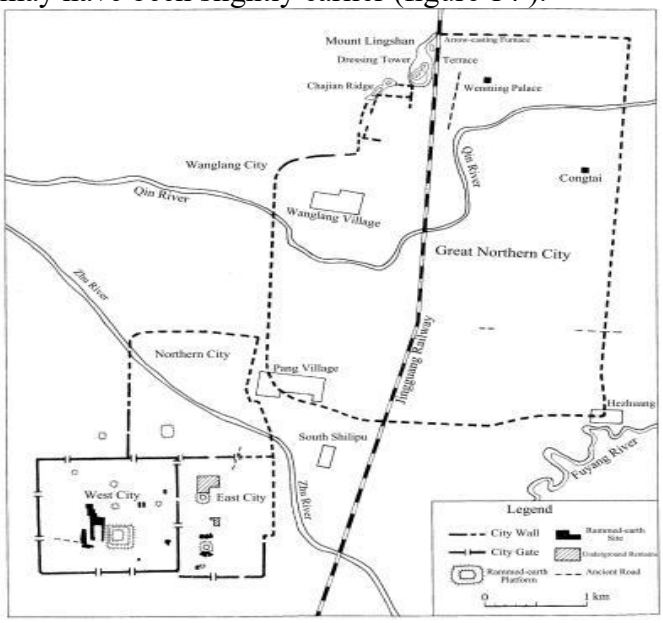


Figure 14. Plan of the Zhao State Capital at Handan. Line drawing. China, Warring States period. From Chinese Archaeology: Western and Eastern Zhou Volume , 239.

In the late Warring States period, Yan had two capitals, Shangdu Ji and Xiadu Wuyang. Shangduji is located in the northwest of the outer city of Beijing. The Yanxiadu Site is located 2.5 kilometers southeast of Yixian County, Hebei Province. The plane of the city site is an irregular rectangle, which is divided into two cities : east and west. There is a city wall across the east and west in the north of the central part of the east city, called the ' partition wall '(隔墙）, which divides the east city into north and south parts (figure.15).[21]

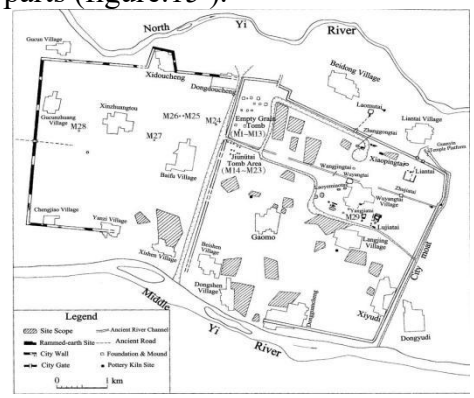


Figure 15. Plan of the Yanxiadu Site in Yi County. Line drawing. China, Warring States period. From Chinese Archaeology: Western and Eastern Zhou Volum, 243.

Anyi, the capital of the Wei State, is located 15 miles northwest of Xia County, Shanxi Province. It is commonly known as the ' Yuwang City '(禹王城）, which was built after the three Jin divisions. The ancient city is composed of three ancient cities of different times and a rammed earth platform. The middle city is located in the southwest of the big city, which seems to be the site of the Han Dynasty. The small town is located in the center of the big city, the plane is rectangular, like a palace city (figure 16).[22]

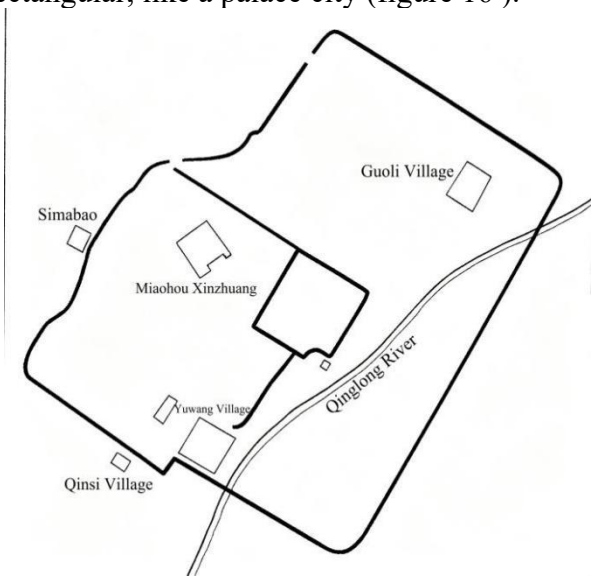


Figure 16. Plan of the Ancient City of Anyi of the Wei State in Xia County. Line drawing. China, Warring States period. From Chinese Archaeology: Western and Eastern Zhou Volume, 241.

According to the above spring and autumn and the warring states period zhou king city and the capital of the vassal states of the layout of the plane, we found that the capital of the spring and autumn period is basically a single city system, the warring states period appeared big city set small city or east-west double city structure. In particular, the capitals of Zhao and Wei, which are two of the three divisions of Jin, are all in the form of a palace city in Guocheng. The possible reason is that the wars in the Warring States period were frequent, and the division within the capital was for the need of war defense. The capital layout of Korea should be most similar to that of Zhao and Wei, because they all belong to Jin and have the same cultural background.

According to the above analysis, it can be judged that the construction time of the partition wall between the east and west cities of Zheng and Han should be built after Han destroyed Zheng.

3.The layout of the tomb of the emperor of Zheng in the ancient city of Zheng and Han

Now that the general age of the middle partition wall of the ancient city of Zheng and Han is determined, we can analyze the layout characteristics of the tomb of Duke Zheng in the capital. The three tombs of the monarchs found now are all located within the capital of the state of Zheng.We cannot judge from nothing what the relationship between them and the capital of the state of Zheng is. First of all, we should refer to the layout of the tombs of the emperors of the Zhou Dynasty in the city of the Eastern Zhou Dynasty.

The tombs of Zhou Tianzi in the Spring and Autumn Period were concentrated in the Eastern Zhou Dynasty. In 2001, a chariot pit（车坑）, a horse pit（马坑） and three large tombs arranged in an east-west direction were found in Luoyang No.27 Middle School College, about 30 meters outside the eastern wall of the Eastern Zhou King City. Among them, one ' Ya ' -shaped tomb（“亚”字形墓） and one ' Zhong ' -shaped tomb（“中”字形墓） were dated to the early Spring and Autumn period. According to the shape of the tombs, the ' Ya ' shaped tomb is the tomb of the King of Zhou, and the ' Zhong ' shaped tomb and another unexcavated ' Zhong '

shaped tomb may be the tomb of his wife. A chariot pit and a horse pit were excavated 16 meters east of the north passage of the ' Ya ' -shaped tomb, which should be the chariot pit and horse pit of the Zhou royal mausoleum. According to the archaeological discoveries in the surrounding areas, the explorers also believe that the southeastern part of the Eastern Zhou royal city is the royal mausoleum area of the Spring and Autumn period.[23] In October 2002, during the construction of Luoyang City Center Square, the remains of a large chariot-horse pit in the Eastern Zhou Dynasty King City were found, and a chariot-horse pit of ' Tianzi Jialiu ' （天子驾六）was found. The chariot-horse pit should be the burial pit of Zhou Tianzi 's mausoleum[24].

In 2005, three chariot-horse pits and 98 tombs of the Eastern Zhou Dynasty were excavated in Guocheng, the capital of the Eastern Zhou Dynasty, more than 200 meters northwest of the "Ya" -shaped tomb of the Twenty-seven Middle School. Among them, two large tombs are five ding tombs with the nature of ding. In the age of the three chariot pits, the diggers judged that the upper limit of the age was not earlier than the early part of the middle spring and autumn period, and the lower limit was not later than the late part of the middle spring and autumn period.[25]Years of archaeological investigations and excavations have shown that the area from the Tianzi 's six-car pit museum to the Xigong Stadium is the tomb area of the Zhou Emperor in the Eastern Zhou Dynasty during the Spring and Autumn Period (figure 17).[26]

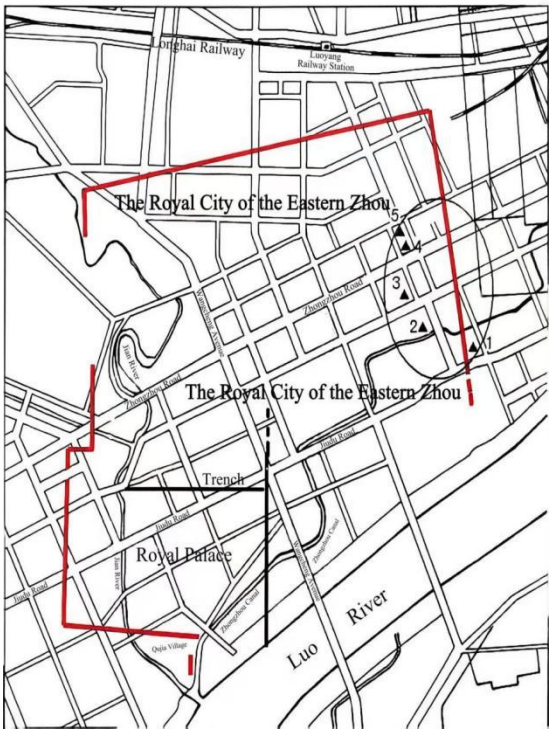


Figure 17. Schematic Diagram of the Location of Eastern Zhou Spring and Autumn Royal Mausoleum Area. Line drawing. China, Eastern Zhou period. From Journal of the National Museum of China, no. 3, 2018, 24.

From the location of the tomb of the emperor of Zhou in the Spring and Autumn period, the tomb is located in the city of the Eastern Zhou Dynasty, but it is basically close to the edge and not in the center of the city.

In the previous article, it has been analyzed that the partition wall of Zheng Han 's old city was built by state of Han(韩国）. The distinction between the ancient city of Zheng and the ancient city of Han(韩国）, related research has also made a more detailed analysis.

According to ' the drilling and trial excavation of Zheng Han 's old city in Xinzheng, Henan ', Li Haiming made a '[27]map of the location relationship of Zhengdu Palace, West Palace, Tai Temple and Sheji '[28]. It can be seen from the map that there is a Wat Pagoda(卧佛寺塔） in the north of Lijialou village where Zheng Gong 's tomb is located. The northernmost part is the only existing high-rise building foundation on the ground, which was built in the Spring and Autumn period and is still called the dressing table. From north to south, the eastern part of Lijialou is Taimiao （ Imperial Ancestral Temple）, Gongcheng（Place City) and Sheji (altars of land and grain) sites (figure.18).

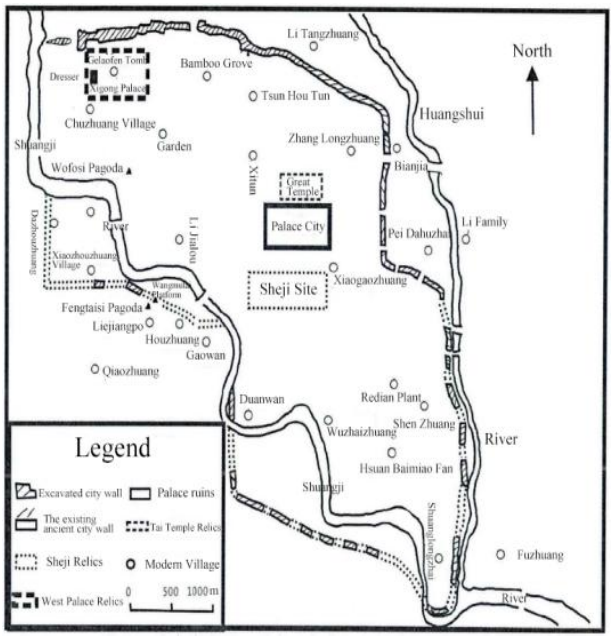


Figure 18. Location Relationship Diagram of Buildings and Other Remains in the Ancient City of the Zheng State. Line drawing. China, Spring and Autumn period. From Li Haiming, Historical Urban Geography Research of the Ancient City of the Zheng State (Master's thesis, Shaanxi Normal University, 2015).

We can see from the above figure that the location of Zhenggong 's tomb is located at the southernmost end of the palace city of Zheng. The archaeological investigation confirmed that it was the closest to the palace site in the northern part of Xicheng. It has been found that this area is a cemetery of the aristocrats of the Zheng State.[29]

The copper-casting workshops of the Zheng State are mainly distributed in the Dawulou, Xiaogaozhuang and Zhongxing sacrificial sites, which are basically located in the eastern part of the old city of the Zheng State (figure 19).[30]

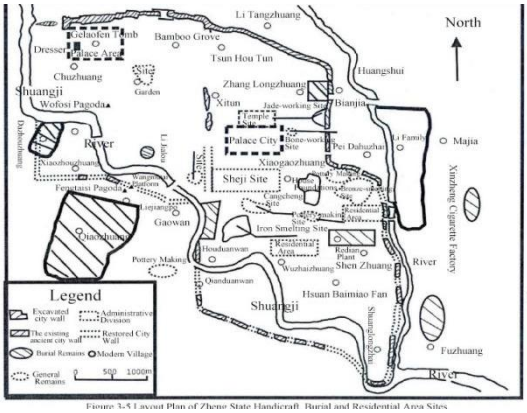


Figure 19. Layout of Handicraft Workshops, Tombs and Residential Areas in the Ancient City of the Zheng State. Line drawing. China, Spring and Autumn period. From Li Haiming, Historical Urban Geography of the Ancient City of the Zheng State (Master's thesis, Shaanxi Normal University, 2015).

According to the scope of the ancient city of State of Han investigated by the archaeological department, Li Haiming drew a map of the location of architectural relics in the ancient city of the Han. It can be seen that the partition wall in the ancient city of the Han divides the city into two parts. The entire western city is a palace and residential area, and the kings of the Han are buried outside the walls (figure 20).[31]

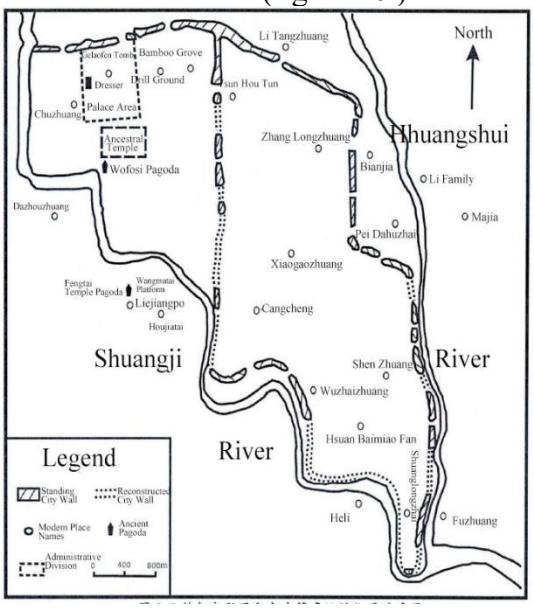


Figure 20. Schematic Diagram of the Spatial Relationship between the Palace Area, Ancestral Temples and Other Remains in the Ancient City of the Zheng State. Line drawing. China, Spring and Autumn period. From Li Haiming, Historical Urban Geography Research of the Ancient City of the Zheng State (Master's thesis, Shaanxi Normal University, 2015).

There are obvious differences in the functions of the eastern and western cities in the ancient city of State of Han. The palace area, residential area and ancestral temple area are all located in the western city, and the pottery, bone making, bronze casting, cast iron sites and general residential areas are all located in the eastern city. Obviously, the layout of the ancient city of the Han follows the characteristics of the ancient city of Zheng, but a partition wall is added to the city to further emphasize the functional zoning of the east and west cities (figure 21).

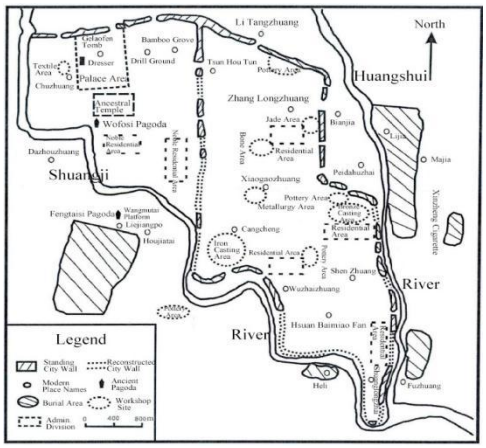


Figure 21. Layout of Handicraft and Residential Remains in the Ancient City of the Zheng State. Line drawing. China, Spring and Autumn period. From Li Haiming, Historical Urban Geography of the Ancient City of the Zheng State (Master's thesis, Shaanxi Normal University, 2015).

The ancient city of Zheng and Han was a single city system in the period of Zheng, but the west was the palace area and the east was the workshop area. After the destruction of Zheng in State of Han , the functional distinction between the east and west of the ancient city of the Han is very obvious. The west city is the palace city and the east city is the workshop area. In the northeast of Houduanwan(后 端 湾 ） , iron smelting workshop site, copper casting workshop site and bone making workshop site were found. It can be seen from this that the west city of Zheng Han 's old city is a political area, the east city is a living area, and the status of the west city is significantly higher than that of the east city.

4.The spatial layout of the tomb of the monarch of Zheng state

Since the overall layout of the ancient city of Zheng has been clear, the question is, how is the location of the three tombs of the emperor of Zheng ? What is the relationship between them and the old city of Zheng ?

The establishment of the Zhaomu system in the Western Zhou Dynasty was the principle followed by the mausoleum and the ancestral temple. The earliest record of the Zhaomu system is ' *Zhou Li*· Zhong Ren ' (《周礼•冢人》) : ' Zhong Ren is in charge of the cemetery, and it is a picture of its omen domain (冢人掌公墓之地，辨其兆域而为之图。先王之葬居中，以昭穆为左右).[32]The burial of the king was in the middle, with Zhaomu as the left and right. Since the identity of the three tombs of the monarch of the Zheng State is unknown, we will not discuss whether their positional relationship follows the Zhaomu system. However, in addition to the relationship between Zhao and Mu, the overall layout of the tombs and the relationship between the tombs and the surrounding environment are more worthy of discussion.

We still select the layout of the tombs of the vassal states adjacent to the state of Zheng for analysis. The cemetery of Ying State in Pingdingshan during the Western Zhou Dynasty is a cemetery of the vassal state of Ying State in the Western Zhou Dynasty. The cemetery is located on a narrow north-south ridge-chiyang ridge, which determines that the distribution of tombs must be in a north-south strip. According to archaeological excavations, the layout of the tombs is basically arranged from south to north in chronological order. The location of the tombs in the south is earlier, and the tombs in the north are later. The tomb M232 is located at the southernmost end of the cemetery and dates to the early Western Zhou Dynasty.[33]M231 is located on the west side of M232, which is the tomb of Ying Gongshao 's wife. M230 is located at the southern end of Chiyangling Mountain, northeast of M232 Yinggong Tomb. The owner of the tomb may be Yinggong 's eldest son, the second generation of Yinghou (figure 22).[34]

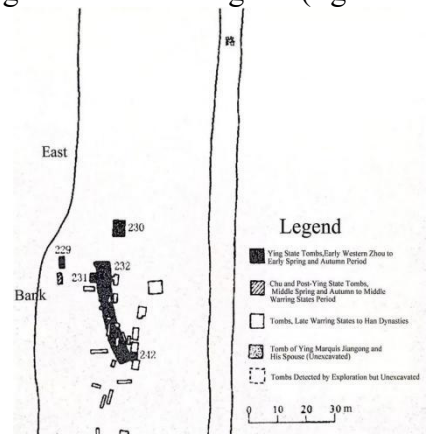


Figure 22. Location Map of Tombs M230–232 in the Ying State Cemetery. Line drawing. China, Spring and Autumn period. From Pingdingshan Yingguo Cemetery , 15–16.

M86 is located in the central part of the southern section of the cemetery, on the central ridge of Shuyang Ridge, and is the tomb of a ruler of the State of Ying from the mid-Western Zhou period.[35]M84 is located in the central part of the southern section of the cemetery, northeast of M86, and belongs to Ying Hou Xiu, a ruler of

the State of Ying during the mid-Western Zhou period.[36]M85 is located 5 meters southeast of M84 and is the tomb of Lady Xiu, wife of Lord Yinghou.[37]Tombs M87 and M88 are located in the central section of the southern area of the Ying State cemetery, arranged side by side from east to west. They were looted in the late 20th century, and a number of bronze artifacts bearing the inscription "Ying Hou Jian Gong" have since been scattered among the general public. Experts believe that these two tombs likely belong to Ying Hou Jian Gong himself during the mid-Western Zhou period; specifically, the eastern tomb, M88, is thought to be the tomb of one of Ying Hou Jian Gong's retainers, while M87 is believed to be Ying Hou Jian Gong's own tomb (figure 23).[38]

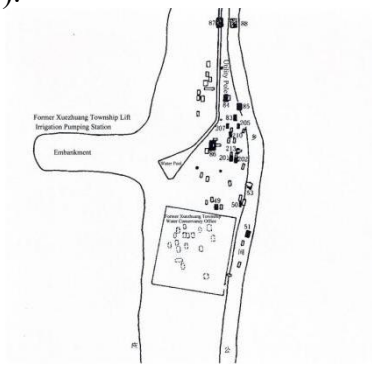


Figure 23. Location Map of Tombs M84–88 in the Ying State Cemetery. Line drawing. China, Spring and Autumn period. From The Ying State Cemetery at Pingdingshan (Beijing: Cultural Relics Press), 15–16.

In addition, on the north side of the Marquis of Ying's Jian Gong Tomb, there are two medium-sized tombs, M104 and M105, located on the central ridge of Shuyang Ridge and arranged side by side from east to west; these are likely the tombs of the Marquis of Ying and his wife, dating from a later period than the Marquis of Ying's Jian Gong Tomb.[39]The tombs of Lord You and his wife, designated M95 and M96, excavated in 1990 and 1992, are a pair of Lord You tombs located further to the north (figure 24).[40]

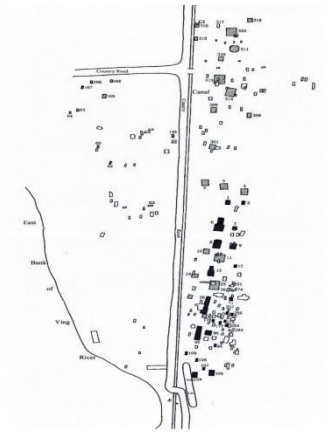


Figure 24. Map of Tomb Distribution in the Northern Area of the Ying State Cemetery. Line drawing. China, Spring and Autumn period. Adapted from The Ying State Cemetery at Pingdingshan (Beijing: Cultural Relics Press), 15–16.

Archaeologists believe the chronological sequence of these tombs is as follows: M86 (Lord Li of Ying) → M84 (Yu) → M87 (Lord Jian Gong of Ying) → M104 (Lord of Ying) → M95 (Lord Yu of Ying). We have found that these tombs are arranged from south to north in accordance with the topography of Shuyang Ridge. The Ying State cemetery is believed to provide a relatively comprehensive and accurate reflection of the layout characteristics of the tombs of feudal lords during the early and mid-Western Zhou periods. The cemetery spans from the early to the mid-Western Zhou periods, and possibly even later.

The Guo State Cemetery in Sanmenxia is a cluster of noble tombs from the feudal state of Guo during the late Western Zhou Dynasty; it serves as an important reference for studying the layout of rulers' tombs in feudal states during that period. In the 1990s, the Henan Provincial Cultural Relics Department conducted excavations at the Guo State Cemetery. Among the finds, Tomb M2001 yielded several bronze vessels inscribed with the name "Guo Ji," confirming it as the tomb of Guo Ji, the ruler of the Guo State; the accompanying chariot and horse pit, intended for burial with him, measured 47.6 meters in length. Tomb M2012 was the burial site of Liang Ji, the consort of Guo Ji. A bronze axe unearthed from Tomb M2011 bore the inscription "Crown Prince," indicating that this was the tomb of Guo Ji's son. Tomb M2009, located southeast of M2011, was the tomb of Guo Zhong, a former ruler of the Guo State. Tomb M2121, situated southeast of M2001 and cut through by Chariot and Horse Pit No. 1, was likely interred earlier than Guo Ji's tomb. The

three tombs M2118, M2119, and M2120 are arranged in a "pin" formation south of M2012 and belong to the same group of tombs. Based on their architectural features and the artifacts left behind by looters, the status of their occupants was clearly higher than that of M2121 (figure 25).[41]

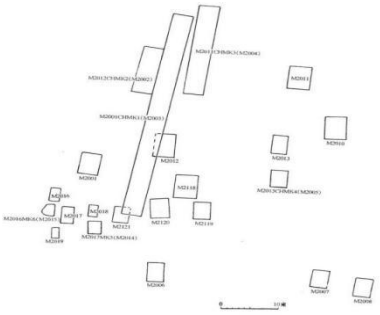


Figure 25. Plan of Tombs and Chariot-and-Horse Pits at the Guo State Cemetery in Sanmenxia. Line drawing. China, Spring and Autumn period. From Tombs of the Guo State in Sanmenxia (Beijing: Cultural Relics Press), 10.

Among these tombs, M2001 and M2011—the latter located to the northeast of the former—can be confirmed as belonging to a father and son. Another tomb, M2121, is located southeast of M2001 and dates to an earlier period. Based on the chronology and location of these tombs, it can be observed that the cemetery as a whole is arranged from south to north, with the tombs on the southern side dating to an earlier period and those on the northern side to a later period.

So, how can we determine the overall layout of this burial complex? In 1997, the cultural relics department of Sanmenxia City conducted a detailed survey of the site, identifying the overall boundaries of the Guo State cemetery. Most importantly, a trench was discovered at the southern end of the cemetery. Burials are densely concentrated on both the north and south sides of the trench, with those on the south side being of a lower rank and clearly belonging to a different burial zone than those on the north side. Archaeologists confirmed that this ditch served as the boundary between the burial area for the ruler and high-ranking nobles and that of other nobles (figure. 26).[42]

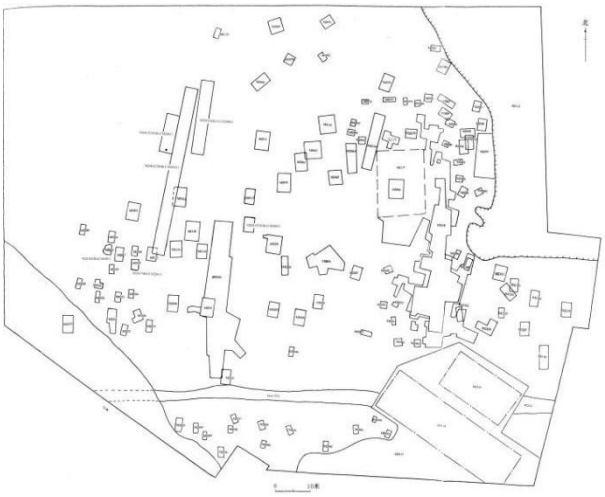


Figure 26. Distribution Map of Ruler and High- Ranking Noble Tombs at the Guo State Cemetery in Sanmenxia. Line drawing. China, Spring and Autumn period. From The Tombs of the Guo State in Sanmenxia (Beijing: Cultural Relics Press), 6.

Based on the location of this ditch, we can conclude that it likely served as the boundary originally established to define the southern edge of the Guo State cemetery. When the cemetery was first laid out, the site selection began at the location of this ditch, and the earliest tombs were arranged northward along it. The tombs in the northern section date from a later period and lack boundary ditches, indicating that the cemetery's boundaries could have extended further north.

The burial practices of the Zhou emperors' tombs within the Eastern Zhou capital would undoubtedly have had a more significant influence on the burial systems of the feudal states. As mentioned earlier, the tombs of the Eastern Zhou emperors have been discovered within the Wangcheng district of Luoyang. Scholars believe that the five tombs in the Spring and Autumn Period imperial burial area within the Eastern Zhou capital are the tombs of the Zhou emperors following Emperor Ping's eastward migration, with Tomb 1 being that of Emperor Ping and the others belonging to his successors (see Figure 17).[43]

We agree with the assessment of the location of King Ping of Zhou's tomb, and we also acknowledge that tombs 1 through 5 are arranged in chronological order. We can see that during the Eastern Zhou period, King Ping of Zhou's tomb was located outside the royal city; perhaps subsequent tombs began to be situated within the city walls.

Within the Eastern Zhou royal capital, in addition to the tombs of the Zhou Son of Heaven, there were also the tombs of the rulers of

Western Zhou. Western Zhou was a small state located within the royal domain during the Warring States period. In the first year of King Kao of Zhou's reign (440 BCE), he enfeoffed his younger brother Jie in the royal capital, bestowing upon him the title of Duke Huan of Western Zhou, thereby establishing the small state of Western Zhou. In 256 BCE, the State of Qin attacked Western Zhou; the ruler of Western Zhou surrendered, and the state was subsequently annihilated. Archaeologists believe that the four Warring States-era tombs in the western suburbs of Luoyang are the tombs of the rulers of Western Zhou. Among them, a stone ritual jade (gui) inscribed with the characters for "Son of Heaven" in ink was discovered in Tomb M1. The four tombs are arranged from west to east, with their dates ranging from earliest to latest; they are believed to correspond to the tombs of the rulers of Western Zhou—from Duke Huan to Duke Wu—dating from 440 BCE to 256 BCE (figure 27).[44]

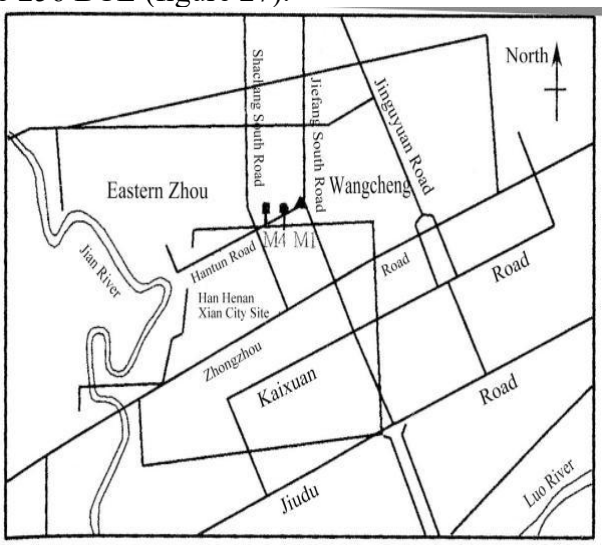


Figure 27. Schematic Map Showing the Locations of Warring States-Period Tombs M1–M4 in the Western Suburbs of Luoyang. Line drawing. China, Warring States period. Adapted from Figure 1 in Excavation Report on the Warring States-Period Burial Pits at Jiefang Road, Luoyang.

During the Warring States period, Lingshou City of the State of Zhongshan was a capital that combined a city with a royal mausoleum complex. The royal tombs of the State of Zhongshan were distributed across two areas: the royal tomb area within the city and the royal tomb area outside the city. The inner royal tomb area is located in the northwestern part of Lingshou City and contains the tombs of two generations of rulers. Tomb M7 in the northern part is the tomb of "Duke Huan," the ruler who restored the State of Zhongshan in its later period, and his "consort" or "wife." Located 700 meters south of it, Tomb M6 is the tomb of "Duke Cheng," the son of Duke Huan. To the southwest of this tomb are three additional tombs of the royal family, together forming a distinct "Duke Cheng" tomb complex. The outer royal burial area is situated approximately 1,500 meters west of the western city walls of Lingshou, on the southern slope of Mount Xiling, where the tombs of the King of Zhongshan and his queen are located. Based on surveys and excavations, the arrangement of the tombs within the inner royal burial area shows that the earlier kings were buried in the northern part of the area, while their sons were buried in the south, with the burial mounds shifting gradually toward the west.[45]

To the east of the "Duke Huan" tomb lies another medium-sized tomb (M8), believed to be that of the "Consort" or "Lady." To the northwest are six accompanying tombs. To the west of Duke Cheng's tomb (M6) lie three royal tombs (M3–M5) arranged in an east-west orientation. All three tombs are located west of M6, but M5 is the closest to M6 and is the northernmost of the three. This arrangement conforms to the burial orientation system of the Zhongshan royal tombs, whereby the tombs of previous kings are situated to the north, while those of their sons are built to the south, with a slight shift toward the west (figure 28).[46]

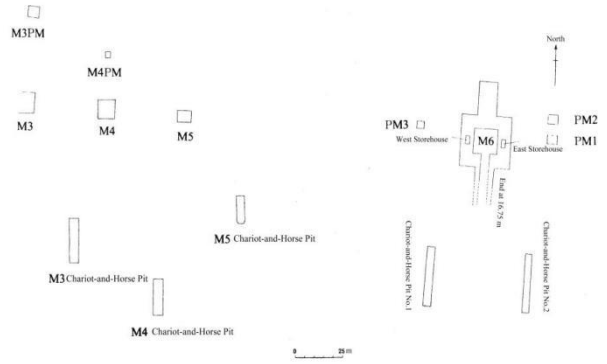


Figure 28. Plan of the Mausoleum Area of Prince Cheng of the Zhongshan State. Line drawing. China, Warring States period. From Lingshou City of the State of Zhongshan during the Warring States Period: Report on Archaeological Excavations, 1975–1993 (Beijing: Cultural Relics Press), 121.

The royal burial area outside Lingshou City in the Kingdom of Zhongshan contains the tombs of the Kings of Zhongshan and their queens from the late Warring States period. The layout of Lingshou City suggests that by the late Warring

States period, there was no longer any space within the city for burying monarchs, which is why the tombs of the Kings of Zhongshan were constructed outside the city. Thus, the relocation of the royal tombs from within the city to outside was actually due to the fact that there was no longer sufficient space within the city to accommodate additional tombs.

Let's now take another look at the layout of the three tombs of the rulers of the State of Zheng. The Grand Tomb of the Duke of Zheng at Lijialou is located on the north bank of the Shuangji River, southeast of the western district of the ancient Zheng-Han city. It is the northernmost of the three and is closest to the palace area of the State of Zheng. The burial area of the Zheng royal clan is situated southwest of the eastern district of the ancient Zheng-Han city, 500 meters southeast of Lijialou along the Shuangji River. This area is vast and features a dense concentration of noble tombs and chariot-and-horse pits. The identities of the three rulers of the State of Zheng have not been confirmed; archaeologists can only determine the approximate dates of these three tombs. Most scholars believe the Grand Tomb of the Duke of Zheng dates to the mid-Spring and Autumn period, while the Southern Tomb No. 1 of the Duke of Zheng and the "Middle" character-shaped grand tomb date to the mid-to-late Spring and Autumn period.

Only two royal-level tombs have been discovered in the Houduanwan burial area in Xinzheng, but 23 large and medium-sized chariot and horse pits have been unearthed, along with more than 3,000 tombs of various types. This indicates that these numerous chariot and horse pits were certainly not merely burial pits accompanying these two royal tombs; there must be other royal tombs within this area as well.

The State of Zheng had a total of 23 rulers, beginning with Duke Huan of Zheng. During the reign of Duke Wu of Zheng—the son of Duke Huan—the capital was moved to Xinzheng. Duke Huan of Zheng was not buried in Xinzheng; the tombs of Duke Wu of Zheng and Duke Zhuang of Zheng are located outside the city walls of Xinzheng. According to the Chronicles of Xinzheng County, "The tomb of Duke Wu of Zheng is located ten li west of the county, north of Du Jia Village; the locals call it the 'Centipede Mound.' The tomb of Duke Zhuang of Zheng is situated twenty-five li northwest of the county, on the north bank of the Wei River; the Zhen River flows east of it and joins the Wei River, near the border with Mi County. Locals commonly refer to the tomb as the 'Tomb of the Crown Prince,' which is likely a mispronunciation of 'Wusheng.'"[47]

Apart from these three rulers, the locations of the tombs of the remaining 20 rulers are unknown; however, it is certain that the three large tombs discovered to date belong to three of them. King Ping of Zhou died in 720 BCE, and his tomb was still located outside the city; perhaps the practice of burying rulers within the city began with his son, King Huan of Zhou (reigned 719–697 BCE). Duke Zhuang of Zheng (reigned 743–702 BCE) ascended the throne during the reign of King Ping of Zhou, and at the time of his death, King Huan of Zhou was still on the throne. He likely adhered to the custom established by King Ping of Zhou of being buried outside the city and chose to be buried outside the city of Xinzheng. Therefore, it is possible that the rulers of the State of Zheng began to be buried within the city of Xinzheng starting with Duke Zhao of Zheng.

Of the three tombs of rulers of the State of Zheng that have been discovered, the Grand Tomb of the Lord of Zheng at Lijialou is likely the earliest. Judging by the overall layout of the tombs, they are arranged from north to south along the north bank of the Shuangji River, with the northernmost tomb being the earliest and the southernmost being the latest.

Is there still space north of the Li Jialou Grand Tomb for the burial of rulers? To address this question, the author conducted a field survey at the site. The area north of the Li Jialou Grand Tomb is approximately 700 meters from the palace district of the ancient cities of Zheng and Han; however, it is now entirely occupied by residential buildings, making exploration impossible. It is likely that the tombs of the rulers of the State of Zheng are still located within this area (figure 29).



Figure 29. Current Condition of the Large Tomb of Lord Zheng at Lijialou, Xinzheng.

Conclusion

Judging by the layout of the tombs of the rulers of the feudal states and the Zhou emperors from the Spring and Autumn Period to the Warring States Period, the Zhou emperors in the early Spring and Autumn Period were initially buried outside the city and later buried within it. The layout of the tombs followed a regular pattern based on the characteristics of the terrain; whether arranged from south to north, north to south, or east to west, the pattern remained consistent—namely, they were arranged in chronological order. The tombs of the rulers of the State of Zheng also followed this layout; it is possible that, beginning with Duke Zhao of Zheng, they were buried within the capital city. The tombs of the rulers of Zheng and those of the nobility are distributed along the north bank of the Shuangji River, extending from northwest to southeast and from inside the city to outside the city. The chronological order of the three tombs of the rulers of the State of Zheng discovered at the ancient site of Zheng-Han is as follows: the Li Jialou Grand Tomb, Tomb No. 1 of the State of Zheng, and the "Zhong"-shaped Grand Tomb. Should any additional grand tombs of the rank of a ruler of the State of Zheng be discovered in the future, their chronological order can be determined based on their relationship to these three tombs. By the Warring States period, the tombs of the rulers of the State of Han had been completely relocated outside the city walls.

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