The 1977-1978 archaeological excavations of the Lu cemeteries at Qufu, Shandong/

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THE 1977-1978 ARCHAEOLOGICAL EXCAVATIONS OF THE
LU CEMETERIES AT QUFU, SHANDONG

A Thesis Presented

by

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INTRODUCTION

Qufu, Shandong, has traditionally been identified with the Liang Zhou\(^1\) era feudal state of Lu, and best known as the home of the philosophical school of Confucius. Literary and historical records, building complexes maintained in support of the “state cult of Confucius,” and the existence of ruins of *hangtu* 夯土 (rammed earth) city walls and building foundations surrounding the present day walled city of Qufu, have all contributed to these associations.\(^2\) Local discoveries of bronze vessels cast with inscriptions referring to the state of Lu further corroborated this assumption.\(^3\) Because of these and later occasional discoveries, the archaeological remains and historic structures in the vicinity of Qufu were declared a “Protected Important National Cultural Site” in 1961.\(^4\)

---

1. 两周 Liang Zhou, a term used for the entire Western Zhou through Eastern (encompassing the Spring and Autumn through Warring States periods) Zhou periods, roughly 1040 BCE —221 BCE. See Table 3 for further details on the subphases of these periods.


   Buck, David, et. al. “Archaeological Explorations at the Ancient Capital of Lu at Qufu in Shandong Province”. *Chinese Sociology and Anthropology* 19.1 (Fall 1986); p. 3.
Investigations by the Shandong Archaeological Department, under the direction of the National Cultural Bureau, culminated in a thorough archaeological survey of the ruins around Qufu in 1977—1978. Test core drilling and selected excavation uncovered remains of city walls, roadways, buildings (palaces, workshops, and residences), and cemeteries. Reports of these excavations were published in 1982 by the Shandong Institute of Cultural Relics and Archaeology in a volume titled *Qufu Luguo gucheng* [The Ancient City of Lu at Qufu], and in two articles in the December 1982 issue of the archaeological journal *Wenwu*.

The first extensive English language reference to these archaeological data occurred in 1986 with the publication of “Archaeological Explorations at the Ancient Capital of Lu at Qufu in Shandong Province” in the translation journal *Chinese Sociology and Anthropology*, where David Buck wrote an introduction to and translated the last chapter of the report (“Conclusions”), as well as the two related December 1982 *Wenwu* articles. The archaeological report and Buck’s translations were brought to my attention by Research Professor E. Bruce Brooks after I had expressed my interest in developing a thesis project which could combine my desire to carry out a translation project with my interest in the archaeology of early China. Translation of additional sections of this report would also complement Brooks’ research on the literature and history of the Warring States period, and Lu in particular.

---


With the expectation that a complete translation of the Lu cemeteries sections would clarify some aspects of the conclusions which Buck had already translated, I decided to translate Part Five of Chapter One, which describes the cemeteries’ general layout, and all of Chapter Three, which describes the cemeteries’ graves and inventories their contents.

Among the archaeologists’ primary conclusions was the assertion that they had verified the traditional understanding that the capital of Lu had been at the Qufu site throughout the Liang Zhou period. Their analysis of the excavated cemeteries and the contents thereof further concluded that the data indicated that two culturally distinct populations had lived side by side at Lu. The first population was labeled “Group A” (jiazu 甲组) and identified as an indigenous population with Yin 殷 (Shang 商) or Yi 少 characteristics who had been subjugated by “Group B” (yizu 乙组), the Zhou conquerors. The authors claimed this to be an unique discovery of this particular type of Liang Zhou Era social arrangement.

My own examination of the sections which I have translated here suggests that a critical reevaluation of the report is merited. Purportedly historical accounts in traditional literature have influenced the authors' interpretation of the archaeological data, and deficiencies in the periodization

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8 The report’s English abstract characterized the cemeteries as “two different types, the type peculiar to the aboriginal clan and the type peculiar to the Zhou clan. It is the first time that graves of different clans are found to have existed simultaneously in a ducal capital during the period of the Western and Eastern Zhou Dynasties.” Qufu Luguo, pp. 1–2.

In his introduction to his translations Buck referred to the Group A people as “the conquered Yi.” (Buck, Ancient Capital, p.5)

At the end of Tian An’s Wenwu article “Archeological Exploration of the Lu City at Qufu” he characterizes them as Yi. (p. 26)

9 Yin and Shang are alternate names of the dynasty (ca. 1700 BCE — ca. 1040 BCE) which preceded the Zhou.
may be improved by consideration of additional data from comparable sites (some of which have been published in the intervening years).

The authors of the Qufu report evaluated their archaeological findings according to the extent to which they conform or compare within two very different contexts: a) the rich literature traditionally considered to have been written throughout the period of this site's occupation, and b) the archaeological data from excavations of Shang and Liang Zhou era cities and cemeteries of comparable size and age.

Textual references to the establishment of Lu

Some of the early Chinese texts purport to describe events of the earliest periods of the Western Zhou, and some archaeologists and historians have  

10 Yi might best be defined from the perspective of the Zhou people as "an uncivilized hostile alien group," usually from the eastern regions. The term is more commonly translated as "barbarian," particularly in the form of compounds Dong Yi (Eastern Barbarians) or Huai Yi (Barbarians from the Huai River region). Sometimes the four fringe ethnic groups (Man, Yi, Rong, Di) were abbreviated "The Four Yi (Barbarian Tribes)". Some texts appear to consider the Yi as less barbaric than the others. Considerable attention is given to this subject in the first part of the sixth chapter ("Chunqiu shidai de Hua Xia yu Man Yi Rong Di" 春秋時代的華夏與蠻夷戎狄 ["The Hua Xia in relations with the Man, Yi, Rong, and Di during the Spring and Autumn Period"] ) in Pan Ying 潘英, Zhongguo shanggu shi xintan 中國上古新探. Taipei: Ming wen shuju 明文書局, 1985; pp. 135-141.


The term Yi or Dong Yi is also used by archaeologists as a broad term encompassing cultures which existed in the Shandong-Liaoning region from the beginning of the neolithic up through the Shang and Zhou periods. Dawenkou, Shandong Longshan, and Yueshi are examples of cultures which archaeologists may label Dong Yi.

accepted these descriptions as fact. “This historical-political interpretation dominated . . . two thousand years of exegesis of the Classic of Poetry . . . . and continues today to influence much, if not most, Chinese readings of the text.”

Other scholars have taken a much more critical view of the authenticity of the descriptions in the ancient texts. Gu Jiegang’s (顾颉刚 Gu shi bian 古史辨) Debates on Ancient History) was an influential and highly skeptical collection of studies by various scholars who raised doubts concerning the antiquity of most of the Chinese classics. More recently, E. Bruce and A. Taeko Brooks have analyzed many of these same texts and conclude that most of the texts in question were either written or supplemented during the fourth century BCE or later.

The authors of the Qufu archaeological report cite as supporting evidence (and other Chinese and Western historians of ancient China also rely upon) several passages in certain purportedly early Chinese texts regarding the establishment of Lu. One example comes from the Shi jing (Classic of


13 Shaughnessy, Before, p. 2.

14 Brooks, E. Bruce. “Review Article: The Present State and Future Prospects of Pre-Han Text Studies.” In Sino-Platonic Papers 46 (July 1994); pp. 1—74.


Poetry). Within the “Sacrificial Odes of Zhou,” Book II, “Praise-Odes of Lu,” Ode IV “Bi Gong,” the second and third stanzas assert that King Cheng appointed the Duke of Zhou’s elder son, Bo Qin, as Gong 公 (Duke) of Lu, enfeoffing him “in the east, giving him the hills and rivers, the lands and fields, and the attached States.”

18 The early establishment of Lu is also cited as a historical fact in a Zuo zhuan passage (Fourth Year of Duke Ding), followed by an account of the enfeoffment of the rulers of Wei and Jin. This passage states that, in addition to various items indicative of his new status, King Cheng gave the Duke of Lu six zu (clans) of Yin, whose clan heads were ordered “to lead the chiefs of their kin, to collect their branches in the remote as well as the near (lands), to conduct the multitude of their connections” for the sake of serving their duke. The passage indicates that the state of Lu was set up as the governing body over the people of Shangyan 商奄, in the territory of ancient Shaohao 少亳, and that the instruction given to Kangshu (the first marquis of Wei) to govern in accordance with the Shang traditions was apparently applicable to the state of Lu as well.

21 The Qufu report’s authors appear to accept these accounts as factual record, but the critical reader should consult other opinions on the utility of

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19 The Fourth Year of Duke Ding of Lu was 506 B.C. The founding of the feudal states was recalled in an attempt to explain rules of protocol.

20 Yan is considered to have been the sixth Shang capital (moved from Bi 埠 by Nan Geng南庚, the seventeenth king, until Pan Geng 盤庚, the nineteenth king, moved the capital to Yin), See K.C. Chang, Shang Civilization (Early Chinese Civilization Series). New Haven: Yale University Press, 1980.; p. 7.

their approach. Certainly some writers in the West also regard these ancient texts as authentic records. Hsu and Linduff, in *Western Chou Civilization*, make extensive use of the same texts in their reconstruction of the period. In *Early Chinese Texts*, Michael Loewe places the composition of the *Shi jing* over a broad time period, from the eleventh through seventh centuries BC (i.e. ca. 1000 through ca. 600 BCE), and Edward L. Shaughnessy dates it to a similar range a century later (tenth through sixth century BCE). If the "Praise-Odes of Lu" could be proven to have been written during the earliest part of this range, their value as a historic document would certainly be very high. On the other hand, if they are from the later portion of these dates (700-500 BCE), four to five hundred years after the events, their credibility as sources for late Shang and early Western Zhou history is much weaker.

The Brookses' analyses of the *Shi* material suggest that the *Shi* as a whole may have been compiled considerably later, in increments during the span from circa 460 to circa 322 BCE (six to seven hundred years after the purported establishment of Lu). Such a compilation process does not directly impugn the authorial dates of the included material, for a process of oral transmission has been suggested by other scholars, however, it at least raises doubts about the *Shi* as an unproblematic authority for very early events.

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Textual reference to burial practices

There are several early texts (I Li, Li Ji, Mozi) in which numerous references are made to corpse preparation and burial practices (aside from mourning or ancestral worship rituals). These texts provide literary contexts for possible interpretation of the archaeological remains of burials.

The analyses of the authorship, composition, and dating of these works (I Li, Li Ji, and Mozi) are also controversial. Here it is sufficient to note that the claimed range of composition covers a span of over nine hundred years, for example, from the (extremely dubious) traditional belief that the I Li was written by King Wen at the beginning of the Zhou dynasty, to the considered opinion of many scholars that this text was written, compiled and edited from the Warring States period through the early Han dynasty.\(^{25}\) In all probability these texts were written or compiled long after many of these Lu burials occurred, and cannot be viewed as authoritative contemporaneous statements on the nature of these burials. The authors may have had access to earlier ritual texts (now not extant) on mortuary practices, or they may have extrapolated the nature of earlier practices from their knowledge of contemporary (as late as early Han) practices. At the very least a familiarity with these passages allows the reader to more easily consider the cultural function of what now may be just shards of clay, or vague impressions or layers of ash left in the soil. It is likely that the archaeologists (some of whom

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were well schooled in the pre-Qin canonical texts) have been influenced by these texts in their interpretation of the raw archaeological data.\textsuperscript{26}

\textit{I Li} and \textit{Li Ji}

The ritual texts \textit{I Li}\textsuperscript{27} and \textit{Li Ji},\textsuperscript{28} in addition to providing extremely detailed descriptions of mourning practices, also describe preparation of the corpse (e.g., placement of tongue amulets and ear plugs), coffins, and the various objects interred with the dead such as burials shrouds, \textit{mingqi} 明器 "spirit vessels,"\textsuperscript{29} bronze vessels and weapons. The \textit{I Li} passages, probably of an earlier date than the \textit{Li Ji},\textsuperscript{30} are relatively concise prescriptions for burial practices. For example, the following \textit{I Li} passage describes the final stages of the burial:

\begin{quote}
The Internment.  
(a) When the procession reaches the grave enclosure, the spirit vessels are laid down on the east and west sides of the road, and graded from the north.  
(b) The cushions are first put in.
\end{quote}


\textsuperscript{29} A term for items very specifically made as burial offerings, as opposed to utilitarian items which were also placed in graves. Sometimes \textit{mingqi} may be miniature versions of utilitarian vessels, or they may be cast or fired in a manner inappropriate to everyday use, etc. Pottery vessels which are clearly modeled on bronze ritual vessels may also be designated \textit{mingqi}.

(c) Then the penthouse having been removed, the lowering-cords are attached to the coffin. . .
(e) They lower the coffin into the grave . . .
(f) The Master of Ceremonies gives, as parting gift to the deceased, lengths of silk, black and crimson, in rolls. In putting this into the grave he kowtows and stamps as above. . .
(i) The spirit vessels are laid at the side of the coffin, and the pall is laid over all.
(j) Then the packets of meat are placed at the sides of the coffin, and the baskets of grain also.
(k) Then the covering frame is set on, with the mats above it, their right sides being downwards. Thereafter the earth-boards are set in place.
(l) After three spadefuls of earth have been thrown into the grave, the Master of Ceremonies bares his arm and bows to the people of the district who have attended and helped at the funeral. . .

The Li Ji texts, on the other hand, are more elaborate in their descriptions, sometimes even providing anecdotes and detailed explanations of the meaning of the practices. For example, in the following passage the text presents an understanding of the meaning of mingqi:

Confucius said, ‘He who made the vessels which are so (only) in imagination, knew the principles underlying the mourning rites. They were complete (to all appearance), and yet could not be used. Alas! if for the dead they had used the vessels of the living, would there not have been a danger of this leading to the interment of the living with the dead?’
They were called ‘vessels in imagination,’ (the dead) being thus treated as spiritual intelligences. From of old there were the carriages of clay and the figures of straw —— in accordance with the idea in these vessels in imagination. Confucius said that the making of the straw figures was good, and that the making of the (wooden) automaton was not benevolent. ——Was there not a danger of its leading to the use of (living) men?32

31 I Li, pp. 90—91.
Mozi

In the process of expressing its “anti-ritualist” viewpoint several passages in the Mozi chapter “Simplicity in Funerals” provide descriptions of funeral practices:

Mozi said: I have examined the sayings of those who uphold elaborate funeral and extended mourning. If they should be taken seriously in the country, it would mean: when a lord dies, there would be several inner and outer coffins. He would be buried deep. There would be many shrouds. Embroidery would be elaborate. The grave mound would be massive. So, then, the death of a common man would exhaust the wealth of a family. And the death of a feudal lord would empty the state treasury before his body would be surrounded with gold, jade, and pearls, and the grave filled with carts and horses and bundles of silk. Further, there should be plenty of canopies and hangings, dings, drums, tables, pots, and ice receptacles, spears, swords, feather banners, and hides all to be carried along and buried. Not till then are the requirements considered fulfilled. And, regarding those who were to die to accompany their lord, for the emperor or a feudal lord there should be from several hundred to several tens, and for a minister or a secretary there should be from several tens to several.33

Later in the chapter simpler burial practices are prescribed, according to “ancient edicts”:

Therefore the ancient sage-kings authorized the code of laws regarding the burial of the dead thus: The coffin shall be three inches thick, sufficient to hold the body. As to shrouds there shall be three pieces adequate to cover the corpse. It shall not be buried so deep as to reach water and neither so shallow as to allow the odor to ascend. Three feet in size shall be big enough for the mound. . . . Such are the laws of the sage-kings.34


34 Motse, p. 130.
In refuting an argument that elaborate funerals had actually been "a principal of the sage-kings," Mozi favorably cites the examples of the (alleged) simple burials of the great culture-heroes Yao, Shun, and Yu, and contrasts them with contemporary practices:

The way in which the present rulers are buried is quite different from this. There are the outer and the inner coffins, and then the three layers of hide and embroidered covers. When the stones and jades are all collected, there are yet to be completed the spears, swords, dings, pots, and ice receptacles, and ten thousand of decorated reins and yokes, and the carriages, horses, and the chorus girls. Then, there must be built the tunnel to reach under the tomb which is as high as a hill.\textsuperscript{35}

The argument concludes by reiterating the modest practices which he earlier attributed to "the sage-kings":

Outlining the rules for funerals and burials, Mozi said: The coffin shall be three inches thick, just sufficient to hold the rotting bones. Of shrouds there shall be three pieces just enough to hold the rotting flesh. The pit shall be dug not so deep as to strike water, and not so shallow as to allow the odor to ascend. The mound shall be just high enough to be identified (by the mourners).\textsuperscript{36}

\textbf{Criticism of the archaeologists' conclusion}

The Shandong archaeological team carried out a thorough excavation which the report documents with detailed descriptions of the cemeteries and their contents. While an interesting case is put forward for their main hypothesis, that the Group A burials must be those of descendants of Shang or indigenous Yi peoples, and that the Group B burials were those of their Zhou conquerers, their argument has some real weaknesses. The last paragraph of Tian An's \textit{Wenwu} article concludes with the assertion that:

\textsuperscript{35} Motse, p. 130-131.

\textsuperscript{36} Motse, p. 134.
By distinguishing the special characteristics of the Group A and B graves and comparing them with Zhou period graves from the Shandong and Shaanxi regions, we can prove these graves belong to the local inhabitants, the Yi (Type A), and Type B to the Zhou peoples.37

I had hoped to find such a proof in my translation of the “Periodization” and “Brief Summary” sections of the archaeological report, but was disappointed to discover that the internal periodization is rather convoluted, and comparison between the Qufu materials and that of other sites is very limited. To summarize their arguments Table 1 (page 14) lists six characteristics by which the Group A graves were found to contrast with the Group B graves. Below I will critically examine their approach to one of these features, and conclude by citing a recent study which revises the ceramic periodization and the relative chronology of the burials.

Yaokeng

One of the archaeological features by which the Qufu report differentiates the Group A burials from Group B burials are yaokeng 腹抗 (“waist pits”), pits placed under the coffin, approximately beneath the waist of the human burial. Dogs were sacrificed and buried in these small pits. The meaning or function of this funerary practice is obscure; I have failed to find any references to it in early texts. I was surprised that my search of Chinese and English archaeological literature failed to find any articles focussing on this particular feature.

37 Tian An 田岸. “Qufu Lucheng kantan” [“Archaeological Exploration of the Lu City at Qufu”]. Wenwu 1982: (December); p. 1—12.
Wolfram Eberhard, in his collection of legends and ethnographic references to dogs, documented traditions in which dogs are seen as exorcisers and protectors of the dead. Rolf Stein made the following observations and ethnographic comparisons about Shang yaokeng:

Great Shang tombs [are] shaped like a cross (yaxing). These tombs included a hole in the center and often, in addition, four or eight holes at the cardinal points. These holes contained a sacrificed man or animal (sometimes two). A tomb is obviously not a house, but they may be compared on the basis of the fact that the tomb represents the resting place of the dead. Human sacrifices under the central pillar, under the entrance, or under the main columns were common in many rites of house construction; the victims became the house’s guardian spirits. The holes in the Shang tombs may thus be compared with the supporting pillars of houses. In the cross-shaped tomb a dog was buried in the central hole. In classical China the dog was the sacrificial animal dedicated to the main door (men). When one remembers that the people living in Manchuria during the Han built very deep underground houses ... it may not be inappropriate to compare the dog buried at the center of the Shang tomb to the Manchurian psychopomp-dog who guided souls to the Mountain, the dwelling place of the ancestors. ... Among the Koryak, sacrificed dogs, crouched on a pillar, guarded the dwelling of a great family and later became guardians of the village.

The prevalence of yaokeng in elite Shang burials has been well documented in the English language survey work of Chêng Tê-k'un, Archaeology in China: Volume Two, Shang China, and the more recent mainland China survey works Shang Zhou Kaogu and Shang Zhou Kaogu Jianbian. Sometimes the archaeological literature over...
emphasizes the occurrence of massive tombs with vast quantities of elaborate burial offerings. **Yaokeng** are also found beneath burials of the less privileged; a report on excavations to the west of the Shang city at Anyang documents a large cemetery filled with many “lesser elite” (which the report terms “commoner”) graves which contain **yaokeng**.\(^\text{43}\)

Some archaeologists have asserted that **yaokeng** are generally absent in “early Zhou” sites:

The Zhou tombs in Hejiancun do not have waist pits (腰坑) and dog skeletons (gou jia 狗架); this probably reflects an element of Zhou culture.\(^\text{44}\)

The authors of the Qufu report have made the same assumption; the presence of **yaokeng** is one of the archaeological factors which they identified as “Yin” or “Yi” characteristics differentiating the Group A burials from the Group B (Zhou culture) burials.

Other authors have disagreed; the summary of *Excavations at Feng Hsi (1955–1957)* says:

The burial practice of the Western Zhou bears a close resemblance to that of the Yin people. For example, the Western Zhou tombs are also

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provided with a burial pit containing the skeleton of a dog. It is often found near the waist of the dead, thus giving rise to the term “yaokeng”. ... Funerary objects are usually placed near the head of the dead. On an earthen shelf called ercengtai (二层台) is often placed an offering of a whole leg of either a pig or ox. These ... are apparently inherited from the Yin people.\textsuperscript{45}

Jessica Rawson, in her chapter on “Western Zhou Archaeology” in The Cambridge History of Ancient China, makes roughly the same generalization that yaokeng and several other typically Shang tomb features are also present in many Western Zhou burials.\textsuperscript{46}

By searching for references to yaokeng in tombs from the Western Zhou through the Warring States period (from the above mentioned surveys) I have compiled a list of 14 sites whose burials contain yaokeng, summarized below in Table 2. This certainly negates the Qufu report’s contention that the presence of yaokeng at this site are in any way unique for the post Shang period, an indicator of Shang or Yi ethnicity, or that the burials are necessarily relatively early.

Chronology

In attempting to better understand, and properly critique the report’s conclusions I familiarized myself with the archaeological surveys of the period and similar site reports, but synthesizing a detailed typological comparison and analysis between the ceramic and bronze vessel assemblages at Qufu and those typical of other archaeological cultures (late neolithic cultures in the Shandong area such as Yueshi,\textsuperscript{47} and Shang and Liang Zhou

\textsuperscript{45} Fengxi, p. 193.
era states) would be an extremely specialized and difficult project, well beyond the scope of the introduction to this translation.

Fortunately, the Qufu site has been included in a detailed comparative study by Cui Lequan of ceramic vessels from Eastern Zhou period sites in the Shandong area.\(^{48}\) The data from the Qufu site are a major component of his study, in which he finds through comparison with other sites' ceramics that the proper dating for much of the Qufu pottery is actually considerably later than the original report had concluded.

Table 3 summarizes the Qufu report's relative chronologies of the Group A and Group B graves, arranged alongside Cui's new chronology, and approximate Western calendar equivalents for the various phases (within the archaeological literature references to these various subphases are seldom defined with firm Western calendar dates, or even specific reign periods). Notice that the Qufu report concludes that the Group A burials are present throughout the Western Zhou and Spring and Autumn periods but absent in the Warring States period, while the Group B burials are assigned to the Western Zhou and Warring States periods, but are entirely absent during the intervening Spring and Autumn period.

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Table 4 has the same content as the previous table, but with arrows added to indicate where Cui, through comparison with other Shandong area sites' ceramic assemblages, has redated the Qufu funerary ceramics from both Group A and B to later phases, in effect substantially revising the entire original chronology. For example, the Qufu report's "early Western Zhou" materials are redated to the "late Western Zhou" phase; Group B "middle Warring States period" materials are redated to "late Warring States period." Cui's chronology presents a continuous time line from the late Western Zhou, through the late Warring States, and thereby removes the ceramic assemblage as an indicator (as hypothedized in the Qufu report) of occupation during the early or middle Western Zhou period.

Conclusions

The main goal of this thesis has been to produce a thorough translation, along with an introduction which provides a context in which to evaluate the textual and archaeological bases of the report's conclusions. I have found some weaknesses in the report's use of ancient texts as authoritative documentation of the site's occupation at the beginning of the Western Zhou period. On the other hand, several Warring States texts are useful as sources of descriptions of burials and funerary objects. My research in the archaeological literature found that there are too many occurrences of yaokeng in other Zhou era sites to consider this feature to be a unique indicator of a burial's early date, or proof that they are burials of Shang descendants. The 1992 ceramic reperiodization by Cui casts doubt on the archaeological report's conclusion that the cemeteries are evidence the site had been occupied from the beginning of the Western Zhou period.
Nevertheless, distinct differences do exist between the Group A and Group B cemeteries. These may be more indicative of differences in wealth, class, and clan variation in funerary practices than the report's assertion that Shang descendants and Zhou people lived segregated lives at Qufu from the beginning of the Western Zhou through the end of the Spring and Autumn. A better understanding of this question will only come about through further excavations and analysis of the data.

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Table 1. Comparison of Group A and Group B graves' characteristics

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of graves</td>
<td>78</td>
<td>51</td>
</tr>
<tr>
<td>Head orientation</td>
<td>South end</td>
<td>North end</td>
</tr>
<tr>
<td>Yaokeng waist pit with dog burial</td>
<td>In all &quot;W. Zhou&quot; graves</td>
<td>Absent</td>
</tr>
<tr>
<td>Layout of grave goods</td>
<td>Between inner &amp; outer coffins on floor near head or corpse's side</td>
<td>On the secondary ledge and on top of the coffin near the head</td>
</tr>
<tr>
<td>Pottery configurations during first phase</td>
<td>Four (or two) each of four vessel types (li, gui, dou, guan): &quot;four-even&quot;</td>
<td>Li and guan</td>
</tr>
<tr>
<td>Grave width in W. Zhou</td>
<td>Wide</td>
<td>Narrow</td>
</tr>
<tr>
<td>Grave size in later periods</td>
<td>Wide</td>
<td>Larger: a large pit was excavated and a burial chamber constructed of rammed earth</td>
</tr>
</tbody>
</table>
Table 2. *Yaokeng* present beneath other Liang Zhou era sites' burials

<table>
<thead>
<tr>
<th>Era</th>
<th>(specific phase if available)</th>
<th>Locality</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN ZHOU</td>
<td></td>
<td>Keshangzhuang, Shaanxi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zhangjiapo, Shaanxi</td>
</tr>
<tr>
<td>WZ to early SA</td>
<td></td>
<td>Qj cemetery, Xindian, Linzi, Shandong</td>
</tr>
<tr>
<td>late WZ to late WS</td>
<td></td>
<td>Yuejiahe, Changle, Shandong</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Puduncun, near Xian</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Luoyang</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sanjiagou, Luliang, Shanxi</td>
</tr>
<tr>
<td>SPRING &amp; AUTUMN</td>
<td></td>
<td>Zhongshan kings' tombs, Pingshan, Hebei</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wei kings' tombs, Henanhu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zheng cemeteries, Xinzeng</td>
</tr>
<tr>
<td>WARRING STATES</td>
<td>early WS</td>
<td>Wujicheng, Wuanxian, Hebei</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linqichu, Linxian, near</td>
</tr>
<tr>
<td></td>
<td>late WS</td>
<td>Guo cemetery, Shangcunling, W. Henan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changtaiguan, Xinyang</td>
</tr>
</tbody>
</table>
### Table 3. Comparative chronological table

<table>
<thead>
<tr>
<th>Rough equivalents to Western calendar</th>
<th>Qufu Report Group A Periods</th>
<th>Cui Lequan's Shandong Reperiodization</th>
<th>Qufu Report Group B Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1040 - 950 BCE</td>
<td>Beginning to Early Period of the Western Zhou (A-1)</td>
<td>NOT PRESENT</td>
<td>Early Period of the Western Zhou (B-1)</td>
</tr>
<tr>
<td>950 - 860 BCE</td>
<td>Middle period of the Western Zhou (A-2)</td>
<td>NOT PRESENT</td>
<td>Middle period of the Western Zhou (B-2)</td>
</tr>
<tr>
<td>860 - 770 BCE</td>
<td>Late period of the Western Zhou (A-3)</td>
<td>Late period of the Western Zhou (to the beginning of the Spring and Autumn) (1)</td>
<td>Late period of the Western Zhou (B-3)</td>
</tr>
<tr>
<td>770 - 670 BCE</td>
<td>Early period of the Spring and Autumn (A-4)</td>
<td>Early period of the Spring and Autumn (2)</td>
<td>Last years of the Western Zhou (B-4)</td>
</tr>
<tr>
<td>670 - 570 BCE</td>
<td>Middle period of the Spring and Autumn (A-5)</td>
<td>Middle period of the Spring and Autumn (3)</td>
<td>NOT PRESENT</td>
</tr>
<tr>
<td>570 - 475 BCE</td>
<td>Late period of the Spring and Autumn (A-6)</td>
<td>Late period of the Spring and Autumn (4)</td>
<td>NOT PRESENT</td>
</tr>
<tr>
<td>475 - 390 BCE</td>
<td>NOT PRESENT</td>
<td>Early period of the Warring States (5)</td>
<td>Last years of the Spring and Autumn</td>
</tr>
<tr>
<td>390 - 305 BCE</td>
<td>NOT PRESENT</td>
<td>Middle period of the Warring States (6)</td>
<td>Early period of the Warring States (B-6)</td>
</tr>
<tr>
<td>305 - 220 BCE</td>
<td>NOT PRESENT</td>
<td>Late Period of the Warring States (7)</td>
<td>Middle period of the Warring States (B-7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NOT PRESENT</td>
</tr>
</tbody>
</table>

22
Table 4. Redating of Qufu phases according to Cui's Shandong reperiodization

<table>
<thead>
<tr>
<th>Rough equivalents to Western calendar</th>
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<tr>
<td>570 - 475 BCE</td>
<td>Late period of the Spring and Autumn (A-6)</td>
<td>Late period of the Spring and Autumn (4)</td>
<td>NOT PRESENT</td>
</tr>
<tr>
<td>475 - 390 BCE</td>
<td>NOT PRESENT</td>
<td>Early period of the Warring States (5)</td>
<td>Early period of the Warring States (B-6)</td>
</tr>
<tr>
<td>390 - 305 BCE</td>
<td>NOT PRESENT</td>
<td>Middle period of the Warring States (6)</td>
<td>Middle period of the Warring States (B-7)</td>
</tr>
<tr>
<td>305 - 220 BCE</td>
<td>NOT PRESENT</td>
<td>Late Period of the Warring States (7)</td>
<td>NOT PRESENT</td>
</tr>
</tbody>
</table>
CHAPTER I

SURVEY AND CORE DRILLING OF THE ARCHAEOLOGICAL REMAINS OF LU

The cemeteries

[21] Four cemeteries were discovered within the city by means of exploratory drilling. They were generally distributed within the range of slightly more than one third of the western part of Lu city. Cemeteries have not yet been discovered in the eastern half of Lu city.

(1) "Terrace for Gazing at the Ancestors" 望父台 (Wangfutai) cemetery: There is a grave mound commonly known as the "Terrace for Gazing at the Ancestors" located to the north of the modern city of Qufu, and to the west of Lindao 林道 (Grove Road) in the Konglin 孔林 (Grove of Confucius). A large number of ancient graves are scattered around the "Ancestral Terrace" (diagram 1). It is about 170 m east of Lindao, on the west about 100 m northeast of Fangshangcun 坊上村 (Above Workshops Village) on the south to the east-west ditch north of Beiguancun 北关村 (Northern Pass Village) north to the southern part of Linqiancun 林前村 (Front of Grove Village). The Ancestral Terrace, 1,200 m east-west by about 1,500 m north-south, is the largest cemetery in the city, and was used over the longest continuous period.

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50 This is the title of Part III of the original report which is translated herein.
51 This is Chapter 5 of Part III of the original report.
52 The numbers in brackets refer to the page number of the Chinese text being translated. They are placed at the beginning of the first new paragraph on a page (i.e. not mid sentence).
The preliminary excavation has already uncovered one hundred-six
graves of various sizes (large, medium, and small). They are distributed mainly
in these three locations: (a) the northeast part of Survey Area 17 southeast of
the Ancestral Terrace, (b) the area around Yubeiting 御碑亭 (Imperial Stelae
Pavilion) and (c) southwest of Linqiancun. Fragmentary indications of burial
grounds have been found in other areas.

Comparatively detailed core testing was carried out in the northeast
corner of Survey Area 17, and twenty-eight large-to-middle scale tombs and
fifty-eight small scale graves were discovered. The small scale graves have
already been excavated; except for several Han tombs, most of them were
Western Zhou burials (diagram 1). The eight large-to-middle sized tombs
which were excavated belong to the Spring and Autumn to Warring States
periods (see chapter 3, part 3). Seventeen mid-sized tombs in Survey Area 26
surrounding Lindao and Yubeiting were surveyed, but not yet excavated.

These tombs were all vertical shaft pit graves. The mouths of the grave
pits were generally about 0.6 meter below ground level, 5 to 7 meters square,
and the graves about 1.5 to 2 meters deep. Remains of shellac and ash from
wooden boards were discovered. Some also had bronze shards, bone cowries
and biplane shaped bronze arrowheads. These tombs are from the Western
Zhou to Spring and Autumn periods.

Four large-scale tombs were discovered southwest of Linqiancun. One of
these, grave M14 in Survey Area 26, is located northwest of a water pit. The
mouth of the grave was 14 square meters, 1 m below ground level; and 2.2 m
from the mouth to the bottom of the grave pit. On the west side of this tomb
there was also a grave, 15 m wide east-west, 40 m long north-south. It was
probed 2.4 m deep without reaching the bottom of the pit; it appears there are
two graves which cut into each other. There is a large tomb to the north of the water pit which had already been severely disturbed. Before our National Liberation [1949], a large group of Warring States bronze vessels were unearthed from this tomb and the area of the water pit. The water pit was probably originally a tomb; only after it was dug up did it become a water pit.

[22] There seems to be a definite, regular pattern in the arrangement of the large-scale tombs at the Ancestral Terrace cemetery. From the core testing we know that there were at least four rows in a north-south arrangement; the two southern rows belong to the Spring and Autumn period, and the northern rows are from the Warring States period. The numbers of graves vary in each of these rows. The largest number was five graves surveyed in Row Three (counting from the south).

One tomb is at the eastern end of the so-called “Terrace for Gazing at the Ancestors”. According to tradition this was the platform which Bo Qin would ascend to gaze out toward his father, the Duke of Zhou. It is also called “The Terrace of Bo Qin, Duke of Lu,” “Bo Qin’s Tomb,” etc. It is actually a Warring States tomb with a burial mound. Today the remains of the burial mound are no more than six or seven square meters, and a bit more than 2 m high, but according to the test drilling, there is a hangtu [夯实] rammed earth foundation which ranges more than 60 m north-south, and about 80 m east-west. Thus it can be seen that the original area of the burial mound was very large. Aside

53 “In 1932 an assemblage of bronze vessels was brought to light at Linqiancun 林前村 south of the so-called Confucian Forest in Qufu. These bronzes have proved to have been cast by Yuan 元, who was Dasitu 大司徒 of Lu, thus suggesting that this place was the site of the Lu capital during the Spring and Autumn period.” Li Xueqin, Eastern Zhou and Qin Civilizations. K. C. Chang, trans. New Haven: Yale University Press. 1985. P. 140. Rubbings from these bronze vessels are published in Zeng Yigong, Shandong Jinwen Jicun, vol. 1 (1940), no. 15.
from this tomb, the remainder of the large burial mound has completely disappeared.

West of the Ancestral Terrace three large tombs were excavated; Tombs 3, 52, and 58, which are all from the Warring States period.

(2) *Herb Garden Cemetery*: Located in the northeast part of the Herb Garden in the northwest quadrant of the Lu city. The Herb Garden Housing Village is built on top of the southwest section of the cemetery. The tombs and the site ruins lie in an intricately piled-up relationship. Because test drilling was relatively difficult, the scope of the burial area was unclear. Detailed test drilling was carried out only within the small limits of 50 sq m at the northeast corner of the Herb Garden and 30 sq m north of the Herb Garden. A total of forty-four tombs was discovered, and most of them were excavated. The funerary goods within these tombs were sufficient for us to determine the dating of the tombs, which mainly belong to the early Western Zhou period and later Spring and Autumn period. They are all small scale tombs; large and middle sized tombs have not yet been discovered (see chapter 3, section 2).

[23] (3) *Cemetery at the northwest corner of Qufu*: Located in the southwest quadrant of the Lu city, outside the northwest corner of the city wall of Qufu. The location of the cemetery is as follows: its west side is 20 m east of Quyao Road 曲姚公路; its south side is about 10 m north of the stream which protects the present day city wall; its north side is south of Shengchandao 生产道 (Production Road) which goes toward Beiguancun; the east side has not yet been surveyed in detail, so its scope is not clear.

At this time detailed test drilling was carried out only in the range of 50-60 m in the western section. Forty-two graves and one horse pit were
discovered. Most of them were small scale burials which were 2 or more meters wide, and 3 or more meters long. There also were several mid-sized tombs which were 3 to 4 m wide, and 4 to 5 m long. All but one of the forty which were excavated had been looted (diagram 3). However, the approximate composition of the pottery assemblages may be ascertained from the fragmentary pottery vessels, which date to early and middle period Spring and Autumn (see chapter 3, section 2).

Not far northeast of the excavation area, a grave was discovered in 1970, from which a set of bronze vessels was unearthed and dated to late period Western Zhou. Therefore the dating of this cemetery may be from the Western Zhou to the Spring and Autumn periods.

(4) Cock Fighting Terrace Cemetery: Located in the courtyard of the County Agriculture and Forestry Office, which is in an area southwest of the Lu city. The northern extent of the burial ground is unclear; on its south is the residential area of the Agricultural and Forestry Office north of the plant nursery; on the west it does not go past the west courtyard wall of the County Agriculture and Forestry Office; and its eastern limit is probably in the Donglinxian 东邻县 (Eastern Neighborhood County) seed-station courtyard at the Agricultural and Forestry Office.

A detailed survey was carried out within the Agricultural and Forestry Office courtyard, where forty-nine graves were discovered. Their distribution was especially dense in the northeast, east and southeast parts. Some were also discovered between the office building and the residential area. Twenty-eight

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Qi Wentao 齐文涛: “Gaishu Shandong jinnian chutu de Shang Zhou qing tongqi” 概述山东近年出土的商周青铜器 [“Summary of Recently Excavated Shang and Zhou Bronze Vessels”], Wenwu, 1972: 5 [Note in original text].
of these graves were excavated, but most of them either had no funerary offerings, or they had been looted (diagram 4). Judged on the basis of the graves which did have pottery vessels, their dates were from the early years of the Western Zhou to early period Spring and Autumn (refer to Chapter 3, Part 2).

In addition, in the area about 100 m north-west of Beiguan 北关 (North Gate), we excavated two Eastern Zhou graves which lay side by side (M401, 402). They had already been looted, but we could determine that the pottery ding 鼎 which remained was from the late period Spring and Autumn.

Just after Liberation, an early period Western Zhou grave (M501) was discovered when a well was dug in the Flower Garden behind the Confucian Temple (which is located in an area southwest of the Lu city wall). The styles of the assemblage of pottery vessels which were unearthed are identical to the implements which were excavated from the graves of the same time period at the Herb Garden Cemetery (which is located in the area northwest of the Lu city wall).

In 1973 at the tractor station southeast of Beiguancun, at the north bank of the Qufu city moat, a small grave from the early Spring and Autumn period was discovered. There was an inscribed bronze ding 鼎 among the burial objects. From these two previous discoveries, viewed in relation to the placement of the cemetery located at the northwest corner of Qufu (which is located at the southwest corner of the Lu city wall within the city walls of the county seat of Qufu), it is quite likely that a cemetery from the same period exists; however we have not yet carried out detailed exploratory drilling to locate it.
CHAPTER II

TEST EXCAVATIONS OF THE GRAVES AT THE CITY OF LU

General Outline of the Grave Excavations

[89] Test excavations were carried out at four of the five or six cemetery areas which had been discovered in the western section of the city of Lu. A total of one hundred thirty-seven graves from various eras were excavated. Among those graves which yielded artifacts were fifty-one Western Zhou graves and twenty-eight Eastern Zhou graves. There were also nineteen graves with yaokeng 腰坑 waist pits but no artifacts, which may on the whole be assigned to the Western Zhou period. Based on the construction of their coffin chambers and funeral style, the thirty graves which had no burial articles have been determined to be graves from the Liang Zhou (Western and Eastern Zhou periods) Era. There is a total of one hundred thirty-two graves from the Liang Zhou Era. In addition, there are seven Han graves, and one Tang grave. This section gives an introduction to the Liang Zhou Era graves; the Han graves are covered in the next section.55

The one hundred twenty-eight Liang Zhou Era graves were found in burial grounds at the Herb Garden, the Cockfighting Terrace, the northeast corner of Qufu city, and the Ancestral Terrace. The thirty-four graves at the Herb Garden burial ground (which were designated M101—139)56 date from the

55 The Han section has not been translated.

56 These are the serial numbers from when they were excavated. Graves from later periods are included among them. This numbering system is used throughout the report. [Note in original text]
early years of the Western Zhou to the last years of the Spring and Autumn (diagram 2). The twenty-seven graves at the Cockfighting Terrace burial ground (designated M301—32) date from the early years of the Western Zhou through the Spring and Autumn period (diagram 4). The fourteen graves at the northeast corner of the Qufu city wall (M201—214) are all Spring and Autumn graves (diagram 3). The fifty-one graves at the Ancestral Terrace burial ground (M1—58), date to the Western Zhou and late Spring and Autumn to the Warring States period (diagram 1). Two Eastern Zhou graves (M401 and M402) were excavated northwest of Beiguancun. In addition to the above mentioned graves, a grave was discovered during the early years of the founding of the People's Republic of China when a well was dug at the Flower Garden behind the Confucian Mansion. Although we only have a portion of the pottery mingqi 明器 burial offering vessels [originally] placed in the grave, this still may be used as a supplement to the early Western Zhou period graves [we] excavated from the Flower Garden cemetery. Therefore it has been counted among them, and named grave M501. In total there were one hundred twenty-nine graves from the Liang Zhou Era.

Through our survey of the funerary articles and mortuary practices of the Western Zhou graves from these four localities, we have found there are general similarities among the graves excavated from the three cemeteries located at the Herb Garden, the Cockfighting Terrace, and the Confucian Mansion Flower Garden. Clear differences also exist between the Western Zhou graves at these three sites and the Ancestral Terrace. The Western Zhou graves from these four localities clearly belong to two different groups. The funerary articles and mortuary practices of the Spring and Autumn period graves from the northwest corner of Qufu city have an intimate relationship with the Western Zhou graves from the Herb Garden and the Cockfighting Terrace, and
they should be assigned to a "unified system," which we shall call the Group A graves.

The graves at the Ancestral Terrace from the last years of the Spring and Autumn period to the Warring States period, are similar to the Western Zhou graves from the Ancestral Terrace. Although they are temporally separated from one another by most of the Spring and Autumn period, the styles of all of the implements from these two periods are still identical. Moreover the aforementioned cemetery has graves from the last years of the Spring and Autumn period and the first years of the Warring States, which are similar to the graves of the latter years of the Spring and Autumn from the northwest corner of the present day city. Because the composition of the pottery assemblage and the styles of the vessel shapes found in the Eastern Zhou graves of the Ancestral Terrace are completely different, they are not designated as Group A graves. These graves and the Western Zhou graves from the Ancestral Terrace together constitute a single grave type; because of this, they should be regarded as graves of a particular system, which we call the Group B graves.

Regarding the Eastern Zhou graves from northwest of Beiguancun which had already been looted, except for the two restored pottery ding from grave M401, there are no other artifacts, and identification of their types has not been very clear. Pottery ding were not otherwise evident in the pottery vessel configurations of the Western Zhou graves at the Ancestral Terrace; therefore they have been temporarily designated as belonging to the Group B graves.
Group A Burials

Section One, Shape and Construction of Tombs

(1) Grave pits

All seventy-eight Group A graves were rectangular vertical shaft pit graves. The bottom of the deepest grave pit was 3.8 m below the soil surface (M302), and the shallowest was 1 m deep (M202). Calculating their sizes based on the floor of the grave, the largest was M401 (3.58 m long, 2.72 m wide), and the smallest was M126 (1.6 m long, 1 m wide). Most of them were 2.5—3 m or more longer, and 1.4—2 m wide. Forty-six of these graves (59%) had widths at their bottom which were more than half their length. There were sixteen graves whose bottom width was just about half their length (approximately 20%); ten graves had widths less than half their length; the dimensions of the remaining six graves were unclear. Most of the burial chambers of the Spring and Autumn graves are clearly a bit wider.

Among these graves, there are fifty in which the mouth of the grave is the same size as the floor of the grave pit (about two thirds of the tombs). The mouth of the grave was larger than the floor in twenty-six graves (about one third). In one grave the mouth of the grave was smaller than the floor, and in another grave its shape and size was unclear. All of these graves have secondary platform ledges made from disturbed soil. Secondary platform ledges made from undisturbed soil have not yet been encountered. As for the condition of the soil, some of these were rammed solid, while others were not.

Yaokeng waist pits were placed in the middle of the floor of twenty-nine graves. These waist pits were dug out in a perfunctory manner: some are rectangular, some are round, and several are oval. A single dog was placed within each of these waist pits.
(2) Coffins

All the coffins had completely decomposed, so only ash residues of their boards remained in the vicinity of the secondary platform ledge, the four walls, and the bottom of the grave pit. Based on the residual ashy remains of wood planks, we conclude that forty-six graves had an outer and an inner coffin, ten graves had an ordinary inner but no outer-type coffin, and in twenty-two graves the conditions were unclear. Most of the Western Zhou outer coffins were 2 to 2.5 m long, and 1 to 1.5 m wide; most of the Spring and Autumn outer coffins were comparatively longer and wider. Judging from the ash residue of the boards, the two short sides of the outer coffin extended outward, pressing on the two long sides, so that the shape is like II. The construction of the inner coffin is opposite to the outer coffin: the longer sides extended outward pressing upon the shorter sides, in the shape of I I (diagram 5).

(3) Mortuary Customs

Some of the skeletons are well preserved, while other skeletons are incomplete, or scattered and in disarray.57 There are even some graves in which the skeletons are entirely decomposed, and still other tombs that had in the past been looted and the skeletons removed. The arrangement of the skeleton is unclear in nineteen of the graves, while in the remaining fifty-nine graves, fifty-seven are outstretched supine burials, one was outstretched on its side, and one flexed and lying on its side. The outstretched supine

57 Sophisticated physical anthropological or forensic analysis does not appear to have been carried out on the corpses' skeletons. The text is generally limited to noting the location of the skeleton in relation to grave goods, compass orientation, etc.
skeletons had their face either upward or to the left or right. Many had their hands placed on their waist. For the most part, the lower limbs were stretched out straight, while in a small number of cases they were crossed (diagrams 5, 7, 54; photographs 29: 1,3; 30: 4).

Among those graves in which the skeletons were in disarray, a small number had pottery vessels (diagram 6; photograph 1: 2; 2: 1, 2, 4), but the great majority had no funerary goods. When the remnants of some of the inner and outer coffins and grave soil fill were analyzed, no evidence could be seen that the grave had been looted. Therefore we are unable to determine whether they had been looted or that there was another cause for this situation.

In the great majority of the cases (fifty-seven) the head of the corpse was facing south; thirteen faced north, two faced east, and in six cases the position of the head was unclear. In the Western Zhou period burials the heads were facing south, while there were differences within the Eastern Zhou cemeteries. Among the Eastern Zhou graves in the Herb Garden Cemetery the heads were facing south, while in the Eastern Zhou graves in the burial grounds at the northeast corner of Qufu city the heads were all facing north.

[92] In looking at the arrangement of the graves, there are fourteen organized groups of graves (diagram 2, 3, 4). There are eight groups with pairs of graves arranged east-west (M108, 109; 110, 111; 113, 114; 132, 133; 211, 212; 301, 302; 311, 312; 323, 324); three groups of three graves arranged east-west (M121, 122, 123; 204, 205, 206; 319, 321, 325) and three groups of three graves arranged in the shape of the character pin 品 (M102, 103, 128; 104, 105, 106; 115, 116, 117).

Graves paired side by side appeared comparatively early; for example the pair M301 and M302 belong to the first years of Western Zhou or even earlier. None of the others have grave goods, so their dating is unclear. However, the three paired sets of M108 and 109, M113 and 114, and M323 and 324, all have waist pits with sacrificial dogs. These may be from the Western
Zhou period, or at the very latest they could be as late as the early Spring and Autumn period.

Among the three sets which consist of three graves arranged side by side, there is a grave (M205) in one of these sets which yielded two *guan* 鬚 which belong to the late Western Zhou period. The other two sets lacked pottery, but each of them have a waist pit and sacrificial dog.

Those three sets which are arranged in the shape of ☑ all belong to late period Spring and Autumn. In the set comprised of M115, M116, and M117, M115 is on the north side of M116, and is possibly a bit earlier than M116. M117 is on the west side of M116, its grave pit is small and shallow, and lacks grave goods, so the social position of the occupant of the grave was clearly inferior to that of M116 (photograph 3: 3). The graves arranged east-west also have this kind of condition, for example, the set of M121, 122, and 123. M121 is on the east side, and the coffin chamber is also relatively small and shallow. On its western side is M122, which is comparatively large yet shallow, and M123 forms a distinct contrast (photograph 3: 3), and the status of the interred is also different. Those graves which are members of these groups may very well reflect definite relationships of kinship or subordination.

(4) Placement of mortuary furnishings

Among the seventy-eight Group A graves, half had mortuary furnishings, and half did not (thirty-nine each). Among those with mortuary offerings, there were thirty-two which had mortuary pottery vessels. Thirteen of them were Western Zhou graves, and nineteen were Spring and Autumn graves. Many of the pottery vessels from these Western Zhou graves were placed between the inner and outer coffins on the outer coffin floor by the side of the corpse's head. Some were placed between the inner and outer coffins by the side of the feet and by the side of the body. Mussel shell ornaments were placed on the chest and on either side of the skeleton.
Leg bones and shoulder blades of animals were found at a number of graves, generally placed between the inner and outer coffins on the outer coffin floor by the side of the head; several were placed in the soil fill above the outer coffin. These probably are the remains of sacrifices of meat.

The placement of implements in Group A Spring and Autumn graves is quite different from the pattern shown in the Western Zhou graves. Some pottery vessels were placed between the inner and outer coffins on the outer coffin floor by the head (like M201), some were placed between the inner and outer coffins on the outer coffin floor beside the feet (see photograph 3: 1), some are placed between the inner and outer coffins on the outer coffin floor beside the body (photograph 2: 4), and some are placed on the east secondary ledge beside the top of the outer coffin (such as M202). Some bronze implements were placed along with pottery vessels between the inner and outer coffins placed on the outer coffin floor by the foot (such as M115), some are placed in one corner of the inner coffin near the feet (such as M201), and some are placed on the secondary ledge by the side of the body (such as M202). In the relatively incomplete grave M116, bronze vessels were placed within a subterranean box (photograph 3: 4). That is to say that the inner coffin was divided into two levels: the corpse was placed on the upper level; the lower level had no floor, it covered over the implements placed on the floor of the outer coffin.\footnote{At Xinwen County, Shandong, an intact subterranean box from the Spring and Autumn period was discovered, the contents of which are stored at the Shandong Cultural Artifacts and Archaeological Research Laboratory. [Note in original text]} The inner and outer coffins of M116 had already decomposed; between the floor of the outer coffin and the skeleton there were six bronze vessels: a \textit{ding} \ding, a \textit{dou} \dou, a \textit{xu} \xu and \textit{yi} \yi were among them. All the bronze \textit{ge} \ge were placed between the inner and outer coffins on the floor of
the outer coffin by the side of the body. The chariot horses' implements were placed on the top of the outer coffin; the stone ge and stone gui ئ tablets were placed on top of the inner or the outer coffins.

(5) Sacrificial victims

A sacrificial victim was discovered in one grave (M 202). Placed on the north secondary platform, it lay outstretched with the head to the east and the feet to the west (the skull had already been unearthed and removed by a commune member doing some excavation). Due to the coffin chamber having caved in, the left leg was hanging down in the area above the outer coffin wall. It is possible that the corpse was placed there after he died; there are neither funerary vessels nor mortuary goods (photograph 3: 2).

(6) Sacrificial dogs

There were twenty-nine graves in which dogs were buried with their masters. In each case there was one dog in each grave, buried within a waist pit. In nineteen of the graves the dog's head faces south, in four they face north, in two they face east, and the direction is unclear in the remaining four. Some of the dogs' skeletons are large and sturdy, while others are very tiny skeletons of puppies (photograph 1: 4)

Section Two, Funeral Goods

[95] The funeral goods include pottery, bronze ware, stone tools, shell implements, etc. Pottery vessels were dominant; there were very few implements made of other materials.
A total of one hundred sixty-five pieces of pottery vessels were unearthed from the thirty-two graves which yielded funerary pottery vessels. The great majority of them were *mingqi* 明器 “burial offering vessels”. The dominant pottery manufacturing technique was wheel turning. These pottery vessels were manufactured in a very standardized fashion; many of the molds are exquisite. A portion of the vessels are decorated with a ceramic slip coat. Most of the vessels are polished. All the utilitarian *li* 里 are impressed with cord marks. Many of the vessels from the late period Spring and Autumn are decorated with colored patterns. There are fifteen kinds of vessel forms: *li*, *gui* 罐, flat bottomed *guan* 罐, round bottomed *guan*, *lei* 雷, *dou* 豆, lidded *dou*, flat bottomed *hu* 壶, ornately lidded *hu* 华盖壶, *bo* 镈, *zun* 尊, *yu* 盂, *ding* 鼎, *bian* 篼, and *zhi* 钗.

(A) Pottery *li*: Twenty-six pieces (three were smashed so badly that their original shape could not be determined), divided into ten style types:

[96] Type I: The four pieces which came out of M120 are all *mingqi* burial offering vessels. The rim turns back nearly flat. The belly is relatively vertical. The crotch is relatively flat. The pouch shapes are actually just feet. The lip has a line of concave bowstring marks. Some *li* also have concave bowstring marks on the outer edge of the mouth rim. The belly is

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60 The place where the legs or “feet” meet the underside of the vessel. This term is particularly appropriate in the case of the *li* vessel, which is (or was originally) three pouch-like vessels fused together.
crotch. The vessel has a flat, square shape; its method of manufacture is coarse and crude. Specimen M120: 3 is a gray-brown paste texture pottery (photograph 5: 1). The three feet of specimen M120: 15 are extremely crude and uneven in their workmanship. Patterns were daubed on its belly. This vessel is 9.9 cm tall and 13.3 cm in mouth diameter (diagram 10: 1; photograph 5: 2).

Type II: The three vessels which came out of M501 are all mingqi burial offering vessels. Sloped rim on which there is a finger pressed shallow groove. The squared lip is relatively thick. The belly bulges slightly. It is relatively flat where the legs join together. The three legs are shaped like nipples. The vessel is flat or square in shape. Specimen M501: 1 is a yellow-brown paste texture pottery vessel. Its entire body was polished. The vessel is 8.8 cm tall, and 13.6 cm in mouth diameter (diagram 10: 2; photograph 5: 3).

Type III: The four pieces which came out of M107 are all mingqi burial offering vessels. Angular rim, thin and rounded lip. Flat crotch; the three nipple shaped feet are fairly tall. There is a thin convex ridge on the mouth, and either finger pressed shallow grooves or wawen roof tile patterns on the rim.

The rim surface of specimen M107: 5 is decorated with roof tile patterns. There are concave grooves on the neck and belly. This vessel is a red-brown paste texture pottery (diagram 40: 3; photograph 5: 4).

61 As the previous footnote mentioned, li originally were three pouch-like vessels fused into one, presumably for greater efficiency in heating liquids by having a fire or coals beneath the vessel. In this case, the li has “evolved,” becoming rather similar to a ding (which has solid legs attached to a spherical pot), although residual depressions in the three corners remain.

62 Wawen refers to the sine wave-like profile of the traditional Chinese tile roof. Also known as “hill-and-valley” grooves or patterns.
Specimen 107: 11, a gray paste texture pottery, has a rounded neck which is concave inside (photograph 5: 5).

Type IV: One mingqi vessel (M310: 9). The corners of the mouth are curved. There are shallow finger-pressed grooves on the outer edge of the mouth and rim. The lip is flat. The legs converge into the crotch. The feet are tapered. The vessel is decorated with fine cord marks. This gray sand tempered pottery vessel is 7.8 cm tall, 10.2 cm in mouth diameter (diagram 10: 4).

Type V: One vessel (M310: 1). Angular rim, rounded lip, shoulders decorated with a beaded strip. The crotch converges somewhat high. The feet are hollow and tapered. The entire vessel is impressed with coarse cord marks. This red-brown sand tempered ceramic vessel is 13.1 cm tall, 16.3 cm in mouth diameter (diagram 10: 5; photograph 5: 6).

Type VI: One vessel (M310: 2). Contracted mouth, rim bent back almost horizontal. Angular lip, constricted neck. The hollow pointed legs are spread outward slightly. The crotch is relatively short. The vessel is decorated with medium cord marks. The shoulders have light marks from wiping. This gray sand tempered pottery vessel is 11.9 cm tall and 14.8 cm in mouth diameter (diagram 10: 6; photograph 6: 1).

Type VII: One vessel (M328: 1). Contracted mouth, rim bent nearly flat. The lip, neck, and feet are all rounded. The crotch is fairly flat. There is a tool impressed concave groove on the rim. The neck is polished, the belly decorated with medium sized cord marks. A gray-brown sand tempered pottery vessel, 18.2 cm tall, 18.4 cm mouth diameter (diagram 10: 7; photograph 6: 3).

Type VIII: Two vessels. The mouth is somewhat open, the rim narrow and flat. There is a line of bowstring patterns on the rim. The neck is short, and the vessel has shoulders. The crotch is nearly flat. The neck and shoulders are polished. The belly is decorated with coarse cord marks. Specimen M202: 1
is a gray sand tempered pottery vessel, 15.6 cm tall and 10.8 cm in mouth diameter (diagram 10: 8; photograph 6: 2).

Type IX: Four vessels. Contracted mouth, the rim tilts downward. The neck is short, and the vessel has shoulders. The crotch is nearly flat, and the three feet are somewhat restrained, nearly disappearing. The neck is pressed flat. The entire vessel is decorated with fairly shallow medium cord marks. An inner mold was used in the manufacturing process. There are thin vertical cord marks on the inner wall of the vessel. Specimen M207: 1 is a red-brown sand tempered pottery vessel, 15.6 cm tall, and 17.8 cm in mouth diameter (diagram 10: 9; photograph 6: 4).

Type X: Two vessels: Contracted mouth, sloped rim, rounded lip, flat crotch. The three feet are short and shaped like nipples. The vessel is square shaped. The belly of Specimen M209: 1 is decorated with fairly shallow medium cord marks. There are messy hand made marks dug into the base. It is a red sand tempered pottery, with a ceramic slip (diagram 10: 10; photograph 6: 4).

(B) Gui: Thirty items, divided into four types:

Type I: Four vessels; all are mingqi excavated from grave M120. Open mouth, on which there is a projecting ridge. The vessel has a short ring foot which spreads outward. There are slight projecting ridges on some of the ring feet. Specimen M120: 11 is a gray brown paste texture pottery, parts of which are gray-black. The vessel is 8.8 cm tall, 16.4 cm in mouth diameter (diagram 11: 1; photograph 7: 1).

[98] Type II: Four vessels, shaped like ring footed dou. The rim is tilted, or bent back almost flat. The lip is rounded. The raised ring foot is even taller. The bottom of the bowl of Specimen M501: 3 is relatively flat. The mouth and rim and the walls of the bowl are decorated with concave bowstring patterns. The vessel is a plain surfaced yellow-gray paste texture pottery,
11.6 cm tall, 17.2 cm in mouth diameter (diagram 11: 3; photograph 7: 2). The bottom of the bowl of Specimen M501: 7 is curved and relatively deep. There are finger pressed concave marks on the mouth and rim area, and cord marks where the walls of the bowl curve down toward the stem. It is a gray-yellow paste texture pottery vessel, 14 cm tall, 19.6 cm mouth diameter (diagram 11: 2).

Type III: Four vessels, excavated from grave M107. The rim flares outward. Rounded lip, bent belly. The base is curved, and the ring foot is fairly tall. Specimen M107: 14 is a green-gray sand tempered pottery vessel, 11.8 cm tall, 17.2 cm mouth diameter (diagram 11: 4; photograph 7: 3).

Type IV: Four vessels. The mouth is somewhat contracted, while the rim is wide and bent back. The bottom of the belly bulges slightly. The base is comparatively flat. The vessel has a lid. The entire body of specimen M211: 3 is polished; a black paste texture pottery vessel (red-brown in color where incompletely fired); 16 cm mouth diameter; full height 22.4 cm (diagram 11: 5; photograph 7: 4).

Type V: Two vessels. Straight mouth, on which there is a projecting ridge. Broad rim which turns back; the outer part of the rim bends upward. The bottom [of the basin] is relatively flat. Tall ring foot. The pedal disk is comparatively large. The vessel has a lid. There is a concave bowstring pattern encircling the lower part of Specimen M207: 4. The entire vessel is polished. It is made of a gray paste texture pottery; 27.2 cm tall, 18.8 cm mouth diameter (diagram 11: 6; photograph 7: 5).

Type VI: Seven vessels. There is a projecting ridge on the mouth, the broad rim is turned back. There are faint roof tile patterns on the rim. Deep belly. The bottom part of the belly gathers in slightly. The base is relatively flat. Tall ring foot. The entire body of Specimen M209: 2 is polished. Gray paste texture pottery (diagram 11: 7; photograph 8: 1).
Type VII: Two vessels. Broad rim, deep belly, relatively straight belly walls. Relatively flat basin. Ring foot. The vessel shape is rather plump. There are two lines of concave grooves on the outer parts of the mouth and rim. Round ringed subtle patterns decorate the upper rim. There is a projecting ridge on the handle. The entire vessel is polished. Made of gray paste texture pottery, the vessel is 17 cm tall and 19.6 cm in mouth diameter (diagram 11: 8; photograph 8: 3). The ring foot pedal disk of specimen M213: 15 is relatively flat (photograph 8: 2).

Type VIII: Three vessels. Round lip, angular shoulders, the interior of the lower part of the belly is tapered. Short ring foot. Decorated lid. Gray paste texture pottery. The entire vessel is decorated with colored patterns. Specimen M116: 2 is 20.8 tall, 12.8 cm mouth diameter (diagram 11: 9; photograph 8: 4,5).

[99] (C) Round bottomed guan: Seventeen vessels, divided into four types:

Type I: Four vessels. Flared mouth, angular shoulders, turned back belly. The rounded base is concave. There is a line of concave bowstring patterns on the lip. The shoulders are polished. The bottom of the belly is decorated with cord marks. The vessels are all gray-black paste texture pottery. Specimen M120: 2 is 14 cm tall, 12.7 cm mouth diameter (diagram 12: 1; photograph 9: 1).

Type II: One vessel (M310: 5). The mouth flares outward, angular shoulders, turned back belly. The rounded base is concave. There is a line of concave bowstring patterns on the lip. Polished shoulders. The belly is decorated with cord marks. The gray paste texture vessel is 16.8 cm tall, and 16.3 cm in mouth diameter (diagram 12: 2; photograph 9: 2).

Type III: One vessel (M119: 3). The mouth flares outward, inclined lip, bulging shoulders, restrained belly. The curved base is concave. The mouth and shoulders are polished. There are remnants of cord marks daubed on the
belly. The gray-brown paste texture vessel is 14.3 cm tall, 12.4 cm mouth
diameter (diagram 12: 3; photograph 9: 3).

Type IV: One vessel (M131: 1). Flat rim, square lip, the mouth is turned
back in an arc-shape. The neck is restricted, the shoulders buckle back, round
base, polished shoulders. Thin cord marks decorate the belly. Gray-brown
paste texture pottery vessel; 16 cm tall, 13 cm mouth diameter (diagram 54: 4;
photograph 9: 4).

(D) Flat bottomed guan: Thirty-five vessels, divided into thirteen
categories:

Type I: One vessel (M501: 4). Contracted mouth, curved neck, bulging
belly, flat bottom. Two lines of concave bowstring patterns decorate the
shoulders. There is a concave groove on the belly, and paring marks near the
bottom section. The vessel is covered with a ceramic slip, on a gray-yellow
paste texture pottery vessel; 10.6 cm tall and 10.4 cm mouth diameter (diagram
13: 1; photograph 9: 5).

[100] Type II-A: Four vessels, excavated from grave M107. Contracted
mouth, thin rounded lip, curved neck, bent back shoulders. The base is flat yet
slightly concave. The greatest diameter is located where the shoulders and
belly converge. Specimen M107: 9 is a smooth surfaced, gray paste texture
pottery vessel; 10.4 cm tall, 9.2 cm mouth diameter (photograph 9: 6).

Type II-B: One vessel (M107: 17), which was unearthed with the Type
II-A vessels. Straight mouth, thin round lip, curved neck, rounded shoulders.
The base is flat yet slightly concave. There is a line of concave bowstring
pattern on the mouth. A plain surfaced gray-black paste texture pottery
vessel; 10.3 cm tall and 9.2 cm mouth diameter (diagram 13: 2; photograph 9: 7).

Type III: One vessel (M124: 3). Outward flaring mouth, shallow groove on
the rim, rounded lip, curved neck, restrained belly. The base is small and flat
yet slightly concave. Covered with a ceramic slip, the entire vessel is polished. A gray sand tempered pottery vessel; 9.5 cm tall, 8.4 cm mouth diameter (diagram 13: 3; photograph 10: 1).

Type IV-A: Six vessels. Flared mouth, rounded lip, curved neck, bent back shoulders, flat base. The entire vessel is polished, and made of a black paste texture pottery. Specimen M328: 4 is 10.8 cm tall, and 10.1 cm in mouth diameter (diagram 13: 4; photograph 10: 2).

Type IV-B: Two vessels. Basically identical to Type IV-A, but the neck is curved and relatively short, the shoulders rather sloped, and the base is flat yet slightly concave. Specimen M205: 1 is a black paste texture pottery vessel 10.8 cm tall and 9.6 cm in mouth diameter (diagram 13: 5; photograph 10: 3).

Type V-A: One vessel (M201: 18). The mouth and rim flare outward, rounded lip, constricted neck, the turned back shoulders are rather flat, the base is flat yet somewhat concave. Coated with a ceramic slip, the entire body is polished. Made of a gray paste texture pottery, parts of which are black in color, the vessel is 8 cm tall and 10 cm in mouth diameter (diagram 13: 6; photograph 10: 4).

Type V-B: Two vessels. Similar to Type V-A, but the shoulders are comparatively broad, yet short; the base is flat. A gray paste texture pottery, the entire body is polished, and covered with a ceramic slip. The vessels were made with great precision. Specimen M201: 15 is 7.4 cm tall, and 10.4 cm in mouth diameter (diagram 13: 7; photograph 10: 5).

Type V-C: One vessel (M201: 16). Contracted mouth, constricted neck, bent shoulders, ring foot. There is a shallow concave groove on the mouth; the shoulders are decorated with shallow roof tile patterns. This gray paste texture pottery, covered by a ceramic slip, was manufactured with great precision.
The vessel is 7.6 cm tall and 11.5 cm in mouth diameter (diagram 13: 8; photograph 10: 6).

Type VI: Two vessels. The mouth bends back in an arc, sloped rim, curved neck; the base is flat yet slightly concave. There is a shallow concave groove on the rim. There is a line of concave bowstring patterns decorating the lip. There are paring marks on the lower part of the belly. Gray paste texture pottery covered with a ceramic slip. Specimen M201: 13 is 8.4 cm tall, 7.5 cm mouth diameter (diagram 13: 9; photograph 11: 1).

Type VII: Two vessels. Flared mouth, rounded lip and neck, bent shoulders. The belly is fairly deep. The base is flat yet slightly concave. The entire body is polished. Gray paste texture pottery. Specimen M203: 5 is 12 cm tall and 9.4 cm in mouth diameter (photograph 11: 2).

Type VIII: One vessel (M203: 3). Flared mouth. square lip, curved neck, round shoulders, flat base. There is a line of convex bowstring pattern on the lower edge of the lip. The belly is circumscribed with several lines of impressed patterns. The entire body is polished. The method of manufacture was well planned and executed. This gray paste texture pottery vessel is 12.8 cm tall, 10.8 cm mouth diameter (photograph 11: 3).

Type IX: Three vessels. Flared mouth, curved neck, rounded shoulder. The lower belly gathers in slightly. Rounded bottom. There are concentric circular patterns on the shoulder and belly. Specimen M115: 7 is a red paste texture pottery 10.2 cm tall, 7.2 cm mouth diameter, (photograph 11: 4).

Type X: Four vessels. Wide open mouth, sloped rim, round neck. The shoulders are relatively flat. The base is flat but slightly concave. Specimen M116: 22 is a polished black paste texture pottery vessel; 8.6 cm tall, 8 cm mouth diameter (diagram 13: 10; photograph 11: 5).
Type XI: Two vessels. Turned back rim, rounded lip and shoulders, ring foot base, gray paste texture pottery. The entire vessel is polished. Specimen M104: 4 is 9.1 cm tall and 8.8 cm mouth diameter (photograph 11: 6).

[101] Type XII: One vessel (M105: 3). The mouth is somewhat broad, the rounded neck is relatively tall. Rounded shoulders, gathered- belly, a small flat base. Gray paste texture pottery, entire vessel polished, the vessel is 8 cm tall, 7.2 cm mouth diameter (photograph 11: 7).

Type XIII: Two vessels. Wide mouth, sloped lip, rounded neck, flat base (slightly concave). There are finger pressed concave pits and traces of paring on the bottom part of the belly of Specimen M105: 1. It is a gray paste texture pottery vessel, 9 cm tall, 7.9 cm mouth diameter (photograph 11: 8).

(E) Pottery lei: Thirteen vessels, divided into ten types:

Type I: One vessel (M120: 9). Large mouth, sloped rim, the shoulders bulge in a convex form, the belly gathers in, small round bottom. There are convex bowstring patterns on the mouth. There is a concave groove on the belly. The shallow gray paste texture pottery vessel is 8.8 cm tall, 10 cm mouth diameter (diagram 14: 1; photograph 12: 1).

[102] Type II: One vessel (M138: 2). Flared mouth, the lip and rim are relatively thin, the rounded neck is comparatively tall, broad shoulders, the lower part of the belly draws back [shrinks] to a small ring foot base. The entire vessel is polished. Traces of cord marks are faintly visible on part of the belly. This light gray-yellow paste texture pottery vessel was manufactured with meticulous precision; it is 16 cm tall, 15 cm mouth diameter (diagram 14: 2; photograph 12: 2).

Type III: One vessel (M119: 4). Flared mouth, small rounded lip, rounded neck, turned back shoulders, gathered-in belly, a flat base which is slightly concave. The mouth and shoulders are polished, the belly is wiped flat, traces
of cord marks remain on the base. This light gray sand tempered pottery vessel was manufactured with meticulous precision; it is 15.3 cm tall, 12.5 cm mouth diameter (diagram 14: 3; photograph 12: 3).

Type IV: One vessel (M113: 1). Flared mouth, rounded lip, restricted neck, turned-back shoulders, flat base. Plain surfaced, gray-black paste texture pottery, 11.5 cm tall, 9.6 cm mouth diameter (photograph 12: 4).

Type V: Two vessels. This vessel form is similar to Type II, but the shoulders are even broader, the bottom part of the belly gathers in slightly, the base is flat, the entire vessel is polished, a black paste texture pottery. Specimen M210: 14 is 13.2 cm tall, 9.6 cm mouth diameter (photograph 12: 5).

Type VI: One vessel (M305: 1). Flared mouth, rounded lip, rounded neck which is relatively tall, shoulders bent back almost flat, the lower portion of the belly is somewhat gathered in, flat base. There is a shallow concave groove on the upper part of the belly. The entire vessel is polished. This black paste texture pottery vessel is 11.2 cm tall, 10.7 cm mouth diameter (diagram 14: 4; photograph 12: 6).

Type VII: Three vessels. Flared mouth, bulging shoulders, gathered-in belly, small ring foot base, with a lid. The lid is similar to those of Type IX, which are all damaged and incomplete. There are circular subtle patterns on the shoulder of Specimen M207: 5. The entire vessel is polished, a black paste texture pottery. The vessel is 10.4 cm tall, 10.2 cm mouth diameter (diagram 14: 5; photograph 13: 1).

Type VIII: Two vessels. The mouth flares outward, rounded neck, rounded shoulders, ring foot base, gray-black paste texture pottery. Specimen M210: 1 is 11.1 cm tall, 10.1 cm mouth diameter (photograph 13: 2).

Type IX: Two vessels, excavated from M202. Straight mouth, rim bent back almost flat, rounded lip, short round neck, broad shoulders which are
relatively flat, gathered-in belly, small ring foot base. There is a lid; its rim transitions to a pointed edge. The entire body is polished. There are concentric subtle patterns on the belly. The vessel is black paste texture pottery.

Specimen M202: 3 is 27.2 cm tall, 14 cm mouth diameter (diagram 14: 7; photograph 13: 3, 4).

Type X: Two vessels, excavated from M209. The vessel form is similar to Type IX, but the shoulders are comparatively sloped, the ring foot is relatively small, the lid rim transitions into an arc. The entire vessel is polished, and the vessel is a black paste texture pottery. Specimen M209: 11 is 23.8 cm tall, 12 cm mouth diameter (diagram 14: 6; photograph 13: 5).

(F) Pottery hu with decorated lid: Five, divided into three types:

Type I: Two vessels. The mouth is somewhat open, the neck relatively long, bulging belly, short ring foot. The lid is shaped like a flower petal. The entire vessel is polished, and decorated with concentric subtle patterns. Gray paste texture pottery vessel, covered with colored drawings (which have already peeled off). Specimen M115: 5 has a total height of 41.8 cm, the diameter of the mouth is 14.8 cm; the maximum diameter of the belly is 26 cm (diagram 15: 1; photograph 16: 1).

Type II: One vessel. The mouth is somewhat open, the neck relatively short, bulging belly, the ring foot is relatively tall. The lid is shaped like a flower petal. The entire vessel is decorated with concentric subtle patterns, and colored drawings, and line decorations which imitate those on bronze vessels. This gray paste texture pottery vessel is 40 cm tall, the diameter of the mouth is 14.3 cm; the maximum diameter of the belly is 24.4 cm (diagram 15: 2; photograph 16: 2).

Type III: Two vessels. Unrestrained mouth, the neck is thin and long, the bottom part of the belly changes into a round globe-shape. The ring foot is
fairly tall. The lid is shaped like a flower petal. The entire vessel is decorated with concentric subtle patterns, and covered with colored drawings (which have already peeled off and are unclear). The vessel is a gray paste texture pottery. Specimen M104: 8 has a total height of 47.2 cm, the diameter of the mouth is 18.4 cm, and the maximum diameter of the belly is 22 cm (diagram 15: 3; photograph 16: 3).

[104] (G) Pottery *dou*: Fifteen vessels, divided into nine types:

Type I: Four vessels, excavated from M120, all of which are *mingqi*. Square lip. The outer wall of the dish makes a transition into an edge or rounded corner. The inner floor of the dish is curved (some are relatively flat). There are traces of paring on the exterior of the base. Short ring foot. Coarse method of manufacture. Specimen M120: 6 is a gray paste texture pottery vessel, 6 cm tall, the diameter of the mouth is 11.2 cm (diagram 16: 1; photograph 14: 1).

Type II: Two vessels. Shallow bowl, square lip, the inner and outer walls of the bowl make a transition into an arc. The outer wall of the bowl is decorated with two lines of concave bowstring patterns. Short ring foot. Gray-yellow paste texture pottery. Specimen M501: 5 is 8 cm tall, 12.4 cm mouth diameter (diagram 16: 2; photograph 14: 3).

Type III-A: One vessel (M501: 10). Shallow bowl, square lip, there is no obvious transition point between its inner and outer walls. The outer wall is decorated with a line of concave bowstring patterns, short ring foot, gray-yellow paste texture pottery, 7.8 cm tall, 12.8 cm mouth diameter (diagram 16: 3; photograph 14: 3).

Type III-B: Four vessels, excavated from M107. Shallow bowl, square lip, convex ridge on the mouth, the floor of the bowl is curved. The outer wall is decorated with a line of coarse concave bowstring patterns. The ring foot is
taller than Type III-A. Gray-yellow paste texture pottery. Specimen M107: 13 is 9.6 cm tall, 14 cm mouth diameter (diagram 16: 4; photograph 14: 4).

Type IV: Two vessels, excavated from M124. Shallow bowl, lip slants outward. There is a transition point in the inner wall of the bowl, and a tool-impressed square groove on the outer wall. The trumpet bell shaped ring foot is comparatively tall. Its upper section is fairly thin; it has a convex ridge around its circumference, and its methods of manufacture is exquisite. Specimen M124: 2 is a light gray paste texture pottery. Its kaolin clay has been washed, the vessel is covered with a ceramic slip, and polished. The vessel is 10.4 cm tall, and 16 cm mouth diameter (diagram 16: 5; photograph 14: 5).

[105] Type V: Two vessels, excavated from M119. Shallow bowl, square lip, a convex ridge on the mouth. The exterior and interior walls of the bowl have a distinct transition angle. There is an impressed concave groove made by a square shaped tool on the outer wall. A bugle mouth shaped ring feet, and a fairly large pedal disk. The upper part is relatively thin, and shaped like a bamboo joint. Covered with a ceramic slip, the entire vessel is polished. A paste texture gray pottery (a prewashed kaolin clay), meticulously manufactured. Specimen M119: 2 is 10.8 cm tall, 15.6 cm mouth diameter (diagram 16: 6; photograph 14: 6).

Type VI: Four vessels, excavated from M320. The bowl of these dou are shaped like a shallow bo bowl. The rim pulls slightly into the mouth, and there is a convex ridge on the rim. There are hand daubed concave marks on the outer edge around the area of the mouth. The upper section of the ring foot is thicker. The foot of the vessel is relatively flat. The differences between the upper and lower parts of the stem are not great. There is a vague convex ridge around the circumference of the upper part of the handle. Specimen M320: 6 is a polished gray-brown paste texture pottery, part of which is
red-brown. It is 10.7 cm tall, 16.4 cm mouth diameter (diagram 16: 7; photograph 15: 1).

Type VII: One vessel (M316: 1). Rounded lip, straight relatively thick walls. The transition area between the inner and outer walls is curved. The base is relatively flat, the stem handle of the dou is taller. The foot and bowl are decorated with shallow roof tile patterns. Two lines of convex bowstring patterns decorate the outer wall of the dou bowl. Paste texture black pottery, 12.4 cm tall, 172 cm mouth diameter (diagram 16: 8; photograph 15: 2).

Type VIII: Two vessels. The dou's bowl is relatively deep, with a rounded lip. The bowl walls are relatively thin; the outer wall is slightly concave, with an edged transition area. The inner wall transitions to an arc shape. The base of the dou is relatively small, and the stem is relatively thin. Polished paste texture gray pottery. Specimen M211: 1 is 11.2 cm tall, 15.6 cm mouth diameter (diagram 16: 9; photograph 15: 3).

Type IX: Three vessels. Rounded lip, straight wall. The base is relatively flat, the outer wall transitions to an edge. A refined, tall stem, with two lines of convex ridges on its upper portion. Polished paste texture gray pottery. Specimen M207: 2 is 16.6 cm tall, 16.8 cm mouth diameter (photograph 15: 4).

(H) Pottery dou with lid: Nine vessels, divided in five types:

Type I: One vessel (M213: 1). The mouth of the dou bowl has a rim which interlocks with its lid. The shoulders bulge, and there is a ring foot. The top of the lid is relatively flat. The round shaped handles are fairly small yet tall. The transition area of the lid and rim comes to an edge. A paste texture gray pottery, a part of which is black; it had been polished, and covered with color painting (which has peeled off). The vessel is 28 cm tall, and the bowl is 19.3 cm wide (diagram 17: 1; photograph 16: 4).
Type II: Two vessels. The bowl of the dou has a rim which interlocks with its cover. The base is relatively flat. The top of the cover is relatively tall. The handle is relatively large, and made with a squared lip. The cover and rim come to an arc shaped transition point. A polished, paste texture gray pottery, with colored drawings which have peeled and are indistinct. Specimen M115: 3 is 24.8 cm tall, the bowl of the 

**dou** is 17.2 cm wide (diagram 17: 2; photograph 17: 1).

Type III: Two vessels. This vessel form is basically identical to Type II but the knob on the cover is relatively large, and the lip is rounded. The 

**dou** stem is relatively tall yet thin. The 

**zuopan** 足盤 pedestal is relatively thin, and the bottom of the base is relatively flat. The bowl and cover are relatively shallow yet flat. The entire vessel is polished, and was decorated with colored drawings (most of which have already peeled off and are unclear). A paste texture gray pottery. Specimen M111: 2 is 29.6 cm tall, and the bowl of the 

**dou** is 18.9 cm wide (diagram 17: 5). M110: 2 is 26.4 cm tall, its bowl is 17.7 cm wide (diagram 17: 4; photograph 17: 2).

Type IV: Two vessels. This form is relatively small. The bottom of the bowl is relatively flat. The cover is the same as Type III. The stem of the 

**dou** is relatively short, the attic base is relatively tall. The entire vessel is polished, and decorated with colored drawings. The belly is decorated with a band of simplified animal\(^{63}\) patterns, and the base is decorated with cirrus cloud patterns and belt patterns. The cover is decorated with subtle concentric circle patterns, and color patterns which have peeled and are unclear. A paste

\[^{63}\text{Shou 豬 indicates “beast” or “wild animal,” rather than a domesticated animal. I have used “animal” throughout my translation.}\]
texture gray pottery. Specimen M226: 20 is 22.6 cm tall, the bowl of the *dou* is 15.9 cm wide (diagram 17: 3; photograph 17: 3).

Type V: Two vessels. This form is relatively large, the cover and basin are similar to Type III. The base of the *dou* is relatively short, and the *dou* handle is relatively thick, the base of the bowl is relatively large. A gray paste texture pottery, polished. It is decorated with subtle concentric circle patterns, and colored patterns which have peeled and are unclear. Specimen M104: 2 is 26.4 cm tall, the bowl of the *dou* is 18.8 cm wide (photograph 17: 4).

[107] (I) **Pottery yu:** Four vessels, divided into three types:

Type I: One vessel (M310: 11). Wide, sloped rim, rounded lip, gathered in belly, flat base. There are convex bowstring patterns on the outer edge of the mouth and rim, the shoulder, and the belly. There is an indistinct convex ridge on the shoulder. The entire vessel is polished. It is made of a paste texture gray black pottery, parts of which are red-brown or gray-brown in color; prewashed kaolin clay. The vessel is 15.6 cm tall, 25.6 cm mouth diameter (diagram 18: 1; photograph 15: 5).

Type II: One vessel (M320: 1). The mouth is slightly contracted, with an sloped rim, rounded lip, and rounded neck. The belly bulges slightly, and the base is flat. The shoulder is decorated with roof tile patterns. There paring marks on the belly. Light gray paste texture pottery (prewashed kaolin clay); the entire vessel is polished. The vessel is 9.8 cm tall, 15.2 cm mouth diameter (diagram 18: 2; photograph 15: 6).

Type III: Two vessels. Contracted mouth, rim bent back straight, rounded lip, flat base. The shoulder is decorated with roof tile patterns. There are irregular convex bowstring patterns on the belly. The entire vessel is polished. Decorated with colored patterns, the shoulder's decorative patterns are indistinct. The belly is decorated with triangular cloud patterns. Gray paste
texture pottery. Specimen M202: 2 is 16.1 cm tall, 22.8 cm mouth diameter (diagram 18: 3; photograph 18: 1).

1) Pottery bian 箕: One vessel (M226: 17). Straight mouth, turned-back flat rim, flat base, tall ring foot, ornate lid. Decorated with color drawings (the decorative patterns on the lid handle are unclear). The vessel is 26.4 cm tall, the bowl is 18.4 cm wide (diagram 18: 5; photograph 18: 2).


(L) Pottery bo: One vessel (M310: 1). Rim bent back nearly flat, deep belly, round base with an inward concave turn. There is a finger impressed concave groove on the outer edge of the rim surface. There is a line of vague concave bowstring pattern in the area of the mouth and lip. The neck is slightly concave, with remnants of cord mark impressions. There are finger impressed concave depressions on the inner wall just below the mouth. The vessel is decorated with medium cord marks. Gray yellow paste texture pottery, reddish brown inside (diagram 18: 6; photograph 18: 3).

(M) Pottery zhi: One vessel (M104: 11). Shaped like a round bamboo tube, with a flat base, and three small feet. The upper part of the feet are decorated with animal faces. There are three knobs on the lid. Gray paste texture pottery, decorated with color drawings (already peeled off) (diagram 18: 7; photograph 18: 5).

(N) Pottery ding: Three vessels. Straight mouth, flat rim, squared lip. Upright ear handles, shallow belly. The base is nearly flat, with three animal hove shaped feet, the upper parts of which are decorated with animals’ faces. The belly is decorated with four strips of vertical ridges; two sides of the
vertical strips are each decorated with two staffs of nipple-like knobs. Specimen M401: 1 is 32 cm tall, mouth diameter 24 cm (photograph 18: 6).

(2) Bronze Implements

There were eight different kinds of bronze burial offering implements from the Group A burials; a total of twenty-two bronze vessels were excavated. There were seven kinds of vessels: *ding, pen, xu, pan, yi*, lidded *dou*, and *zhou*. In addition there were a small number of weapons and chariot fittings.

(A) Bronze *ding*: Four vessels, divided into two types:

Type I: One vessel (M201: 1). Flared mouth, bent rim, shallow belly, upright ears handles which spread outward, half-tube shaped hoof feet. A ring of thunder patterns circumscribe the belly. The total height of the vessel is 24 cm, the diameter of the mouth is 27 cm, and the belly is 9.5 cm deep (photograph 19: 1).

Type II: One vessel (M116: 4). The "composite" mouth (which is mated to a lid) is somewhat contracted, with ears attached below the rim. Deep belly, round bottom. The three feet are broken and missing (a similar vessel was referred to when restoring this one). There are four ring-handles on the lid, the top of which is decorated with five, and the belly with seven, round whorl-patterns. The total height is 25.5 cm, mouth diameter 29.5 cm, belly depth 14.5 cm (photograph 19: 2).

(B) Bronze *pen*: Two vessels, divided into two types:

Type I: One vessel (M201: 20). Contracted mouth, tilted rim, the neck region slightly gathered in, flat base. On the two sides of the shoulders there are handles in the form of animals' heads holding rings in their mouths. The neck is decorated with simplified cicada patterns. The belly is decorated with
bird patterns, the bird's eye made in the form of a nipple-knob. The vessel is 11 cm tall, the mouth's diameter 21.3 cm, the full breadth 26 cm (photograph 20: 1, 2).

[108] Type II: One vessel (M202: 7). Basically the same in style as Type I: contracted mouth, turned over rim, restrained neck, flat base. There are ring ears on two sides of the upper belly. The lid is in the style of a shallow bowl, with a round knob. There are three rectangular buckles on the rim of the lid. Plain surfaced, the vessel is 16.7 cm tall, mouth diameter 21.6 cm, total breadth 27 cm (photograph 20: 3).

(C) Bronze xu: Three vessels. The vessel is shaped like a dou ¼ measure. Four ring handles adorn the lid. There are ring ear handles on two sides of the vessel. Gathered in belly, flat base. Specimen M116: 1 has a total height if 16.3 cm, the mouth is 17 cm long, breadth of the vessel is 15 cm (photograph 20: 4).

(D) Bronze pan: Two vessels. One vessel is broken, and its original shape unclear; the remaining vessel (M202: 5) has a bent rim, attached ears, and a pair of ridges between the ears and rim. There are eight wedge shaped mortises, for the purpose of reinforcing the ring foot, placed on the inside of the ring foot. The walls of the pan are adorned with kui patterns. The ring foot and the two ears are decorated with clitellum patterns, and on the base of the pan there are diagonal-shaped geometric patterns.

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64 Kui wen, kui pattern. “The kui is the most conspicuous animal motif in early bronze design. There are many variations, but common characteristics are a large head with prominent eye and gaping jaws, a crest or horns, and, since the animal is nearly always represented in profile, what appears to be a single fore-leg. It is commonly referred to as a kui long, kui dragon, but it bears little resemblance to the serpentine dragon, a familiar motif of Chinese art from the Bronze Age to modern times.” Hansford, S. Howard. *A Glossary of Chinese Art and Archaeology*. 1st ed. 1954, 2nd ed. revised 1961, 2nd ed rpt. 1972. London: The China Society, 1972; p. 14.

58
Two lines, totaling ten characters, are cast inside the base of the pan:
鲁伯者父作孟姬女庸媵盘, “Lu Elder Zhe Fu made [this] matrimonial pan vessel for
Meng Ji Yong” (diagram 19: 3). The total height of the vessel is 11 cm, the
diameter of its mouth is 37.8 cm, and the depth of its belly is 4.7 cm
(photograph 19: 3).

(E) Bronze yi: Two vessels. Vessel M116: 5 is damaged; The mouth and
spout of M202: 6 are decorated with qiequ67 “broad figure band” patterns. The
belly is decorated with roof tile patterns. Two eyes and a pair of horns are
prominent on the dragon shaped handles. There is a flange on the dragon’s
spine. The dragon’s body is decorated with repeated ring patterns, and the
vessel’s four feet are shaped like dragon’s claws. The vessel is 37 cm tall, and
17 cm wide (photograph 19: 4).

(F) Bronze lidded dou: Two vessels, excavated from M116. The dou has
a short base; it is otherwise similar in shape to the Type IV pottery lidded dou.
Both of them are shattered and cannot be restored.

65 The authors made no attempt to render the inscription in modern
Chinese beyond transcribing most of the characters in simplified characters.,
My initial translations were aided by Harvard-Yenching Visiting Scholars Jiao
Tianlong and Xu Shaohua, and final corrections were made by Gil Mattos and
Connie Cook.

66 Lothar von Falkenhauser notes the mid-seventh century B.C.E. tombs
excavated at Shangguanggang, Guangshan, Henan (two seperate tomb
chambers in one tomb pit) of Huang Jun Meng 黄君孟 and his consort Meng Ji
孟姬 (“Inscriptions identify her as a princess from an unnamed polity with a
ruling lineage related to the Zhou royal house.”) Could this vessel identify her
as originating from Yong, or is this a mere coincidence of a shared name? See
“The Waning of the Bronze Age” in The Cambridge History of Ancient China,
Cambridge: Cambridge University Press, 1999; p. 505.

67 Literally “stealthy curves”. Described as “curved and hooked forms
derived from animal elements, usually in horizontal bands or border,” as well
as “impoverished” or “deformed” patterns. Hansford, Glossary, p. 17.
Bronze *zhou*: Nine vessels, divided into five types (except for two vessels whose type could not be differentiated):

[109] Type I: One vessel (M305: 1). The vessel has an elliptical shape, contracted mouth, small flared rim, bulging belly, flat base. The belly is decorated with triangular cirrus cloud patterns. The vessel is 6.1 cm tall, the mouth 9.2 cm long, 7.3 cm wide (diagram 19: 2; photograph 21: 1).

Type II: Two vessels; elliptical shape, contracted mouth, small flared rim, flat base. There are loop ear handles on each of the two longer sides of M201: 7. There is a loop ear handle on one of the long sides of M203: 8. The two short sides each have a small fastened handle. The upper part of the belly is decorated with hanging scales patterns, and the lower part with cloud-triangle patterns. The vessel is 7 cm tall, 13.5 cm long, 9.7 cm wide (diagram 19: 1; photograph 21: 5).

Type III: One vessel (M202: 4). This vessel is similar to Type II; the two long sides each have a loop ear handle, but the two short sides lack small fastened handles. The shoulders and belly are decorated with thunder patterns. The vessel is 7.2 cm tall, the mouth 18.2 cm long, 12.2 cm wide (photograph 21: 2).

Type IV: Two vessels. The vessel is nearly square in shape, contracted mouth, deep belly, rounded shoulders, gathered-in belly, flat base. There are loop ears handles on the two long sides. Plain surfaced. Specimen M103: 1 is 8.4 cm tall, the mouth is 18.2 cm long and 12.2 cm in breadth (photograph 21: 3).

Type V: One vessel (M115: 6). The vessel is nearly round in shape, contracted mouth, deep belly, bulging shoulders, gathered-in belly, flat base. Loop ear handles adorn two sides of the shoulder area. Plain surfaced, the vessel is 8.8 cm tall, the mouth 11.2 cm long, 10.5 cm wide (photograph 21: 4).
Bronze *ge:* Four implements, divided into three types:

Type I: Two implements (M201: 21, 23). The upper part of the blade is arc shaped; the lower blade is relatively flat. The tip is broken, the secondary projecting blade is relatively broad, and the butt is rectangular. There are two perforations on the upper part of the secondary projecting blade; the blade and the butt each have a perforation. The remaining length of M201: 21 is 20.6 cm, the blade is 12.7 cm long, the butt is 7.8 cm long, the secondary projecting blade is 5.1 cm long, the spine is 0.7 cm thick (photograph 22: 4).

Type II: One piece (M115: 8). The upper blade is relatively flat, and the secondary projecting blade is relatively broad. There is a small corner on the lower edge of the butt. There are two half round perforations on the secondary projecting blade, a square perforation on the upper blade, and a rectangular perforation on the butt. Its full length is 19.7 cm, the blade is 13 cm long, the butt is 6.7 cm long, the length of the secondary projecting blade is 6.4 cm, the stem is 0.6 cm thick (photograph 22: 3).

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68 *Ge.* Dagger-axe. The principal and distinctive weapon of the Shang-Yin and Zhou Dynasties. The early *ge* was a pointed blade, 8—9 inches long, with both edges sharpened. It was attached transversely to a wooden shaft, which either passed through a socket in the bronze, or was slotted to receive the butt end of the blade, the whole being held in position by a wedge, and in some case a thong.... A later development of the primitive *ge* had a blade widening into a base or stem which was perforated on the side adjacent to the shaft to provide for more secure thonging.” These *ge* are of the later type. Hansford, *Glossary*, p. 11.

69 *Hu.* The base or stem of the later *ge*, perforated for more efficient thonging (p. 11, Hansford, 1972). Alternate translations are “dewlap” (Hansford) or “necking” (Cheng Te-k’un, *Archaeology in China, Volume Three: Chou China*, p. 239).

70 *Nei.* The butt end of a *ge*, which passed through the slotted shaft (p. 11, Hansford). An alternate translation is “tang”.

61
Type III: One piece (M111: 3). Similar in form to Type II, but the blade and secondary projecting blade are comparatively narrow. The secondary projecting blade extends further, the part where the blade and the secondary projecting blade are perforated and comparatively thick. In addition to a rectangular perforation through the butt there is a circular hole. The entire length is 17.2 cm, blade length 10.3 cm, butt length 6.5 cm, secondary projecting blade length 6.2 cm, spine thickness 0.5 cm (photograph 22: 2).

(1) Bronze zu barbed arrowhead: Ten items (M201: 9), shaped like a pair of yi wings. There is a spine, short and straight. They are all 6.5 cm long (photograph 22: 1).

(J) Bronze wei 鼎 axle cap: Two items, excavated from M201. Shaped like a fourteen-sided prism, the hub end has a broad bent-back rim, and an attached linchpin (photograph 23: 3).

(K) Bronze pei bridle ornaments: Ninety items, excavated from M201. The items are small oblate-shaped rings, 0.8 cm in diameter (photograph 23: 1).

(L) Bronze xian curb bit and biao curb chain. Two items, excavated from M201. The xian is 21.5 cm long, the biao is 16.2 cm long (photograph 23: 4).

(3) Items Made of Jade, Stone, Bone, Horn, Shell

(A) Stone ge: Twelve items, divided into three types:

Type I: Four items. The ge has a butt end, through which a hole was drilled. There is a spine on the upper blade. The tip of the blade is broken. Specimen M203: 7 is 23.1 cm long, 5.5 cm in breadth, 0.8 cm thick (photograph 23: 1).
Type II: One item (M212: 2). This lacks a butt end. The blade is perforated, the tip has a triangular shape. The full length is 16.4 cm, 6 cm breadth, 0.7 cm thick (photograph 23: 2).

Type III: Seven items. This item is narrow and long. The cutting edge is made in a triangular shape. There is a perforation on the butt end. Specimen M201: 8 is 21.9 cm long, 4.6 cm breadth, 0.9 cm thickness (photograph 23: 3).

[110] (B) Stone gui tablet: One item (M212: 1). Its apex is made in a triangular shape, and relatively thick. The lower part is relatively thin. There is one perforation, 21.3 cm long, 4.3 cm breadth, 1.9 cm thick (photograph 23: 4).

(C) Yaliu Ivory comb: One piece (M116: 15), composed of two parts: the comb’s spine and the comb’s body. The spine of the comb is engraved with animal forms. A tenon and mortise constitutes the body of the comb. The total height is 8.4 cm (diagram 20; photograph 25: 4).

(D) Ivory necklace: One string (M202: 13). Made from a string of oblate and tube shaped ivory beads (photograph 25: 1).

(E) Bone xiyaoy hyperboloid: Three items, excavated from M201. They were a greenish color when excavated; 2.9 cm long (photograph 23: 2).

(F) Bone biao bridle bit: Two items, excavated from M209, shaped like a bronze bridle bit, but somewhat crude; 15 cm long.

(G) Sea Cowries: Twenty-six items (M120:21). There is a round hole on the back side; 2.1 to 2.4 cm long (photograph 25: 2).

(H) Fish shaped shell ornaments: Five strings, made from cutting freshwater mussel shells into fish shapes, and strung. The head end has a hole which looks like the fish’s eye. They are generally 12 to 14 cm long (photograph 25: 3).
Pottery arrowhead mold: One set (M138: 2). A pottery mold made up from two identical pieces. The mold is elliptical in shape; its inner surfaces are each incised with eleven short erect arrowheads molds shaped like a pair of wings on a staff. There is a casting mouth on one end, below which there is a thin channel. The spine of the mold is uneven, with small pits of varying dimensions. Along its outer edge there are "bundled" concave furrows. Made of sand tempered gray brown pottery, 19.9 cm long, 14.2 cm in breadth (diagram 21; photograph 23: 5).

Section Three, Periodization

[111] There are no stratigraphic relationships between the Group A graves; therefore we have mainly depended upon the developmental changes of vessel shapes within the pottery assemblages, in correlation with the stratigraphic relations revealed in the ruins of the ancient city. Among the seventy-eight Group A graves, there are thirty-two graves which yielded burial articles. Although some of these graves had been looted we may still observe the approximate situation in the configuration of their graves.

Their assemblages and the graves with which they are associated are as follows:

(1)  \textit{li, gui, dou}, round bottomed \textit{guan, zun, and lei}

M120: Type I \textit{li} (4), Type I \textit{gui} (4), Type I \textit{dou} (4), Type I ring footed \textit{guan} (4), \textit{zun} (1), Type I \textit{lei} (1);
(2)  *li, gui, dou, guan*

M501 (remnants): Type II *li* (2), Type II *gui* (4), Type II *dou* (2), Type III-A *dou* (1), Type I *guan* (1);

M107: Type III *li* (4), Type III *gui* (4), Type III-B *dou* (4), Type II-A *guan* (4), Type II-B *guan* (1);

(3)  *dou, round bottomed guan, lei*

M119: Type V *dou* (2), Type III ring-footed *guan* (1), Type III *lei* (1);

(4)  *dou, guan*

M124: Type IV *dou* (2), Type III *guan* (1);

(5)  *li, yu, round bottomed guan*

M310: Type IV *li* (1), Type V *li* (1), Type II ring-footed *guan* (1);

(6)  *li, yu, dou*

M320: Type VI *li* (1), Type II *yu* (1), Type VI *dou* (4);

(7)  *li, guan*

M328: Type VII *li* (1), Type IV-A *guan* (4);

(8)  *guan, lei*

M305: Type IV-A *guan* (1), Type VI *lei* (1);
(9)  
\textit{li, yu, dou, guan, lei}

M202 (fragmentary): Type VIII \textit{li} (2), Type III \textit{yu} (2), \textit{dou} (2), \textit{guan}? (1), Type IX \textit{lei} (2);

(10)  
\textit{li, guan, dou, lei}

M207 (fragmentary): Type IX \textit{li} (3), Type V \textit{gui} (2), Type IX \textit{dou} (2), Type VII \textit{lei} (2);

M209 (fragmentary): Type IX \textit{li} (1), Type X \textit{li} (2), Type \textit{li} (1), Type VI \textit{gui} (4), Type \textit{dou} (1), Type X \textit{lei} (2);

M210 (fragmentary): \textit{li} (1), Type VI \textit{gui} (1), \textit{dou} (fragment) (1), Type VIII \textit{lei} (2);

(11)  
lidded \textit{dou, guan}, ornate lidded \textit{hu}

M115: Type II lidded \textit{dou} (2), Type IX \textit{guan} (2), Type I ornate lidded \textit{hu} (2)

(12)  
\textit{gui}, lidded \textit{dou, guan}, ornate lidded \textit{hu, bian}

M110 (fragmentary): \textit{gui} (fragment) (2), Type III lidded \textit{dou} (1), Type IX \textit{guan} (1), Type XI \textit{guan} (1), ornate lidded \textit{hu} (fragment) (1), \textit{bian} (fragment) (1);

M111 (fragmentary): Type VIII \textit{gui} (fragment) (1), Type III lidded \textit{dou} (1), \textit{guan} (fragment) (1), ornate lidded \textit{hu} (fragment) (1), \textit{bian} (fragment) (1);

M116 (fragmentary): Type VIII \textit{gui} (2), Type IV lidded \textit{dou} IV (2), Type X \textit{guan} (1), Type II ornate lidded \textit{hu} (1), \textit{bian} (1);
lidded *dou, guan, lidded *hu, zhi*

M104: Type V lidded *dou* (2), Type X *guan* (3), Type XI *guan* (1), Type III ornate lidded *hu* (2), *zhi* (2);

Those graves whose pottery did not comprise a set, or which had been looted to the extent that their set configuration cannot be determined, are:
M301, (1) *bo*; M105, (1) *guan* of Type XII, and two of Type XIII, three pieces in all; M113, one (1) Type IV *li*; M131, one (1) round bottomed *guan*; M138, one (1) Type II *lei*; M203, one (1) Type IV-A *guan*, (2) Type VII *guan*, one (1) Type VIII *guan*, four (4) pieces in all; M205, two (2) Type IV B *guan*; M213, one (1) *li*, one (1) Type I lidded *guan*, one (1) Type IX *dou*, one (1) Type VI *gui*, two (2) Type VII *gui*, six (6) pieces in all; M316, one (1) Type VII *dou*.

Graves M120 and M107, which are from the first and second assemblages described above, are comprised of four *li*, four *gui*, four *guan*, and four *dou* (M120 also had one *zun* and one *lei*, M107 also had one *guan*). These assemblages are basically similar, but there are relatively large differences in the shapes of the vessels (diagram 32: 1, 2). The style of work in the *gui*, *guan*, and *dou* from M120 are very close to that of late Yin pottery vessels, but the shape and manufacture of the [M120] *li* is not similar to a Shang *li*. Because of this, the dating of M120 may belong to a relatively early stage of the early Western Zhou period. The dating of M107 is later than that of M120; its *dou* is very close to the Type III *dou* found in the archaeological remains [of Lu (in contrast to the cemeteries remains)] (early period Western Zhou), and its *gui* is the *dou*-style *gui*, which obviously developed from the bowl-shaped *gui* from M120. Nevertheless, the differences between the two are relatively large. Moreover, the M120 *gui* is even closer to those of the first period.
(early period Western Zhou) at the Western Zhou ruins of the Handan\textsuperscript{71} Gui Tai Si [Platform-Temple], but the dating clearly must be a bit later.\textsuperscript{72} The gui from M107 is a form ancestral to the dou-style gui from the Group A Spring and Autumn graves, but there still is a relatively large developmental difference which separates them. Thus M107 is dated to early Western Zhou period, possibly to the later stage of that early period.

M501 was discovered when a well was dug in 1953, and the vessels are broken and incomplete. There were a total of four whole and broken gui, and a lesser number of li, dou, and guan. But based on [the examples of] M120 and M107 it is very likely that this grave also had an assemblage consisting of four pieces each of four types of pottery vessels. The Type II dou from this grave directly follows the Type I dou from M120 (diagram 42: 1, 2), and possesses the same style as the dou from the early period Western Zhou site on the two banks of the Feng River.\textsuperscript{73} Type II gui are then earlier than the Type III gui from M107 (diagram 35: 2, 3); thus the grave should date to a relatively late stage of the early Western Zhou period.

M124 and M119 both belong to the third and fourth groups, both of which have two dou, with one guan in addition, and M119 also has one lei. The pedestals of the dou from these two graves have a trumpet-bell shape

\textsuperscript{71} Handan is a city in western Hebei Province.

\textsuperscript{72} “Xia Shang Zhou kaoguxue lunwenji” 夏商周考古學論叢, Section Two, diagram one. [Note in original text]

(photograph 14: 5, 6); from the fourth section of the previous chapter we
know that this style of *dou* was current in the first and second periods of the
pottery from the occupation site, and vanished after the third period. Because
there still is a lack of continuity between the later stage of the second period
and the third period, thus the [most accurate dating we can assign are that the]
lower limits of [the dates of] these two graves are at the latter part of the
second period of the pottery from the residential site or a bit later, to the early
stage of the middle period of the Western Zhou or slightly later. The *dou* from
these two graves are similar to the *dou* from M320 which is analyzed (below)
and assigned to the middle period of the Western Zhou (photograph 15: 1).
[However,] their differences are very great, thus the dating of M124 and M119
may even be earlier than the earlier half of the middle period Western Zhou.
The Type III *guan* from M124 (photograph 10: 1), seems to have developed
from the Type I *lei* (photograph 12: 1) found in M120; thus M124 is close to
M120, and may be dated to the early period of the Western Zhou. The difference
between the Type III round bottomed *guan* from M119 and the Type I round
bottomed *guan* from M120 is relatively large (photograph 9: 1, 3). The style of
the *dou*'s pedestal is identical to the *dou* pedestal from the later stage of the
second period pottery from the residential site ruins. Therefore M119 may be
dated to the early part of the middle Western Zhou period.

[113] The style of the Type IV *li* (diagram 10: 4) from the fifth
assemblage (M310) is similar to the same kind of *li* from the late Shang
culture of the Yinxu site. The Type V *li* hollow pointed foot *li* and somewhat
tall continuous crotch has the style of an early period Western Zhou *li*, but the
*li*'s body had already become flat and square shaped, so its dating may be
comparatively late. At the same time, there still was a Type I *yu* wide mouthed
jar (photograph 15: 5) within the grave, with an inclined rim, a deep belly, and a small flat bottom, so based on the shape of the vessel it should be earlier than the Type I *li* from the archaeological remains [of Lu (in contrast to the cemetery remains)]. The latter was approximately from the late Western Zhou period, or it could be from the middle period, so therefore M310 is from the middle Western Zhou period or earlier.

M320 belongs to the sixth kind of assemblage, which is subsumed under the Type VI pottery *li* (photograph 6: 1). As previously, it has the pointed foot style, which is different from the rounded foot style of the late Western Zhou period, so its dating seems to belong to the middle period Western Zhou.

However there is a great difference between the Type II pottery *yu* (photograph 15: 6) and the Type I pottery *yu* in the above mentioned grave M310. On the pedestal of the *dou* there has also already appeared a *dou* handle with a similar quality of workmanship as that which was common after the late Western Zhou period, yet it is differentiated from the *dou* pedestal with a big bottom and a small top, and a mouth with a flared edge (or “bamboo joint”) (photograph 15: 1). Thus M320 may already be close to late period Western Zhou.

The pottery assemblage of M328 is comprised of one *li* and four *guan*. The *li* (photograph 6, 3) may have a developmental relationship with the type VIII *li* from the later stage of the second period of the pottery vessels from the residential site. The turned-over mouth-rounded lip style of the *li* and the *guan* from the M328 grave, is an important characteristic of the third period implements from the archaeological remains [of Lu (in contrast to the cemetery remains)]. Thus the dating of the grave is the same as the third
period pottery vessels from the residential site, which is late Western Zhou period.

The guan from the eighth assemblage all possess the turned-over mouth rounded lip style, which should date it close to M 328. Both M305, and M201, which comprise this assemblage, have bronze implements. There is a Type I bronze zhou (photograph 21: 1) from M305, and M201 has a Type I ding, a Type I pan, and a Type II zhou (photograph 19: 1; photograph 20: 1, 2). All of these have the form of early period Spring and Autumn, thus these two graves belong to the early period Spring and Autumn. Also the Type I zhou from M305 is the earliest form of bronze zhou, so this grave may be earlier than the final phase of the Western Zhou period.

The ninth assemblage which comes from M202, has pottery vessels and bronze vessels. At the time when an underground telephone cable was being laid out in 1975, they dug up a bronze pan (M202:5) and a bronze yi. The pottery was completely shattered, and could not be reconstructed. The group was comprised of two li (Type VIII), two yu (Type III), two dou, two lei (Type IX), and one guan. The dou is actually a vessel lid, but we have not yet seen a corresponding vessel, so it cannot be determined whether or not the vessel lid represents a dou. The bronze vessels in this grave are one Type II pan, one Type III zhou, one yi-ladle (photograph 20: 3; 49: 2; 47: 3, 4). They are all shapes from the early Spring and Autumn period, so the grave should be dated to the early Spring and Autumn period.

The tenth group, comprised of M 207, M209, and M210, had all been dug up and looted, but the kinds of funerary vessels still may be roughly.
determined, although the numbers of each kind of vessel cannot be
determined. The *li* from these three graves (Type IX and X) were found in the
residential site during its fourth period; they were later than the Type VII *li*
from M202. The *dou* are different from the pottery from the fourth and fifth
periods of the residential area, thus the date of these three graves are from the
middle Spring and Autumn period.

There are five graves (M115, M110, M111, M116, M104), which belong to
the eleventh, twelfth, and thirteenth groups. They all have lidded *dou* and
ornately lidded *hu*, and while each of these graves’ dates are in successive
order, they all should be placed in the late phase of the Spring and Autumn
period. Within M104 there was a *ch'i* whose style was prevalent during the
Warring States period, so it may be dated between the final phase of the Spring
and Autumn and the beginning phase of the Warring States.

In addition, the pottery *bo* from M301 is of the Shang dynasty style, but
its rim is a bit flatter than the later Shang period *bo* unearthed in the area to
the north of Lu. Its dating may be a bit later, placing the date of the grave in
the early years of the Western Zhou or slightly earlier. There is one Type II
*lei* from M138, which is close in style to the later stage of the second period of
the pottery from the residential site, which date to the middle period Western
Zhou. There is one Type IV round bottomed *g'uan* in grave M131, whose form is
close to the vessels from the fourth period of the pottery from the residential
site, so it dates roughly to the early period of the Spring and Autumn. There is
a Type VII *dou* from M316, with the same shape as the Type V pottery *dou*
from the third period of the pottery from the residential site, dated roughly to
the late Western Zhou period. There is one Type IV *lei* from grave M113 whose
style, with a turned-over mouth and rounded lip, is identical to the style of pottery from the third period of the main residential site. Grave M113 also has a waist pit, which dates it to the late period of the Western Zhou. Grave M203 had four guan (one of Type IV A-1; two of Type VII; and one of Type VIII) (photograph 4: 3), some of whose shapes are identical to the guan from the early Western Zhou grave M305. Moreover M203 also has an early Spring and Autumn period Type II bronze zhou; thus M203 dates to the early Spring and Autumn period. In grave M205 there were shards of two Type B guan, which resemble the shape of the guan from grave M305, and should be close in date, belonging to the early Spring and Autumn period or the last stage of the Western Zhou. Dou and lidded dou coexisted in grave M213, but here were no hu with decorated lids. The lidded dou was Type I, and has primitive characteristics, so it is certainly the very earliest form of lidded dou. They are a bit earlier in comparison with the graves with funerary style lidded dou and ornate lidded hu which came from graves M110, 111, 116, 104, etc., and so may date to the middle Spring and Autumn period. There were no pottery vessels in M103, but there was one Type IV bronze zhou, which should be dated to the late Spring and Autumn period.

[114] Based on an analysis of the above, the Group A graves comprise thirty-two graves which have funerary pottery vessels and one grave with bronze vessels but no pottery vessels. Aside from graves M320 and M313 whose dating was unclear, the remainder could be divided into six periods running from the first years of the Western Zhou through the last years of the Spring and Autumn (diagram 22).
Period One, five graves: M301, 120, 501, 107, and 124. The first years of the Western Zhou to the early Western Zhou period.

Period Two, four graves: M119, 138, 310, and 320. The middle Western Zhou period.

Period Three, four graves: M328, 316, 317, and 113. The late period of the Western Zhou.

Period Four, seven graves: M305, 201, 202, 131, 203, 205, 211. Roughly dated to the early period of the Spring and Autumn.

Period Five, four graves: M207, 209, 210, and 213. The middle period of the Spring and Autumn.

Period Six, seven graves: M115, 110, 111, 116, 104, 103, and 401. The later period of the Spring and Autumn.

Besides these, there are nineteen graves (M101, 108, 109, 113, 114, 122, 129, 303, 304, 306, 208, 313, 318, 322, 323, 326, and 327) which had waist pits but no grave goods; the majority of these are Western Zhou graves, and some may be as late as the early period Spring and Autumn.

Also, grave M302 was arranged side by side with the Period One grave M301; M102 was arranged side by side with the Period Six grave M103; and grave M117 was arranged side by side with the Period Six grave M116, so each should be from the same time period.
Group B Burials

Section One, Shape and Construction of the Graves

(1) Structure of the Coffin Chamber

The fifty-one Group B graves can be divided into two periods, the Western Zhou and the Eastern Zhou. There were thirty-nine Western Zhou graves, and twelve Eastern Zhou graves.

All of the Western Zhou graves are rectangular vertical shaft pit graves. Calculating the size of the grave pits according to the floor of the grave pit, the largest one was M48, 3.6 m long by 2.72 m wide, and the smallest was M33, 2.3 m long by 1.1 m wide. The deepest grave, M44, had its pit floor 2.9 m below the current soil surface, and the shallowest, M29, was 1.64 m below the current soil surface. In general, the floor of the graves were about 2.5 m long, and 1 to 1.5 m wide.

When the lengths of the graves were compared to their widths, the graves where the width was (a) larger than, (b) smaller than, or (c) equal to half the length of the grave; each constituted about one third of the total. All the graves in which the mouth of the grave pit and the floor of the grave pit are basically the same size, have secondary platforms (ledges) made of previously disturbed soil; we have not found secondary platforms made from undisturbed soil.
There were twelve Eastern Zhou graves, the majority of which were large sized graves. There were seven large sized graves (M1, 2, 3, 28, 51, 58) the grave pits of which were all more than 10 meters square. M28 was the smallest, being 11.5 m long east-west, and 10.4 m wide north-south.

The largest was M2, which was 15 m long north-south, and 13 m wide east-west. M1 and M2 have both already been taken apart and analyzed. The mouths of their pits were larger than the pit floor. The upper part of the walls of the pit had been repaired and straightened up; in addition there was discarded gravel nearby. The lower part had not been dressed and maintained; there were clear marks from the tools employed on its upper section. These marks were 12 cm long and 5.5 cm wide.

The layout of a large number of the grave pits were broader east-west than north-south. A standardized coffin chamber was constructed out of rammed earth in the middle of the grave pit of each of the tombs. First of all, a foundation was rammed to a specific thickness at the floor of the pit, the thickest being 0.6 m, and the thinnest 0.1 m. The coffin chamber and the grave pit are both rectangular pits (oriented in different planes), varying from 5.6 to 7.8 m in length north-south, and from 4.4 to 6.4 m wide east-west (photograph 26:1). On the four walls of the coffin chamber there are clear marks from the wood used in its construction. From these traces it could be seen that there had been poles set up in the four corners to support the boards. As can be seen from the traces in M1, the remains of the frame poles at the ends of the northern and southern walls were 0.1 m wide, and the remains of the poles at either end of the east and west walls were 0.2 m wide. Thus it can be inferred that there had been planks (with cross sections of 0.2 to 0.1 m square) set up for ramming at the four corners of the coffin chamber. Practically all the ramming planks were well-shaped boards. There was only
one which had been made up from two separate pieces of wood, between which there was a trace of a joint. The ramming planks were about 0.2 m wide (diagram 23; photograph 26: 1). From the analysis of M3 which has already been carried out, we have learned that the rammed earth layers of the four sides of the coffin chamber are linked together, but they do not crisscross. This means that the entire coffin chamber was built at the same time by *hang tu* rammed earth construction. The construction method of the other large graves' coffin chambers are all roughly similar to this. The rammed earth layers of M1 and M2 were about 10 cm thick. In grave M1, twenty-seven rammed earth layers still remained from the floor of the pit to the mouth of the pit. The depressions made by the ramming poles in both graves are round with arced bottoms, spanning 3—4 cm in diameter; in some cases seven [poles were bound together to] make up one group. The rammed earth layers of graves M3, 28, 51, and 58 were a bit thicker, and the round rammed earth post holes had a flat bottom, which generally were 5—6 cm in diameter.

117] The three mid-sized graves (M4, 43, 47) had coffin chambers which were between 4.5 to 5 m in length; M 43 and M47 were 3.45 and 3.8 m wide, respectively. M4, which was 3.1 m wide, was the only grave of all the Group A and Group B graves in which two people had been buried together in a pit grave.

The two small sized graves are both rectangular vertical pit graves. One of them, M18, has a wall chamber, which is located on the western wall above the top of the outer coffin. The chamber is 0.24 m high, 0.94 m wide, and 0.16 m deep. The base of the chamber is 0.98 m above the floor of the grave (diagram 25). The secondary platform of the Eastern Zhou graves were all made of undisturbed soil. The secondary platforms of the large sized graves were all
made by rammed earth construction, and the secondary ledges of the small and mid-sized graves were made of backfill pounded solid.

(2) Coffins and Accessories

The inner and outer coffins had already decomposed; only gray ash traces of the wooden planks remained. Judging by the plank ash, among the forty-four small to mid-sized graves, twenty-nine had an inner and an outer coffin, eleven had an inner but no outer coffin, and the situation was unclear in four graves. In seven of the large sized graves, there were four graves (M1, 2, 52, 58) which had one outer and two inner coffins. In the remaining three graves it could not be determined whether there was a single inner coffin or multiple coffins.

The outer coffin of the graves which had both inner and outer coffins were slightly smaller than the coffin chamber, and exemplified the Type II form, in which the inner coffin is placed exactly in the middle of the outer coffin. Some graves had only inner coffins but no outer coffins, similar to those graves which had an inner and outer coffin, but the coffin chamber was relatively smaller.

The outer coffin of the large scale graves was placed in the middle of the coffin chamber. Support beams were placed vertically on both sides under the floor of the outer coffin, on top of them was placed The floor boards of the outer coffin was placed horizontally on top of the support beams; some exceptional support beams are in two layers (see burial Example Four). For example in M2, the support beam was 24 cm wide by 18 cm thick, and the planks at the bottom of the outer coffin were about 20 cm wide. The four walls of the outer coffin were made up of thick wooden planks stacked up on one
another, the length of the boards were the same as the lengths of the four sides of the coffin chamber. There were no traces of pillars in the center sections of the walls of the outer coffins (diagram 24).

The outer coffin was painted with red lacquer, cinnabar red on a black background. The area of the smallest outer coffin chamber is 4.3 by 2.98 m, with a height to the current surface level of 1.7 m; the largest was 5.6 by 4.2 m, with a height to the current surface level of 1.7 m.

118] The inner coffin of all the large sized graves are placed to one side of the outer coffin. The outside coffin of a double inner coffin grave is about 2.6 to 2.8 m long, and 1.6 m wide. The inner coffin is 2.2 m long and about 1.2 m wide. The size of the inner coffin of the single-inner coffin graves are unclear. The single inner coffins, as well as the double inner coffins, all are painted in lacquer.

In graves M3, 52, and 58, we discovered a pattern of round-capped bronze nails spaced at 10 cm intervals along the upper part of the wall of the outer coffin, which had probably been used to tack up a curtain.

(3) Form of Burials

The head of the occupant of the grave faced north in forty-one tombs. Thirty-five of these were Western Zhou graves, and six were Eastern Zhou graves. In one Western Zhou grave the head was oriented to the south (at 200 degrees). Most of the north facing heads were oriented between 2 to 30 degrees, while just two were oriented at 358 degrees. In nine graves the skeletons were missing, so the orientation of the head is unknown.
Most of the human skeletons were well preserved. There were thirty-eight lying on their backs with their limbs outstretched, facing upward or to the side. While most of their lower limbs were outstretched, there were some with crossed legs (diagram 26, 27; photograph 27: 1, 2; 57: 1). In twenty-seven of the burials both hands were placed on the abdomen, in four burials they were on the chest, in two they were by the side of the body, with the face either toward the left or the right, with the lower extremities slightly bent. The situation was unclear in the remaining eleven graves which were badly decomposed or looted.

There were three outstretched burials (M11, 29, 56), and one in which the body was outstretched on its side, in which the interred held rounded tube shaped stone ornaments at their two hands, on the abdomen. The one buried in M48 held a blade shaped jade ornament in its left hand, and its right hand had a stick-like long jade ornament.

Among the twelve corpses which had something held in their mouths, eleven, which had pebbles placed in their mouths, were from the Western Zhou (M14, 15, 16, 17, 19, 22, 26, 45, 50, 53, 56). These were all naturally rounded pebbles, except for M26, in which the stone had been crafted into the shape of a cowrie shell, and a qing chime stone shaped pebble in M22.

There was one Eastern Zhou grave (M54), in which there was a cicada shaped stone placed in the mouth.

(4) Placement of Mortuary Goods

Most of the pottery and bronze implements in the Western Zhou graves were placed on the secondary platform or on the cover of the outer coffin near the head or feet of the corpse. Very few of the mortuary goods were
placed on both sides of the secondary platform or between the inner and outer coffins (diagram 26, 28, 29; photograph 26: 3, 4; 55: 2).

Bronze ling bells, bronze fish, and mussel shell fish, etc. were discovered all around the outer coffin chamber. There may have been decorations on the walls of the outer coffin.

Many weapons were placed between the inner and outer coffins, and many chariot implements were placed on the outer coffin cover in the vicinity of the feet or side of the body.

Many jade and stone ornaments were placed on the body. There were seven graves in which there was a necklace in the vicinity of the neck. In eleven graves there were jade and stone pieces in the vicinity of the ears, and in M49 there was a string of beads on the body.

The pottery, bronzes, chariot accessories, and weapons from the Eastern Zhou graves were placed all around the outer coffin. In large graves many pieces of shell and charcoal were laid out on the cover of the coffin. Bronze bells may have been hanging around the outer coffin covers of M1 and M2 (bronze bells and bone nails were discovered all around the coffin chamber from the top to the bottom). Perforated bronze bells were discovered all around the coffin chambers of graves M3, 52, and 58. Strings of bone and stone beads were discovered around the outer coffin chamber of each of the coffins. These strings of beads were placed on the top of the cover of the outer coffin, but whether they had been hung above the outer coffin lid or had been placed all around the bottom of the outer coffin is still unclear. There were many stone ge blades, stone tablets, and bone and stone strings of beads on the inner coffin lid.

Jade bi disks, jade pei pendants, agate huan rings, translucent beads made of agate or amethyst, etc. were all within the inner coffin. Around the
outer coffin chamber there were also placed jade *bi*, jade *huan* rings, and several other small precious items, such as jade garment hooks, a gibbon-shaped silver ornament, a jade horse, etc. These small items may have originally been placed in a box (see the section on “Examples of Burials”) (diagram 31, 32, 34—36).

Section Two, Examples of Burials

In order to best explain the structure of the Group B graves, we have selected graves M48, 49, 2, 3, 4, 52, and 58, as examples, and give a detailed introduction to them.

Example One

M48, approximately dating from the Western Zhou middle period, was located in the northeast section of the area which was excavated. The grave pit was a vertical shaft pit, whose mouth was slightly larger than its bottom, and rectangular in shape with a 2 degree orientation. At its bottom the grave was 3.6 m long, 2.72 m wide, and 2.85 m deep; the mouth of the grave was 1.2 m below ground. The inner and outer coffins had both decomposed, but ashy traces of the boards remained clear. From the remains of the boards it has been inferred that the outer coffin chamber was 3.1 m long north-south, and 2.15 m wide east-west. The inner coffin had been right in the middle of the outer coffin. Its northern end was relatively wide, and the southern end relatively narrow, with a horizontal shape like Ⅱ. The inner coffin was 2 m long, and 0.92 to 0.65 m wide; the two long sides exceeded the two short ends by about 0.1 m. While part of the human skeleton had decomposed, the head was
facing north, the face slightly turned to the west. The body was outstretched with limbs extended, with the two hands placed on the abdomen (diagram 28; photograph 26: 3, 4).

Among the mortuary objects there were bronze vessels, pottery vessels, and jade and shell items, etc., which were differentiated by their placement in upper strata and lower strata. Those in the upper strata were placed on the lid of the outer coffin. On its northern end there was one bronze ding (with an inscription), two bronze xu food containers (with inscriptions), a bronze zhou-boat, a bronze yi -ladle, one pottery guan, one jade bi-ladle. On the southern end there were placed a group of chariot items: xian 衛 curb bit, biao 簡 curb chain, a huan ring, luanling bell, ling bell, wei axle endpiece, jieyue 节約, etc.). The lower strata implements were placed between the inner and outer coffins on the floor of the outer coffin, and inside the inner coffin. Between the north side and the northwest corner of the inner and outer coffins, there were placed a bronze ding, a bronze fu cauldron, a bronze yi, a bronze pan (the preceding all were inscribed), a pottery li, six pottery guan (four of which were placed inside the bronze ding, and one in the yi). Placed between the inner and outer coffins in the southeast corner were a bronze ding, a bronze yan, a bronze hu (the preceding all had inscriptions), one bronze ge, and three pottery guan. Surrounding the outer coffin were a round bronze bell, a bronze fish and a mussel shell fish (the last two items were all placed together). They were found all around, but not all

74 In Diagram 74 the north and south ends appear equal in width.
75 This measurement does not accord with Diagram 74.
76 Jieyue are bronze decorative ornaments placed on a horse muzzle (cf. Chêng, Shang, p. 268).
were on the floor of the outer coffin, so they may have been ornamentation on the lid or walls of the outer coffin. Between the southeast and south sides of the inner and outer coffins we also discovered a few animal headed nails. A number of small jade ornaments were on the body. Beside the left ear there was a jue 玺 penannular jade ring, on the neck there was a necklace made of jade and stone, by the left side of the chest and left hand there is a jade ornament in the shape of a jianqiao 剑鞘 scabbard, at the abdomen there were a jade ge spear, a jade bi disk and a jade huan circlet. By the side of the right hand there was a square shaped biyu jasper ornament.

[122] There was an order to the sizes of the three ding in this grave, but they were placed in three separate locations: one each on the north end, the northeast corner, and the south end of the outer coffin lid. Whether or not this is a set of ding is still unclear.

Example Two

Grave M49, dated to the late Western Zhou period, was situated in the eastern section of the area which was excavated. The grave pit was a vertical grave earth pit, a rectangle at a 20 degree orientation. The mouth of the grave was slightly smaller than the floor of the grave. The floor of the grave was 3.15 m long, 1.95 m wide, by 2.3 m deep. The mouth of the grave was 1.05 m deep [below the ground surface]. The inner and outer coffins were completely decomposed; ash remnants of the planks were clear. Inferring from the plank ashes, the outer coffin was 2.8 m long, and 1.6 m wide. The position of the inner coffin was slightly to the north side, about 1.9 m long, and 0.7 m wide. The upper part of the skeleton was severely decomposed, while the lower limbs
were still in good condition. The head faced north, and it appears the corpse was outstretched with limbs extended (diagram 29).

The funerary implements were bronze vessels, pottery vessels, and jade, stone, and shell items. The bronze vessels were one *ding*, two *gui*, one *pan*, one *yi*. They were all sacrificial vessels, placed between the inner and outer coffins on the south side. Between the inner and outer coffins on the north side there placed one pottery *li*, and three pottery *guan*. Between the inner and outer coffins on the west side there were placed three pottery *guan*, and in various places around the floor of the outer coffin there was a ring of bronze *ling* bells, bronze fish and “mussel-fish”. The bronze *ling* bell may have been hanging above the top of the outer coffin. The bronze and mussel shell fish probably were decorations on the walls of the outer coffin. At the neck and chest of the skeleton there were several jade stone pieces, and on the body there was a string of jade stone beads.

Example Three

Grave M2, dated to the last part of the Spring and Autumn. It was situated in the west part of the area which was excavated, arranged east-west with grave M1. The southwest part of the grave was destroyed by ash pits from the Warring States and Han Dynasty, and the east side was destroyed by two horse pits. The grave had already been severely plundered, and in the west and south walls a total of three grave robbers’ holes were discovered. The grave pit was rectangular, oriented at 10 degrees, the mouth was large and the floor was small, the plane of the mouth of the pit was slightly rectangular in shape, 15 m north-south in length, and 13 m east-west wide. The floor of the grave was 14.5 m long north-south, and 12.6 m wide east-west, and 2.4 m deep. The
mouth of the grave was 0.3 m below ground surface. The four walls of the grave pit were flat and regular, nearby there was a layer of discarded gravel, the lower portion had not yet been repaired and dressed, still preserving tool markings (diagram 31, top).

[124] A burial chamber was created in the middle of the grave pit by rammed earth construction. First, at the bottom of the pit they constructed a foundation approximately 0.3 m thick, and afterwards left out a space in the middle for a burial chamber, building up the four sides with earth fill, in successive layers of rammed earth. The rammed earth layers were about 10 cm thick, the rounded circular shape of the ramming pole pits was 3 to 4 cm in diameter. There were seven ramming poles which comprised a unit, one placed in the middle and six arranged around it. There were twenty-two rammed earth layers remaining from the bottom to the top of the grave; the rammed earth was vertically hard. There were clear traces of the ramming planks, about 0.2 m wide, on the grave walls. The burial chamber was 7.8 m long north-south, by 6.4 m wide east-west, and 1.8 m deep below the present ground level (diagram 30).

The inner and outer coffins had already decomposed; from the remains of the plank ashes we know there were an outer coffin and two inner coffins. The wooden outer coffin was situated right in the middle of the grave chamber, 5.6 m long north-south, 4.2 m wide east-west, and with a remaining height of 1.7 m. On the floor of the outer coffin on both the east and west sides there was placed one pillowing board, 0.22 m wide, on top of the pillowing board was placed the horizontal bottom board planks of the outer coffin; the planks were about 0.2 m wide. A number of bone wedges, which may have been used to reinforce the planks of the outer coffin, were discovered around the coffin chamber (diagram 24).
The inner coffins were situated on the west side of the outer coffin. The "outer" inner coffin had completely decomposed; according to its remains it was 2.8 m long, 1.6 m wide, and about 1.4 m in height, painted in black lacquer. The "inner" inner coffin was 2.2 m long, the south end was 1.2 m wide, and the north end 0.92 m wide, approximately 1 m in height. Vestiges of the bottom part of the inner inner coffin (with a remaining height of about 0.5 m), were still visible at the time it was discovered. The interior of the inner inner coffin was painted with lacquer, red on a black background; the four were wrapped in triangular bronze strips, the bronze pieces were 8 cm wide on each surface. On the bottom of the outside of the inner inner coffin there were two lines of animal-face shaped bronze nails. There were 6 cm between the upper and lower lines, with a horizontal space of about 10 cm between them (diagram 31, below).

There were no skeletal remains in the inner coffin; on the west and south sides of the "outer" inner coffin there were scattered bone fragments, which may have been the bone fragments of the corpse strewn about by the grave looters.

The majority of the funerary objects were looted; not one of the bronze vessels remained, but several remaining pottery vessels were still set in their original positions. In the northeast corner of the floor of the outer coffin there was a fu, and in the northwest corner there were two pottery fan, there was a set (sixteen pieces) of pottery guan close to the southern wall and southeast corner. There were twenty-two bronze bells, most of which were spread all around the coffin chamber. Some of the bells were unearthed 1.3 m over the floor of the outer coffin, so it can be inferred that these bells may have been hanging above the outer coffin lid. There were more than ten strings of horn, stone, and beads all over the outer "inner" coffin. Aside from
those, there were various small items such as a pottery vessel lid, a bronze jieyue harness ornament, a gold leaf gilded bronze pao泡，and a bone pipe (diagram 31, top).

Example Four

Grave M3, which belongs to the early Warring States period, was located northeast of graves M1 and M2, and about 100 m east of the Ancestral Terrace. The coffin chamber had a 10 degree orientation. The grave pit had a slightly inclined rectangular shape, 13.5 m long east-west, 12.5 m wide north-south, the mouth of the grave was 0.3 m deep, and the bottom of the grave 2.8 m deep. The dimensions of the mouth and the bottom of the grave were basically the same. The walls of the pit had not been repaired and dressed, and there were tool (pick axe) markings on top, 28 cm long, and 6.5 cm wide (photograph 28:2). At the south end of the east wall, the opening has a there is a rammed earth construction flight of stairs which faces east, 3.8 m wide north-south. The two remaining steps are each 1.5 m wide, and 0.3 m tall. This may have been the entrance (and exit) during the construction of the tomb, but it certainly was not a tomb passageway. The coffin chamber was slightly north of the center of the grave pit, 6.4 m long north-south, 5.7 m wide east-west, and 2.8 m deep. During its construction, a 0.4 m thick foundation was made by rammed earth construction at the bottom of the pit; then on its top the coffin chamber was made by rammed earth construction (photograph 28: 1). The rammed earth was extremely hard; the layers of rammed earth were 11 to 12 cm thick. The ramming pole was round shaped with a flat bottom, 5 to 6 cm in

77 A sphere shaped vessel.
diameter (photograph 28: 3). Thirty two layers remain from the bottom to the top of the grave. There were clear traces of construction planks on the four walls of the coffin chamber. The construction planks were about 0.4 m wide, and in the four corners there were traces of the posts which held up the construction planks. The four rammed earth layers on the exterior of the burial chamber are all identical, with no signs of interlocking. The explanation is that the entire coffin chamber was built up by rammed earth in continuous layers at the same time.

The inner and outer coffin had completely decomposed. Between the walls of the burial chamber and the walls of the outer coffin there was a yellow-brown earth fill, which had been rammed in. On the bottom of the outer coffin there were spread out two layers of pillowing boards. The lower layer had three horizontally laid out beams, 4.6 m long, 0.4 m wide, 0.2 m thick, which had still not yet completely decomposed. In the lower layer, at the two ends was a beam 5.4 m long, 0.2 thick, on which the bottom boards of the outer coffin, which had completely decomposed, had been placed. The traces of the planks from the walls of the outer coffin were all lined up horizontally; we have not yet seen traces of upright pieces of wood. Wood charcoal and mussel shells were found all around the top of the outer coffin and in the fill of the coffin chamber, which may have covered the lid of the outer coffin. The inner coffin was located on the west side of the interior of the outer coffin. It had already decomposed, judging by the remnants it was nearly 3 m long, and about 1.3 m wide. It is not yet known whether or not there was an additional inner coffin. The inner coffin was painted with red lacquer, and decorated with a gilded bronze pao. The skeleton of the deceased was already disturbed; only a scattering of bone fragments was visible, and the style of its burial was unclear.
The grave had already been disturbed and looted. The implements which had been within the inner coffin and between the inner and outer coffins on the south side, were no longer preserved, but the east west, and north sides had not yet been disturbed. All around these walls of the outer coffin a large number of articles were placed. On the west side from the south to the north were placed a small pottery $hu$, a pottery $guan$, two carved ivory walking stick ornaments, a bronze $ge$, a $nu$ crossbow trigger, an arrow, three bronze loop-handled $hu$, one bronze food case (within which was packed six small square boxes, which all had bird bones), etc. In the north part, from west to east there were pottery vessels, one bronze food case (within it was packed four small square boxes, which all had bird bones), a jade horse, a jade garment hook, inlaid turquoise silver belt buckle (photograph 30: 1), a gibbon-shaped silver ornament, an inlaid gold and silver garment hook, a bronze $jing$ mirror, a carved ivory back scratcher, and there also were several pottery vessels. In the northeast corner there was a pottery $fu$, $hu$, small $hu$; in the east part there was a pottery $hu$, two bronze loop-handled $hu$, one arrow, one lead $ge$ (partly destroyed), a jade $bi$ disk, a lacquer item (partly destroyed, of which only a decoration remains). In addition all around the coffin chamber there were many pieces of bone, stone, strings of beads, and bronze nails (diagram 32).

Example Five

Grave M4, approximately dated to the early Warring States Period. Located about 10 m northwest of grave M3, at a 15 degree orientation, is the sole pit grave in which a pair of people are buried. The dimensions of the mouth and the bottom of the grave were basically the same, the bottom of the
grave is 4.1 m east-west, 3.45 m north-south, 2.6 m deep; the mouth of the grave is 0.8 m deep. Two people were buried in the pit, each with an inner and outer coffin. There was with a separating ridge of “disturbed soil” between them, and secondary ledges of “disturbed soil” surrounding them. The inner and outer coffin had already decomposed; it was inferred from the ash remains of the boards that the east outer coffin was 2.35 m long by 1.25 m wide; the west outer coffin was 2.88 m long by 1.6 m wide, larger than the east outer coffin. The sizes and forms of the inner coffins were unclear. The heads of both of the corpses faced north, while the skeletons were in disarray, and severely decomposed (diagram 33; photograph 26: 2).

[128] The grave had already been disturbed and looted, there were very few burial articles. On the west side there were a pottery hu, a bone zan hairpin, a bronze pao and an iron belt buckle; on the east side of the head there were fragments of animal bones. On the east side there was a piece of bronze, a jade huan ring, fragments of pottery vessels and bone hairpins. There was also a string of rock crystals and jade “marrow”\textsuperscript{78} which had not been previously disturbed, placed within the inner coffin in front of the left foot (photograph 90: 1, 2, 3). There were also small animal bone fragments on the west side of the body.

According to an initial investigation, the body on the west side appears to be male, and the one on the east side to be female, so this may have been a joint burial of husband and wife.

\textsuperscript{78} According to the photograph captions this is agate.
Example Six

Grave M52, dating approximately to the early Warring States period, is located to the west of grave M3 and side by side with grave M58 (the grave pit of M58 breaks into the east wall of its grave pit). The grave had a ten degree orientation, and the structure of the grave pit and coffin chamber is identical to that of M3. The technique of its rammed earth construction is also similar. The mouth of the pit was 12.5 m long east-west, 12 m wide north-south, and the mouth of the grave was 0.4 m deep, and the floor of the grave was 3.05 m deep. The coffin chamber was slightly displaced to the east side, 6.2 m long north-south, 5.4 m wide east-west. The inner and outer coffins had already decomposed, according to the ash remains of the boards it was an outer coffin with two inner coffins. The outer coffin chamber was 5 m long north-south, 4 m wide east-west. The boards of the outer coffin were about 0.22 m wide and 0.15 m thick. Wood charcoal and pieces of mussel shell were laid on top of the outer coffin cover. On the upper part of the outer coffin walls there were rows of round-capped bronze nails, 0.25 m apart; these probably had been used to attach a curtain-canopy. The inner coffin was situated in the middle of the inner coffin chamber, slightly to the north side. The outer inner coffin was about 2.1 m long, and 0.88 m wide. The inner inner coffin was about 1.92 m long by about 0.64 m wide. The inner and outer inner coffins both were painted with red lacquer, and were bound with bronze strips at the four corners. On both sides of the bronze strips there was a line of round bronze nails, with 10 cm between the bronze nails. On top of the inner coffin cover (it was unclear whether it had been the inner or the outer inner coffin) a stone gui tablet and a corroded bronze jian sword had been placed. The skeleton
was still well preserved; the head faced north, the body was supine and outstretched with the hands at the side and the thighs crossed (photograph 29: 2, 4).

Burial articles were placed all around the outer coffin chamber and within the inner coffin. In the northeast corner of the outer coffin chamber there were placed a bronze guan (broken and not restorable), in the southwest corner there was a bronze pan, at the west wall on the north of the head there was a bronze jiao hu,79 at the north side of the outer coffin there was a silver belt buckle, a bronze belt buckle, a fragment of a jade bi disk, a crossbow trigger, a kui dragon jade ornament, and four pottery guan. On the west side of the outer coffin there were nine pottery guan, an implement made of lacquer wood (of which there only remained three bronze feet), one bronze huan ring, a kui dragon jade ornament, one ge bi戈錞 dagger-axe handle. The south side of the outer coffin had a bronze chan铲 shovel (fragment), a bronze fu axe (fragment), two porcelain guan, two pottery guan (smashed), a bronze mao halberd. On the east side of the outer coffin there were a set of implements for the game bo80 (six square jade chou 筹 “chips,” twelve square stone chou “chips,” chopstick shaped ivory and silver counters, one each), a bronze huan ring, an arrow, a bone tube, a bone tool, five pottery guan, three kui dragon-style ornaments. All around the inner coffin there were scattered many strings of bones, stones, and beads (diagram 34).

79  Jiao 銘: A three footed, handled, wine heating utensil.

Table 5. Inventory of M52 jade *bi* disks

<table>
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<tr>
<th>Item number</th>
<th>Type</th>
<th>Full diameter</th>
<th>Hole diameter</th>
<th>Thickness</th>
<th>Matrix width</th>
<th>Location (relative to the body)</th>
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<td>6.9</td>
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<td>6.5</td>
<td>above</td>
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<td>III</td>
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<td>6.9</td>
<td>0.5</td>
<td>6.6</td>
<td>above</td>
</tr>
<tr>
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<td>I</td>
<td>31</td>
<td>10.7</td>
<td>0.6</td>
<td>10.2</td>
<td>above</td>
</tr>
<tr>
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<td>III</td>
<td>21.9</td>
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</tr>
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</tr>
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<td>6.2</td>
<td>0.6</td>
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<td>outer coffin chamber</td>
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</table>
There was a layer of jade *bi* disks in the inner coffin from head to foot over the body of the corpse. Below the body there was a layer of *bi* disks (see Table 5 on the previous page). There were also three bronze scrapers, thirteen jade *huan* rings, two jade *she* 耳, two jade pieces, one group of jade *pei* 佩 waist pendants, one group of gold belt ornaments, two inlaid stones, four ivory ornaments shaped like fangs, an ivory implement (in the area of the chest; the implement was damaged and its form unclear), a red agate *huan* ring, a carved ivory cloud dragon inscribed *pai* tablet, one roof tile pattern jade tube (diagram 81; photograph 29: 3, 4).

**Example Seven**

Grave M58, which is dated approximately to the early Warring States period, was located on the west of grave M3, and broke into the east wall of the grave pit of grave M52. This grave had a 10 degree orientation. The structure of this grave is identical to that of pit grave M52. The grave pit was 11.6 m long east-west, 10.7 m wide north-south, and the mouth of the grave 0.4 m deep below the surface of the cultivated land. The bottom of the grave was 2.75 m deep. The ramming pole was round and flat bottomed, with a diameter of 6—7 cm. There were nineteen rammed earth layers extant from the bottom of the grave to the mouth of the grave. The foundation of the grave pit floor was 0.1 m thick. The coffin chamber was 6.25 m long north-south, and 5.4 m wide east-west. The inner and outer coffins had already decomposed. Based on the traces of ash which remained from the planks, the outer coffin chamber was

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81 *She*, a kind of jade thumb ring used by archers to protect the thumb and help pull the bowstring.
about 4.98 m long north-south, 3.8 m wide east-west, and the remaining height about 2.55 m. The outer coffin lid was covered with river mussel shells and wood charcoal; the upper portion of the outer coffin walls had a row of round capped bronze nails, separated by 0.15 m. The inner coffins were very close to the east wall of the outer coffin; based on its traces, the outer inner coffin was about 2.6 m long, 1.22 m wide; the inner inner coffin was 2.15 m long and about 0.68 m wide, all painted with red lacquer, and with the four corners wrapped with bronze strips. On two sides of the bronze piece there were two rows of bronze rivets, with round head nails and animal-face head nails facing with each other in rows, 0.1 m apart. The skeleton had already decomposed, the head faced north, but the burial style was unclear.

The burial articles were placed all around the outer coffin and within the inner coffin. On the east side of the outer coffin there was a group of bronze vessels (a ding, two hu, a guan, and a fou urn), four pottery guan, two porcelain guan, one iron garment hook, a bronze garment hook, one ivory back scratcher, a jade tube, two jade huan rings, and a red and a green agate huan ring (photograph 27: 4).

On the south side of the outer coffin there were eight pottery guan, one pottery yi mold, one pottery mold, one bronze bo basin, two kui dragon jade ornaments. On the west side of the outer coffin there was one bronze jian sword (a fragment), a bronze mao dui spear endpiece, nine pottery guan, and one kui dragon jade ornament. On the north side of the outer coffin there was a string of turquoise beads, a group of four wing-shaped ivory and jade items, and such small items as a bronze huan ring, a bone cudgel, and a tube made of liao jade. There was a stone tablet placed on the outer coffin lid, which was similar in form to the one found in grave М52.
Table 6. Inventory of M58 jade *bi* discs

<table>
<thead>
<tr>
<th>Item number</th>
<th>Type</th>
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<th>Center hole diameter</th>
<th>Thickness</th>
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<tr>
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<td>12.6</td>
<td>4.4</td>
<td>0.25</td>
<td>4.1</td>
</tr>
</tbody>
</table>
Above and below the corpse in the inner coffin there was a layer of jade disks (sixteen pieces in all; because the skeleton was decomposed, it cannot be determined how many were above and how many were below (Table 6 on previous page)). In addition there were four jade huan rings, two kui dragon ornaments, three round jade pieces, one jade garment hook, and three jade huang semi-annular jade pendants. On the floor of the inner coffin there were one group of jade waist pendants (including a pierced jade disk worn on the belt, four round tube shaped jade ornament, three square jade pearls, two long drum-shaped jade pearls, a kui dragon ornament, etc.). In addition there were small items such as liao jade 斤珠, a jade huan ring, jade pieces, etc. (diagram 36; photograph 27:3).

Section Three, Chariot Pits

In the Wangfutai cemetery we also excavated six chariot pits, designated Pits One through Six, which were concentrated in the southwest part of the area which we excavated (diagram 1). The shape and structure of the pits are basically the same; they all are rectangular earth pits, oriented between 10 and 30 degrees (based on the walls of the pit). Pit Six was the largest in area: 3.58 m long north-south, 3.05 m wide east-west, 1.7 m deep. Pit Three was the smallest: 2.98 m long north-south, 2.7 m wide east-west, 0.9 m deep. The pits were filled with rammed earth, and there were no burial goods discovered.

Except for Chariot Pit Six, no traces of chariots were discovered in the pits. The number of horses in each pit varied: there were six horses in Pit Six, there appeared to be three horses in Pit Two, and there were two horses each.
in the remaining pits. The majority of the horses' heads face south, but their posture within each pit is not the same. The two horses in Pit One were placed side by side, lying on their sides back to back. The two horses in Pit Three were side by side, lying on their sides facing the same direction (photograph 30: 2). The two horses in Pit Four were placed side by side, lying on their sides facing one another. In Pit Five the two horses are arranged north-south; one lies on top of the other, and their heads face south. The east part of Horse Pit Two which was destroyed by grave M1 appeared to have three horses. One horse whose head faced south, lay on its side facing the west. The second horse's head faced south, and its body lay on its side facing the north. The third horse was supported only by its forelegs, its head stretched to the back of the head of the first horse.

Horse Pit Six was situated to the northwest of Grave M2, and is the largest of the horse pits. The six horses in the pit were divided into three groups: the group in front has two horses, the group in back consists of four horses. Some of them had decorative ornaments: two bronze huan rings, five bronze pao, two bronze jieyue harness ornaments, two butterfly-shaped bronze tube ornaments, two bronze jiaoju 纂具 reamers (photograph 59: 4).

Behind the horses there appeared to be a zhou 車 chariot axle. At its two ends there were bronze chariot wei 車 axle caps. The two axle caps were 2.4 m apart; no traces of chariot wheels were seen. It is possible that they just placed the chariot axle to represent a war chariot. The pit behind the horse is very small in area, and it would not be able to accommodate a war chariot. There was a dog skeleton in the northeast corner of the pit; with a bronze ling bell beneath the dog's neck (photograph 30: 3).

[133] In addition to Chariot Pit Six, Horse Pits One and Three each had a dog (with a ling bell below its neck) placed in their northeast corner.
The chariot axle end excavated from Chariot Pit Six (photograph 59: 3) is identical in shape and form with the one from Grave M48. Pit Six dates to the same (or nearly the same) time period as grave M48, namely middle period or late period Western Zhou. None of the remaining pits had implements, and their dating was unclear, but Horse Pits One and Two are distinguished by their having been cut into by graves M1 and M2 (which date from the end of the Spring and Autumn period to the beginning of the Warring States period), so their dates must be earlier than graves M1 and M2. Moreover the arrangement of the horse pits was well-laid-out; the dating of Pit Six and the other horse pits do not appear to be far off; it is possible they are all from the Western Zhou period.

Section Four, Funeral Goods

The great majority of Western Zhou Group B graves are whole and without losses. There is only a single grave which had been cut into by the floor of a later period grave, so that a portion of the burial articles were already missing. Otherwise the majority of the burial articles of the Western Zhou Group B graves are simple; among them a good many graves had only one or a few pottery sacrificial funerary vessels. The situation in the Eastern Zhou Group B graves was just the opposite; there is only one complete grave, and the remainder were all looted. However a number of pottery vessels and small jades which are worth examining remained in several large graves. In all there were nearly one thousand seven hundred items made from pottery, porcelain, bronze, gold, silver, iron, jade, stone, agate, rock crystal, ivory, bone, mussel shell, etc. (counting strings of beads and ornaments as separate items). Below we have explicated them in ten categories: pottery vessels,
porcelain vessels, bronze vessels, gold, silver, and iron vessels, jade and stone items, lacquer items, "fused stoneware,"82 items made from bone, ivory, and shell; strung decorations, gaming pieces, etc. The strings of beads and gambling items both included several kinds of materials; it is not convenient to list each material, so therefore we have listed each implement by shape.

(1) Pottery vessels

There was a total of forty-eight graves which had pottery burial vessels, from which a total of two hundred fifty-seven pottery vessels were unearthed. The majority of which were mingqi burial offering vessels; there were only a very few utilitarian vessels. The main method of manufacture of the pottery vessels was by wheel-turning. The main pattern was cord marks, carried out on the surface of li and fu. Next there were concave bowstring patterns, which for the most part occurred on the surface of guan from the late Western Zhou period. In additional there were "subtle" patterns and incised patterns, many of which are seen in hu, small hu, and other vessels of the Warring States period. There were seven varieties of vessel forms: li, guan, lei, fu, jian "mirror,"83 hu, and ring-footed hu.

Liaoqi 料器: objects made from a glass-like substance. Sometimes referred to as “glass frit.” In a short chapter on “Glass of the Chou and Han Periods” Hansford describes beads similar to those referred to in this report. “Although a feldspathic glaze was used in China in Shang times, the knowledge of this glaze did not lead to the production of glass or frit in any form. The earliest glass is dated to the late Chou period, the fourth or third century B.C., when it was used to make beads and other small objects.... The most varied glass objects from ancient China to which a definite provenance is assigned are those found in tombs of the late Chou date at Chin Ts’un near Loyang in Honan. The tombs were of varying age, beginning as early as the middle of the sixth century B.C. but belonging for the most part to the fourth and early third centuries B.C.” Hansford, Glossary, pp. 78-80.
(A) Pottery *li* : Thirty-five vessels. Almost all of these pottery *li* were modeled on bronze *li*. For example, all but one of the vessels have *fei* flanges on the “belly” above the three feet. There is one vessel whose shape is unclear; the remainder are divided into twelve types:

Type I: One vessel (M44: 1). Rising at an inclined sloped, it divides relatively high into a crotch, with relatively short foot posts. The belly section directly above the three feet is decorated with a pattern of cock’s comb-like clumps (冠状堆纹). The surface of the vessel is plain, while the bottom section shows traces of cord mark daubing. This sand tempered gray pottery vessel is 13.2 cm tall and 15 cm in mouth diameter (diagram 37: 1; photograph 32: 1).

Type II: Five vessels. The rim is bent back to the horizontal, or at an oblique angle. Along the inside and outside of the rim there are rows of concave “bowstring” decorative patterns. The crotch area is connected and slightly shrunken. The belly is comparatively deep. There is a relatively small distance between the three feet. The neck area is wiped smooth. The belly is decorated with coarse cord marks. There is a ring of square-shape impressed patterns or fingertip-pressed concave indentations on the shoulder. For example, M57: 4 has a bent rim and is a sand tempered red pottery (diagram 37: 3; photograph 32: 3).

Type III: One vessel (M35: 1). The vessel has a restrained mouth, with a wide inclined rim, and a restricted neck. The crotch is comparatively high and yet slightly shrunken. The inside and outside of the mouth rim is decorated above and below with a line of concave bowstring pattern depressions. The

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83 *Jian* 矢, a pottery vessel in which water is poured, to function as a mirror.
shoulder area has a circular impressed pattern. The belly area has cord marks which are comparatively refined. The “cock’s comb” flange is relatively small yet the pattern is sparse. This gray paste texture pottery vessel is 13.1 cm tall, and the mouth diameter is 16.9 cm (diagram 37: 9; photograph 32: 2).

[134] Type IV: One vessel (M11: 2). The rim flares out at a wide angle. The crotch is relatively flat, and the feet are post-like. The inside and outside surfaces are each decorated with a line of concave bowstring depressions. The neck area is wiped smooth; the shoulder has a ring of finger-pressed concave pits. The belly is decorated with relatively shallow “medium” cord marks. This sand tempered gray pottery vessel is 14.1 cm tall and the mouth diameter is 18.3 cm (diagram 37: 4; photograph 32: 4).

Type V: Seven vessels. The rim is bent back to the horizontal, or at an oblique angle. The inside and outside surfaces are each decorated with a line of concave bowstring depressions. The legs are bunched together at the slightly shrunken crotch area. The belly is comparatively deep, and the three feet relatively short. The neck area is smooth polished; the shoulder area has a ring of incised patterns; the belly is decorated with coarse cord markings. In Specimen M23:2 the feet are cast outward slightly. This sand tempered red-brown pottery vessel is 13.5 cm tall and the mouth diameter is 16.7 cm (diagram 37: 2; photograph 32: 6).

Type VI: One vessel (M30: 67). The mouth is slightly restrained; the rim bends back nearly horizontal. The belly is relatively shallow yet broad, the lower belly bulges outward. The crotch is flat, the neck area has traces of cord marks which had been rubbed out. The belly is decorated with coarse cord marks. The shoulder area has a ring of impressed patterns. This is a sand tempered gray-black and red-brown pottery, 13.8 cm tall, and the mouth diameter is 17.8 cm (diagram 37: 5; photograph 32: 5).
Type VII: One vessel (M49: 11). A straight mouth, inclined rim, shallow belly and flat bottom. Its awl shaped feet are relatively tall. The outside rim is decorated with a line of concave bowstring pattern. Below the rim and neck there are traces of cord marks which had been wiped over. The belly is decorated with shallow cord marks. The flanges on the belly above the three feet had already fallen off. The fine grit tempered red-brown pottery vessel was 13.3 cm tall and the mouth diameter is 15.3 cm (diagram 37: 6; photograph 33: 3).

Type VIII: One vessel (M26: 3). A relatively small vessel, with broad obliquely angled rim. Its three feet are relatively tall and slightly turned outward. The neck is smoothly polished There are no flanges on the belly; it is decorated with cord marks. The vessel is 12.3 cm tall and the mouth diameter is 13.3 cm (diagram 37: 7; photograph 33: 1)

Type IX: Nine vessels. The mouth is restrained. The rims are either folded back nearly horizontal or slightly angled. The lips are either fairly wide and gathered in or rounded. The belly is relatively broad; the crotch is flat, and the feet post-like. Both the inside and outside edges of the mouth and rim are decorated with a strip of concave bowstring pattern. The shoulder is decorated with a pattern of ring impressions; some decorations are finger impressed concave pits. The belly is mostly decorated with relatively fine cord marks. Specimen M19: 3 is a gray-brown fine grit tempered pottery (photograph 33: 2).

Type X: Four vessels. Restrained mouth; the rim is either folded back nearly horizontal or slightly angled. Restricted neck; tall crotch; the shoulders are polished smooth. The belly is decorated with coarse cord marks. Specimen M15:3 was a red-brown fine grit-tempered pottery, 14.6 cm tall, and the mouth diameter is 15.2 cm (diagram 37: 8; photograph 33: 4).
Type XI: Two vessels. The thin rim is bent nearly horizontal; rounded lip; the belly is relatively straight; the crotch is connected. On the inside and outside of the rim there is a strip of concave bowstring pattern. The neck area has traces of cord mark impressions which had been rubbed out. The shoulder area has a circle of impressed patterns, and the belly is decorated with fine cord marks. Specimen M56:5 is a red-brown paste texture pottery (photograph 33: 5).

Type XII: One vessel (M14: 4). The rim is comparatively narrow. The belly is relatively straight; on its underside the crotches blend together and so that it is relatively flat. The three feet are relatively short. There is a line of concave bowstring pattern around the mouth. Below the rim and in the neck area there are traces of cord mark impressions which had been rubbed out. On the shoulders there is a circle of incised patterns of vertical segments. The belly and the bottom are decorated with cord marks. This gray fine grit-tempered pottery is 13.4 cm in height and the mouth diameter is 17.2 cm (diagram 37: 10; photograph 33: 6).

(B) Pottery guan: One hundred fifty-five (155) vessels, divided into twenty-nine (29) types:

Type I: One vessel (M57:5). [This vessel] has a small mouth which is slightly restrained; the rim is flat. The shoulders turn back. While the bottom is flat, there are marks of concave scraping. The rim and collar are each decorated with a line of concave bowstring pattern. This gray paste texture pottery vessel is 8.8 cm tall and its mouth is 6 cm in diameter (diagram 38: 1; photograph 34: 1).
Type II-A: One vessel (M57: 9). This vessel form is short and small. It has a flat rim, short neck, bulging shoulders, and a slightly concave flat bottom. This gray-brown grit-tempered pottery vessel is 6 cm tall and its mouth diameter is 6.3 cm (diagram 38: 2).

Type II-B: One vessel (M29: 4). This vessel is taller than Type A. With its taller neck section, this black pottery paste texture vessel is 7.8 cm tall and its mouth diameter is 7.8 cm (diagram 38: 6; photograph 34: 7).

Type III-A: One vessel (M57:6). Flat rim, angular shoulders. There is no division between the neck and shoulder. The bottom is flat. A gray-brown paste texture pottery, the vessel is 6.6 cm tall and its mouth diameter is 6.6 cm (diagram 38: 3; photograph 34: 2).

Type III-B: One vessel (M11:1). This vessel has a relatively distinct neck section and bent-back shoulders, and is made of a gray paste texture pottery (photograph 34: 3).

Type III-C: Two vessels. The mouth is fairly large, flat rim, bent shoulders. The bottom is flat yet slightly concave. The lower section of the belly is decorated with a concave groove. The vessel is made of a gray-brown fine grit-tempered pottery. Specimen M30:59 is 7.8 cm tall and the mouth diameter is 8.6 cm (diagram 38: 8; photograph 35: 2).

Type IV: Five vessels. Flat rim, short neck, the upper part of the belly bulges outward. The lower part gathers in, and the bottom is flat. Specimen M11:3, a gray-brown paste texture pottery, is 6.5 cm tall and the mouth diameter is 6.9 cm (diagram 38: 4; photograph 34: 5).

Type V-A: One vessel (M24: 2). Flat rim, short neck, rounded shoulder, gathered-in belly, flat bottom. There is a thin concave groove on the circumference near the bottom part of the belly. This gray paste texture vessel is 7 cm tall and the mouth diameter is 7.8 cm (photograph 34: 4).
[136] Type V-B: Five vessels. Large mouth, short rounded neck, bulging shoulders, restrained belly. The small flat base is slightly concave. The lower part of the belly has marks from scraping. Specimen M29:5 is 7.3 cm tall and the mouth diameter is 8.6 cm (diagram 38:5; photograph 34:6).

Type VI: One vessel (M38:2). The mouth is relatively large, flat rim, rounded neck, bent back shoulder, and the lower part of the belly is gathered in slightly. The base is flat yet slightly concave. The shoulders are decorated by incised strokes with a simplified rectangular spiral design. The belly is decorated with a triangular pattern. This gray-black paste texture pottery vessel is 8.6 cm tall and 7.8 cm in mouth diameter (photograph 34:8).

[137] Type VII: Two vessels. Large mouth, the surface of the rim is slightly concave, short and rounded neck, bent shoulders. The bottom is flat yet slightly concave. The belly of specimen M38:3 is decorated with roof tile patterns84 (diagram 38:7; photograph 34:1).

Type VIII: Two vessels. Straight mouth, short neck, rounded shoulders, flat bottom. There are a shallow bowstring patterns on the mouth and rim. There are scraping marks on the belly. The shoulders and belly are polished. A pottery slip was applied to this red paste texture pottery vessel. Specimen M49:21 is 8.8 cm tall and the mouth diameter is 7.2 cm (diagram 38:12; photograph 35:6).

[138] Type IX-A: Ten vessels. Straight mouth, flat rim, curved neck. The shoulders are rounded and bulge outward, the belly gathers in, and the base is flat. The shoulders are polished, the lower part of the belly has scraping marks. A pottery slip was applied to this gray-brown paste texture pottery. The

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84 "Hill-and-valley" seems appropriate here; the lower belly has four "peaks" and four "valleys" in the illustration.
vessel shape is very standardized. Specimen M48: 31 is 8 cm tall and the mouth diameter is 8.3 cm (diagram 38: 9; photograph 35: 3).

Type IX-B: Twelve vessels. The mouth is slightly [more] open; the rim is flat. The curved neck is taller, and the curved shoulders bulge outward. The belly is restrained, resting on a small flat base. Some of the flat bases are slightly concave. The location of the largest diameter of the vessel has shifted lower. The entire vessel is polished, has a pottery slip, and was manufactured with precision. Specimen M8: 2 is a red-brown paste texture pottery, 9.3 cm tall, and the mouth diameter is 8.7 cm (diagram 38: 13; photograph 35: 7).

Type IX-C: Three vessels. The shape and style of Type C is similar to type A, but are different by being larger. There is a shallow concave groove along the mouth and rim of Specimen M32: 5. The neck, shoulders and belly are each decorated with concave bowstring markings. The entire vessel is polished, covered with a ceramic slip, and made of a gray paste texture pottery. It is 11 cm tall and the mouth diameter is 8.9 cm (diagram 38: 14; photograph 35: 8).

Type X-A: One vessel. Wide mouth, restricted neck, bent-back shoulders, restrained belly, flat base. Specimen M48: 13 has finger-pressed concave grooves on its upper belly area; its lower part has evidence of trimming. This gray-brown paste texture pottery vessel is 7.8 cm tall, and the mouth diameter is 7.8 cm (diagram 38: 10; photograph 35: 4).

Type X-B: One vessel. The mouth is large and somewhat spacious. The rim is flat, the shoulders rounded. The belly is restrained, and the base flat. A convex ridge rings around the angled neck. The shoulder area is polished, and there are traces of paring on the lower part of the belly. A pottery slip covers this gray-black paste texture pottery vessel which is 9.6 cm tall, and the mouth diameter is 9.6 cm (diagram 38: 15; photograph 36: 1).
Type XI-A: Four vessels. The mouth is somewhat broad, the rim relatively wide, short rounded neck, the bent-back shoulders relatively wide, restrained belly, flat base. On the top of the rim there is a finger-impressed shallow concave groove. The shoulders and belly are decorated with minute concave bowstring marking-patterns. These vessels are gray-brown paste texture pottery. Specimen M49: 10 is 8.6 cm tall, and the mouth diameter is 8.3 cm (diagram 38: 11; photograph 35: 5).

Type XI-B: One vessel (M32:14). The mouth is somewhat broad, the rim is flat, the neck is rounded. The rounded shoulders are relatively wide and flat. The belly is restrained, the base is flat. The area above the belly is decorated with a finger-impressed shallow concave groove. This gray-black paste texture pottery vessel is 9.6 cm tall, and the mouth diameter is 8.4 cm (photograph 36: 2).

Type XII: One vessel (M56: 2). Outward turned mouth; rounded lip; fairly tall rounded neck. Broad shoulders, round belly, round bottom. The mouth area is decorated with a line of coarse concave bowstring markings. The shoulders and belly are decorated with eleven lines of shallow concave bowstring markings. The entire vessel is polished. This gray paste texture pottery has a ceramic slip, and is 12.5 cm tall, and the mouth diameter is 9.4 cm (diagram 38: 16; photograph 36: 3).

Type XIII-A: Two vessels. The mouth is somewhat broad and comparatively large. Flat rim, rounded neck; rounded shoulders bulge outward; restrained belly which is slightly concave where it approaches the base. The small flat base is slightly concave. The neck, shoulder, and belly sections are decorated with fine concave bowstring patterns. This is a gray paste texture pottery, with a ceramic slip; it was manufactured with great
precision. Specimen M32: 2 is 10.8 cm tall, and the mouth diameter is 10.1 cm (diagram 8: 17; photograph 36: 4).

Type XIII-B: One vessel (M27: 6). The mouth is relatively small, the round neck fairly tall. The belly bulges, and the inner section of the base of the belly is constrained. The base is flat but slightly concave. The shoulders and belly are decorated with five lines of symmetrical bowstring patterns. This is a gray paste texture pottery with a ceramic slip. The height of the vessel is 14.4 cm, and the mouth diameter is 9.2 cm (diagram 38: 19; photograph 36:5).

Type XIV: One vessel (M27: 1). The mouth fans outward, the neck is restrained. The round shoulders bulge outward. The belly is constrained. The flat base is slightly concave. There is a line of shallow concave grooves on top of the rim. The neck and belly are decorated with a line of bowstring patterns. The vessel is a gray paste texture pottery, covered in a ceramic slip. The height of the vessel is 13.7 cm, and the mouth diameter is 10.8 cm (diagram 38: 18; photograph 37: 5).

Type XV: One vessel (M27: 5). The mouth fans outward; short and round neck; rounded belly and base; the shoulders are decorated with five lines of bowstring patterns. The entire body is polished, and covered in a ceramic slip. The height of the vessel is 11.8 cm, and the mouth diameter is 9.5 cm (diagram 38: 20; photograph 37: 1).

Type XVI: One vessel (M7: 2). A small slanted rim, short rounded neck, round shoulders, restrained belly. The base is flat but slightly concave. The shoulders are decorated with four lines of concave bowstring patterns. This red paste texture pottery is polished, with a ceramic slip. The height is 15.2 cm, and the mouth diameter is 10.8 cm (diagram 39: 1; photograph 37: 2).

[139] Type XVII: One vessel (M7: 3). The mouth is somewhat open; angular rim, short neck, and the shoulders buckle back. The base section of
the belly is inwardly restricted. The base is flat but slightly concave. Several lines of concave bowstring patterns decorate the juncture of the belly and shoulders. This is a gray-brown sand tempered pottery, part of which is gray-black in color. This polished vessel is 8.7 cm tall, and the mouth diameter is 6.9 cm (diagram 39: 2; photograph 37: 4).

Type XVIII: One vessel (M22: 2). Contracted mouth, angular rim, short neck, constrained belly, flat base. The entire body is polished. The vessel is a red-brown paste texture pottery, 20 cm tall, and the mouth diameter is 10.8 cm (diagram 39: 3; photograph 37: 5).

Type XIX: One vessel (M50: 1). The mouth is somewhat restrained, flat rim, rounded lip. The round neck is fairly tall. The round shoulders bulge outward. The belly is constrained. The base is flat. The shoulders are decorated with two line of deep bowstring patterns. The belly section has a line of shallow bowstring patterns. There is a ceramic slip on this red-brown paste texture pottery, which is 15.2 cm tall, and the mouth diameter is 10.8 cm (diagram 39: 4; photograph 37: 5).

Type XX: One vessel (M10: 2). The vessel’s shape resembles a pan. Contracted mouth, the rim is small and slanted. Rounded lip, restrained neck. The shoulders buckle back. The base is round. The entire vessel is polished. This red paste texture ceramic is 10.5 cm tall, and the mouth diameter is 12.3 cm (diagram 39: 5; photograph 38: 1).

Type XXI: One vessel (M10: 1). Contracted mouth; angular rim. The neck is restricted. The shoulders are broad and flat. The base is rounded and concave. The shape of the vessel is flat and small like a fu. The entire body is polished. This gray-brown paste texture pottery vessel is 7.7 cm tall, and the mouth diameter is 8.3 cm (diagram 39: 6; photograph 38: 2).
Type XXII-A: One vessel (M15: 4). The mouth is small yet open, while the rim is flat. The neck is short and angled. The shoulders are rounded and bulge outward. The belly is restrained. The base is small and flat. The vessel, whose entire body is polished, is fairly tall. This red paste texture pottery vessel is 12.4 cm tall, and the mouth diameter is 6.8 cm (diagram 39: 7; photograph 38: 3).

Type XXII-B: One vessel (M15: 5). This vessel is smaller than Type A yet the base is comparatively large. Its height is 10.4 cm, and the mouth diameter is 7.1 cm (diagram 39: 8; photograph 38: 4).

Type XXIII-A: One vessel (M15: 4). The mouth is turned over. The rim is flat. The neck is tall and rounded. The base is round. The body of the vessel is fairly tall. The neck and shoulders are decorated with ten lines of concave bowstring patterns. The vessel, whose entire body is polished, is covered with a ceramic slip. This gray sand tempered pottery vessel is 17.9 cm tall, and the mouth diameter is 13.3 cm (diagram 39: 10; photograph 38: 5).

Type XXIII-B: One vessel (M14: 6). The vessel is very close to that of type A, but the rounded neck is comparatively short. The neck and shoulders are decorated with twelve lines of concave bowstring patterns. The vessel is covered with a ceramic slip, and is polished. This gray-brown paste texture pottery vessel is 18 cm tall, and the mouth diameter is 13.8 cm (photograph 38: 6).

Type XXIV: Three vessels. The mouth is upright, and the neck is short and rounded. The shoulders are rounded; the base is flat but slightly concave. There are subtle patterns on the polished shoulders. Cutting marks remain on the base. These are gray paste texture pottery. Specimen M18: 5 is 9.5 cm tall, and the mouth diameter is 8.2 cm (diagram 39: 9; 67: 3).
Type XXV: Sixteen vessels. The mouth flares outward, restricted neck, rounded shoulders. The bottom part of the belly gathers in slightly, and the base is flat. The surface is plain. The vessel is made of gray paste texture pottery. The vessel shape is fairly plump. Specimen M2: 7 is 14.7 cm tall, and the mouth diameter is 10.2 cm (diagram 39: 11; photograph 39: 2).

Type XXVI-A: Eleven vessels. Upright mouth, rounded lip. The neck is upright, and the rounded shoulders bulge outward. The belly is restrained, and the base is flat. The entire body was polished. This gray paste texture pottery vessel is 15.2 cm tall, and the mouth diameter is 10 cm (diagram 39: 12; photograph 39: 1).

Type XXVI-B: Eighteen vessels. This vessel type is similar to Type A, but the shoulders are comparatively small yet fairly tall. The vessel form is rather obviously thin and tall. The vessels are covered in a ceramic slip. There are gray-black paste texture pottery vessels and gray paste texture pottery vessels. Specimen M3: 39 is 14.3 cm tall, and the mouth diameter is 8.7 cm (diagram 39: 13; photograph 39: 4).

[140] Type XXVII: Nine vessels. This vessel type is similar to the type described above, but the neck is comparatively short, and the shoulders relatively narrow. There are roundish paring marks on the outside of the base. On the inner base there are marks from the process of applying spiral shell-whorl patterns. There are concentric circular subtle patterns on the shoulders. The lid is shaped like a "ring footed bowl". The entire body of these gray-black paste texture pottery vessels are polished. Specimen M47: 9 has a lid which is fairly tall (diagram 39: 14); Specimen M51: 2 is 15.8 cm tall, and the mouth diameter is 9.5 cm (photograph 39: 5, 6).

Type XXVIII: Two vessels. Their lips are round, and their necks are short and round. The shoulders are rounded, and the base is flat. The vessels are
relatively short, are coated with a ceramic slip, and are a gray paste texture pottery. Specimen M47: 3 is 12 cm tall, and the mouth diameter is 10.5 cm (diagram 39: 15; photograph 50: 1).

Type XXIX: Sixteen vessels. Open mouth rounded neck; bulging shoulders; restrained belly; flat base. The entire vessel is polished. There are subtle patterns on the shoulders. The bases have circular marks from paring. The vessels are gray-black paste texture pottery. Specimen M58: 87 is 17.4 cm tall, and the mouth diameter is 10.1 cm (diagram 39: 16; photograph 40: 4).

The above pottery guan types XXIII and earlier belong to the Western Zhou period. Type XXIV and later belong to the Eastern Zhou period.

(C) Pottery fu: Seven vessels, divided into four types.

Type I: One vessel (M2: 1), has an upright mouth, its rim rolls downward. The neck is short, the base has three “nipple nub” feet. There are marks carved on the shoulder (diagram 41: 1). The entire vessel is impressed with coarse cord markings. Made of gray sand tempered pottery, the vessel is 31.2 cm tall, and the mouth diameter is 21 cm (diagram 40: 1; photograph 41: 1).

[141] Type II-A: Two vessels. The mouth and neck are upright. The belly bulges. The base is round. The entire vessel is decorated with cord marks. The neck section has remnants of cord markings which were blotted out. This is a gray-black sand tempered pottery. Specimen M52: 104 has an obliquely angled rim, and has a hand-like character on its neck (diagram 41: 4). The shoulder section is decorated with a line of pressed patterns. The vessel is relatively large (diagram 40: 2). Specimen M47: 2, which has angled lips, is fairly large (photograph 41: 2).

Type II-B: Two vessels. The mouth is upright; the lips are angled. The neck is upright, and the belly is round. There are three “nipple nubs” on the
upper part of the round base. The neck is decorated with two lines of concave bowstring patterns. The entire vessel is decorated with fine cord marks. There was a line of decorative patterns which are interrupted by an impressed pattern. The vessels are gray-black sand tempered pottery. There are round marks on the shoulder of Specimen M3: 49 (diagram 41: 2). There are impressed marks on the shoulder of M58: 110, which are similar to those of Type II-A from M52: 104 (diagram 41: 7). The vessel is 22.8 cm tall, and the mouth diameter is 18 cm (diagram 40: 4; photograph 41: 3).

Type III: One vessel (M54: 1). The mouth is somewhat open, and the rim is slightly rolled back. The neck bulges outward, and the belly and base are round. The shoulders are polished, and the vessel is covered in a ceramic slip. The lower belly is decorated with medium cord marks. The vessel is a gray-yellow paste texture pottery, 25.2 cm tall, and the mouth diameter is 22 cm (diagram 40: 5; photograph 41: 5).

Type IV: One vessel (M54: 2). The mouth is turned over and outward. The lips are round, the neck is curved and short. The belly and the base are round. The shoulders are polished and covered with a ceramic slip. There are paring marks on the belly. Cord marks decorate the lower belly. This gray paste texture vessel is 16 cm tall, and the mouth diameter is 15.8 cm (diagram 40: 3; photograph 41: 4).

(D) Pottery lei: Eight items, divided into three types:

Type I: Three vessels. The mouth is nearly upright, the rim is angled. The neck is short and curved. The shoulders bulge, and the belly is restrained. The base is small and round. There is a convex ridge on the mouth. The lid is shaped like a “ring footed bowl”. The entire vessel is polished, and made of a
gray paste texture pottery. Specimen M1: 6 is 22.6 cm tall, and the mouth diameter is 8 cm (diagram 42: 3; photograph 40: 5).

Type II: Two vessels. The mouth is upright, the rim is narrow and angled downward slightly. The lips are square, and the neck is upright. The belly bulges. The vessel base has a ring foot. This is a gray paste texture pottery. Specimen M47: 1 has marks on the shoulders (diagram 41: 3), and is 21.8 cm tall, and the mouth diameter is 12 cm (diagram 42: 2; photograph 40: 3).

Type III: Four vessels. The mouth is cast outward slightly. The lips are angled. The neck is upright. The shoulders bulge. The vessel is ring footed, and made of gray paste texture pottery. Specimen M51: 3 is 13.6 cm tall, and the mouth diameter is 12 cm (diagram 42: 1; photograph 40: 2).

(E) Pottery hu: Thirty-six vessels, divided into six types.

Type I: Three vessels. The mouth is upright, the rim is concave. The lips are curved and the neck is upright. The shoulders are rounded. The base is flat. There is a shallow finger impressed groove on the lower part of the rim. There are subtle patterns on the neck and shoulders. This is a gray paste texture pottery, covered with a ceramic slip. Specimen M18: 9 is 16 cm tall, and the mouth diameter is 11.5 cm (diagram 43: 1; photograph 42: 1).

Type II: Five vessels. The mouth is upright, and the rim is flat. The lips are rounded and the neck is upright. The shoulders are round and the lower part of the belly is slightly restrained. The base is flat, with evidence of paring marks. The vessel is covered with a ceramic slip. Specimen M4: 7 is a black paste texture pottery (photograph 42: 2). Specimen M47: 4 is a gray-black paste texture pottery, 14.4 cm tall, and the mouth diameter is 10 cm (diagram 43: 2; photograph 42: 3).
Type III: Four vessels. The mouth is upright, and the lips are square. The neck is upright, and the rounded shoulders bulge outward. The base is flat. There are convex bowstring patterns on the upper rim. There are concave bowstring patterns of varying degrees of workmanship on the neck, shoulders, and belly. The shoulders are divided into three sections, each of which are decorated with wave-like subtle patterns. This is a gray paste texture pottery. Specimen M52: 92 is 20 cm tall, and the mouth diameter is 14.2 cm (diagram 43: 3; photograph 42: 4).

Type IV: Sixteen vessels. The mouth is upright, the lips rounded. The neck is upright, and the shoulders rounded. The belly is restrained, and the base is flat. The entire vessel is polished, and covered with a ceramic slip. There are “hill and valley” patterns on the shoulders and belly. The vessels are gray paste texture pottery. Specimen M52: 101 was 19.2 cm tall, and the mouth diameter is 10.6 cm (diagram 43: 4; photograph 42: 5).

[142] Type V: Four vessels. Capacious mouth; obliquely angled rim; square lips; tall neck. The rounded shoulders bulge outward. Restrained belly; flat base. The neck and shoulders are each decorated with two lines of coarse concave bowstring patterns. The shoulders are decorated with four groups of subtle patterns. Each of these groups include a small tree and a concentric half-circle. The entire vessel is polished. The vessel is a gray paste texture pottery, decorated with a ceramic slip. Specimen M3: 19 is 22.6 cm tall, and the mouth diameter is 12.5 cm (diagram 43: 5; photograph 43: 1).

Type VI: Four vessels. The mouth is somewhat spacious. The rim is flat, and the neck is tall and upright. The shoulders are rounded, and the base is flat. There are traces of cord marks which were daubed out on the neck. The entire vessel was polished. There are a pair of circular stamp impressions on the bottom (diagram 41: 5, 6). The vessel is a gray paste texture pottery.
Specimen M58: 89 is 21.2 cm tall, and the mouth diameter is 11.5 cm (diagram 43: 6; photograph 43: 2).

[144] (F) Pottery ring footed hu: 16 vessels, divided into 2 types.

Type I-A: Two vessels. Small mouth; tall and straight neck; oblate shaped belly. It has a tall ring foot. Its foot-pedestal is relatively large [in diameter] yet short. It has a lid. The belly is decorated with two lines of concave bowstring patterns. The vessel is a gray paste texture pottery. Specimen M3: 66 is 23.2 cm tall, and the belly diameter is 14.8 cm (diagram 43: 9; photograph 43: 1)  

Type I-B: Two vessels. The ring foot is shorter than that of Type I-A; the foot-pedestal is relatively small yet tall. The knob and rim of the lid, and the shoulder area, are decorated with coarse concave bowstring patterns. There are subtle patterns on the shoulders; they are already peeling off and indistinct. The vessel is a gray paste texture pottery covered with a ceramic slip. Specimen M3: 59 is 22.2 cm tall, and the belly diameter is 14.7 cm (diagram 43: 10; photograph 43: 2).

Type I-C: Five vessels. Basically similar to Type I-B, but there is a coarse convex ridge at the bottom of the belly. The foot-pedestal and the vessels' walls are decorated with two lines of concave bowstring patterns. The lid, shoulder, and belly are all decorated with subtle patterns, and polished. The vessels are gray paste texture ware. Specimen M3: 55 is 23.7 cm tall, and the belly diameter is 15.9 cm (diagram 43: 11).

Type II-A: Two vessels. The mouth is somewhat open; rounded belly. The belly makes a curved transition into the base section. The vessels have short

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85 The preceding comparison between Type I-A and I-B seem opposite to their appearance in Diagram 89.
ring feet, and have lids. The juncture where the shoulder and belly join is decorated with a line of concave bowstring patterns. The lid and shoulders are decorated with concentric half circle subtle patterns. These are gray paste texture pottery, covered with a ceramic slip. Specimen M54: 3 is 20.8 cm tall, and the belly diameter is 14.3 cm (diagram 43: 7; photograph 43: 3).

Type II-B: Five vessels. Basically similar to Type II-A, but smaller. Specimen M54: 4 is 18.6 cm tall, and the belly diameter is 12.2 cm (diagram 43: 8; photograph 44: 4).

(G) Pottery jia:n.\(^86\) One vessel (M1: 18). The mouth is restrained, the rim turns back nearly horizontal. The lips are square. The neck is restrained. The upper part of the belly has a convex ridge around its circumference. The shoulders are decorated with triangular markings. The base is flat. The vessel is a gray paste texture pottery, 17.6 cm tall, and the mouth diameter is 28.4 cm (photograph 41: 6).

In addition there are several pottery molds, all of which collapsed after firing, and took on a red-brown color. Specimen M58: 84 is a 10 cm long inner mold for an yi (photograph 45: 1).

(2) Porcelain Vessels

Four porcelain guan, divided into two types.

Type I: Two vessels, which came from grave M52. The mouth is restrained, and the lips are obliquely angled. The round shoulders bulge outward. The belly is gathered in, and the bottom is flat. On two sides of the

\(^{86}\) Water poured in this vessel was used as a mirror.
shoulders there are *huan* ring style handles decorated with animals' heads. The lid has a flat topped circular knob-handle; its upper part is decorated with two lines of concave bowstring patterns. The lid and shoulders are decorated with yellow glaze. There is no glaze on the bottom of the belly.

Specimen M52: 99 is 18 cm tall, and the mouth diameter is 16 cm (diagram 44: 1; photograph 45: 5).

[145] Type II: Two vessels. The mouth is somewhat open, and the neck is extremely short. The rounded shoulders bulge outward. The belly is restrained. The bottom is flat. The vessel is decorated with a bright yellow glaze, in which there are tiny crackles. The “roughcast” parts\(^\text{87}\) are red-brown in color. Specimen M58: 105 is severely peeled. Two sides of the shoulder area have “S”-shaped corrugated patterns. Specimen M58: 105 is 13.6 cm tall, and the mouth diameter is 12.8 cm (diagram 44: 2; photograph 45: 4).

(3) Bronze implements

There were twelve Group B graves which included funerary bronze implements. These included containers, items of personal adornment, weapons, chariot accessories. There were forty-six bronze containers of twelve kinds: *ding*, *yan*, *xu*, *gui*, *fu*, *hu*, *pan*, *yi*, *fou*, *guan*, *jiao*\(^\text{88}\) *hu*, *bo*. Many of the Eastern Zhou bronze containers had plain surfaces. Decorations on the Western Zhou bronze containers included *taotie* motifs, curved and hooked forms, continuous hook-curved and hooked forms, ragged

\(^{87}\) Tai 胶 here indicates those surfaces which are not covered with glaze.

\(^{88}\) A three footed, handled, wine heating utensil.
curves, hanging scale patterns, kui dragon patterns, roof tile patterns, etc.
(diagram 45, 46).

Group 1, Containers

(A) Bronze ding: Twelve vessels, divided into seven types.

Type I: One vessel (M23: 1). Upright mouth, bent rim, upright ears slightly tilted outward, the lower part of its belly bulges outward, flat bottom, half-rounded pillar shaped feet. The belly is decorated with taotie motifs consisting of three groups of kui dragons. The body of this vessel is relatively flimsy. When this was unearthed it was seriously damaged, but it has now been repaired and restored. It is 22.1 cm tall, and the mouth diameter is 17.4 cm (photograph 46: 1).

Type II: One vessel (M11:12). Upright mouth, bent rim, upright ears, round bottom. The bottom was molded and cast from three pieces. The three feet are half tube forms made in the form of animals' feet. The inside of the feet are at an inclined plane, with no trace of the inner mold. There are two lines of concave bowstring patterns decorating the entire rim-edges of the two handles. The neck area is decorated with continuous hook-curved and hooked forms. The decorations were filled and leveled up with black lacquer. The belly area has a convex strip around it. The base has traces of soot. It is 19.3 cm tall, the mouth diameter is 22 cm, and the belly is 10.1 cm deep (photograph 46: 2).

[146] Type III: One vessel (M20:1). Straight mouth; bent rim. The handles are upright with a slight outward angle. The bottom of the vessel is
round. The bottom was cast from three molds. The three feet which are half-tubes in the shape of animals' hooves are splayed outward slightly. The insides of the feet are flat, they do not reveal their inner mold. The upper part of the feet are sturdy; inside they are very thin. There are no decorations on the two handles. The neck area is decorated with a ring of repeated interlocking patterns. These decorations are filled with black lacquer. The belly area has a line of protruding ridges. The bottom has traces of smoke. It is around 19.5 cm tall, the mouth diameter is 24.5 cm, and the belly is 11.3 cm deep (photograph 46: 3).

Type IV: Four vessels. The belly is relatively shallow; the mouth is vertical; the rim is turned-back. The handles are upright. The rounded bottom was cast from a one piece mold. The three feet are half tubes in the shape of animals' hooves. The inner side of the feet have a concave shape; they do not show their inner mold. The rim of Specimen M30: 1 is relatively thin. The two handles are cocked slightly outward. The rounded bottom is comparatively flat. The ears are decorated with concave bowstring patterns. The circumference of the neck is decorated with repeated interlocking patterns. The belly and the upper part of the three legs are decorated with a hanging fish scale pattern (photograph 46:4). The neck section of Specimen M46: 1 is decorated with repeated interlocking patterns. There is a convex ridge around the circumference of the belly. The overall height of the vessel is 22 cm, the mouth diameter is 24.5 cm, and the depth of the belly is 11.3 cm (photograph 47: 1).

Type V: Three vessels, from M48, which are identical in shape and structure. Their sizes are in sequence, and would appear to have been ordinarily arranged as a row of ding, but they are placed separately on the north and south ends of the top of the outer coffin floor. As for the shape of
the vessels, the mouth is slightly restrained, the rim bent, and the handles upright. The rounded bottom is slightly flat. The three feet are shaped like animals' hooves; the inner side of the feet have a concave shape yet do not show their inner molds. The bottom was cast from a one piece mold.

The outer sides of the two handles of Specimen M48: 23 are decorated with concave bowstring patterns. The neck section is decorated with repeated interlocking patterns; the belly section is decorated with hanging fish scale patterns. Black lacquer was used to fill the decorative patterns. Three lines of twenty-two characters were cast on the inner wall of the belly: “Zhong Qi of Lu commissioned the manufacture of this sacrificial Shang-ding for his august deceased father. May he enjoy myriad years of longevity! May his sons' sons and grandsons' grandsons forever treasure and use [it] in performing sacrifices” (diagram 47: 1).89 This vessel has a total height of 28.7 cm, a mouth diameter of 29.5 cm, and the depth of the belly is 14.3 cm (photograph 47: 2).

Specimen M48: 3 has two ears decorated with kui dragon patterns, and legs which are comparatively tall. Its inscription is the same as the one described above. The total height is 26.2 cm, mouth diameter 26.6 cm, and the belly was 12.6 cm deep (photograph 47: 3). M48: 18 was damaged when it unearthed, but it has now been restored. The handles are decorated with two lines of concave bowstring patterns. The neck section is decorated with a repeated interlocking pattern. The total height is 24.5 cm, the mouth diameter is 24 cm, and the belly is 11 cm deep (diagram 51: 1).

[148] Type VI: One vessel (M14: 3). The mouth is upright, the rim bent, the handles are upright but slightly cocked outward. The bottom is round. The

89 “Lu Zhong Qi zhao zuo huang kao Shang ding, qi wan nian mei shou, zi zi sun sun yong bao yong xiang” (鲁中齐作皇考 祭其万年眉寿子孙孙永宝用享)
three feet, half tubes in the shape of animal hooves, are relatively short. Their inside surfaces have no evidence of their inner molds. The bottom of the vessel was cast from a single mold. The two ear handles have a pair of lines of concave bowstring patterns. The neck region has two lines of concave bowstring patterns. The total height is 21.5 cm, the mouth diameter is 24.5 cm, and the belly is 11.4 cm deep (photograph 47: 4).

Type VII: One vessel (M58: 95). Opening with a matching lid is close fitting. The mouth, which has a zimukou fitted lid, is slightly contracted. The ear handles are attached to the side, and the bottom is flat. The lower part of the belly bulges outward slightly. The three tall chisel-shaped feet are slightly splayed outward.

The lid is decorated with three ring-knobs. It has three rings of convex bowstring patterns. It has a smooth surface. The total height is 14.5 cm, the mouth diameter is 12.5 cm, and the depth of the belly is 5.5 cm (photograph 45: 2).

(B) Bronze yan: One vessel (M48: 15). Made from a combination of the zeng 鼎 and the ding. The zeng section has a open mouth, a curved neck, and a restrained belly. On two sides of the neck section there are attached ear handles. There are nine cross-shaped holes on the bottom of the zeng. The neck section is decorated with a repeated interlocking pattern. The belly is decorated with a "broad-figure band". Encircling the base of the zeng there are convex ridges; below there is a notch-shaped attachment [to go into the ding]. On the inner wall of the belly there are eighteen characters in four

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90 A cross-section of the mouth, rim, and cover may be seen as a bent child's arm (mouth-rim) meeting the bent arm of a protecting mother.
Zhong Qi of Lu made this display yān. May he enjoy myriad years of longevity, and his sons’ sons and grandsons’ grandsons eternally treasure and use [it]!” (diagram 47: 2). The mouth of the ding part was made as a notch shaped receptacle mouth. It has a restricted neck, attached ears, bulging belly, and a round bottom. The “animal hoof” feet are half tubes in form. The bottom was made from a one piece mold. Its total height is 41.1 cm, and the mouth diameter is 31 cm (diagram 51: 2; photograph 48: 3).

(C) Bronze xu: Three vessels. The vessel is shaped like a rectangle with rounded corners. On two sides there are handles in the form of animals’ heads holding rings in their mouths. The lid has a rim. The mouth rim and ring foot are decorated with curved and hooked patterns. The belly is decorated with roof tile patterns. The underside of the lid bears thirty-six characters in six lines, which read: “Yu, Elder of Lu, openly and respectfully commissioned the production of this display xugui for his august deceased father and august mother. Rising early, Yu will thereby use it to express filial devotion and use it to pray for numerous blessings. May Yu enjoy myriad years of longevity and eternally treasure and use [it] in performing sacrifices” (diagram 48). The total height of M30: 2 is 19.2 cm, 23.5 in length, 15.2 cm in width, and 8.7 cm deep (photograph 49: 1, 3).

The top face of the lid to M48: 2 is decorated with kui dragon patterns and roof tile patterns. The bottom of the lid bears four lines of twenty-eight characters, which read: “Zhong Qi, Overseer of Land at Lu, commissioned this feasting xugui for his august deceased father Bo Zou Fu. May he enjoy myriad

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91 “Lu Zhong Qi zuo lù yān qi wan nian mei shou zi zi sun sun yong bao yong” (鲁中齐作旅甗其万年眉寿子孙子孙永宝用).
years of longevity, and his sons’ sons and grandsons’ grandsons forever
treasure and use [it] in performing sacrifices.” (diagram 49: 1, 2; photograph
49: 2). M48:1 and M48:2 are identical, except that the sun 孫 character is not
repeated (diagram 49: 3, 4).

[149] (D) Bronze gui: Five vessels, in two types:

Type I: Three vessels. The mouth is restrained, the shoulders bulge out.
On two sides there are grab-handles in the form of a ring held in the mouth of
an animal’s head. The vessels have lids. Specimen 46: 2 has ear handles below
the grab-rings. There are four flat feet shaped like animals’ faces above the
ring foot. There are repeated interlocking patterns decorating the lid rim, the
mouth rim, and the ring foot. The belly is decorated with roof tile patterns. The
total height is 24.4 cm, the mouth diameter is 18.5 cm, and total breadth is 35.7
cm (photograph 52: 1). M48: 9 is a mingqi burial offering vessel. The body of
the vessel and its lid were cast as one piece. They are decorated with roof tile
patterns, and simplified wave patterns. There are grab-handles in the form of
a ring held in the mouth of an animal’s head. There are no ears. There are
three flat feet below the ring foot. An inner mold remains in the vessel
(photograph 52: 3).

[150] Type II: Two items. Mingqi burial offering vessels, whose
body and lid were cast in one piece. It is decorated with roof tile patterns and
interlocking ring patterns. It has grab-handles shaped like animals’ heads,
and a ring foot. There are remnants of an inner mold. Specimen M49: 2 has a
total height of 14.5 cm, and a breadth of 20.5 cm including the ears
(photograph 52: 2).
(F) **Bronze fou**: One vessel (M48:28). Rectangular *fudou* (reduplicated “peck” container) shape. The two sides have handles decorated with animals’ heads holding rings in their mouths. The top of the lid is decorated with *kui* patterns. The four sloping sides are decorated with elephant head patterns and curved and hooked patterns. On the side of the lid is a three line inscription of twelve characters, which reads: 载中作祷豊子子孙孙永宝用 “Zai Zhong made for Fu [X] this matrimonial *fu* vessel. May her sons’ sons and grandsons’ grandsons eternally treasure and use it in performing sacrifices!” The total height is 9.5 cm, the length of the mouth 28.2 cm, and the breadth of the mouth 24 cm (diagram 47: 3; photograph 49: 4).

(F) **Bronze pan**: Five vessels, in five types:

Type I: One vessel (M30: 3). A *mingqi* burial offering vessel. The belly is relatively deep. The rim is bent, the ear handles are close to one another. There are three flat feet below a ring foot. An inner mold remains in the bottom of the *pan*. The belly is decorated with repeated ring patterns around its circumference. Its total height is 8.5 cm, mouth diameter 20.4 cm, and depth 4.2 cm (photograph 50: 1).

Type II: One vessel (M48: 8). The *pan* is shallow, with a bent rim, and with attached ears bent outwards. It is decorated on top with crouching oxen. The ox holds its head up and faces outward, as if it were bellowing. Three human figures are squatting above the ring foot. On each of them their five organs, a pair of nipples, and a navel are clearly visible. The tops of their heads are at the base of the *pan*, their backs leaning against the ring foot, and their pairs of hands in the act of lifting the *pan* up. The outer wall of the *pan* is decorated with curved and hooked patterns. The ring foot is decorated with hanging fish scale patterns. There are ridge shaped patterns on the outer base.
of the pan. There is a three line fifteen character inscription on the inner base, which reads: “Zhong Qi, Overseer of Land at Lu, commissioned the making of this pan vessel. May [it] for ten thousand years be treasured and used in performing sacrifices” (diagram 50, left). Its total height is 10.3 cm, mouth diameter 38.6 cm, and 6.4 cm depth (photograph 48: 1, 2).

Type III: One vessel (M48:5), a mingqi burial offering vessel. Bent rim, shallow dish, attached ears, ring foot. The wall of the pan is decorated with a repeated ring pattern around its circumference. An inner mold remains at the base. The total height is 7.8 cm, the mouth diameter is 30 cm, and the depth is 5.1 cm (photograph 50: 2).

Type IV: One vessel (M49: 3), a mingqi burial offering vessel. Bent rim. The ears are upright and relatively tall. The belly is relatively deep. The ring foot is relatively small. The vessel is plain surfaced. Its total height is 11.5 cm, 22 cm in mouth diameter, and 5.5 cm deep (photograph 50: 3).

[151] Type V: One vessel (M52: 98). This vessel form is relatively large. The rim is bent slightly upwards. The belly is bent; the vessel has a ring foot. There are four rings-handles on the belly. The vessel is plain surfaced. The vessel was in pieces when it was excavated, but it has now been restored. Its total height is 20 cm, and its mouth diameter is 62.5 cm (photograph 50:4).

(G) Bronze yi: Four vessels. Their shapes and forms are basically identical. The body of M48: 11 (photograph 51: 3) is shaped like an ellipse. The spout is relatively narrow. It has dragon shaped handles, and four flat feet in the form of animals' hooves. The mouth section and below the spout are decorated with curved and hooked patterns. The belly is decorated with roof tile patterns. The handles are decorated with repeated ring patterns. There are five lines of text in twenty-five characters inscribed on the inner base of the yi, which reads: “Zhong Qi, Overseer of Land at Lu, commissioned the making
of this precious yi for his deceased father Bo Zou Fu. May [Zhong Qi] enjoy myriad years of longevity, and his sons' sons and grandsons' grandsons eternally treasure and use it in performing sacrifices” (diagram 50, right). Its full height is 19 cm, its length 36 cm, and its width 17 cm. M48: 4 (photograph 51: 4) is a mingqi burial offering vessel. The circumference of the mouth section is decorated with a repeated ring pattern. The belly is decorated with roof tile patterns. The base is decorated with lozenge patterns. The belly section of M30: 4 (photograph 51: 2) is decorated with repeated ring patterns and roof tile patterns. The vessel has twisted ring-style handles and flat feet. There are lozenge patterns on the base. M49:5 (photograph 51: 1) is a mingqi burial offering vessel. Its spout is crude and short. There are chisel-shaped feet.

(H) Bronze hu : Nine vessels, in three types:

Type I: Two vessels. M48: 16 is a bullet-shaped vessel. Small mouth, upright neck, ring foot. There are four fasteners on two sides. The upper two fasteners are made as a ring shape grasped in the mouth of the head of animal. The decorations on the body of the hu are divided into four areas. The top part is decorated with kui patterns, triangular patterns are next, elephant’s trunk patterns are third, and there are triangular patterns on the lowest section. The ring foot is decorated with hanging scale patterns. The lid is made in the shape of a coiled dragon. There is a fastener on each of the two sides of the rim of the lid. There is a circle of fifteen characters facing the lid rim and the neck of the hu, which read: “The Marquis' wife made this military hu for the Marquis, to be used on military expeditions. May he use it to beseech for unlimited blessings” (diagram 47: 4, 5). The vessel is 38 cm tall, the diameter of the mouth is 10.2 cm, the diameter of the belly is 28 cm (photograph 53).

M30: 32 is a mingqi burial offering vessel; the lid and the body of the vessel
are cast as one piece. The entire vessel was decorated with triangle patterns. The inner mold remains in the vessel (photograph 52: 4).

Type II: Five vessels. Small mouth, relatively tall neck, circular belly, ring foot. The vessel has a lid, and a chain handle. On the shoulders there are rings, held in the mouth of “spread out” heads. The vessel is plain surfaced. Specimen M3: 31 is 37.5 cm tall, the mouth has a 8.6 cm diameter, and the belly has a diameter of 20.5 cm (photograph 54: 3).

Type III: Two vessels. They have a small mouth, a round belly, a ring foot. On the shoulders there are two rings borne in the mouths of spread out heads. The lid is decorated with three ring-knobs shaped like animals. Specimen M58: 108 is 33 cm tall, 10.8 cm in diameter at the mouth, and 20 cm in diameter at the belly (photograph 54: 4).

[152] (I) Bronze jiao hu: Two vessels. The belly is oblate. There are three feet in the form of six ridged hooves. There is a handle, and a chain on the lid, which is fastened to the handle. The vessel is plain surfaced. Specimen M58: 98 has a handle with animals' heads at both ends. The mouth of the hu is shaped like an animal's head. Its overall height is 16 cm, the mouth has a diameter of 10 cm and the diameter of the belly is 20 cm (photograph 54: 2).

(I) Bronze guan: Two vessels. Straight mouth, bent rim, square lip, straight neck. The shoulders are nearly flat. The lower part of the belly gathers in slightly; the bottom is round. Specimen M58: 99 has a full height if 20.8 cm, a mouth diameter of 14 cm, and a belly diameter of 21.5 cm (photograph 52: 5).

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92 This is an aspect of the tao tie motif. A front view of a face also includes two profile views of an animal.
(K) **Bronze fou:** One vessel (M58: 100). Vertical mouth, rounded shoulder, round bottom. There are six ridges on the three short hoof-shaped feet. The mouth and belly sections each have a line of projecting ridges. There are spread out heads each bearing a ring in its mouth on either side of the shoulders. The vessel is plain surfaced. The lid is decorated with three ring-handles. Four wedge shaped ridges are on the lid’s knob. The full height is 23 cm, and the mouth diameter is 22 cm (82: 1).

(L) **Bronze bo:** One vessel (M58: 91). The vessel is relatively small, with square lips, and a curved bottom which is relatively flat. The vessel is plain surfaced. The full height is 4.8 cm, and the diameter is 13.7 cm at the mouth (photograph 52: 6).

Group 2, Garment Ornaments

(A) **Gold and silver inlaid bronze garment hooks:** Two items. Because M52: 83 is severely corroded, its decorative patterns are unclear. Its full length is 9.4 cm (photograph 63: 8). The shape and structure of M51: 8 is flat and wide, its end section is round, the hook part is made in the shape of an animal head, and its surface is inlaid with gold and silver pieces in a coiled *huī* snake pattern. The back side and knob-handle are decorated with coiled clouds made of gold and silver inlaid pieces and threads. It is 12 cm in length (diagram 52: 1; photograph 56: 1, 2).

(B) **Fine gold inlaid jade and bronze garment hook:** One item (M58: 116). The item looks like a flying winged animal. Its entire body is covered with fine gold. The middle of the garment hook is inlaid with a jade bird and turquoise round bubble. The hook section is made in the form of an animal’s head, and has a round knob. This item is 11 cm long (diagram 52: 2; photograph 63: 7).
(C) Bronze jīng mirror: Two items. They have a round knob as its base, and plain edges. There are patterns of feathers and coiled hydras constitute the background decoration, on which four shān (山) mountain characters are superimposed. Patterns of grass and leaves fill in all around the knob-base and plain surfaced edges. M3: 6 is relatively large; when it was unearthed it was broken into small pieces, and the knob was fragmentary (photograph 83: 1). The mirror from M58 is relatively small, and so badly corroded it could not be restored.

(D) Bronze garment ornaments: Seven items, excavated from M30. Among these are six which are round and engraved with animal mask designs; two animals turning around in a circle, each holding the other’s tail in its mouth. The remaining one is triangular. Specimen M30: 46 is 5.2 cm in diameter (photograph 63: 6).

Group 3, Weapons

(A) Bronze gē: Seven items, divided into three types:

Type I: Five items. No hū secondary projecting blade. There is a rectangular perforation on the nēi butt. Specimen M20: 4 has a thin convex ridge on the spine of the yuān blade. The entire length of the gē is 12.1 cm; the blade is 8.4 cm, the butt is 3.8 cm long, the spine is 0.6 cm thick (diagram 53: 2; photograph 57: 1). Specimen M31: 2 has a full length of 16.6 cm, the yuān blade is 12.1 cm long, the nēi butt is 4.5 cm long, the spine is 0.4 cm thick (diagram 53: 1; photograph 57: 2).

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93 Obviously, only the bronze “heads” for these hafted weapons remain.
Type II: One item (M30: 56). The blade edge is triangular, and there is a thin convex ridge on the spine of the blade. The back part of the lower cutting edge of the blade gathers inward. The short secondary projecting blade has two perforations. There is a rectangular perforation on the butt. Total length 19.7 cm, blade length 13.7 cm, butt length 5.8 cm, spine 0.6 cm thick (diagram 53: 3; photograph 57: 3).

Type III: One item (M3: 1). The blade is relatively narrow. The secondary projecting blade is long, and has four perforations. There is one perforation on the butt. The top and bottom of the blade and the butt have edges. Full length 28.3 cm, blade length 17.8 cm, butt length 10.5 cm, secondary projecting blade length 10.5 cm, spine thickness 0.8 cm.

When it was excavated vestiges of the ge handle still remained. On its top section there is an elephant ivory cap; on its tail end there is a bronze zun butt-end shaped like a duckbill (diagram 53: 4—6; photograph 58: 1, 3).

(B) Bronze zun butt-end:94 Three items. The top part is thick, the bottom end is thin. Duckbill shaped socket;95 there are remnants of rotten wood in the socket. The entire item is inlaid with gold and silver. Due to rust and corrosion the decorative patterns are unclear. Specimen M52: 102 is 14.5 cm tall (photograph 58: 2).


95 Qiong 胫. The socket in a tool or weapon for the shaft or handle. Hansford, p. 12.
[154] (C) Bronze *dui* halberd handle: One item (M52: 105). Shaped like a round tube. There is a convex ridge on its top part, and its lower section is comparatively thin. There is rotten wood in its socket. It is 17.3 cm tall (photograph 58: 4).

(D) Bronze *zu* barbed arrowheads: Sixty-three items, in two types. Type I is long and shaped like a circular cone (diagram 53: 8); Type II is short and has three ridges (diagram 53: 7). The full length of Specimen M3:60 is 21.7 cm (photograph 57: 4-left); the full length of Specimen M3: 71 is 10.5 cm (photograph 57: 4-right).

(E) Bronze crossbow mechanisms: Two items. There is a step shaped bronze support under the mechanism of M3: 61, which is 14.3 cm long (diagram 54: 2; photograph 57: 6). Specimen M52: 75 is 12.2 cm long (diagram 54: 1; photograph 57: 5).

Group 4, Chariot Fixtures

[155] (A) Wei Axle caps: Six items, divided into three types:

Type I: Two items. Round tubular shape; the middle section is relatively thick, the outer ends are fairly thin. The outer portion is shaped like an eleven sided column. Smooth surfaced, on its top there is attached a flat, square-shaped linchpin. M46: 4 is 13.1 cm long, the thick portion is 5.6 cm in diameter, and the thin portion is 4.3 cm in diameter (diagram 55: 2; photograph 59: 2).

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97 Cheng, pp. 265—273, “Horse and Chariot Fittings,” illuminates the development of chariot and horse fittings, from Shang to Zhou periods.
Type II: Two items, basically similar to Type I in shape, but the outer portion is shaped like a round column, and the upper part is decorated with qiequ broad figure band patterns. M48:33 is 11.3 cm long, the thick end is 5.2 cm in diameter, the thin part is 3.9 cm in diameter (diagram 55: 1; photograph 59: 1).

Type III: Two items, excavated from Horse Pit Number Six. Shaped similar to Type II. One has two holes drilled through it. The middle hole is drilled through the body of the axle cap, while the outer hole does not go all the way through. The other item has one hole, which does not pass all the way through. The outer surface is decorated with broad figure band patterns (photograph 59: 3).

**(B) Youhuan floating ring**: Four items (M30:45), 6.1 cm in diameter (photograph 60: 4).

**(C) Taotie heads**: Twenty-nine items, in two types:

Type I: Fifteen items, excavated from M48. Some have a rectangular hole drilled through the top of the animal-head, while others lack such a hole. There is a horizontal perforation on the back side. They are 4.5 cm wide (diagram 56: 5; photograph 61: 3).

Type II: Fourteen items, excavated from grave M30. These items are relatively small. There is a crossbeam on the back side. These are 2.4 to 2.8 cm in width (diagram 56: 2; photograph 61: 7).

**(D) Luan bells**: Four items, excavated from M48. Its top part is a round ling bell. Its obverse side has an engraved hole with spokes radiating from it. The lower part is a rectangular luan chariot bell. There are round holes on both sides. These have all been broken and cannot be restored (diagram 55: 6).

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98 浮环 part of the horse's bridle gear.
(F) **Tube-ornament with attached animal head**: One set of three pieces (M48: 54). An animal's head is attached on one side of the half-circle tube. There is a fender on one section of two of the tubes, the other one is linked up without a fender. They are 4.1 cm long (diagram 55: 5, photograph 61: 1).

(F) **Jièyue** 菊釦⁹⁹: forty-six items. There are three kinds: large and small cross-shaped, and butterfly shaped. The front side is decorated with either an animal face or a cicada pattern (diagram 56: 1, 3, 4). Specimen M48: 48 is 2.6 to 3 cm long (photograph 61: 2).

(G) **Sheathed awl**: One item (M48: 61). A perforated round tube, beneath which is a square awl. Full height of 4.7 cm (photograph 57: 7).

(H) **Pei** 落 bridle ornaments: One hundred twenty items (M48: 46). Round tube shape, 2 cm long (photograph 61: 5).

(I) **Xian curb bit**: Four items (M48: 50), 20.9 cm long (photograph 60: 5).

(I) **Biao curb chain**: Ten items. Specimen M48: 49 is 10 cm long (photograph 60: 5; Specimen M30: 52 is 11 cm long (photograph 61: 4).

[156] (K) **Xiyao hyperboloid**: Five items. (M30: 13), 3.5 cm long (diagram 55: 3, 4; photograph 61: 6).

(L) **Bronze Jing bell**: Seventy items. Variable in size, they all have clappers, and the great majority are perforated. They are all plain surfaced except for one item.

M48: 32 is relatively large, gravely rusted and corroded, and decorated with interlaced hydra designs. Its full height is 27.3 cm (photograph 60: 1). Specimen M48: 41 has a full height of 7.3 cm (photograph 60: 3); M2: 2 has a full height of 9.2 cm (photograph 60: 2).

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⁹⁹ **Jièyue** are decorative bronze pieces attached to horses' bridle. There does not seem to be a standard English term for such pieces. See the following footnote on bridle ornaments.
Group 5, Miscellaneous

(A) Bronze staff head inlaid with gold and silver: One item (M3: 42). The lower part of the implement is a round tube shaped socket, within which was some rotten wood. Crouching on the upper socket is a dragon-like animal, with its head held high above a long and twisting tail. The animal has open eyes and a long jaw, with an animal held in its mouth. The animal (the body was fragmented, and has been restored) has a snake’s body and a bird’s beak. It is engaged in a struggle, with its head turned around and its eyed open wide. There is also a snake shaped animal, whose mouth is biting an animal’s head, coiled above the dragon-like animal. The mouth of the animal head holds the tail of the bird, attached above the snake-like head.

The conception of this implement’s form is peculiar, yet vivid and exquisite in its modeling. The entire item is inlaid with gold and silver slivers, the brilliance of which dazzles the eyes. Its casting is refined, and may be rated a masterpiece of fine craftsmanship in ancient metal technology. This item is 20.5 cm tall (diagram 57; photograph 55).

[158] (B) Bronze stand: One set (three items) (M52: 90). Square shaped, with a square socket, decorated with animal patterns on its four sides and base. There are three feet on the base, made in the shape of animals’ claws. There are remnants of rotten wood inside. The item is 7 cm tall (photograph 61: 8).

(C) Bronze ben adze: Two items. Square socket, Specimen M57: 1 has a total height 14.2 cm, 4.1 breadth (diagram 58: 5; photograph 62: 2).

(D) Bronze chan shovel: One item (M52: 100). Square socket, rounded shoulders, total height 17 cm (photograph 62: 4).
(F) **Bronze xiao scraper:** Fourteen items, none of which are complete. They are 10.7 cm tall; the remnants of Specimen M52: 127 is 26.7 cm (diagram 58: 1; photograph 62: 5).

(F) **Bronze dao blade:** One item (M52: 43). Its remaining length is 17 cm (diagram 58: 2; photograph 62: 3).

(G) **Bronze fish:** Ninety items. Variable in size, some are plain surfaced, some have decorative patterns. Specimens M30: 14, M34: 11, M15: 6, are 6.5 to 8.4 cm long; M49: 6 is 12 cm long (photograph 63: 1 to 5).

(H) **Outer coffin nails:** Twenty eight items, in three types: Type I is shaped like a conical awl; there is a rectangular perforation at its top. Specimen M3: 75 is 10.2 cm long (diagram 58: 4; photograph 62: 1). The Type II nail head is shaped like an animal’s head, and the spike is triangular in shape (diagram 58: 6, 7). The Type III nail head is shaped like a round bubble, the spike is triangular in shape (diagram 58: 3).

(4) **Items made of Gold, Silver and Iron**

[159] **(A) Circular gold belt ornaments:** There are two varieties, large and small.

There are nine of the large items, whose gold core are gilded with gold leaf. The back side is shaped like a shallow bowl. The front bulges slightly, is decorated with impressed coiled serpent patterns, and has a pair of perforations on either side on its edge. Specimen M52:57 is 6.7 cm in diameter.

There are four small items, similar to those described above, but comparatively small. They are decorated with a molded vortex motif. Specimen M52: 50 is 4.5 cm in diameter (diagram 59: 1, 2; photograph 73, left).
(B) Triangular gold belt ornaments: Three items. These items are made in the shape of isosceles and right angled triangles. The surface of M52: 52 is convex, rising into three ridges, with two sides decorated with two birds face to face and looking at each other. The lower surface is adorned with two matching animals. These decorations were made by mold casting. The triangles each have a pair of perforations. These are 10.1 cm tall (diagram 59: 6; photograph 79: 7 middle).

M52: 51, decorated with two birds standing back to back, is 6 cm long (diagram 59: 4; photograph 79: 7 upper left). M52: 63 is adorned with a cloud dragon lying down with its head turned around. It is 7 cm tall (diagram 59: 5; photograph 79: 7 lower right).

Each of the above items were excavated from beneath the waist of the skeleton interred on the floor of the inner coffin in grave M52. The circular gold belt pendants were arranged east-west, their bottom sides facing up. The triangular gold belt pendants had their top sides facing up.

(C) Gold leaves: Two items. M52: 54 is decorated with flying birds looking forward, 7 cm long, 3.8 cm wide (diagram 59: 3; photograph 79: 7 top right). M52: 53 is shaped like a step, whose decorations appear to be an insignia (photograph 79: 7 bottom left).

(D) Gibbon-shaped silver ornament: One item (M3: 4). The implement is made in the shape of a gibbon. Its arm is raised and head turned around in an active posture. Its two eyes, bright and piercing, are inlaid with blue beads. The gibbon’s body is slightly arched.

There is a round knob, or a kind of garment hook, on its back. The gibbon’s body is covered with gold leaf. Its full height is 16.7 cm (diagram 60; photograph 65).
(E) Silver garment hook inlaid with turquoise stones: One item (M3: 10). The surface of the roughcast silver is inlaid with small rectangular pieces of turquoise, which were still firmly attached when the garment hook was unearthed. It is 18.5 cm long (diagram 61: 1; photograph 64: 2).

(F) Silver garment hook: One item (M52: 81). The hook part is made in the shape of an animal's head; the tail end is decorated with an animal's face. The top side has two lines of fine convex ridges, and there is a round knob on the back side. It is 15.9 cm long (diagram 61: 2; photograph 64: 1).

(G) Silver chou counter sticks: One bundle, which were excavated separately within M52 and M3. They are shaped like square ended chopsticks. When they were unearthed they all had already been broken and corroded. They were unearthed together with elephant ivory counter sticks, and jade and stone cube counters (photograph 92: 2 top left).

(H) Iron garment hook inlaid with gold and silver: One item (M58: 117). The body of the hook is somewhat wide, and the hook part is made in the shape of an animal's head. The end section is nearly square, and there is a round knob. The top surface has gold and silver pieces and threads inlaid in flowing cloud patterns. The patterns which decorate the back side are corroded and unclear. It is 13.5 cm long (diagram 62; photograph 56: 3).

(5) Jade and stone implements

The quantity of jade and stone implements which have been excavated is quite impressive; the majority was excavated from graves M48, M52, M58, M3, etc.
[161] (A) jade bi disks: Thirty-six items, the majority of which were excavated from graves M52 and M58 (photograph 66: 1). They are divided into three types according to their decorative patterns:

Type I: Four items, relatively large. The decorative patterns on the ornamental matrix\(^{100}\) are divided into three rings. The inner and outer rings are decorated with a pattern of pairs of tailed dragons. There are three groups of decorations on the inner ring which are separated by partitions. The outer ring is decorated with five groups; some have partitions, some have no partitions. The middle ring is decorated with “rice pattern” protuberances.\(^{101}\) The three rings of decoration are separated by boundary lines (diagrams 63 to 66). Specimen M52: 40, crafted from green jade, has a maximum diameter of 32.8 cm and the diameter of its hole is 11.6 cm. There are no partitions between the decorations on the outer ring of Specimen M52: 3. It is made of green jade, with an outer diameter of 31 cm, and the diameter of its hole is 10.7 cm (photograph 68).

Type II: Five items, comparatively small. The matrix is divided into two rings. The outer ring is decorated with four groups of pairs of tailed dragons, framed face to face. The inner ring is decorated with rice grain pattern. The two rings of decorative patterns are separated by “outline pattern” borders, “bamboo joint” borders, or plain surface borders (diagram 67). These bi are all manufactured from green jade. The outer ring of Specimen M58: 3 has no partitions, and is decorated with four groups of pairs of tailed dragons

\(^{100}\) Rou 肉, “flesh,” a special term for the surface of the disk, differentiated from the hao 好 center hole.

\(^{101}\) Gu wen 粟纹, “rice-grain pattern; the pattern of small, rounded equidistant protuberances, sometimes surmounted by engraved curls, and covering the surface of certain ritual jades.” Hansford, p. 25.
intertwined with four animals which have the head of a bird on the body of a snake. It is also decorated with smooth, flowing lines. Outer diameter is 27.7 cm, inner diameter 9.1 cm (photograph 69). Specimen M58: 5 has double-tailed dragons with long beards; outer diameter 22.5 cm, inner diameter 6.8 cm (diagram 69; photograph 70: 1). There are partitions between the double-tailed dragons of M52: 1; outer diameter 19.9 cm, inner diameter 6.9 cm (diagram 70, bottom; photograph 70: 2).

Type III: Twenty-seven items, variable in size. The large ones are similar to Type II. The small ones have a diameter of about 10 cm. The matrix is decorated with rice-grain pattern protuberances (diagram 71). The majority are made from green nephrite; individual items are made of bi yu 碧玉 jasper, white jade, and huayu 花玉 “flower jade”. Specimen M52: 72 is made of a greenish-white flower jade; outer diameter 13.4 cm, inner diameter 4.4 cm (photograph 66: 3). Specimen M52: 82 is made of jasper, maximum diameter 13.1 cm, inner diameter 6.2 cm (photograph 66: 3). Specimen M58: 39 is made of green jade, outer diameter 22.2 cm, inner diameter 7.1 cm (photograph 71: 1).

[169] (B) Jade huan rings: Twenty-three items, divided into four types, according to their shape:

Type I: One item (M52: 14). The bi “rim walls” of this huan are relatively tall. Crafted from yellow-black flower jade, without decoration; its outer diameter is 7.4 cm, and hole diameter 6.7 cm. The matrix is 0.7 cm wide, the walls are 2 cm tall (photograph 72: 6).  

102 Bi yu, also known as dark green nephrite. The word bi is used to denote a rich green or blue color. It is not applied to jadeite or to qing yu. Hansford, p. 28.

103 Bi 裡 here indicates the usually slightly raised edge along the rim of the disk. In this case the rou matrix was carved more deeply than is usual.
Type II: Three items. Decorated with rice-grain pattern, they have an oblate shape; the diameter of the hole is relatively large. Specimen M3: 35 is crafted from white jade; rice-grain pattern in the middle, with interlaced hydra designs in between. The outer diameter is 10 cm (photograph 72: 3); the walls of M52: 28 are relatively thin (photograph 72: 4).

Type III: Eighteen items. Oblate shape, with a relatively small diameter hole in the middle. In some of them the width of the matrix is larger than the diameter of the hao center hole, as in bi disk. They are decorated with rice-grain patterns. Outer diameter of Specimen M52: 8 is 8.4 cm; outer diameter of M52: 26 is 4.8 cm; outer diameter of M52: 57 is 5.8 cm (photograph 72: 1, 2).

Type IV: One item (M52: 13). Partially oblate, with the appearance of a braided rope. Outer diameter 4 cm, hole diameter 3.1 cm (photograph 72: 5).

(C) Agate huan rings: Three items. There are two red agate huan, one large and one small. White flaws intermingle in the midst of the red; with veins like flowing clouds winding around, its luster dazzles the eyes. M52: 6 has been restored; its diameter is 9.2 cm, and hole diameter 7.5 cm (photograph 73: 2). M58: 114 is comparatively small: 6.3 diameter, 3.3 cm hole diameter (photograph 78: 5). The other piece (M58: 97) is a zacao "weedy" agate huan, green in color, with veins like sea grass winding around. Outer diameter 10.6 cm, hole diameter 6.6 cm (photograph 73: left).

(D) Jade jue disk: Twenty items, in two types:

Type I: Eighteen items. Oblate, most are plain surfaced, a few are decorated. Specimen M30: 47, diameter 2 cm; Specimen M24: 7, diameter 3 cm;

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104 The text indicates photograph 72: 5, but it appears it should have read 72: 6.

105 The text indicates photograph 72: 6, but 72: 5 is clearly being described here.
M11: 10, diameter 4 cm; M48: 58 is engraved with cloud patterns, 4 cm diameter; M49: 20, 4.1 cm diameter (diagram 72: 2—4; photograph 76: 7).

[170] Type II: Two items (M52: 19). Oblate shape, decorated with rice-grain patterns, 3.3 cm diameter (diagram 72: 1; photograph 76: 8).

(F) Jade garment hooks: Two items.

M3: 9 is made in the shape of a dragon. The tail end is adorned with a dragon’s head, and the hook end with an animal’s head. This item is made from nine pieces of white jade. There is a hole in the middle, which the belt presumably ran through. On the back there is a silver knob. The entire piece is decorated with rolling cloud patterns; the workmanship is exquisite. Its length is 19.7 cm (diagram 73: 1; photograph 75: 3).

M58: 31 is shaped like a chan shovel. The hook is made in the form of an animal’s head, and the body is shaped of like an animal’s face. The back is decorated with rolling cloud patterns, and there is a round shaped jade knob handle. This piece was made from a single piece of yellow jade material, 8.3 cm long, 6.8 cm wide (diagram 73: 2; photograph 75: 2).

(F) Jade horse: One item (M3: 8), carved from green jade. It is posed with head held high and ears erect, with eyes wide open looking forward. The horse’s mouth is slightly open, nostrils flaring, and mane rising high. The horse’s tail is coiled up, and its leg muscles clearly defined. The horse’s hooves are sharply contoured, the forelegs perpendicular, the rear legs somewhat askew, as it stands upright on top of a square stand. Its lines are terse, painstakingly carved and ground. Since this is such a lively figure of a horse and also the result of the fine art of sculpture, it can be rated as a treasure of ancient jade carving artistry. The item is 5.7 cm tall (diagram 74); photograph 75: 1).
(G) jade *kui* dragon ornaments: Sixteen items. Divided into three types:

Type I: Eight items. The characteristic shape is with the head turned back, tail curled, and body bent. The head, tail, foot, or back each have a perforation, and are decorated with rice-grain patterns. Specimen M58: 7 is 15.4 cm long; Specimen M58:30 is 11 cm long; Specimen M58: 60 is 16.9 cm long (diagram 75: 1); M52: 124 is 11 cm long; M52: 122 is 15.5 cm long (photograph 77: 2 to 5, 7).

Type II: One item (M52: 94). Drooping head, gathered-in tail, bent body, one perforation on the belly, decorated with rice-grain patterns, 17.3 cm long (photograph 77: 1).

Type III: One item (M3:13). Arched body, tail held high, wide open eyes looking forward, rice-grain pattern decoration (photograph 77: 6).

Type IV: Two items (M52: 64, 66). Deformed *kui* dragon shape, possessing an intense patterned effect. Plain surfaced, perforated (photograph 79: 2).

Type V: One item (M52: 121). This item has a carving of two dragons intertwined, made up of a half round shaped decorations. The dragons' bodies are adorned with S-patterns and feathers; 7.8 cm wide (diagram 75: 3; photograph 79: 3 left).

Type VI: One item (M52: 12). The jade *huang* is decorated with two dragons facing and looking at each other out. The dragons' bodies have scales. There is a perforation on the back of the *huang*. The width is 8.7 cm (diagram 75: 2; photograph 79: 3 left).

Aside from these there are also two broken pieces, which have rice-grain patterns (photograph 79: 1).

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106 *Huang* 璇, semi-annular jade pendant.
[171] (H) **Jade pei pendants**: One set, unearthed from the chest area of the skeleton from grave M58. Consisting of eleven items such as jade *huan*, oblate jade beads, “long drum” shaped jade *guan*, cylindrical jade *guan*, *kui* dragon jade ornaments, etc. Aside from the oblate jade beads, they all have rice-grain pattern decorations (diagram 76; photograph 78: 3).

[173] (I) **Jade pendants**: Two items. The middle is a jade *bi*; the top is square and the two sides have fastened ears. The two sides of M58: 122 are decorated with animals’ ears facing outward. The outer diameter is 4.4 cm, the hole diameter is 1.5 cm (diagram 77; photograph 78: 1); the two sides of M52: 25 are adorned with outward facing bird ears, which are fragmentary (photograph 78: 2).

(I) **Jade she 箭 archer’s thumb-ring**: Three items. M52: 30 is elliptical in shape, the front section slopes, decorated with inscribed line animal face pattern, the base is decorated with grass roll patterns. The upper wall of the back section has a horizontal hole, one side has an “ear handle” (diagram 78: 1; photograph 76: 9 middle). The front part of M52:29 is fragmentary, the ear handle has an engraved hole (diagram 78: 3; photograph 76: 9 right). M28: 3 is round, fairly tall. Its back section has a square knob, and horizontal hole on top. One side has an ear on the top and the bottom. The top has a vertical hole, and the wall is decorated with a protruding ridge (diagram 78: 2; photograph 76: 9 left).

(K) **Jade tubes**: Six items, varying in shapes and sizes.

Both ends of M58: 128 are comparatively thick; the walls of the tube are relatively thin. It is decorated with roof tile patterns on top. At the time it was excavated there was a small *huang* next to the thick end. It is 3.6 cm long, 2 cm in diameter (diagram 79: 3; photograph 76: 2 middle).
The walls of the remaining tubes are fairly thick, decorated with rice-grain patterns and animal face patterns. These are probably parts of a jade *pei* pendant (photograph 76: 2 right, 3).

The waist section of M52: 31 is relatively thin, while the two ends are comparatively thick. The *rou* matrix of the thick ends are decorated with scrolled cloud patterns. It is 3.6 cm long (diagram 79: 1; photograph 76: 2 left).

[174] (L) Jade knobs: One item (M58: 123). Consists of three parts: a *xihuan* 系环 fastener ring, a *maoxiao* 耧销 mortise pin, and a knob base. There is a partial opening low on the fastener ring. On two sides of this partial opening there is a round tenon. The top part of the mortise pin is relatively thick, like a nail head. Its top is decorated with a roof tile motif, and both sides are level. There is a tenon-slot which accepts the fastener ring’s tenon. The lower part has a round straight pin. The *tingduan* 蜻端 “runner” piece is perforated, to accommodate the *qianshuan* bolt, in order to fix the mortise pin on top of the handle base. The handle base is round, and its two sides have peach shaped ears. Inside the lower ears there is a groove shaped round tenon which fixes the handle base on the upper part of this mechanism. There is a round hole in the knob base to hold the mortise pin straight. Each part is mounted on the back. The fastener ring can move about independently. Its exquisite manufacture shows great ingenuity. The diameter of the ring is 2.4 cm (diagram 80; photograph 79: 5, 6).

[175] (M) Tablet shaped jade ornaments: Four items, from the inner coffins of graves M52 and M58. Rectangular in shape, there are square notches all around. Two sides are decorated with rice grain patterns. The shapes and forms of M52:21 (diagram 79: 2; photograph 80: 8) and M58:44 (photograph 80: 7) are similar; the middle of the tablet is perforated, the holes are approximately 0.2 mm in diameter; the length of the tablet is 5.9 cm all
squeezed together. The items are 6.1 cm long, 2.5 cm wide, and about 0.5 cm thick. M58:41 is comparatively long, and there are three perforations on the face of the tablet (diagram 79: 4; photograph 80: 4).

(N) Four wing shaped jade and ivory ornaments: There are twenty or more items, which came out of grave M58. In the middle of the implement is a round post. Jade pieces are inlaid on all four sides of the post which are in the shape of four wings. The jade pieces were all made in a narrow and long parallel quadrilateral shape. There were no intact specimens, so we do not know what their original appearance was like. Specimen M58: 112 is a piece of jade 5 cm long (photograph 79: 8).

(O) Scabbard-shaped jade ornaments: Two items. The implement is long and narrow in shape, and looks like a scabbard. There are decorative patterns on M48:58, which is 11.4 cm long (diagram 81: 2; photograph 80: 2). There are no decorative patterns on M48:59, which is 14.9 cm long (diagram 81: 1; photograph 80: 3).

(P) Stone sword: One item (M30:39). There are three concave grooves in the body of the implement, which is 29.9 cm long, 3.5 cm wide, and 1.5 to 3 cm thick (photograph 82: 4).

[176] (O) jade bi spoon: One item (M48: 6). Made from green jade, one end has a round hole, one side has a half-round shaped notch; 19.9 cm long, 4.4 cm wide, 0.15 cm thick (photograph 80: 1).

(R) Stone zao chisels: two items (M15: 9). The front part has a blade edge. The full piece is 15.1 cm long, 2.4 cm wide, 0.6 cm thick (diagram 82: 2; photograph 82: 5,6).

(S) Grindstones: two items (M52: 10, 67). Shaped like a piece of brick, this probably is a device for grinding. It is 9.7 cm long, and 4.5 cm wide (photograph 62: 6).
(T) **Cylindrical stone ornaments:** Ten items. The middle of this implement is fairly thin, while the two ends are fairly thick. There are perforations at the two ends of some of these, while some lack any perforation at all. They were placed in the hand of the corpse. Specimen M11: 7 is gray, and 8.9 cm long (diagram 82: 1; photograph 71:4). M46: 11 is made from white *fangjie* stone, 8.5 cm long (photograph 71: 5).

(U) **Tongue amulets:***¹⁰⁷ All of these are pebbles, in various shapes: round, triangular, shaped like utensils and *qing* musical stones.¹⁰⁸ They vary in shape, and their colors and lusters include blue, white, brown, etc. (photograph 83: 2, 3).

(V) **Jade ge:** Three items. M42: 8 is 25.8 cm long, 4.3 cm wide, 0.5 cm thick (diagram 83: 1; photograph 53: 6). M48:57 is 17.5 cm long, 5 cm wide, 0.5 cm thick (diagram 83: 3; photograph 53: 3). M14:2 is 14.5 cm long, 2.9 cm wide, 0.25 cm thick (diagram 83: 2; photograph 53: 4).

[177] (W) **Stone ge:** Twelve items, divided into three types:

Type I: Eight items. Some had butt ends and some did not. Some of the butt ends were perforated, and some were not. The front ends are flat and even, without a sharp point. Specimen M46:10 is 18.7 cm long, 3.5 cm wide, 0.3 cm thick (photograph 53: 1 top). M42: 11 is 13.3 cm long, 3.5 cm wide, 0.2 cm thick (photograph 53: 1 bottom).

Type II: One item (M30: 62). This has neither butt end nor perforation; its front end is flat and even. The form of this implement is short and thick. It is 12.1 cm long, 4.1 cm wide, 0.2 cm thick (photograph 53: 5).

¹⁰⁷ *Kou han* 口含, defined as “objects placed in a corpse’s mouth”.

¹⁰⁸ *Qing* 銘, a kind of musical instrument (made by hollowing out a hard sonorous stone, etc.); a musical stone.
Type III: Three items. Neither butt end nor perforation; reinforced by a rising spine, but some had no rising spine, the front blade point is a single sided blade edge. Specimen M49:12 is 23 cm long, 3.6 cm wide, 0.4 cm thick (photograph 53: 2).

(X) Stone gui tablets: Six items, divided into three types:

Type I: One item (M57: 2). Comparatively short, there is a round hole near the middle of the tablet; 12.2 cm long, 3.7 cm wide, 0.2 cm thick (photograph 82: 3).

Type II: Two items. Narrow and long, there is a perforation on the lower end. Specimen M2:40 is 19.1 cm long, 3.3 cm wide, 0.7 cm thick (photograph 82: 2).

Type III: Narrow and long, comparatively tall, Specimen M58: 1 is 24.8 cm long, 5.8 cm wide, 1.25 cm thick (photograph 82: 1).

[178] Aside from those listed above there are also:

One bronze scraper set in a jade huan semicircular ring, decorated with whirlpool patterns (diagram 84: 8; photograph 62: 7).

One piece of jade inscribed with an animal face, two sides are each decorated with an animal face pattern, its upper edge has a pair of holes (diagram 84: 2; photograph 79: 4);

A fragment of an animal head jade ornament (diagram 84: 5); three jade huang (photograph 71: 2, 3).

Two jade bang posts (photograph 78: 4 left).

Two jade tubes with roof tile pattern ornamentation. One is an oblate pillar shape, one is elliptical; each are decorated with spiraling roof tile pattern, and were crafted with great regularity (diagram 84: 4, 7; photograph 76: 1, 4).
A long piece of jade: there is a notch in the edge of the circumference, which is decorated with coiled dragon patterns (diagram 84: 3; photograph 80: 6).

One jade pendant with an arch shaped raised spine. There are flanges on two sides, and a notch at two ends. The surface of the implement is decorated with geometric cloud patterns, and the interior with a circle of cloud patterns (diagram 84: 1; photograph 80: 5).

One square pillar shaped jade tube; the base is large and the top is small, the corners are rounded off (diagram 84: 11; photograph 76: 5 right).

One peach shaped jade pendant, with bulging sides and a flat base (diagram 84: 6; photograph 78: 4, 2 right).

Two rectangular small jade pieces, surface decorated with angled-line patterns (diagram 84: 9,10).

One square jade bead (photograph 78: 4, 2 left).

One long drum shaped jade bead (photograph 78: 4 right).

Three round jade pieces, smooth surfaced (photograph 76: 6).

(6) Lacquerware

Two food cases, made of a wood core covered with black lacquer. The core had already decomposed when this was excavated; only the lacquer skin remained. One of the cases had four square food containers packed inside, the other had six. The food containers all had a bronze core painted in black lacquer. The lid was in the style of a luding 盆頸 with a knob in the middle.

109 The case lid was similar to that of a luzzi 盏子, a traditional Chinese toiletry case for storing incense, jewelry, etc. Hanyu da cidian 汉语大词典. Hong Kong: Joint Publishing (H.K.) Co, 1992. Vol. 7: 1443.
When it was excavated, the lacquer skin had already come off. There were bird bones inside. Specimen M3: 65 is 11 cm tall, 11.5 cm long, 11.3 cm wide (photograph 45: 3).

(7) Fused stoneware

There is a total of twenty-five pieces of fused stoneware, which were excavated from within graves M52 and M58. These are divided into four types:

Type I: Two pieces (M58: 65). Shaped like a rounded tube, one end is slightly thick. There is a hole in the middle. One bead has a cover on its thin end. Deep blue in color, it is as transparent as window glass. Its top part is decorated with three circles of white line patterns. 2.1 cm long (photograph 83: 5 middle and right).

Type II: One bead (M58: 27). Deep blue, divided into hexagonal sections, 2.4 cm long (photograph 83: 5 left).

Type III: Nineteen beads: Spherical fused stoneware beads, perforated, deep blue. The top is decorated with white "dragonfly’s eye" patterns. Some of the eye patterns are set off by brown geometric patterns. Ten beads were excavated from M58, nine from M52. The largest was 2.7 cm in diameter, the smallest was 1.5 cm in diameter (diagram 85: 2, 3; photograph 84: 1, 2 left and right).

Type IV: Three beads, excavated from M52 and M58. Fish eye green in color, translucent. They were all broken at the time that they were unearthed.

One of them is a previously repaired elliptical sphere modeled in the shape of a drum. There are lines and decorations, using the four colors of white, reddish-brown, ultramarine, and blackish green, in the form of rings
of circles, vertical lines, cross marks, round dots, etc. (diagram 85: 1; photograph 84: 2 middle).

(8) **Ivory, bone, mussel-shell implements**

[179] (A) **Ivory tablet inscribed with cloud dragon decorations:** One item. Narrow and long in shape. A square tenon rises from the middle of the back side, with a gold handle attached. The surface of the tablet is inscribed with cloud dragon patterns, which are evocative with a vivid symmetry. It came from below the waist of the skeleton within the inner coffin of grave M52. It was facing downward when it was unearthed. Its right upper corner had been broken and previously repaired. The item is 15.7 cm long, 3.5 cm wide, and the handle sticks out 6 cm (photograph 84: 3).

(B) **Carved ivory qimao caps:** Two items, placed about 1.5 m apart north-south on the west wall of the outer coffin of grave M3. Possibly this is a kind of "cap" or "tip" for the ends of implements. M3: 52 is a piece of jewelry, shaped like a decorated shaft head. Its top is carved with flower petal decorations. It is decorated all over its body with a ring of cloud patterns and geometric patterns, and is 6.3 cm tall (diagram 86: 1; photograph 85: 4). M3:40 is a staff tip shaped like a bottle gourd. Its upper part is inscribed with an "eternal knot" pattern. It is 5.1 cm tall (diagram 86: 3; photograph 85: 3).

(C) **Engraved ivory xiaoshun back scratcher:** Two items, made in the shape of a man's hand, were excavated from graves M3 and M58. The hand part of M3: 5 is adorned with cirrus cloud patterns. Triangular cloud patterns decorate the handle, and the tip of the handle was made in the form of an animal head. Its extant length is 40 cm (diagram 87: 4; photograph 40: left and
right). Only the hand portion of M58:111 remains; it is 3.6 cm tall
(diagram 87: 1; photograph 85: 2).

(D) Ivory she 精 archer's thumb-ring: One item (M58: 124). Elliptical in
shape, one end sloping outward, one side has a knob. The maximum diameter is
4.5 cm, the smaller diameter is 3 cm (photograph 85: 1).

(E) Ivory tusk shaped pendants: Four items, in two groups of two. The
head part is fairly thick, made in the shape of a dragon's head, gradually
tapering down to a pointed tail. Specimen 52: 68 is 11.6 cm long (diagram 86: 2;
photograph 83: 4).

In addition to the above, there are the following miscellaneous items:
Three carved ivory object stands, which are similar to bronze object
stands.

Four hooked tooth qi maо 器冒 tool sheaths or crossbow tip ornaments
(diagram 88: 2; photograph 87: 4).

Two ivory tubes (diagram 88: 3, 4; photograph 5 middle).

An ivory hwan ring with a handle (diagram 88: 1; photograph 85: 5
left).

One ivory ji 非 hairpin shaped like tweezers, 22.1 cm long (photograph
87: 5 bottom).

Two bone hairpins (photograph 87: 5 top).

A carved ivory animal's head ornament (diagram 87: 2, 3).

Six mussel shell pao (photograph 87: 2).

Eighty-five “fish” made from mussel shells, variable in size
(photograph 87: 3); many of them discovered together with bronze “fish” all
around the coffin chamber.
More than two hundred clam shells (photograph 87: 1).
Large quantities of river mussels, which had covered the outer coffin lid.

(9) Strung ornaments

[181] Over eighty strung ornaments were unearthed. The qualities and characteristics of these articles of personal adornment are fairly complex; they include jade, stone, agate, *yusui* 玉髹 jade pith, bone, ivory, shell, and various other materials.

(A) Necklaces: Seven strings, which were each excavated from around the necks of the human skeletons in seven of the graves. There was great variation among their shapes. The necklace from M30: 66 includes animal heads, *kui* dragons, and cicada forms made from soft jade, as well as oblate beads made of red Shou Shan stone, ¹¹⁰ crafted in the shape of a two-headed dragon (photograph 74: 1). Necklaces M46: 12, M24: 8, and M11: 9 were made from quartz beads, fused stone beads, agate beads, etc. (photograph 88: 1, 4, 5). Necklace M48:55 is made up of soft jade *kui* dragons, agate beads, soft jade animals' heads, turquoise beads, and jadeite beads (photograph 87: 3). Necklace M39:10 is made from quartz beads (photograph 88: 2).

(B) String of stone and ivory beads: One string (M49:25). Discovered in the vicinity of the chest and abdomen of the human skeleton in grave M49, it was made up of quartz beads and rectangular elephant ivory beads. A portion of the beads had already decomposed (photograph 89).

¹¹⁰ Shou Shan: A locality sixty li north of Min Hou Xian, Fujian, well known for the precious and semiprecious stones mined there. Zhongguo gujin diming dacidian, p. 1084.2.
(C) Strings of pendants made of crystal and agate: Two strings, made out of crystal rings, yellow quartz (citrine) rings, a fourteen sided rock crystal bead, a long drum shaped rock crystal bead, water chestnut shaped rock crystal bead, rock crystal shaped like a ball, purple rock crystal, white agate silkworm shaped pendants, white agate huan 璜 shaped ornaments, etc. M4:10 (A) is comprised of a pair of strands which hang below a ring. M4:10 (B) is made up of a single strand, which was in front of the left foot of the human skeleton on the east side of grave M4. It has already lost its original appearance; based on the composition of its decoration it was restored as two strings (photograph 90: 1—3).

(D) Strings of bone and stone beads: Sixty-eight strings, all of which were discovered all around the burial chamber and inner coffin. There were basically two kinds.

The first variety is composed of round stone beads and flat bone beads; some of them also have one or two clam shells (photograph 91: 1). The other variety is made up of round stone beads and oblate bone beads. These beads are much larger than the first variety, and also date somewhat later than the first variety (photograph 91: 3).

(E) String of turquoise beads: One string, made from more than a thousand round and oblate turquoise beads. The beads are extremely small; the smallest has a diameter of only one mm, some are like a small grain of rice. They were excavated from the north-east corner of the floor of the outer coffin of grave M53 (photograph 91: 2).
(10) Gaming pieces

There are three sets, each of which respectively excavated from the coffin chambers of the three graves M3, M52, and M51. Set M3:53 (which includes M3:57) includes six square jade counter chips, six square ivory counter chips, one chopstick shaped ivory counter chip, and one chopstick shaped silver counter chip (photograph 92: 2). Set M52: 106 is comprised of six white stone and six green jade square counter chips, one chopstick shaped ivory counter chip, and one chopstick shaped silver counter chip (photograph 92: 1).

Section Five, Periodization

The Group A burials and Group B burials are similar in that they both lack stratigraphic relationships. In order to differentiate different “stages” we have mainly relied upon the process of developmental change among the shapes of the funerary vessels. Because on the one hand the majority of graves have Western Zhou pottery �权 which were manufactured as copies of bronze vessels, and on the other hand a portion of the graves have Eastern Zhou style pottery 伐, we may therefore easily take these graves and differentiate them as Western Zhou graves and Eastern Zhou graves. Both can also be further divided into several stages.
(1) Periodization of Western Zhou graves

None of the thirty-nine Group B Western Zhou graves (except for the few that were intruded upon by graves from later periods) had been previously disturbed. Moreover they all had funerary goods, and all had pottery mingqi burial offering vessels. The main vessel forms were li and guan. However other vessel types for which we presently can offer no explanation have been included within the guan vessel category. Therefore it is still difficult to determine the pottery assemblages of these Western Zhou graves.

In addition, while the pottery li in almost each and every one of these graves have differences in shape and form, we still are not yet able to discover an obvious rule of developmental change from early to later stages. This is the real difficulty in determining the periodization of these Western Zhou graves.

In our analysis below, we have mainly relied on bronze vessels, especially the shapes and forms of the bronze ding, in conjunction with developmental changes of pottery guan and other vessels’ shapes. We have divided these Western Zhou graves into four stages.

[182] Among the Western Zhou graves, there is the following sequence for nine graves according to their funerary bronze sacrificial vessels:

M23 One Type I ding
M11 One Type II ding
M20 One Type III ding
M30 One Type IV ding, One Type I xu, One Type I pan, One yi, One Type I h u
M42 One Type IV ding
M46 One Type IV ding, One Type I gui

M48 Three Type V ding, Two Type I xu, Two Type I gui, One Type II pan, One Type III pan, Two yi, One Type I hu, One fu, One yan

M49 One Type IV ding, One Type IV pan, One yi, Two Type II gui

M14 One Type VI ding

All of the above graves have ding, for a total of twelve ding. According to the changes of the vessels' shapes, decorative patterns, and artisanry of casting, they have been divided into six types:

The Type I bronze ding (M23) is similar in shape and manufacture to the Xi Cao ding from the King Gong period. Its decorative patterns are completely identical, so its dating should be the same, belonging to the early part of the middle period of the Western Zhou.

The form and manufacture of Types II through V bronze ding date approximately to the middle and late Western Zhou periods. Among these is the Type II ding (M11): it had continuous hook “broad-figure bands,” and atypical animal hoof shaped half-tube feet. It lacked indications of inner molds on the inside surfaces of the feet, and the belly and base of the ding were cast by the three piece mold method, so this vessel may be dated somewhat early.

The design of the Type III ding (M20) is very close to that of the Type II ding; and the casting technology is the same, so their dating may be similar. However this ding is decorated with the repeated ring pattern, and the upper part of the three feet are thick, which is already similar to the upper portion

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111 Chen Mengjia 陈梦家: “Periodization of Western Zhou Bronze Vessels” “西周銅器斷代,” Kaogu xuebao 考古学报, 1956, No. 4. [Note in original text]

112 Shaughnessy, Sources of Western Zhou History. P. xix. In his chronology, King Gong reigned from 917 or 915 to 900 BCE.
of feet of the Type IV and V ding. Therefore it is possible that it is slightly later than the Type II ding.

The design of Type IV and Type V bronze ding (M30, M42, M46, M48, M49) are similar, so their dating should be similar. Their three feet had already changed to the typical animal hoof style in which both ends were thick and the middle part was thin; the interior sides of the feet had already changed from a flat plane to a concave surface, but there was still no evidence of an inner mold. The belly and base of the ding changed from a one piece mold. Some bellies were decorated with hanging fish scale patterns, so the dating should be later than the Types II and III ding. However the upper limit for the Types IV and V bronze ding is in the middle period Western Zhou, as can be verified by the pottery vessels from grave M48.

There are a total of fifteen Types IX-A and X-A pottery guan from grave M48. These guan are very similar to those found in the early period Western Zhou graves in the report Luoyang Zhong Zhou Lu (Xi Gong Duan). The Type X-A guan is also very similar to the pottery lei (which is missing its lid) from the Chang Fu grave from the middle Western Zhou period at Puducun, Changan. Therefore those vessels from M48 which are identified as Type V bronze ding should be dated to the middle period Western Zhou. Types IV and V bronze ding must be later than the Types II and III ding, which can be verified from grave M49.

There is one Type IV bronze ding in grave M49, one Type IV bronze pan, two Type II bronze gui, and in addition there is a Type XI-A pottery

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113 Luoyang Zhong Zhou Lu (Xi Gong Duan) 洛阳中州路 (西工段), p. 56, diagram 30: 4, 8. [Note in original text]
114 Kaogu xuebao 考古学报, 1957: 1, diagram 5: 3. [Note in original text]
The design and manufacture of these bronze ding are identical to those of the M46 and M48 bronze ding. On the other hand, the bronze pan and bronze gui both had changed from forms having three small feet below the ring foot, as is present in M46 and M48, to a style in which there is just a ring foot.

The Type XI-A pottery guan from this grave M49 developed from the Type X-A pottery guan from grave M48 (photograph 35: 5, 4), but its change is already rather remarkable. On the guan there appeared the concave bowstring pattern which was popular in the late period Western Zhou, but was not seen in the early and middle periods of Western Zhou. Therefore we understand that M49 should be a bit later than the M46, M48, and other such graves, and so should be assigned to the late period Western Zhou. But from observation and study through the perspective of the vessel typology, the two graves M48 and M49 ought to be linked together. The former dates approximately to the latter part of the middle period Western Zhou, while the latter dates to the early part of the late period Western Zhou. Thus we know that the Types IV and V bronze ding are later than the Types II and III bronze ding, and the Type II gui which lack three small feet below its ring foot are also later than the Type I gui which had three small feet.

[183] The manufacture of the Type VI bronze ding dates to the end of the Western Zhou or beginning of the Spring and Autumn period, but Western Zhou pottery li, which date to the last years of the Western Zhou, were unearthed along with them.

From this we can see that these nine graves which yielded bronze implements encompass the following three time periods: (a) middle period Western Zhou, (b) late period Western Zhou, and (c) the last years of the Western Zhou.

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Seven graves date to the middle period Western Zhou: M23, M11, M20, M30, M42, M46, and M48.

One grave dates to the late period Western Zhou: M49.

One grave dates to the last years of the Western Zhou: M14.

Based on the dating of the stages of the graves with bronze implements described above, if we look at the developmental change of the pottery *li* and pottery *guan*, we may divide the graves with pottery vessels into four stages.

One *li* (Type II) and three *guan* (one each of Types I, II-A, and III-A) came out of M57. There are finger impressed concave grooves on the outer edge of the mouth and rim of the *li*, which possesses the style characteristics of the first and second stage pottery *li* vessels excavated from the main archaeological site. The shape of the vessels seems to have a relationship with the *li* from the early period Western Zhou at the Wei River valley in Shaanxi Province. The Type I *guan* is similar to the Type II *guan* excavated from the first period Western Zhou grave reported in the “Fengxi fajue baogao”; it is very likely that they are the same kind of vessel shape. The Type II *guan* from the Western Zhou grave at Fengxi is assigned to the first years of the Western Zhou, so the dating of grave M57 may be close to it. There is also a plain surfaced *li* (photograph 32: 1) excavated from grave M44, which is the only plain surfaced *li* from this group of Western Zhou graves. The design of this manufactured good is also different from that of the other cord marked *li*. It possesses the archaic style of divided crotch-pouch feet, whose dating.

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should be earlier than these cord marked *li*; it may be assigned to the early period Western Zhou. One Type III *li* which was excavated from grave M35 is similar in design of manufacture to bronze *li* from the early period Western Zhou unearthed at Puducun, Shaanxi (after the ear handles have been removed),\(^{117}\) so the dating of the grave should be assigned to early period Western Zhou.

There were four *guan* (three Type IV, one Type V-A) unearthed from grave M24. There were also two Type IV *guan* (photograph 34: 4, 5) in grave M11 (which contains middle period bronze vessels). There were four *guan* in M29, and two *guan* in M39; these were all either Type II-B or Type V-B vessels (photograph 34: 6, 7). The Type II-B *guan* assemblage developed from the Type II-A *guan* found in the early period grave M57 (diagram 38: 2). There were four *guan* in grave M38 (one Type VI, two Type VII, one Type X-A) (photograph 34: 8; 63: 1), which have the same style as the *guan* assemblage (Types IX-A, and X-A) in the middle period bronze vessel laden grave M48 (which also contains middle period bronze vessels); the two graves both have Type X-A *guan*. These pottery *guan* found in graves containing middle period bronze vessels have the same style or nearly the same dating as the graves with only pottery vessels, which therefore should be identical to that of the middle period bronze vessel laden graves.

The dominant style of the pottery *guan* in graves M55, M26, M8, and M56 is the Type IX-B pottery *guan*, so the dating of each of these graves should be very close. The Type IX-B *guan* have a somewhat open mouth, a flat rim, a rounded neck which is fairly tall, a round belly, and a small flat base.

\(^{117}\) "Changan Puducun Xi Zhou muzang fajue ji" 长安东渡村西周墓葬发掘记, in 考古学报 1954 Vol. 8, photograph 1: 6. [Note in original text]
(photograph 35: 7). They may have a developmental relationship with the Type IX-A guan from the middle period graves (photograph 35: 3), but their dating must be later. Aside from the two Type IX-B guan in M56, there is also one Type XII guan (photograph 36: 3), whose shoulder and belly are already decorated with neat concave bowstring patterns, which is definitive proof (it was previously pointed out that the concave bowstring pattern was current during the later period Western Zhou) that the dating of these grave should be to the later period Western Zhou. In addition, M19 has two guan (Type IX-C, one large and one small), M32 has three guan (Types IX-C, XI-B, and XIII-A), and both have Type IX-C guan (photograph 35: 8). The Type IX-C guan may have developed from the Type IX-B guan, and it is also decorated with concave bowstring patterns, whose date should be close to that of M56 (and the others associated with it).

The dating for the guan from the graves M27, 7, 50, 10, 15, and 22 should be even a bit later. The Type XIX guan from M50 (photograph 37: 3), is already approaching the lei from the Group A early period Spring and Autumn graves (photograph 13: 5). The Type XX red pottery guan from grave M10 (photograph 38: 1) is also similar to the Type V-C pottery guan from the Group A early period Spring and Autumn grave M201 (photograph 10: 6). Thus, the dating of these two graves may already be in the last years of the Western Zhou.

[184] According to the above analysis, the stages and “definitive dating” of these groups of Western Zhou graves is summarized below:

Stage One, three graves: M57, M44, M35, which date approximately to the early period Western Zhou.
Stage Two: Twelve graves: M23, M11, M20, M24, M29, M30, M31, M38, M39, M42, M46, and M48, which date approximately to the middle period Western Zhou.

Stage Three, eleven graves: M49, M55, M26, M8, M56, M32, M19, M22, M27, M7, and M15, which date approximately to late period Western Zhou.

Stage Four: three graves: M50, M10, and M14, which date approximately to the last years of the Western Zhou.

Because the developmental change among the pottery li is not clear, no differentiation of stages could be determined among the eleven graves M13, M16, M17, M21, M25, M33, M34, M36, M45, and M53, because there were only pottery li and no pottery guan present (or their pottery guan forms and styles were unclear).

(2) Periodization of Eastern Zhou graves

The twelve Eastern Zhou graves include seven large scale graves (M1, M2, M3, M28, M51, M52, and M58) and three middle scale graves (M4, M43, and M47). All of these had been looted, yet, except for M28 and M43, a fair amount of pottery vessels remained. Although some of the pottery vessels could not be restored, we have been able to determine the vessel forms of practically all of them. Therefore we have been able to achieve a rough understanding of the composition of the pottery vessel assemblages within the majority of the graves. The remaining vessels in each of the middle and large scale graves are as follows:

M2: one Type I fu, twelve Type XXV guan, two (only the lids remain) lei, one (small) Type XXVIII guan
M1: one (fragmentary) Type I fu, eleven Type XXVI-A guan, two Type I lei, one jian ("mirror")

M47: one Type II-A fu, five Type XXVII guan, two Type II hu, two Type II lei, one (small) Type XXVIII guan

M52: one Type II-A fu, sixteen Type III-B hu (guan?),¹¹⁸ four Type III-A hu, two Type I porcelain guan, one Type I jiao hu, one Type V bronze pan.

M3: one Type II-B fu, eighteen Type XXVI guan, four Type IV hu, two small Type I-A ring footed hu, two small Type I-B ring footed hu, five small Type I-C ring footed hu, five Type II bronze loop handled hu.

M51: four Type XXVII guan, four Type III lei.

M58: one Type II-B fu, sixteen Type XXIX guan, four Type V hu, two Type II porcelain guan, one Type VII bronze ding, two Type III bronze hu, one Type II jiao hu, one bronze guan, one bronze zun, one bronze bo, a fragment of a bronze pan, a fragment of a bronze yi.

After grave M51 was cleared out it became submerged in water, so except for the several whole and complete vessels, none of the remnant shards could be removed, so its assemblage is unclear.

There are three types of pottery assemblages among the other six graves:

(1) fu, guan, lei: (M2, M1)

(2) fu, guan, hu, lei (or porcelain guan): (M47, M52, M58)

(3) fu, guan, hu, small hu: (M3)

¹¹⁸ The Type III-B hu and the Type III-A hu are identical, but occupy the same position within this pottery assemblage as do guan; i.e., they hold the relative position of guan. However, to alter the influential position of the guan would have been a very great change, and for this reason the status of the guan has not been altered. Moreover later in the text, the analysis of the assemblage and the periodization tables all depend upon the guan in their methodology, particularly in making their explanations. [Note in original text]
Among these three assemblages, all of them have one fu, and there are four groupings of eleven (M1), twelve, sixteen, and eighteen guan. Grave M1 was looted rather extensively, so it may be that one of the guan is missing. We postulate that in all of these cases the number of guan would have been even; moreover we consider that there were differences and disparities in status among the occupants of the graves. Hu are only found among the first and second type assemblages. Among these four graves there were three which had four pieces, and one which had two pieces. The hu are also clearly found in even numbers. The first and second assemblage types all have lei: each grave has two pieces, and those graves which lack pottery lei have two porcelain hu in their place. It is obvious that the lei are also matched up in even pairs. There are nine of the small hu which belong to the third assemblage, and in addition there is a small scale grave which yielded five small hu. They appear to match up in odd numbered groups. From the conditions described above it may be seen that among these large and middle-sized graves from the Eastern Zhou period, there is a relatively fixed assemblage of burial offering pottery vessels. Based on the developmental change of vessel shapes within the assemblages, the above described graves may be divided into three periods.

[185] First Period: M2 and M1. The Type I fu from the graves had a square lip and straight neck. In addition, above its round base there were three somewhat convex nipple shaped feet, in the fashion of li. The entire body of the vessel is crude and decorated with deep bowstring patterns, which is also a style customary before the Spring and Autumn (photograph 41: 1). The mouth and rim of the Type I lei is made with a triangular slanted rim, and had a vessel mouth with a style typical of the end of the Spring and Autumn
period. Therefore the dating of the graves M2 and M1 may be determined to be
the last years of the Spring and Autumn or the transitional period between the
Spring and Autumn and the Warring States periods. The tamping marks in
these two graves have a rounded arc shaped base, indicating a small tamping
rod. This also indicates that the dating of these two graves is earlier than the
other large and mid-sized graves which used metal rammers in their rammed
earth construction. There are comparatively great differences between the
styles of the guan from these two graves; it appears one is ancestral to the
other. The shape of the guan from M1 is close to that of a later period, so its
date may be a bit later. However these two graves are side by side, and appear
to have a kinship relationship, so their separation in time could not be very
great.

Second Period: Four graves: M47, 52, 3, and 51. The first three graves all
have Type II-A fu. The guan from M51 are of the same type as the guan from
M47 and M3, so the dating of these four graves should be relatively close. The
Type II-A fu had already changed from the square lip of Type I to an angled
lip, and its bowstring patterns are relatively refined. Shards of this kind of fu
were often seen within the Warring States early period of the main
archaeological site (photograph 41: 2). The Type II lei had already changed
from the Type I's triangular slanted rim to a small squared rim current during
the Warring States period (photograph 40: 5). The Type II bronze hu from M3
(photograph 54: 3), and the Type I bronze jiao hu and bronze pan from grave
M52 (photographs 82: 2; 78: 4), are all forms characteristic of the early period
Warring States. Therefore the dating of the Second Period Graves should be
assigned to the early Warring States period, dovetailing with the First Period
Graves.
Third Period: The pottery *hu*, porcelain *guan*, bronze *hu*, and bronze *jiao hu* from grave M58 (the grave which cut into grave M52) are all later than the same kind of vessels in the Second Period Graves. Still, the differences between the vessel shapes of the bronze *jiao hu* and pottery *hu*, etc. are very close, moreover the two graves also appear to have been placed together side by side. Therefore the graves may be roughly dated to the middle Warring States period or slightly later, and dovetailing with the Second Period Graves.

Besides the three middle and small scale Eastern Zhou graves, grave M18 had three Type XXIV *guan* and three Type I *hu* (photographs 67: 3; 70: 1). The *guan* appear to have a developmental relationship with the Type XIII *guan* (photograph 11: 8) from the Group A group of graves. The latter date to the late Spring and Autumn period. Therefore the dating of grave M18 should be assigned to the First Period. There are three Type II *hu* from grave M4 (photograph 42: 2), which are very closely related to the Type I *hu*, and are from the First Period. There is one Type III *guan* and one Type IV *fu* from grave M54 (photograph 41: 4, 5). The style of their decorations date to the latter part of the sixth period of pottery vessels at the main archaeological site (Warring States Period), which obviously must be earlier than the Type II *fu*. In the grave there are also Type II-A and II-B tall ring footed small *hu* (photograph 44: 3, 4); their vessel-shapes have a developmental relationship with the Type I ring footed small *hu* from the Second Period grave M3, and it is comparatively later. Therefore grave M54 should be later than the Second Period Graves, i.e., during the same time period as the Third Period Graves.

According to the above analysis, except that the time period of graves M28 and M43 are unclear, the “relative stages” and “definitive dating” of the remaining ten Eastern Zhou graves are:
First Period Graves: M18, 2, 1, and 4 date to the last years of the Spring and Autumn Period and the beginning of the Warring States Period.

Second Period Graves: M47, 52, 3, and 51, date to the beginning years of the Warring States early period.

Third Period Graves: M58 and 54, which date to the middle Warring States period or slightly later.
Brief Summary

[188] The two different kinds of graves from the Zhou Era period at the city of Lu have been presented separately in the preceding section, from which one may see the obvious differences which exist between the two groups of Western Zhou graves.

Aspects of burial styles and customs

Head orientation: The heads of the corpses in the Group A Western Zhou graves basically face south; those facing north are an isolated phenomenon. The Group B Western Zhou graves in contrast basically face north; those facing south are the exception.

Yaokeng waist pits with sacrificial dog burials (prevalent in the Group A Western Zhou graves): While some small burials lack funerary utensils, all of them have sacrificial dog waist pits, so one may see the prevalence of this practice. On the other hand, the Group B Western Zhou burials are completely devoid of this practice of sacrificial dog waist pits; one simply does not see this phenomenon within these thirty-nine Western Zhou burials. Even graves M48 and M49, medium sized tombs from which complete sets of bronze vessels were unearthed, do not have sacrificial dogs in waist pits. Thus one can see that those buried in Group B Western Zhou graves have nothing to do with the practice of sacrificial dogs and waist pits.

The placement of implements within the graves: The Group A graves basically place them on the floor of the outer coffin between the inner and
outer coffins, either near the head or by the side of the body. The majority of
the Group B burials place them on the secondary ledge and on top of the outer
coffin, generally placed near the head.

Pottery vessel assemblages

The vessel shapes within the Group A graves’ pottery vessel
assemblages are relatively numerous. There is one group which consists of
even numbers of vessels, such as four \textit{li}, four \textit{gui}, four \textit{guan}, four \textit{dou}, and
one to two other vessels. The principle of this kind of pottery vessel
assemblage appears to have already taken shape before the Western Zhou, and
continued directly into the Spring and Autumn period. Grave M202, for
example, which dates to the early Spring and Autumn period, has a pottery
assemblage of two \textit{li}, two \textit{yu}, two \textit{lei}, two \textit{dou}, and one \textit{guan}. Grave M209
which dates to the middle period Spring and Autumn has four \textit{li}, three \textit{gui},
one \textit{dou}, and two \textit{lei}. Because these graves suffered from extensive looting,
the numbers of these \textit{gui}, \textit{dou}, and \textit{lei} are merely those which remained, and
are not the original numbers of vessels in this assemblage. Because the \textit{gui}
and \textit{dou} vessels are generally in pairs, but M209 has only one of each, it must
be that they are missing because the grave had been looted. Thus the original
assemblage of this grave may very possibly have been four \textit{li}, four \textit{gui}, four
\textit{dou}, and four \textit{lei}, which is a continuation of the Western Zhou period
assemblage of four each of four vessel forms.

In contrast to the Group A graves, the vessel classes in the pottery
vessel assemblage of the Group B Western Zhou graves are comparatively
simple; in general they only have two kinds of \textit{li} and \textit{guan}. In the majority of
cases each grave has one \textit{li}, and only the exception has two or three \textit{li}.
Those graves which each have two or four guan constitute the majority, although there are graves which each have three or six guan, and a few graves have as many as fifteen guan. As for the guan in the same grave, almost none of them are identical in shape and structure. When a grave has two guan, it is not that the vessel shapes are not the same, but rather that there are differences in their sizes. In graves which have four guan, they are generally arranged according to a one to three proportion, namely three guan are identical and one guan is different. The fifteen guan in M48 also belong to two kinds of vessel styles, divided into seven and eight items. These guan which have differences in size and shape possibly belong to different vessel shapes, but because they all are mingqi burial offering implements, they are very difficult to differentiate.

This kind of situation also exists within the Group A graves. For example, grave M201 has five guan, and M203 has four guan; each are comprised of three types. However these are only a few graves, and they are not the main assemblage style, and do not resemble those which are common in the Group B Western Zhou graves. Despite this being the case, the assemblages in Group A graves which mainly consist of even numbers have not been seen within the Group B Western Zhou graves.

Vessel shape typology

[Group A Graves]

Ring footed vessels such as gui and dou were prevalent in the Group A graves.

There were two kinds of li. The first variety was not very uniform in manufacture; the vessel forms were very small mingqi burial offering
vessels, dated to a comparatively early time period. The other 1i were all cord marked 1i, and comprised both mingqi and utilitarian vessels. The manufacture of these pottery vessels was rather elegant.

[Group B Graves]

Neither the ring footed gui and dou vessels, nor yu, were present in the Group B Western Zhou graves.

All of the 1i were flanged 1i made as copies of bronze vessels, and the manufacture of the pottery vessels was comparatively crude.

From the above three points it may be seen that the differences between the Groups A and B Western Zhou graves are completely obvious.

[189] The Group B Eastern Zhou graves are mainly mid- to large-scale graves dating from the latter part of the Spring and Autumn to the middle Warring States periods. The main assemblage of pottery vessels is fu, guan, lei or fu, guan, hu, and lei (or porcelain guan). In the majority of the burials, each grave had a single fu; a few graves had two fu. The guan consisted of three different especially distinctive groups: sets of twelve (e.g., M2 and M1; eleven remained within M1, lacking one piece), sixteen (M52, M58), and eighteen (M3). There were generally four hu, two vessels of lei or porcelain guan, one small guan. Except for the fu and small hu, there were even numbers of the rest of the vessels.

The Group A graves dated from the early Western Zhou period to the late Spring and Autumn period; there were no materials from the Warring States period. Dates for the Group B graves include two periods: the Western Zhou, and from the latter part of the Spring and Autumn to the middle and late
Warring States periods. They were basically lacking in materials from the Spring and Autumn period.

Both grave groups have “missing links” [noncontinuous chronological stages];¹¹⁹ thus we have not been able to properly differentiate their respective processes of developmental evolution, nor the relationship between the two of them. Despite this being the case, we still may observe several circumstances of developmental change in funerary implements and burial systems.

**Burial customs and burial systems**

The Group A waist pit with sacrificial dog was prevalent in the Western Zhou period, and there were still a few surviving examples in the early Spring and Autumn. It disappeared completely thereafter.

Graves arranged side by side had already appeared within the Group A graves during the Western Zhou period. The most obvious [examples] are graves M301 and M302, but single person burials are the main trend. Side by side burials rose in frequency in the late Spring and Autumn period.

Obvious side by side arrangement of graves has not yet been observed within the Group B graves in the Western Zhou period. The burial of husband and wife within the same pit grave appeared within the Group B graves at the end of the Spring and Autumn and the beginning of the Warring States.

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¹¹⁹ Refer to Tables 3 and 4 in the Introduction for clarification, and comparison with Cui’s newer chronology
Developmental change of vessel forms

The change in the Group A graves' cord marked Ⅱ is identical to the Ⅱ from the archaeological remains [of Lu (in contrast to the cemetery remains)]. No Ⅱ have been found in the several graves from the late Spring and Autumn period. Ⅱ made in funerary vessel style appear to have already disappeared in the late Spring and Autumn period.

Pedestaled /gui were prevalent from the early Western Zhou to the middle Spring and Autumn periods; their changes were that the belly of the /gui went from shallow to deep, and their ring feet changed from short to tall, and then short again. In the late Spring and Autumn period pedestal /gui disappeared, and the ornately lidded /gui with round body and short ring foot appeared. Some of them still had a square base, but there were very great differences between it and the pedestal /gui, and the two seem to have no developmental relationship.

Dou were prevalent during the same time period as the pedestal /gui, but they were even more common. Their developmental pattern was that the cup of the dou went from shallow to deep, and from a curved bottom to a flat bottom. The walls of the dou went from being inconsistent in either having a sharp transition point or not, to consistently having a transition point. The base of the dou went from short to tall, and from having a trumpet bell shape with a stem which is vaguely smaller on top and larger at the bottom, to a base in which there was an obvious stem section above the Attic base. In the Western Zhou period there was a kind of trumpet bell style base with a protruding ridge, which was identical in style with that of dou found in the archaeological remains [of Lu (in contrast to the cemetery remains)] during the same period, which disappeared after the late Western Zhou period. In the
Spring and Autumn period there was a convex, fairly thin ridge on the upper *dou* stem, and many had two lines of them, which are different in style from those in the early Western Zhou period. By the late Spring and Autumn period, those *dou* which were made to be funerary implements had already disappeared, while the lidded *dou* appeared. However the lidded *dou* and the *dou* may possibly be two separate kinds of vessels which may not have a developmental relationship, and their position within the pottery assemblages may possibly be different. There is a kind of *bian* with an ornately decorated lid from a late Spring and Autumn period grave, which appears to have an even more intimate relationship with the *dou*.

Lidded *dou* were prevalent in the late Spring and Autumn period. They may possibly have appeared in the middle Spring and Autumn period; there is the occurrence of *li*, pedestal *gui*, *dou* and lidded *dou* which were excavated at M213. The *gui* and *dou* found within it are all in the latest styles, while the lidded *dou* is in the earliest style. This kind of phenomenon of both the very latest styles of early period funerary ware being unearthed together with the very earliest styles of late period funerary objects, may very possibly reflect an alternation between the early and late vessel types within the same pottery vessel assemblage.

*Lei* are not seen in the late Spring and Autumn period Group A graves, but they all have *hu* with decorated lids; the *hu* with decorated lid may have replaced the *lei* within the pottery vessel assemblage of the Group A graves. Just like the lidded *dou*, the *hu* with decorated lid may possibly have appeared in the middle Spring and Autumn period. The Type I *hu* with decorated lid excavated from grave M115 is very close in shape and manufacture to that of the bronze *hu* excavated from the Number Two grave containing bronze vessels at Liujiadian, Yishui, Shandong. Grave Number Two at Liujiadian is
dated to the early Spring and Autumn period, with the result that M115 may possibly be placed in the middle Spring and Autumn period.

[190] Changes to the bronze zhou were in the vessels' ear handles, decorations, and vessel body. The bronze zhou were earless from the beginning of the Spring and Autumn; afterwards the single ear handled zhou appeared, and in the middle and late Spring and Autumn period they all had paired ear handles. The bronze zhou of the early and middle Spring and Autumn periods were all decorated, and the vessels ellipsoidal in shape. In contrast, in the late Spring and Autumn period they were plain surfaced, without decoration, and the vessels nearly round in shape. Single earred pottery bei cups which were often seen in the archaeological remains [of Lu (in contrast to the cemetery remains)] dating from the late Spring and Autumn period possibly were copied from the bronze zhou of that same period.

There is a gradual change in the funerary implements of the Group A graves from the early period Western Zhou to the middle period Spring and Autumn, and then there seems to be a comparatively large change in the late Spring and Autumn period. Vessel forms like li, pedestaled gui, and dou disappeared, while lidded dou, bian, gui with round bodies and square bases, hu with decorated lids, zhi, etc. appeared. The majority of these are new vessel forms made in imitation of bronze vessels. Painted color decorations were universal, and most of the painted decorations are [the same as] the decorative patterns of the bronze vessels such as triangular patterns, qiequ broad band patterns, etc.

120 Materials excavated by the Shandong Provincial Museum in 1978. [Note in original text]
The colored patterns which are seen in the pottery of Group A Spring and Autumn graves, particularly the late Spring and Autumn period graves, have not been seen in the Group B Eastern Zhou graves. Concave bowstring patterns are prevalent in the pottery vessels of the Group B late Western Zhou period graves; subtle pattern decorations are prevalent in the Group B Eastern Zhou Second and Third period graves. Some of the pottery vessels during this time period have marks stamped on them.
Diagram 1

Distribution map of graves (Ancestral Terrace cemetery)

(1:1000 scale) (parentheses indicate horse pits; graves with “X”s not yet excavated).
Diagram 2

Distribution map of graves (Herb Garden cemetery)
(1:1000 scale).
Diagram 3

Distribution map of graves (cemetery at the northwest corner of the Qufu city wall)

(1:1000 scale) (graves with “X”s not yet excavated).
Diagram 4

Distribution map of graves (Cockfighting Terrace)
(1:1500 scale) (graves with “X”s not yet excavated; shaded areas are structures).
Diagram 5

Top view of M301

1. Pottery bo.
2. Mussel shell implements.
Diagram 6

Top view of M301

1, 5, 11, 14. pottery *li*.
2, 4, 9, 12. pottery *guan*.
3, 6, 10, 13. pottery *dou*.
7, 8, 15, 16. pottery *gui*. 
Diagram 7

Top view of M310

1 to 3. Pottery *li*
4. Pottery *guan*
5. Pottery *yu*
6 to 15. Mussel shell crafted into “fish”
Diagram 8

Top view of M320

1. Pottery yu
2. Pottery li
3. Animal bone
4 to 7. Pottery dou
8. “Fish” carved from mussel shell
Diagram 9

Top and side views of M120

1, 7, 11, 12. Pottery gui
2, 5, 10, 18. Round bottomed pottery guan
3, 4, 13, 15. Pottery li
14. Pottery zun
9. Pottery lei
6, 8, 16, 17. Pottery dou
19. Stone ge blade
20. Mussel shell ornament
21. Salt water cowrie
图五五 M120平面图

1. 7. 11. 12. 铜鼓 2. 5. 10. 18. 银币 3. 4. 13. 15. 铜器 14. 铜饰 9. 铜镜
Diagram 10

Group A Grave pottery II

(1:4 scale)

1. Type I, M120:15
2. Type II, M501: 1
3. Type III, M107: 5
4. Type IV, M310: 9
5. Type V, M310: 1
6. Type VI, M320: 2
7. Type VII, M328: 1
8. Type VIII, M202: 1
9. Type IX, M207: 1
10. Type X, M209: 1
Diagram 11

Pottery gui from Group A graves

(1: 4 scale)

1. Type I, M120:11
2. Type II, M501: 7
3. Type II, M501: 7
4. Type III, M107:14
5. Type IV, M211: 3
6. Type V, M207: 4
7. Type VI, M209: 2
8. Type VII, M213:13
9. Type VIII, M16: 2
图五七 甲组墓陶器（1/4）

1. [图示]
2. [图示]
3. [图示]
4. [图示]
5. [图示]
6. [图示]
7. [图示]
8. [图示]
9. [图示]

Diagram 12

Round bottom pottery *guan* from Group A graves

(1: 4 scale):

1. Type I, M120: 2
2. Type II, M310: 5
3. Type III, M119: 3
4. Type IV, M131: 1
Diagram 13

Flat bottom pottery *guan* from Group A graves

(1: 4 scale)

2. Type II-B, M107:17.
3. Type III, M124: 3.
5. Type IV-B, M205: 1.
7. Type V-B, M201:15.
8. Type V-C, M201:16.
Diagram 14

Pottery lei from Group A Graves

1. Type I, M120: 9
2. Type II, M138: 2
3. Type III, M119: 4
4. Type VI, M305: 1
5. Type VII, M207: 5
6. Type X, M209: 11
7. Type IX, M202: 3
图六  甲组墓陶器（1/4）
1. Ⅰ式M120:9  2. Ⅱ式M138:2  3. Ⅱ式M119:4  4. Ⅱ式M305:1
Diagram 15

Pottery hu with ornamental cover, from Group A graves

(1:4 scale)

1. Type I, M115: 5
2. Type II, M116: 16
3. Type III, M104: 8
图六一 甲组嘉华登记窑（1/4）
1. 12XM115:5  2. 12XM116:16  3. 12XM104:8
Diagram 16

Pottery *dou* from Group A Graves

1. Type I, M120: 6
2. Type II, M501: 5
3. Type III-A, M501:10
4. Type III-B, M107:13
5. Type IV, M124: 2
6. Type V, M119: 2
7. Type VI, M320: 6
8. Type VII, M316: 1
9. Type VIII, M211: 1
Diagram 17

Pottery *dou* with cover, from Group A Graves

(1: 6 scale)

1. Type I, M213: 1
2. Type II, M115: 3
3. Type IV, M116: 20
4. Type III, M110: 2
5. Type III, M111: 2
Diagram 18

Pottery vessels from Group A Graves

1. Type I yu, M310:11
2. Type II yu, M320:1
3. Type III yu, M202:2
4. Zun, M120:14
5. Bian, M116:17
6. Bo, 301:1
7. Zhi, M104:11
Diagram 19

Rubbings of inscriptions and decorative patterns from bronze vessels excavated from Group A Graves

1. Zhou, M201: 7
2. Zhou, M305: 1
3. Pan, M202: 5
Diagram 20

Elephant ivory comb from Group A Grave
(2:3 scale)
M116: 15
Diagram 21

Pottery mold for arrowheads, from Group A Grave

(approximately. 1: 2 scale)

M138: 2.
Diagram 22

Comparitive chart of funerary vessels from Group A Graves

Columns: li, gui, dou, guan, yu, lei, hu:

Rows: First through Sixth Periods.
图六八 甲组墓随葬器物比较图
Diagram 23

Diagram of the traces of boards from which the east and north walls of the M2 burial chamber were constructed

a) West-East
b) North-South
Diagram 24

Horizontal view diagram of a reconstruction of the floor of inner coffin M2

1. Horizontal support beam
2. Wooden floor of the inner coffin
3. Wood inner coffin wall
Diagram 25

Top view of grave M18

1, 2. Bone tube
3. Bone hairpin
4. Broken pottery vessel
5 to 7. Pottery guan
8 to 10. Pottery hu
11. Object placed in the mouth (tongue amulet)
Diagram 26

Top view of grave M30

1. Bronze ding
2. Bronze xu
3. Bronze pan
4. Bronze yi
5. Gu chariot wheel
6, 7. Xia chariot linchpin
8, 52. Bronze biao curb chain
9 to 12, 15, 16, 21, 22, 25, 29 to 31, 36, 38, 40, 42, 50, 51. Bronze ling bells
13, 14. Bronze xiyou hyperboloid
14, 17, 18, 20, 23, 24, 33, 37. Bronze fish
19, 53. Bronze jieyue harness ornaments
26, 35. “Fish” carved from shell
27, 28, 47, 86. Clam shells
32. Bronze hu
34, 43. Taotie head
39. Stone gui tablet
45, 55. Bronze bei cup
46. Bronze waist pendant
41. Jade huan
48, 49. Cowrie shell
54. Bronze fu cauldron
56, 57. Bronze ge
58, 59. Pottery guan
60. Animal bone
61, 62, 64, 65. Stone shards
63. Mussel shell ornament
66. Necklace
67. Pottery li
69. Bone ornament
图七二 M30平面图

1. 铜盘  2. 铜镜  3. 银盒  4. 铜镜  5. 夹骨  6.7. 车辖  8.92. 铜镜  9-12,15,16,  
33,37. 铜镜  19,53. 铜节  26,35. 铜鱼  27,28,47,68. 铜镜  32. 铜盔  34,43. 铜  
铁头  39. 铁锤  45.55. 铁环  46. 铜镜  41. 玉块  49,49. 贝  54. 铜镜  56,57,铜  
戈  58,59. 陶器  60. 骨器  61,62,64,65. 石片  63. 铜镜  66. 铜器  67. 陶器  69. 骨器  

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Diagram 27

Top view of grave M54

1 to 2. Pottery fu
3 to 9. Pottery ring footed xiao hu
10. Small bone stick
11. Bronze animal head holding a ring in its mouth
12. Jade cicada (placed in the mouth)
Diagram 28

Top view of grave M48

1, 2. Bronze xu
3, 18, 23. Bronze ding
4, 11. Bronze yi
5, 8. Bronze pan
6. Jade spoon
7, 13, 14, 19, 20, 24 to 27, 29 to 31, 51, 60. Pottery guan
9, 10. Bronze gui
12. Pottery li
15. Bronze yan
16. Bronze hu
17. Bronze ge
21. Bronze cup
28. Bronze fu
32, 37, 40. Bronze ling bell
33. Bronze wei axle-hub
34. Chariot linch-pin
35, 36 to 38, 39. Bronze luan rattle-jingle
41. Bronze ling bell
42, 54. Taotie head
43. Bronze fish
44. Mussel shell “fish”
45. Clam shell
46. Pei bridle ornament
47. Mussel shell pao
48. Jieyue
49. Bronze biao curb chain
50. Horse xian curb bit
52. Bone tube
53. Xiyao
54. Tube ornament bearing an animal head
55. Necklace
56. Jade huan
57. Jade ge
58, 59. Jade ornament in the shape of a sword scabbard
61. Round tube pointed awl ornament
62. Rectangular piece of jasper
63, 65. Jade bi disk
64. Jade cup
图七四 M48平面图

Diagram 29

Top view of grave M49

1, 2. Bronze gui
3. Bronze pan
4. Bronze ding
5. Bronze yi
6. Bronze fish
7. Bronze ling bell
8. Small piece of jade
9, 20. Jade huan
10, 14 to 16, 21 to 23. Pottery guan
11. Pottery li
12. Stone ge
13. Square stone ornament
17, 19, 24. Jade shard
18. Bronze shards
25. Stone string of beads
Diagram 30

East-west cross section reconstructed view of grave M2

1. Rammed earth floor of the burial chamber
2. Wood handle
3. Rammed earth floor of outer coffin
4. Floor boards of outer coffin
5. Outer coffin wall
6. Outer inner coffin
7. Inner inner coffin
8. Rammed earth surrounding the burial chamber
9. Rammed earth surrounding the outer coffin
10. Boards covering the outer coffin
11. Wood ash and mussel shells covering the outer coffin
12. Disturbed soil
Diagram 31

Top view diagram of grave M2, and perspective drawing of the remnant inner coffin

Top, top view of M2
Bottom: sketch map [perspective drawing] of the remains of the inner inner coffin
1. Pottery *fu*
2, 3, 5, 10, 16, 23, 24, 28 to 30. Bronze *ling* bell
4. Bridle ornament
6 to 9, 11 to 15, 17 to 20, 31. Pottery *guan*
21, 22. Pottery *lei* cover
25, 26. Pottery vessel stand
27. Pottery *hu*
32, 33. Gold inlaid bronze *pao*
34. Bone tube
35. Bone *huan* disk
Diagram 32

Top view of grave M3 burial chamber

1, 28. Bronze ge
2, 65. Lacquer food case
3, 30. jade huan disk
5. Inscribed ivory “back scratcher”
6. Bronze jing mirror
7, 11. Ivory stick
8. Jade horse
9. Jade belt hook
10. Turquoise inlaid silver garment hook
12. Ivory ornament
13. Kui dragon jade ornament
14. Ivory zan hairpin
15 to 17, 21, 26, 27, 38, 39, 43 to 46, 50, 57. Pottery guan
18. Engraved ivory vessel stand
19, 20, 22, 25. Pottery hu
23, 24, 29, 48, 51, 67, 69, 70, 72, 73, 80. Strings of beads
31, 32, 62, 63, 64. Bronze hu
33. bronze vessel cover
35. Jade huan disk
36. Fragment of a vessel cover
37, 55, 56, 59. Pottery ring footed hu
40, 52. Engraved ivory vessel stand
41. Bronze zun
42. Gold and silver inlaid finial
47, 54, 58. Square jade gambling counters
49. Pottery fu
53. Chopstick shaped silver gambling counters
60 Bronze arrowhead
61. Bronze cross bow mechanism
68. Gold inlaid bronze pao
74. Fragment of a piece of lacquer ware
75. Bronze outer coffin nail
76. Ivory tube
78. Turtle shaped bronze garment hook
81. Stone gui

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图七八 M3 墓室平面图

1. 28. 铜戈  2. 65. 铜食器  3. 30. 玉环  4. 刻纹银饰  5. 片状玉饰  6. 刻纹
22. 25. 陶凳  23. 24. 29. 48. 51. 67. 69. 70. 72. 73. 80. 陶器座  31. 32. 62. 63. 64.
钢杖  33. 铜器座  35. 玉环  36. 残器座  37. 55. 56. 59. 陶器座  40. 52. 铁器座
41. 铁器  42. 银器座  44. 方管  47. 54. 58. 陶器座  49. 铜器座  53. 银器座  60. 铜器
51. 铜镜  68. 铜镜  74. 残器片  75. 铜器座  76. 银器座  81. 银器座
Diagram 33

Top view of grave M4

1, 2, 3, 4. Bone needle
5. Bronze pao
6 to 8, 12. Pottery shard
9. Iron implement
10. String of beads
11. Bone needle
13. Piece of bronze
14. Jade huan disk
Overview of M52 burial chamber

1 to 5, 9, 11, 15 to 17, 25, 82. Jade bi disk
6. Agate huan disk
7, 8, 13, 14. Inlaid stone
12, 94, 121, 122 to 124. Kui dragon jade ornament
114. String of bone and stone
74, 77 to 80, 84, 86 to 88, 91 to 93, 95, 96, 101, 116 to 120. Pottery hu
75. Bronze crossbow mechanism
78. Bronze guan
81. Silver garment hook
83. Silver and gold inlaid bronze garment hook
85. Bronze zhui hu
89, 109. Bronze huan disk
90. Bronze vessel stand
97, 99. Porcelain guan
98. Bronze pan
100. Bronze chan shovel
102. Bronze zun
103. Bronze pen
104. Pottery fu
105. Bronze dui 鼎
106. Jade square counter
107. Chopstick shaped ivory counter
108. Chopstick shaped silver gambling counter
110. Bronze arrow head
111. Octagonal bone tube
112. Ivory qimao implement “cap” with hook
113, 129. Bronze outer coffin nails
127. Bronze scraper
125. Bronze implement cap
126. Bronze jian mirror
128. Stone gui tablet (for 18 to 73 see diagram 81)
图八○ M52墓室平面图

1—6，9，11，15—17，25，82。玉璧 8。玛瑙环 7，8，13，14，铜碗 12，94，121，
122—124。鼠龙玉饰 114。兽石牌饰 74，77—80，84，86—88，91—93，95，96，101，
116—120。陶壶 75。铜编筒 78。铜箍 81。银带钩 83。铁合金铜带钩 85。铜镜座
89，103，铜碗 90，铜器座 97，99，壁镜 98。铜盒 100。铜镜 102。铜镜
103。铜镜 104。陶壶 105。铜镜 106。玉方饰 107。铁形牙饰 108。铁形银饰
110。铜镜 111。八角形骨管 112。有钩铜器座 113，129。铜带扣 115，127。铜镜
125。铜器座 126。铜剑 128。石器 (18—73见图八一)
Diagram 35

Diagram of the distribution of implements on the lower level within the inner coffin of grave M52

18, 31, 34 to 37. Jade tubes
19, 22. Jade huan disk
20. Jade piece
21. Jade pai tablet
23, 24, 26 to 28. Jade huan disk
25, 40, 41, 65, 69 to 72. Jade bi disks
29, 30. Jade she archer’s rings
32. Arch shaped jade ornament with raised spine
33. Wa tile pattern jade ornament
38. Fragment of a animal head shaped jade ornament
39. Fragment of an ivory implement
44. String of bone and stone beads
45 to 48. Round gold garment ornament
49, 50. Small round gold garment ornament
53, 54. Gold needle
55. Small piece of jade
64. Kui dragon shaped jade ornament
73. Liaozhu glass frit
Diagram 36

Top view of grave M58 burial chamber

1. Stone gui tablet
2 to 5, 12, 34, 39, 43, 46, 51 to 57. Jade bi disk
6, 10, 11, 13 to 16, 32, 37, 39, 42. Jade huan disk
7, 8, 60, 61, 62. Kui dragon jade ornaments
9, 40. Round piece of jade
17, 24, 25, 26, 28 to 30, 35, 36, 45. Jade pei pendants
18, 27, 33, 58, 96, 104, 115, 119, 120. Liao zhu glass frit
19, 20. Jade stick
23. Square jade bead
121. Wa roof tile pattern jade tube
27. Six edged, long drum shaped liao zhu glass frit
13. Jade garment hook
41, 44. Jade pai tablet
47, 49, 50. Jade huang semi-annular pendant
48. Long piece of jade
59. string of turquoise beads
63. Stone bead
64. Bronze huan disk
65. Round tube shaped liao zhu glass frit
66. Bone stick
67, 125. Broken piece of bronze
68. Bronze scraper
69. Bronze dui 鼎
70, 89, 90, 93. Pottery hu
1 to 77, 79 to 83, 85 to 90. Pottery guan
78, 84. Pottery fan 花
103. Peach shaped jade ornament
105, 107. Porcelain guan
110. Pottery fu
111. Elephant ivory xiaoshun back scratcher
112. Jade and ivory ornament shaped like four wings
113. Ivory ji hairpin
116. Bronze garment hook inlaid with fine gold
117. Gold and silver inlaid iron garment hook
118. Bronze scraper
121. Jade guan tube
122. Jade pei pendant
123. Jade knob
124. Ivory butterfly
126. String of bone and stone beads
图八二  M58墓室平面图

1. 石圭      2—6,12,34,39,43,45,61—57. 玉璧     8,10,11,13—16,32,37,38,42. 玉环     7,8,60,61,62. 犀牛玉饰     9,40. 鬃玉片     17,24,25,26.28—30,35,36,45. 玉佩件     27,28,32,35,36,44,104. 玉佩     106.115,119,120. 钎斧     19,20. 玉棒     23. 方玉镯     121. 无纹玉簪     27. 大环长颈玉瓶     13. 玉带扣     41,44. 玉镯     47,49.50. 玉璜     48. 长条玉片     59. 绿松石小串饰     63. 石英     64. 铜环     65. 玉臂饰   66. 骨棒     67,125. 玉片     68. 铜剑     69. 铜带     70,89,90,93. 陶盆     71—77,79—83,85—90. 铜器     78,84. 陶器     101,108,109. 锅盔     91. 陶器     94. 锅盔     95. 锅盔     97,114. 玛瑙环     98. 铜镜盒     99. 铜灯     100. 铜盘     102. 铜带     103. 铜斧形饰     105,107. 玉带     110,陶器     111. 金牙子牌     112. 玉凤形玉牙饰     113. 铜带     116. 金箔饰     117. 铜镜银长带饰     118. 锦铜     121. 玉管     122. 玉玉饰     123. 玉器     124. 玉佩     126. 骨石串饰
Diagram 37

Pottery li from the Group B graves

(1:4 scale)

1. Type I, M44: 1
2. Type V, M23: 2
3. Type II, M57: 4
4. Type IV, M11: 2
5. Type VI, M30: 67
6. Type VII, M49: 11
7. Type VIII, M26: 3
8. Type X, M15: 3
9. Type III, M35: 1
10. Type XII, M14: 4
图八三 乙组墓陶器（1/4）

9. Ⅱ式M35: 1  10. Ⅱ式M14: 4
Diagram 38

Pottery guan from Group B graves

(1:4 scale)

1. Type I, M57: 5
2. Type II, M57: 9
3. Type III-A, M57: 6
4. Type IV, M11: 3
5. Type V-B, M29: 5
6. Type II-B, M29: 4
7. Type VII, M38: 3
8. Type III-C, M30: 59
9. Type IX-A, M48: 31
10. Type X-A, M48: 13
11. Type XI-A, M49: 10
12. Type VIII, M49: 21
13. Type IX-B, M8: 2
14. Type IX-C, M32: 5
15. Type X-B, M8: 4
16. Type XII, M56: 2
17. Type XIII-A, M32: 2
18. Type XIV, M27: 1
19. XIII-B, M27: 6
20. Type XV, M27: 5
图八四 乙组高陶罐(1/4)
27:6  20. XV式M27:5

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Diagram 39

Pottery *guan* from Group B graves

(1:5 scale)

1. Type XVI, M7: 2
2. Type XVII, M7: 3
3. Type XVIII, M22: 2
4. Type XIX, M50: 1
5. XX, M10: 2
6. Type XXI, M10: 1
7. XXII-A, M15: 4
8. XXII-B, M15: 5
9. XXIV, M18: 5
10. Type XXIII-A, M14: 5
11. Type XXV, M2: 7
12. Type XXVI-A, M1: 9
13. XXVI-B, M3: 39
14. Type XXVII, M47: 9
15. XXVIII, M47: 3
16. Type XXIX, M58: 87
图八五 乙组墓陶罐（1/5）
1. XH式M7：2  2. XH式M7：3  3. XH式M22：2  4. XH式M50：1  5. XH式M10：2
6. XH式M10：1  7. XH式M51：4  8. XH式M15：5  9. XH式M18：5
10. XH式M14：5  11. XH式M2：7  12. XH式M1：9  13. XH式M3：3
14. XH式M4：9  15. XH式M4：3  16. XH式M5：87
Diagram 40

Pottery *fu* from Group B graves

(1, 1:9 scale; the remainder 1:6 scale)

1. Type I, M2: 1
2. Type II-A, M52: 104
3. Type IV, M54: 2
4. Type II-B, M58: 110
5. Type III, M54: 1
Diagram 41

Rubbings from Group B grave pottery

1. Fu (M2: 1)  
2. Fu (M3: 49)  
3. Lei (M47: 1)  
4. Fu (M52: 104)  
5. Hu (M58: 90)  
6. Hu (M58: 93)  
7. Hu (M58: 110)
Diagram 42

Group B grave pottery *lei*

(1:6 scale)

1. Type III, M51: 3
2. Type II, M47: 1
3. Type I, M1: 6
Diagram 43

Group B grave pottery *hu* and pottery ring footed *hu*

(1:5 scale)

1. Type I, M18: 9
2. Type II, M47: 4
3. Type III, M52: 92
4. Type IV, M52: 101
5. Type V, M3: 19
6. Type VI, M58: 89
7. Type II-A, M54: 3
8. Type II-B, M54: 4
9. Type I-A, M3: 66
10. Type I-B, M3: 59
11. Type I-C, M3: 55
图八九 乙组墓陶壶、圈足陶壶（1/5）

1. I式M18：9  2. I式M47：4  3. I式M52：92  4. II式M52：101

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Diagram 44

Group B grave porcelain guan

(1:4)

1. Type I, M52: 99
2. Type II, M58: 105
Diagram 45

Rubbings from patterns on Group B grave bronze vessels

(1:3 scale)

1, 2. Neck-belly area of a yan (M48: 15)
3, 7. Neck-belly area of a ding (M30: 1)
4 to 6. Flange, top, and mouth of a xu (M48: 2)
Diagram 46

Rubbings of patterns on Group B grave bronze vessels

(1:3 scale)

1. Belly of a *pan* (M48: 8)
2 to 3. Cover and belly of a *gui* (48: 28)
4 to 6. Neck and belly of a *hu* (M48: 16)
Rubbings of inscriptions on bronze vessels from Group B graves

1. Inscription on a ding (M48: 23)
2. Inscription on a yan (48: 15)
3. Inscription on a fu (M48: 28)
4. Inscription on a hu (M48: 16) cover
4. Inscription on a hu (M48: 16)
Diagram 48

Rubbing of inscriptions on bronze xu M30: 2

(2:3 scale)

Left, cover inscription
Right, vessel inscription
Diagram 49

Rubbing of inscriptions on a bronze xu from grave M48

(1:2 scale)

1. Inscription on vessel M48: 2
2. Inscription on the cover of M48: 2
3. Inscription on the cover of M48: 1
4. Inscription on vessel M48: 1
Diagram 50

Rubbings of inscriptions on bronze vessels from Group B graves

(2:3 scale)

left, inscription on a *pan* (M48: 8)
right, inscription on an *yi* (M48: 11)
Diagram 51

Bronze vessels from Group B graves

(1:6 scale)

1. Bronze ding M48: 18
2. Bronze yan M48: 15
Diagram 52

Clothing ornaments from Group B graves

(original size)

1. Bronze garment hook inlaid with gold and silver (M51: 8): side, front, and back
2. Bronze garment hook inlaid with gold and jade (M58: 16)
图九八 乙组嘉服器（原大）
1. 镶金银银带钩（M51：8）侧、正、背面  2. 镶金银玉带钩（M58：16）
Diagram 53

Implements from Group B graves

(1, 3, 8, 1:2 scale; 2, 7, original size; remainder 1:3 scale)

1. Type I bronze ge, M31: 2.
2. Type I bronze ge, M20: 4.
3. Type II bronze ge, M30: 56.
5. Type III bronze ge, M3: 1.
7. Type II bronze arrowheads, M52.
8. Type I bronze arrowheads, M3: 60.
图九九 乙组墓武器（1、3、5，1/2；2、7，原大；余1/3）
1. 剑戈I式M31：2  2. 剑戈I式M20：4  3. 剑戈II式M30：56  4. 额牙柄锥M3：1
5. 剑戈II式M3：1  6. 剑蛾M3：1  7. 刺镖I式M2  8. 刺镖I式M3：60
Diagram 54

Group B grave bronze crossbow mechanism

(1:2 scale)

1. M52: 75.
Diagram 55

Group B grave horse and chariot fittings

(1, 2, 6 approx. 1;3 scale; remainder 2:3 scale)

1. Type II wei axle cap, M48: 33.
2. Type I wei wheel cap, M46: 4.
3, 4. Xiyao hyperboloid, M30: 13, 44.
5. Tube ornament with animal head, M48: 54.
Diagram 56 (top)

Group B grave jieyue and taotie heads

(2:3 scale)

2. Type II taotie head, M30: 34.
4. Jieyue, M30
5. Type I taotie head, M48: 43.
6. Type I taotie head, M48: 43.

Diagram 57 (bottom)

Group B grave bronze finial inlaid with gold and silver

(1:2 scale)

M3: 42
图一〇二 乙组墓铜器的和铸范头（2/3）

1. 妇好M30：63  2. 铸范头式M30：34  3. 妇好M30：19
4. 妇好M30  5. 铸范头式M48：43  6. 铸范头式M48：43

图一〇三 乙组墓铭金铜杖首（1/2）

M3：42

255
Diagram 58

Group B grave bronze implements

(1, 2, 5, 1:3 scale; remainder 2:3 scale)

1. Bronze scraper, M52: 127
2. Bronze knife, M52: 43
3. Type III outer coffin nail, M2
4. Type I outer coffin nail, M3: 75
5. Bronze ben adze, M57: 1
6. Type II outer coffin nail, M58: 127
7. Type II outer coffin nail, M2
Diagram 59

Group B grave garment ornaments, patterns on gold ornaments

(3:4 scale)

1. Circular gold ornament, M52: 57
2. Small circular gold ornament, M52: 50
3. Gold leaf, M52: 54
4. Triangular gold garment ornament, M52: 51
5. Triangular gold garment ornament, M52: 63
6. Triangular gold garment ornament, M52: 52
Diagram 60

Group B grave gibbon-shaped silver ornament

(2:3 scale)

M3:4:

Above, top view
Middle, front view
Below, back view
Diagram 61 (left)
Group B grave silver garment hook
(2:1 scale):
1. Turquoise stones inlaid in silver garment hook, M3: 10
2. Silver garment hook, M52: 81

Diagram 62 (right)
Gold and silver inlaid iron garment hook from a Group B grave
(2:3 scale)
M58: 117
Diagram 63

Rubbing of decorative patterns on a Type I jade bi disk from Group B grave, M52: 40
Diagram 64

Rubbing of decorative patterns on a Type I jade bi disk from Group B grave M52: 3
Diagram 65
Rubbing of decorative patterns on a Type I jade bi disk from Group B grave M52: 9
Diagram 66

Rubbing of decorative patterns on a Type I jade bi disk from Group B grave M52: 41
Diagram 67

Rubbing of decorative patterns on a Type II jade bi disk from Group B grave, M58: 3
Diagram 68 (top)
Rubbing of decorative patterns on a Type II jade bi disk from a Group B grave, M58: 34

Diagram 69 (bottom)
Rubbing of decorative patterns on a Type II jade bi disk from Group B grave, M58: 5
图一一四
乙组墓Ⅰ式玉璧花纹拓片
M58：34

图一一五
乙组墓Ⅰ式玉璧花纹拓片
M58：5
Diagram 70

Rubbings of decorative patterns on a Type II jade bi disk from a Group B grave

Above, M52: 5
Below, M52: 1
图一一六  乙组器Ⅰ式玉璧花纹拓片
上，M52：8    下，M52：1
Diagram 71

Rubbings of decorative patterns on Type III jade bi disk from Group B graves

Left, M5: 15
Right, M52: 82
Diagram 72

Group B grave jade *huan* disk

(2:3 scale)

1. Type II jade *huan*, M52: 19.
Diagram 73

Group B grave jade garment hooks

(2:3 scale):

1. M3: 9 (left, side view; right, front view; below, back view).

Diagram 74

Jade horse M3: 8

(actual size)
图一九（乙） 五号M3 : 8（原大）

图一九（甲） 乙组素玉带钩（2/3）

⑨玉佩，一组，出于M58人架的胸腹部。由玉环，玉环，长鼓形玉管，圆柱形玉管
夔龙玉饰等十一件饰件组成，除扁圆玉珠以外，都饰纂纹（图一九；图版壹零陆，3）。
Diagram 75 (top and left)

Group B grave rubbing of kui dragon jade ornaments

(3:4 scale)

1. Type I (M58: 60)
2. Type VI (M52: 12)
3. Type V (M52: 121)

Diagram 76 (right)

Group B grave rubbing of jade pendant from grave M58

(1:2 scale)
图一二〇  乙组墓葬玉镂拓片（3/4）
1. 甲式（M58：60）  2. 乙式（M52：12）
3. 丙式（M52：121）

图一二一  乙组墓M58玉镂拓片（1/2）
Diagram 77

Group B grave jade pendant

(actual size)

M58: 122
Diagram 78

Group B grave jade *she* archer's thumb rings

(actual size)

1. M52: 30 (right, front view; left, back view)
2. M28: 3 (right, vertical view; left, side view)
3. M52: 29
Diagram 79

Group B grave jade implements

(2:3 scale)

1. jade tube M52: 31
2. pai tablet shaped jade ornament M52: 21
3. jade tube M58: 128
4. pai tablet shaped jade ornament M58: 41
Diagram 80

Group B grave jade knobs

(actual size)

1. Knob M58: 123
2, 3, 4. knob components
Diagram 81 (left)

Group B grave *jianqiao* sword scabbard shaped jade ornament
(approx. 4:5 scale)

1. M48: 59
2. M48: 58

Diagram 82 (right)

Group B grave stone implements
(no. 1. actual size; no. 2. 1:2 scale)

1. Cylindrical stone ornament M11: 7
2. Stone chisel M15: 9
Diagram 83

Group B grave jade ge dagger-axe

(no. 1 is approx. 1:3 scale; nos. 2 and 3 are 2:3 scale)

1. M42: 8
2. M14: 2
3. M48: 57
Diagram 84

Group B grave jade implements

(approx. actual size)

1. Arched back jade ornament M52: 32
2. Jade piece with animal head design M52: 58
3. Long piece of jade M58: 48
4. Roof tile pattern jade tube M58: 121
5. Animal head fragment of a jade ornament M52: 38
6. Peach shaped jade ornament M52: 103
7. Roof tile pattern jade tube M52: 33
8. Bronze scraper set in a jade huan disk M28: 1
9. Jade ornament M52: 23
10. Jade ornament M52: 130
11. Square column shaped jade tube M52: 36
Diagram 85

Group B grave *liaozhu* beads

(actual size)

1. Type IV, M52: 73
2. Type III, M52: 7
Diagram 86

Group B grave ivory pieces

(approx. 1:2 scale)

1. Carved ivory finial, M3: 52
2. Tusk shaped ivory ornament, M52: 68
3. Carved ivory staff end [socket], M3: 40
Diagram 87 (top of page)

Group B grave carved ivory *xiaoshun* back scratcher

(1:2 scale)

1. Carved ivory back scratcher, M58: 111
2. Animal head ivory ornament, M3: 7
3. Animal head ivory ornament, M58: 113
4. Carved ivory *xiaoshun* back scratcher, M3: 5

Diagram 88 (bottom of page)

Group B grave ivory objects

(nos. 1 and 2, actual size; 3 and 4, approx. 1:2 scale)

1. Ivory *huan* disk with handle, M51: 21
2. Ivory socket-cap with hook, M51: 23
3. Ivory tube, M51: 10
4. Ivory tube, M51: 9
1. 牙雕“手型” M58：111
2. 木首牙饰 M3：7
3. 木首牙饰 M58：113
4. 牙雕“手型” M3：5

1. 有柄牙环 M51：21
2. 有柄牙环 M51：23
3. 牙管 M51：10
4. 牙管 M51：8

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Diagram 89

Comparative chart of Group B grave Western Zhou funerary vessels

Rows: bottom to top: First Period, Second Period, Third Period, Fourth Period

Columns: left side: pottery articles: li, guan; right side: bronze vessels

Numbers in the far left column identify the graves from which the vessel assemblages (on the right) were excavated

Note: each of the graves had been looted
Diagram 90

Comparative chart of Group B grave Eastern Zhou funerary vessels

Rows: (bottom to top): First Period, Second Period, Third Period, Fourth Period

Columns:  
- Left side: Pottery and porcelain vessels: *fu*, *guan*, *hu*, *lei* and porcelain *guan*, small *hu* and small *guan*
- Right side: Bronze vessels

Numbers in the far left column identify the graves from which the vessel assemblages (on the right) were excavated

Note: each of the graves had been looted
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图一三五 乙组东周墓随葬器物比较图
注：上述各墓均被盗
Photograph 1

Group A Western Zhou graves

1. M301 (S-N)
2. M107 (N-S)
3. M120 (N-S)
4. M120 dog skeleton in waist pit (N-S)
甲组西周墓

1. M301（南—北）
2. M107（北—南）
3. M120（北—南）
4. M120 壁坑狗骨架（北—南）
Photograph 2

Group A graves

(1, 2: Western Zhou; 3, 4: Spring and Autumn)

1. M119 (N-S)
2. M124 (N-S)
3. M121, 122, 123 (E-W)
4. M104 (N-S)
甲组墓
（1、2.西周；3、4.春秋）

1. M119（北—南）
2. M124（北—南）
3. M121、122、123（东—西）
4. M104（北—南）
Photograph 3

Group A Spring and Autumn graves

1. M115 (N-S)
2. M202 (S-N)
3. M117 and M116 (W-E)
4. M116 subterranean box (S-N)
甲组春秋墓

1. M115 (北—南)
2. M202 (南—北)
3. M117 和 116 (西—东)
4. M116 陡箱 (南—北)
Photograph 4

Group A grave pottery vessel assemblages

1. M120 pottery vessels
2. M107 pottery vessels
3. M203 pottery vessels
甲组墓陶器组合

Photograph 5

Group A grave pottery *li*

(Western Zhou)

1. Type I, M120: 3
2. Type I, M120: 15
3. Type II, M501: 1
4. Type III, M107: 5
5. Type III, M107: 11
6. Type V, M310: 1
甲组墓陶鬲（西周）

1. I式M120：3
2. I式M120：15
3. II式M501：1
4. Ⅲ式M107：5
5. Ⅲ式M107：11
6. Ⅴ式M310：1

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Photograph 6

Group A grave pottery li

(1, 3: Western Zhou; remainder Eastern Zhou)

1. Type VI, M320: 2
2. Type VIII, M202: 1
3. Type VII, M328: 1
4. Type IX, M207: 1
5. Type X, M209: 1
甲组基陶鬲
（1.3.西周,余东周）

1. VI式M320 : 2
2. 镫式M202 : 1
3. 镜式M328 : 1
4. D式M207 : 1
5. X式M209 : 1
Photograph 7

Group A grave pottery gui

(1 to 3, Western Zhou; 4, 5, Spring and Autumn)

1. Type I, M120: 11
2. Type II, M501: 3
3. Type III, M107: 14
4. Type IV, M211: 3.
5. Type V, M207: 4
甲组器物表
（1 - 3, 西周; 4, 5, 春秋）

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1. 一式M120：11
2. 二式M501：3
3. 三式M107：14
4. 四式M211：3
5. 五式M207：4
Photograph 8

Group A Spring and Autumn grave pottery *gui*

1. Type VI, M209: 2
2. Type VII, M213: 15
3. Type VII, M213: 13
4. Type VIII, M116: 2
5. Type VIII, M116: 2
甲组春秋墓陶器

1. 型式M209：2
2. 型式M213：15
3. 型式M213：13
4. 型式M116：2
5. 型式M116：2

305
Photograph 9

Group A Western Zhou grave pottery vessels

1. Type I round botomed guan, M120: 2
2. Type II round botomed guan, M310: 5
3. Type III round botomed guan, M119: 3
4. Type IV round botomed guan, M131: 1
5. Type I guan, M501: 4
6. Type II-A guan, M107: 9
7. Type II-B guan, M107: 17
甲组西周墓陶器

1. 開底罐Ⅰ式M120 : 2
2. 開底罐Ⅱ式M310 : 5
3. 開底罐Ⅲ式M119 : 3

4. 開底罐Ⅳ式M131 : 1
5. 鏤Ⅰ式M501 : 4
6. 鏤ⅡA式M107 : 9
7. 鏤ⅡB式M107 : 17
Photograph 10

Group A grave pottery *guan*

(1, 2: Western Zhou; remainder Spring and Autumn)

1. Type III, M124: 3
2. Type IV-A, M328: 4
3. Type IV-B, M205: 1
4. Type V-A, M201: 18
5. Type V-B, M201: 15
6. Type V-C, M201: 16
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甲组墓陶罐
(1.2.西周;余春秋)

1. Ⅲ式M124 : 3
2. Ⅳ式M328 : 4
3. ⅥB式M205 : 1
4. ⅥA式M201 : 18
5. ⅥB式M201 : 15
6. ⅥC式M201 : 16
Photograph 11

Group A Spring and Autumn grave pottery *guan*

1. Type VI, M201: 13
2. Type VII, M203: 5
3. Type VIII, M203: 3
4. Type IX, M115: 7
5. Type X, M116: 22
6. Type XI, M104: 4
7. Type XII, M105: 3
8. Type XIII, M105: 1
甲组春秋墓陶罐

1. Ⅱ式M201 : 13  
2. Ⅱ式M203 : 5  
3. Ⅱ式M203 : 3  
4. Ⅱ式M115 : 7  
5. Ⅲ式M116 : 22  
6. Ⅳ式M104 : 4  
7. Ⅳ式M105 : 3  
8. Ⅳ式M105 : 1

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Photograph 12

Group A grave pottery lei

(1 to 3: Western Zhou; 4 to 6: Spring and Autumn)

1. Type I, M120: 9.
2. Type II, M138: 2
3. Type III, M119: 4
4. Type IV, M113: 1
5. Type V, M201: 14
6. Type VI, M305: 1
甲组墓陶罐
（1—3. 西周，4—6. 春秋）

1. I式M120 : 9  4. IV式M113 : 1
2. II式M138 : 2  5. V式M201 : 14
3. III式M119 : 4  6. VI式M305 : 1
Photograph 13

Group A Spring and Autumn grave pottery lei

1. Type VII, M207: 5 (lacks cover)
2. Type VIII, M210: 1
3. Type IX, M202: 3
4. Type IX, M202: 3
5. Type X, M209: 11
1. 西式 M 207 : 5 (缺盖)
2. 西式 M 210 : 1
3. 西式 M 202 : 3
4. 西式 M 202 : 3
5. X式 M 209 : 11

甲组春秋墓陶器
Photograph 14

Group A Western Zhou grave pottery *dou*

1. Type I, M120: 6
2. Type II, M501: 5
3. Type III-A, M501: 10
4. Type III-B, M107: 13
5. Type IV, M124: 2
6. Type V, M119: 2
甲组西周墓陶豆

1. Ⅰ式M120: 6
2. Ⅱ式M501: 5
3. ⅢA式M501: 10
4. ⅢB式M107: 13
5. Ⅳ式M124: 2
6. Ⅴ式M119: 2

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Photograph 15

Group A grave pottery vessels

(1, 2, 5, 6: Western Zhou; 3, 4: Spring and Autumn)

1. Type VI *dou*, M320: 6
2. Type VII *dou*, M316: 1
3. Type VIII *dou*, M211: 1
4. Type IX *dou*, M207: 2
5. Type I *yu*, M310: 11
6. Type II *yu*, M320: 1
甲组墓陶器
（1.2.5.6.西周;3.4.春秋）

1.豆皿式M320：6
2.豆皿式M316：1
3.豆皿式M211：1
4.豆皿式M207：2
5.盂1式M310：11
6.盂1式M320：1
Photograph 16
Group A Spring and Autumn grave pottery vessels

1. Type I decorated covered hu, M115: 5
2. Type II decorated covered hu, M116: 16
3. Type III decorated covered hu, M104: 8
4. Type I covered dou, M213: 1
甲组春秋墓陶器

1. 华盖壶Ⅰ式M115：5
2. 华盖壶Ⅱ式M116：16
3. 华盖壶Ⅲ式M104：8
4. 盖豆Ⅰ式M213：1
Photograph 17

Group A Spring and Autumn grave pottery covered *dou*

1. Type II covered *dou*, M115: 3
2. Type III covered *dou*, M110: 2
3. Type IV covered *dou*, M116: 20
4. Type V covered *dou*, M104: 2
甲组春秋墓陶尊豆
Photograph 18

Group A Spring and Autumn grave pottery vessels

(3, 4: Western Zhou; remainder Eastern Zhou)

1. Type III yu, M202: 2
2. Bian, M116: 17
3. Bo, M301: 1
4. Zun, M120: 14
5. Zhi, M104: 11
6. Ding, M401: 1
甲组墓陶器
（3、4·西周、余东周）

1·盘车式M202：2
2·器M116：17
3·铃M301：1
4·尊M120：14
5·器M104：11
6·器M401：1

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Group A Spring and Autumn grave bronze vessels

1. Type I ding, M201: 1
2. Type II ding, M116: 4
3. Pan, M202: 5
4. Yi, M202: 6

Photograph 19

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Photograph 20

Group A Spring and Autumn grave bronze vessels

1. Type I pen, M201: 20
2. Type I pen, M201: 20 detail
3. Type II pen, M202: 7
4. Xu, M116: 1
甲组春秋墓铜器

1. 盆Ⅰ式 M201 : 20
2. 盆Ⅰ式 M201 : 20 细部
3. 盆 II 式 M202 : 7
4. 盘 M116 : 1
Photograph 21

Group A Spring and Autumn grave bronze zhou

1. Type I, M305: 1
2. Type III, M202: 4
3. Type IV, M103: 1
4. Type V, M115: 6
5. Type II, M203: 8
Photograph 22

Group A Spring and Autumn grave weapons

1. Bronze zu barbed arrowheads, M201: 9
2. Type III bronze ge, M111: 3
3. Type II bronze ge, M115: 8
4. Type I bronze ge, M201: 21
1. 铜钺 M201 : 9
2. 铜戈Ⅱ式 M111 : 3
3. 铜戈Ⅱ式 M115 : 8
4. 铜戈Ⅰ式 M201 : 21

甲组春秋墓兵器
Photograph 23

Group A grave implements

(1 to 4, Spring and Autumn; 5, Western Zhou)

1. Bronze pei bridle ornaments, M201
2. Bone xiyao hyperboloid, M201
3. Bronze wei axle cap, M201: 5
4. Bronze xian bit, M201: 2
5. Pottery arrowhead mold, M138: 2
甲组墓器物
（1—4. 春秋，5. 西周）
1. 铜磐饰 M201
2. 顶细镂 M201
3. 铜戈 M201 : 5
4. 铜盉，腹 M201 : 2
5. 铜鉴釜 M138 : 2
Photograph 24

Group A Eastern Zhou grave stone ge dagger-axe and stone gui tablet

1. Type I ge, M203: 7
2. Type II ge, M212: 2
3. Type III ge, M201: 8
4. Gui, M212: 1
Photograph 25

Group A grave ivory, bone, and shell implements

(2, 3: Western Zhou; remainder Spring and Autumn)

1. Ivory necklace, M202: 13
2. Cowrie shells, M120: 21
3. Mussel shell carved fish, M138: 5
4. Ivory comb, M116: 15
甲组墓牙骨蚌器
（2.3.西周,余春秋）

1. 象牙项链M202：13
2. 贝M120：21
3. 蚌鱼M138：5
4. 象牙梳子M116：15

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Photograph 26

Group B graves

1. Remnants of the construction planks for the burial chamber of M2 (S-N)
2. M4 (W-E)
3. M48 (S-N)
4. Implements at the north end of M48 (S-N)
乙组墓

1. M2 墓室板条痕迹（南—北）
2. M4（西—东）
3. M48（南—北）
4. M48北端器物（南—北）
Photograph 27

Group B graves

1. M57 (S-N)
2. M46 (S-N).
3. M58 (N-S)
4. Bronze vessels excavated from M58 (S-N)
乙组墓

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Photograph 28

Group B graves

1. Full view of grave M3 (S-N)
2. Tool markings on the wall of grave M3
3. Rammed earth in the fill of M3
乙组墓

1. M3墓坑全景（南—北）
2. M3墓壁工具槽
3. M3墓土弈宫

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Photograph 29

Group B graves

1. M54 grave pit (S-N)
2. M52 outer coffin chamber (N-S)
3. The situation of the jade *bi* disks on the upper level when grave M52 was excavated (S-N)
4. The situation of the jade *bi* disks and gold clothing ornaments on the lower level when grave M52 was excavated (S-N)
乙组墓

1. M54 棺坑（南一北）
2. M52 青室（北一南）
3. M52 上层玉璧出土情形（南一北）
4. M52 下层玉璧和金带饰出土情形（南一北）
Photograph 30

Group B grave and sacrificial horse pit

1. The layout of the jade horse, jade garment hook, and turquoise inlaid silver garment hook, which were excavated from grave M3
2. Horse pits numbers One (top right), Two (top left), and Three (bottom right) (N-S)
3. Horse Pit number Six (N-S)
1. M3玉马、玉帶鉤、編織松石編帶鉤出土情況

2. 1（右上）、2（左上）、3（右下）號馬坑（北－南）
3. 6號馬坑（北－南）

乙組墓和殉馬坑

349
Photograph 31

Group B Western Zhou grave pottery vessel assemblage

1. M57 pottery vessels
2. M38 pottery vessels
1. M57 陶器

2. M38 陶器

乙组西周墓陶器组合

351
Photograph 32

Group B Western Zhou grave pottery li

1. Type I, M44: 1
2. Type II, M35: 1
3. Type II, M57: 4
4. Type IV, M11: 2
5. Type VI, M30: 67
6. Type V, M23: 2
乙组西周墓陶鬲

1. 1式 M44:1
2. Ⅱ式 M35:1
3. Ⅱ式 M57:4
4. Ⅳ式 M11:2
5. Ⅴ式 M30:67
6. Ⅴ式 M23:2

353
Photograph 33

Group B Western Zhou grave pottery li

1. Type VIII, M26: 3.
2. Type IX, M19: 3
3. Type VII, M49: 11
4. Type X, M15: 3
5. Type XI, M56: 5
6. Type XII, M14: 4
乙组西周墓陶鬲

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1. 四式 M26 : 3
2. 五式 M19 : 3
3. 五式 M49 : 11
4. 五式 M15 : 3
5. 五式 M56 : 5
6. 五式 M14 : 4
Photograph 34

Group B Western Zhou grave pottery guan

1. Type I, M57: 5
2. Type III-A, M57: 6
3. Type III-B, M11: 1
5. Type IV, M11: 3
6. Type V-B, M29: 5
7. Type II-B, M29: 4
8. Type VI, M38: 2
乙组西周墓陶罐

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1. Ⅰ式M57：5  
2. Ⅰ式A式M57：6  
3. ⅢB式M11：1  
4. ⅣA式M24：2  
5. Ⅳ式M11：3  
6. ⅤB式M29：5  
7. ⅡB式M29：4  
8. Ⅵ式M38：2
Photograph 35

Group B Western Zhou grave pottery guan

1. Type VII, M38: 3
2. Type III-C, M30: 59
3. Type IX-A, M48: 31
4. Type X-A, M48: 13
5. Type XI-A, M49: 10
6. Type VIII, M49: 21
7. Type IX-B, M8: 2
8. Type IX-C, M32: 5
乙组西周墓陶罐

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1. Ⅱ式 M38 : 3  
2. ⅢC式 M30 : 59  
3. ⅡA式 M48 : 31  
4. ⅡA式 M48 : 13  
5. ⅡA式 M49 : 10  
6. Ⅱ式 M49 : 21  
7. ⅡB式 M8 : 2  
8. ⅢC式 M32 : 5
Photograph 36

Group B Western Zhou grave pottery guan

1. Type X-B, M8: 4
2. Type XI-B, M32: 14
3. Type XII, M56: 2
4. Type XIII-A, M32: 2
5. Type XIV, M27: 1
6. Type XIII-B, M27: 6
乙组西周墓陶罐

1. XH式 M 8 : 4
2. XH式 M 32 : 14
3. XH式 M 56 : 2
4. XH式 M 32 : 2
5. XH式 M 27 : 1
6. XH式 M 27 : 6

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Photograph 37

Group B Western Zhou grave pottery guan

1. Type XV, M27: 5
2. Type XVI, M7: 2
3. Type XIX, M50: 1
4. Type XVII, M7: 3.
5. Type XVIII, M22: 2
乙组西周墓陶罐
1. XV式M27 : 5
2. XVI式M7 : 2
3. XIX式M50 : 1
4. XVI式M7 : 3
5. XVIII式M22 : 2
Photograph 38

Group B Western Zhou grave pottery guan

1. Type XX, M10: 2
2. Type XXI, M10: 1
3. Type XXII-A, M15: 4
4. Type XXII-B, M15: 5
5. Type XXIII-A, M14: 5
6. Type XXIII-B, M14: 6
乙组西周墓陶器

1. XX式M 10：2
2. XXI式M 10：1
3. XXIIA式M 15：4
4. XXIIA式M 15：5
5. XXIII式M 14：5
6. XXIII式M 14：6
Photograph 39

Group B Eastern Zhou grave pottery guan

1. Type XXVI-A, M1: 9
2. Type XXV, M2: 7
3. Type XXIV, M18: 5
4. Type XXVI-B, M3: 39
5. Type XXVII, M51: 2
6. Type XXVII, M51: 2
乙组东周墓陶罂

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1. XXVI式 M1 : 9  
2. XXV式 M2 : 7  
3. XXIV式 M18 : 5  
4. XXVB式 M3 : 39  
5. XXVB式 M51 : 2  
6. XXVB式 M51 : 2
Photograph 40

Group B Eastern Zhou grave pottery vessels

1. Type XXVIII guan, M47: 3
2. Type III lei, M51: 3
3. Type II lei, M47: 1
4. Type XXIX guan, M58: 87
5. Type I lei, M1: 6
乙组东周墓陶器

1. 红XXM式M 47 : 3  4. 红XXIX式M 58 : 87
2. 黄田式M 51 : 3
3. 黄田式M 47 : 1

5. 番 I 式 M 1 : 6

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Photograph 41

Group B Eastern Zhou grave pottery vessels

1. Type I fu, M2: 1
2. Type II-A fu, M47: 2
3. Type II-B fu, M58: 110
4. Type IV fu, M54: 2
5. Type III fu, M54: 1
6. Jian, M1: 18
乙组东周墓陶器

1. 墓 I 式 M 2 : 1
3. 墓 II B 式 M 5 8 : 110
5. 墓 III 式 M 5 4 : 1
2. 墓 II A 式 M 4 7 : 2
4. 墓 IV 式 M 5 4 : 2
6. 墓 M 1 : 18
Photograph 42

Group B Eastern Zhou grave pottery *hu*

1. Type I, M18: 9
2. Type II, M4: 7
3. Type II, M47: 4
4. Type III, M52: 92
5. Type IV, M52: 101
乙组东周墓陶壶

1. Ⅰ式 M18 : 9  
2. Ⅱ式 M4 : 7  
3. Ⅱ式 M47 : 4  
4. Ⅲ式 M52 : 92  
5. Ⅳ式 M52 : 101
Photograph 43

Group B Eastern Zhou grave pottery hu

1. Type V, M3: 19
2. Type VI, M58: 89
Photograph 44

Group B Eastern Zhou grave pottery ring foot hu

1. Type I-A, M3: 66
2. Type I-B, M3: 59
3. Type II-A, M54: 3
4. Type II-B, M54: 4
乙组东周墓圆足壶

1. I A式 M3 : 66
2. I B式 M3 : 59
3. II A式 M54 : 3
4. II B式 M54 : 4
Photograph 45

Group B Eastern Zhou grave implements

1. Pottery yi inner mold, M58: 84
2. Type VII bronze ding, M58: 95
3. Shi lian food case, M3: 65
4. Type II porcelain guan, M58: 105
5. Type I porcelain guan, M52: 99
1. 陶器内芯 M58 : 84
2. 铜鼎鼎式 M58 : 95
3. 食器 M3 : 65
4. 铜鼎 II 式 M58 : 105
5. 陶器 I 式 M52 : 99

乙组东周墓器物

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Photograph 46

Group B Western Zhou grave bronze ding

1. Type I, M23: 1
2. Type II, M11: 12
3. Type III, M20: 1
4. Type IV, M30: 1
乙组西周墓铜鼎
Photograph 47

Group B Western Zhou grave bronze ding

1. Type IV, M46: 1
2. Type V, M48: 23
3. Type V, M48: 3
4. Type VI, M14: 3
乙组西周墓铜鼎

1. Ⅳ式M46：1
2. Ⅴ式M48：23
3. Ⅴ式M48：3
4. Ⅵ式M14：3

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Photograph 48

Group B Western Zhou grave bronze pan and yan

1. Type II pan, M48: 8
2. Detail of pan
3. Yan, M48: 15
乙组西周墓铜盘、铜鼎

1. 盘口式M48:8  2. 盘体部
3. 盘 M48:15

385
Photograph 49

Group B Western Zhou grave bronze xu and fu

1. Xu, M30: 2
2. Xu, M48: 2
3. Xu, M30: 2
4. Fu, M48: 28
Photograph 50

Group B grave bronze pan

(1 to 3: Western Zhou; 4: Eastern Zhou)

1. Type I, M30: 3
2. Type III, M48: 5
3. Type IV, M49: 3
4. Type V, M52: 98
乙组墓葬位置（1－3,西南,4,东南）
1. 1式M30:3
2. 3式M48:5
3. 3式M48:3
Photograph 51

Group B Western Zhou grave bronze yi

1. M49: 5
2. M30: 4
3. M48: 11
4. M48: 4
Photograph 52

Group B grave bronze vessels

1. Type I gui, M46: 2
2. Type II gui, M49: 2
3. Type I gui, M48: 9
4. Type I hu, M30: 32
5. Guan, M58: 99
6. Bo, M58: 91
乙组墓铜器

1. 壶 1 式 M46 : 2
2. 壶 2 式 M49 : 2
3. 壶 1 式 M48 : 9
4. 壶 1 式 M30 : 32
5. 贰 M58 : 90
6. 钟 M58 : 91

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Photograph 53

Bronze hu from Group B Western Zhou grave, M48: 16
Photograph 54

Group B grave bronze vessels

1. Fou, M58: 100
2. Zhui hu, M58: 98
3. Type II hu, M3: 31
4. Type III hu, M58: 108
乙组东周墓铜器

1. 盤M58 : 100
2. 銈壺M58 : 98
3. 壺日式M3 : 31
4. 壺日式M58 : 108
Photograph 55

Gold and silver inlaid bronze finial from Group B Eastern Zhou grave, M3: 42
Group B Eastern Zhou grave bronze and iron garment hooks

1. Gold and silver inlaid bronze garment hook, M51: 8 (front)
2. Gold and silver inlaid bronze garment hook, M51: 8 (back)
3. Gold and silver inlaid iron garment hook, M58: 117
乙组东周墓铜、铁带钩
Photograph 57

Group B grave weapons and bronze ornaments

(1 to 3, 7: Western Zhou; 4 to 6, Eastern Zhou)

1. Type I bronze ge, M20: 4
2. Type I bronze ge, M31: 2
3. Type II bronze ge, M30: 56
4. Type I bronze zu arrowheads, M3-60; Type II, M3: 71
5. Bronze crossbow mechanism, M52: 75
6. Bronze crossbow mechanism, M3: 61
7. Belt awl tip M48: 61
乙组墓兵器和铜饰
(1—3, 7. 西周; 4—6. 东周)

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1. 铜戈 I式 M20：4
2. 铜戈 I式 M31：2
3. 铜戈 II式 M30：56
4. 铜钺 I式 M3：60、II式 M3：71
5. 铜*sp*i M52：75
6. 铜*sp*i M3：61
7. 带*sp*i 首 M48：61

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Photograph 58

Group B Eastern Zhou grave weapons

1. Type III bronze ge and bimao endpiece, M3: 1
2. Bronze zun sword ferrule, M52: 102
3. Bronze zun sword ferrule, M3: 1
4. Bronze dui handle, M52: 105
乙组东周墓兵器

1. 铜戈三式和銅簠 M3 : 1
2. 铜簠 M52 : 102
3. 铜簠 M3 : 1
4. 铜簠 M52 : 105
Photograph 59

Group B Western Zhou grave chariot and horse fittings

1. Type II wei axle cap, M48: 33
2. Type I wei axle cap, M46: 4
3. Type III wei axle cap, Horse Pit Number Six
4. Bronze xiyaò, huan, round pao, butterfly shaped tube ornament, jieyue (Horse Pit Six)
乙组西周墓车马器

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1. 岳田式M46：33
2. 岳I式M46：4
3. 岳田式六号马坑
4. 铜细腰、环、圆泡、蝶形管饰、节约（六号马坑）
Photograph 60

Group B Western Zhou grave chariot and horse fittings

(2, Eastern Zhou; remainder, Western Zhou)

1. Ling bell, M48: 32
2. Ling, M2: 2
3. Ling, M48: 41
4. You huan, M30: 45
5. xian curb bit, biaocurb chain, M48: 50, 49
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1. 銅M48：32  2. 銅M2：2  3. 銅M48：41  4. 銅環M30：45  5. 衔銅M48：50、49
Photograph 61

Group B grave chariot and horse fittings and stand

(8, Eastern Zhou; remainder, Western Zhou)

1. Tube ornaments with attached animal head, M48: 54
2. Jieyue, M48:48
3. Type I taotie head, M48: 42
4. Biao curb chain, M30: 52
5. Bridle ornaments, M48: 46
6. Xiyao, M30: 13
7. Type II taotie heads, M30: 34
8. Bronze stand, M52: 90
乙组墓车马器和器座

（8 - 东周，余西周）

1. 带轴头管饰 M48 : 54
2. 环耳 M48 : 48
3. 簪具头 I 式 M48 : 42
4. 钵 M30 : 52
5. 簪具 M48 : 46
6. 绞筒 M30 : 13
7. 簪具头 II 式 M30 : 34
8. 铜器座 M52 : 90
Photograph 62

Group B grave implements

(2, Western Zhou; remainder, Eastern Zhou)

1. Outer coffin nails, M3: 75
2. Bronze adze, M57: 1
3. Bronze dao blade, M52: 43
4. Bronze chan shovel, M52: 100.
5. Bronze xiao scraper, M52: 127
6. Grindstones, M52: 10.67
7. Bronze scraper mounted in a jade huan ring, M28: 1
乙组墓器物
(2·西周·余东周)

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1. 漏钉M3：75  
2. 钢钳M57：1  
3. 钢刀M52：43  
4. 钢铲M52：100  
5. 钢铲M52：127  
6. 钢刃M52：10.67  
7. 钢制玉环首M28：1

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Photograph 63

Group B grave implements

(1 to 6, Western Zhou; 7 and 8, Eastern Zhou)

1. Bronze fish, M30: 14
2. Bronze fish, M30: 14
3. Bronze fish, M34: 11
4. Bronze fish, M15: 6
5. Bronze fish M49: 6
6. Bronze waist pendants, M30: 46
8. Bronze garment hook inlaid with gold and silver, M52: 83
乙组填器物
（1—6．西周，7、8．东周）

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1．铜鱼M30：14  2．铜鱼M30：14  3．铜鱼M34：11  4．铜鱼M15：6
5．铜鱼M49：6  6．铜腰带饰M30：46  7．嵌金银玉编带钩M58：116
8．嵌金银铜带钩M52：83
Photograph 64

Group B Eastern Zhou grave garment hooks

1. Silver garment hook, M52: 81
2. Silver garment hook inlaid with turquoise stones, M3: 10
乙组东周墓带钩

1. 银带钩M52：81
2. 镶嵌绿松石片银带钩M3：10
Photograph 65

Group B Eastern Zhou gibbon-shaped silver ornament

M3-4
Photograph 66

Group B Eastern Zhou grave jade *bi* disks

1. M52
2. Type III, M52: 72
3. Type III, M52: 82
乙组东周墓玉璧


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Photograph 67

Group B Eastern Zhou jade *bi* disk

Type I, M52: 40
Photograph 68

Group B Eastern Zhou jade *bi* disk

Type I, M52: 3
乙组东周墓玉壁
1式M52 3

425
Photograph 69

Group B Eastern Zhou jade bi disk

Type II, M58: 3
乙组东周墓玉璧

III式M58：3
Photograph 70

Group B Eastern Zhou jade *bi* disks

1. Type II, M58: 5
2. Type II, M52: 1
Photograph 71

Group B grave jade and stone implements

(1 to 3, Eastern Zhou; 4 and 5, Western Zhou)

1. Type III jade bi disk, M58: 39
2. Jade huang, M58: 49
3. Jade huang, M58: 47
4. Cylindrical stone ornaments, M11: 7
5. Cylindrical stone ornaments, M46: 11
乙组墓玉石器
(1-3. 东周, 4, 5. 西周)

1. 玉璧M58: 39  
2. 玉璜M58: 49  
3. 玉璜M58: 47  
4. 圆柱形石饰M11: 7  
5. 圆柱形石饰M46: 11
Photograph 72

Group B Eastern Zhou grave jade huan rings

1. Type III, M52: 26, 27
2. Type III, M52: 8
3. Type II, M3: 35
4. Type II, M52: 28
5. Type I, M52: 14
6. Type IV, M52: 13
乙组东周墓玉环

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1. Ⅲ式M52：26，27
2. Ⅲ式M52：8
3. Ⅱ式M3：35
4. Ⅱ式M52：28
5. Ⅰ式M52：14
6. Ⅳ式M52：13
Photograph 73

Group B Eastern Zhou grave agate *huan* ring and gold garment ornaments

Left: Agate *huan* ring, M58: 97
Right: Gold garment ornaments, M52: 57, 58, 50, 60, 49, 56, 61, 62, 59
Photograph 74

Group B grave jade and stone implements

(1: Western Zhou; 2: Eastern Zhou)

1. Necklace, M30: 66
2. Agate *huan* ring, M52: 6
Photograph 75

Group B Eastern Zhou grave jade implements

1. Jade horse, M3: 8
2. Jade garment hook, M58: 31
3. Jade garment hook, M3: 9
乙组东周墓玉器
1. 玉马M3：8
2. 玉带钩M58：31
3. 玉带钩M3：9
Photograph 76

Group B grave jade implements

(7: Western Zhou; remainder Eastern Zhou)

1. Roof tile pattern jade tube, M58: 121
3. Jade tube, M52: 18
4. Wawen pattern jade tube, M52: 33
5. Jade tube, M52: 35, 34, 36
6. Round jade piece, M52: 9
8. Type II jade jue, M52: 19
9. Jade she, M28: 3, M52: 30, M52: 29
乙组墓素器（7.西周，余东周）

1. 玉管M58：121  
2. 玉管M52：31、M58：128、M52：37  
3. 玉管M52：18  
4. 玉管M52：33  
5. 玉管M52：35、34、36  
6. 圆玉片M52：9  
7. 玉环Ⅰ式M30：47、M24：7、M11：10、M48：58、M49：20  
8. 玉环Ⅱ式M52：19  
9. 玉箍M28：3、M52：30、M52：29

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Photograph 77

Group B Eastern Zhou grave *kui* dragon jade ornaments

1. Type II, M52: 94
2. Type I, M58: 7
3. Type I, M58: 60
4. Type I, M52: 122
5. Type I, M52: 124
6. Type III, M3: 13
7. Type I, M58: 30
乙组东周墓夔龙玉饰

1. Ⅱ式M52: 94  
2. Ⅰ式M58: 7  
3. Ⅰ式M58: 60  
4. Ⅰ式M52: 122  
5. Ⅰ式M52: 124  
6. Ⅲ式M3: 13  
7. Ⅰ式M58: 30

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Photograph 78

Group B Eastern Zhou grave jade and stone implements

1. Jade pei pendant, M58: 122
2. Jade pei pendant, M52: 25
3. Jade pei, M58: 17, 19, 20, 24, 25, 28, 29, 30, 35, 36, 45
4. Jade baton, M58: 66; square jade bead, M58: 23; peach shaped jade ornament, M58: 103; long drum shaped jade bead M58: 26
5. Agate huan ring, M58: 114
乙组东周墓玉器

1. 玉佩饰M58：122
2. 玉佩饰M52：25
3. 玉佩M58：17、19、20、24、25、28、29、30、35、36、45
4. 玉佩M58：66、方玉珠M58：23、椭圆形玉饰M58：103、长条形玉珠M58：26
5. 玉璜环M58：114

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Photograph 79

Group B Eastern Zhou grave implements

1. Kui dragon jade ornaments, M58: 62
2. Type IV kui dragon jade ornament, M52: 66
3. Type V and VI kui dragon jade ornaments, M52: 121, 12
4. Jade piece decorated with animal face, M52: 55
5. Jade knob, M58: 123
6. Jade knob components
7. Triangular gold garment ornament and gold leaves: M52: 51, 52, 53, 54, 63
8. Four wing-shaped jade and ivory ornament, M58: 112
乙组东周墓器物

1. 骨龙玉饰M58：62  2. 骨龙玉饰Ⅱ式M52：66
3. 骨龙玉饰V、W式M52：121、12
4. 人面纹玉片M52：55
5. 玉器柄M58：123
6. 玉器杆构件
7. 三角形全器饰和全叶M52：51、52、53、54、63
8. 闺翼形玉牙饰M58：112

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Photograph 80

Group B grave jade implements

(1 to 3, Western Zhou; 4 to 8, Eastern Zhou)

1. Jade bi spoon, M48: 6
2. Scabbard shaped jade ornament, M48: 58
3. Scabbard shaped jade ornament, M48: 59
4. Bei tablet shaped jade ornament, M58: 41
5. Arched jade ornament with raised spine, M52: 32
6. Long piece of jade, M58: 48
7. Bei tablet shaped jade ornament, M58: 44
8. Bei tablet shaped jade ornament, M52: 21
乙组墓玉器
（1—3．西周；4—8．东周）

1．玉匕M48：6  2．剑形玉饰M48：58  3．剑形玉饰M48：59
4．牌形玉饰M58：41  5．柱形玉饰M52：32  6．长条玉片M58：48
7．牌形玉饰M58：44  8．牌形玉饰M52：21

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Photograph 81

Group B Western Zhou grave jade and stone ge

1. Type I stone ge, M46: 10 (top), M42: 11 (bottom)
2. Type III stone ge, M49: 12
3. Jade ge, M48: 57
4. Jade ge, M14: 2
5. Type II stone ge, M30: 62
6. Jade ge, M42: 8
乙组西周墓玉石戈

1. 石戈 I 式 M46 : 10 (上), M42 : 11 (下)
2. 石戈 II 式 M49 : 12
3. 玉戈 M48 : 57
4. 玉戈 M14 : 2
5. 石戈 II 式 M30 : 62
6. 玉戈 M42 : 8
Photograph 82

Group B grave stone implements

(1 and 2, Eastern Zhou; 3 to 6, Western Zhou)

1. Type III gui tablet, M58: 1
2. Type II gui tablet, M2: 40
3. Type I gui tablet, M57: 2
4. Jian sword, M30: 39
5 and 6. Chisels, M15: 9
乙组墓石器
（1、2·东周，3—6·西周）

1·圭Ⅱ式M58：1
2·圭Ⅱ式M2：40
3·圭Ⅰ式M57：2
4·圭M30：39
5·6·圭M15：9
Photograph 83

Group B Eastern Zhou grave implements

1. Bronze *jing* mirror, M3: 6
2. *Kou han* tongue amulets, M22: 6
3. *Kou han*, M26: 4
4. Tusk shaped ivory ornament, M52: 68
5. Type II *liaoshi* glass frit six ridged long drum shaped beads, M58: 27; Type I round tube shaped glass frit bead, M58: 65.
乙组东周墓器物

1. 锗镜M3 : 6    2. 口含M22 : 6    3. 口含M26 : 4
4. 插牙形牙饰M52 : 68
5. 栓金II式六枚长形料球，M58 : 27，I式圆管形料珠M58 : 65
Photograph 84

Group B Warring States grave items

1. Type III glass frit beads, M58
2. glass frit beads, M52: 73
3. Ivory pei tablet with cloud dragon patterns, M52: 42
乙组战国墓器物
Photograph 85

Group B Eastern Zhou grave ivory implements

1. Ivory she archer’s ring, M58: 12.
2. Carved ivory xiaoshun back scratcher, M58: 111
3. Carved ivory ornamental staff end tip, M3: 40
4. Carved ivory staff head tip, M3: 52
5. Ivory tube and ivory ornament, M51: 21, 9, 10
乙组东周墓牙器

1. 牙雕M58：124
2. 牙雕“孝顺”M58：111
3. 牙雕杖尾饰M3：40
4. 牙雕杖首饰M3：52
5. 牙管和牙饰M51：21、9、10
Photograph 86

Group B Eastern Zhou grave ivory implement

Left, carved ivory xiaoshun back scratcher, M3: 5 (back view)
Right, carved ivory xiaoshun back scratcher, M3: 5 (front view)
乙组东周墓牙器
左，牙雕“孝顺” M3 : 5（背面）　右，牙雕“孝顺” M3 : 5（正面）
Photograph 87

Group B grave ivory, bone, and shell implements

1. Clam shells, M48: 45
2. Mussel shell *pao* spheres, M48: 47
3. Mussel shell fish, M30: 26
4. Ivory tool tip with groove, M3: 58
5. Top, bone hairpin, M4: 11; bottom, ivory hairpin, M4: 11
乙组墓牙，骨、蚌器

4. 钩牙器 M3 : 58  5. 上，骨笄 M4 : 11，下，牙笄 M4 : 11
Photograph 88

Group B Western Zhou grave necklaces

1. M46: 12
2. M39: 10
3. M48: 55
4. M24: 8
5. M11: 9
乙组西周墓项链

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<tr>
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<td>M46 : 12</td>
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Photograph 89

Group B Western Zhou grave strung beads

String of stone and ivory beads, M49: 25
乙组西周墓串珠
石、牙串珠M49：25
Photograph 90

Group B Eastern Zhou grave strung beads

1. Layout of string of beads excavated from M4
2. String of quartz and agate beads, M4: 10 (B)
3. String of quartz and agate beads, M4: 10 (A)
乙组东周墓串珠

2. 水晶、玛瑙串饰M4 : 10 (乙)

3. 水晶、玛瑙串饰M4 : 10 (甲)
Photograph 91

Group B Eastern Zhou strings of bone and stone beads

1. M2: 4
2. M58: 59
3. M52: 114
Photograph 92

Group B Eastern Zhou grave boju gambling implements

1. M52: 106
2. M3: 53, 54, 47
乙组东周墓博具
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Qi Wentao 齐文涛. “Gaishu Shandong jinnian chutu de Shang Zhou qing tongqi” 概述山东近年出土的商周青铜器 [“Summary of Recently Excavated Shang and Zhou Bronze Vessels”], Wenwu, 1972: 5


Table 7. Inventory of Group A graves

<table>
<thead>
<tr>
<th>Grave No.</th>
<th>Angle</th>
<th>Grave pit mouth</th>
<th>Grave pit floor</th>
<th>inner coffin</th>
<th>outer coffin</th>
<th>Burial form</th>
<th>Head orient</th>
<th>Waist pit</th>
<th>Dog head</th>
<th>Funerary implements</th>
<th>Remarks</th>
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<td>101</td>
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<td>3x1.25-0.75</td>
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<td>PV: lei II (1); arrowhead mold (2)</td>
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<td>0.7x0.4</td>
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<tr>
<td>319</td>
<td>uncertain</td>
<td>200°</td>
<td>2.66x1.4-0.75</td>
<td>2.66x1.4-2.05</td>
<td>1.9x0.8</td>
<td>2.55x1.35</td>
<td>supine</td>
<td>south</td>
<td>0.55x0.55</td>
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<tr>
<td>320</td>
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<td>172°</td>
<td>2.35x1.1-1.2</td>
<td>2.35x1.1-2.6</td>
<td>1.9x0.6</td>
<td>2.2x1</td>
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<td>0.61x0.42</td>
<td>south</td>
<td>PV: li VI (1); yu II (1); dou VI (2)</td>
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<tr>
<td>321</td>
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<td>200°</td>
<td>2.4x1.4-1.05</td>
<td>2.4x1.4-2.93</td>
<td>2.00x0.72</td>
<td>2.35x1.00</td>
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<td>south</td>
<td>none</td>
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<td>158°</td>
<td>2.8x1.8-1.2</td>
<td>2.8x1.8-3</td>
<td>1.92x1.1</td>
<td>2.4x1.3</td>
<td>supine</td>
<td>south</td>
<td>0.46x0.45</td>
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<td>2.8x1.5-1</td>
<td>2.8x1.5-2.7</td>
<td>2x0.70</td>
<td>2.4x1.24</td>
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<td>0.53x0.41</td>
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<td>2.75x1.4-1.15</td>
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<td>1.95x0.8</td>
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<td>325</td>
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<td>210°</td>
<td>2.6x1.2-1.5</td>
<td>2.70x1.25-2.9</td>
<td>2.18x0.74</td>
<td>2.6x1.2</td>
<td>supine</td>
<td>south</td>
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Looted
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<th>3rd Measurement</th>
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<td>190°</td>
<td>2.7x1.1-1.1</td>
<td>2.7x1.1-3.1</td>
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<td>2.4x1.2</td>
<td>supine</td>
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<td>327</td>
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<td>195°</td>
<td>2.9x1.5-1.1</td>
<td>2.9x1.5-3.8</td>
<td>2.1x0.6</td>
<td>2.7x1</td>
<td>supine</td>
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<td>328</td>
<td>3°</td>
<td>95°</td>
<td>3.12x1.97-0.26</td>
<td>3.12x1.97-2.35</td>
<td>2.02x0.80</td>
<td>2.52x1.42</td>
<td>supine</td>
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<tr>
<td>401</td>
<td>6°</td>
<td>169°</td>
<td>3.58x2.72-0.27</td>
<td>3.58x2.72-2.53</td>
<td>2.36x1.36</td>
<td>2.98x2.06</td>
<td>PV: ding (3); JSO: stone huan (5);</td>
</tr>
<tr>
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<td>other: mussel shell &quot;fish&quot; (5); clam shells (6); string of beads (1); bone bit (1)</td>
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<tr>
<td>402</td>
<td>6°</td>
<td>166°</td>
<td>3.02x1.54-0.26</td>
<td>3.02x1.54-2.44</td>
<td>1.97x0.76</td>
<td>2.3x1.2</td>
<td>south</td>
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<tr>
<td>501</td>
<td>1°</td>
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<td></td>
<td></td>
<td>PV: li II (2); gui li (4); guan I (1); dou li (2), III-A (1)</td>
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Table 7. continued
Table 8. Inventory of Group B graves

<table>
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<tr>
<th>Grave No.</th>
<th>Period</th>
<th>Angle</th>
<th>Grave pit mouth</th>
<th>Grave pit floor</th>
<th>&quot;outer&quot; chamber</th>
<th>&quot;inner&quot; coffin</th>
<th>Outer coffin</th>
<th>Burial style</th>
<th>Head orient</th>
<th>Funerary implements</th>
</tr>
</thead>
</table>
| 1 (one)   | 10°    | 13.6x11.6-0.3 | 13x10-3         | 5.6x4.4-1.9     | 2.6x1.6x1.4     | 2.18x1.18x1.0  | 4.3x2.98x1.7 | decomposed   |            | PV: fu I (1); jian (1); lei I (2); guan XXVI-A (11); vessel cover (2)
|           |        |       |                  |                  |                 |               |              |              | other: strings of bone and stone beads (10) |
| 2 (one)   | 10°    | 15x13-0.3 | 14.5x12.6-3      | 7.8x6.4-1.8     | 2.8x1.6         | 2.2x1.2       | 5.6x4.2x1.7  | decomposed   |            | PV: fu I (1); guan XXV (12); XXVI-A (1); (small guan) vessel base (2); vessel cover (3) 
|           |        |       |                  |                  |                 |               |              |              | BV: bronze ling bell (12); pao (2); bridle ornament 
|           |        |       |                  |                  |                 |               |              |              | JSO: stone gui tablet II (1) 
|           |        |       |                  |                  |                 |               |              |              | other: string of bone and stone beads (9); bone tube (1); bone huan ring (1) |
| 3 (two)   | 10°    | 13.5x12.5-0.3 | 13.5x12.5-3.1 | 6.4x5.7-2.8     |                 |               | 4.9x4x2.68   | decomposed   |            | PV: fu II-B (1); guan XXVI-B (18); hu IV (4); ring foot hu I-A (2), I-B (2), I-C (5) 
|           |        |       |                  |                  |                 |               |              |              | BV: hu II (5); gold & silver inlaid finial (1); jing mirror (1); turtle shaped belt hook (1); ge III (1); crossbow mechanism (1); ling bell; outer coffin nails (21); arrowhead (60); zun (1); vessel cover (1) 
<p>|           |        |       |                  |                  |                 |               |              |              | SO: gibbon shaped silver ornament (1); silver belt hook inlaid with turquoise stone pieces; set of chopstick shaped silver gambling &quot;counters&quot;; string of bone and stone beads (15); ivory tubes (3); lacquer food container (2) |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Angle</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Position</th>
<th>Orientation</th>
<th>Orientation Notes</th>
<th>Other Items</th>
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<td>4 (one)</td>
<td>15°</td>
<td>4.1x3.45-0.8</td>
<td>4.1x3.45-2.6</td>
<td>inner coffin present</td>
<td>present</td>
<td>supine</td>
<td>north</td>
<td>PV: hu II (3)</td>
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<td>BV: scraper (1)</td>
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<td>JSO: huan ring III (1)</td>
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<td></td>
<td>other: string of quartz &amp; agate beads (2); bone hairpin (2); iron implement (1)</td>
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<tr>
<td>7</td>
<td>3°200'</td>
<td>2.335x1.04-0</td>
<td>2.35x1.04-1.6</td>
<td>1.88x0.65</td>
<td>2.06x0.85</td>
<td>flexed/ on side</td>
<td>south</td>
<td>PV: li I (1); guan XVI (1), XVII (1)</td>
</tr>
<tr>
<td>8</td>
<td>3°7'</td>
<td>2.5x1.19-0.2</td>
<td>2.5x1.19-2.1</td>
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<td></td>
<td>supine</td>
<td>north</td>
<td>PV: li V (1); guan IX (2), X (1)</td>
</tr>
<tr>
<td>10</td>
<td>4°2</td>
<td>2.58-1.3-0.2</td>
<td>2.58x1.3-1.95</td>
<td>2.08x0.75</td>
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<td>supine</td>
<td>north</td>
<td>PV: li X (1); guan XX (1), XXI (1)</td>
</tr>
<tr>
<td>11</td>
<td>2°2</td>
<td>2.6x1.5-1.5</td>
<td>2.6x1.5-2.4</td>
<td>1.8x0.76</td>
<td>2.25x1.22</td>
<td>supine</td>
<td>north</td>
<td>PV: li IV (1), IX (1); guan IV (2), III-B (1)</td>
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<td>BV: ding II (1); ge (1); ling bell (2); fish</td>
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<td>JSO: huan ring I (2); ellipsoid stone ornaments (2); stone gui tablet (1); other: necklace (1)</td>
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<td>13 unclear</td>
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<td>2.5x1.22-2.5</td>
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<td>JSO: stone gui tablet II (1)</td>
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<tr>
<td>14</td>
<td>4°4</td>
<td>2.54x1.13-0.2</td>
<td>2.54x1.13-2.22</td>
<td>1.9x0.7</td>
<td>2.18x0.95</td>
<td>supine</td>
<td>north</td>
<td>PV: li X (1); guan XXII-A (1), XXII-B (1)</td>
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<td>BV: ding VI (1)</td>
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<td>JSO: jade ge (1); tongue amulets (20)</td>
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<td>3.13x1.8-0.25</td>
<td>2.26x0.76</td>
<td>2.74x1.1</td>
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<td>side flexed</td>
<td>north</td>
<td>V: li X (1); guan XXII-A (1), XXII-B (1)</td>
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<td>BV: fish (90)</td>
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<td>JSO: huan ring I (1); stone tablet; stone chisel (2); ellipsoid stone ornament (2); tongue amulets</td>
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<td>16 unclear</td>
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<td>2.72x1.4-0.23</td>
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<td>2.1x0.7</td>
<td>2.4x1.04</td>
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<td>north</td>
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<td>2.78x1.44-0.2 2.78x1.44-2.03</td>
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<td>north</td>
<td>PV: li V (1)</td>
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<td>18</td>
<td>(one)</td>
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<td>2.73x1.47-0.3 2.73x1.47-1.08</td>
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<td>PV: guan XXIV (3); hu I (3)</td>
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<td>2.4x1.08</td>
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<td>2.12x0.7</td>
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<td>north</td>
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<td>9°</td>
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<td>2.04x0.67</td>
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<td>supine</td>
<td>north</td>
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<td>PV: li X (10); guan IX-B (1), XVIII (1)</td>
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<td>2.64x1.26-0.3 2.58x1.27-2.16</td>
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<td>PV: li V (1)</td>
<td>BV: ding I (1)</td>
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<td>24</td>
<td>2°</td>
<td>2.64x1.18-0.2 2.64x1.18-2.65</td>
<td>2x0.62</td>
<td>2.4x0.84</td>
<td>supine</td>
<td>north</td>
<td>PV: guan IV (3), V-A (1), i (1)</td>
<td>JSO: jade huan I (2)</td>
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<td>25</td>
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<td>5°</td>
<td>2.4x1.18- 2.4x1.18-1.9</td>
<td>2.04x0.78</td>
<td>2.42x1.04</td>
<td>supine</td>
<td>north</td>
<td>PV: li V (1)</td>
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<td>inner coffin</td>
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| 26. | supine      | 3.2°     | 2.56x1.17-0.8 | 2.56x1.17-2.9 | 2x0.78 | north     | PV: li VIII (1); guan IX-B (2)  
|     |             |          |        |       |        |           | other: tongue amulet (7) |
| 27. | supine      | 3.5°     | 2.46x1.31-0.3 | 2.46x1.31-1.76 | 1.9x0.78 | north     | PV: li IX (1); guan IX-B (1), XIII-A (1), XIV (1),  
|     |             |          |        |       |        |           | XIII-B (1), XV (1); JSO: jade huan (1) |
| 28. | present     | 15°      | 11.5x10.4-1.5 | 11.5x10.4-2.4 | 5.85x4.65-2.4 | present   | decomposed | JSO: jade archer's thumb ring (1); jade huan II (1);  
|     |             |          |        |       |        |           | bronze scraper attached to a jade huan (1);  
|     |             |          |        |       |        |           | round piece of jade (1) |
| 29. | supine      | 2.27°    | 2.6x1.3-0.34 | 2.6x1.3-1.64 | 2.04x0.7 | north     | PV: li II (1); guan V-B (3), II-B (1)  
|     |             |          |        |       |        |           | JSO: cylindrical stone ornament (2)  
|     |             |          |        |       |        |           | other: sea cowries (6) |
| 30. | supine      | 2.15°    | 2.86x1.63-0.5 | 2.86x1.63-2.15 | 2.02x0.69 | north     | PV: li VI (1); guan III-C (2)  
|     |             |          |        |       |        |           | BV: ding IV (1); xu I (1); pan I (1); yi I (1); hu I (1);  
|     |             |          |        |       |        |           | axle cap (1); bit (8); huan (2); ling bell (21);  
|     |             |          |        |       |        |           | xiya "hyperboloids" (5); fish (45); belt ornament (6);  
|     |             |          |        |       |        |           | ge II (1); tao tie head II (14); bridle ornaments (20);  
|     |             |          |        |       |        |           | jieyue (20); xia linchpin (2); tao tie head I (4)  
|     |             |          |        |       |        |           | JSO: jade huan I (2); jade sword (1); stone ge I (2), II (1);  
|     |             |          |        |       |        |           | stone tablet (2); small stone tablet (13);  
|     |             |          |        |       |        |           | other: necklace (10); cowrie (5); clam shells (146);  
|     |             |          |        |       |        |           | mussel shell "fish" (65); square mussel shell ornament (1) |
| 31. | supine      | 2.15°    | 2.6x1.2-0.3 | 2.6x1.2-1.9 | 2.1x1.05 | north     | PV: li V (1); guan IX-A (3), X-A (1)  
|     |             |          |        |       |        |           | BV: ge I (1); lin JSO: stone cowries (28);  
|     |             |          |        |       |        |           | other: mussel shell "fish" |
Table 8. continued

<table>
<thead>
<tr>
<th>No.</th>
<th>Notes</th>
<th>Angle</th>
<th>Length</th>
<th>Depth</th>
<th>Position</th>
<th>Orientation</th>
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<tr>
<td>32</td>
<td>3 15°</td>
<td>2.7x1.5-0.3</td>
<td>2.7x1.5-2</td>
<td>2.02x0.6</td>
<td>supine</td>
<td>north</td>
<td>PV: li IX (3); guan IX-C (1), XI-B (1), XIII-A (1)</td>
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<td>BV: ling bell (2); fish</td>
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<td>JSO: jade huan l (2); stone ge l (1)</td>
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<td>other: sea cowry (1)</td>
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<td>33</td>
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<td>26°</td>
<td>2.3x1.1-0.5</td>
<td>2.3x1.1-1.8</td>
<td>supine</td>
<td>north</td>
<td>PV: PV: li IX (1); guan (1)</td>
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<td>34</td>
<td>unclear</td>
<td>25°</td>
<td>2.5x1.25-0.59</td>
<td>2.5x1.25-2.2</td>
<td>supine</td>
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<td>BV: ling bell (4); fish (13)</td>
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<td>JSO: stone ge l (1)</td>
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<td>other: clam shells (3); sea cowries (7)</td>
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<td>22°</td>
<td>2.6x1.1-0.6</td>
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<td>PV: li III (1); guan (1)</td>
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<td>36</td>
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<td>2.5x1.04-3.1</td>
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<td>north</td>
<td>PV: li IX (1)</td>
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<tr>
<td>38</td>
<td>2 30°</td>
<td>2.6x1.2-0.6</td>
<td>2.6x1.2-2.5</td>
<td>1.98x0.8</td>
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<td>north</td>
<td>PV: li II (1); guan VI (1°, VII (2), X-A (1)</td>
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<td>2.14°</td>
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<td>2.65x1.17-2</td>
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<td>PV: li II (1); guan V-B (2)</td>
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<td>BV: ling bell (2); fish</td>
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<td>JSO: jade huan l (1)</td>
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<td>other: sea cowry (1); necklace (1)</td>
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<td>42</td>
<td>2.15°</td>
<td>2.9x1.5-1.2</td>
<td>2.9x1.5-3.1</td>
<td>2x0.7</td>
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<td>PV: ding IV (1); ge l (1); ling (5)</td>
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<td>BV: ling IV (1); ge l (1); ling (5)</td>
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<td>JSO: jade ge l (1); stone ge l (2)</td>
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<td>43</td>
<td>(unclear) 14°</td>
<td>4.63x3.1-0.87</td>
<td>4.63x3.1-2.4</td>
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<td>other: string of agate beads (1)</td>
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<td>1</td>
<td>2.4x1.2-0.6</td>
<td>2.4x1.2-2.9</td>
<td>decomposed</td>
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<td>PV: li I (1)</td>
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NOTE: tomb looted

NOTE: grave broken into
<table>
<thead>
<tr>
<th>No.</th>
<th>Position</th>
<th>Orientation</th>
<th>PV:</th>
<th>Other:</th>
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<td>45</td>
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<td>2.6x1.7-0.85</td>
<td>2.43x0.9</td>
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<td>1.8x0.6</td>
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<td>46</td>
<td>2.25°</td>
<td>2.4x1.22-0.65</td>
<td>2.4x1.22-2.78</td>
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<td>1.92x0.75</td>
<td>north</td>
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<td>PV: li IX (10)</td>
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<td>other: tongue amulet (6)</td>
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<td>47</td>
<td>(two) 18°</td>
<td>4.64x3.8-1.1</td>
<td>4.64x3.8-3.1</td>
<td>supine</td>
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<td>2.84x1.56</td>
<td>north</td>
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<td>PV: fu II-A (1); lei II (2); guan XXVII (5), XXVIII (1);</td>
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<td>(small guan); hu II (2)</td>
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<td>JSO: stone ge III (1)</td>
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<tr>
<td>48</td>
<td>2 2°</td>
<td>3.6x2.72-1.2</td>
<td>3.6x2.72-2.85</td>
<td>supine</td>
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<td>2x0.65</td>
<td>north</td>
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<td>PV: li V (1); guan IX-A (7), X-A (8)</td>
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<td>BV: ding V (3); xu I (2); gui (2); pan II (1), III (1);</td>
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<td>yi (2); hu I (1); fou (1); yan (1); bronze belt ornament (1);</td>
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<td>ling (23); fish (20); ge I (1); bit (12);fu (4); axle cap (1);</td>
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<td>huan (2);round tubular awl ornament (1);</td>
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<td>bridle ornament (80); jie yue (24); tao tie heads (11);</td>
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<td>tube ornaments with animal head (3)</td>
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<td>JSO: necklace (1); rectangular piece of ?? jade (1);</td>
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<td>jade jue I (2); jade ladle (1); sword and scabbard</td>
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<td>shaped jade ornament (2); mussel shell pao (6); bone</td>
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<td>tube (3); clam shells (40); mussel shell &quot;fish&quot; (20)</td>
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<td>49</td>
<td>3.2°</td>
<td>3.15x1.95-1.0</td>
<td>3.15x1.95-2.3</td>
<td>1.9x0.7</td>
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<td>50</td>
<td>4.12°</td>
<td>2.46x1.08-0.8</td>
<td>2.46x1.08-2.34</td>
<td>2.18x0.73</td>
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<td>51</td>
<td>17°</td>
<td>13x11.58-0.4</td>
<td>13x11.58-2.9</td>
<td>6.04x5.05-2.5</td>
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</tbody>
</table>

NOTE: tomb looted
<p>| 52 (two) | 10° | 23.5x12-0.4 | 12.5x12-3.45 | 6.2x5.4-3.05 | supine | north | PV: fu II-A (1); hu III-A (4); hu or guan III-B (16); porcelain guan I (2) | BV: zhui hu I (1); pan V (1); vessel stand (3); sword (1); mao halberd (1); dao blade (1); crossbow mechanism (1); belt hook (1); huan (2); adze (? (1) arrowhead (3). scraper (11); coffin nail (7); zun (2); shovel (1); qiniao handle (? (1); guan (1) JSO: jade bi I (4), II (2); III (12); jade ornament (10); jade huan I (1), II (1), III (6), IV (1); jade tablet with animal head pattern (1); jade she archer’s ring (2); jade and stone ornaments (6); kui dragon jade ornament I (3), II (1), IV (2), V (2), VI (1); stone gui tablet I (1); square jade gambling chips, (6) square white stone gambling chips (6); square grey stone gambling chips (6); jade pei (2); stone grindstone (2); small rectangular piece of jade (2); fragment of an animal head shaped piece of jade (1); jade ornament with arched rising spine (1); jade tube (5); jade tube in the shape of a square column (1); jade tube with roof tile pattern (1); agate huan (1); jade jue II (2) other: carved ivory cloud dragon inscribed pai tablet (1); liaozhu glassware (12); string of bone and stone beads (9); octagonal bone tube (1); ivory implement fragment (1); ivory tip with hook (2); chopstick shaped ivory gambling chips (1 set); tusk shaped ivory ornament (4); round gold pao (9); small round gold pao (4); triangular gold pao (3); gold leaves (2); silver belt hook (1) |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Orientation</th>
<th>Measurements</th>
<th>Other Details</th>
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</thead>
<tbody>
<tr>
<td>53</td>
<td>Unclear, 30°</td>
<td>2.7x1.4-1.05, 2.7x1.4-2.05, 2.15x1.4</td>
<td>Supine north, PV: II X (1) other: tongue amulet</td>
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<tr>
<td>54</td>
<td>(three) 15°</td>
<td>2.85x1.38-0.6, 2.85x1.38-1.8, 2.26x1.02</td>
<td>Supine north, PV: III (1), IV (1); ring foot small hu II-A (2), II-B (5) JSO: jade silkworm (tongue amulet) (3); other: small bone cudgel (1); bronze &quot;extended head&quot; huan</td>
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<td>55</td>
<td>3.16°</td>
<td>2.69x1.65-0.9, 2.69x1.65-2.2, 1.93x0.68, 2.15x0.95</td>
<td>Supine north, PV: II (1); guan IX-B (4) other: tongue amulet</td>
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<td>56</td>
<td>3.16°</td>
<td>2.6x1.03-0.87, 2.6x1.03-1.87, 1.9x0.66</td>
<td>Supine north, PV: II XI (1); guan IX-B (2), XII (1) JSO: stone bead other: cylindrical stone ornament (2); tongue amulet</td>
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<tr>
<td>57</td>
<td>1.23°</td>
<td>2.51x1.26-1.2, 2.51x1.26-2.37, 2.5x0.6, 2.28x0.98</td>
<td>Supine north, PV: II II (1); guan I (1), II-A (1), III-A (1) BV: adze (1); ling bell (1); fish JSO: JSO: stone ge III (1); stone gui tablet III (1) other: mussel shell fish</td>
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Table 8. continued

<table>
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<th>58 (three)</th>
<th>10°</th>
<th>11.6x10.7-0.4</th>
<th>11.6x1.7-3.15</th>
<th>6.25x5.4-2.75</th>
<th>decomposed</th>
<th>north</th>
</tr>
</thead>
</table>

- PV: fu II-B (1); guan XXIX (16); porcelin guan li (2); hu V. (4); vessel cover (2); mold (2)
- BV: ding VII (1); hu III (2); pan (1) fragment; yi (1) fragment; guan (1); zun (1); jiao hu II (1)
- bo (1); gold plated jade inlaid belt hook (1); sword (1)
- zun (1); jing mirror (1); scraper (2)
- JSO: jade bi II (3), III (13); jade belt hook (1)
- jade huang semiannular ring (3); round jade piece (3)
- jade pai (2); long piece of jade (1)
- jade qin ao knob (1); agate huan (2); jade huan III (11)
- kui dragon jade ornament I (5), ? (2)
- stone gui tablet I (1); jade baton (2)
- jade and ivory ornament in the shape of four wings (20)
- roof tile pattern jade tube (1); jade tube (1)
- peach shaped jade ornament (1); square jade bead (1)
- a string of jade ornaments (1)
- jade ornament (1); long drum shaped jade bead (1)
- a small string of turquoise beads (1)
- other: carved ivory backscratcher (1)
- jade she archer's ring (1); liao zhu "glass" balls (10)
- ivory hairpin (1); round tube shaped liao zhu "glass" (2)
- long hexagonal tube of liao zhu "glass" (1)
- string of bone and stone beads (11); iron belt hook inlaid with gold and silver (1)