Jilin University Archaeological Research

Binfu Zhao

Archaeological Research on Cultures in Northeast China from the Xia to the Warring States Period

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The civilization centred around the Northeast Plain of China exerted a profound influence on the historical development of Asia. Over centuries, people on this Plain lived a relatively subordinate and obedient life, regardless of who the ruler is. However, ethnic communities migrating outward from this Plain led to the collision and fusion among communities and cultures time after time, and the ripple effect of such encounters constantly influenced, if not shaped, the historical and cultural development of not only China but also the whole of Asia. For instance, in the 1st century A.D., the ethnic group of Xianbei moved rapidly out of the Great Khingan Range to the southwest, led to the end of the unity of the Han Dynasty that had been lasted for 400 years by then, and formed the turbulent North and South Dynasties that lasted for another 400 years since then. Meanwhile, to the south of the northeast plain, the Lelang and Goguryeo culture are to a large extent formed from such encounters. Similarly, the migration of Khitan, an ethnic group, and the Jurchen-Manchu people as well as the dynasties they built in the 10th century and afterwards has a profound impact on the historical, geopolitical, and cultural development of the eastern, even the whole Eurasian steppe. This kind of phenomenon, with influence rippled out from a region of China on the national and even continental development, is unique in China's regional history. Such effect is closely related to the geographical environment, the inheritance of cultural genes and the historical and cultural development of the outer regions.

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Foreword

The book Archaeological Research on Cultures of the Xia to the Warring States Period in Northeast China is mainly based on the doctoral dissertation written by Professor Binfu Zhao which I feel honored to have been a part of as his supervisor. From November 2000 when the topic was selected to December 2005 when he successfully passed his viva, Binfu had spent a total of five years and one month on the research. Further revisions had been made before Binfu submitted for publication in March 2008.

To fulfill my promise to preface the book, I made serious preparations. Frankly speaking, the task itself is still challenging, even for a person like me who has dedicated fifty-odd years of life to archaeological research in the Northeast. To fulfill the task, first, I asked Binfu to write down the main arguments and contents of his dissertation in October 2006. Second, I asked him to write a summary of the discoveries and research history concerning the archaeological cultural remains in the Northeast from the Xia to the Warring States Period in September 2008, when I was still in recovery from waist surgery that I had just undergone a month prior. Third, before the book went to press, I made a final check on the third revised version. For the parts that I have marked in the book for his further consideration, Binfu, as I believe, may have made the necessary amendments. The reason why I have invested so much time and effort preparing for this preface is to align it with the dispositions that Binfu has demonstrated in this work: inquisitiveness, attentiveness, truth-seeking, and perseverance.

However, this book would never have been completed without the guidance and help from scholars and friends in this field. When the first draft of this work came out, I invited some experts in this field such as Yong Chen, Yanping Zhu, Liang Qiao, and Jing Yang to join me in the review. These scholars, at my invitation, even gather together once to discuss Binfu's work at the National Palace Museum in Beijing. During the seminar, after Binfu reported on his draft, everyone present sincerely put forward suggestions for revision. Then, when Binfu's dissertation was undergoing the review process, while acknowledging the significance of the work, the scholars involved also shared their valuable different opinions. Later, during Binfu's viva, the thesis defense committee members—Guangji Xu, Yun Lin, Yong Chen, Hong Zhu,

Mingyu Teng, Yanping Zhu, and Liang Qiao—proposed some enlightening questions and instructive opinions as well, which have helped improve the quality of this work. To all the scholars and friends mentioned above, I, hereby, as the supervisor of Binfu Zhao, would like to express my heartfelt gratitude.

In the Introduction section of this book, Binfu says:

> Professor Zhongpei Zhang's speech at the Seminar on Bohai (Sea) Rim Archaeology in 1990 and his later speech at the Symposium on the Bohai Culture in 1996 proposed a macroscopic grasp of and a holistic conceptual framework for pre-Qin (Dynasty) archaeological cultures in China's Liaoning, Jilin, and Heilongjiang provinces respectively. With the speeches focusing on some key archaeological issues such as the zoning, chronology, and pedigree of the cultures of the period in Liaoning Province (together with the southeastern part of the Inner Mongolia Autonomous Region of China) and Heilongjiang Province (plus some areas in Jilin Province), the viewpoints raised thereof still prevail. They are the theoretical basis on which this book sets out to explore further and deeper the archaeological and cultural remains of the Xia and the Warring States period in the entire Northeast in light of the existing research materials.

When seeing these words, I was so thrilled that vivid memories of the past came flooding back.

First, the two speeches mentioned above include the entire northeastern region and the eastern Inner Mongolia of China, as well as parts of Shandong and Hebei; except for the pre-Qin period, some areas also extend to the Wei and Jin Dynasties; the issues discussed thereof cover not only the archeological and cultural space-time framework, pedigree, cultural relations and archaeological cultural tribes, but also the transformation of fishing, hunting and gathering from the Old to the Neolithic ages, the transformation of economy into animal husbandry economy, the Neolithic cultures, and issues relating to the cultures of the period based on agriculture and animal husbandry there; in addition, some discussions were also made on issues such as means of livelihood, pottery production, metal manufacturing, and the process of civilization. Despite the extensive issues covered in these two speeches, they are only discussed at a summary level.

Second, I began to think about issues such as the areas, systems, and types of archaeological cultures in the Northeast in 1975. As I mentioned in the speech on Discussion on Several Issues of the Heilongjiang Archaeology at the Symposium on the Bohai Culture in 1996, in 1975, on my way to Jinan City, where I was taking a group of students for their internship, I came across a lecture delivered by Bingqi Su in Beijing, the topic of which was on the regions, systems, and types of archaeological cultures. It was this lecture that had inspired me to think of similar issues in the Northeast. Later, I finally had the opportunity to put such a conceptual framework into practice. In 1977, Mugeng Li recruited me into the research team on the Tuanjie Remains in Dongning, Heilongjiang to be responsible for compiling materials for the coming (China's) Frontier Archaeological Work Conference in Harbin which was to be submitted to the National Administration of Cultural Heritage. In addition to Mugeng's assignment, I completed two tasks as follows:

Task one, I took the charge of the report [The report was prepared collectively by Yong Chen and Cun Wei. However, unfortunately, the report has not been published

yet.] compilation of the excavation materials from the Tuanjie Site in Dongning. I proposed that the artifacts discovered there could be divided into two categories chronologically, namely, the Tuanjie culture and the Mohe culture; the Tuanjie culture could belong to the Okjeo [A Korean tribal state which arose in the northern Korean peninsula from perhaps the 2nd century BCE to the 5th century CE.]; the Mohe culture could be further divided into the pre-Bohai Kingdom phase and the Bohai Kingdom phase. Based on such a division, staging studies were undertaken on both the Tuanjie culture and the Bohai Kingdom phase of the Mohe culture. I also suggested that there might possibly be differences between the urban and rural areas, as such, differences between the nobility and the common people.

Task two, I delivered a lecture in Harbin at the invitation of the Heilongjiang Provincial Museum. The topic focused on the areas, systems, and types of the archaeological cultures in Northeast China. In the speech, I proposed to divide the archaeological sites there into cultures of the Xar Moron River basin, the Nenjiang River basin, the Mudanjiang River basin, the Ussuri (or Wusuli) River basin, the Jilin-Changchun region, the Shenyang region, the Liaodong (East of Liaohe River) Peninsula, and the Tumen River basin. The eight cultural regions could be integrated into three cultural systems, with the Harbin-Shenyang railway considered to be the middle system that divides the other two systems: the system facing the hinterland of Asia and the system facing the ocean in Northeast China.

This is the second time in China and the first time in Northeast China that remains of Chinese archaeology have been observed following the research framework of area, system and type of archaeological cultures proposed by Bingqi Su.

Third, although I've helped shift the focus of teaching and research of archaeology in Jilin University to Guannei (regions inside the Shanhai Pass or Shanhaiguan in China) since 1979, my interest in the archaeology in Northeast China has never diminished, as demonstrated in the following:

One, for undergraduates, places for seniors' internships were arranged in the Northeast and it was required that their degree theses focus on Northeastern (China) archaeology. Also, field practice for the Archaeology Specialist Class was arranged for the excavation of the Baijinbao site in Zhaoyuan, Heilongjiang, in 1986.

Two, in the 1980s, I wrote several papers relating to Northeast archaeology. They are the Upper and Lower Xiajiadian Culture and Several Related Issues, Research on the Lower Xiajiadian Culture (in collaboration with Yong Chen, Wenjun Zhang, and Zhesheng Kong), Dongshanzui Worship Site and Hongshan Cultural and Social System, Several Issues of Archaeology on Primitive Agriculture, Important Achievements of Archaeology in Zhangjiakou, and On Pre-Zhou Ancient Remains in Yu County [The latter two articles cover areas beyond the Northeast, but as Zhangjiakou is at the intersection of Northern China and the hinterland along the Yellow River and is also the extension of the cultures in the Xar Moron River basin and Liaoxi and the eastern boundary between the eastern section and the middle section of the Great Wall area of China. Therefore, these two articles can be also categorized into the Northeast Archaeology.]. At the same time, I also instructed Guang Chen, Yonggang Zhu and Xingde Zhang to write their master's degree theses: Research on Yangtouwa Types, Preliminary Research on the Upper Xiajiadian Culture, and

Preliminary Research on the Staging of the Hongshan Culture. In addition to these academic studies, from the fall of 1989 to the spring of 1990, I participated in the compilation of The History of China—Volume II: Ancient China (Su, Yan, & Zhang, 1994). In the chapter I co-authored of the book Northeast China with Yanping Zhu, I carefully sorted out the spatio-temporal framework and pedigree of the Neolithic archaeological cultures in the area.

Based on my above Northeast archaeological research, I made the lecture: Zones, Chronicles and Others of Ancient Remains in Liaoning—Speech at the Seminar on Bohai (Sea) Rim Archaeology in 1990.

However, I had mixed feelings about the seminar. It was such a pleasure for me to have a research trip around Shanxi, Hebei and Liaoning at the gracious invitation of Fudou Yang, Derun Zhao and Dashun Guo in 1990, and the winter seminar in Dalian was just one of my stops along the trip. However, the painful truth was that I could not invest more time and energy in studying Northeast archaeology as I wished, no matter how deep a feeling I had for such work. At that time, I was tied up with several other archaeological works that I had taken charge of or participated in, and above all, the work of compiling The History of China—Volume II: Ancient China. Most of the book deals with archaeological research outside of the Northeast with only a few exceptions, such as the peripheral chapter on the Northeast archaeology and the report on the Baijinbao culture. How I wish I could have more hands.

Fourth, to support the study of Northeast archaeology in such circumstances, I did the following three things:

One, I have supported Zhijun Yang with his archaeological investigation and survey of the Han and Wei sites in the Qixing River basin of Heilongjiang Province since 1992.

Two, I played a part in helping the Inner Mongolia Working Team of the Institute of Archaeology of the Chinese Academy of Social Sciences, the Institute of Cultural Relics and Archaeology of the Inner Mongolia Autonomous Region and the Department of Archaeology of Jilin University jointly form the Chifeng Archaeological Team of the State Administration of Cultural Heritage. The new team have supported Yanping Zhu and others in the investigation, survey and excavation of the pre-Qin period archaeological remains in Banzhijianhe Chifeng, Inner Mongolia since 1996.

Three, I have guided Yonggang Zhu in writing the archaeological excavation report on the Baijinbao site in Zhaoyuan, Heilongjiang Province since 1997.

I have deep feelings for Northeast archaeology, therefore, even if I cannot study it myself, I will not just stand by. I experience regret, disappointment, grief, and even suffering at the fact that I did not have time to do any hands-on Northeast archaeological research, and thus did not dare to engage in any new Northeast archaeological work. I had to find a way to vent the pain. That is why, in the 1990s, I was enthusiastic about the three things mentioned above, providing support and guidance, and delivering the speech of On Several Issues of Heilongjiang Archaeology at the Symposium on the Bohai Culture. It was a much greater pleasure and joy to find a person who understands, discusses with me or even does some practical research on my behalf than only discussing at the level of macro-understanding and overall conception.

Northeast archaeology, before the 1960s, was basically dominated by Japanese scholars. Due to the efforts of Chinese scholars in the 1950s, especially in the early 1960s, the voices of Japanese scholars on the subject have become increasingly weaker, while in contrast the voices of Chinese scholars have become more prominent in the field of Northeast archaeology. Unfortunately, the catastrophe of the Cultural Revolution (1966–1976) brought Chinese scholars' momentum to a halt. However, in the 1970s, the midnight of the ten years of turmoil, Chinese archaeologists were able to boldly break through the darkness before dawn and resumed their work in Northeast China. Later in the 1980s, with the efforts of Bingqi Su and the influence on people of his two theories: the conceptual framework of archaeological zone, system and type as well as the theory of origin, formation and development trajectory of cultures, great strides were made in Northeast archaeology. In the early 1990s, with the accumulated data and research results on some special issues, a solid foundation was laid for the interpretation of the spatio-temporal framework and pedigree of Northeast archaeological cultures. At the same time, an insight was provided into the two types of Neolithic cultures and thus civilizations based on agriculture and animal husbandry.

The archaeology of pre-Qin Northeast China can be divided into two sections, section one is of the Neolithic Age, and the other from the Xia to the Warring States period. Regarding the former section, the archaeology in the Northeast was covered in 'Ancient China', co-authored by Yanping Zhu and me. It made a systematic summary, although preliminary and limited in nature, of the spatio-temporal framework, pedigree, economy, and social organization structure of the Neolithic archeological cultures in the Northeast. Since 1997, I have had the desire to create a study similar to this on archaeological cultures of the latter section. The aim is to realize my dream—which I discovered when I was teaching at Jilin University in early 1961—of playing a part in Chinese scholars' construction of Northeast archaeology. As mentioned previously, although I was unable to realize my dream myself, what I could do was to find someone to do it on my behalf. In my mind, the number of candidates who could accomplish this task did not exceed five. Binfu was one of them. Two months later after Binfu became my Ph.D. student in September 2000, with serious deliberation, we co-settled on the topic for his degree dissertation (thus the title of this book). It was not only an opportunity for me to make my dream come true, but more importantly a step for Binfu to establish himself at the academic frontier again.

As it was such a challenging project, although I had faith in Binfu's research competence, I still had some reservations initially. What I worried about is how well it would be accomplished and whether it would live up to my expectations. However, after Binfu established the outline and later exchanged opinions with me a couple of times during the writing process, my initial "reservations" gradually disappeared. After reading his dissertation manuscript, I was so thrilled to find that his work was beyond my expectation. In my opinion, it was a rigorous, serious and in-depth piece of research, well founded on Binfu's systematic summary of previous archaeological discoveries and research in this field. With this research, a new academic orientation and research platform have been constructed for the study of archaeological cultures

of the Xia to Warring States period in Northeast China. As a result, future research on this subject can only build on this platform. To put it simply, this work is of great import as it marks a milestone in the process of archaeological research on cultures of the Xia to the Warring States period in the Northeast. As well as this significance of the research, I would also like to focus on its additional implications, as follows:

The first is that this book looks at both physical geography and human geography in archeological research. It also makes reference to the achievements on the archaeological cultures or remains which have been identified collectively by the academy or by Binfu himself according to the culture clustering and classification method. As noted, Northeast China is divided into seven regions. An in-depth analysis was made on each region in terms of phase, pedigree and system of culture as well as relationship among the cultures. Also put forward were many new understandings or arguments, from which I selected the ones I am more interested in, as follows:

1. The Xiaolaha culture in the Nenjiang River basin was a newly recognized archeological culture when Binfu hosted the excavation of the site there. In this book, Binfu referred to the remains represented by the H3 remains site as "Gucheng Ancient City Remains", while the remains represented by the Erkeqian tombs and the remains represented by the Pingyang tombs were classified into the Baijinbao culture and the second phase of the Hanshu culture respectively. Also, staging analyses were made on the Xiaolaha culture, the Baijinbao culture and the Hanshu culture phase II, and it was proposed that the Xiaolaha culture, the Gucheng Ancient City Remains, the Baijinbao culture, and the Hanshu culture phase II belonged to different evolution stages of the same cultural pedigree which developed in the Nenjiang River basin. Here, I need to point out that there is still a big gap between the Xiaolaha culture and the Gucheng Ancient City Remains. As this missing link can only be found in the Nenjiang River basin, future archaeological work should be carried out there.
2. Amendments are made to my previous geographical division of Northeast China into western, central, and eastern Liaoning. In this book, Binfu also takes human geographical factors into consideration. Using the Liaohe River as the axis, he divides the above region, during the Shang period, into four regions: the highlands and plain regions of Liaoxi, the southern and northeastern regions of Liaodong. For the same region from the Western Zhou (to the Warring States period), the highlands of Liaoxi are further divided into the western and eastern parts, and the original two regions of Liaodong are merged into one region, namely, the Liaodong area.
3. As for archaeological research in the highlands of Liaoxi, the Linghe Remains is first divided in this book into stages of the Western Zhou period to the Spring and Autumn period and the early and middle Warring States periods. The sequence research on the evolution of curved-blade bronze daggers was reviewed and Binfu's comments on the sequence put forward. Moreover, the Tiejianggou Remains and Jinggouzi Remains are categorized into the same archeological culture, tentatively called the Jinggouzi Remains, which existed at the same time as the late Linghe Remains, Shuiquan Remains and Wudaohezi Remains. Also,

it is pointed out that the Upper Xiajiadian and Jinggouzi Remains and Shuiquan Remains are distributed in the western part of the highlands in Liaoxi, while the Linghe Remains and Wudaohezi Remains are in the eastern part of the highlands in Liaoxi.

4. In the study of archaeological culture in the Western Liaoning Plain, it is confirmed that the Ping'anpu Phase II is the predecessor of the Gaotaishan culture, which advances the staging research on the Gaotaishan culture.
5. As for the study of archaeological culture in the northern part of Liaodong, the Upper Xinle culture, Shunshantun type, Wanliu Remains, and Wanghua Remains identified by the academic circle are classified into the Machengzi culture. Meanwhile, after the discussion and comparison on the staging of the Machengzi site and the tombs there, the Machengzi culture is divided into two.
6. It is believed that in the southern region of Liaodong, the first, second, and third phases of the Shuangtuozi culture are three archaeological cultures that evolved in the same cultural pedigree and that the last phase of the Shuangtuozi culture developed into the Shuangfang culture. Meanwhile, in the northern region of Liaodong, the Shuangfang culture replaced the Machengzi culture and finally dominated the entire Liaodong. As a result, the Machengzi culture migrated to the West Songhua River basin and evolved into the Xituanshan culture. The Shuangfang culture can be further divided into the early, middle, and late phases. Based on the staging sequence of pottery, and the coexistence of bronze and pottery, curved-blade spine daggers, square qiong-eyed axes, and curved-blade spears are identified as belonging to different types in relation to the shape and form evolution. In terms of dates, these different types of bronzewares can be categorized into the three periods of the Western Zhou period, the Spring and Autumn period and the Warring States period.
7. With regard to the archaeological studies of the West Songhua River basin and the Tumen River basin, first of all, this book distinguishes the tombs of the Xituanshan culture from its remains. The distinction was based on the stratigraphic relationship of the remains excavated at the Dahaimeng site in Yangtun, Yongji, and with reference to the evolutionary sequence of artifacts from the Machengzi culture, Shuangfang culture and Hanshu culture Phase II. The artifacts unearthed there, especially the clay pots found in the tombs, are classified and grouped under the framework of type, mode, and style. On this basis, the West Tuanshan culture is divided into three phases of the Western Zhou period, the Spring and Autumn period and the Warring States period. In addition, the Tumen remains of the Xia to Warring States period are considered to consist of the Xingcheng culture and the Liutingdong culture. With the stage and phrase research on this culture, both of the cultures can be divided into the early and late phases, dating respectively to the Xia to the early Shang, late Shang, Western Zhou to Spring and Autumn period, and Warring States period. The Liutingdong culture can be considered as the predecessor of the Truanjie culture.

Secondly, this book makes specific, detailed and in-depth studies on the Nenjiang River basin, the highlands and plain regions of Liaoxi, the southern and northern

regions of Liaodong, the basins of the West Songhua River and the Tumen River. On the basis of this newly acquired knowledge, Binfu carried out a synthesis and further analyses, thus raising his knowledge to a new level. For this part, I am particularly interested in the issues as follows:

1. First is the division of archaeological regions. The details of the time-space framework of the archaeological cultures in Northeast China from the Xia to the Warring States period are illustrated in Table 11. As shown in the table, Northeast China can be divided into different archaeological regions depending on the context. Northeast China can be divided into six archaeological regions chronologically prior to the late Shang period. They are the Nenjiang River basin, Liaoxi highlands, Liaoxi plain regions, northern and southern regions of Liaodong, and Tumen River basin; from the Western Zhou period to the Warring States period, the six regions changed to the Nenjiang River basin, Liaoxi highlands and plain regions, Liaodong region, the West Songhua River basin, and the Tumen River basin. However, based on the research on archeological cultures and remains in these archaeological sequences or archaeological staging and chronology of remains and considering the historical sequence of archaeological cultures of the same or different pedigrees in the same area, as well as the significant changes taking place in the same archaeological culture, the same area can also be divided into four regions, consisting of the early Shang period, late Shang period, Western Zhou period, and Spring and Autumn and Warring States periods.
2. In light of archaeological pedigree, among all the archaeological cultures and remains in the Northeast from the Xia to the Warring States period, six cultural systems are identified, namely, the cultural systems of Xiaolaha, Lower Xiajiadian, Gaotaishan, Shuangtuozi, Machengzi, and Xingcheng (see Table 12). Any one of these six cultural systems contains a varying number of archeological cultures that evolved within the same pedigree. In my opinion, the concept of cultural system employed by Binfu can be categorized as a kinship system of archaeological cultures. Through territorial profiling, more specifically from the perspective of whether there have been any regional evolutionary changes of time sequence within the same archaeological pedigree, Binfu divides the entire Northeast into two development patterns. For those without any changes, they are labelled under the continuous development pattern (within the same place). Meanwhile, those with changes are called regions with an interactive development pattern (among different places). With the identification of these two development patterns, come two types of cultural areas, which Binfu calls serial archaeological cultural regions and sequential archaeological cultural regions respectively. The “series” in the former also entails the meaning of sequence, but only in the sense of sequence within one kinship system of archaeological cultures. In contrast, the “sequence” in the latter refers to the time sequence of the emergence of non-kinship archaeological cultures in a region. Therefore, the series archaeological cultural area and the sequential archaeological cultural area can also be referred to as the kinship archeological cultural area and the non-kinship archeological cultural area respectively. It should also be pointed

out that the meanings of kinship archaeological cultural area and non-kinship archaeological cultural area mentioned here are still somewhat different from the kinship cultural area and historical-cultural area I proposed in the past. After proposing the six kinship cultural systems, two cultural development patterns, and two types of cultural areas, Binfu proposes that Northeast China of the Xia to Warring States period can be divided into "two major cultural belts".

This is the main content of this book: Archaeological Research on Cultures of the Xia to the Warring States Period in Northeast China.

Of course, this is one of Binfu's masterpieces. However, while I was reading through it chapter by chapter, Bingqi Su's image emerged from the lines. By the time I finished reading this work, Su's image had become clearer. The reason is that this work, from the micro to the macro, from the concrete to the abstract, from the physical to the metaphysical, all implements Su's research framework of area, system, and type of archaeological cultures, or in other words, the kinship theory of archaeological cultures. This is a monograph that applies Su's kinship theory of archaeological cultures to the archaeological cultural reality of the Xia to Warring States period in Northeast China, a meticulous, serious and in-depth analysis in both physical and metaphysical senses. From the perspective of the areas and chronology involved in this book, it is the first work in these fields. From the perspective of scale and integrity of Su's kinship theory, this book is also the first of its kind in China.

Of course, no one is perfect, and even excellent works will always have parts that can be further discussed, supplemented and amended. After reading this book, I also feel that there are still some unsatisfactory points. They are as follows:

The first issue is about the affiliation of the Wei Yingzi culture and the cultural pedigree of the Linghe Remains. I suggest that the Weiyingzi culture belongs to the late Gaotaishan culture, and the Linghe Remains, the Shuangfang Culture. If so, a considerable part of the Liaoxi Plain should belong to the distribution area of the Shuangfang Culture, and although no remains of this type have yet been discovered in this area, I believe it is only a matter of time. As for the differences between the Weiyingzi culture and the late Gaotaishan culture, as well as the different features revealed by the Shuangfang culture and the Linghe Remains, these may only result of varying types of artifacts from the same archaeological culture.

The second concerns the evolution law of archaeological cultures following the circle of inheriting, absorbing, integrating, and innovating. While discussing shifts of cultures within the same archaeological pedigree and the cultural relationship among cultures of different archaeological pedigrees, Bingfu paid attention to certain aspects of this evolutionary law, but he has not yet done an in-depth exploration of it.

The third relates to chronology. First, it is currently the consensus in the archaeological community that the Xia was from the 21st century BC to the 17th century BC and the Erlitou culture was not the earliest Xia culture during the Xia. However, this book has not paid enough attention to this issue, and even sometimes regards the remains from the same time as the Erlitou culture as among the earliest remains of the Xia; the second is to do with the general agreement that the so-called early Shang

cultures includes the lower and upper Erligang cultures chronologically. Unfortunately, Binfu has ignored the difference between these two cultural phases. Therefore, there is a lack of analogy between the representative artifacts of each culture, and absence of clarification over whether the early Shang Dynasty mentioned in the book refers to the lower or upper cultural phase of the Erligang culture. Underexplored areas also include the chronological gaps between cultures, of the Xia to the early Shang or of the late Shang, of the same pedigree in some regions, and between successive cultures of different pedigrees.

The above-mentioned issues are also my expectations for future research on archaeological cultures of the Xia to the Warring States Period in Northeast China. Along with the prospect of further exploring and optimizing the spatio-temporal framework of the archaeological cultures of the period there, my hope also lies in the advancement of archaeological research on the agriculture and animal husbandry civilizations, their economic structures, and social organization and structures from the Xia to the Warring States Period.

Beijing, China
February 2009

Zhongpei Zhang

Introduction

Northeast China mainly refers to the three sheng (provinces) of Heilongjiang, Jilin, and Liaoning and the eastern portion of the Inner Mongolia Autonomous Region in China. The area borders Mongolia to the west, is separated from the Korean Peninsula to the east by the Yalu and Tumen rivers, is bordered to the north by Russia along the Heilongjiang (Amur) and Ussuri rivers and extends in the south to the Yellow Sea. Regarding the geographic layout, the heartland of the region is the Northeast (China) Plain, with hills on its east and west flanks rising gradually into highlands. Among them are the Greater Khingan Range (Da Hinggan Ling) and Yan Mountains in the west, extending from north to south and connected by land to the Loess Plateau where the Central Plain (China) Cultural Zone is located. In the east are the Changbai Mountains and Qian Mountains, spanning from north to south to the Liaodong Peninsula, and further to the Bohai Straight (also known as the Temple Islands or Miaodao Archipelago), the seaway between the Yellow Sea and the Bohai Sea connecting the Liaodong Peninsula to the Shandong Peninsula.

The period from the Xia to the Warring States period was an important cultural development stage in Northeast China between the Neolithic Age (and before) and the Qin, Han and Wei dynasties (and beyond). One prominent cultural feature of this period is the bronzeware which has been found in most of the sites and cemeteries from then, indicating that this period had entered the so-called Bronze Age, in the archaeological sense. However, there were a few earlier archaeological cultures that had not yet discovered bronze artifacts, and there were also a few later archaeological cultures or remains that produced several finds of ironware. It is because of the unbalanced development at the cultural and technological level that it is difficult for us to uniformly use the Bronze Age to refer to the archeological cultures of the Northeast after the Neolithic Age, or to adopt the same time standard to accurately distinguish between the archaeological cultures of the Bronze Age and of the Iron Age. Therefore, in order to avoid the temporal confusion, in this book the period of cultural development from the end of the Neolithic Age (about 2000 BC) to the period prior to the beginning of the Qin and Han cultures in Northeast China, is specifically referred to as the Xia to the Warring States period.

Compared with the Central Plains, the start of archaeological work in the Northeast did not lag behind at all. As early as October to December 1921, before the Swedish scholar Johan Gunnar Andersson (1874–1960) began the formal excavation of the site of Yangshao in Mianchi, Henan, he had excavated the Shaguotun site in Jinxi, Liaoning earlier in June to July of the same year (Chen, 1997, p. 90). If the excavation of the Yangshao site in 1921 is regarded as the beginning of modern Chinese archaeology, in accordance with the opinion of most academic circles, then the field archaeological work in Northeast China, like that in the Central Plains, has been going on for more than 80 years. Over the past 80 years, through the joint efforts of Chinese and foreign scholars, a wealth of archaeological investigations and excavations equivalent to the Xia to Warring States period in the Northeast has been accumulated. These research materials cover the entire historical spectrum of each stage of the period. In terms of distribution, they extend to the Liaodong Peninsula in the south, the Songhua River basin in the north, the Liaoxi highlands in the west, and the Tumen River basin in the east, covering almost all areas of the Northeast. Also, the accumulated materials in some places have been quite abundant. Under such conditions, it is necessary and feasible to conduct a comprehensive and integrative study of the archaeological materials of the Xia to Warring States period in the entire northeastern region of China.

Regarding the important achievements and main viewpoints of research on the archaeological cultures of the Xia to the Warring States period in Northeast China, a detailed explanation is made to cover each specific issue in this book. Particular emphasis goes to the following two points: first, the previous research results, such as the categorization, the staging, and dating of archaeological cultures in various regions of Northeast China, as well as the accumulation of some relevant cases and special research results, which were the basis for making the research in this book possible. Second, Professor Zhongpei Zhang's speech at the Seminar on Bohai (Sea) Rim Archaeology in 1990 (Zhang, 1991, p. 8–12) and his later speech at the Symposium on the Bohai Culture in 1996 proposed a macroscopic grasp of and a holistic conceptual framework for pre-Qin (Dynasty) archaeological cultures in the Liaoning, Jilin and Heilongjiang provinces of China respectively (Zhang, 1997). With the speeches focusing on some key archaeological issues such as the zoning, chronology, and pedigree of the cultures of the period in Liaoning Province (together with the southeastern part of the Inner Mongolia Autonomous Region of China) and Heilongjiang Province (plus some areas in Jilin Province), the viewpoints raised therein still prevail. All the above is the theoretical basis on which this book sets out to explore further and deeper the archaeological and cultural remains from the Xia to the Warring States period in the entire Northeast.

The study of archaeological culture includes many aspects. The research in this book will mainly focus on the time-space relationship and the pedigree relationship of various archaeological cultures of the Xia to the Warring States period in Northeast China.

In terms of the study of temporal and spatial relations, the Nenjiang River basin, the highlands and the plain region of Liaoxi, the southern and northern regions of Liaodong, the West Songhua River basin and the Tumen River basin have been

selected first, as there are more research materials, thus a better research foundation. Staging and chronology studies are carried out on the archaeological cultures within the seven geographic regions, and the diachronic study on the development of archaeological cultures in these different regions are established afterwards. Then, through the horizontal comparison and integrated research of the cultures of various regions, synchronous features that may have been displayed in the process of cultural transformation between various regions are identified, and then a number of cultural development stages with synchronic characteristics are demarcated. Finally, according to the research results on both temporal and spatial aspects, and with reference to their relationship with the archaeological cultures in the Central Plains of China, the holistic spatio-temporal framework of the archaeological cultures of the Xia to the Warring States period in the entire Northeast is constructed.

Regarding the study of kinship relationships among these archaeological cultures, by exploring the relationship between their origin and inheritance in different periods and regions, several cultural systems (cultural chains) linked by different series of archaeological cultures are distinguished. Through the investigation of the changes in the time-space relationship of archaeological cultures among different cultural systems, the dynamic development patterns of archaeological cultures of the Xia to the Warring States period in Northeast China can be delineated.

Constructing a temporal and spatial framework is the basis for conducting kinship research. Therefore, the research of this book starts by analyzing the staging and chronology of various archaeological cultures in different regions of Northeast China.

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Short Introduction

This book helps to establish a chronological coordinate system for the development of the main archaeological cultures in Northeast China from the Xia Period to the Warring States Period by grouping, segmenting, staging and chronologically sequencing related archaeological cultures. It starts with the grouping of individual sites and cemeteries, then the segmentation of multiple sites and cemeteries and the staging of the full spectrum of archeological culture of China, and finally the chronologically sequencing of these archeological cultures involved. By doing so, seven main archaeological cultures have been established, including the Nenjiang River basin, the mountainous areas of Liaoxi (West of Liaohe River), the Liaoxi Plain, the southern area of Liaodong (East of Liaohe Rivier) and the northern area of Liaodong, the West Songhua River (once referred to as the Second Songhua River) basin, and the Tumen River basin.

First, based on the spatial comparison among and comprehensive research, four development stages are delineated: the early Shang to the Xia Period, the late Shang Period, the Western Zhou to the Spring and Autumn Period, and the Warring States Period. Then, followed up with both vertical and horizontal research, a time-space framework of related archaeological cultures in Northeast China during these four development stages is constructed. Finally, a pedigree of these archaeological cultures is proposed under the four-tiered research framework of culture, cultural system, cultural area, and cultural belt. Such a pedigree consists of six cultural systems as follows: the Shuangtuozi system, the Machengzi system, the Gaotaishan system, the Lower Xiajiadian system, the Xiaolaha System, and Xingcheng system.

By investigating the evolutionary trajectory and scope of activities of these cultural systems in the time-space framework, two different types of archaeological cultural areas have been identified, namely “serial archaeological cultural areas” and “sequential archaeological cultural areas”.

According to their differences in natural environment, cultural characteristics, historical background and cultural traditions, the Northeast China from the Xia Period and the Warring States Period is divided into two cultural belts, namely the “Great Xing’an Mountains-Yanshan Mountains Cultural Belt” in the west and the “Changbai Mountains-Qianshan Mountains Cultural Belt" in the east. Within these two cultural

belts, six "cultural systems" have been identified. The delimitation of both cultural belts and cultural systems is of significance for further revealing the relationship between these cultural systems and areas involved and the various communities of people later formed and discovered in the literature. Therefore, this research has great implication and value for future research and study.

This book is dedicated for experts and scholars who are interested in pre-Qin archaeology, pre-Qin history, archaeological and historical studies in Northeast China and Northeast Asia, as well as for teachers and students of related disciplines.

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About the Author

Binfu Zhao, born in 1963, is one of the influential archaeologists in China. For years, Prof. Zhao has been engaged in research on Neolithic archaeology, pre-*Han* archaeology in Northeast China, and field archaeology. Among his numerous contributions, a number of projects were granted by China's National Social Science Fund, China's Social Science Fund of the Ministry of Education or approved by China's Ministry of Education. So far, he has published 8 monographs and more than 160 academic papers in archaeology. In addition, he also serves as Dean of the School of Archaeology at JLU (Jilin University), Director of the Research Center for Cultural Heritage Protection at JLU, and Director of the Zhang Zhongpei[1] Archaeological Research Center at JLU.

[1] Zhang Zhongpei (1934–2017) was a field archeologist, the former Director of the Palace Museum in Beijing (1988–1991), a professor of archaeology at Jilin University, and above all the Ph.D. supervisor of Zhao Binfu.

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Chapter 1
Staging and Chronology of Archaeological Cultures in the Nenjiang River Basin

Abstract Chapter One focuses on the staging and chronology of archaeological cultures in the Nenjiang River basin. It identifies, for the first time, the "Gucheng remains" dating to the late Shang period, and completes the typo-chronological study of the Xiaolaha culture, Baijinbao culture, and Phase II of the Hanshu culture. It clarifies that the remains represented by the Erkeqian cemetery and Pingyang cemetery correspond to the burial assemblages of the Baijinbao culture and Phase II of the Hanshu culture, respectively. The remains in this region spanning from the Xia Period to the early Han Dynasty are divided into eight stages: (1) Xia to early Shang period (encompassing the early and late phases of the Xiaolaha culture); (2) late Shang period (the "Gucheng remains"); (3) early Western Zhou period (early phase of the Baijinbao culture); (4) middle Western Zhou period (middle phase of the Baijinbao culture); (5) late Western Zhou to late Spring and Autumn period (late phase of the Baijinbao culture); (6) early Warring States period (early stage of Phase II of the Hanshu culture); (7) late Warring States period (middle stage of Phase II of the Hanshu culture); and (8) Western Han Dynasty (late stage of Phase II of the Hanshu culture).

The Nenjiang River belongs to the Heilongjiang water system, originating from the southern foothills of Yilehuli Mountain between the Daxing'anling and Xiaoxing'anling Mountains. Its northern source is the Nanweng River and flows south to the Songhua River near the Sancha River. Its total length is 1089 km, and the total drainage area is 283,000 square kilometers.

Seven tributaries line up on the right bank from north to south. They are the Dobukur River, Gan River, Nuo River, Min River, Alun River, Yalu River, Chuo'er River and Tao'er River, all starting from the eastern foothills of the Daxing'anling Mountains. On the left bank, there are three tributaries. From north to south, they are the Menlu River, Kolo River and Namor River, all originating from the western foothills of the Xiaoxing'anling Mountains. The Nenjiang River runs mainly through the eastern part of Hulunbuir League and the eastern part of Xing'an League in the Inner Mongolia Autonomous Region, the southern part of Daxing'anling, the western part of Heihe City, the southern part of Suihua City, Qiqihar City, and Daqing City

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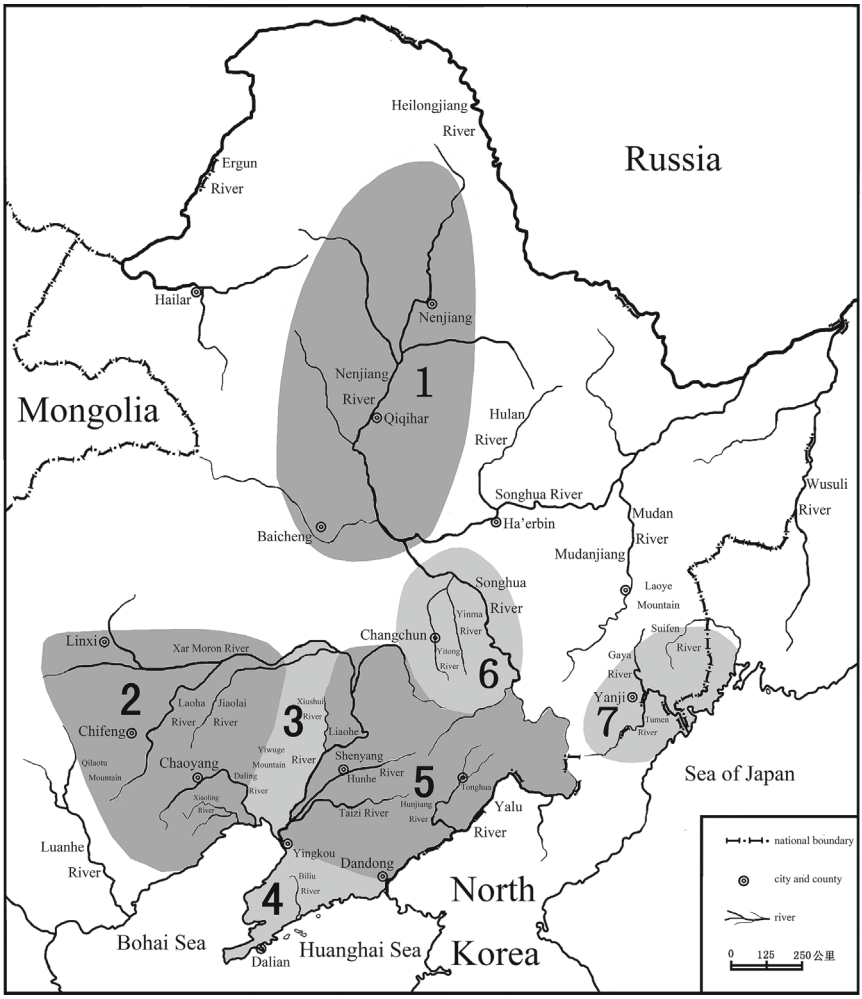

Fig. 1.1 The seven archeological districts in the Northeast of China from the Xia to the Warring States period. 1. Nenjiang River basin; 2. the mountainous areas of Liaoxi; 3. Liaoxi plain; 4. the south of Liaodong; 5. The north of Liaodong; 6. West Songhua River; 7. Tumen River

in Heilongjiang Province, and the northwestern part of Baicheng City and Songyuan City in Jilin Province (Fig. 1.1: 1).

The earliest knowledge about the archeological remains in the Nenjiang River basin was mainly based on the investigation in the Baicheng area of Jilin Province conducted by Mr. Zhang Zhongpei. The "Dongshantou remains" and "Changgangzi remains" identified through this investigation laid the foundation for the study of archaeological cultures from the Xia to the Warring States period in this area (Zhang, 1964).

In the early 1970s, archaeologists from Heilongjiang province discovered for the first time primary deposits and single-context assemblages of the Dongshantou remains at the Baijinbao site in Zhaoyuan County. Such relics were referred to as the Baijinbao culture (Archaeological Team of Heilongjiang Province, 1980) when results of the discovery were published. In the meantime, the excavation at Hanshu, Da'an, Jilin Province disclosed both Dongshantou and Changgangzi relics within one single site and provided stratigraphic evidence that the former preceded the latter. Since the cultural connotation and chronological relationship between Dongshantou and Changgangzi had been further confirmed, excavators redefined them as "Hanshu Phase I" and "Hanshu Phase II" (Archaeology Specialty, Department of History, Jilin University et al., 1982). Because the two terms "Hanshu Phase I" and "Baijinbao" refer to the same archaeological culture, most scholars typically use "Baijinbao culture" and "Hanshu Phase II culture", thus abandoning the name "Hanshu Phase I", and so does the author.

The establishment of Baijinbao and Hanshu Phase II cultures provided two reliable bases for studying the cultural sequence and archeological chronology of the Nenjiang River basin from the Xia to the Warring States period. Since the 1980s, more field excavations and investigations have been carried out in this area by archeologists from Heilongjiang and Jilin provinces. As a result, research materials on the two cultures have been enriched and related issues have been discussed to various extents (Jia, 1986; Li, 1998). Along with the discovery of some new relics pre-dating the Baijinbao phase (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1998), the "Xiaolaha culture" (Zhao, 2002; Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1997b) was identified and confirmed as contemporaneous with early Bronze Age. In addition, the chronology of the cultural remains before the Han dynasty began to catch people's attention (Zhu, 1998a, b).

By examining the research and excavations that have been done so far, the author found that some archeological issues in the Nenjiang River basin from the Xia to the Warring States era are still in need of further study and analysis. Such issues include:

First, relics unearthed from this area and dated from this period may represent at least four archeological cultures. However, only three of them—Xiaolaha, Baijinbao, and Hanshu Phase II—have been identified and confirmed. Another type of remains which can be dated between the Xiaolaha and Baijinbao eras, and roughly equivalent to the late Shang era, have not attracted much attention, hence they failed to be identified in time.

Second, the cultural attribution and dates of many cemetery relics have not been confirmed because previous studies failed to give enough attention to the cultural nature of the two types of finds and the corresponding relationship between them.

Third, the staging of archaeological cultures in this area, which is based on the corresponding relationship between sites and burials, has not been established. Hence these cultures, together with the dates of the different phases and stages, need to be further discussed.

The above questions are directly related to the establishment of an archaeological chronological system during the Xia and the Warring States periods in the Nenjiang River basin. Therefore, more in-depth research and detailed analysis are needed.

Archeological finds are the basis for probing into cultural problems. Only through in-depth analyses of the original materials can it be possible to deepen or clarify existing understandings. Throughout the archaeological fieldwork in the Nenjiang River basin, the author found that among the many sites, Baijinbao had undergone the largest number of excavations, exposed the largest area, uncovered the richest remains, and revealed the most complex cultural context. Therefore, it is key to the study and solving of archaeological issues in the Nenjiang River basin from the Xia to the Warring States period. In other words, if the finds from the Baijinbao site are identified, a great deal of issues in the Nenjiang River basin will be resolved. In view of this, the following study on the sequences, stages and chronology of the archaeological cultures in this area will start by reorganizing and reviewing the unearthed materials from the Baijinbao site.

1.1 Differentiation Among the Four Archaeological Cultures at the Baijinbao Site

The Baijinbao site was uncovered in 1964 when the Heilongjiang Provincial Museum conducted an archaeological survey on the left bank of the lower reaches of the Nenjiang River. In 1974, the Heilongjiang Archaeological Team conducted the first excavation (Archaeological Team of Heilongjiang Province, 1980). In 1979, while investigating the Xiaolahe (ha) site and Langtuozi burial site in Zhaoyuan County, six archeologists including Hao Si'de and Tan Yingjie conducted a review of the Baijinbao site (Hao, 1984). In 1980, the Heilongjiang Archaeological Team conducted a second excavation (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1991). While in view of the limits of the unearthed area and finds of the first two excavations, the third one was done on a larger scale by a united team of the Heilongjiang Institute of Cultural Relics and Archaeology and the Archeology Sector of Jilin University in 1986 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1997a). Except for the records of the first survey in 1964 and of the second excavation in 1980, the field excavations and re-examination data of the other three tasks have all been published as archaeological reports or briefings.

1.1.1 Review of the 1974 Excavation

The excavation of the Baijinbao site in 1974 was comprehensively reported in *Archaeology* (Archaeological Team of Heilongjiang Province, 1980) (hereinafter referred to as the "74 Excavation"). According to the 74 Excavation, six 5 × 5 m trial trenches (T1-6) were laid with 150 sq m exposure. Three deposit layers were formed from top to bottom (①②③). Two house sites (F1, F2), one kiln site (Y1), one ash pit (H1), and nine kiln pits (H2-10) were found. Pottery artifacts were discovered from F1,

H1, H5, H6, H7, T1②, T2②, T3②, T5② and T3③. The stratigraphic sequence of the ten units from late to early groups is: T1②, T2②, T3②, T5② → H1 → F1 → H5 → T3③ → H6 (H7 unknown).

The 74 Excavation claims that all the remains unearthed during this excavation belong to the Baijinbao culture but judging from the characteristics of the pottery from each unit, they can be classified into two age groups. (Fig. 1.2).

The first group includes H5, H6 and T3③ and was dated back to an earlier age. This group is rather small, but presents distinctive features. Among the artifacts, the ring foot *yu* jar (H5:5, Fig. 2.10), the double handle *hu* pot (H5: 6, Fig. 2.11) and the *weng* urn with a straight mouth (T3③: 13, Fig. 2.7) are the most distinctive pieces with special shapes and no patterns on the wall; no similar vessels were found from other units. The pottery is dominated by plain walls but a few motifs can be observed: they are made of boss, applique and grate patterns, mainly animal or geometrical shapes, such as goats and deer, or straight and fold lines, triangles, dots, and grids. Compared with the motifs seen in other units, these are much more distinctive as far as clarity, simplicity and realistic expression are concerned. In addition, three artifacts from the later age group were found bearing features similar to the earlier group: a single handle *bei* bowl with a plain wall and a spreading circular foot from the second layer of T1 (T1②: 2) and two straight mouth *guan* jars with inner cast boss patterns (F1:10; F1FF1A11). Therefore, they should belong to the first group.

The second group, dated to a later age, includes six units: T1②, T2②, T3②, T5②, H1 and F1. This group is large in number with assemblages of *li* tripods, *guan* jars, *hu* pots, *pen* basins, *bo* bowls, *wan* bowls, *bei* bowls and abutments. Most of these pottery artifacts were decorated with motifs, mostly in the shape of cords, animals or geometrical grate lines. Cord patterns were mostly applied to the surface of *li* tripods, and grate patterns were mainly found on pottery such as straight belly *guan* jars, *pen* basins, *bo* bowls, and *hu* pots. The grate patterns were shaped into animals or geometrical forms; the animal patterns look simpler while the geometrical ones are rather complicated. In addition, the H7 unit unearthed one bulging belly *guan* jar with a plain surface and double handles (H7: 3). Since its shape is quite similar to the bulging belly *guan* with no handles (H1: 140) from the second group, the H7 *guan* can also be classified into the same group.

1.1.2 Review of the 1979 Investigation

As is reported in the "Supplementary Notes" of S. D. Hao (1984), a large number of pottery pieces were collected during the reinvestigation of the Baijinbao site carried out by Hao Si'de, Tan Yingjie in 1979. Four samples were released (Fig. 1.3) by this review. One is a *bo* bowl with a plain polished surface and a flat base, similar in shape to the flat-based *bo* of 74H1: 9. Another one is a *guan* jar with a short collar, an inflated belly, a flat base and broken handles, similar in shape to the *guan* with a bulging belly and a plain wall (74H1: 17). The other two are basins with flared rims, angular arc walls, and grate-and-dot geometrical patterns or nail-shaped patterns on

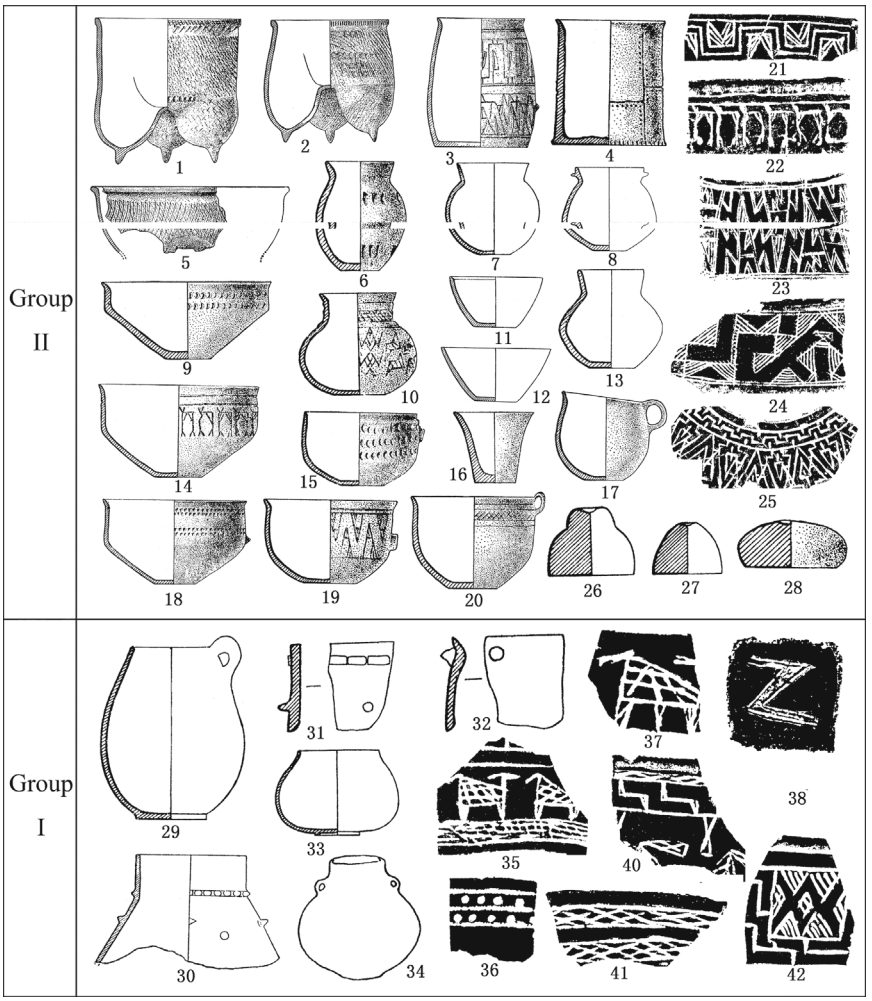

Fig. 1.2 Grouping of the pottery unearthed from the first excavation of the Baijinbao Site in 1974. 1, 2, 5: li-tripods (F1: 1; H1: 63; H1: 11); 3, 4: straight belly *guan*-jars (H1: 18; H1: 10); 6, 7: bulging belly *guan*-jars (H1: 140; H1: 17); 8, 10, 13, 34: *hu*-pots (H1: 121; H1: 15; T1②: 4; H5: 6); 9, 14, 18: angular belly *pen*-basins (H1: 52; H1: 30; H1: 10); 11, 12: *bo*-bowl (T3②: 4; H1: 9); 15, 19: arced belly *pen*-basins (H1: 23; H1: 16); 16: *bei* bowl (F1: 4); 17, 20, 29: single-handled *bei*-bowls (H1: 7; H1: 33; T1②: 2); 21-25: samples of motifs (H1 unearthed; H1: 30; T5②: 1; H1 unearthed; H1: 12); 26-28: abutments (H1: 46; H1: 142; H1: 50); 30: *weng* urn with a straight mouth (T3③: 13); 31, 32: *guan*-jars with straight mouths (F1: 10, 11); 33: ring-foot yu-jars (H5: 5); 35-42: samples of motifs (41 from H6; the rest from H5)

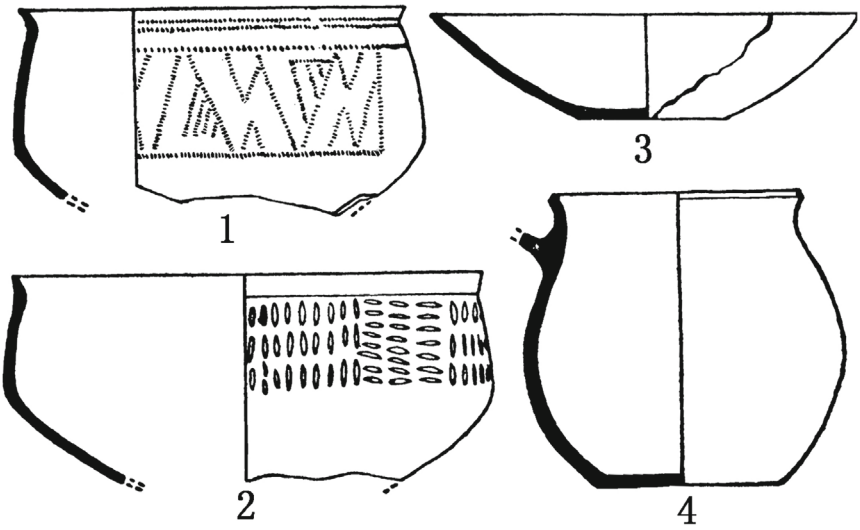

Fig. 1.3 Samples collected from the reexamination of the Baijinbao Site in 1979. 1, 2: *pen* basins; 3: *bo* basin; 4: *guan* jar

the belly, similar in shape and style to the two angular-bellied *pen* basins (74H1: 64 and 74H1: 1). Therefore, the features of the four samples are generally similar to those of the 1974 group.

1.1.3 Review of the 1986 Excavation

The finds of the 1986 excavation were published in a report by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a). According to this report, the 1986 excavation was organized on a large scale. A total of 35 trial trenches (5 × 5 m) were laid and together with the expansion, the exposed area amounts to 1053.6 sq m. What was uncovered includes: 54 house sites, 356 ash pits, five ash ditches, two sections of tunnel, and a large number of intact or recoverable artifacts, among which pottery amounts to 400 pieces.

The stratification of this excavation site is quite thick. Most of the trial trenches exposed five deposit layers from top to bottom according to the color and quality of the soil. The superimposed and breaking relationship between the relics of each layer is complicated, and the shapes of the artifacts are quite different. On these grounds, the excavators divided all the finds unearthed from the 1986 excavation into three phases in chronological order (Zhu, 1988; Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1997a).

According to the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a), the units where pottery was released are as follows. Phase I has

19 units: 7 house sites (F3012, F3015, F3023, F3028, F3032, F3047, F3049), 10 ash pits (H3067, H3078, H3079, H3150, H3157, H3244, H3257, H3261, H3296, H3322), 1 ash ditch (G3001) and 1 stratum (T2442④). Twenty-nine pottery artifacts were uncovered from the phase I units. The phase II units include: 9 house sites (F3002, F3003, F3004, F3006, F3008, F3010, F3013, F3017, F3046), 11 ash pits (H3022, H3042, H3056, H3058, H3091, H3141, H3155, H3187, H3206, H3291, H3342), and 1 stratum (T2038③). Twenty-six pottery artifacts were uncovered from the phase II units, including a collected abutment (collected: 03). Finally, phase III has 5 units: 2 house sites (F3021, F3005), 2 ash pits (H3045, H3138), and 1 stratum (T1738②). Twelve pottery pieces were uncovered from these phase III units, including a collected *guan* tripod (Collected: 02).

In view of the pottery uncovered and the phases and their corresponding units reported by the 86 Excavation, a chronology was reasonably established. However, through careful observation and comparative analysis of all the materials released in the report, the author believes that the 86 Excavation needs reconsideration in at least the following two aspects.

The first one is about phase I remains. Through examining the pottery samples found in the 19 units, phase I remains can be further divided into two age groups (referred to as A and B) according to the difference between the pottery artifacts unearthed so far.

Group A includes ten units: F3023, F3028, F3032, F3049, H3078, H3079, H3150, H3257, H3261, H3322. The pottery from these units was dominated by straight mouth, spreading circular foot, and plain wall except for the *yu* bowls which were incised with triangular lines. Typical assemblages consist of plain wall *li* with a restricted neck, cylindrical *guan* with a straight mouth, deep belly *weng* or *hu* with a straight mouth, single handle *bei*, vessels with a spreading circular foot such as *wan*, *bo* and *yu*, and spouted vessels (Fig. 1.4).

Group B includes 9 units: F3012, F3015, F3047, H3067, H3157, H3244, H3296, G3001, and T2442④. The pottery pieces in this group are quite different from those in Group A. They are dominated by vessels with a flared mouth and a flat base, while straight mouths and spreading circular feet are rarely seen. Some of the vessels are plain-walled, and some were incised with cord patterns or geometrical grate patterns on the surface. The typical vessel assemblage includes high neck *li* with cord patterns, *guan* with a flared mouth and everted rim, *hu* with a bulging belly and a flared mouth, single handle cups, flat-based *bo* and *yu* (Fig. 1.4). In addition, the high neck *li* with cord patterns (H3086: 1) released by Li (1998; Fig. 1.2: 12) belongs to the same type as the *li* (F3012: 20) from this group, thus should also be classified into Group B (Fig. 1.5: 27).

The second aspect that needs to be reconsidered is the attribution of a specific unit reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a). Through careful examination of the released pottery, two of the three F3021 artifacts of the third phase—the *li* with cord patterns (F3021: 1) and the *li* with a plain surface (F3021: 27)—should be classified into the second phase judging by their shape and style. Li (1998) drew similar conclusions in his research, so the author will not carry out further analysis here.

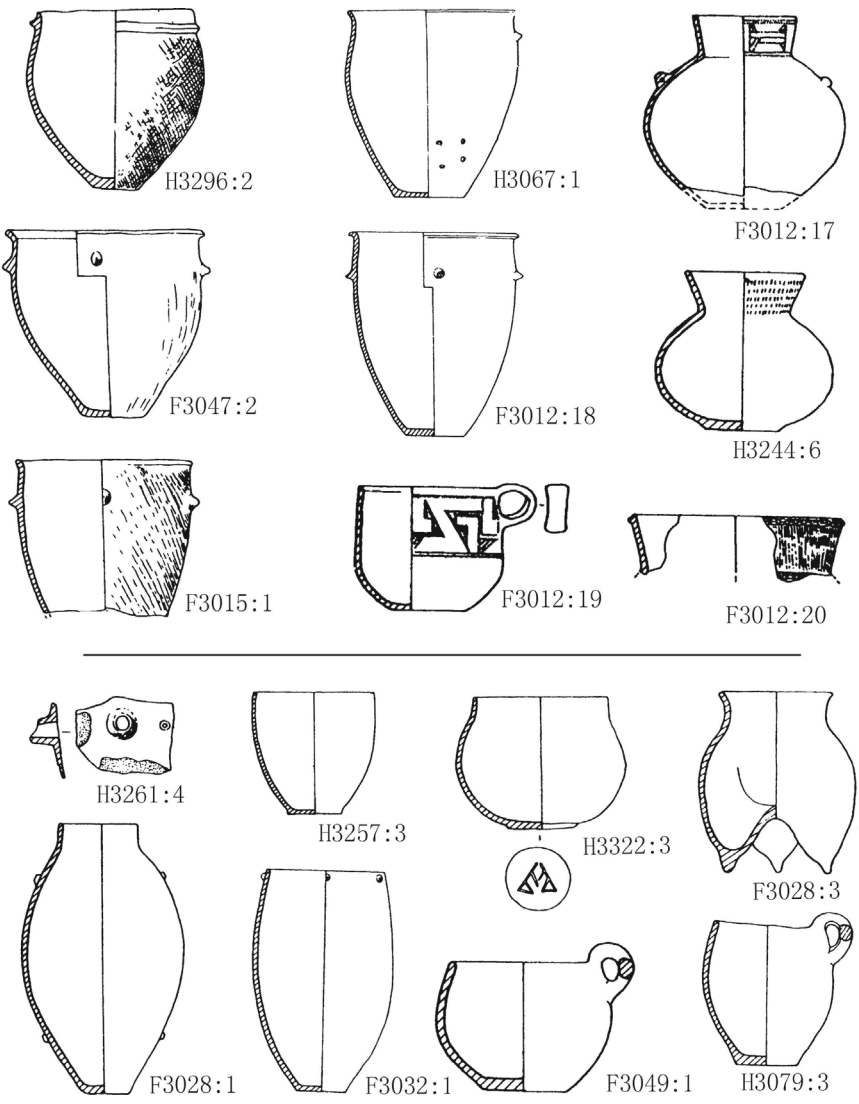

Fig. 1.4 Regrouping of the Phase I remains according to the excavation briefing of the Baijinbao Site in 1986 (upper: Group B; lower: Group A)

In short, based on the phases reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a), and through inspecting the different units and comparing the unearthed artifacts, we can re-divide all the remains unearthed from the 1986 excavation at the Baijinbao site into the following four age groups.

Group One corresponds to Group A in the Phase I remains reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a). There

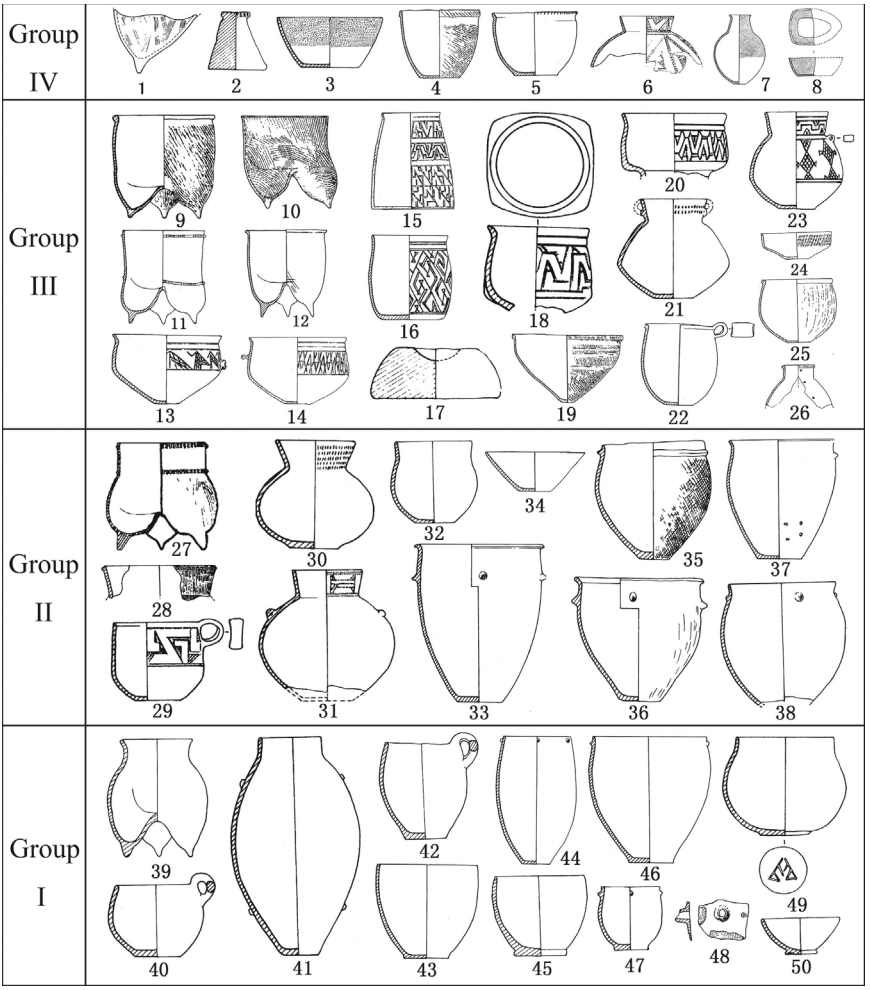

Fig. 1.5 Grouping of the pottery unearthed from the third excavation of the Baijinbao Site in 1986. 1, 9-12, 27,28, 39: *li* tripods (H3138: 12; F3021: 1; H3187: 1: H3342: 2: H3042: 2; H3086: 1: F3012: 20; F3028: 3); 2, 17: abutments (T1738②: 2; H3058: 14); 3, 34: *bo* basin (H3002: 1; G3001: 5); 4, 5, 13, 14, 19, 24, 25: *pen* basin (F3005: 3; H3138: 2; H3155: 1: F3017: 15; F3003: 2; F3013: 1; F3010: 8); 6, 7, 23, 31: *hu* pot (H3138: 2; H3138: 1; H3056: 7; F3012: 17); 8: boat-shaped vessel (H3045: 1); 15, 16: *guan* jars with cylindrical belly (H3342: 5; T2038③: 5); 18, 20: false ring-foot *wan* bowls (H3291: 2; H3058: 10); 21, 30: bulging belly *guan* jars (F3046: 14; H3244: 6); 22, 29, 40, 42: single-handled *bei* bowls (H3291: 1; F3012: 19; F3049: 1; H3079: 3); 26, 41: *weng* urns (F3004: 21; F3028: 1); 32, 49: *yu* jars (H3244: 2; H3322: 3); 33, 35-38, 44, 46: cylindrical *guan* jars with straight mouth (F3012: 18; H3296: 2; F3047: 2; H3067: 1; G3001: 19; F3032: 1; H3078: 1); 43, 45, 47, 50: *wan* bowls with a circular spreading foot (H3257: 3; F3023: 1H3150:2; H3257: 4); 48: spouted vessel (H3261: 4)

are ten units to date that have released materials. Group Two corresponds to Group B in the Phase I remains reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a), and there are also ten units, including the H3086 reported by Li (1998). Group Three incorporates the Phase II remains reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a), with 22 units having released materials to date, including the F3021 which had been put into Phase III by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a). Group Four corresponds to the Phase III remains reported by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1997a), except for the F3021 unit, and 4 units have released materials. The typical pottery of the above four groups can be referred to in Fig. 1.5.

1.1.4 Distinction Between Four Different Archaeological Cultures

Based on the above reorganization and analysis of the three batches of materials unearthed at the Baijinbao site, the author believes that the Baijinbao site contains at least four archaeological cultures. As far as their chronological order is concerned, these cultures belong to different periods and have different characteristics.

Phase I cultural remains are represented by the Group One remains unearthed during the 1986 excavation. The main feature of the remains from this period is that the pottery is generally plain. Except for a few wares decorated with bosses or clay patches and one or two with incised patterns on the bottom, the rest of the pottery was not decorated. Straight mouths and spreading circular feet are dominant shapes. The basic combination includes plain *li* with restricted necks, cylindrical *guan* with straight mouths, deep belly *weng* or *hu* with straight mouths, single handle cups, *wan*, *bo* or *yu* with circular spreading feet, and spouted vessels. In view of these cultural characteristics, the overall appearance of the remains from this period is basically the same as that of the phase II remains unearthed in 1992 at the Xiaolaha site in Zhaoyuan (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1998). Vessels with the same or similar shapes, such as the *weng* or *hu* with a straight mouth (F3028: 1), the *guan* with a circular spreading foot (H3257: 3), two single handle cups (F3049: 1, H3079: 3), the *yu* (H3322: 3), and the spouted vessel (H3261: 4) were found in the pottery group from the phase II site at Xiaolaha. In addition, when investigating the Xiaolaha and Langtuozi sites in Zhaoyuan in 1979, a small number of these pottery specimens were also found (Hao, 1984). Since this type of remains were officially named "Xiaolaha Culture" after the excavation of the Xiaolaha site (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1997b), the phase I remains unearthed at the Baijinbao site should therefore belong to the Xiaolaha culture.

Phase II cultural remains include the Group Two remains from the 1986 excavation and the Group One remains from the 1974 excavation. Phase II pottery was dominated

by flared-mouth or flat-based vessels while straight mouth or spreading circular base vessels were rare. Most of the artifacts had a flared mouth and everted rim. Except for some plain-walled artifacts, many were decorated with cord, bodkin dot or boss patterns, or comb dot motifs in animal or geometrical shapes which present rather simple but realistic effects. The major artifacts of this phase consist of high neck *li* with cord patterns, *guan* with flared mouths and everted rims, *hu* with bulging bellies and flared mouths, double handle *hu*, single handle *bei* cups, flat-based *bo* and *yu*, and ring-footed *yu*. Compared with phase I artifacts, phase II *guan* are distinctive: besides flared mouths and everted rims, some *guan* were decorated with cord patterns, showing characteristics of the late period. In addition, some artifacts present obvious features of the Baijinbao culture, such as the F3012: 17 *hu*, the H3244: 6 *guan*, and F3012: 19 *bei*. The presence of cord patterns, bodkin and comb dot shapes suggests a close temporal distance between phase II remains and the Baijinbao culture. It should be noted that in addition to the Baijinbao site, remains of the same nature have also been seen at the Gucheng site in Zhaoyuan, Heilongjiang (H3) (Qiao, 1993), the Wolong site (Yang, 1997), the Damiao site (Dan and Tan, 1982b, a), the Dajiashan site in Da'an, Jilin (Jilin Provincial Archeological Team, 1984), and the Xiaobaiyin Hushuo site at Bazaraga in the Huolin River valley, Horqin Right Wing Middle Banner, Inner Mongolia (Li, 1983). Since the second phase remains were dated between the first period (Xiaolaha culture) and the third period (Baijinbao culture) and show transitional characteristics, we suggest to temporarily call them the "Gucheng" remains, in order to facilitate further research.

Phase III remains include the Group Three remains from the 1986 excavation, Group Two remains from the 1974 excavation, and some samples collected in 1979. The typical assemblage consists of conical leg *li* with a straight belly, abutments in the shape of steamed bread (*mantou*), straight belly *guan*, bulging belly *guan*, *hu*, *pen*, *bo*, *wan* etc. The prevailing artifacts of the first and the second phases, such as cylindrical *guan*, *yu*, restricted-necked *li*, and high-necked *li*, have not been found among phase III remains. The pottery wares of the third phase were mostly colored in yellow brown. The plain surface was polished. Patterns were dominated by cord and comb shapes. The cord patterns are either thick or thin and mostly present on *li*, while comb motifs made with special instruments and complex patterns of either animal or geometric shapes are seen on the surface of straight belly *guan*, *hu*, *pen*, *wan*, and *bei*. Due to the variety and distinctive features of the finds, the third phase remains were unambiguously named as "Baijinbao" after the site excavation in 1974 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1980).

The fourth phase is represented by the Group Four remains from the 1986 excavation. The number of artifacts from this phase is small, but they show distinctive features. Lace rims, pressing nail lines and red coating are quite different from the Baijinbao culture, while some vessels presented new shapes, such as *li* with dentate rims and a low crotch, abutments with lace rims and *dou* stems, *pen* (*guan*) with lace rims, *hu*, *wan* or boat-shaped vessels with red coating. From the overall cultural perspective, the remains of this phase are exactly the same as those of the second

phase unearthed from the Hanshu site in Da'an, Jilin (Archaeology Specialty, Department of History, Jilin University et al., 1982). Hence, the fourth phase remains should belong to the "Hanshu Phase II" culture.

In short, the Baijinbao site contains four different types of cultural relics, belonging respectively to the Xiaolaha culture, the Gucheng culture, the Baijinbao culture, and the Hanshu Phase II culture. The distinction between these four archaeological cultural remains laid the foundation for the staging and chronological research of archaeological cultures during the Xia and the Warring States periods in the entire Nenjiang River basin.

1.2 Staging and Age of the Xiaolaha Culture

The Xiaolaha culture was named after the site excavated at Xiaolaha, Zhaoyuan, Heilongjiang Province in 1992 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1997b), and is specifically represented by the second phase remains from the Xiaolaha site. Since this culture has only been formally recognized in the last ten years, there is still a certain degree of ambiguity in the understanding of the nature of some materials. In order to accurately grasp the basic implication of this culture, it is necessary to provide more information on the unearthed materials and related understandings of the culture before discussing the phases and chronology.

1.2.1 Identification of the Materials

Although the Xiaolaha culture was truly identified during the first excavation of the Xiaolaha site, remains belonging to this culture had been unearthed as early as the 1990s. However, few materials were examined at that time and all were mixed with other cultural relics. Therefore, for a long time, people were unable to separate them from other archeological cultural relics.

For example, as early as 1960, three pieces of vessel mouth were collected when the Xigangzi site in Jilin Province was investigated (Jilin Provincial Museum, 1961c), and the then briefing author generally classified them into the so-called "microlith culture". They were then included in the Bronze age (Liu, 1989) and later classified into the Baijinbao culture (Wang, 1994). In fact, judging from the straight mouths and applique lace patterns applied on the upper belly of these artifacts, one can see that these features are similar to those shown on the pottery pieces from the second phase remains excavated at the Xiaolaha site in 1992 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1998; Fig. 1.1: 4). Therefore, they can be regarded as relics of the Xiaolaha culture.

Similarly, when the Heilongjiang Provincial Archaeological Work Team conducted the first survey of the Xiaolaha site (formerly known as Xiaolahe) and

Langtuozi cemetery in 1979, it collected pottery specimens belonging to the Xiaolaha culture (Fig. 1.6: A 1–5). However, the investigators believed that the cultural features of the two sites were roughly the same, and the vessels found were similar to the ones unearthed at the Baijinbao site in terms of types, quality, manufacturing methods and shapes (Hao, 1984).

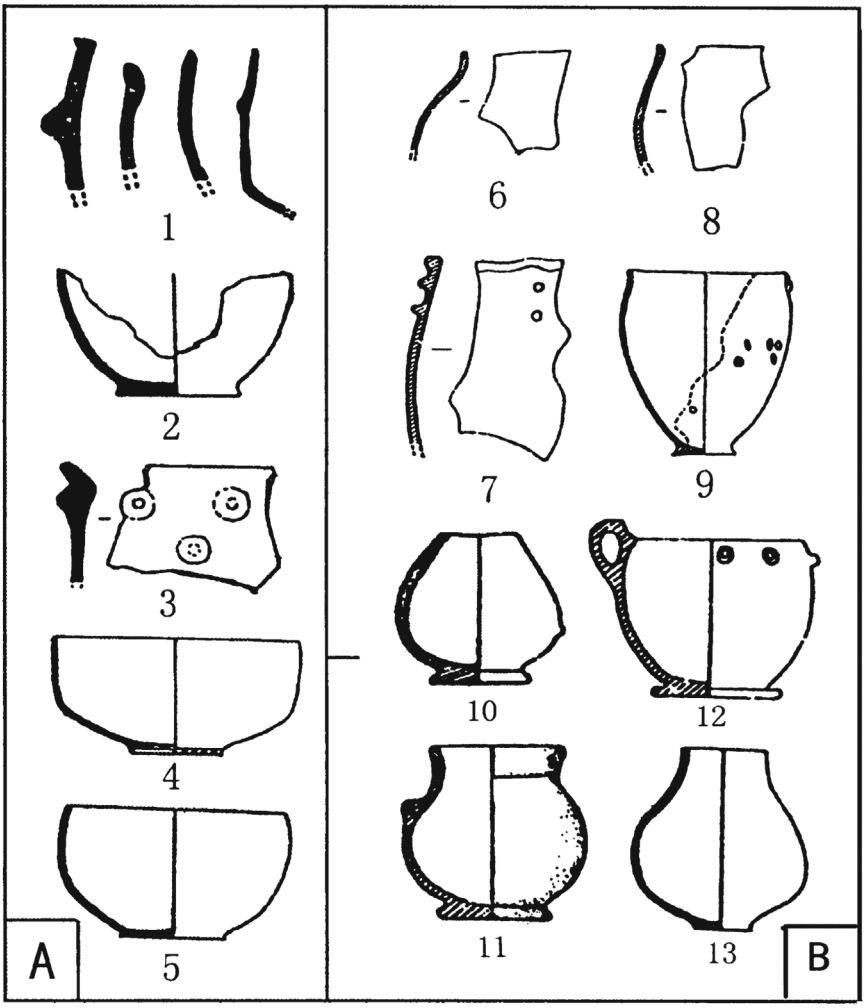

Fig. 1.6 Xiaolaha pottery unearthed from the sites of Xiaolaha, Langtuozi, Xigangzi etc. A. Pottery samples collected from Xiaolaha and Langtuozi (1, 3: mouth rim; 2: *wan* bowl; 4, 5: *bo* bowl; 1-3: from the Xiaolaha site; 4, 5: from the Langtuozi site). B. Samples collected from the second investigation of the Xiaolaha site (6, 8: mouth rim of *guan* jars; 7: mouth rim of deep-belly *guan* with boss patterns; 9: deep-belly *guan* with plain surface; 10: a small *guan*; 11: a small *hu* pot; 12: *bei* bowl with single handle; 13: high-neck *hu*)

In 1986, when the Heilongjiang Provincial Institute of Cultural Relics and Archaeology and the Archaeology Department of Jilin University conducted the third excavation of the Baijinbao site, they realized that the middle-layer and upper-layer cultural relics belonged to the Baijinbao culture and the second phase of the Hanshu culture respectively, and the lower-layer remains belonged to an unknown culture (Zhu, 1988). However, it was difficult to further identity the lower-layer remains because the excavated materials were not situated in time, hence the "unknown culture" naturally failed to attract people's attention.

Although the investigators from the Heilongjiang Provincial Institute of Cultural Relics and Archaeology classified a small number of specimens (Fig. 1.6: B 6–10) from the "second type of cultural relics" as belonging to a separate culture when they conducted a second survey at the Xiaolaha site (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1996) in 1991, they incorporated other relics (Fig. 1.6: B 11–13) from the same group into "the third type", i.e. the Hanshu phase II culture. Therefore, it is not difficult to see that although the author of the briefing had made some progress, his understanding of the nature of the Xiaolaha culture remained unclear.

It is the first excavation of the Xiaolaha site in Zhaoyuan County in 1992 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1996) that truly recognized the Xiaolaha culture as an independent archeological culture and defined the culture's features, characteristics, nature, age, and relationship with other cultures. This excavation has allowed scholars to make a qualitative leap in understanding the Xiaolaha culture. By using the second phase remains of the Xiaolaha site as a criterion and re-examining the materials unearthed in the Nenjiang River basin in the past, the academic community has been able to identify more relics as belonging to the Xiaolaha culture.

In 1984, shortly after the excavation of the Wolong site in Zhaoyuan, the Heilongjiang Provincial Archeological Team pointed out that "the site's stratification is relatively thin and the relics from this site can be divided into two phases. The first phase is similar to the Baijinbao culture of the Bronze Age in the Songnen Plain. The second phase is equivalent to the second phase of the Hanshu culture from the Warring States period to the Han dynasty in the Central Plains" (Qiao, 1985). People began to have a wider understanding of the cultural connotation of the Wolong site when the excavation materials from the Xiaolaha were released. Yang and Xu (1997) pointed out that stratification of three periods was found at the Wolong site. The first period featured plain wall artifacts, such as *bei* and cylindrical *guan* with big mouths. The cultural nature of the relics from the second period were equivalent to the main body of the Baijinbao relics while the relics of the third period were similar to those from the Hanshu Phase II in Da'an, Jilin. In fact, the "first period" relics mentioned in Yang (1997) belong to the Xiaolaha culture.

After the publication of the Xiaolaha site briefing, some scholars examined the data of the third excavation at the Zhaoyuan Baijinbao site in 1986. It was subsequently pointed out that the first phase remains from the Baijinbao site were different from the previously identified Baijinbao culture and this adjustment was re-affirmed during

the excavation of the Xiaolaha site in Zhaoyuan in 1992 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1997).

These developments show that the excavation of the Xiaolaha site and the naming of the "Xiaolaha culture" have played a decisive role in correctly identifying and grasping the connotation and characteristics of the Xiaolaha culture. It has a positive and far-reaching influence on the division of archaeological culture and chronological research during the Xia and the Warring States periods in the Nenjiang River basin.

We can therefore delineate the following archaeological materials that have been excavated and surveyed in the Nenjiang River basin as the remains of the Xiaolaha culture (see Fig. 1.7 for the identified Xiaolaha cultural pottery group).

(1) the second phase remains excavated at Xiaolaha, Zhaoyuan in 1992.
(2) the first phase remains unearthed at the Baijinbao site, Zhaoyuan in 1986 (in particular, the 10 units of Group A remains differentiated from the first phase in the Baijinbao site excavation report in 1986).
(3) the first phase remains such as *bei* and big mouth *guan*, unearthed at the Wolong site in Zhaoyuan in 1984.
(4) part of the pottery samples collected at the Xiaolaha site and the Langtuozi cemetery when they were surveyed for the first time in 1991.
(5) the "second type" remains and part of the "third type" remains which are similar in nature with the second type, collected in 1991 when a second survey was conducted at the Xiaolaha site in Zhaoyuan.
(6) The mouth sample from a pottery *guan* collected at the Xigangzi site in Zhenlai, Jilin in 1960.

1.2.2 Cultural Staging

Among the above six batches of materials, the second phase remains excavated at the Xiaolaha site in 1992 are the most important physical materials of the Xiaolaha culture discovered so far. This batch of materials not only lays the foundation for the understanding of the Xiaolaha culture but also creates conditions for further discussion on the staging of this culture.

According to the Heilongjiang Provincial Institute of Cultural Relics and Archaeology (1998) (hereafter referred to as the Xiaolaha report), among the second phase remains which belong to the Xiaolaha culture, except for layer ③ of the I, II and III excavation areas, are the following units.

Under layer ③ are 56 units: H1004, H1008, H1010, H1013-1015, H1017, H2013-2017, H2020-2021, H2023-2025, H2027-2031, H2033, H2035-2039, H2041, H2042, H2044- 2046, H2049, H2050, H3040, H3047, H3057-3061, H3063, H3065, H3066, H3068, H3069, H3076, H3077, H3079, G1002-1004, F2001-2002, and M2001.

Under layer ② are 63 units: H1002, H1005, H1007, H1009, H1011, H1012, H1016, H2005, H2006, H2008, H2011, H2012, H2018, H2019, H2022, H2032,

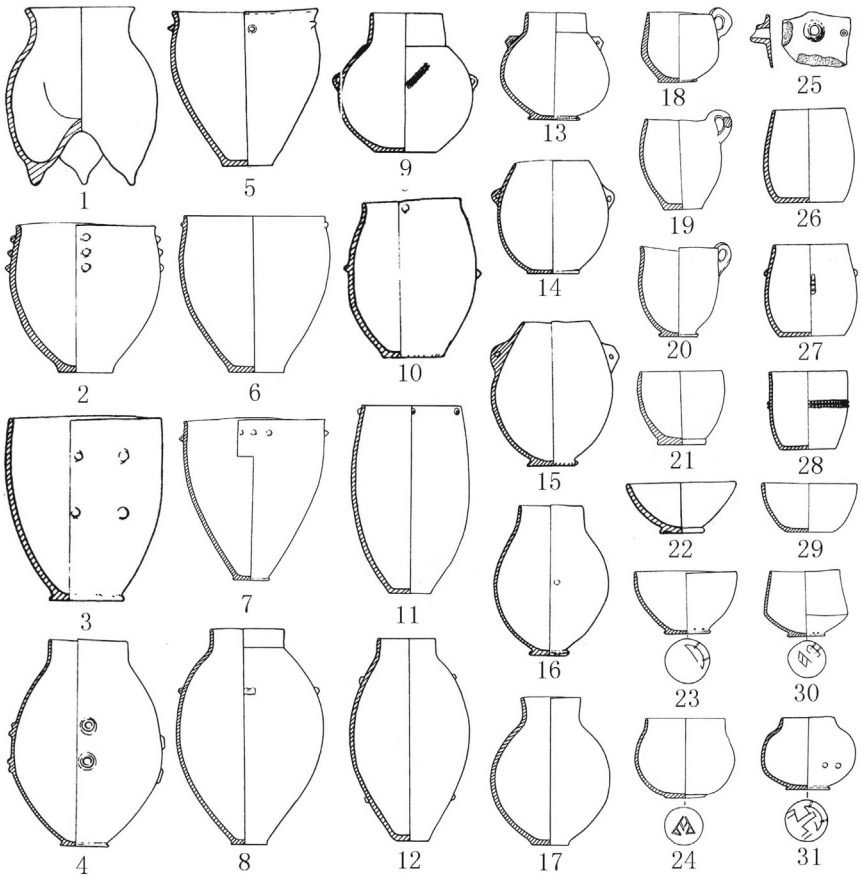

Fig. 1.7 Pottery assemblage of the Xiaolaha culture. 1: *li* tripod (Baijinbao 86F3028: 3); 2, 3, 5-7, 10, 11: *guan* jars (Xiaolaha H0002: 5, H2005: 5, T332③: 5; Baijinbao 86H3078: 1; Xiaolaha H3063: 1, F2001: 15; Baijinbao 86F3032: 1); 4, 8, 12, 16, 17: *weng* urns (Xiaolaha H2008: 1, H3069: 1; Baijinbao 86F3028: 1; Xiaolaha H0001: 8, H2023: 2); 9, 13: *hu* pots (Xiaolaha H2031: 1, F2001: 9); 14, 15, 26-28: *guan* jars (Xiaolaha T141③: 16, H1015:3, H3030: 1, H3010: 1, H3054: 1); 18-21: *bei* bowls (Xiaolaha H0001: 10; Baijinbao 86H3079: 3; Xiaolah H0001: 9a; Baijinbao 86F3023: 1; Xiaolaha H2006: 1); 22, 23: *bo* bowls (Baijinbao 86H3257: 4; Xiaolaha T152③: 4); 24, 31: *yu* basins (Baijinbao 86H3322: 3; Xiaolaha H2037: 6); 25: spouted vessel (Baijinbao 86H3261: 4); 29, 30: *wan* bowls (Xiaolaha T212③: 4, H2006: 1)

H2034, H2040, H2047, H2048, H3004, H3009, H3010, H3012, H3014-3016, H3018, H3020-3024, 3026, 3029–3031, H3034, H3036-3039, H3044, H3046, H3048, H3049, H3051-3055, H3064, H3067, H3070-3075, K1001, K1002, M1001, and M1002.

On the cliff are 4 cleared units: H0001, H0002, H0004, H0005.

According to the Xiaolaha report, 106 artifacts belong to the second phase. They are *guan*, *hu* (or *weng*), *bei*, *bo*, *wan*, *yu*, and spouted vessels. There are 13 false ring

foot *guan* that can be classified into three types and eight subtypes, 15 flat bottom *guan* which also fall into three types and eight subtypes, 8 false ring foot *hu* under four types and five subtypes, 5 flat bottom *hu* under two types, 11 false ring foot *bei* under two types and six subtypes, eight flat bottom *bei* under two types, 29 false ring foot *wan* under two types and five subtypes, 7 ring foot *wan* under two types and four subtypes, 3 *yu* under two types, 5 *bo* under two types, and 2 spouted vessels which are not classified. Through statistical analysis of the distribution of these pottery in each unit, the above units can be divided into two groups corresponding to early and late eras (Zhao, 2002).

The first group includes the units on or under layer ③ where pottery was found and H0002 on the cliff. The second group includes the units under layer ② where pottery was found and H0001 on the cliff. The first group is earlier than the second one in terms of stratification. The representative pottery along with its group significance can be consulted in Table 1.4, Figs. 1.2 and 1.3 established by Zhao (2002).

Based on the group research results of the second phase relics excavated at the Xiaolaha site in 1992, further analysis and explanation of the other five batches of unearthed materials are made below.

First, the pottery from the ten units (F3023, F3028, F3032, F3049, H3078, H3079, H3150, H3257, H3261, H3322) unearthed at the Baijinbao site in 1986, which belong to the Xiaolaha culture, can be classified into two groups. Group one includes F3023, H3257 and H3261. Among these artifacts, F3023: 1 and H3257: 3, which are bowls with spreading circular foot, are identical in shape to T221③: 6 and T132③: 3. H3261: 4, a spouted vessel, has the same shape as T221③: 37 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology & Archaeology Specialty, Department of History, Jilin University, 1998, p. 86) from the Xiaolaha site. Since both T221③ and T132③ from the Xiaolaha site belong to the first group, it can be deducted that F3023, H3257 and H3261 from the Baijinbao site are contemporaneous with the first group of the Xiaolaha site.

Group two includes F3028, F3032, F3049, H3078, H3079, H3150, and H3322. Among them, the single handle *bei* F3049: 1 has the same shape as H2034: 3 from the second group of the Xiaolaha site. The bowl with spreading circular foot H3150: 2 is similar in shape to H2047: 1 from the second group of the Xiaolaha site. Therefore, F3049 and H3150 from the Baijinbao site should be from the same period as the second group remains of the Xiaolaha site.

Two pottery wares were unearthed from F3028: a plain wall *li* F3028: 3 and a plain wall *weng* F3028: 1. The latter should be the late form of the *weng* H3063: 1 from the first group of the Xiaolaha site. Similarly, H3078: 1 and H3322: 3 can also be regarded as late forms of the H3063:1 and H2020:1 from the first group. From this perspective, the three Baijinbao units F3028, H3078 and H3322 can be regarded as contemporaneous with the second group of the Xiaolaha site.

The *guan* F3032: 1 and the single handle *bei* H3079: 3 are similar in shape to the Gucheng remains which came from a later period than the Xiaolaha second group. In terms of shape and style, they should be viewed as the predecessors to Baijinbao *guan* G3001: 8 and Gucheng double handle *bei* F3015: 1. Therefore, F3032 and

H3079 from the Baijinbao site should be from the same period as the second group of the Xiaolaha site.

Secondly, the pottery fragments collected at the Xigangzi site in Jilin reveal similar overall characteristics to the mouth fragments with applique patterns which were found at the Xiaolaha site and belong to the Xiaolaha culture. However, they also present a similar style to the pottery fragments with applique patterns which belong to group B of the first phase of the Xiaolaha site. If there are more materials available for comparison in the future, further confirmation or amendments will be made.

The two *bo* pottery artefacts collected during the investigation of the Langtuozi site in Zhaoyuan in 1979 (Fig. 1.6: 4, 5) are similar in shape to H2022: 2, 4 and H2048: 2 of the second group of the Xiaolaha site, so they can be incorporated into the same group.

Five complete and recoverable pottery pieces were collected during the two investigations at the Xiaolaha site in Zhaoyuan in 1979 and 1991, among which four might concur with the first group of the Xiaolaha remains. They are a plain wall *guan* with a deep belly, an inverted mouth *guan* with spreading circular foot, a straight mouth *hu* with a round belly and spreading circular foot, and a single handle *bei* (Fig. 1.6: 9, 10, 11, 12). The grounds for such a concurrence are that the four artifacts are similar respectively in shape to H3063:1, H1015:3, F2001:9, and T131③:3 from the first group of the Xiaolaha site. In addition, a high neck *hu* (Fig. 1.6: 13) can be regarded, in terms of its overall style, as the ancestor of the inverted mouth *hu* with a round belly and double handles (Fig. 1.9: 23) from the Gucheng remains, and therefore should be incorporated into the Xiaolaha second group. Although it is difficult to include other pottery pieces collected at the Xiaolaha site through mere analogy of overall characteristics, they do not predate the first and second groups of the Xiaolaha remains.

Finally, it needs to be explained that the materials of the Xiaolaha remains unearthed at the Wolong site in Zhaoyuan in 1984, such as big mouth cylindrical *guan*, *bei*, and plain wall pottery wares of the first phase, have not been discovered, so no further attempt to classify them by groups will be done for the time being.

According to the above analysis, the two-group division is based on the major characteristics of the second phase remains unearthed at the Xiaolaha site in 1992 and the first phase remains excavated at the Baijinbao site in 1986. In effect, the two groups of pottery represent the early and late phases of the Xiaolaha culture. Its early phase is represented by the first group, while the later phase is represented by the second group. The distribution of the remains at various sites can be found in Table 1.1. Pottery with phase significance and obvious relational progression can be seen in Fig. 1.8.

1.2.3 Age Determination

From a design perspective, a plain wall *li* F3028:3 (Fig. 1.7: 1) which was unearthed at the Baijinbao site and belongs to the late Xiaolaha culture is basically the same as

Table 1.1 Stages of the Xiaolaha culture and their corresponding site remains

Sites phases	Xiaolaha phase II 1992	Baijinbao phase I 1986	Xiaolaha investigation 1979	Xiaolaha investigation 1991	Langtuozi investigation 1979	Xigangzi investigation 1960
Late	The second group	The second group	√	√	√	
Early	The first group	The first group	√	√		√

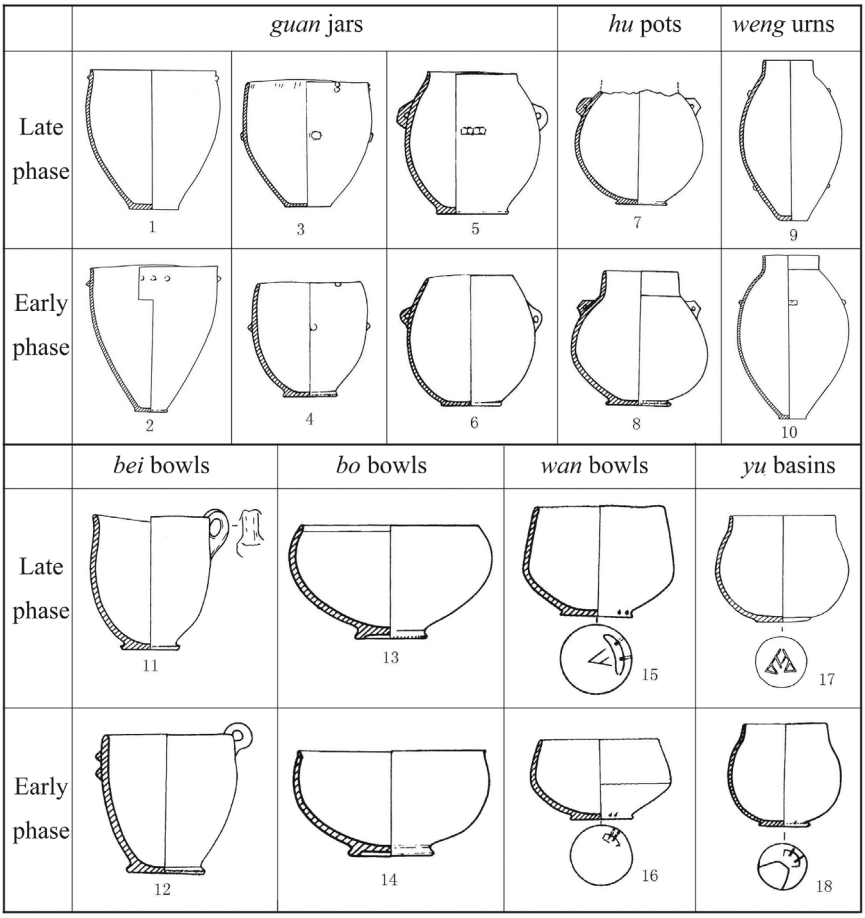

Fig. 1.8 Xiaolaha pottery of different phases. 1 (H3078: 1); 2 (H3063: 1); 3 (M1001: 1); 4, 8 (F2001: 10, 9); 5 (H3044: 1); 6 (T141③: 16); 7,11, 15 (H0001: 14, 9, 4); 9 (F3028: 1); 10 (H3069: 1); 12 (T131③: 3); 13 (H3016: 2); 14 (T312③: 1); 16 (T334③: 2); 17 (H3322: 3); 18 (H2020: 1); *** 1, 9 and 17 are from the Baijinbao site; the rest are from the Xiaolaha site

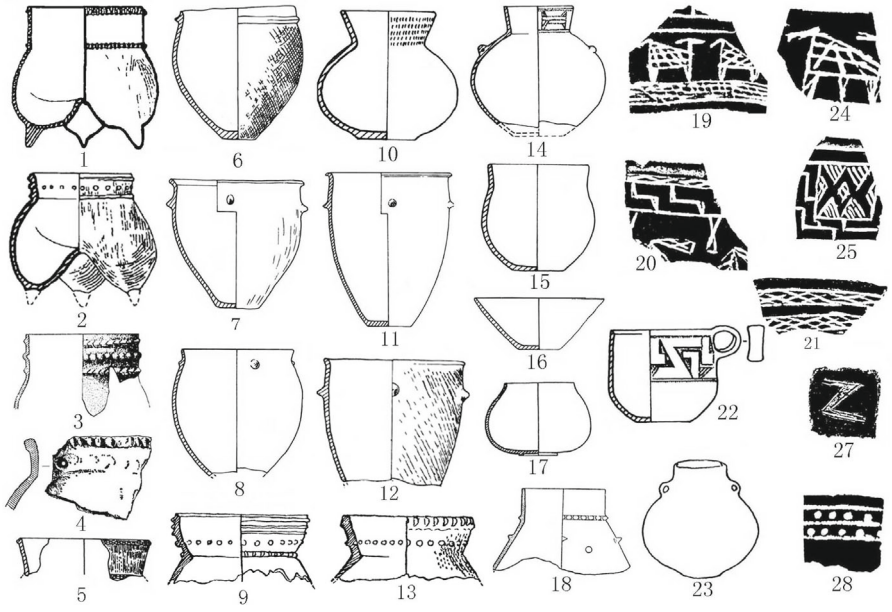

Fig. 1.9 Typical pottery of the Gucheng remains. 1-5, 9, 13: *li* tripods (Baijinbao 86H3086: 1; unearthed from Gucheng H3; collected from Dajiashan; collected from Damiao; Baijinbao 86F3012: 20; collected from Xiaobaiyinhushuo; collected from Xiaobaiyinhushuo); 6-8, 11, 12: *guan* jars (Baijinbao 86H3296: 2; F3047: 2; G3001: 19; F3012: 18; F3015: 1); 10, 14, 23: *hu* pots (Baijinbao 86H3244: 6; 86F3012: 17; 74H5: 6); 15, 17: *yu* basins (Baijinbao 86H3244: 2; 74H5: 5); 16: *bo* bowl (Baijinbao G3001: 5); 18: *weng* urn (Baijinbao 74T3③: 13); 22: single-handled *bei* bowl (Baijinbao 86F3012: 19); 19-21, 24-28: motif samples (21 from Baijinbao 74H6; the rest from 74H5)

relics from the early Gaotaishan culture on the Liaoxi plain and the Lower Xiajiadian culture. Since the artifacts of the Xiaolaha culture are mainly flat-bottomed pottery, the presence of this small plain wall *li* is probably the result of the spread of archaeological and cultural factors from south to north during the same period. Therefore, it can be argued that the late Xiaolaha culture might coincide with the lower Xiajiadian culture and early Gaotaishan culture. These two cultures existed during the Xia and early Shang periods.

In addition, according to the thermoluminescence detection results, the pottery pieces unearthed from H0001 at the Xiaolaha site in Zhaoyuan were dated back to 3830 ± 340 years ago (TK-354) (Heilongjiang Provincial Institute of Cultural Relics and Archaeology & Archaeology Specialty, Department of History, Jilin University, 1998), a time that corresponds to the Xia and early Shang periods.

As the pottery of the early and late phases of the Xiaolaha culture is very closely related, and with no in-between missing link, it is estimated that the early ages should not be far apart. Considering that it is difficult to accurately separate the definite ages of the two periods based on the materials currently available, it is appropriate here to judge the overall age span of the culture as dating back to the Xia and early Shang periods. Therefore, the respective chronological categories of the early and late phases need to be further discussed when new evidence is discovered in the future.

1.3 Identification and Age of the Gucheng Remains

The Gucheng remains under scrutiny in this study refer to the remains represented in the unit H3 at the Gucheng site in Zhaoyuan, Heilongjiang Province. In addition to this unit, the materials that have been formally excavated include the second group of remains unearthed at the Baijinbao site in 1986 and the first group of remains unearthed at the same site in 1974.

1.3.1 Cultural Identification

The Gucheng remains are a new archeological culture that has been identified in recent years. In the past, it was mostly classified as belonging to the Baijinbao culture (Jia, 1993; Li, 1998) or to the late stage of the so-called "pre-Baijinbao culture" (Zhu, 1998a), and the latter was considered to be characteristic of the Xiaolaha culture. In 2002, the author pointed out that these kind of remains were closely related to the Weiyingzi type from the end of the Shang and early Zhou periods and were therefore produced between the periods of the Xiaolaha and Baijinbao cultures on the Songnen Plain.

The reason for distinguishing this type of remains from the Xiaolaha and Baijinbao cultures is mainly based on the following considerations:

First, this type of remains has its own set time in the Nenjiang River basin. The third excavation of the Baijinbao site indicates that its relative age should date back to the period between the Xiaolaha and Baijinbao cultures. This layered relation was confirmed again in 2001 when the Hanshu site was excavated for the second time by the Jilin Provincial Institute of Cultural Relics and Archaeology.

Second, this type of remains has its own spatial location in the Nenjiang River basin. Judging from the currently published materials, independent units or pottery specimens belonging to this type of remains can be found in places such as Zhaoyuan in Heilongjiang, Da'an in Jilin, and Huolin River valley in Horqin Right Wing Middle Banner, Inner Mongolia. Apart from the H3 (Qiao, 1993) at the Gucheng site, there are other independent units unearthed at Baijinbao, including F3012, F3015, F3047, H3067, H3086, H3157, H3244, H3296, G3001 and T2442④ (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1997a) in 1986, and H5, H6, T3③ (Archaeological Team of Heilongjiang Province, 1980) in 1974. The sites where flower-shaped mouth edge fragments of high neck *li* were collected are Damiao in Zhaoyuan (Dan and Tan, 1982a); Fig. 1.4: 13), Dajiashan in Da'an (Jilin Provincial Archeological Team, 1984), Xiaobaiyinhushuo in Bazaraga (Liu, 1989; Li, 1983). In addition, several independent units belonging to this category were also discovered when the Hanshu site in Da'an was excavated by the Jilin Provincial Institute of Cultural Relics and Archaeology for the second time in 2001. This shows that the distribution of such relics in the Nenjiang River basin is generic.

Third, these remains have their own combination of cultural characteristics. They feature high neck and thick conical leg *li* with flower-shaped mouth and cord patterns. At the same time, this culture differentiates itself from the Xiaolaha culture in several aspects. For example, flared mouths were used while circular spreading feet were rarely found, and cord or comb patterns in geometrical or animal shapes appeared. In addition, these remains are in clear contrast to the Baijinbao culture on the grounds that several straight belly *guan* were found but straight belly *li* with conical legs were not. The overall appearance of these cultural artefacts shows that there is a connection between the previous and next cultures: a link between the Xiaolaha and Baijinbao cultures.

The above analysis suggests that the Gucheng remains, whether in terms of age, distribution, or their own characteristics, belong to an independent archaeological culture that existed between the Xiaolaha and Baijinbao cultures in the Nenjiang River basin. The confirmation of this new archeological culture is of great significance to the chronological study of archaeological cultures in the Nenjiang River basin during the Xia and the Warring States periods, because it will expose the cultural sequence of this region more clearly.

1.3.2 Age Determination

Judging from the high neck *li* artefacts with flower-shaped mouth and conical legs unearthed from H3 at the Gucheng site, 86F3012 and 86H3086 at the Baijinbao site,

and other units or sites such as Damiao, Dajiashan, and Xiaoyinhushuo (Fig. 1.9: 1–5, 9, 13), their overall characteristics are very similar to the high neck *li* with flower-shaped mouth from the Weiyingzi culture in the mountainous areas of Liaoxi (Guo, 1987). The similarity suggests that the age of such remains should be comparable to that of the Weiyingzi culture. In addition, the charcoal specimen (ZK-2159) of Baijinbao 86 F3012 was dated back to 3090 ± 60 years ago (1140 BC) under carbon fourteen test and its tree-ring correction value is 1383~1137 BC. The charcoal specimen (ZK-2160) of Baijinbao 86F3019 was dated back to 3260 ± 70 years ago (1310 BC) under carbon fourteen test, and its tree-ring correction value is 1519–1405 BC (Institute of Archaeology, Chinese Academy of Social Sciences, 1991).

1.4 Staging and Age of the Baijinbao Culture

The Baijinbao culture, represented by the third phase remains of the Baijinbao site, was previously discovered in the Nenjiang River basin and more materials have been gathered. Since the currently released materials come from either sites or cemeteries, and the two resources reveal differences in the types of artifacts and the patterning methods of the pottery, these materials are to be discussed separately in the following section. The chronological relationship between the two kinds of materials and the stages and ages of the Baijinbao culture will then be explored at a later stage.

1.4.1 Analysis of Site Remains

Among the site materials belonging to the Baijinbao culture, the third phase remains from the Baijinbao site is not only the basis for the naming of the Baijinbao culture, but also the key to discussing the issue of the staging of the materials from the Baijinbao site.

1.4.1.1 A Grouping Study of the Baijinbao Remains Unearthed from the Baijinbao Site

The Baijinbao site has undergone three large-scale excavations. Except for the second excavation in 1980, the other two in 1974 and 1986 were both published in briefings.

Among the relics and stratigraphic units of the Baijinbao culture published by the Heilongjiang Provincial Archeological Team (1980) (hereinafter referred to as "74 Excavation"), six units exposed pottery artifacts and revealed overlying and breaking relations between each other. The stratigraphic relationship between the six units is shown as follows: 74T1②, 74T2②, 74T3②, 74T5② → 74H1 → 74F1 (→means overlying or breaking and "74" refers to the materials unearthed in 1974. Same below).

Among the pottery samples from the six units released in the 74 Excavation, except for three typical artifacts 74F1: 10, 11 and 74T1②: 2, which belong to Gucheng remains, 29 of them are complete or recoverable artefacts. One of the remains is a mouth fragment and there are 16 samples with decorative designs. Based on the coexistence of pottery artifacts within and between the different layers, the six units can be divided into three age groups from early to late period.

The first group, represented by 74F1, comprises a *bei* and two complete *li* pottery which are similar in shape. 74F1: 1 is a straight belly *li* with cord patterns, a rather high crotch, solid conical feet which are slightly outward. There are a clear dividing line and joint marks between the feet and the belly. Since unit F1 was found in the earliest stratification, this *li* should be the earliest form of straight belly *li* with cord patterns (Fig. 1.10: 6). The 74F1: 4 *bei* has a flared mouth and a flat bottom. Artifacts bearing such a form have not been found in other units.

The second group, represented by 74H1, includes 23 complete or recoverable pottery pieces, 14 samples with decorative designs and a mouth fragment. In terms of shapes, there are *li*, *guan*, *hu*, *pen*, *wan*, *bei* and abutments in the shape of *mantou* (steamed bread). Among these artifacts, a straight belly *li* with cord patterns (74H1: 63) has deep and bulging conical legs and a high crotch, but there are no clear joint marks between the legs and the belly (Fig. 1.10: 5). According to the report, another straight belly *li* (74H1: 43) unearthed from this unit is similar in shape to the above mentioned one. The 74H1: 18 *guan* has a straight belly decorated with comb dots in geometrical patterns and a slightly flared mouth and its bottom diameter is slightly larger than the caliber (Fig. 1.10: 8). The 74H1: 121 *guan* has a bulging and angular belly, a plain wall, a large flared mouth, and a pair of tongue-shaped ears on the outside of the mouth (Fig. 1.10: 11). The 74H1: 15 *hu* has a straight neck and an oblate belly decorated with various frog patterns and a slightly flared rim (Fig. 1.10: 13). The 74H1: 30 *pen* has an angular belly decorated with various camel designs (Fig. 1.10: 16). Other artifacts from the 74H1 unit, such as *bei*, *wan*, abutments, and the mouth fragment of a *pen*-shaped *li*, were not found in other units. The decorative designs that appear on the samples are mainly made of comb dots which form simple animal shapes or complex geometrical patterns.

The third group, represented by 74T1②, 74T2②, 74T3② and 74T5②, are made of four complete or recovered pottery wares and two specimens with decorative designs. Among them are two straight belly *guan* of similar shapes and different heights. 74T3②: 2 is decorated with comb dots forming geometrical shapes on the belly and has a slightly flared rim and an equally sized mouth and bottom (Fig. 1.10: 7). 74T1②: 4 is a bulging belly *guan* with a plain surface and a flared mouth (Fig. 1.10: 10). Another flat-bottomed *bo* bowl with an oblique edge on the inside of the mouth was not found in other units. The decorative design is solely made of comb dots regularly arranged in geometrical shapes.

Among the pottery described above, straight belly *li* with cord patterns were found in both the first and second groups, while straight and bulging belly *guan* appeared in both the second and third groups. However, there are certain differences in form between these two types of artifacts.

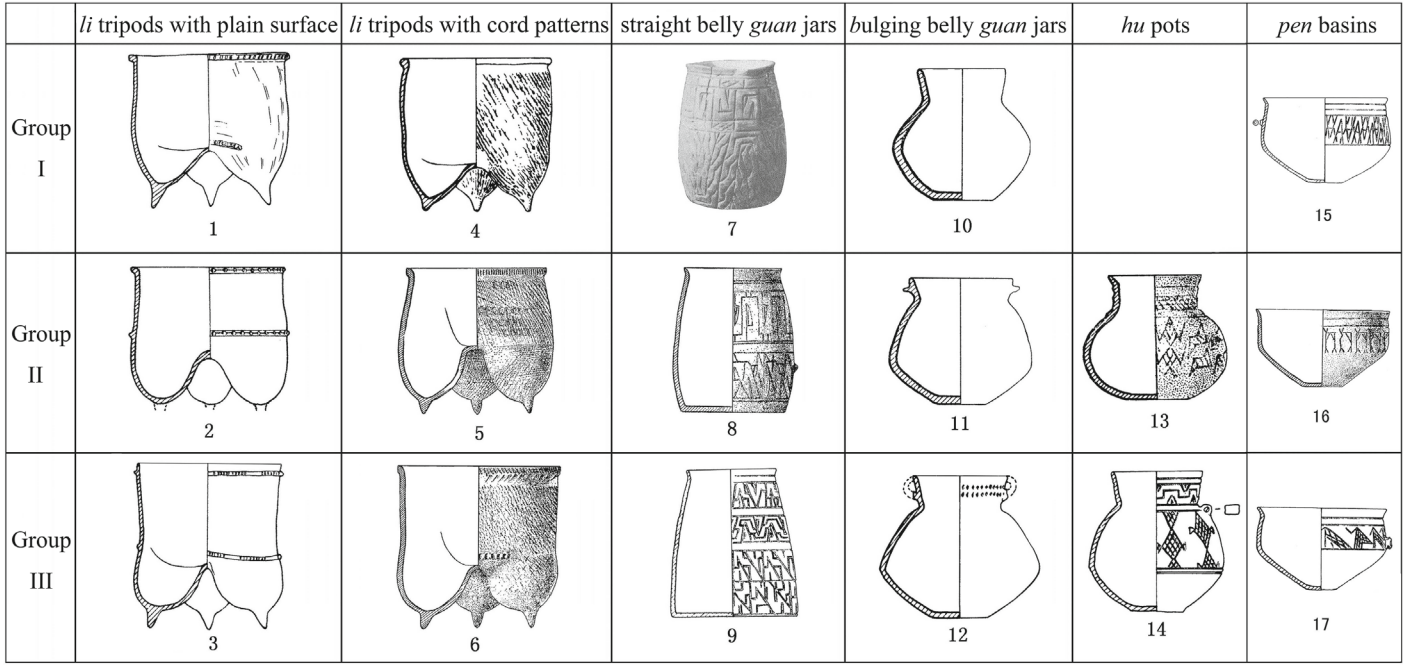

Fig. 1.10 Grouping of the Baijinbao pottery unearthed from the Baijinbao site. 1-3: *li* tripods with plain surface (86F3008: 3; 86F3006: 1; 86H3342: 2); 4-6: *li* tripods with cord patterns (86F3021: 1; 74H1: 63; 74F1: 1); 7-9: straight belly *guan* jars (74T3②: 2; 74H1: 11; 86H3342: 5); 10-12: bulging belly *guan* jars (74T1②: 4; 74H1: 121; 86F3046: 14); 13-14: *hu* pots (74H1: 15; 86H3056: 7); 15-17: *pen* basins (86F3017: 15; 74H1: 64; 86H3155: 1)

According to *Heilongjiang Provincial Institute of Cultural Relics and Archaeology* etc. (1997a) (hereinafter referred to as "86 Excavation"), the large-scale excavation of the Baijinbao site in 1986 guaranteed a better understanding of the Baijinbao culture, especially the stratigraphic successions and breaking relations between the earth layers and the phased changes of typical pottery, and therefore provided some basic information for an in-depth study of the Baijinbao culture. But unfortunately, when we carefully checked the strata and relic units that belong to the Baijinbao culture described in the report, we found that none of the units where overlapping or breaking between the layers occurred exposed any pottery artifact; while none of those from which pottery was extracted revealed any overlapping or breaking occurrence between layers. Therefore, based solely on the materials released in the 86 Excavation, we simply cannot do further phase-related research on this batch of remains, which also makes it difficult to understand the changes and progression of typical pottery.

However, based on the above-mentioned grouping of the Baijinbao remains unearthed in 1974, and combined with the observations on the Baijinbao pottery released in the 86 Excavation, a typological approach will provide further analysis of these groups and the 12 units which produced pottery.

First, judging from the pottery unearthed from the following seven units, 86H3342 (86 means the third excavation in 1986), 86H3187, 86F3046, 86H3056, 86H3155, 86F3004, and 86F3010, the age of the pottery should be the same as that of the first group, and therefore can be included in it. The specific analysis is as follows.

86H3342: 2 is a straight belly *li* with a plain surface, high crotch, three conical legs which are round, deep and stretching outward. There are clear joint marks between the belly and legs. A thin circle of clay was patched on the joint for the sake of reinforcement (Fig. 1.10: 3). This *li* is identical in shape to 74F1: 1 from the first group. The only difference is that the former does not have any cord patterns. Therefore, it can be argued that the Baijinbao culture might have produced two types of straight belly *li*: one with cord patterns and one with a plain surface. The 86H3342: 5 straight belly *guan* (Fig. 1.10: 9) was decorated with comb dots in geometrical shapes on the surface. This type of *guan* has a slightly flared mouth and its bottom diameter is significantly larger than the caliber. Judging from the shape, it should precede the straight belly *guan* 74H1: 18 from the second group.

The straight belly *li* (Fig. 1.5: 10) has the general characteristics of the first group pottery. It is similar in shape with a high crotch, and obvious joint marks between the belly, and the legs were positioned asymmetrically.

The bulging belly *guan* 86F3046: 14 has a plain surface, a flared mouth and an angular belly. There are two rounds of pricked dots and a pair of bridge ears on the outside of the mouth (Fig. 1.10: 12). Judging from the shape, it should be an early form of the bulging belly *guan* 74H1: 121 from the second group.

The *hu* 86H3056: 7 has a slanting neck decorated with comb dots in geometrical shapes, a round bulging belly dotted on the upper part with grid patterns in the shape of fish, and a bridge ear on the shoulder (Fig. 1.10: 14). It should therefore be an early form of the 74H1: 15 from the second group in terms of shape.

The *pen* 86H3155: 1 (Fig. 1.10: 17) has a flared rim, an angular belly decorated realistically with comb dots in the shape of deer on the upper part, a flat bottom and a single button handle with double fingerprints on it. Judged from the shape and decorative design, it should be an early form of 74H1: 64.

The *weng* 86F3004: 21 (Fig. 1.5: 26) has a straight mouth with a thickened rim and a downward slanting shoulder. Such a shape is rather primitive. Its predecessor should be the straight mouth *weng* 74T3③: 13 (Fig. 1.2: 30) which can be traced back to the time prior to the Baijinbao culture. Based on such considerations, 86F3004 can be dated back to early Baijinbao culture, its age being equivalent to the first group.

The *pen* 86F3010: 8 (Fig. 1.5: 25) presents an overlapping lip, an arced belly and a flat bottom. Judging from its shape, it should be a descendant, namely the latest form, of the cylindrical *guan* which was popular during the Xiaolaha and Gucheng periods. Taking into account the primitive nature of this kind of artifacts and the fact that they were not found in other units of the late period, the *pen* 86F3010: 8 is incorporated into the earlier age group.

In addition, the straight belly *li* 86F3006: 1 (Fig. 1.10: 2) has a plain surface, a rather high crotch and deep and round conical legs. There are no clear joint marks between the belly and the legs, but the applique patterns made from reinforcing clay sticks are still visible. This *li* is identical in shape to the *li* (74H1:63) with cord patterns in the second group, the only difference being that the former was not decorated with any patterns. Judging from its shape, it should be a late form of the straight belly *li* 86H3342: 2 which also presents a plain surface, and therefore can be included in the second group.

Finally, the four units 86F3021, 86F3008, 86H3042 and 86F3017 can be traced back to the same time as the third group. The detailed description is as follows.

What has been explained in the previous section is that 86F3021, which was identified as belonging to the Hanshu Phase II by the 86 Excavation, should in fact have been viewed as a unit of late Baijinbao culture when the artifact was carefully observed. The straight belly *li* (86F3021: 1) with cord patterns shows a rather short crotch and a shallow cavity inside the legs (Fig. 1.10: 4). There seemed to be joint marks between the belly and the legs when the outline drawing was examined. However, when Fig. 1.5: 4 was further examined during the 86 Excavation, the slight concave arc between the belly and the legs turned out be scratch marks, not joint marks. Judging from its shape, this *li* should be a later form of the straight belly *li* with cord patterns (74H1: 63), and hence belong to the same period as the third group.

The units 86F3008 and 86H3042 each produced a straight belly *li* with a plain surface. *Li* 86F3008: 3 has a rather short crotch, shallow cavity inside the legs and scratch marks on the surface (Fig. 1.10: 1). It is similar in shape to the straight belly *li* with cord patterns (86F3021: 1), except that there is no decorative design on the surface. Judging from its shape, it should be a late form of this kind of pottery *li*, later than 86F3006: 1, a straight belly *li* with a plain surface. Therefore, it should belong to a time after that of the second group, but roughly coincide with the third group. The straight belly *li* with a plain surface 86H3042: 2 appears to be a middle form of

86F3006: 1 and 86F3008: 3, and hence it should be seen as the transition from the former to the latter (Fig. 1.5: 12).

The *pen* 86F3017: 15 has a flared mouth and an arced belly, on the upper part of which a pie-shaped button was attached (Fig. 1.10: 15). It can be put into the same age group as the third, based on the observation that the dotted geometrical patterns on the belly are identical to those on 74T5②: 1 (Fig. 1.2: 23) in the third group.

What should be noted in the conclusion is that we will not discuss the grouping issue of other units unearthed in 1986, which also belong to the Baijinbao culture, and the pottery specimens of the Baijinbao culture collected during the reexamination in 1979 due to a lack of comparable classifiable artifacts.

1.4.1.2 Grouping Analysis of the Baijinbao Remains Unearthed from Other Sites

In addition to the Baijinbao site in Zhaoyuan, remains that belong to the Baijinbao culture were also unearthed in other sites, such as Gucheng, Xiaolaha, Wanghaitun, Wolong, Hou Qikeshu in Zhaodong, Hatugangzi, Guandi in Durbert, Xigangzi in Jilin, and Hou Ruzijingtun in Qian'an. Now taking the research results of the Baijinbao site as the standard, the remains of the Baijinbao culture unearthed at the above sites are analyzed and elaborated as follows.

The Gucheng site underwent a trial excavation in 1984. According to Qiao (1993), among the materials unearthed from the unit H2 was a straight belly *li* with cord patterns (H2: 1), which has a straight mouth and sharpened lip, a deep cylindrical belly with a steep and straight wall, a high crotch, and deep conical legs.

The Xiaolaha site was excavated in 1992. The remains were classified into three phases: the Neolithic remains, the Xiaolaha remains and the Hanshu Phase II remains. However, the main body of the Baijinbao cultural remains were not visible. Only two artifacts show signs of Baijinbao culture in terms of shape or decoration. One is a cylindrical *li* H1003: 1, which has a plain surface, a flared mouth, a straight wall, a high crotch and fat legs (Fig. 1.11: 1). Another is *guan* T132②: 1 which has a flared mouth, a small bottom, and a bulging belly decorated with dotted geometrical shapes (See Fig. 2.8: 9 in the Xiaolaha report [Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1998]). The report believes that judging from the shape and decorative characteristics of the two pottery pieces, their age is likely to be between the Baijinbao culture and the second phase of the Hanshu culture. They are representative of the transitional phase of the two cultures, but in view of the insufficient number of such materials discovered hitherto, they are temporarily incorporated into the second phase of the Hanshu culture. If the materials become more abundant in the future, we can reconsider establishing this kind of remains as a new culture. It now appears that T132②: 1 should be a Baijinbao artifact that was somehow affiliated with materials from the Hanshu Phase II strata. H1003 should be an independent unit of the Baijinbao culture, and the plain straight belly *li* unearthed from it (H1003:1) should be a late form of the third group *li* 86F3008: 3 (Fig. 1.10: 1) at the Baijinbao site. However, because it is difficult to find in the existing materials

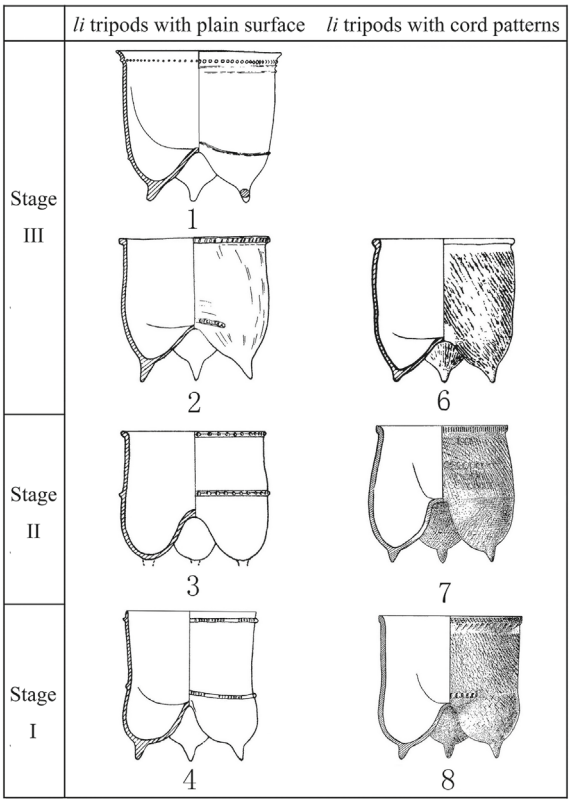

Fig. 1.11 Staging of the pottery *li* tripods unearthed from the Baijinbao site. 1-4: *li* tripods with plain surface (92H1003: 1; 86F3008: 3; 86F3006: 1; 86H3342: 2); 6-8: *li* tripods with cord patterns (86F3021: 1; 74H1: 63; 74F1: 1). *** 1 is from the Xiaolaha site; the rest are from the Baijinbao site

other types of artifacts corresponding to its age, the conditions are not yet ripe to classify it as a separate stage. Therefore, the *li* H1003:1 is temporarily incorporated into the third group of the Baijinbao remains, and it is determined that its age should be ranked after the plain *li* 86F3008: 3 (Fig. 1.11: 2) of the Baijinbao remains.

The exposed area of the site is 400 square meters. Three semi-cryptic house sites, three vertical earth pit tombs, and 30 ash pits of various types were cleaned up. Based on stratigraphy and the unearthed relics, the excavators divided the area into two phases. The first phase is characterized by cylindrical belly *li* with a high crotch and cylindrical *guan* jars with traces of clamshell powder in the clay which belong to the Baijinbao culture. The second phase is represented by big mouth *li* with a short crotch, abutments with an hourglass shape and red coated pottery which belong to the Hanshu Phase II (Qiao, 1985). Yang and Xu (1997) pointed out that the Xiaolaha site exposed cultural deposits from three periods. The first period is represented by plain surface pottery such as big mouth cylindrical *guan* and *bei*. The second period remains are equivalent in nature to the main elements of the Baijinbao culture. The third period remains are equivalent to those of the Hanshu Phase II at Da'an, Jilin. Therefore, the Baijinbao cultural remains appeared in both the second and third

periods. It is just that the materials have not yet been published, so the stages of the site itself has yet to be further discussed in the future.

The Guandi site was discovered in 1957 (Heilongjiang Provincial Museum, 1960). Some collected artifacts, such as pottery fragments with comb dot patterns and plain surface *bei* with broad handles, obviously belong to the Baijinbao culture. Among the artifacts, a broken *li* (refer to Fig. 1.9: 3 in the original report) was decorated with comb dots in regular geometrical shapes. Among the materials unearthed by the official excavation, there is still no comparable specimen of the same kind. However, judging from its straight wall, high crotch and thick legs, this *li* is quite similar to the *li* pottery from the first and second group at the Baijinbao site, and hence it should fall into the same age span as the first and second groups.

The Wanghaitun site was discovered during the 1930s and 1940s before the liberation, and surveys were conducted in the 1950s and 1960s (Dan, 1961). Accordingly, the concept of "Wanghaitun type" was put forward. Later, some scholars believed that the Baijinbao culture could be classified into two types, namely the Baijinbao type and the Wanghaitun type (Yang et al., 1980). Because the connotation and nature of the Wanghaitun type were rather vague, in 1985 Mr. Qiao Liang conducted a special archaeological investigation on the Wanghaitun site. Two types of remains were recognized at the Wanghaitun site by examining the specimens collected during the surveys. The first type is dominated by pottery fragments decorated with patterns of nail marks, comb dots, finger pressing and stamping marks. The identifiable artifacts include *li*, *hu*, abutments, and *guan* (*li*) with flowered-mouth rim. This type can be further divided into two subtypes. One type should belong to the Baijinbao culture, in view of the frequent appearance of comb dot designs and the fat legs of the *li*. Another type should belong to the Hanshu Phase II judging from the shape of the abutments, the frequency of flowered-mouth rims and red coating pottery. Despite their differences, both subtypes are indigenous remains in the Nenjiang River basin.

The second type of the Wanghaitun remains include *ding*, thick mouth fragments, *dou* with solid handles, and bridge- or burl- shaped ears. These artifacts mostly bear plain surfaces, appearing similar to those unearthed at the Tianjiatuozi site in Nong'an, Jilin. Since the Wanghaitun site produced two types and three subtypes of cultural remains which belong to different time periods and show different natural qualities, such title as the "Wanghaitun type" seems to be connotatively vague and improper, and hence should be abandoned (Qiao, 1987). Therefore, what can be concluded about the survey conducted in 1985 is that it established the basic cultural features and nature of different types of remains at the Wanghaitun site, thus confirming the existence of remains that belong to the Baijinbao culture. However, since the specimens collected in previous surveys are very fragmented, it is difficult to determine their chronological position in the Baijinbao culture.

In addition, it is difficult to carry out further discussion because typical features, such as pottery pieces with comb dot patterns and *li*'s conical legs, were not found in sufficient numbers to categorize them as belonging to the Baijinbao culture at the sites of Houqikeshu in Zhaodong, Heilongjiang (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1988b), Hatugangzi (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1988a), Xigangzi in Zhenlai, Jilin

(Jilin Provincial Museum, 1961a), and Houruzijingtun in Qian'an (Jilin Provincial Archeological Team, 1984).

1.4.1.3 Staging of the Site Remains

From the above analysis, it is not difficult to see that although the materials that belong to the Baijinbao culture came from multiple locations, only a small number of them have been formally excavated, and at some sites only pottery pieces belonging to the Baijinbao culture were found on the surface. The overall characteristics of the site materials belonging to the Baijinbao culture, seen hitherto, are within the chronology of the first, second, and third groups of remains determined by the two excavations at the Baijinbao site in 1974 and 1986. Therefore, taking into account all the Baijinbao materials found to date, the above three groups of remains can be classified in three stages. Specifically, the first stage is represented by the remains of the first group; the second stage by the second group and the third stage by the third group.

Among these three-stage remains, artifacts that show staging qualities include five types: straight belly *li* with plain surfaces or cord patterns, straight belly *guan*, bulging belly *guan*, *hu* and *pen*. According to the analysis presented in the previous section, it is not difficult to see that these five types of pottery show rather obvious periodical characteristics (Figs. 1.10 and 1.11).

The straight belly *li* can be categorized into two types: with or without cord patterns. However, these two types of *li* reveal the same course of evolution in terms of shape. That is, they all evolved from high to short crotch, from deep and bulging legs to shallow and shin ones, from showing clear joint marks to showing no such signs. There is a general progression from being visibly pieced together to appearing as an integrated whole.

The straight belly *guan* are the second most indicative artifacts after *li* pottery and are usually decorated with comb dots in geometrical shapes. Since they have a clear relation to the straight belly *li* but present different shapes, the evolution trend is quite clear. That is, they developed from straight to arc wall, from the bottom being larger than the mouth to having them almost equally sized, from the surface decorated with comb dot lines being divided into three segments to only two segments.

The bulging belly *guan*, or *hu* for some scholars, shows its evolution on two levels: first the ears, from bearing vertical bridge-shaped ears to tongue-shaped ones by the mouth, and finally to being earless; second, the belly from being angular to arc angular, and finally bulging.

The *hu*, relatively smaller in number, evolved from bearing slanted to straight neck, from deep bulging to shallow oblate belly.

The *pen* did not change much in shape, with only the upper belly receding and obvious differences in patterns. What needs to be emphasized is that although straight belly *li* with plain or decorated surfaces and straight belly *guan* have exposed sufficient coexisting links, further study is still needed concerning the periodical differences and evolutionary trends of the bulging belly *guan*, *hu* and *pen*.

1.4.2 Analysis of Tomb Remains

Two burial pottery objects (M102: 1, M102: 2) were excavated from M102 at the Hanshu site in Da'an in 1974. One is a restricted-mouth *guan* with a single ear and comb dot patterns. Another is a cylindrical *guan* with combined-comb dot decoration (Fig. 1.12: 3, 2). Both the shape and the decoration of these two pottery pieces resemble relics unearthed at the Baijinbao cultural site. Based on this observation, there should be no objection to conclude that the Hanshu site M102 belongs to the Baijinbao culture.

A piece of *hu* pottery (M2: 35) was found in M2 at the Dongshantou site in Da'an. It was characterized by a round neck, a square angular belly, and dotted patterns in triangular shape on the neck and belly (Fig. 1.12: 1). In addition to this *hu*, M2 also contains a cylindrical *guan* decorated with combined dotted patterns (Archaeology Specialty, Department of History, Jilin University et al., 1982), which resembles the one from Hanshu M102: 2. Therefore, it can be confirmed that M2 also belongs to the Baijinbao culture.

If we take the pottery unearthed from Hanshu M102 and Dongshantou M2 as the standard—a combination of *hu* and *guan*, the hu bearing square angular belly, decorated with dotted patterns in triangular or combined shapes, and without red coating—and compare it with the burial materials discovered from other excavations, it can be confirmed that the early burial materials unearthed at the Erkeqian site in Nehe, the Xiaodengke site in Fuyu and the Dongshantou site in Da'an all belong to the Baijinbao culture. In addition, a small number of complete pottery artifacts collected at the Niuweibagang site in Lindian and the Houruzijintun site in Qian'an should be the burial objects left in the graves during the Baijinbao cultural era.

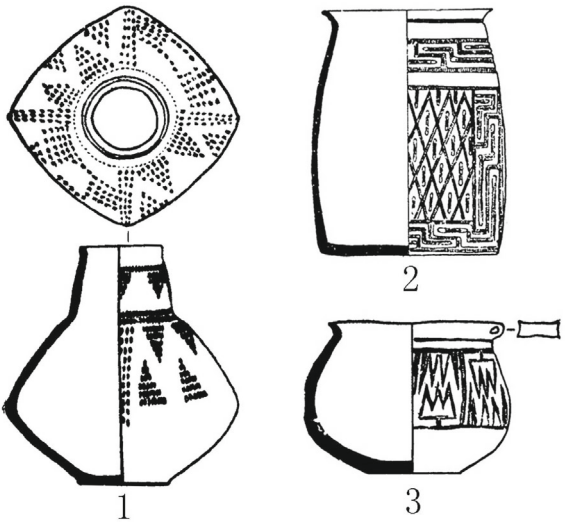

Fig. 1.12 Pottery from 62M2 of the Dongshantou site and 74M102 of the Hanshu site. 1: *hu* pot (Dongshantou 62M2: 35); 2, 3: guan jars (Hanshu 74M102: 2, 1)

1.4.2.1 Grouping Study of the Early Burials at the Erkeqian Cemetery in Nehe

Since the discovery of the Erkeqian Cemetery in 1960 (Heilongjiang Provincial Museum, 1961), two excavations have been carried out, and a total of 94 graves have been cleared, of which 26 graves were found in 1985 (An and Jia, 1986), and 68 in 2001 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 2003). The results of the two excavations proved that these graves belong to two cultures of different periods.

Quite a collection of bronze wares was discovered from the early burials, but iron objects did not appear. The burial pottery is mainly yellow–brown fine sand pottery, while red coating is not seen. The surface of these artifacts was not well-polished, and mostly decorated with patterns. The largest number of patterns are comb dots in triangular, square, strip, or other geometric shapes, as well as deer patterns or deformed deer patterns. The basic types are pottery wares such as *hu*, *guan* and *bo* which belong to the Baijinbao culture. The excavators referred to them as "the Erkeqian type under the Baijinbao culture" (An and Jia, 1986) or "a new type of archeological culture" (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 2003).

Iron wares were widely used as burial objects in the later graves. The unearthed pottery was mostly covered with red clothing. Typical artifacts such as *guan* with a cylindrical belly and everted rims, three-legged vessels in animal shapes and *hu* with a thin body and round shoulder are different from those found in early burial sites and present distinct features of their own. Since similar artifacts have been discovered to varying degrees in the formerly excavated Gaxiandong site in Hulun Buir (Cultural Relics Administration Station of Hulun Buir League, 1997) and the recently excavated Hongmashan site in Nehe,[1] this kind of remains may represent a new archeological culture that came after the Hanshu Phase II. Since this new culture falls beyond the time range of this study, further discussion will not be carried out.

Materials have been unearthed at fifteen of the early graves. Among them, 85M6 has been categorized as a Neolithic grave (Zhao, 2004). 01M65, containing a *yi* pottery piece—a pourer with oval mouth and red coating—should belong to the Hanshu Phase II. The remaining 13 graves, 01M31, 32, 34, 35, 36, 37, 40, 42, 51, 60, 61, 63 and 85M8, belong to the Baijinbao culture.

Among the above 13 graves, no pottery has been released from 01M31, 32, 34, 36, and 40. The remaining 8 graves containing pottery wares have the following characteristics. First, 01M37 intrudes into 01M51, indicating that the graves were constructed in a sequential manner. Second, the pottery assemblage mainly contains *hu*, *guan* and *bo*, of which the *hu* pots are in dominating number. Third, two types of *hu* pottery were found from the same grave, some with *bei*-shaped mouth and others with straight mouth (01M35, 63). They otherwise differ with either round bulging

[1] Excavated by the Heilongjiang Provincial Institute of Cultural Relics and Archaeology and Department of Archaeology at Jilin University in 2003 and kept at the Heilongjiang Provincial Institute of Cultural Relics and Archaeology.

belly or square angular belly (01M63). Fourth, the *hu* pottery from different graves are different in shape: their mouths are either straight or *bei*-shaped, and their bellies are either round and bulging or square and angular. According to the above analysis, these eight graves can be divided into three groups in view of the pottery assemblage and their differences in shape.

Group one is represented by 01M42, 51, 60, 61. Group two is represented by 01M63 and group three by 01M35, 37 and 85M8. The different types of *hu* pottery produced by these three groups of graves and other discovered pottery wares can be referred to in Fig. 1.13.

The age relationship between the three groups can be analyzed from four aspects. Firstly, group one 01M51 was intruded by group three 01M37, indicating that group three graves were from a later date than those of group one. Then, the *hu* with round bulging belly from 01M61: 1 (Fig. 1.13: 1) is rather similar in shape to the *hu* (Fig. 1.8: 7, 8) discovered from H0001: 14 and F2001: 9 at the Xiaolaha site which belongs to the Xiaolaha culture. Therefore, it can be traced back to an earlier time. Thirdly, in view of their overall shape, the *hu* pottery with round bulging bellies from 85M8: 1 and the artifact with a square angular belly from 01M35: 1 (Fig. 1.13: 5, 7) should be the ancestors of the red coating *hu* from Hanshu phase II M159: 1 at the Pingyang site (see Fig. 3.5: 1 of the original report) (Heilongjiang Provincial

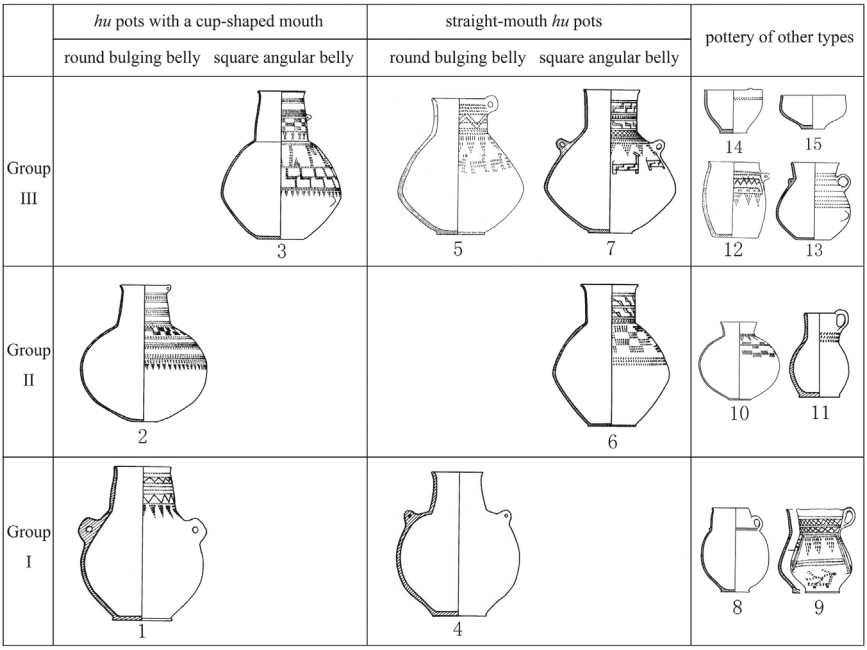

Fig. 1.13 Grouping of the Baijinbao pottery unearthed from the Erkeqian Cemetery. 1 (01M61: 1); 2, 6, 10, 11 (01M63: 8, 12, 11, 9); 3, 7, 13, 15 (01M35: 3, 1, 4, 7); 4 (01M60: 4); 5, 12 (85M8: 1, 2); 8 (01M42: 1); 9 (01M51: 1); 14 (01M37: 2)

Institute of Cultural Relics and Archaeology, 1990) and of the artifact collected at the Houtumu site in Songyuan (see Fig. 1.1: 2) (Songyuan Municipal Museum 1998). It is hence suggested that group three should belong to a later time. Finally, judging from their shapes, the second group artifacts should belong to a period between the first and third group. Specifically, the *hu* with a round bulging belly (01M63: 8) has undoubtedly evolved from the artifact of the same type, 01M61: 1 (Fig. 1.13: 2, 1). The *hu* with a square angular belly, 01M63: 12, is obviously the ancestor of a same type of *hu* in group three, 01M35: 1 (Fig. 1.13: 6, 7).

Through the above analysis and comparison, it can be argued that the three groups of graves at the Erkeqian site have established a chronological sequence. That is, group one is earlier than group two, and group two is earlier than group three. The different shapes of *hu* pottery from the three groups of graves reveal obvious progressive evolutionary sequences (Fig. 1.13).

1.4.2.2 Grouping Study of the Early Burials at the Xiaodengke Site in Fuyu

Seventeen graves were discovered at the Xiaodengke cemetery. Four of them were cleared in 1960, which are referred to as Number 1, 2, 3 and the "multiple burial pit" (Heilongjiang Provincial Museum, 1961). The latter was confirmed to be a secondary multiple burial site through reexamination in 1985 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1986). In 1981, burial materials were collected from another four graves which were numbered 1, 2, 3, and 4 (Zhang and Qu, 1984). In 1985, nine graves were cleared and numbered from M101 to M109 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1986). Among the 17 graves, only a few produced pottery wares and released materials. They are the Number 1 grave cleared in 1960, hereafter referred to as 60M1, the three graves (Number 1, 2, 3), from which remains were collected in 1981, hereafter referred to as 81M1, 81M2, and 81M3, and M101 and M102, which were cleared in 1985, hereafter referred to as 85M101 and 85M102.

There are different opinions about the nature and age of the Xiaodengke cemetery. Some scholars think that the absolute age of Xiaodengke is earlier than Baijinbao. Since artifacts similar to those from the Xiaodengke site, such as the *guan* with a bulging belly, high neck and small mouth, and the *hu* in the shape of leather pouch, were seen at the Baijinbao site, it can thus be inferred that a certain relation exists between them and they should belong to different stages of the same culture (Zhang and Qu, 1984). While it may be difficult to include the Xiaodengke cemetery within the Baijinbao culture, since the Xiaodengke culture is generally viewed as later than the Baijinbao culture, other scholars think it should coincide with or be slightly earlier than the Pingyang cemetery (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1986). In fact, judging from the six graves that released pottery materials, the graves at Xiaodengke should be classified into two different cultures, in the early period and late period respectively.

The graves from the late period at Xiaodengke are represented by 85M101, 102, from which the pottery wares are mostly coated in red. The *hu* with a cup-shaped mouth and chipped red coating (85M101: 1) differs in shape from the *hu* pottery at the Baijinbao culture cemetery, but resembles the M111: 92 and M207: 3 *hu* of the Hanshu Phase II, excavated at the Pingyang cemetery (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1990). The *guan* 85M102: 1 with a small mouth, concave bottom and red coating takes on an identical shape to the *guan* T1②: 1 of the Hanshu Phase II, excavated at the Houqikeshu site in Zhaodong (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1988b; Fig. 1.3: 4). According to the above analysis, the graves 85M101 and 102 should belong to the Hanshu Phase II.

The early graves are represented by 60M1 and 81M1-3. Pottery unearthed there are mainly made of yellow–brown fine clay or red-brown sand tempered clay, with polished surfaces, but without red coating. The basic types are *hu* with round bulging or square angular bellies, in the shape of leather pouch. Some *hu* pots were decorated with comb dot patterns on the surface. For example, the *hu* 60M1: 2 has comb dot patterns in the shape of triangles or squares on the neck and shoulder. The *hu* 81M1: 1 is decorated, from top to bottom, with two rings of parallel comb dot lines near the neck, a circle of inverted triangles and another two rings of parallel comb dot lines. In view of this, these graves should belong to the Baijinbao culture.

Through further observation of the burial materials, the above discussed graves that belong to the Baijinbao culture can be roughly divided into two groups. The first group is represented by 81M1 and 81M2. The second group is represented by 81M3 and 60M1. The two groups of graves contain pottery similar to the pottery found at the Erkeqian cemetery, that is, *hu* with cup-shaped mouth, while artifacts with either round bulging or square angular bellies were found in both sites. Besides the similar features, what is unique to the Xiaodengke graves is a *hu* with a trumpet mouth. Since it was not coated in red and was found in 81M1, along with a *hu* with a round bulging belly, decorated with triangle-shaped comb dot patterns, it is reasonable to believe that the *hu* with a trumpet-shaped mouth represents a different type that coexists with the *bei*-mouth *hu* and straight mouth *hu* (Fig. 1.14).

1.4.2.3 Analysis of the Early Tombs in Da'an Dongshantou Cemetery

The excavated materials from Dongshantou cemetery were mainly obtained through archaeological surveys and clean-ups done in the early 1960s, with three main efforts. The first one was the survey done in early 1960 (Jilin Provincial Museum, 1961a), which cleaned up two tombs (no report found) in addition to collecting burial pottery. The second one was the clean-up of three burial sites in the second half of 1960 (Jilin Provincial Museum, 1961b). The last one was a survey and exploratory excavation in 1962 which found two burial sites (Zhang, 1964). According to the pottery collected and the materials discovered, Dongshantou cemetery contains cultural remains from two different periods.

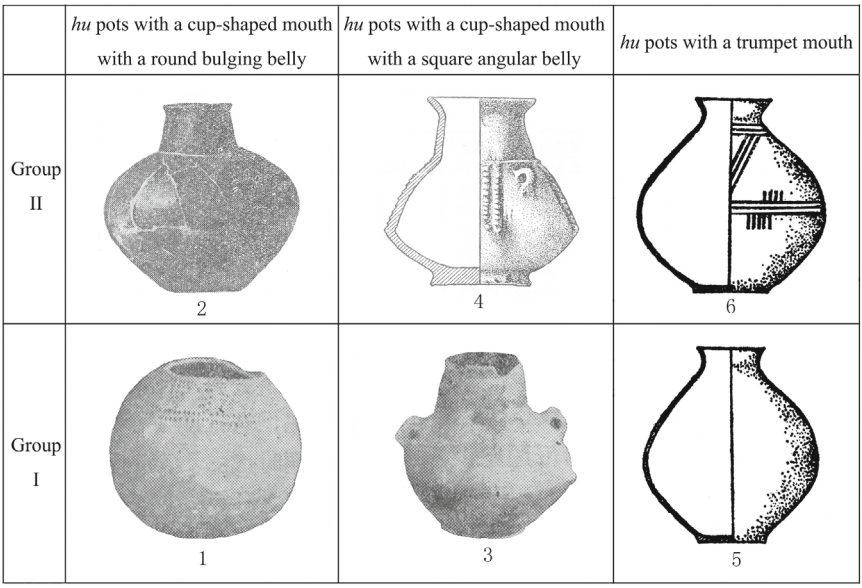

Fig. 1.14 Grouping of the Baijinbao remains of the Xiaodengke Cemetery. 1, 5 (1981M1: 1, 2); 2, 4 (1960 M1: 1, 2); 3 (1981M2: 1); 6 (1981M3: 1)

Specifically, part of the remains belongs to the Hanshu culture. A straight-necked *hu* vessel with two handles collected during the survey in the first half of 1960 (see Jilin Provincial Museum, 1961a, Fig. 4: 1) is close in form to the M149:2 *hu* vessel with a globular belly found in Pingyang cemetery (see Jilin Provincial Museum, 1961a, Fig. 40). *Hu* pottery vessels were found in two of the three burial sites cleaned up in the second half of the year. Among them, the red-coated piece excavated from Tomb 3 has a straight mouth and a globular bulging belly (see Jilin Provincial Museum, 1961b, Fig. 5), which is the same in form as the M1:1 red-coated *hu* vessel found at the Houtumu site in Songyuan city, Jilin province (see Jilin Provincial Museum, 1961b, Fig. 2: 1) (Zheng, 1999). The artefact excavated from Tomb 2 has, as described, a red pottery coating and fine cord patterns on its belly, and the features of its decorated surface are similar to those found on M184:1 and M188:1 in Pingyang cemetery (see Jilin Provincial Museum, 1961b, Fig. 43: 2–3). Showing distinctive characteristics, these remains should be included into the Hanshu phase II culture.

All other unearthed relics belong to the earlier Baijinbao culture. Among them, the 62M2:35 *hu* vessel, with a cup-shaped mouth, right bending belly, and triangular comb patterns on the neck and upper abdomen (Fig. 1.15: 14). Judging from its decoration and shape, it should be the predecessor of 01M35:3, a cup-mouth *hu* vessel from the third group of Erkeqian cemetery (Fig. 1.15: 2), so it should be of the same age as the second group of Erkeqian cemetery. The *hu* pottery vessel (Fig. 1.15: 24) collected in 1960 should belong to the category of *hu* vessels with

a right bending belly and straight mouth. According to its abdominal height and mouth characteristics, it should be the predecessor of 01M63:12, a *hu* vessel with a straight mouth from the second group of Erkeqian cemetery (Fig. 1.15: 16), so it is assumed to be of the same age as the first group of Erkeqian cemetery. Another *hu* vessel collected at the same time (see Jilin Provincial Museum, 1961a, Fig. 4: 3) has triangular comb patterns on the surface and the same abdominal and mouth features as the 01M42:1 *hu* vessel with a cup mouth and a bulging belly (Fig. 1.15: 25) from Erkeqian cemetery's group I. Therefore it should be dated back to this same era. A cylindrical *guan* jar (Fig. 1.15: 10) is close in shape to 85M8:2 (Fig. 1.15: 11) from Erkeqian cemetery's group III, so it can be tentatively dated back to this very era. The other two cups and *yu* basins that were collected are not analyzed for the time being because the published images are poorly lit and the forms are unclear.

1.4.2.4 About the Burial Materials Excavated from Other Locations

A cylindrical *guan* jar with comb patterns (Fig. 1.15: 19) was found in M102 during the 1974 excavation at the Hanshu site in Da'an which belongs to the first phase of the Hanshu culture. Similar pottery was also found in 62M2 at Dongshantou in Da'an (Archaeology Specialty, Department of History, Jilin University et al., 1982), so the two tombs should be of comparable age.

A globular-bellied *hu* vessel with a straight mouth excavated at the Niuweibagang site in Lindian (Jin, 1985) has a triangular comb band, a rectangular spiral band and a zoomorphic-patterned band applied to its surface (Fig. 1.15: 5), which is stylistically similar to the *hu* pottery vessel 01M35:3 (Fig. 1.15: 2) from Erkeqian cemetery's group III. The overall shape of the mouth and belly of this *hu* vessel is also similar to that of the *hu* vessel M108:16 (Fig. 1.20: 5) from Pingyang cemetery belonging to the Hanshu culture phase II. Accordingly, this object should be dated back to the same time as Erkeqian cemetery's group III.

A flat-bellied, square *hu* pottery vessel excavated from Houruzijing village (Jilin Provincial Archeological Team, 1984), Qian' an county in Jilin Province, has a long straight neck and a triangular comb-patterned sash applied to its belly (Jilin Provincial Archeological Team, 1984, Fig. 1.7: 3). According to the shape and ornamental features, it is likely that this pottery was also a burial object in the tomb. However, since it is difficult to find similar materials to compare it to, further analysis and comparison will not be made for the time being.

1.4.2.5 Staging of Burial Materials

So far, the correspondences between the early tombs in Da'an Dongshantou from the first phase of the Hanshu culture and the early tombs in Erkeqian cemetery has been discussed. Works of pottery found at the Niuweibagang site in Lindian and Houruzijing villages, Qianan County have also been illustrated accordingly.

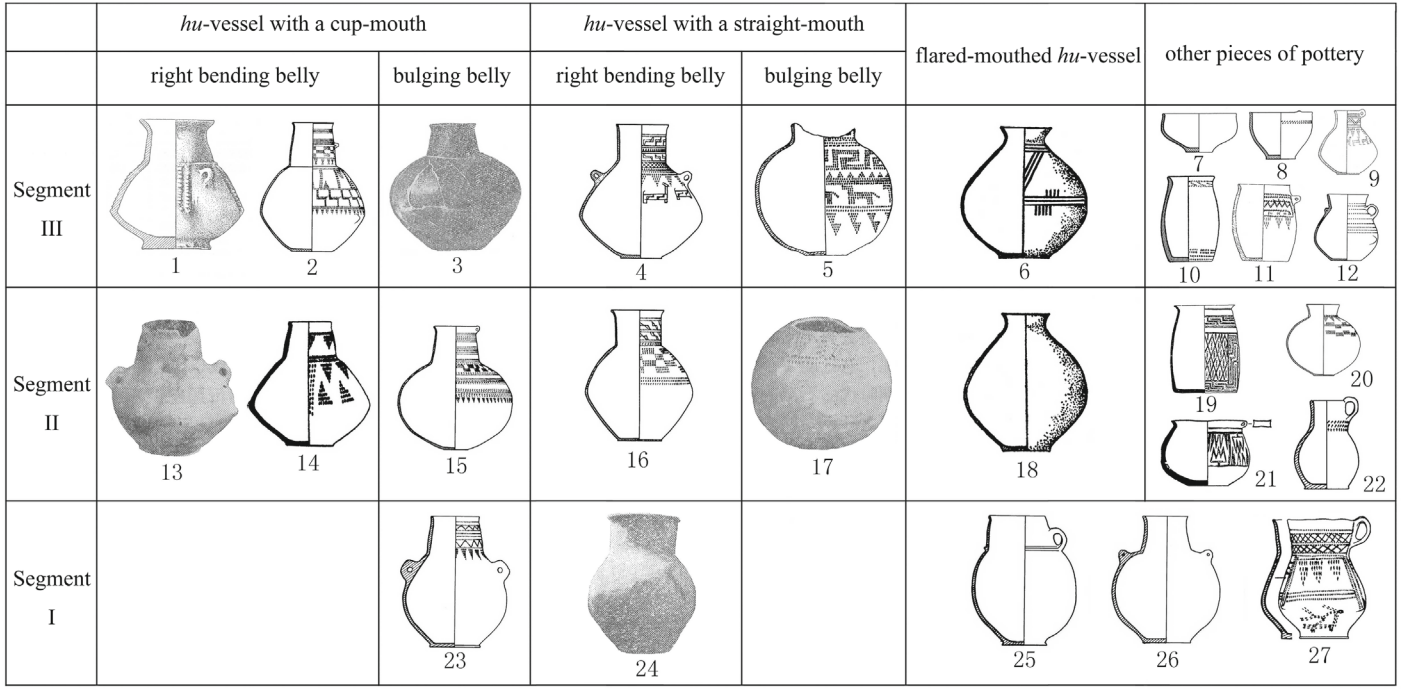

Fig. 1.15 Segments of pottery of Baijinbao Culture cemeteries. 1, 3, 6, 13, 17, 18 unearthed from Xiaodengke in Fuyu(60M1:1, 60M1:2, 81M3:1, 81M2:1, 81M1:1, 81M1:2); 2, 4, 7-9, 11, 12, 15, 16, 20, 22, 23, 25-27 unearthed from Erkeqian in Nahe(01M35:3, 01M35:1, 01M35:7, 01M37:2, 85M8:1, 85M8:2, 01M35:4, 01M63:8, 01M63:12, 01M63:11, 01M63:9, 01M61:1, 01M42:1, 01M60:4, 01M51:1); 5 collected from Niuweibagang in Lindian; 10, 14, 24 unearthed from Dongshantou in Da'an (collected in 60, 62M2:35, 60 collection); 19, 21 unearthed from Hanshu in Da'an(M102:2, M102:1)

Looking further at the two groups of pottery excavated from the early Xiaodengke cemetery, it is not difficult to establish that 60M1:1, a globular bulging bellied-*hu* vessel with a cup-shaped mouth, a bulging shoulder and an inward lower belly (Fig. 1.14: 2), belongs to group II. In terms of the evolution of this type of *hu* vessel, it should be placed later than the 01M63:8 (Fig. 1.13: 2) of Erkeqian cemetery's group II. By this token, it seems that the group II of Xiaodengke cemetery and group III of Erkegian cemetery originated from the same time period.

The *Hu* vessel 81M1:1 from group I of Xiaodengke cemetery (Fig. 1.14: 1) has a globular and bulging belly but a broken mouth. As no other *hu* vessel with such features was found in the cemetery, it was tentatively included in the same category as the globular and bulging-bellied *hu* with a cup-shaped mouth from Xiaodengke cemetery. However, there are in fact two types of globular and bulging-bellied *hu* vessel, one with a straight mouth and the other with a cup-shaped mouth. Comparing the belly of the *hu* vessel 81M1:1 with these two types of *hu* vessels, it is easy to see that it is a straight-mouthed one and can thus be regarded as the predecessor of the straight-mouthed and globular-bellied piece unearthed at the niuweibagang site (Fig. 1.15: 5). Since the *hu* vessel with a right bending belly and a cup-shaped mouth and the *hu* with a flared mouth in the first and second groups of Xiaodengke cemetery closely correspond to each other (Fig. 1.14: 3–6), it is fair to say that there would not have been a long interval between these two groups. In this sense, Xiaodengke's group I should be placed earlier than Erkeqian cemetery's group III, and is comparable to the cemetery's group II, with bare possibility of being earlier than the cemetery's group I.

Based on the above analysis, we can distinguish the burial remains of the Baijiabao culture into three major groups, or chronologically, into three stages:

- Stage I corresponds to group I of Erkeqian cemetery; a few artifacts collected from Dongshantou are also included.
- Stage II corresponds to group II of Erkegian cemetery; Xiaodengke cemetery's group I, Dongshantou 62 M2 and Hanshu M102 are also included.
- Stage III corresponds to group III of Erkegian cemetery, Xiaodengke cemetery's group II and some artifacts collected from Dongshantou and Niuweibagang.

In these three stages, pottery artifacts with obvious evolutionary relationship and other pottery from the same period are shown in Fig. 1.15.

1.4.3 Cultural Staging and Age

1.4.3.1 Cultural Staging

Cultural phases need to be established by drawing on the staging of sites and cemeteries. Given certain differences in the types of pottery excavated, and judging from their respective segmentation as determined above, the sites and cemeteries of the Baijinbao culture have evolved in a synchronized manner.

First, the cylindrical *guan* jar with comb patterns and the contracted-mouth *guan* jar excavated from stage II burial grounds are identical in shape and decoration to those of the same type seen in the sites' second stage. Particularly, 62M2: 35 (Fig. 1.15: 14) found in Dongshantou and the Hanshu M102:2 (Fig. 1.15: 19), a cylindrical *guan* jar, are very close in shape to the Baijinbao 74H1:11, a straight-bellied *guan* jar (Fig. 1.10: 8). Thus, one can conclude that the stage II burial grounds should be comparable to the sites' second stage. This correspondence also indicates, to a certain extent, that stage I and III burial grounds can be placed within the same timeline as the sites' first and second stages.

Second, comparing the Baijinbao 86H3056:7 (Fig. 1.10: 14), a single-eared *hu* vessel from the sites' stage I with the Erkeqian 01M51:1, a single-eared *guan* jar from stage I burial grounds (Fig. 1.15: 27), one can figure out that although the decoration of the surface is different, the grid pattern techniques are identical. Moreover, while their shapes are not exactly identical, the overall style is basically the same, as can be seen from the flared mouth, the bulging belly, the contracted lower belly, the obvious platform base, and the addition of an ear on the mouth or upper abdomen. This shows that, from a chronological perspective, stage I burial grounds correspond to the sites' stage I.

Finally, the Erkeqian 01M35:4 (Fig. 1.15: 12) from stage III cemeteries and the Baijinbao 74T1②:4 (Fig. 1.10: 10) from the sites' stage III are basically the same in shape, differing only in that the former is fitted with two ears below the mouth, a small and a big one. In addition, judging from their morphology, the two straight-bellied *guan* jars unearthed from two stage III cemeteries, Dongshantou and Erkeqian (Fig. 1.15: 10–11), and similar pottery unearthed from the sites (Fig. 1.10: 7–9) should not be as old as the Baijinbao 74T3:2, a straight-bellied *guan* jar (Fig. 1.10: 7) which belongs to the sites' stage III. Meanwhile, they should be younger than the *li* tripod pottery, the Baijinbao 86F3008:3 and 86F3021:1 (Fig. 1.10: 1 & 4), but comparable in age to the Xiaolaha 92H1003:1, a *li* tripod (Fig. 1.11: 1) from the sites' stage III.

Thus, according to the stages of sites and cemeteries, as well as their chronological correspondence, the entire Baijinbao culture can be divided into three phases:

- Early phase: represented by the sites' stage I and stage I cemeteries;
- Middle phase: represented by the sites' stage II and stage II cemeteries;
- Late phase: represented by the sites' stage III and stage III cemeteries.

The correspondence between the phases of the Baijinbao culture, and the stages and groups of sites and cemeteries is in Table 1.2.

1.4.3.2 Dates

The stratigraphic relationship revealed at sites such as Baijinbao indicates that the remains belonging to the Baijinbao culture were overlaid by "Gucheng remains" (late Shang period), which were in turn overlaid by remains from the second phase of the Hanshu culture (Warring States period). Similar stratigraphic relationships seem to exist at the Wolong, Gucheng, and Hanshu sites. This suggests that the Baijinbao

Table 1.2 Stages of the Baijingbao culture and their corresponding periodization and grouping of site and burial remains[2]

Culture	Site materials			Burial materials[3]				
Phase	Stage	Baijinbao	Other sites	Stage	Erkeqian	Xiaodengke	Dongshantou	Other tombs
Late	III	Group 3	Xiaolaha site H1003, T132 ②:1	III	Group 3	Group 2	Some of the specimens collected in 1960	Specimens collected in Niuweibagang
Middle	II	Group 2	Gucheng H2	II	Group 2	Group 1	62M2	Hanshu M102
Early	I	Group 1		I	Group 1		Some of the specimens collected in 1960	

culture should have emerged later than the "Gucheng remains" and earlier than the Hanshu culture's phase II. Its estimated date should therefore be between the late Shang and the Warring States period, that is from the Western Zhou to the Spring and Autumn period.

In carbon-14 dating, four data (Institute of Archaeology, Chinese Academy of Social Sciences, 1991) have been gathered from measuring specimens collected at the Baijinbao sites (all based on a half-life of 5730 years and the high-precision calibration table is used for tree ring calibration).

Two data belonging to the early phase of the Baijinbao culture have been identified, one is charcoal 86F3004 (on the dwelling surface), which was dated to 2930 ± 55 years ago, with a tree ring calibration value of 1097–928 B.C. The other is charcoal 86F3010, which was dated to 2960 ± 55 years ago, with a tree ring calibration value of 1157–995 B.C. According to these two data, the first stage of the Baijinbao culture should be roughly dated back to the early Western Zhou period.

More specifically, only one data belonging to the middle phase of the Baijinbao culture has been identified, namely charcoal 74H1. Its age was determined to be 2790 ± 65 years, with a tree ring calibration value of 918–810 B.C. Another related data is charcoal 86H3060, which was dated to 2800 ± 50 years ago, with a tree ring calibration value of 919–820 B.C. Since no pottery belonging to 86H3060 was reported, its exact phase cannot be determined. But according to the carbon-14 dating result, it was the same as 74H1 which belongs to stage II. In reference to the above carbon-14 measurements, it can be tentatively concluded that the second stage of the Baijinbao culture should be dated back to the mid-Western Zhou period.

[2] The survey materials of sites or cemeteries with unidentifiable characteristics are not included as they cannot be grouped.

[3] The burial materials from Erkeqian, Xiaodengke and Dongshantou are all early tombs in the cemeteries.

The late phase of the Baijinbao culture may span for a long period because, although the remains represented by H1003 at the Xiaolaha site have been tentatively assigned to this phase, their age should be significantly smaller than the age of 86F3008:3, a plain surface *li* tripod, and 86F3021:1, a *li* tripod with cord patterns, from the Baijinbao phase. In other words, the late phase of the Baijinbao culture that has been identified so far may actually contain two smaller sub-phases. If more materials relating to H1003 are found later, then they may be excluded from phase III and seen as a separate phase. Meanwhile, the early stage of the Hanshu culture's phase II may have occurred slightly later than the late phase of the Baijinbao culture. In terms of shape, the pottery works belonging to these two eras correspond to each other, which will be discussed in more detail later. Therefore, these two cultures should follow each other in a chronological manner. According to the carbon-14 measurements, the charcoal H1003 from the late phase of the Baijinbao culture is 2520 ± 70 years old (the tree ring calibration value is 500 B.C.); the Pingyang charcoal M141 from the early stage of the Hanshu phase II culture is 2475 ± 75 years old (the tree ring calibration value is 460 B.C.). Thus, the overall chronological span of the Baijinbao culture should be from the late Western Zhou to the late Spring and Autumn period.

1.5 Staging and Age of the Hanshu Culture Phase II

The second phase of the Hanshu culture is named after the Hanshu site in Da'an, Jilin, excavated in 1974 (Archaeology Specialty, Department of History, Jilin University, 1982). The remains found during the first phase of this excavation are categorized as the Baijinbao culture, and those found in the second phase as the Hanshu phase II culture. The remains from this culture found so far can be divided into site materials and burial materials, which are discussed separately below.

1.5.1 Analysis of Site Remains

In addition to the remains found in Da'an mentioned above, site materials of the Hanshu phase II culture include remains found in the phase IV remains of the Baijinbao site in Zhaoyuan, phase III remains of the Wolong site, phase III remains of the Xiaolaha site, some artifacts from the Wanghaitun site survey, some of the remains excavated at the Houqikeshu site in Zhaodong and at the Hatugangzi sites in Heilongjiang province; as well as those found in the Beigangzi sites in Tantu village and the Beichanggangzi sites in Fuyu county, Jilin province.

1.5.1.1 Groups of Phase III Remains of the Xiaolaha Site in Zhaoyuan

According to the "Excavation report of the Xiaolaha Site, Zhaoyuan County, Heilongjiang Province" (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1998), the third phase remains of the site mainly include layer ② of the I, II and III areas and 26 units with openings under layer ①, 8 units with openings under layer ②, and 5 units exposed from the cliff (T132②:1 and H1003 belong to the artifacts and units of the late Baijinbao culture respectively, which have been discussed in the previous section). Based on the stratigraphic relationships exposed in the report and the different types of excavated pottery, the above stratigraphic units and types of relics can be divided into two groups in a chronological manner.

The first group is older and mainly includes the units of relics with openings under layer ② and layer ② in areas I, II, and III. The pottery units are T121②, T131②, T142②, and H2007, H2010, H3052, and H3056 (Fig. 1.16: 21–30).

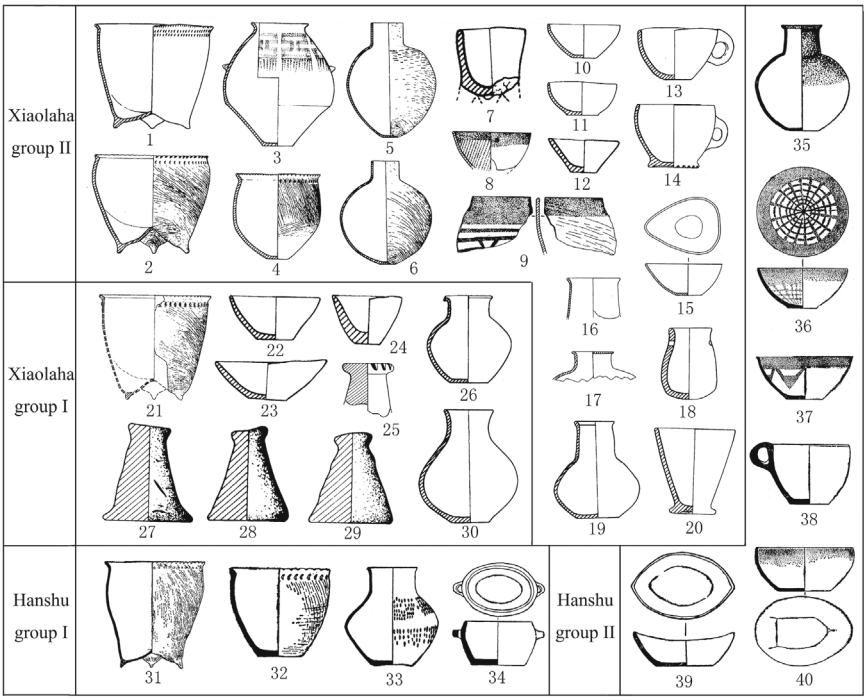

Fig. 1.16 Pottery of the Hanshu culture phase II unearthed from Xiaolaha and Hanshu sites. **Xiaolaha group I**: 21 (T121②:19); 22, 26 (H3056:2, 1); 23, 30 (T131②:4, 3); 24 (T142②:1); 25 (H3052:1); 27 (92 collection:1); 28 (H2007:2); 29 (H23010:2). **Xiaolaha group II**: 1, 3, 10, 13, 14, 17 (F0002:1, 6, 2, 3, 5, 4); 2, 5, 6, 12, 15, 18, 20 (F0001:17, 19, 18, 6, 4, 3, 7); 4, 7 (H3028:4, 1); 8, 9, 16 (H3001:11, 23, 6); 11, 19 (H0003:1, 2). **Hanshu group I**: 31-33 (F104:45, 46, 37); 34 (F107:1). **Hanshu group II**: 35, 36 (H125:1, 2); 37, 39 (T102②:11, T102A②:47); 38 (T105②:1); 40 (T115②:4)

The second group is later in date and mainly consists of units of relics with openings under layer ① and part of layer ② and units of relics from the cliff. The pottery units are H3001, H3028 and H0003, F0001, F0002 (Fig. 1.16: 1–20).

The three units exposed from the cliff, namely H0003, F0001, and F0002, were categorized into group II for the following reasons: firstly, H0003:2, a *hu* vessel with a straight mouth, has basically the same type of mouth as H3001:6 in group II, and should be of a comparable age. Secondly, both F2002:1, a plain *li* tripod, and F2001:1, a *li* tripod with cord patterns, have a slightly retracted mouth and a lower crotch. They should therefore be seen as a later form of T121②:19, a cord-patterned *li* tripod which can be dated back to the age of group II. Thirdly, a mouth of *hu* vessel (F0002:4) excavated from F0002, with an outwardly turned rim and a lacy lip, can be regarded as a late form of H3056:1, a *hu* vessel with a rolled rim which belongs to group I.

In addition, a pottery foot collected during the excavation has the same shape as H2010:2 from group I, so it can also be classified into group I.

1.5.1.2 Groups of Phase II Remains of the Hanshu Site in Da'an

The article "The main harvest from the excavation of the Hanshu site in Da'an" (The Archaeology Specialty, Department of History, Jilin University, 1982) published results from nine units belonging to the second phase of the Hanshu culture, with the following stratigraphic relationships: T102②, T102A②, T105②, T106②, T113②, T115② → F104 (stratigraphic relationship between F107 and H125 are unclear). Judging from the excavated pottery, the above units can be divided into two chronological groups (Fig. 1.16: 31–40). The first group is older and represented by F104; the second group is later in date and represented by T102②, T102A②, T105②, T106②, T113②, and T115②.

A red-coated *bo* bowl with colorful inside patterns unearthed from H125 with unclear stratigraphic relationship can be categorized into group one as its shape is similar to the *bo* bowl found in T102② and T105②. The deep-bellied *pen* basin with an oval-shaped mouth excavated from F107 is both different from and related to the oval-mouthed "boat-shaped ware" from the second group and is probably an early form of it, so it can be included in the second group for the time being.

In terms of the pottery's characteristics in group one, F104:37, a straight-mouthed *hu* vessel with irregular triangular comb patterns on the surface (Fig. 1.16: 33), shows clear signs of the Baijinbao culture. The F104:45, a *li* tripod with cord patterns with a slightly inward mouth, flared rim and low crotch (Fig. 1.16: 31), is similar in shape to the F001:17 *li* tripod with cord patterns from Xiaolaha's group two (Fig. 1.16: 2). Differences lie in that the overall body of the former is higher, and the abdominal features are similar to those of the T121②:19 from Xiaohala's group one (Fig. 1.16:

21).[4] So F104:45 should be the ancestor of F0001:17 in group two. The F104:46 *guan* jar with cord patterns with a sloping abdominal wall and slightly inwardly retracted mouth (Fig. 1.16: 32) should be an early form of the H3028:4 *guan* jar with cord patterns (Fig. 1.16: 4) from Xiaohala's group two. Considering these characteristics, it can be argued that group one in phase II of the Hanshu culture and group one in the Xiaolaha culture should be of comparable age.

Meanwhile, the H125:1 red-coated *hu* vessel from the second group (Fig. 1.16: 35) has the same type of mouth as H3001:6 (Fig. 1.16: 16), and the same globular and bulging belly as F0001:18 from Xiaolaha's group two (Fig. 1.16: 6). In addition, the red-coated *bo* bowl with colorful inside patterns in this group is also identical to similar wares excavated from Xiaolaha's group two, so the date of group two in the Hanshu phase II culture should be equivalent to that of Xiaolaha's group two.

1.5.1.3 Group Analysis of the Cultural Remains from the Second Phase of the Hanshu Culture Excavated at Other Sites

Zhaoyuan Baijinbao site: except for F3021 which is supposed to be a sub-phase of the Baijinbao culture as previously discussed, all the pottery artefacts excavated from the other five units (H3002, H3045, H3138, F3005, T1738②) (Fig. 1.17: 1–8) containing "phase III remains" belong to phase II of the Hanshu culture, according to the 1986 excavation brief (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1997).

The T1738②: 2 pottery leg (Fig. 1.17: 4) is the same in shape as H3052: 1 (Fig. 1.16: 25) from Xiaolaha's group one. The H3138: 2 plain *guan* jar and the F3005: 3 *guan* jar with cord patterns, sloping belly walls and flared upper mouths (Fig. 1.17: 3 & 6) are stylistically far apart from H3028: 4 (Fig. 1.16: 4) from Xiaolaha's group two but close to F104: 46 (Fig. 1.16: 32) from Hanshu's group one. Therefore, the three units T1738②, H3138, and F3005 can be dated back to the same time as Xiaolaha's group one and Hanshu's group one.

Pottery artifacts similar to the red-coated *bo* bowl with colorful inside patterns excavated from H3002 and H3045 (Fig. 1.17: 8 & 7) were also found in Xiaolaha's group two and Hanshu's group two, reflecting that they should be of a similar age.

Zhaodong Hatugangzi site: one excavation unit (No. T1) and one exploratory trench (No. G1) were excavated in 1986, while one exposed ash pit on the cliff (No. H1) was cleaned up (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1988).

No relic was found in G1, according to the published materials. T1 can be divided into two layers and no relic was found in T1. T1① was made of fill soil, and very few relics were unearthed there. The two pottery legs from the second phase of the Hanshu culture (Fig. 1.17: 47 & 48) were the same as those from Xiaolaha's group one. More

[4] I saw this specimen in Baicheng Municipal Museum with Mr. Qiao Liang from Chinese Institute of Cultural Relics in the fall of 2004. Its lower belly is slightly tapered, but not as much as shown in the picture.

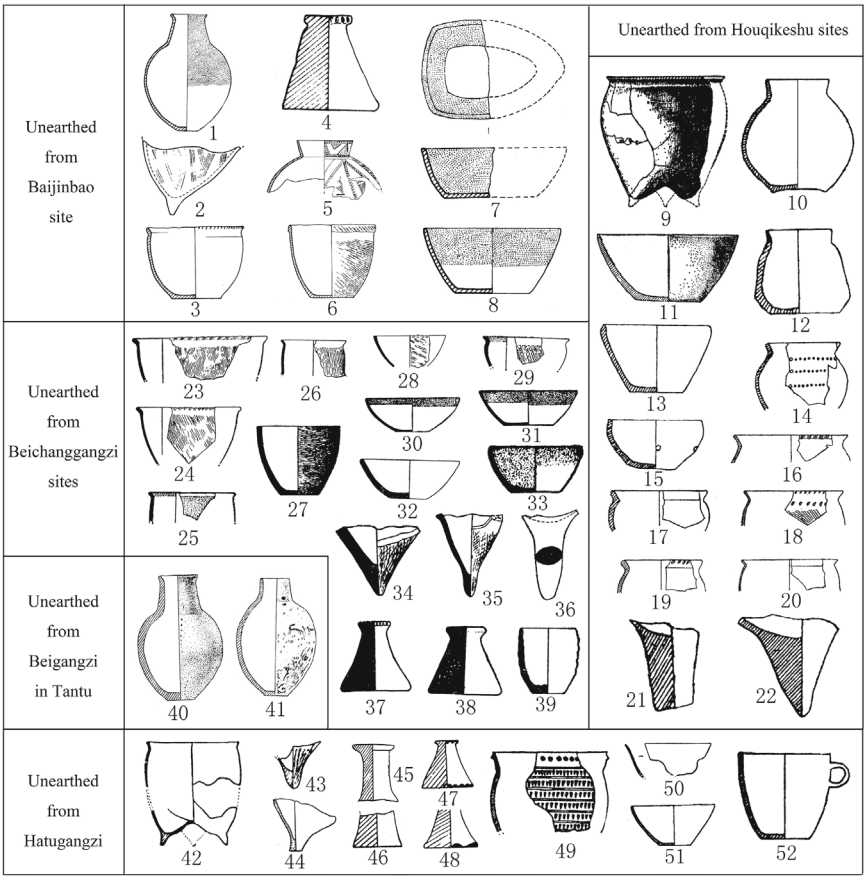

Fig. 1.17 Pottery of the Hanshu phase II culture unearthed from Baijinbao, Beichanggangzi, Houqikeshu, Hatugangzi, and Beigangzi sites, unearthed from Baijinbao sites:1-3, 5 (H3138:1, 12, 2, 15), 4 (T1738②:2); 6 (F3005:3); 7 (H3045:1); 8 (H3002:1); from Houqikeshu sites:9, 11 (64 collection); 10 (T1②:1); 12, 13, 15, 17, 19-22 (T8③:2, 1, 3, 34, 26, 34, 9, 5); 14, 16 (T5③:13, 25); 18 (collection:45); from Beichanggangzi sites: 23, 34, 35 (T2④:11, 13, 14); 24, 26-28, 30, 31, 36, 37 (collection:24, 30, 9, 32, 10, 11, 27, 48); 25, 32, 38, 39 (T2②:21, 3, 5, 2); 29, 33 (T2③:27, 4); from Beigangzi:40, 41 (88 collection) ; from Hatugangzi:42-46, 49-52 (H1:28, 27, 22, 43, 31, 3, 42, 2, 1); 47, 48 (T1②:1, 2)

relics were unearthed from H1, among which a plain *li* tripod (Fig. 1.17: 42) with a slightly flared rim and a high crotch that is stylistically close to that of F104:45 (Fig. 1.16: 31) from Hanshu's group one, but differs significantly from F0002:1 and F0001:17 (Fig. 1.16: 1 & 2) from Xiaolaha's group two. Thus, it seems that both the T1② and H1 units in Hatugangzi should be of the same age as Xiaolaha's group one and Hanshu's group one.

Zhaodong Houqikeshu site: two pottery pieces were collected during the 1964 survey (Dan, Tan, 1982), one is a plain *li* tripod (Fig. 1.17: 9) which is similar in its

overall form to F0001:17 (Fig. 1.16: 2) from Xiaolaha's group two, so they should be of the same age. The other *bo* bowl (Fig. 1.17: 11) is basically the same as the Baijinbao H3002:1 (Fig. 1.17: 8) and they should be of the same age as well.

In the 1986 exploratory excavation, 11 units were excavated but no relic was found. The whole section was then divided into three layers, but few relics were found, especially complete or recoverable relics (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1988). Among them, the first and second layers were mixed with relics from the Liao and Jin dynasty or later; and the age of the relics from the third layer were relatively simple to determine. Based on the examination of pottery specimens (Fig. 1.17: 10, 12–22), the T1 ②: 1 red-clothed *hu* vessel is the same as the M102: 1 *hu* vessel excavated from Xiaodengke in 1985, which originated later. The T8 ③: 2 small cups, which is influenced in shape by the F0001: 3 cups from Xiaolaha's group two, were not made earlier than the second group. T5 ③: 13 (Fig. 1.17: 16), collection: 45 (Fig. 1.17: 18) and the T8 ③: 34 *guan* jar (Fig. 1.17: 20) with tapered mouths and flared rims are exactly the same in shape as the mouths found on H3028: 4 (Fig. 1.16: 4) from Xiaolaha's group two.

Based on the above analysis, it can be tentatively determined that materials from the survey and exploratory excavation at the Houqikeshu site in Zhaodong should be comparable in age to that from Xiaolaha's group two.

Fuyu Beichanggangzi site: it was surveyed and discovered in 1958 and excavated in 1974 (Archaeology Specialty, Department of History, Jilin University, 1979). The specimens that were found and examined are mainly cultural remains from the Hanshu phase II culture (Fig. 1.17: 23–39). Among them, T2④: 11 and Collection: 24, two mouth fragments from *li* tripods with cord patterns and an everted upper belly (Fig. 1.17: 23 and 24) are identical to the cord-patterned T121②: 19 *li* tripod from Xiaolaha's group one and the cord-patterned F104: 46 *guan* jar from Hanshu's group one (Fig. 1.16: 21 and 32). Two pottery legs, Collection: 48 and T2②: 5 (Fig. 1.17: 37 and 38), and H3052: 1 (Fig. 1.16: 25) from Xiaolaha's group one are similar in shape. This suggests that the overall age of this group's remains may be the same as Xiaolaha's group one and Hanshu's group one.

Beigangzi site in Tantu village, Zhenlai county: it was surveyed and cleaned up in 1988 (Baicheng Museum, Baicheng Cultural Relics Administration Institute et al. 1993). Two *hu* pottery vessels were unearthed, among the collected relics. One has a straight mouth, high body, and small flat base (Fig. 1.17: 41), all of which are basically the same in form as the F0001:19 *hu* vessel with cord patterns (Fig. 1.16: 5) from Xiaolaha's group two, thus should be of the same age. The other, with a cup-shaped mouth, flared rim, globular and bulging belly, and small flat base (Fig. 1.17: 40), is probably a later form of the Baijibao H3138:1 cup-mouthed *hu* vessel (Fig. 1.17: 1) and may therefore be dated back to the time of Xiaolaha's group two.

A small number of specimens from the second phase of the Hanshu culture, mainly pottery fragments, were collected from two surveys at the Wanghaitun site in Zhaoyuan (Dan, 1961; Si, 1987). No further analysis is carried out here as their group features are not obvious. The cultural remains of the Hanshu phase II culture excavated at the Wolong site have not been published yet (Qiao 1, 1985; Yang et al., 1997). Based on the examination of a *li* tripod from 84F103 (Qiao, 1993), its shape

is close to or is a slightly earlier form of the T121②:19 cord-patterned *li* tripod from Xiaolaha's group one.

1.5.1.4 Staging of Site Materials

Based on the group results of the Xiaolaha site, and combined with the comparative analysis of materials excavated from other sites, the site materials from the second phase of the Hanshu culture can be divided into two chronological phases: I and II. The representative materials of the two phases are summarized in Table 1.3, and the typical pottery with segmental significance and obvious signs of transmutation can be found in Fig. 1.18.

Specifically, evidence of transmutation can be found by comparing phase I pottery specimens with specimens from the late phase of the Baijinbao culture. For instance, the Xiaolaha T121②:19 *li* tripod and Wolong 84F103 *li* tripod can be regarded as having evolved from the Baijinbao 86F3021:1, a *li* tripod from the late phase of the Baijinbao culture, with no big missing link in between. In addition, decorative pottery patterns from the late phase of the Baijinbao culture can be observed on phase I pottery, such as the triangle comb pattern on the abdomen of Hanshu F104:37, a straight-mouthed *hu* vessel. This indicates that the age of phase I pottery from the Hanshu phase II culture should be close to that of the late phase of the Baijinbao culture (the late Spring and Autumn period), which is probably the early Warring

Table 1.3 Stages of site remains from phase II of the Hanshu culture

Phases	Zhaoyuan Xiaolaha site	Da'an Hanshu site	Zhaoyuan Baijinbao site	Other sites
II	Group 2	Group 2	86H3002 86H3045	Materials from the 1964 survey and 1986 exploratory excavation of the Houqikeshu site in Zhaodong; some specimens collected from Beigangzi in Tantu village, Zhenlai county in 1988
I	Group 1	Group 1	86H3138 86F3005 86T1738②	86H1, T1②; Wolong F103 from Hatugangzi in Zhaodong; materials unearthed from the exploratory excavation in 1974 in Beichanggangzi of Fuyu

Table 1.4 Stages of burial remains from phase II of the Hanshu culture

Stages	Pingyang	Xiaodengke	Guandi	Houtumu	Sanjiazi	Dongtugang	Wangong	Xinglongshan Mountian
III	Group M107				√	√	√	√
II	Group M103	85M102		√				
I	Group M108	85M101	M2	√				

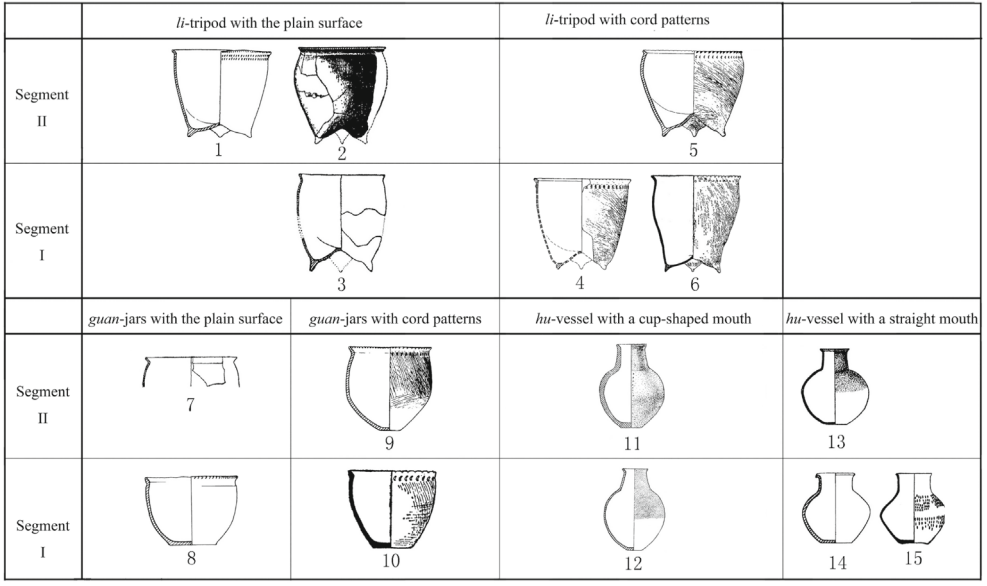

Fig. 1.18 Pottery unearthed from sites of the Hanshu phase II culture. 1 from Xiaolaha F0002:1; 2 from Houqikeshu collection; 3 from Hatugangzi H1:28; 4 from Xiaolaha T121②:19; 5 from Xiaolaha F0001:17; 6 from Hanshu F104:45; 7 from Houqikeshu T8③:34; 8 from Baijinbao H3138:2; 9 from Xiaolaha H3028:1; 10 from Hanshu F104:46; 11 from Beigangzi collection in Tantu; 12 from Baijinbao H3138:1; 13 from Hanshu H125:1; 14 Xiaolaha H3056:1; 15 from Hanshu F104:37

States period. The charcoal excavated from Xiaolaha's phase II (F0001) was dated by carbon-14 to 2127 ± 103 years ago, and the tree ring calibration value is BC331-AD30, which goes from the late Warring States period to the Western Han period (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, et al., 1998). Moreover, some of the pottery works excavated in this phase resemble more those found in phase II burial materials, which can be dated back to the late Warring States period, than those found in phase III burial materials, which can be dated back to the Western Han period (see discussions below). Therefore, it is presumed that the sites' phase II is more likely to be in the late Warring States period.

1.5.2 Analysis of Tomb Remains

The burial materials from the Hanshu phase II culture consist mainly of artifacts found at Pingyang cemetery which includes a cemetery unearthed from a brick factory in Tailai County, Heilongjiang province and Zhandou cemetery. Other locations where much fewer materials were found include places such as Xiaodengke in Fuyu, Dorbod Mongol autonomous county, Houtumu in Songyuan city, Beigangzi in Zhenlai county, Sanjiazi and Dongtugang in QiQihar, Wangong in Chenbarhu Banner, Xinglongshan Mountian in Tongyu.

1.5.2.1 Groups of Pingyang Cemetery, Tailai County

As mentioned above, Pingyang cemetery consists of two cemeteries: one is the brick factory cemetery with 97 tombs found, numbered M101-197; the other is Zhandou cemetery, with 21 tombs found, numbered M201-221 (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1990).

Two theories co-exist regarding the nature of Pingyang cemetery. One is that it is different from the Baijinbao culture and the Hanshu phase II culture, and that it constitutes a new type of cultural remains from the Bronze to the early Iron Age found in the Nengjiang River basin. Hence it was named the "Pingyang culture" (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1990; Li et al., 1994; Yang et al., 1996; Yang et al., 1997). The second argues that Pingyang cemetery is part of the second phase of the Hanshu culture. The differences in materials are mainly differences between site and burial materials of the same archaeological culture (Pan and Lin, 2002).

I stand with the second argument for three reasons. First, the age of Pingyang cemetery and the site materials from the second phase of the Hanshu culture are similar, their respective remains dating back to the Warring States period, and the end time of Pingyang cemetery being slightly later—perhaps as late as the Western Han Dynasty (Pan and Lin, 2002). Second, both of them are located in the middle and lower reaches of the Nengjiang River; and third, similar cultural features can be identified from the pottery unearthed at Pingyang cemetery and sites from the

Hanshu phase II culture. The slight differences reflect differences between burial objects and daily-life pottery. For example, the two plain-faced *li* tripods, M124:6 and M134:2, from Pingyang cemetery are small in shape, but their overall form is different from the *li* tripod from the Baijinbao culture, but close to the *li* tripod from the second phase of the Hanshu culture. The lower abdomen of both the M184:1 and M188:1 *hu* vessels from Pingyang cemetery were decorated with cord patterns. These two pieces are identical in style and have the same decorative features as the Xiaolaha F0001:18 from the Hanshu phase II culture. Moreover, the pillar-shaped and hourglass pottery legs excavated from Pingyang cemetery are pierced with a hole in the middle, which may be a funeral custom. However, the overall shape is different from the "bun-shaped" pottery legs from the Baijibao culture, but similar to the "flared-leg" pottery from the Hanshu phase II culture. In addition, works of pottery such as *hu* vessels, *wan* and *bo* bowls excavated from the tombs at the Pingyang and Hanshu sites are usually coated in red, and some *wan* and *bo* bowls are colored inside as well. Similarities in the shape of the mouth in *hu* pottery vessels, especially the cup-shaped mouth ones and those with a straight mouth, are observable as well. Therefore, with the temporal and spatial overlap and the commonality in pottery characteristics, it is safe to believe that Pingyang cemetery can be included into the cemeteries characteristic of the second phase of the Hanshu culture.

As the "Pingyang Cemetery" brief reported, 118 tombs were excavated in the brick factory and Zhandou cemetery, 271 pottery containers and 60 pottery legs were found in 80 tombs. Among them, information on only 95 pieces (about 29% of all unearthed pieces), 87 pieces of containers and 8 pieces of pottery legs, unearthed from 50 tombs (63% of all tombs with unearthed burial pottery) is available. Therefore, it is very difficult to date and divide Pingyang cemetery into phases based on the reported materials. However, based on the observation and comparative study of the 95 pieces of pottery excavated from the 50 tombs, it is at least certain that 39 of them and 83 pieces of excavated pottery have obvious time-related differences and represent three different time periods. For the sake of convenience, they are hereafter referred to as the M107, M103 and M108 groups respectively. The M107 group is the latest (the Western Han period), the M108 group is the earliest (the early Warring States period), and the M103 group is in the middle (the late Warring States period).

M107 group (the Western Han period): there are 16 tombs. Other than M107 and M219 which are the represented tombs, this group also includes M105, M111, M127, M133, M135, M136, M145, M162, M169, M170, M185, M204, M211, M214. Grouping these 16 tombs into the same chronological group and considering them as late in age are the result of the following considerations.

Firstly, according to the article "Dating and Cultural Nature of Pingyang Cemetery" (Pan and Lin, 2002), tomb M107 is from the Western Han period. One of the reasons is that the "single-ear-and-shell-shaped ornaments" (Fig. 1.19: 4) and "ear ornaments made of twisted gold wire" (Fig. 1.19: 1–2) in M107 in Pingyang are identical to those found in the Han tombs of Daodunzi, Mancheng, as well as Xuegu, Laoheshan, Cailan, Xichagou and Xinglong Mountains. Another reason is that the bronze belt hook in M219 (Fig. 1.19: 3) resembles the plain long plaque-shaped iron belt hook excavated from the M1 Han tomb in the Baotou Bianqiang trench.

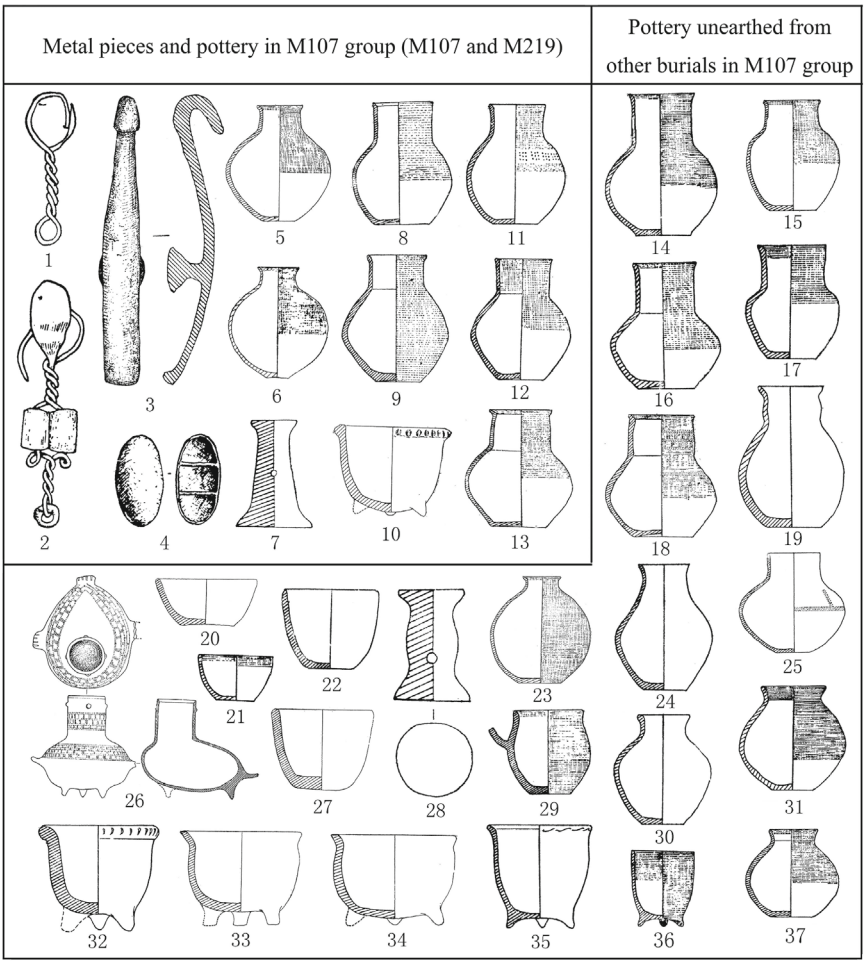

Fig. 1.19 Sample of burial artifacts in M107 group. 1, 2, 4, 8, 9, 11-13 (M107:71, 228, 56, 58, 590, 589, 97, 90); 3, 5-7, 10 (M219:21, 2, 1, 44, 63); 14, 16 (M133:14, 36); 15, 23, 27, 28, 34 (M204:2, 1, 10, 5, 9); 17, 18 (M111:34, 92); NO. 19 (M214:7); 20, 33 (M211:7, 4); 21, 31 (M135:39, 38); 22, 35 (M185:4, 5); 24 (M136:7); 25, 29 (M127:1, 2); 26 (M170:1); 30 (M105:1); 32 (M169:2); 36 (M162:1); 37 (M145:5)

Secondly, comparing pottery excavated from two Western Han tombs, M107 and M219 (Fig. 1.19: 5–13), to other tombs in this group (Fig. 1.19: 14–37), it is not difficult to find that:

(1) M111: 92, a cup-shaped mouth *hu* vessel (Fig. 1.19: 18), is identical to M107: 90 (Fig. 1.19: 13); the two straight-mouthed *hu* vessel excavated from M133 are similar to some found within M107 (Fig. 1.19: 14, 16, 8, 12); the M169: 2 *ding* cauldron (Fig. 1.19: 32) is identical to the M219: 63 *ding* cauldron (Fig. 1.19:

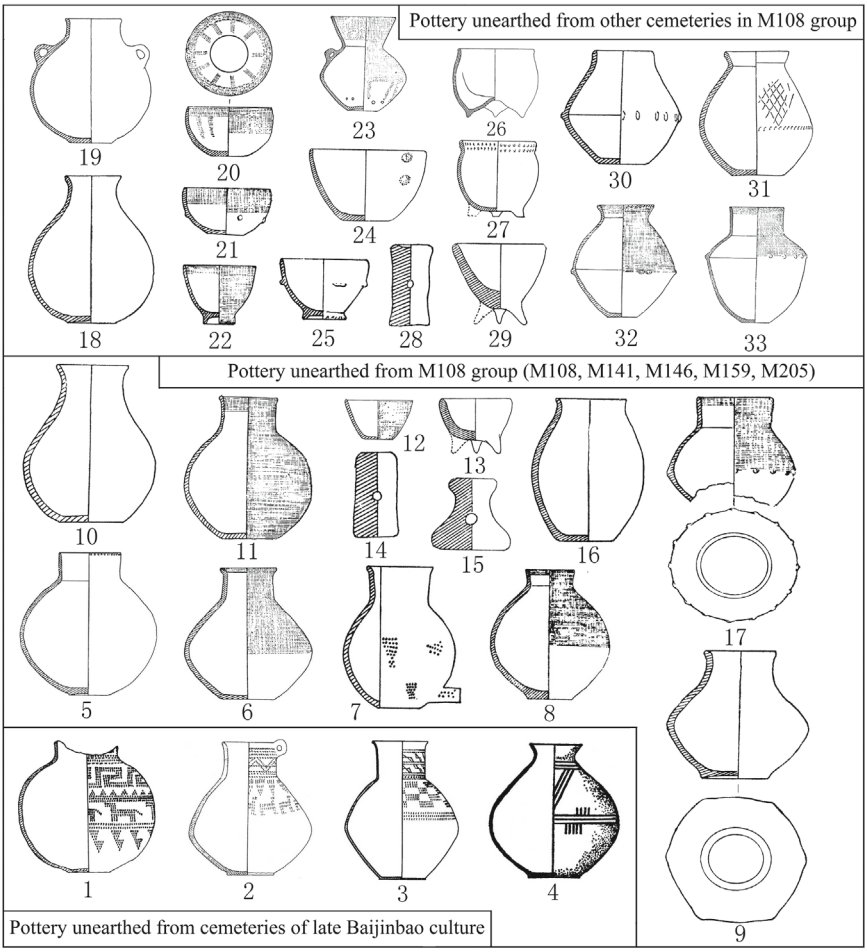

Fig. 1.20 Comparison between pottery unearthed from M108 group of Pingyang cemeteries and cemeteries of late Baijinbao culture. 1 (from Niuweibagang collection); 2, 3 (Erkeqian 85M8:1, 01M63:12); 4 (Xiaodengke 81M3:1); 5 (M108:16); 6 (M159:1); 7, 10, 12 (M205:2, 1, 3); 8, 11, 13-15 (M141:52, 50, 10, 11, 13); 9, 16, 17 (M146:15, 13, 1); 18 (M190:1); 19, 21 (M149:2, 4); 20, 23, 33 (M128:13, 14, 15); 22, 24, 31 (M153:10, 9, 8); 25, 27, 30 (M174:2, 1, 9); 26 (M134:2); 28, 29 (M155:1, 4); 32 (M167:5)

10). On this basis, M111, M133, and M169 should belong to the same time period as M107 and M219.

(2) The M204: 2 *hu* vessel (Fig. 1.19: 15) is similar in shape to the one found in M111: 34 (Fig. 1.19: 17), both having a distinctly bulging upper abdomen and consequently a shrugged shoulder, so these two tombs are of comparable age. The *Hu* vessels excavated from M136 (Fig. 1.19: 24), M127 (Fig. 1.19: 25) and

M105 (Fig. 1.19: 30) are also characterized by their bulging upper abdomen, so these tombs should also be of a similar age to M111.

(3) The M211: 4 *ding* cauldron (Fig. 1.19: 33) is the same as the one found in M204: 9 (Fig. 1.19: 34); the M185: 4 *wan* bowl (Fig. 1.19: 22) is the same as M204: 10 (Fig. 1.19: 27); the M135: 39 *wan* bowl (Fig. 1.19: 21) is the same as M211: 7 (Fig. 1.19: 20); the M145: 5 (Fig. 1.19: 37) *hu* vessel is the same as M135: 38 (Fig. 1.19: 31). Therefore, M211, M135, M145 and M185 can be regarded as belonging to same time period as M204.

(4) The bent neck of the M214:7 cup-mouthed *hu* vessel (Fig. 1.19: 19) is probably an evolved form of the necks of M107:90 (Fig. 1.19: 13) and M111:92 (Fig. 1.19: 18). The base of the M162:1 *ding* cauldron is identical to that of M185:5 (Fig. 1.19: 36, 35). Artifacts similar to the "duck-shaped *hu* jar" excavated from M170 (Fig. 1.19: 26) were also found in some Han dynasty tombs in sites such as Sanjiazi in Qiqihar (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, et al., 1988), Dongtugang (Qiqihar Municipal Cultural Relics Administration Station, 2002) and Erkeqian in Nehe (late phase burial). Therefore, the dates of M214, M162, M170 should also be comparable to M107, M111, M185.

Thirdly, the overall characteristics in this group of pottery, such as the high neck and shrugged-shoulder exhibited on the *hu* vessels, are very similar to those found on vessels excavated from Han dynasty tombs in places such as Sanjiazi, Xinglongshan (Jilin Provincial Archeological Team, 1982), Dongtugang and Wangong (Inner Mongolia Archaeological Team, 1965) in the same region.

In this way, based on the dating of the metal pieces and pottery excavated from the tombs M107 and M219, we can not only classify the above 16 tombs into the same chronological group, but also determine their date within the Western Han period with more certainty.

Group M108 (Early Warring States period): there are 13 tombs. This group is represented by M108, M141, M146, M159, M205, but also includes M128, M134, M149, M153, M155, M167, M174, M190. These 13 tombs are grouped and dated for the following reasons.

First, the *hu* vessels excavated from M108, M141, M146, M159, and M205 are all close to similar wares found in tombs from the late phase of the Baijinbao culture. For example, M146:15, with its square body and everted belly (Fig. 1.20: 9), is in the shape of the square *hu* vessel with a right bending belly from the late phase of the Baijinbao culture. *Hu* vessels M108: 16 (Fig. 1.20: 5), M159: 1 (Fig. 1.20: 6), M205: 2 (Fig. 1.20: 7), and M141: 52 (Fig. 1.20: 8) are clearly developed from the specimen collected from Niuweibagang (Fig. 1.20: 1), Erkeqian 85M8: 1 (Fig. 1.20: 2), Erkeqian 01M63: 12 (Fig. 1.20: 3), and Xiaodengke 81M3: 1 (Fig. 1.20: 4) which were excavated from burial sites from the late phase of the Baijinbao culture. In addition, triangular comb patterns which are commonly seen on the surface of Baijinbao pottery can be found on the belly of M205:2. Since the remains from the late phase of the Baijinbao culture are dated back to the late Spring and Autumn period, these above five tombs should not belong to this period, but to the early

Warring States period. The carbon-14 measurement of the M141 charcoal belonging to this group was 2475 ± 75 years old (Institute of Archaeology, Chinese Academy of Social Sciences, 1991), which can be another reference.

Second, comparing artifacts from these five tombs (Fig. 1.20: 5–17) with those of other tombs, one can find that:

(1) the M149: 2 and M190: 1 *hu* vessels (Fig. 1.20: 19a; 18) and M155: 1, a foot of pottery ware (Fig. 1.20: 28), are the same or similar in form to M108: 16 (Fig. 1.20: 5), M205: 1 (Fig. 1.20: 10) and M141: 11 (Fig. 1.20: 14) respectively, and should therefore be of comparable age. The M149: 2 *hu* vessel has symmetrical ears on its shoulders, which is likely to have been influenced by the double-eared *hu* vessel of the late phase of the Baijinbao culture (no other pottery from Pingyang cemetery has ears).
(2) The only released artifact from M134 is a *li* pottery tripod M134:2 (Fig. 1.20: 26), but according to the burial register, an AI-style straight-necked *hu* vessel with the exact same form as M159:1 was also unearthed from the tomb, so the tomb should be dated back to the same time as M159.
(3) Four pieces of pottery, M174: 9 (Fig. 1.20: 30), M153: 8 (Fig. 1.20: 31), M167: 5 (Fig. 1.20: 32), and M128: 15 (Fig. 1.20: 33), are clearly shaped by attaching mouths typical of *guan* jars or *hu* vessels to *bo* or *wan* bowls of varying depths, with a piece of clay attached to the interface to prevent the body from breaking. These vessels are identical in style to a *hu* vessel from M146 (Fig. 1.20: 17) and can therefore be regarded as relics from the same period.

In conclusion, based on this comparative analysis, these 13 tombs should belong to the same chronological group. As these excavated pieces of pottery show similarities with the remains of the late phase of the Baijinbao culture (late Spring and Autumn period), they should be dated back to the early Warring States period.

Group M103 (late Warring States period): there are 10 representative tombs, M103, M104, M124, M125, M140, M157, M184, M188, M207, and M217. The only reason to consider these tombs as a group and to date them between M107 and M108 is that the pottery shape in this group shows transitional features between the pottery found in groups M107 and M108. Specifically,

(1) The M103: 1 (Fig. 1.21: 20), M157: 4 (Fig. 1.21: 15), and M207: 11 (Fig. 1.21: 21) pottery legs are morphologically placed between M141: 13, legs of the M108 group (Fig. 1.20: 15) and M219: 44, and legs of the M107 group (Fig. 1.19: 7).
(2) The *hu* vessel M104: 3 (Fig. 1.21: 3) is morphologically placed between *hu* vessels M205: 1 of the M108 group (Fig. 1.20: 10) and M105: 1 of the M107 group (Fig. 1.19: 30).
(3) The *li* tripod M124: 6 (Fig. 1.21: 14) can be regarded as a late form of M134: 2 (Fig. 1.20: 26) of the M108 group.
(4) The *hu* vessel M125: 8 (Fig. 1.21: 8) is morphologically placed between M141: 52 of the M108 group (Fig. 1.20: 8) and M145: 5 of the M107 group (Fig. 1.19: 37).

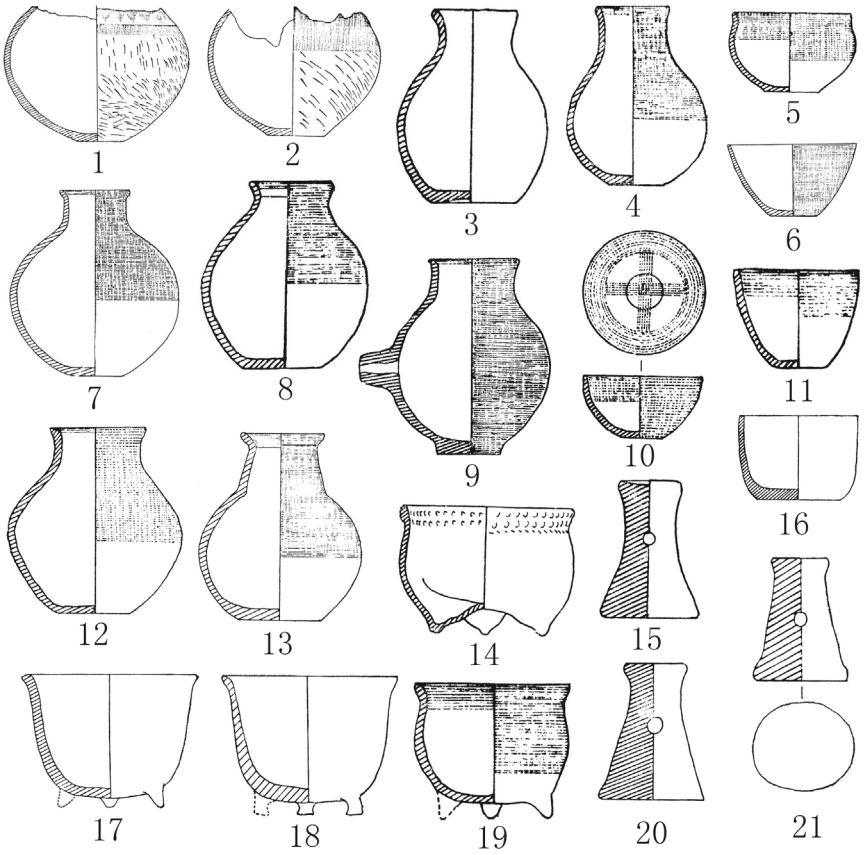

Fig. 1.21 Pottery of M103 from Pingyang cemeteries. 1, 2, 3, 4, 7, 8, 9, 12, 13 *hu*-vessel (M184:1, M188:1, M104:3, M104:33, M207:1, M125:8, M140:9, M104:9, M207:3); 5 *pen*-basin (M188:2); 6, 10, 11, 16 *bo*-bowl (M217:3, M104:8, M140:67, M104:42); 14.*li*-tripod (M124:6); 15, 20, 21 legs (M157:4, M103:1, M207:11); 17, 18, 19 *ding*-cauldron (M207:2, M217:2, M140:16)

(5) The M140: 16 *ding* cauldron (Fig. 1.21: 19) is morphologically placed between M174: 1 of the M108 group (Fig. 1.20: 27) and M204: 9 of the M107 group (Fig. 1.19: 34).
(6) The *hu* vessels M184: 1 and M188: 1 (Fig. 1.21: 1 & 2) are morphologically placed between M108: 16 of the M108 group (Fig. 1.20: 5) and M127: 1 of the M107 group (Fig. 1.19: 25).
(7) The *hu* vessel M207: 1 (Fig. 1.21: 7) is morphologically placed between M159: 1 of the M108 group (Fig. 1.20: 6) and M219: 2 of the M107 group (Fig. 1.19: 5).
(8) The *hu* vessel M207:3 (Fig. 1.21: 13) should morphologically be the predecessor of M214: 7 or M107: 90 (Fig. 1.19: 19, 13) of the M107 group.

(9) The *ding* cauldrons M217: 2 and M207: 2 (Fig. 1.21: 18, 17) are morphologically placed between M141: 10 of the M108 group (Fig. 1.20: 13) and M219: 63 of the M107 group (Fig. 1.19: 10).

Since the M107 group is dated back to the Western Han period and the M108 group to the early Warring States period, it is assumed that the M103 group, which lies between these two groups, should be dated back to the late Warring States period. The carbon-14 measurement of the M140 charcoal belonging to this group was 2385 ± 70 years old (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1991), which can be a reference.

1.5.2.2 Analysis of Other Burial Materials

Late phase of Xiaodengke cemetery in Fuyu, Heilongjiang province: Xiaodengke cemetery has been investigated and cleaned up three times, and 17 tombs have been found. According to the published materials on the six tombs, two of them, 85M101 and 85M102, are late phase tombs of Xiaodengke cemetery, which contains tombs of the Hanshu phase II culture (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1986). Among the pottery excavated from these two tombs, the 85M101:1 cup-mouthed *hu* vessel (Fig. 1.22: 12) with a flat abdomen, concave bottom, and remains of red coating, is of the same type as those found in the Pingyang tombs M107:90 (Fig. 1.19: 13) and M111:92 (Fig. 1.19: 18). However, since its overall shape resembles more the type of pottery from the late phase of the Baijinbao culture (Fig. 1.15, 1.3) than M107:90 and M111:92, its age is probably comparable to that of Pingyang cemetery's M108 group. Meanwhile, the small-mouthed *guan* jar 85M102:1 with a concave bottom and red coating (Fig. 1.22: 11) is clearly a developed form of the M146:13 *guan* jar (Fig. 1.20: 16) from Pingyang cemetery's M108 group, which should be of the same age as Pingyang cemetery's M103 group.

Guandi cemetery in Dorbod Mongol autonomous county: two tombs (Zhao, 1965), numbered M1 (burial artifacts were not reported) and M2, were found during the 1960 review. The straight-mouthed *hu* vessel unearthed from M2, with a globular and bulging abdomen and red coating (Fig. 1.22: 13), is similar in form to the straight-mouthed one (Fig. 1.20: 5) from M108:16 in Pingyang cemetery. The overall shape of another three-legged *bo* bowl (Fig. 1.22: 10) is a transition between M155:4 (Fig. 220: 29) and the M141:10 bowl-shaped *ding* tripod (Fig. 220: 13) from Pingyang cemetery's M108 group. Therefore, M2 should be dated back to the same time as Pingyang cemetery's M108 group.

Houtumu cemetery in Songyuan: one tomb was cleaned up and 8 pieces of pottery unearthed (Songyuan Municipal Museum 1999). All pottery pieces were coated in red, including *hu* vessels, *bo* bowls, and small *ding* tripods (Fig. 1.22: 1–9). According to their shapes, they belong to different eras. A collected cup-mouthed *hu* vessel (Fig. 1.22: 4) is close in shape to M207: 3 in Pingyang cemetery (Fig. 1.21: 13) and should be its predecessor. Therefore, it should roughly coincide with the cemetery's M108 group. All three straight-mouthed, flattened *hu* vessels with an everted belly

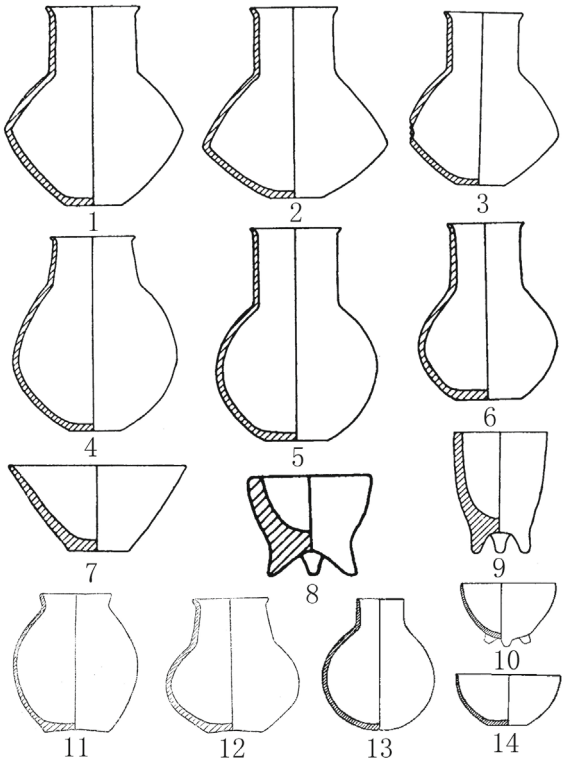

Fig. 1.22 Burial pottery of Hanshu culture phase II unearthed from Xiaodengke, Guandi, Houtumu sites. 1-5 *hu*-vessel (Houtumu collection); 6, 11-13 *hu*-vessel (Houtumu M1:1; Xiaodengke 85M102:1; Xiaodengke 85M101:1; Guandi M2); 7, 14 *bo*-bowl (Houtumu collection, Guandi M2 collection); 8-10 ding-cauldron (Houtumu collection, Houtumu collection, Guandi M2 collection)

(Fig. 1.22: 1–3) are of the same type as M133: 36 in Pingyang cemetery (Fig. 1.19: 16) but are clearly from an earlier time in terms of abdominal features. One of them (No. 1) has a very flattened abdomen with prominent folding corners (Fig. 1.22: 2), which is close to the same type of vessels from the late Baijinbao culture (Fig. 1.15: 4) and may be dated back to the time of the cemetery's M108 group. The belly's shape of the other two is a transitional form of No. 1 and M133:36, which are comparable in age to the cemetery's M103 group. In addition, two straight-mouthed *hu* vessels with globular bellies, one of which is M1:1 (Fig. 1.22: 5–6), are clearly transitional forms of M205:2 from the M108 group (Fig. 1.20: 7) and of M133:14 from the M107 group (Fig. 1.19: 14) in Pingyang cemetery. They can thus be dated back to the time of the M103 group. Moreover, the two three-legged wares that were collected, one being shallow with a rounded interior (Fig. 1.22: 8), are similar to M155:4 (Fig. 1.20: 29) and M141:10 bowl-shaped *ding* tripods (Fig. 1.20: 13) from the cemetery's M108 group and should therefore belong to the same era. Another three-legged *bo* bowl with a deeper cavity and an arc-rounded inner bottom (Fig. 1.22: 9) should be a predecessor to M162:1, a jar-shaped *ding* tripod (Fig. 1.19: 36) from Pingyang cemetery's M107 group. Its age may therefore be the same as the M108 group.

Beigangzi cemetery in Tantu village, Zhenlai county: in the 1988 survey, five tombs were cleaned up, but materials were unearthed and examined from only one of them (Baicheng Museum, Baicheng Cultural Relics Administration Institute, et al., 1993). The mouth's shape of a red-coated small *li* tripod (ibid., Fig. 1.6: 5) is close to M134:2 from Pingyang cemetery's M108 group, and the pouch-shaped feet are the same as M124:6 from the cemetery's M103 group, so its age should fall between these two groups. Other pottery is not discussed for the time being because of the lack of comparable shapes.

The burial materials excavated from Sanjiazi cemetery in Qiqihar, Dongtugang cemetery, Wangong cemetery in Chenbarhu Banner, and Xinglongshan Mountain cemetery in Tongyu county are all Han dynasty remains. Some of these remains belong to the Western Han period and are of the same age and nature as Pingyang cemetery's M107 group. Some of them may be much older and be dated back to the Eastern Han period (Chen, 1989). Since their chronological span is beyond the scope of this study, they are not analyzed further here.

1.5.2.3 Staging of Burial Materials

As discussed above, the burial materials from the second phase of the Hanshu culture can be separated into three stages. The first stage corresponds to the early Warring States period, the second stage to the late Warring States period, and the third stage to the Western Han period. The representative materials for each stage are summarized in Table 1.4, and typical pottery with segmental significance and obvious signs of transmutation can be found in Fig. 1.23.

1.5.3 Cultural Staging and Age

1.5.3.1 Cultural Staging

By further comparing pottery from each stage of the sites and cemeteries, the culture's phases can be finalized.

First of all, the cup-mouthed *hu* vessels from the site's stage I (Fig. 1.18: 12) and the cemetery's stage I (Fig. 1.23: 5) are fundamentally similar in shape. The Hanshu F104:37, a straight-mouthed *hu* vessel (Fig. 1.18: 15) from the site's stage I, and the Houtumu straight-mouthed *hu* vessel (Fig. 1.23: 8) from the cemetery's stage I are very close in shape in terms of neck and belly. But the triangular comb pattern applied to the surface of F104: 37 is consistent with the Pingyang M205:2 (Fig. 1.23: 11), a straight-mouthed *hu* vessel with a globular belly from the cemetery's stage I. The Xiaolaha T131②:3, a flared-mouthed *hu* vessel (Fig. 1.16: 30) belonging to the site's stage I, is identical in its overall shape to the Pinyang M205:1, a flared-mouthed *hu* vessel (Fig. 1.23: 23) from the cemetery's stage I, except for the thicker bottom.

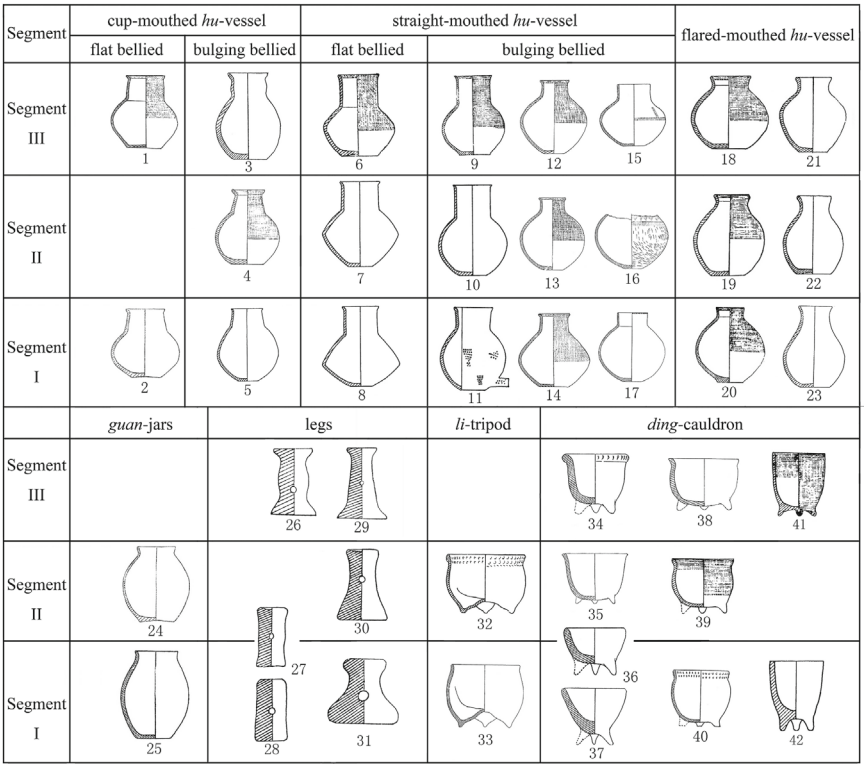

Fig. 1.23 Segments of pottery unearthed from cemeteries of Hanshu culture phase II. 1 (M107:90); 2 (85M101:1); 3 (M214:7); 4, 13, 35 (M207:3, 1, 2); 5, 7, 8, 10, 42 (Houtumu collection); 6, 9 (M133:36, 14); 11, 23 (M205:2, 1); 12, 29 (M219:2, 44); 14 (M159:1); 15 (M127:1); 16 (M184:1); 17 (M108:16); 18 (M145:5); 19 (M125:8); 20, 28, 31, 36 (M141:52, 11, 13, 10, 21); 21 (M105:1); 22 (M104:3); 24 (85M102:1); 25 (M146:13); 26, 38 (M204:5, 9); 27, 37 (M155:1, 4); 30 (M157:4); 32 (M124:6); 33 (M134:2); 34 (M169:2); 39 (M140:16); 40 (M174:1); 41 (M162:1); (NO. 2 and 24 from Xiaodengke collection, 5, 7, 8, 10 and 42 from Houtumu collection, the others unearthed from Pingyang cemeteries)

Based on the above similarities, it can be concluded that the dates of the site's stage I should be equivalent to the cemetery's stage I.

Second, the Hanshu H125:1, a straight-mouthed *hu* vessel from the site's stage II (Fig. 1.18: 13) with a high straight neck and globular bulging belly, is similar in form and decoration to the Pingyang M207:1, a straight-mouthed *hu* vessel (Fig. 1.23: 10, 13) collected from Houtumu, a stage II cemetery. The Xiaolaha F0001:18, a straight-mouthed *hu* vessel (Fig. 1.16: 6) from the site's stage II, with a globular and bulging belly and cord patterns, is identical in form and decoration to the Pingyang M184:1 (Fig. 1.23: 16) from the cemetery's stage II. In addition, the Houqikeshu T1②:1, a small-mouthed *guan* jar (Fig. 1.17: 10) belonging to the site's stage II is similar in shape to the Xiaodengke 85M102:1, a small-mouthed *guan* jar (Fig. 1.23: 24) from

the cemetery's stage II. These analogies suggest that the dates of the site's stage II should correspond to the cemetery's stage II.

It needs to be made clear that there is a lack of comparable remains corresponding to the cemetery's stage III and further fieldwork in this area is needed.

In this way, the second phase of the Hanshu culture can be categorized into three sub-phases according to the materials from both sites and cemeteries, as detailed in Table 1.5.

- Early phase: represented by the sites' stage I and the cemeteries' stage I;
- Middle phase: represented by the sites' stage II and the cemeteries' stage II;
- Late phase: represented by the sites' stage III and the cemeteries' stage III.

1.5.3.2 Dates

As mentioned earlier, the first and second stages of the site materials correspond to the early Warring States period and the late Warring States period, respectively; the first, second and third stages of the burial materials correspond to the early Warring States period, the late Warring States period, and the Western Han period, respectively. Therefore, the early stage of the Hanshu phase II culture corresponds to the early Warring States period, the middle phase corresponds to the late Warring States period, and the late phase corresponds to the Western Han period.

1.6 Chronological Coordinates of Archaeological Cultures of the Nenjiang River Basin

In the discussions above, based on new analyses of excavated materials from the Baijinbao sites in Zhaoyuan, I re-identify and clarify the archaeological cultures in the Nenjiang River Basin from the Xia period to the Warring States period, which include the Xiaolaha culture, the "Gucheng remains", the Baijinbao culture and the second phase of the Hanshu culture. I also determine the relative chronological relationship between these four cultures. Then, by investigating and grouping each culture's sites and cemeteries, I explore the stages of each culture's site and burial materials, as well as the chronological correspondence between the two types of different remains. Phasing and dating of each archaeological culture are established on this basis.

The four basic steps to establish chronological coordinates of regional archaeological cultures are: the grouping of single site and cemetery; the staging of all sites and cemeteries; the phasing of the whole culture; the chronological study of a region's cultures. Therefore, based on the studies of the archaeological cultures of the Nenjiang River Basin from the Xia to the Warring States period, I have established the sequence and chronology of archaeological cultures in the area into the following

Table 1.5 Stages of phase II of the Hanshu culture and their corresponding periodization and grouping of site and burial remains

Culture	Site remains				Burial remains				
Phase	Stages	Xiaolaha	Hanshu	Baijinbao	Stages	Pingyang	Xiao Dengke	Guandi	Houtumu
Late					III[5]	Group M107			
Middle	II[6]	Group 2	Group 2	86H3002 86H3045	II	Group M103	85M102		√
Early	I[7]	Group 1	Group 1	86H3138 86F300586T1738②	I	Group M108	85M101	M2	√

[5] Burial remains of similar age to burial materials from stage III also include part of materials unearthed from cemeteries in Sanjiazi in Qiqihar, Dongtugang, Wangong in Chenbarhu Banner, Xinglongshan Mountain in Tongyu, and so on.

[6] Remains of similar age to site materials from stage II also include some materials and specimens excavated from the survey in 1964 and the exploratory excavation in 1986 in Houqikeshu of Zhaodong.

[7] Remains of similar age to site materials from stage I also include 1986H1 and T1② in Hatugangzi of Zhaodong, Wolong 1984F103, and materials excavated from Beichanggangzi in Fuyu.

eight stages (the eighth stage belongs to the Western Han period, which is beyond the scope of research):

- The first stage is represented by the early and late phases of the Xiaolaha culture, dating back from the Xia period to the early Shang period.
- The second stage is represented by the "Gucheng remains", dating back to the late Shang period.
- The third stage is represented by the early phase of the Baijinbao culture, dating back to the early period of Western Zhou.
- The fourth stage is represented by the middle phase of the Baijinbao culture, which is equivalent to the middle period of the Western Zhou.
- The fifth stage is represented by the late phase of the Baijinbao culture, dating back from the late Western Zhou to the late Spring and Autumn period.
- The sixth stage is represented by the early phase of the Hanshu phase II culture, dating back to the early Warring States period.
- The seventh stage is represented by the middle phase of the Hanshu phase II culture, dating back to the late Warring States period.
- The eighth stage is represented by the late phase of the Hanshu phase II culture, dating back to the Western Han period.

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Chapter 2
Staging and Chronology of Archaeological Cultures in the Liaoxi Mountainous Region

Abstract Chapter Two focuses on the staging and chronology of archaeological cultures in the Liaoxi Mountainous Region. The Weiyingzi culture is dated to the late Shang period, with its temporal scope not extending beyond the early Western Zhou period. The Upper Xiajiadian culture is defined to be a relic from the early Western Zhou period to the late Spring and Autumn period, ranging from the late Shang period to the late Spring and Autumn period. It is proposed that the "Tiejianggou remains" and "Jinggouzi remains" belong to the same cultural category, contemporaneous with the "Shuiquan remains" and "Wudaohezi remains". The "Linghe remains" are divided into early and late phases, corresponding respectively to the Upper Xiajiadian culture and the "Shuiquan remains". The eight cultural remains in this area are divided into six stages of the Xia period (early Lower Xiajiadian culture), the early Shang period (late Lower Xiajiadian culture), the late Shang period (the Weiyingzi culture), the early Western Zhou period to the late Spring and Autumn period (the Upper Xiajiadian culture and early "Linghe remains"), the early and middle Warring States period (the "Shuiquan remains", the "Jinggouzi remains" including "Tiejianggou remains", "Wudaohezi remains", and late "Linghe Remains") and the late Warring States period (the Yan culture).

2.1 Geographical Scope and Research Status

When talking about the southern areas of northeast China, especially when staging archaeological cultures of the pre-Warring States period in Liaoning province, "Liaoxi" and "Liaodong" are commonly used in academia to refer to certain regions. However, they need to be clarified first as there are disagreements regarding their specific denotation.

Some scholars use them to indicate administrative regions, "Liaoxi" referring to the western part of Liaoning Province, and "Liaodong" to the eastern part of Liaoning Province. Accordingly, there are several guiding concepts such as "Liaonan", "Liaobei" and "Liaozhong". As for the boundaries between these five "directions", few people have clearly defined them or given a specific description.

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Some scholars define them according to the differences of archaeological materials excavated. In this case, "Liaoning province before the Warring States period was divided into three regions, namely, Liaoxi, Liaodong and Liaozhong" (Zhang, 1991). Specifically, "Liaoxi refers to the area to the west of the Yiwulu Mountain and to the north of the two sides of the Xar Moron River, including the Xar Moron River, the Laoha River, the Daling River, the Xiaoling River and their tributaries. The Liaozhong area refers to the basin areas of Xialiao River and Taizihe River, but it can be further divided into two sub-regions, coastal islands and peninsula, due to its historical and cultural relationship with Jiaodong Peninsula" (ibid.)

I endorse the second definition of these terms in this book and complement it with three propositions to further specify the geographical boundaries of "Liaodong", "Liaoxi", and "Liaozhong" areas.

First, "Liao" here should refer to the Liao River rather than Liaoning Province. This is because "Liaoxi", according to the above definition, include the Xar Moron River and its tributaries Laohahe and the Jiaolai River, which actually covers the southeastern part of Inner Mongolia Autonomous Region and a small part of the northern area of Hebei. Similarly, the northern part of "Liaodong" also covers the southeastern edge of Jilin Province.

Second, the dividing line between "Liaoxi" and "Liaozhong" should be Yiwulu Mountain, while the dividing line between "Liaozhong" and "Liaodong" should be the Xiushui River, a tributary of the Liao River, and the main channel of the Liao River to the south of the mouth of the Xiushui River.

Thirdly, since the geographical region of "Liaoxi" is mountainous and hilly, it is renamed in this book as the Liaoxi mountainous region. The geographical region of "Liaozhong" is mainly the plain area to the west of the Liao and Xiushui Rivers, so it is renamed as the Liaozhong plain region here. Although most of "Liaodong" is mountainous and hilly as well, it also includes a small part of the Liao River plain to the east of the Liao and Xiushui Rivers, so for convenience, it is still called the "Liaodong region" or simply "Liaodong" here. In terms of differences of cultures, especially cultures in the Xia and Shang periods, the "Liaodong region" can be further divided into the "Southern Liaodong Region" and the "Northern Liaodong Region" by taking the dividing line between Yingkou and Dandong as the boundary (Fig. 1.1: 2–5).

In the Liaoxi mountainous region, which is located to the west of the Yiwulu Mountain and centered on the basins of the Xar Moron River, Laoha River, Jiaolai River, and the Daling and Xiaoling Rivers, the main archaeological cultures identified and recognized as belonging to the era spanning from the Xia to the Warring States periods are the Lower Xiajiadian culture, the Weiyinzi culture, the Upper Xiajiadian Culture. Among them, the Lower Xiajiadian culture has spread beyond the mountainous region of Liaoxi mountainous region and reached the Hai River and Huliu River basins to the south of the Yan Mountains. The "Linghe remains" which are roughly of the same age as the Upper Xiajiadian culture, and the "Shuiquan remains", "Jinggouzi remains", "Tiejianggou remains" and "Wudaohezi remains" which were found afterwards, are all unspecified in terms of cultural provenance due to the lack

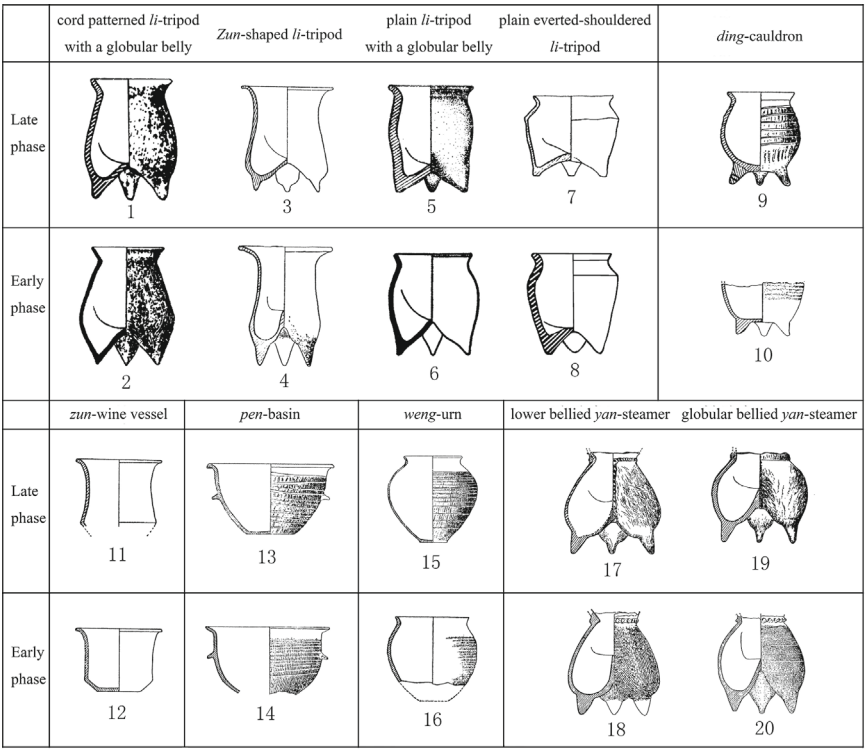

Fig. 2.1 Typical pottery of the Lower Xiajiadian culture. 1, 2 (Qianbao TG②:6, F1:39); 3, 9, 11, 12, 13, 15, 17, 19 (Fengxia T23③:1, T10③:1, T8②:3, T17⑤:2, T102②F8:9, T84②F13:8, T17③:1, T4②F1:1); 4, 7, 10, 14, 20 (Nanshangen T1③:34, collection:1, T10④:23, H28:3, T10④:21); 5 (Fanzhangzi M79:2); 6 (Xueshan H66④:94); 8 (Wu tomb in Xiaoguanzhuang:3); 16 (NanguandiF3:4); 18 (Yaowangmiao T1③:13)

of unearthed materials. In the following section, I focus on the phasing and dating of the various cultural remains.

2.2 The Lower Xiajiadian Culture: Staging and Age

The Lower Xiajiadian culture which belongs to the early Bronze Age is distinct from the Upper Xiajiadian culture. It is named after the excavation of the Yaowangmiao and Xiajiadian sites in Chifeng in 1960 (Inner Mongolia Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1961). Although these remains were excavated by a Japanese team in the 1930s at the Hongshanhou site in Chifeng, they were not separately identified at the time, but were included with other cultures in the so-called "Chifeng Second Phase Culture" (Hamada and Mizuno, 1938). Since then, although some Chinese scholars have noted that the

"Chifeng Second Phase Culture" contains several cultural remains that are different in nature (Lű, 1958), the study and understanding of the Lower Xiajiadian culture have not fundamentally changed or evolved. By focusing on the excavations of the Yaowangmiao and Xiajiadian sites and proposing a distinction between the Lower Xiajiadian culture and Upper Xiajiadian culture, this study should therefore be a turning point in the understanding of the Lower Xiajiadian culture. It marks a new stage in the development of the understanding of the Lower Xiajiadian culture in Chinese academia.

Over the past half century, hundreds of sites from the Lower Xiajiadian culture have been discovered in Liaoning, Inner Mongolia, Hebei, Beijing, and Tianjin, and a considerable number of these sites have been formally investigated and excavated. Along with the continuous enrichment of archaeological materials, in-depth studies and discussions on a series of issues such as the dating, phasing, types, distribution, origin, flow, and clan affiliation of the Lower Xiajiadian culture have been undertaken. Albeit many achievements and primary consensus, differences of opinion exist as well. In the following, I focus on defining, phasing and dating the Lower Xiajiadian culture for the purpose of this research.

2.2.1 The Lower Xiajiadian Culture: Geographical Landscape and Connotation

According to the existing materials, the Lower Xiajiadian culture spread over the entire Liaoxi mountainous region to the north of Yan Mountain, as well as the areas between the north of Yan Mountain and the north of the Huliu River (a tributary of the Sangan River), the Yongding River and the Hai River. Because of its wide geographical distribution, remains from the Lower Xiajiadian culture unearthed in different regions are different in appearance to a certain extent. Two distinct theories exist on how to account for these differences and, by extension, on how to define the Lower Xiajiadian culture.

The first theory is that all remains from the Lower Xiajiadian culture excavated in the above regions belong to the same archaeological culture. The differences in appearance may reflect different local features within the same culture. Therefore, the Lower Xiajiadian culture should be divided into two or three different types or regions, such as the "Yannan type" and "Yanbei type" (Li, 1979), "Liaoxi type" and "Yanshan type" (Zou, 1980), "western Liaohe river system zone" and "northern Haihe river system zone" (Zhang et al., 1987), "Yaowangmiao type", "Datuotou type" and "Huliu River type" (Li, 1990).

The second theory is that the remains from the Lower Xiajiadian culture excavated in the south of Yan Mountain should not be categorized into the Lower Xiajiadian culture. Instead, they merely reflect influences from the Lower Xiajiadian culture in the Liaoxi mountainous region. It is then argued that the remains represented by the

"Datuotou type" to the south of Yan Mountain should be defined as an independent archaeological culture and referred to as the "Datoutuo culture" (Han 1993).

In fact, the pottery excavated from the Huliu River and Hai River basin (south of Yan Mountain) shows more similarities than differences to remains from the Lower Xiajiadian culture unearthed from the Liaoxi mountainous region (north of Yan Mountain). Therefore, I stand with the first theory and propose to divide the Lower Xiajiadian culture into two sub-regions and three different types: a. the western Liao River system zone, including the Yaowangmiao type; b. the northern Hai River system zone, including the Datuotou and Huliu River types. Among them, the western Liao River system zone, that is the Yaowangmiao type, is equivalent to the Liaoxi mountainous region.

2.2.2 The Lower Xiajiadian Culture: Staging and Age

The phasing and dating of the Lower Xiajiadian culture have been discussed in the past, among which the most representative and convincing studies are "Investigating the Lower Xiajiadian Culture" (Zhang et al., 1987) and "On the Lower Xiajiadian Culture" (Li, 1990). Studies published since then have mostly supplemented, enriched, or confirmed the understanding of the above two articles, rather than revised or questioned them. For example, although rich materials were unearthed from the archaeological survey of the Banzhijian River basin and the excavation at the Dashanqian site in Chifeng in the mid- and late 1990s (Chifeng Archeological Team organized by National Cultural Heritage Administration, 2002), they barely support a new and revised understanding of the staging of the Lower Xiajiadian culture in the Liaoxi mountainous region. Another example is the study entitled "Excavation report of relics and tombs in Dadianzi from the lower Xiajiadian culture" (Institute of Archaeology, Chinese Academy of Social Sciences, 1998). In this research, the resulting staging of the cemeteries of the Lower Xiajiadian culture is consistent with the time frame established in previous studies. The stratigraphic relationship of the artifacts found at the sites from the Lower Xiajiadan culture follows this pattern: T6A①H6: 6 *zun*-shaped *li* tripod → T3③: 16 *zun*-shaped *li* tripod → T1④: 27 *zun*-shaped *li* tripod (arrows indicate time sequence). It further confirms the staging based on the chronological ordering of the *zun*-shaped *li* tripod in the above two articles.

By integrating arguments put forward in these articles, I phase and date the Lower Xiajiadian culture as below.

In the article "Investigating the Lower Xiajiadian culture" (Zhang et al., 1987), the authors distinguish the Lower Xiajiadian culture in the Xiliao River system zone into four stages, i.e. from I to IV, and list the evolution sequence of four types of pottery from these stages: the *yan* steamer, *zun* wine vessel, *zun*-shaped *li* tripod, and cord-patterned *pen* basin. These findings were based on excavated materials from the Yaowangmiao site in Chifeng city, Xiajiadian site (Inner Mongolia Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1961, 1974), Zhizhu Mountain site (ibid., 1979), Xindian site, Xianglu Mountain site,

Xishangen site (Liu and Xu, 1981), Nanshangen site in Ningcheng county (Inner Mongolia Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1975), Xiaoyushulinzi site (Inner Mongolia Archaeological Team, 1965), Dadianzi site in Aohan Banner (Liaoning Provincial Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1975), Xiaoheyan site (Liaoning Provincial Museum, 1977), Xiaozhuanzi Mountain site in Kazuo county (Wang, 1957) and Fengxia site in Beipiao city (Liaoning Provincial Workshop for the Executives of Cultural Relics, 1976). Meanwhile, based mainly on the excavated materials from the Datuotou site in Beidachang, Hebei province (Archaeological Team of Tianjin Municipal Cultural Bureau, 1966), Dachengshan site in Tangshan (Hebei Provincial Cultural Relics Administration Committee, 1959), Xiaoguanzhuang site (An, 1954), Xueshan site in Changping, Beijing (Zou, 1980; Lu and Ge, 1978), Liulidian site in Liulihe, Fangshan (Beijing Municipal Cultural Relics Administration, 1976), Zhangjiayuan site in Tianjin, Ji county (Tianjin Municipal Cultural Relics Administration, 1977), and Weifang site (Tianjin Municipal Archaeological Team of Cultural Relics Administration Bureau, 1983), the authors distinguished the Hai River system zone, including the Chaobai and Jiyun Rivers to the north of the Yongding River, into three stages from early to late period. In another two articles written by these authors, "Archaeological history of Yu County" (Zhangjiakou Municipal Archaeological Team, 1982), and "Main achievements of archaeology in the Xia and Shang period of Yu County" (Zhangjiakou Municipal Archaeological Team, 1984), the remains unearthed from the Huliu River basin of Yu County, which belong to the Lower Xiajiadian culture in the Hai River system zone, were divided into four time-related stages. The correspondence with and chronology of the remains from the above two zones and another area can be found in Table 1 of the article "Investigating the Lower Xiajiadian culture" (Zhang et al., 1987).

Three conclusions were made in the article "On the Lower Xiajiadian culture" (Li, 1990). Firstly, the author divided the "Yaowangmiao type" which corresponds to the western Liao River system zone in the Liaoxi mountainous region into five temporal stages. Li also determined the evolution sequence of six types of pottery; namely, *yan* steamer, *zun* wine vessel, *zun*-shaped *li* tripod, cord-patterned *pen* basin, *ding* cauldron, *weng* urn, as well as the chronological positions of three types of pottery, *dou* vessels with a shallow plate supported on a stem rising from a flaring base, ring-footed *pan* plates, and plain everted-shoulder *li* tripods. These contributions were made by analyzing typical stratigraphic relationships and remains from the Fengxia sites in Beipiao, Yaowangmiao site in Chifeng, Zhizhu Mountain and Nanshangen site in Ningcheng, together with the analysis of remains from other sites. The examined materials were basically the same as in the previously mentioned article, and supplemented with two kinds of materials. One kind includes materials found during an exploratory excavation at the Sifendi site in Chifeng, the results of which were published in the fifth issue of *Archaeology* in 1983. The other kind refers to excavation materials from Tashan in the village of Baisilangyingzi in Aohan Banner and the Nantaidi site, the results of which were published in issue 12 of *Cultural Relics* in 1977. Secondly, based on the stratigraphic relationships revealed at the Datuotou, Zhangjiayuan, Weifang, and Dongzhuangdian sites (Hebei Provincial Institute of

Cultural Relics, 1983), and the comparison of each site's pottery, the author divided the "Datuotou type" remains (or "northern Hai River system zone") from the Lower Xiajiadian culture into five stages from early to late period. The author also divided the evolutionary sequence of five types of pottery into these five stages: cord-patterned *li* tripods with a globular belly, plain everted-shoulder *li* tripods, *zun* wine vessels, *pen* basins, *weng* urns. Thirdly, the author agreed with the segmentation of the remains from the Lower Xiajiadian culture around the Huliu River basin in Wei county that was proposed in the article mentioned above, "Main achievements of archaeology in the Xia and Shang period of Yu County", except for Qianbao F1 which the author classified into stage I instead of stage II. The correspondence with and chronology of the remains from the above types or areas can be found in Table 1 of the article "On the Lower Xiajiadian culture" (Li, 1990).

Comparing the resulting staging and phasing put forward in the above two texts, it is apparent that they relied on typical pottery and similar stratigraphic relationships to determine their ranking. Stages divided out of the same area or type, although different in numbers, have similar starting and end time and evolutionary trends. Based on these premises, I support and consolidate the resulting staging and phasing of the above two articles by categorizing remains from the Lower Xiajiadian culture into two phases through further comparison.

The early phase corresponds to stage I and II of the "Western Liao River system zone", stage I and II of the "Northern Hai River system zone", stage I and II of the "Huliu River basin", as proposed in "Investigating the Lower Xiajiadian Culture" (Zhang et al., 1987); stage I and II of the "Yaowangmiao type", stage I to III of the "Datuotou type" and stage I and II of the "Huliuhe type", as proposed in "On the Lower Xiajiadian culture" (Li, 1990). The representative units after integration include: layer ⑤ of the Fengxia site; T1③ and F2 of the Yaowangmiao site; T1④, T1③, T10④-③ and H28 of the Nanshangen site; T1②F, T1②G, T3④D, T3④E and H42 of the Zhizhu Mountain site; F1, F2, F8 and H6 of the Sifendi site; F3 of the Nantaidi site; T1-T4③, T7-T9④, T4H2 of the Weifang site; layer ④ of the Zhangjiayuan site; F4, H2 of the Datuotou site; H109 of the Xue mountain site (Zou, 1980); layers ② to ④ of the Dongzhuangdian site; *jia* and *wu* tombs of the Xiaoguanzhuang site; M2008, M2010, H2022, H2047 of the Sanguan site; F1 of the Qianbao site; and T12③ of the Sishilipo site.

The late phase corresponds to stage III and IV of the "Western Liao River system zone", stage III of the "Northern Hai River system zone", stage III and IV of the "Huliu River basin", as proposed in "Investigating the Lower Xiajiadian Culture" (Zhang et al., 1987); stage III to V of the "Yaowangmiao type", stage IV and V of the "Datuotou type" and stage III of the "Huliuhe type", as proposed in "On the Lower Xiajiadian Culture" (Li, 1990). The representative units after integration are: the ② and ③ layers of the Fengxia site and related house sites and ash pits, T20②H1, T102②F8, T1①, T1②, F1 of the Yaowangmiao site; T1②A to T1②E, T2④A, T2④B, T3④A to T3④C, H31, H40 of the Zhenzhu Mountain site; F1 and F12 of the Tashan site; T7-T9③ of the Weifang site; T3② of the Zhangjiayuan site; H1 of the Datuotou site; M11 and M42 of the Xueshan site, bronze artifacts from the tomb of the Liujiahe

site (Beijing Municipal Cultural Relics Administration, 1977); B1② and TG②:6 of the Qianbao site; H28 of the Shilipo site; and H224 and W3 of the Zhuangke site.

Phasing of typical pottery, such as cord-patterned *li* tripods with a bulging belly, *zun*-shaped *li* tripods, plain *li* tripods, *yan* steamers, *ding* cauldrons, *zun* wine vessels, *pen* basins, *weng* urns, from the above two units, is shown in Fig. 2.1.

Regarding the dating of the early and late phases of the Lower Xiajiadian culture, the conclusions of the previously mentioned two articles are concurred. That is, all zones, types and stages of the early phase can be dated back to the Xia era, while those included in the late phase can be dated back to the early Shang period. Since it has become the consensus among scholars that the overall age of the Lower Xiajiadian culture spans from the Xia period to the early Shang period, there is no need for further discussion.

2.3 Connotation and Age of the Weiyingzi Culture

If the distinction established in the 1960s between the Lower and Upper Xiajiadian cultures was a turning point in the archaeology of the Bronze Age in the entire Liaoxi mountainous region, the discovery and identification of the Wei Yingzi culture in the 1970s and 1980s marked a new stage of development in the study of bronze culture in this region. The identification of this culture not only filled the chronological gap between the Upper and Lower Xiajiadian cultures in this region, but also provided an important reference for identifying the remains of other cultures at the same stage of development as the Weiyingzi culture in the entire northeast region.

However, since the 1990s, with the discovery of new materials at the Pingdingshan site in Fuxin and the Xiangyangling site in Yi County, and the change in the understanding of the nature of the remains excavated from the locations B, C and D in Heshanggou cemetery in Kazuo, disagreements on how to define the Weiyingzi culture arose. Consequently, disputes regarding the chronology of the Weiyingzi culture still exist. Since defining the culture is a premise to its dating, I discuss the nature of the Weiyingzi culture in the first instance.

By analyzing materials unearthed from Weiyingzi sites and cemeteries in Chaoyang (Archaeological Team of the Liaoning Provincial Museum, 1977), the second cultural layer of Nanmengou, the pottery group of Houfen in Kazuo (Kazuo County Cultural Center, 1982), location A of Heshanggou cemetery, the Gushan of Beidong (Kazuo County Cultural Center et al. 1974), and the tombs in Daohugou, Guo Dashun, (1987) proposed for the first time that there should be a "Weiyingzi type" between the Upper and Lower Xiajiadian cultures in the Liaoxi mountainous region. He defined the "cultural content" of the Weiyingzi culture in six aspects: site, pottery, cemetery, bronze, era, and distribution. He also pointed out that the Weiyingzi type was a bronze culture mainly distributed in the southern part of the Daling River basin, Xiaoling River basin and even Bohai seashore around the time of the Shang and Zhou periods.

I need to highlight that: (1) the article clearly claims that given the materials excavated from the four sites A, B, C and D in Heshanggou cemetery, the cemetery at point A is of the Weiyingzi type and the other three points are of the Linghe type. (2) Examining the dates, regions and coexisting relationships, the author presumed that the bronze wares in the hoard excavated in places such as Kazuo should be related to the local bronze culture. According to the nature of the coexisting pottery in tomb No. 1 at the Heshanggou site, this local bronze culture should be of the Weiyingzi type. (3) While emphasizing that the Weiyingzi culture is a bronze culture from around the Shang and Zhou periods, it is also clearly stated in the article that this cultural type appeared later than the Lower Xiajiadian culture and earlier than the Linghe type of the Upper Xiajiadian culture. (4) While making clear that the Weiyingzi culture is mainly distributed in the basin of the Daling and Xiaoling Rivers, the author also emphasized that relics identical or similar to the Weiyingzi culture have been found in and around Chifeng in the basin of the Laoha River and Xar Moron River, including sites such as Tianbaotong in Hexigten Banner, Toupaizi in the Ongniud Bannar. The author highlighted that although it is unclear whether they belong to the same cultural type as the Weiyingzi type, they belong to the same time period.

Following observations of new materials and insightful results published in recent years, part of the Weiyingzi "cultural contents" defined in this article are controversial. By analyzing different materials, I present my own findings below.

First of all, the newly discovered remains of Pingdingshan's phase III in Fuxin (Liaoning Provincial Institute of Cultural Relics and Archaeology et al., 1992) and of Xiangyangling's phase III in Yi County (Liaoning Provincial Institute of Cultural Relics and Archaeology, 2000) should belong to the Weiyingzi culture. The discovery of these materials has filled the void of site materials from the Weiyingzi culture, enabled a more comprehensive understanding of the pottery characteristics of the Weiyingzi culture (Fig. 2.2), and provided clues for exploring the staging of this culture. However, it is worth noting that there is lack of consensus on whether the phase IV remains from the Xiangyangling site belong to the Weiyingzi culture. Some believe that they belong to the late phase of the Weiyingzi culture (Dong, 2000a), while others that they are distinct from the Weiyingzi culture and should be treated separately and referred to as "XiangyangLing Phase IV remains" (Liaoning Provincial Institute of Cultural Relics and Archaeology, 2000). I argue that it is better not to include the "Xiangyangling Phase IV remains" into the Weiyingzi culture for the time being, given the small number of materials unearthed therefrom—there is only one piece of complete or recoverable pottery. In addition, some specimens with similar characteristics to phase III pottery may be part of earlier remains. Therefore, it is not appropriate to include the "Xiangyangling Phase IV remains" when discussing, defining and dating the Weiyingzi culture.

Second, regarding how to define the nature of materials excavated from sites B, C and D in Heshanggou cemetery, different views coexist. Some argue that these sites' tombs belong to the same cemetery as the tombs in site A, so they should be categorized as belonging to the Weiyingzi culture, and the lower limit of this culture should be dated back to Western and Eastern Zhou (Dong 1993, 2000). Some scholars, such as Zhu, (1997), followed this idea and clearly pointed out that the first phase of

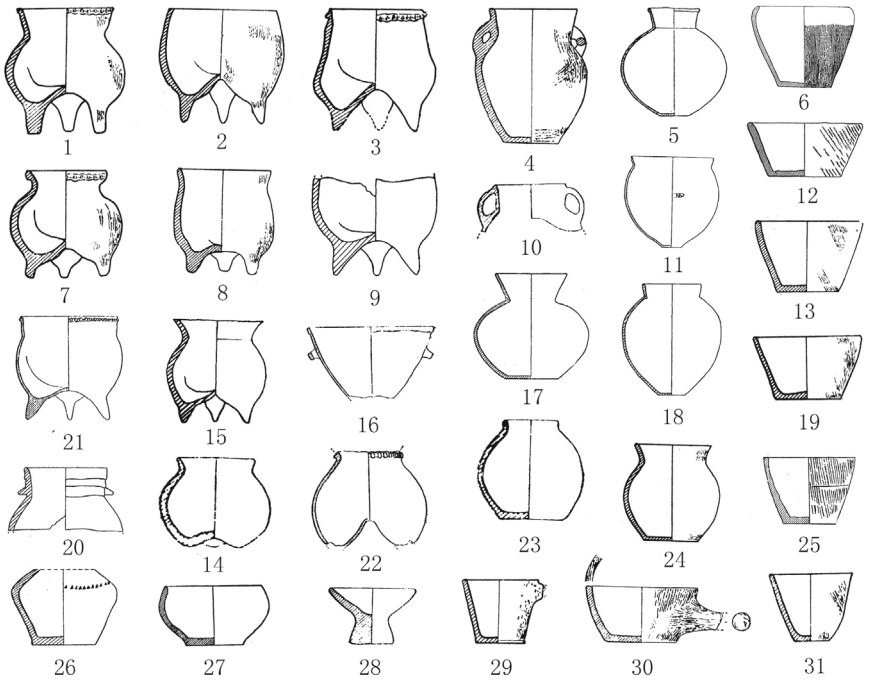

Fig. 2.2 Pottery of the Weiyingzi culture. 1–3, 7, 8 *Li*-tripod (unearthed from Houfen in Kazuo); 9, 14, 15, 21 *Li*-tripod (Xiangyangling in Yi county H132:2, Pingdingshan in Fuxin M303:2, Xiangyangling in Yi county H21:1, phase III of Pingdingshan in Fuxin H201:1); 4, 10 *Guan*-jar with two handles (unearthed from Houfen in Kazuo, Pingdingshan in Fuxin H112:13); 5, 17 *hu*-vessel (Pingdingshan in Fuxin H113:2, Houfen in Kazuo); NO.6.*gang*-urn (unearthed from Daohugou in Kazuo); 11, 18, 20, 23, 24, 26 *Guan*-jar (Pingdingshan in Fuxin H307:1, Xiangyangling in Yi county H37:1, Xiangyangling in Yi county T9③:13, collection unearthed from Pingdingshan in Fuxin:08, unearthed from Houfen in Kazuo, unearthed from Houfen in Kazuo); 12, 13, 19, 25, 29, 30, 31 pen-basin (unearthed from Gushan of Beidong in Kazuo, Houfen in Kazuo, Hoofer in Kazuo, Houfen in Kazuo, Pingdingshan in Fuxin T302③:1); 16 and 22 *yan*-steamer (Pingdingshan in Fuxin H201:2, M303:1); 27 *wan*-bowl (M1 of point A in Heshanggou at Kazuo); 28 *dou*-stemmed bowl (collection of Pingdingshan in Fuxin:012)

remains (late Western Zhou to early Spring and Autumn period) should belong to the Weiyingzi culture. This phase of remains, as represented by the curved blade bronze dagger, includes cemeteries in the Daling and Xiaoling River basin, including the tombs at locations B, C and D in Heshanggou in Kazuo and the tombs at Wujintang in Jinxi. On the contrary, other scholars, such as Wang, (2004), disagree with this theory. They argue that the evidence supporting this view is still scant and that it is better to believe that the discovery of the curved-blade bronze dagger and its accompanying relics was a major development of the culture of this region. I think that the second proposal is more reasonable. The bronze wares should be regarded as an important reflection of the development of or revolution in cultures. In addition, the type of pottery found among remains in sites B, C and D in Heshanggou is different from

the pottery characteristic of the Weiyingzi culture, especially in terms of shape and coating. The sophistication of burial materials discovered in these remains, such as wooden coffins with stone outer layers, are not found in the Weiyingzi culture either. In fact, the so-called "Linghe type" that emerged in the Daling and Xiaoling River basin after the Weiyingzi culture is very complex and contains many cultural factors or components of different nature and origin. Overall, it should be considered as a cultural community characterized by the presence of daggers with curved edges and the absence of tripods and cord-patterned pottery. Based on the above understanding, the Weiyingzi culture should not include the tombs at site B, C and D in Heshanggou and the tombs at Wujintang, and the lower limit of its age is certainly no later than the Western and Eastern Zhou period.

Third, regarding the remains of the bronze ware hoard previously found in the Liaoxi mountainous region, some scholars (Wang, 2004) agreed that the northern bronze wares and the hoard of bronze ritual artifacts found at the Daling and Xiaoling River basin can now be categorized as belonging to the Weiyingzi culture. The Weiyingzi culture's bronzes can be divided into two groups, one of which consists of typical plain bronzes, mainly unearthed from hoards, but also found in tombs alongside, such as *ding* cauldrons, *yan* steamers, *gui* vessels, *you* wine jars, *hu* vessels, *li* tripods, and *pan* plates (Dong, 2000a). Since the coexistence of pottery from the Weiyingzi culture and bronze artefacts has been established in the Daohugou tomb in Kazuo (Guo, 1987), the M1 tomb in location A of the Heshanggou site (Liaoning Provincial Institute of Cultural Relics and Archaeology et al., 1989), and the M1 tomb in Gaojiadong (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1998), it can be concluded that the two types of remains should be dated back to the same time. In addition, among the currently identified archaeological cultures in the Liaoxi mountainous region, only the Weiyingzi culture and the hoard of bronze artifacts are comparable in age, so it is more appropriate to consider them as the remains of the same culture. With this understanding, the contemporaneous remains of the same type excavated in the basin of the Xar Moron River and the Laoha River can be included in the Weiyingzi culture as well. In other words, the bronze ritual artifacts of the Late Shang period excavated at Tianbaotong in Keshiketeng Banner (Keshiketeng Banner Cultural Center, 1977), Toupaizi in Ongniud Bannar (Su, 1982), Nanshan in Xiniuboluo in Chifeng[1] and the pottery specimens such as the lace-edged *li* tripods with applique patterns excavated at Tianbaotong and Ximenwai in Ningcheng, (Archaeological Team of the Liaoning Provincial Museum, 1979) and Xiaokulun in Jerim Meng should also be regarded as remains from the Weiyingzi culture. In particular, the *li* tripod No. 19: 32 and No. 19: 15 excavated at Xiaokulun (Guo, 1987) are both made of sandy, reddish-brown clay, have a skew neck and an applique-patterned mouth, as well as a plain or polished cord-patterned surface. These characteristics are similar to those of the cord-patterned and lace-rimmed *li* tripods with a skew neck excavated at Houfen (see Fig. 1: 1–3 of the Guo, 1987) and the applique-patterned *li* tripod with a plain surface and laced rim unearthed at Pingdingshan phase III (H201:1). The lace-rimmed *li* tripods with applique patterns

[1] The specimen is in Chifeng Museum.

excavated at Tianbaotong not only have the general characteristics of similar types of *li* tripods from the Weiyingzi culture, but also have curves on the rim of the mouth, which is also found on the straight-bellied *li* tripod unearthed from the Pingdingshan phase III remains (H302: 7). *Li* tripods with curved edges were also found a little further south at the Chenggenying sites in Fengning, Hebei province (Zhu, 1987). Therefore, the distribution of the Weiyingzi culture should have included not only the Daling and Xiaoling River basin, but also the Xar Moron River and the Laoha River basins west of Nulurhu Mountain, and even further south than the source of the Laoha River. Like the Lower Xiajiadian culture, the distribution of the Weiyingzi culture should encompass the entire Liaoxi mountainous region. Indeed, remains of the Weiyingzi culture outside the Daling and Xiaoling River basin are few and sporadic. But it is largely due to the limited field work carried out in the past, especially the lack of large-scale archaeological investigation and excavation. Based on the existing evidence, it is probably only a matter of time before a large number of Weiyingzi cultural materials are discovered in areas outside the Daling and Xiaoling River basin.

As for the date of the Weiyingzi culture, it was first situated around the time of the Shang and Zhou periods (Guo, 1987). For a long time, it was therefore customary to date it back to the late Shang and early Zhou eras.

In terms of coexistence, in the M1 location A at the Heshanggou site in Kazuo, the cord-patterned *bo* bowl from the Weiyingzi culture and the plain *wan* bowl were unearthed together with Chinese ritual artifacts such as a bronze *you* wine jar. These ritual artifacts resemble the late Shang specimens unearthed from Anyang. Also unearthed was a gold *chuan* bracelet similar to the one excavated from the middle-Shang burial site in Pinggu Liujiahe, Beijing. In M1 at the Gaojiadong site in Kazuo, the cord-patterned *bo* bowl with everted and overlapping lips and the plain *wan* bowl were unearthed together with a bronze *bu* jar similar to those from the Yin Ruins phase II (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1998). This co-existence of artifacts suggests that the Weiyingzi culture is likely to date back from the middle to the late Shang period or later.

In terms of stratigraphic relationship, the second phase remains of the Weiyingzi culture are directly superimposed on the first phase remains of the Lower Xiajiadian culture at the Nangoumen site in Kazuo (Guo, 1987). The middle-level remains at Shuiquan in Jianping, where the typical *li* tripod pottery from the Weiyingzi culture was found, laid over the early Lower Xiajiadian culture (Liaoning Provincial Museum, 1986). In addition, pottery shards from the Lower Xiajiadian culture were found in the M1 fill soil at Gaojiadong in Kazua, which belongs to the Weiyinzi culture. These stratigraphic relationships suggest that the upper limit of the Weiyingzi culture should be placed after the Lower Xiajiadian culture, that is, after the early Shang period. Meanwhile, we can draw evidence from two stratigraphic relationships regarding the lower limit of the Weiyingzi culture. First, the third phase remains at the Nangoumen site in Kazuo, such as the masonry tombs from the Spring and Autumn period, were under the second phase remains which belong to the Weiyingzi culture. Second, the pottery shards from the Weiyingzi culture were found in the fill soil at the Weiyingzi burial site in Chaoyang, which was identified as belonging to the early Western Zhou period. In the past, scholars mostly dated the

lower limit of the Weiyingzi culture to the early Zhou or early Western Zhou era, based on the stratigraphic relationship mentioned above. Meanwhile, other scholars (Dong 2000a; Zhu, 1997) have attempted to date the lower limit of the Weiyingzi culture to the late Western Zhou or between the Western and Eastern Zhou periods, on the grounds that the Western Zhou tomb at the Weiyingzi site, which is comparable to the Western Zhou tomb found at Baifu in Changping, was reevaluated as belonging to the mid-Western Zhou era or later (Lin, 1994). However, what can be determined from these findings is that the lower limit of the Weiyingzi culture should be placed no later than the early or mid- to late Western Zhou period. Whether it is a burial site of the early Western Zhou or of the middle to late Western Zhou eras, the relics from the Weiyingzi culture contained in its fill soil should be dated back to an earlier time than the site's construction date. But exactly how much earlier is difficult to determine based solely on this layer of remains. In addition, no pottery from the Weiyingzi culture was discovered in the Western Zhou tomb at the Weiyingzi site, so it is unreasonable to classify the tomb itself as belonging to the Weiyingzi culture.

From the archaeological discoveries in the entire northeast region, archaeological cultures closely related to the Weiyingzi culture include the "Gucheng remains" in the north, the Weifang phase III culture in the south, and the Gaotaishan culture in the east, all of them dating back to the late Shang period. On the contrary, among the archaeological cultural artifactcs found in the surrounding areas that date back to the post-Western Zhou period, no pottery characteristic of the Weiyingzi culture has been unearthed. Accordingly, it is assumed that the Weiyingzi culture should be dated back to no later than the Western Zhou period.

Based on the above discussion, the defining and dating of the Weiyingzi culture are reconsolidated as follows: (a) The burials in locations B, C and D at Heshanggou in Kazuo, the burials at Wujintang in Jinxi, the Western Zhou tombs at Weiyingzi in Chaoyang, and the phase IV remains at the Xiangyangling site in Yi county do not belong to the Weiyingzi culture. (b) The distribution of the Weiyingzi culture may primarily be comparable to that of the Lower Xiajiadian culture. (c) The Weiyingzi culture should be dated back to the late Shang period.

2.4 Staging and Age of the Upper Xiajiadian Culture

The Upper Xiajiadian culture is mainly distributed in the western part of Liaoxi Mountainous region, to the west of the Nuluerhu Mountain, east of the Qilaotu Mountain, south of the Xar Moron River and north of the Luan River. The central region of this culture is located along the Xar Moron River and the Laoha River basin.

2.4.1 Cultural Staging

Currently the following academic papers are regarded as the representative research findings on the culture periodization of the Upper Xiajiadian culture.

In *Preliminary Study on the Upper Xiajiadian Culture* (hereinafter referred to as *Study*) which was published in 1987 (Zhu, 1987), the Upper Xiajiadian Culture was divided into three periods. The first period was represented by bronze swords excavated from the Dapaozi Tomb in Ongniud Banner, Inner Mongolia. M7701 in Shuiquan Village, Jianping County (Jianping County Cultural Center, etc., 1983) also belonged to the first period. The second period was represented by artifacts excavated from tombs in Xiajiadian and T3⑤. Some of the pits in Nanshan'gen, F2 in Dajing ancient copper mine in Linxi County, as well as H1, H16, H21, H25 in the Zhishushan Remains and M7801 in Shuiquan Village, Jianping County also belonged to the second period. The third period was represented by artifacts unearthed from T7②, T7①, T4④, H5, F4. Stone-chambered graves in Nanshan'gen Village, Ningcheng County, stone coffin graves in Hongshan, Chifeng City and M45 in Zhoujiadi Village, Aohan Banner also belonged to the third period.

The Major Achievements from the Excavation of the Longtoushan Site in Keshiketeng Banner, Inner Mongolia (hereinafter referred to as *The Major Achievements*) was published in 1991 (Qi, 1991). The reference materials (Inner Mongolia Autonomous Region Institute of Cultural Relics and Archaeology, 1991) of this paper were mainly from the four excavations of the Longtoushan Site in Keshiketeng Banner during 1987 to 1991. This paper was a case study on a single site. Due to the larger excavation areas and the complexity of the stratigraphical relationship, the Longtoushan Site had a large number of artifacts unearthed. Thus, the findings in this paper are not only valuable for the periodization of the Upper Xiajiadian culture, but they also served as a benchmark for later studies. As can be seen from Fig. 6 in *The Major Achievements,* the artifacts excavated from the Longtoushan Site can be divided into four periods and the fourth period has two stages. The following are some representative artifacts from each period:

The first period: IIH70 and IIH54

The second period: IIT0606③, IIT0701③, IIT0801③ and IIH6

The third period: IIT0402②, IIT0605, IIT0701②, II Pit 2 and IIH36

The fourth period (Stage 1): II Pit 1, IIH11, IIH12 and IIH25

The fourth period (Stage 2): IIT0902①, IIT0904①, IIH39 and IIH40

Several Problems on Longtoushan Site (hereinafter referred to as *Problems*) was published in 2002 (Wang and Qi, 2002). In this paper, the division of artifacts in the Upper Xiajiadian culture mentioned in *The Major Achievements* had been re-categorized into three stages in accordance with the stratigraphical relationship. Moreover, the evolutionary sequence of *li* cauldrons, *ding* tripods, *guan* jars, *pen* basins and *bo* bowls had been listed in *Problems* (see Fig. 1 in *Problems*). Compared to the division in *The Major Achievements*, the first stage in *Problems* is equivalent to the first and second periods in *The Major Achievements*, and the second stage is equivalent to the third period (One exception is that IIH12 in Stage 1 of the fourth period

mentioned in *The Major Achievements* was moved to the second stage in *Problems.*) and the third stage is equivalent to the fourth period. Then, taking into consideration the excavated artifacts from other sites, this article proposed four development periods for artifacts in the Upper Xiajiadian culture.

The first period is represented by the artifacts from the first stage of the Longtoushan site, including Layer ③ in Section II, and IIH6, IIH54, IIM1 and IIH70 in the opening under Layer ③. The artifacts belonging to this period are seldom seen in other remains.

The second period is represented by the artifacts from the second stage of the Longtoushan site, including Layer ② in Section II, IIH36 and II Pit 2 in the opening under Layer ②, and IIH12 in the opening under Layer ①. Artifacts belonging to this period can also be found in F2 in the Dajing Ancient Copper Mine in Linxi County, Bronze Dagger Dapaozi Tomb in Ongniud Banner and M8 in Shuiquan Village, Jianping County.

The third period is represented by the artifacts from the third stage of the Longtoushan site, including Stratum ① in Zone II, IIH11, IIH25, IIH39, IIH40 and II Pit 1 in the opening under Layer ①. Artifacts belonging to this period are also found in T1②, T3⑤ and H5 in Xiajiadian, Chifeng City, H16 in Zhizhushan, Chifeng City, M42 and M6 in Zhoujia Tomb, Aohan Banner, M101 and M3 in Nanshan'gen, Ningcheng County, and M7801 in Shuiquanchengzi, in Jianping County.

Artifacts from the fourth period cannot be found in the Longtoushan site. They can be seen in T7①, H11 and F4 in Xiajiadian, Chifeng City, H1 and H21 in Zhishushan, Chifeng City, M3 in Hongshanhou, Chifeng City, M45 in Zhoujiadi, Aohan Banner, and Daban Nanshan Tomb in Bairin Right Banner (Dong, 1981).

The periodization in *Problems* took into consideration most of the artifacts unearthed from the Longtoushan site. This paper has taken the previous research materials into account and proposed a relatively practical periodization of artifacts in the Xiajiadian culture, after adjusting and revising the periodization mentioned in *Study* and *The Major Achievements.*

By consulting the periodization proposed in *Problems* and combining my own understanding and recently published materials, this book has divided the Upper Xiajiadian culture into three period and four stages, namely the early period (Stage I), the middle period (Stage II) and the later period (Stage III and IV). The periodization of typical pottery in each period and stage are listed in Fig. 2.3

The following are the comparisons of this periodization with the ones mentioned in *Problems.*

First, the early period and the middle period in this book are equivalent with the first period and the second period mentioned in *Problems*, while Stage III and IV in the later period are equivalent to the third and fourth period in *Issues* respectively.

Second, the periodization of some artifacts have been revised. For example, F2 in Dajing Ancient Copper Mine in Linxi County was designated as the second period in *Problems.* Meanwhile in this book, it has been categorized to the early period, with the evidence that the *li* cauldron with handles and a straight belly (Figs. 2.3: 25) unearthed from F2:1 is the initial form of the same type of pottery (Figs. 2.3: 16 & 6) from the middle and later periods. Moreover, H5 in Xiajiadian, Chifeng City

had been placed in the third period, while in this book it also has been categorized to the early period. The two ears on the *li* cauldron with ringed ears (Figs. 2.3: 27), unearthed from H5:15, were apparently over the mouth and the belly is essentially the same as that of the pottery *guan* jar with ringed ears. From the perspective of style, the *li* cauldrons seem to be the prototype of pottery (Figs. 2.3: 18, 8, & 1) in the middle and later periods.

Third, some of the sites have been removed from the Upper Xiajiadian culture. For instance, M8 in Shuiquan Village, Jianping County and M7801 in Shuiquan Chengzi Tomb, Jianping County, both of which are characterized by socket-handed daggers with straight blades, have been removed from the Upper Xiajiadian culture. M7701 in Shuiquan Chengzi Tomb, Jianping County, mentioned in *Study*, has also been excluded.

Jianping County is located at the eastern foot of Nuluerhu Mountain and it is along the Dalinghe and Xiaolinghe River Basin. A small amount of pottery and bronze artifacts with characteristics of the Upper Xiajiadian culture (socket-handed daggers with straight blades) have been found here, while other pottery and bronze artifacts unearthed here like curved-blade swords with cylinder ridges are from Linghe Remains.

Curved-blade swords with cylinder ridges have also been excavated from the stone-chambered graves in Ningshan'gen Village in Ningcheng County, along the Laoha River Basin (Northeast Excavation Team of the Institute of Archaeology in Chinese Academy of Social Sciences, 1973), and the ones in Xiaoheishigou Village (Chifeng Musuem, 1995), but these graves were not categorized into the Linghe Remains. Thus, the archaeological sites in Jianping Region where the socket-handed daggers with straight blades were found should not be categorized into the Upper Xiajiadian culture.

Also the Shanwanzi Tombs in Aohan Banner, along the Laohahe River, and the Dongjing Tombs (Shao, 1993) should belong to the Shuiquan Remains (Guo, 2000), which were later than the Upper Xiajiadian culture (Wang, 2004), rather than the Linghe Remains (Zhu, 1997) along the Dalinghe and Xiaolinghe River Basin.

The reason why the Linghe Remains and the Upper Xiajiadian culture share a few cultural elements is due to communication and influence. It is not valid to determine the location of a culture based on whether some artifacts with those cultural elements have been unearthed in that place. To sum up, M8 in Shuiquan Village in Jianping County and M7701, M7801 in Shuiquan Chengzi Tombs in Jianping County should not be categorized into the Upper Xiajiadian culture, but the Linghe Remains along the Dalinghe and Xiaolinghe River Basin.

Fourth, the periodization of some of the artifacts has been added in this book as follows. The *ding* tripod (*guan* jar) with ringed ears (Inner Mongolia Excavation Team of the Institute of Archaeology in Chinese Academy of Social Sciences, 1975) in H1:20, unearthed from Nanshan'gen Village in Ningcheng County, is categorized into the early period in this book as the shape is similar to the *li* cauldron with ringed ears in H5: 15 from the Upper Xiajiadian culture. The *li* cauldron with ringed ears (H125 ④: 2) unearthed from IV 98H125 in the fourth locality of Dashanqian in Chifeng City (Institute of Archaeology in Chinese Academy of Social Sciences

etc., 2004) should be categorized into the middle period in this book or the second stage in article *Issue*, as the shape of it is the same as the *li* cauldron with ringed ears unearthed from IIT0402 ②: 3 mentioned in the second stage in the article *Issue*. The periodization of 98 (IV) H143 ③ in Dashanqian in Chifeng City should be the fourth stage in the late period in this book. The reason is that the *bei* cups with contracted mouths and straight walls (Fig. 2.3: 5) in 98 (IV) H143 ③: 1 unearthed from Dashanqian appeared later in time than the *bei* cups with ringed ears (Fig. 2.3: 15) unearthed from IIH40:11, which belonged to the third stage in the late period in this book. The manufacture of the ears in the belly seems to adopt the method of making the *pen* basin with ears in the same period. The *hu* jar with an oblate belly (M1:1) (Research Center for Chinese Frontier Archaeology of Jilin University etc., 2002) unearthed from M1 in Guandongche in Keshiketeng Banner had a parallel lines around the inside of the neck and zigzag lines with an imprinted dot pattern (Fig. 2.4: 1). As its shape came later in time than *hu* jars of the same kind (Fig. 2.4: 4) unearthed from Dapaozi Tombs in Wengniute Banner which were categorized into the middle period in this book, the *hu* jar with an oblate belly should be categorized into the late period (Stage III or IV). The *yan* steamer and samples with *yan* elements (Fig. 2.3: 34) unearthed from the Longtaishan site shared a similar shape with T1H1:5 in the Donggaotaishan Site from the Gaotaishan culture dating to the late period in Shang. Thus, the *yan* steamer and samples with *yan* elements should categorized into the early period in this book. The *li* tripod with udder-shaped legs (Fig. 2.4: 7) unearthed from M7 in Hongshanhou in Chifeng City has a straight mouth and an oblate belly but no solid feet. It should be categorized into the early period in this book as its shape is similar to the *li* tripod with udder-shaped legs and solid feet in IIH12:3 in the middle period and the same kind of artifacts in the Weiyingzi culture dating to the late period of the Shang period.

Fifth, some pottery types have been modified in this book. In the article *The Major Achievements* and *Problems,* pottery *li* cauldrons have been classified into three types, namely Type A, Type B and Type C, regardless of whether they have handled ears or ringed ears. The classification criteria used is the variations in belly shape. Thus, li cauldrons with handled ears and ringed ears can both be found in Type A (refer to Fig. 1—in *Issues*). In this book, pottery *li* cauldrons are classified into two types according to the shape of their ears. The first type is the ones with handled ears and the second is the ones with ringed ears. Then each type is divided into two subtypes based on the various shapes of their bellies. The evolution patterns of each subtype are basically the same as the ones mentioned in *The Major Achievements* (Fig. 2.3).

Sixth, the evolution sequences of some artifacts have been supplemented in this book, such as *ben* bowls, *bei* cups, *li* cauldrons with udder-shaped legs, *hu* jars and socket-handed daggers.

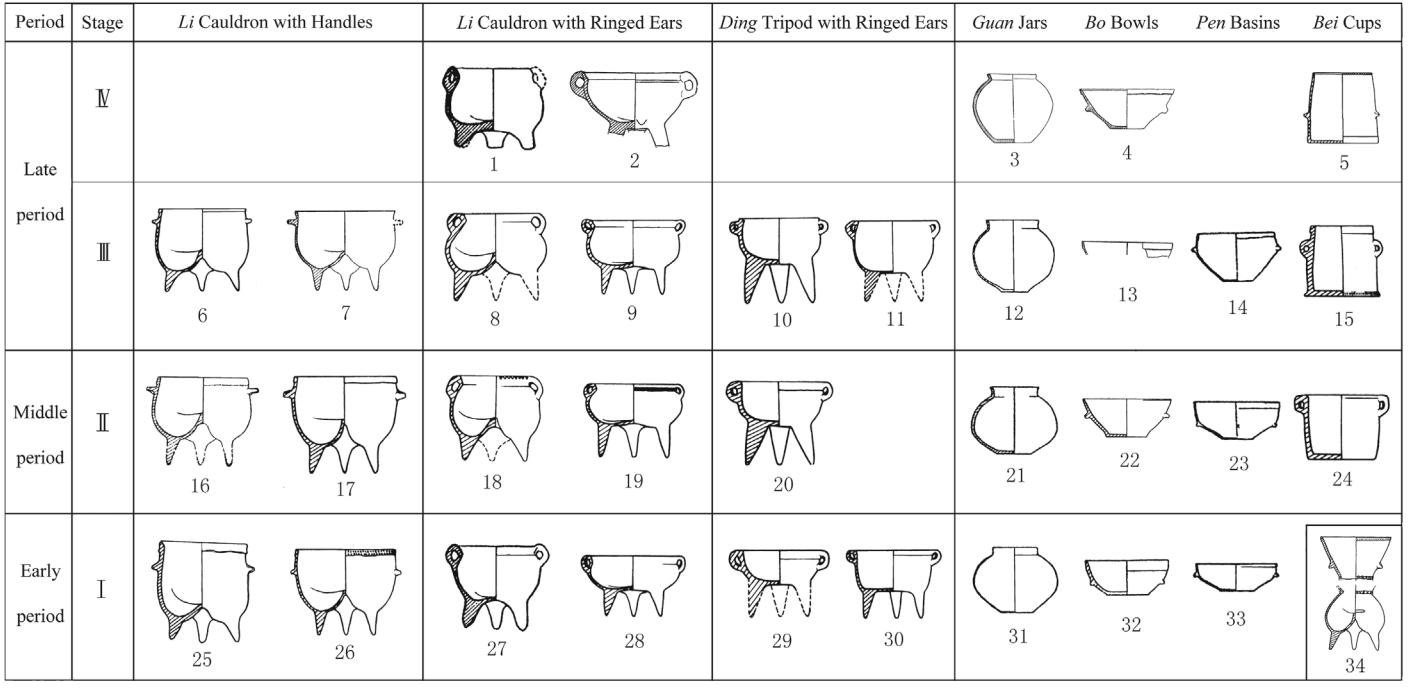

Fig. 2.3 The periodization of representative pottery in the Upper Xiajiadian culture. 1, 3, 27 (Xiajiadian in Chifeng City T7:2, H11:4, H5:15), 2 (Zhoujiadi in Aohan Banner M45:01), 4 (Zhizhushan in Chifeng City H:1), 5, 18, 22 (Dashanqian in Chifeng 98(IV) H143:1, H125④:2, H125④:3), 6–17, 19–21, 23, 24, 26, 28–33 (Pit 1:6 in Zone II in the Longtoushan Site in Keshiketeng Banner, T0803①: 1, H11: 3, H40: 15, T0904①: 1, T0902①: 1, H40: 18, T0802①: 3, H40: 6, H40: 11, T0203②: 4, Pit 2:5, H12: 6, H36:1, T0402②:5, T0903②:4, T0701②:1, H70:1, T0701③:3, T0606③:1, H54:3, H70:3, H70:9, H70:7), 25 (F2:1 in Dajing Ancient Copper Mine in Linxi County), 34 (Longtoushan Site in Keshiketeng Banner)

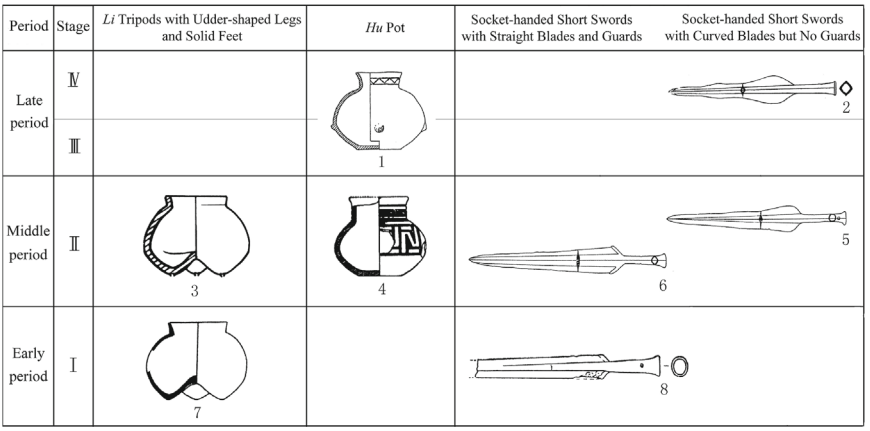

Fig. 2.4 The periodization of *li* tripods with udder-shaped legs and solid feet, *hu* pot, socket-handed short swords in the Upper Xiajiadian culture, 1 (M1:1 in Guandongche in Keshiketeng Banner), 2 (Daban Nanshan Tomb in Bairin Right Banner), 3 (IIH12:3 in the Longtoushan Site in Keshiketeng Banner), 4–6(Dapaozi Tombs in Wengniute Banner), 7 (M7 in Hongshanhou in Chifeng City), 8 (IIM1:15 in the Longtoushan Site in Keshiketeng Banner)

2.4.2 Views on Time Span of the Upper Xiajiadian Culture

Regarding the time span of the Upper Xiajiadian culture, various views appeared before the early 1980s (Northeast Excavation Team of the Institute of Archaeology in Chinese Academy of Social Sciences, 1981). As time went by, scholars' views of the time span gradually become consistent due an improved understanding and the discovery of new materials. The consistent view is that the time span of the Upper Xiajiadian culture is from the Western Zhou to the Spring and Autumn periods. The points that need to be discussed here are whether the earliest time point of the culture could be the late Shang and the latest time point is in the middle or late Spring and Autumn period.

2.4.2.1 The Earliest Time Point of the Upper Xiajiadian Culture

Based on the excavation of the Longtoushan site in Keshiketeng Banner, the earliest time point of the Upper Xiajiadian culture has been described as "approximately in the late Shang or no later than the early Western Zhou" (Inner Mongolia Autonomous Region Institute of Cultural Relics and Archaeology, 1991), or in another way "in the late Shang or no later than the period between the Shang and Zhou" (Qi, 2002). The supporting evidence is as follows.

1. The shape of the bronze *fu* axe unearthed in IIM1 of the Longtoushan site in Keshiketeng Banner was similar to the bronze fu axe from the late Shang in the Central Plains.

2. The time period of the socket-handed dagger with a straight blade unearthed from the same site should be earlier than the same kind of dagger from Dapaozi Tomb in Wengniute Banner. Its shape represents the early form of the socket-handed dagger in the North.
3. The AdI*li* cauldron in this site is similar to the same kind of *li* cauldron of the Gaotaishan culture.
4. The Aa cylindrical belly *li* cauldron with an applique pattern mouth rim Aa, the shape of which was prevalent during the late Shang, was unearthed from the early site.

However, the four pieces of evidence above can not be considered as strong enough to support the argument regarding the earliest time point of the Upper Xiajiadian culture.

First, neither the second nor third pieces of evidence have much to do with the proposed argument, nor have they proven whether the early Upper Xiajiadian culture was part of the late Shang. The reason is that the socket-handed dagger with a straight blade unearthed from IIM1 in the Longtoushan Site in Keshiketeng Banner, Inner Mongolia, is older than the dagger with the same pattern excavated from the Dapaozi Tomb in Ongniud Banner, Inner Mongolia. In addition, it is acknowledged that the dagger from IIM1 shares the same pattern with the short dagger with a socket-hand in the Northern region. However, the above reason alone does not seem to explain whether this kind of dagger could date to as early as the late Shang. In fact, the age of the bronze daggers unearthed in the Northeast region could not be proven to reach as early as the Shang. However, there is solid evidence that the pottery unearthed together with the daggers was from the late Shang. The fact that the shape of pottery *li* cauldrons unearthed from the Longtoushan Site was similar to the ones from the Gaotaishan culture in the late Shang can only prove that the Gaotaishan culture was the source of the Upper Xiajiadian culture (Zhang, 1991). These two cultures should not be considered as paralleled cultures without taking their kinship and time-relations into consideration. In other words, the pottery *li* cauldrons unearthed from the Longtoushan Site were further developed forms of the ones in the Gaotaishan culture of the late Shang. Morphologically, this pottery *li* cauldron was later than the *li* cauldron with handled ears in the late Gaotaishan culture, dating to the early Western Zhou.

Second, the first and fourth pieces of evidence are chronologically invalid although they seem to be supporting evidence from the perspective of relic coexistence. As the usable lifespans of pottery and bronze are quite different, the manufacturing time and the use and disposal times of relics made of these materials are no longer subdivided in archaeology. Pottery is brittle with a shorter use time while bronze is tough and durable with a longer use time. Thus, a bronze artifact cast in an early period could continue to be used until a relatively late period. In other words, the timespan between the moment of creation and the moment of disposal for a bronze artifact can be larger than expected. Therefore, if the age of the unearthed bronze artifact is used to determine the time period of a culture, the period might be set too early. For example, the bronze *fu* ax unearthed from IIM1 in the Longtoushan

Site possesses the features of the ones from the late Shang. However, this artifact might not date to the late Shang. Bronzeware from the late Shang has commonly been found in relics of the early Western Zhou. As for the pottery *li* cauldron with features from the late Shang excavated from Longtoushan Site, it is possible that it has an early origin but became mixed with later artifacts. The number of *li* cauldrons of this type is quite small as reported and there are only slices of pottery remaining, no complete artifacts. Moreover, the *li* cauldron shares similar features with ones unearthed from Tianbaotong Site which belongs to the Weixingzi culture from the late Shang. Thus, it could be the case that this artifact, which serves as an important piece of evidence for dating the upper Xiajiadian culture, might not actually be from this culture. Therefore, the pottery *li* cauldron excavated from the Longtoushan Site should have its classification as part of the upper Xiajiadian culture changed, as it was only pottery slices from the Weiyingzi culture that was accidentally mixed into the upper Xiajiadian culture.

In short, it is not yet possible to prove that the earliest time point of the upper Xiajiadian culture was part of the late Shang with the available materials. Therefore, it is more appropriate to set the earliest time point of the upper Xiajiadian culture as the Western Zhou.

2.4.2.2 The Latest Time Point of the Upper Xiajiadian Culture

At present, most scholars think that the latest time point of the Upper Xiajiadian culture was in the middle of the Spring and Autumn period. This viewpoint proved that the method of dating was also to compare the date of various bronze wares, but there was no proof regarding the pottery. For instance, it has been proposed by Zhu Yonggang, when deciding on the latest time point of the Upper Xiajiadian culture, that since one set of bronze containers with features from the Central Plains was found in M101 in Nanshan'gen, the third period (equal to the early period of late Upper Xiajiadian culture) was between the late Western Zhou and the early Spring and Autumn periods. He also suggested that the shape of the arrowheads excavated here have also been found in tombs from the middle Spring and Autumn period, so the timespan of the third period can also be extended to the middle of the Spring and Autumn period (Zhu, 1987). Wang Lixin and Qi Xiaoguang suggested that one bronze arrowhead with a ridge and two wings which was unearthed from M45 in Zhoujiadi belongs to the fourth period of the Upper Xiajiadian culture. Its two wings were constricted and the ridge was quite long. These features are quite similar to those of the ones unearthed from M4:30 in Zhongzhoulu in Luoyang, which were dated to the middle Spring and Autumn period. As for the relics from the third period of the Longtoushan site (equal to the early period of the late Upper Xiajiadian culture), they might date to before the middle Spring and Autumn period (Wang and Qi, 2002).

As the date established might be too early if using bronze artifacts to determine the age of relics, the latest time point of the Upper Xiajiadian culture might be as late as the late Spring and Autumn period. In fact, evidence of this has been shown among the group of pottery from the late Upper Xiajiadian culture.

It is well known that the pottery *hu* pot and the straight-belly *guan* jar covered with imprinted grate-and-dot patterns from the Upper Xiajiadian culture were under the influence of the Baijinbao culture in the northern Nenjiang basin. There is another possibility that they were influenced by external factors from the Baijinbao culture. Among the set of pottery belonging to the Upper Xiajiadian culture unearthed from Dapaozi Tomb in Ongniud Banner, there was one *hu* pot with an oblate belly and straight neck which shared the exact same overall shape and neck patterns (Fig. 2.5: 5) with the artifacts (Baijinbao 74H1:15) in the Middle Baijinbao culture (Fig. 2.5: 6). A straight-belly *guan* jar, unearthed together with the *hu* pot with an oblate belly and straight neck, had a short and round body with a wide-flared mouth rim. Its age was the same as the straight-belly *guan* jar from the middle Baijinbao culture (Fig. 2.5: 7), determined by the fact that they share the same features of a small mouth but a wide base and a tapering belly as well as bevel-shaped imprinted grate-and-dot patterns (Fig. 2.5: 4). From the above examples, an assumption can be made that the time period of the middle Upper Xiajiadian culture is equivalent to the middle Baijinbao culture and the late periods of these two cultures are also quite close. Among the pottery from the late Upper Xiajiadian culture, the pottery *hu* pot and straight-belly *guan* jar covered with imprinted grate-and-dot patterns still exist but with different shapes compared to the early Upper Xiajiadian culture. A *hu* pot (Fig. 2.5: 2) excavated from M1:1 in Guandongche in Keshiketeng Banner which could be dated back to the early Upper Xiajiadian culture shared the same pattern with the artifacts from the middle Upper Xiajiadian culture as it had an arced-round belly but no decorative patterns and the neck was wide-flared with grate-and-dot patterns. Although no similar artifacts were found in the Baijinbao culture, when comparing the pottery hu pots from these two cultures, a conclusion can be made that the age of the hu pot from M1:1 in Guandongche in Keshiketeng Banner should be equivalent to the late Baijinbao culture. Moreover, a straight-belly *guan* jar with lug handles but no decorative patterns (Fig. 2.5: 1), unearthed from Dashanqian in Chifeng City which belonged to the Upper Xiajiadian culture, had apparent features of the straight-belly *guan* jar (Fig. 2.5: 3) from the northern neighboring late Baijinbao culture.

All in all, some clues can be found from the current limited materials. Based on the horizontal comparison of the pottery from the two cultures and the existence of the pottery from the same period, an assumption can be made that the date of the late Upper Xiajiadian culture and the late Baijinbao culture should be close. As the late Baijinbao culture dates to the late Spring and Autumn period, the latest time point of the Upper Xiajiadian culture could also be the late Spring and Autumn period.

2.4.2.3 Summary

From the above analysis, by comparing the pottery rather than bronze artifacts, the time span of the Upper Xiajiadian culture appears to be between the early Western Zhou and the late Spring and Autumn period.

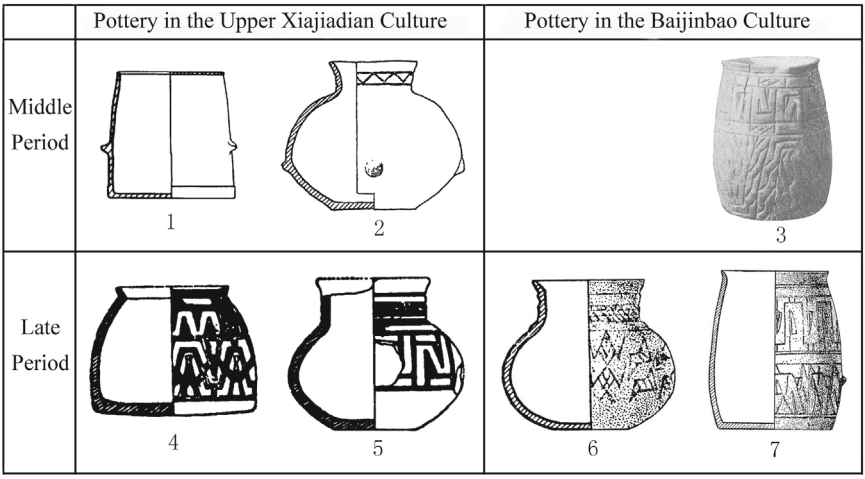

Fig. 2.5 Comparison between pottery in middle and late Upper Xiajiadian culture and pottery in middle and late Baijinbao culture, 1 (98(IV)H143③:1 in Dashanqian in Chifeng City), 2 (M1:1 in Guandongche in Keshiketeng Banner), 3, 6, 7 (74T3②:2, 74H1:15, and 74H1:11 in Baijinbao in Zhaoyuan County), 4, 5 (Dapaozi Tombs in Wengniute Banner)

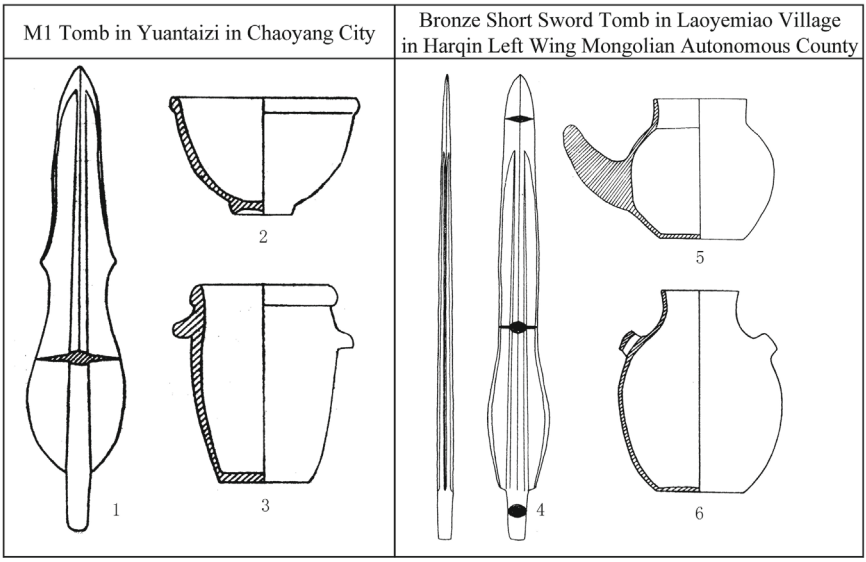

Fig. 2.6 Tombs with pottery and bronze short swords unearthed together in the Linghe Remains, 1, 4 bronze swords (M1:4 in Yuantaizi in Chaoyang City, bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County), 2 pottery *wan* bowl (M1:1 in Yuantaizi in Chaoyang City), 3 pottery *guan* jar (M1:2 in Yuantaizi in Chaoyang City), 5, 6 pottery *guan* jars (bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County)

2.5 Cultural Connotation, Staging and Age of Linghe Remains

The Linghe Remains are mainly distributed in the eastern half of the mountainous areas of Liaoxi, along the Dalinghe and Xiaolinghe River Basin between Nulurhu Mountain and Yiwulu Mountain. Geographically, the Linghe Remains and the Upper Xiajiadian culture were located in the west and east respectively. Due to the limited materials and complicated culture connotation as well as the indistinct cultural features, the name has been kept as the Linghe Remains for the time being.

Some scholars (references are listed in the footnotes) held the view that the remains mentioned above were part of the Upper Xiajiadian culture, thus, they should be named Shi'ertai Yingzi Type (Jin, 1982) or Linghe Remains (Guo, 1987) or He'shanggou Type (Liaoning Provincial Institute of Archaeology, 1989). Meanwhile other scholars (references are listed in the footnotes) believed that these remains were not part of the Upper Xiajiadian culture (Lin 1988), but are independent remains. As the remains are mainly distributed along the Dalinghe and Xiaolinghe River basins, it was suggested they be named Linghe Type (Wang, 1981). In this book, the latter view is adopted and issues in the current research are discussed.

2.5.1 Two Explanations of Cultural Connotation

The cemeteries in the Linghe Remains are mainly along the Dalinghe and Xiaolinghe River basin. In previous studies, some researchers had categorized the cemeteries along the Laoha River into the Linghe Remains. However, some also categorized the cemeteries along the Dalinghe River basin into the Upper Xiajiadian culture, located along the Laohahe River basin. Regarding the various views on the categorization of these cultures, some explanations are made on this matter.

There were various views about the remains in Shanwanzi Tomb and Dongjing Tomb in Aohan Banner where bronze short swords with curved blades were unearthed (Shao, 1993). Zhu Yonggang (1997) thinks that these remains should be considered part of the Linghe Remains while Wang Lixin (2004) suggested that they should be categorized into the Shuiquan Remains. As Aohan Banner is located along the Laohahe River basin in the west of the Nulurhu Mountain, it is quite far away from the areas of the Linghe Remains. Thus, the remains in Shanwanzi Tomb and Dongjing Tomb in Aohan Banner should be considered part of the Shuiquan Remains. The reason why these remains are quite similar to those of the late Linghe Remains is that the Linghe Remains had expanded westward in its late period and had a significant influence on the Shuiquan Remains.

The remains in Jianping Region, where the bronze short swords with curved blades and socket-handed bronze short swords were unearthed, should be classified as the Linghe Remains (Jianping County Cultural Center, etc., 1983). The emergence of

the remains where socket-handed bronze short swords were unearthed should be considered a result of the eastward penetration of the Upper Xiajiadian culture.

2.5.2 Discussions About Staging and Age

Currently, the following two academic papers are regarded as the representative research findings on the cultural periodization of the Linghe Remains. One is *Archaeological Culture and Related Issues on Short Swords with Curved Blades in Dalinghe and Xiaolinghe River Basin* written by Zhu Yonggang (1997) (hereinafter referred to as *Issues*). The other is *Exploration of Shuiquan Cemetery and Related Issues* written by Guo Zhizhong (2000) (hereinafter referred to as *Exploration*).

In *Issues,* the bronze short swords with curved blades were classified into five categories, from I to V. The swords were unearthed from Wujintang Village in Huludao City (Jinzhou Museum, 1960), Si'erbu County in Huludao City (Sun and Xu, 1964), Heshanggou Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Institute of Archaeology, etc., 1989), Nandonggou Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Museum, 1977), Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County (Liu and Chai, 1993), Shi'ertai Yingzi Village in Chaoyang City (Zhu, 1960), Yuantaizi Village in Chaoyang City (Wang, 1991) and San'guandianzi Village in Lingyuan County (Liaoning Provincial Museum, 1985). This paper then said that the evolution sequence of I to V reflected the chronological relationship of bronze short swords with curved blades from early form to late form based on the fact that different short swords can provide a dating basis for bronze artifacts in the Central Plains. In the end, the tombs with short swords with curved blades along the Dalinghe and Xiaolinghe River basin were divided into five developing stages. The first stage dates back from the late Western Zhou to the early Spring and Autumn period; the second stage dates back to the middle Spring and Autumn period; the third stage dates back to the late Spring and Autumn period; the fourth stage dates back to the early Warring States period; and the fifth stage dates back from the early Warring States to around the middle Warring States period. The first stage belongs to the Weiyingzi culture; the second to fourth stages belong to the Linghe remains; and the fifth stage belongs to the Post Linghe remains.

Based on the results presented in *Issues,* there was no coexistence between the short swords with curved blades and the pottery from the same stage. Thus, the corresponding dates between the pottery from stage 1 to 5 and the bronze short swords from stage 1 to 5 seem invalid to some extent. Regarding this, some suggestions had been listed in *Exploration.* It pointed out that the four pottery pieces unearthed from Shanwanzi Tomb in Aohan Banner should be changed from Stage 2 to Stage 4, the Nangouzi Remains should be changed from Stage 3 to Stage 2 and the findings in Yuanlinchu in Harqin Left Wing Mongolian Autonomous County should be moved from Stage 4 to Stage 5. Moreover, there were some different opinions on the cultures. For instance, as *Exploration* suggested, Stage 1 should be the Weiyingzi Culture

rather than Linghe Culture, Stage 2 should be the early Linghe Culture, Stage 3 and 4 belonged to the middle Linghe Culture, and Stage 5 should be the late Linghe Culture.

Taking the opinions in *Issues* and *Exploration* as a reference and considering the current research materials and personal analysis, some points on the aspects of periodization and dating of the Linghe Remains are made as follows.

Among the currently published papers, the coexistence of pottery and bronze short swords could only be found in M1 Tomb in Yuantaizi in Chaoyang City and the bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County (Fig. 2.6). The tomb in Yuantaizi had been classified into Stage 2 while tomb in Laoyemiao into Stage 5 in *Issues*. Moreover, *Exploration* raised no objection to this point. Thus, the above two tombs could be used as references when discussing the periodization of the Linghe Remains. In other words, Yuantaizi M1 Tomb in Chaoyang City can be regarded as one of the representative tombs of the early stage of the Linghe Remains, while the bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County is representative of the late stage.

In *Exploration*, some adjustments were made regarding the periodization of some pottery. However, it is inappropriate to classify the four pottery pieces unearthed from Shanwanzi Tomb in Aohan Banner into pottery of the Linghe Remains, as the remains in Shanwanzi Tomb should be considered part of the Shuiquan Remains for reasons mentioned above.

Due to the dearth of literature available for comparison and lack of coexistence and stratigraphical relationships between various remains, the periodization of the Linghe Remains should not be too specific, each section should cover a broader timespan.

Based on the above three points and the conclusions presented in *Issues* and *Exploration,* this paper would classify the Linghe Remains into the early Linghe Remains and late Linghe Remains.

The early Linghe Remains, represented by Yuantaizi M1 Tomb in Chaoyang City, includes B, C and D Tombs in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County, M1 in Donglinggang in Chaoyang City (Jin, 1982), M7401 in Hetanggou in Lingyuan City (Jin, 1983), Nandonggou Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Museum, 1977) and the stone-chambered graves in Nan'goumen in Harqin Left Wing Mongolian Autonomous County (Guo, 1987). The time span of the early Linghe Remains is from the Western Zhou to the late Spring and Autumn period, equivalent to Stage 1–3 in *Issues*. The evolutionary sequence of the *yu* basin with a flaring mouth from the Weiyingzi Culture to the Linghe Remains to the Shuiquan Remains was illustrated in Fig. 9 in *Exploration.* From this figure, the earliest time point of the early Linghe Remains might be the early Western Zhou. The time span of this period might be equivalent to the Upper Xiajiadian Culture.

The late Linghe Remains, represented by the bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County, also includes Yuanlinchu in Harqin Left Wing Mongolian Autonomous County (Fu and

Chen, 1988) and Tuchengzi in Hongjiadian Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Cultural Relics Census Training Course, 1980; Jin, 1982). The time span of the late Linghe Remains is from the early to middle Warring States period, equivalent to Stage 4–5 in *Issues*. The *hu* pot with vertical handles unearthed from Yuanlinchu (Fig. 2.7: 5, 6) shared similarities with the one unearthed from the Warring States period tomb in Jiage Village in Tangshan City, Hebei Province (An, 1953).

The representative pottery and bronze short swords of the above two periods can be seen in Fig. 2.7.

Typologically, the bronze short swords with curved blades from the Linghe Remains can be classified into four types based on the different patterns shown in swords from Yuantaizi M1 Tomb in Chaoyang City in the early Linghe Remains

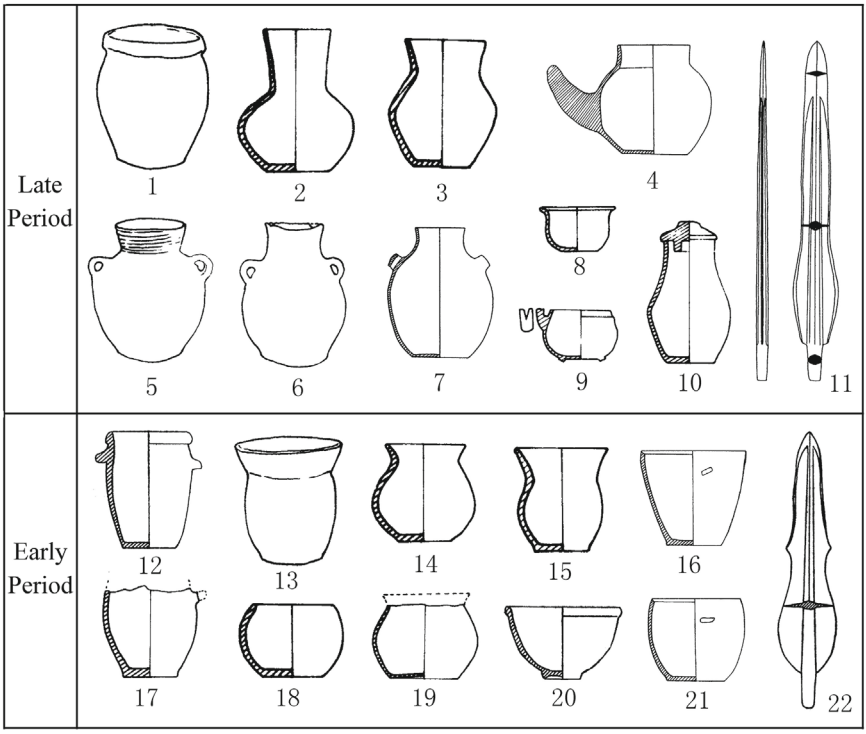

Fig. 2.7 The periodization of pottery and bronze short swords with curved blades in the Linghe Remains, 1, 5, 6, 8, 9 (Yuanlinchu in Harqin Left Wing Mongolian Autonomous County), 2, 10 (Tuchengzi in Hongjiadian Village in Harqin Left Wing Mongolian Autonomous County), 3 (Sanguandianzi Village in Lingyuan County), 4, 7, 11 (bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County), 12, 20, 22 (M1:2, 1, 4 in Yuantaizi in Chaoyang City), 13, 16, 21 (M2:1, M11:2, M20:2 in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County), 14, 17 (M7401 in Hetanggou in Lingyuan City), 15 (Nan'goumen in Harqin Left Wing Mongolian Autonomous County), 18 (M1 in Donglinggang in Chaoyang City), 19 (Nandonggou Village in Harqin Left Wing Mongolian Autonomous County)

and the bronze short sword tomb in Laoyemiao Village, Harqin Left Wing Mongolian Autonomous County in the late Linghe Remains.

Type I had 15 specimens and 1 casting unearthed from M1 in Yuantaizi in Chaoyang City, Tomb 1 and 2 in Shi'ertai Yingzi Village in Chaoyang City, Huanghuagou in Chahar Right Middle Banner (Jin, 1982), Mutougou in Chifeng City (Jin, 1983), Donglinggang in Dongning City (Jin, 1983), Wujintang Village in Huludao City, Shaohuyingzi in Jinzhou City (Yixian Cultural Relics Management Office, 1993), Xiaojiacun in Huludao City (Wang, 2002), M901 in Paoshouyingzi in Jianping County (Li, 1991), Kharchin Banner in Chifeng (Jianping County Cultural Center, etc., 1983), II M306 in Lamadong Village in Beipiao (Liaoning Provincial Institute of Cultural Relics and Archaeology, 2004), Hejiagou in Beipiao (Jin, 1983), and M6 in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Institute of Archaeology, 1989) respectively (Fig. 2.8: 1–16).

Type II had 11 specimens unearthed from M851 in Dalahan'gou Village in Jianping County, M901 in Luanjiayingzi Village, Laowopu Village (Li, 1991), Gaotaixiang, Taitouxiang (Jianping County Cultural Center, etc., 1983), M13 in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County, the stone-chambered graves in Nandonggou Village in Harqin Left Wing Mongolian Autonomous County (Liaoning Provincial Museum, 1977) and Fanshi Village in Suizhong County (Wang, 2002) respectively (Fig. 2.8: 17–27).

Type III had 4 specimens unearthed from Yi County in Jinzhou City (Jianping County Cultural Center, etc., 1983), Si'erbu County in Huludao City (Sun and Xu, 1964), Xiaohuangdi in Taijitun Village (Zhu, 2000) and M17 in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County respectively (Fig. 2.8: 28–31).

Type IV had 3 specimens unearthed from Jianping County (collection) (Jianping County Cultural Center, etc., 1983), Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County (Liu and Chai, 1993) and San'guandianzi Village in Lingyuan County (Liaoning Provincial Museum, 1985) respectively (Fig. 2.8: 32–34).

There are several differences between Type I and Type IV bronze swords with curved blades. The ridge protrusions and pointed protrusions gradually disappeared and the leaf behind changed from wide and fat to narrow and thin. Overall, the patterns transformed from two-part swords with wide curved blades, which were similar to spears, to swords with narrow straight blades.

In the evolutionary sequence of Type I to Type IV, Type I swords and pottery in the early Linghe Remains were excavated together from M1 in Yuantaizi. Thus, it is estimated that the casting date of Type I should not be later than the early Linghe Remains. Type IV swords and pottery in the late Linghe Remains were unearthed together from the bronze short sword tomb in Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County so the casting date of Type IV should not be later than the late Linghe Remains. The casting date of Type II and III might be between Type I and Type IV. The disposal date of all types of swords cannot be determined due to the lack of evidence for a coexistence relationship with the pottery. However, it is possible that the early types of swords were unearthed from tombs in the later period.

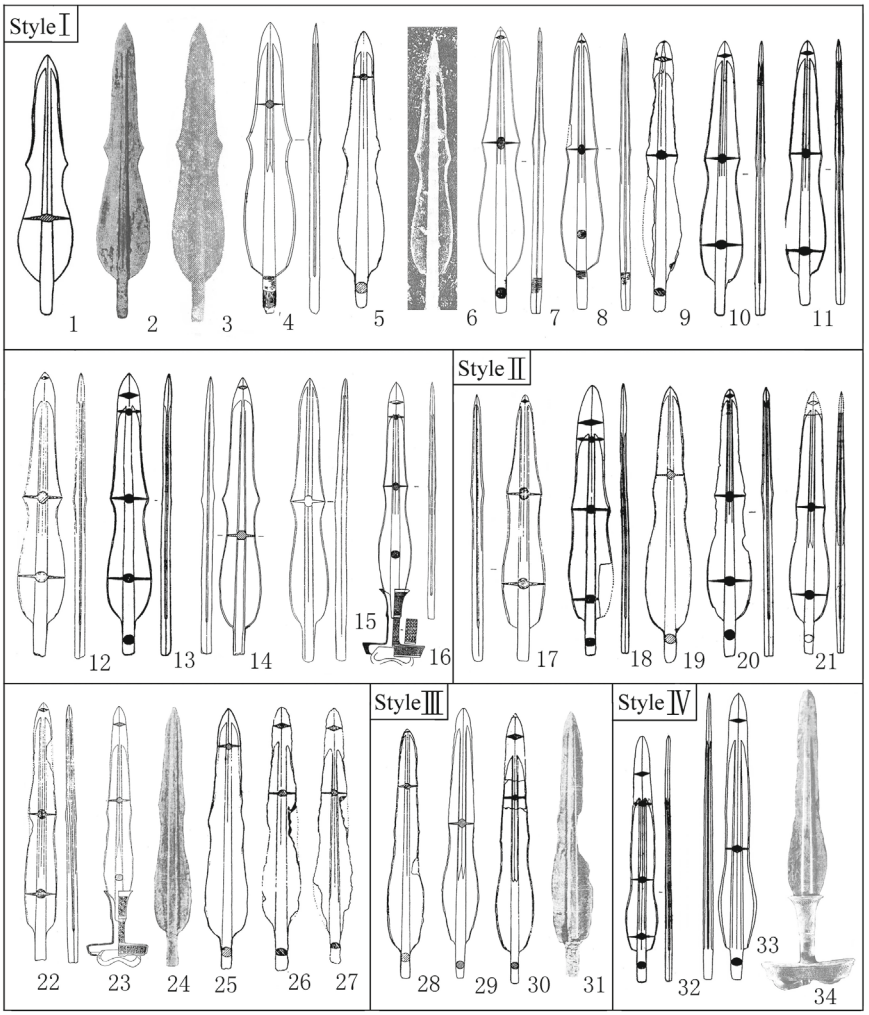

Fig. 2.8 Bronze short swords with curved blades from Type I to Type IV in the Linghe Remains, 1 (M1:4 in Yuantaizi in Chaoyang City), 2, 4 were (Tomb 1 and 2 in Shi'ertai Yingzi Village in Chaoyang City), 3 (Tomb 3 in Wujintang Village in Huludao City), 5, 19, 25 (Shaohuyingzi in Jinzhou City, Gaotaixiang, Taitouxiang), 6 (Huanghuagou in Chahar Right Middle Banner), 7 (M1:1 in Mutougou in Chifeng City), 8 (Donglinggang in Dongning City), 9 (Xiaojiacun in Huludao City), 10, 11 (Kharchin Banner in Chifeng), 12 (M901 in Paoshouyingzi in Jianping County), 13, 21, 32 (Jianping County), 14 (II M306 in Lamadong Village in Beipiao), 15, 24, 31 (M6:1, M13:1, M17:1 in Heshanggou Village in Harqin Left Wing Mongolian Autonomous County), 16 (Hejiagou in Beipiao), 17 (M851 in Dalahan'gou Village in Jianping County), 18, 20 (Laowopu Village), 21, 22 (M901 in Luanjiayingzi Village), 23 (stone-chambered graves in Nandonggou Village in Harqin Left Wing Mongolian Autonomous County), 26, 27 (Fanshi Village in Suizhong County), 28 (Yi County), 29 (Si'erbu County in Huludao City), 30 (Xiaohuangdi in Taijitun Village), 33 (Laoyemiao Village in Harqin Left Wing Mongolian Autonomous County), 34 (San'guandianzi Village in Lingyuan County)

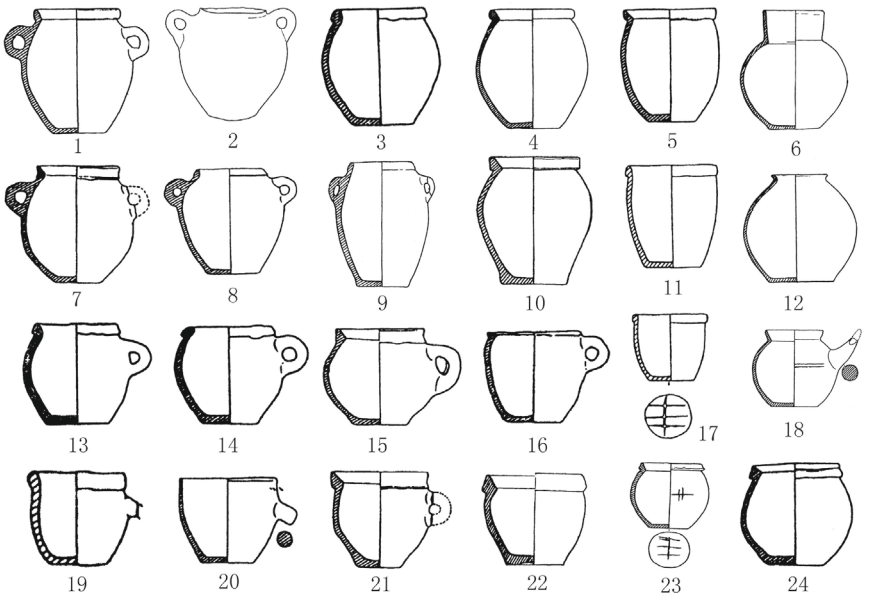

Fig. 2.9 Pottery from the Shuiquan Remains, 1, 3, 4, 5, 7, 8, 11, 14, 15, 16, 18–21, 24 *guan* jars (M50:2, M69:2, M8:1, M76:1, M79:1, M73:1, M37:1, M36:3, M7:2, M77:1, M3:2, M22:2, M4:5, M21:2 in Shuiquan), 2 *guan* jar (Hongshanhou in Chifeng City), 6 *hu* pot (Shanwanzi in Aohan Banner), 5, 9, 22 *guan* jars (Shanwanzi in Aohan Banner), 10, 23 *guan* jars (Wulanbaolage in Aohan Banner), 12 *weng* urn (Dongjing in Aohan Banner), 13 *guan* jar (Sanzuodian Town in Ningcheng County), 17 *bei* cup (M105:2 in Shuiquan in Aohan Banner)

2.6 Cultural Remains Between the End of the Upper Xiajiadian Culture and the Beginning of the Yan Culture in the Warring States Period

There are mainly four kinds of cultural remains in the Liaoxi Mountainous region which are from the time period between the end of the Upper Xiajiadian Culture and the beginning of Yan Culture in the Warring States Period. Two of them, the Shuiquan Remains and Jinggouzi Remains (including the Tiejianggou Remains), are distributed along the Laohahe River basin and Xar Moron River, which are located in the west of the Liaoxi Mountainous region. The other two, the late Linghe Remains and Wudaohezi Remains in Lingyuan, are distributed along the Dalinghe and Xiaolinghe River basins, which are located in the east of the Liaoxi Mountainous region.

2.6.1 Features and Age of the Shuiquan Remains

The name "Shuiquan Remains" was proposed after the excavation of the Shuiquan Tombs (mainly the tombs in the northern part) in Sijiazi Town, Aohan Banner in Inner Mongolia in 1995 (Guo, 2000). Remains of the same kind were also found in Hongshanhou in Chifeng City (Hamada and Mizuno, 1938), Shanwanzi Tomb in Aohan Banner, Dongjing Tomb in Aohan Banner (Shao, 1993), Wulanbaolage in Aohan Banner (Shao, 1996), and Sanzuodian Town in Ningcheng County (Ningcheng County Cultural Center, etc., 1985). It is said that relics of the Shuiquan Remains were also collected in places like Songshan District in Chifeng City, Dashanqian, and Xicun in Harqin Banner (Guo, 2000; Wang, 2004). As can be seen from the artifacts unearthed from the above sites, the Shuiquan Remains are mainly distributed along the Laohahe River basin, west of Nulurhu Mountain. All the artifacts were excavated from tombs, among which the most representative ones are earless *guan* jars or *bei* cups as well as ringed-ear *guan* jars or *bei* cups with two ears or a single ear. The number of *guan* jars or *bei* cups with cylindrical ears and *hu* pots with straight mouths is relatively small. No tripod artifact was found (Fig. 2.9). This pottery is mainly in the form of *guan* jars and *hu* pots, with features like a plain red coarse sand-tempered pottery composition and thick everted and overlapping lips. The Shuiquan Remains are quite similar to the late Linghe Remains if the untempered pottery and curved-blade bronze short swords unearthed in the south part of the Shuiquan tombs, Shanwanzi in Aohan Banner, and Wulanbaolage in Aohan Banner are regarded as part of it. In particular, the plain sand-tempered pottery with everted and overlapping lips (Figs. 2.7:1, 2.9 : 3, 4) and the *guan* jar with a horn-shaped handle (Figs. 2.7: 4, 2.9:18) are almost the same shape. Moreover, the curved-blade bronze short swords unearthed from Laoyemiao (Fig. 2.9: 11), Shuiquan, and Wulanbaolage (Guo, 2000) are similar in shape as well. The above proves that the Shuiquan Remains and the Linghe Remains both date to the early and middle Warring States Period.

The researchers who excavated the Shuiquan Tombs believed that the northern part belonged to the Shuiquan Remains while the southern part belonged to the Linghe Remains. However, as shown in the published excavation figure (Guo, 2000), the tombs in the south and north are closely connected and their orientations are the same. In addition, the materials of the tombs have not been fully published and the relationship between artifacts from each tomb is not obvious. Thus, it is better to regard the tombs as a whole rather than dividing them into two parts. As for the artifacts with cultural elements similar to the late Linghe Remains, they could be regarded as the result of a strong impact and great influence from the Linghe Remains.

2.6.2 *Features and Age of the Jinggouzi Remains (Tiejianggou Remains Included)*

The Jinggouzi Remains was named after the excavation of the Jinggouzi site in Shuangjingdian Village, Linxi County in Inner Mongolia. The site was found in 1989, cleaned in 1998, and excavated twice during 2002 and 2003. The currently published papers on the Jinggouzi Remains were mainly based on one tomb cleaned in 1998 (Wang, 1998) and 31 tombs in the western zone excavated in 2002 (Research Center for Chinese Frontier Archaeology of Jilin University, 2004). The tombs were all vertical earthen pits, slightly trapezoidal or rounded rectangle in shape, with no burial containers found (except for a cleaned up one). There were single interments and multiple interments, most of which had been destroyed to some extent. The burial relics consist of pottery, bronzes, bone and antler artifacts, clamshell artifacts and jades. The pottery was mainly plain sand-tempered pottery, and a large number of *hu* pots or *weng* urns with rounded bulging bellies. Meanwhile the number of *hu* pots with everted necks, *li* cauldrons with cylindrical bellies, *pen* basins with overlapping lips, *yu* basins with flaring mouths, and *guan* jars with single ears or double ears was quite small. Bronzes were mainly in the form of ornaments and weapons. The ornaments were mainly bronze *pao* concho and earrings while the weapons were short swords, bronze arrowheads and bronze knives (Fig. 2.10).

The Jinggouzi Tombs and Shuiquan Tombs have some similarities in the aspects of tomb patterns and burial relics. For instance, the orientation of the tomb pits are the same and both of them have burial relics like pottery *guan* jars with single ears and double ears as well as round bronze *pao* concho and bronze earrings, indicating that both tombs date to the same period. However, the differences between these tombs are quite obvious. In the Shuiquan tombs, wooden burial containers were quite common and people were interred supine with extended limbs. The burial filling dirt contained many pig heads and pig feet. The burial relics were mainly overlapping-lip *guan* (*bei*) jars (cups) with single ears or no ears. Meanwhile in the western zone of the Jinggouzi tombs, there were numerous double interments without burial containers. The burial filling dirt contained horse, ox and sheep but no pig bones. Among the burial relics, the most numerous and distinctive were sand-tempered pottery guan (weng) jars (urns). Moreover, the cylindrical-belly *li* cauldron with four feet also has distinct characteristics. Considering the differences between the two tombs, the researchers who excavated them believed that the Jinggouzi tombs represent a new culture and named it the Jinggouzi Type, which is referred to as the Jinggouzi Remains in this book.

In addition, as the western zone of the Jinggouzi tombs have broken the stratigraphical relationship of the ash pits in the Upper Xiajiadian Culture, the excavating researchers determined the Jinggouzi Remains should date to the same period as the Shuiquan Remains, which was later than the Upper Xiajiadian Culture. Both remains are in the Liaoxi mountainous region and are from the time period between the end of the Upper Xiajiadian Culture and the beginning of Yan Culture in the Warring States Period. The two remains should date to between the late Spring and Autumn

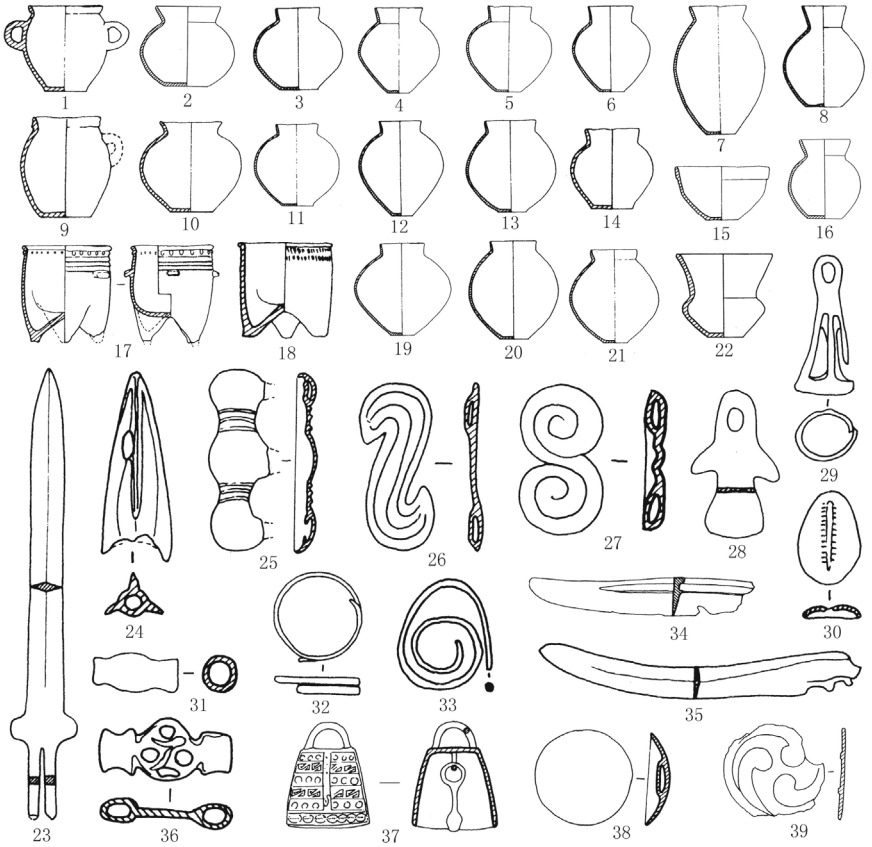

Fig. 2.10 Pottery and bronzes from the Jinggouzi Remains, 1 Pottery *guan* jar (M10:2), 2 Pottery *hu* pot, 16 Pottery *hu* pot, 22 Pottery zun wine vessel (unearthed during the cleaning in 1996), 3 Pottery *guan* jar, 15 Pottery *pen* basin, (M2:1), 4 Pottery *hu* pot (M15:2), 5 Pottery *hu* pot, 8 Pottery *hu* pot, 9 Pottery *guan* jar, 10 Pottery *hu* pot, 27 Bronze plague ornaments (M13:3, 40, 39, 2, 33), 6 Pottery *hu* pot (M18:1), 7 Pottery *guan* jar, 34 Bronze knife, 38 Bronze *pao* concho ornament, 39 Bronze plague ornaments (M5:20, 13, 4, 10), 11Pottery *hu* pot (M27:1), 12Pottery *hu* pot, 25 Bronze plague ornaments, 33 Bronze ring (M31:1, 7, 22), 13, 21 Pottery *hu* pot (M22:2 and 1), 14 Pottery *hu* pot (M9:1), 17 Pottery *li* cauldron, 19. Pottery *hu* pot, 20 Pottery *hu* pot (M19:3, 4, 5), 18 Pottery *li* cauldron, 36 Pottery curb bit and chain (M25:1, 10–4), 23 Bronze sword, 29 Bronze bell, 32 Bronze ring (M3:6, 46, 57–1), 24 Bronze arrowhead (M26:20), 26 Bronze plague ornaments (M6:1), 28 Bronze bell (M8:2), 30 Bronze shell ornament (M7:11), 31 Bronze *guan* tube, 37 Bronze bell (M20:10, 22), 35 Bronze knife (M23:3)

periods and the early Warring States period. Based on the setting of the date of the latest time point of the Upper Xiajiadian culture in this book, the Jinggouzi Remains should date to the early and middle Warring States period.

The Tiejianggou Remains (Shao, 1992), which came later than the Upper Xiajiadian Culture, were found in Aohan Banner. Most scholars consider it to be an independent archaeological culture. Now, it seems more reasonable to incorporate the

Tiejianggou Remains into the Jinggouzi Remains for the following reasons. First, the three tombs found in A Zone in the Tiejianggou tombs were all vertical earthen pits with single interments and double interments. The overall burial system was quite similar to that of the Jinggouzi Remains. Second, the five pieces of pottery unearthed from the Tiejianggou tombs shared the same or similar patterns with the ones in the Jinggouzi Remains. Moreover, the bronze artifacts excavated in the Tiejianggou tombs were quite similar in type and pattern to the bronzes in the Jinggouzi tombs (Fig. 2.11). As for the bronze artifacts unearthed from the Tiejianggou tombs, namely plaque ornaments in the shape of boars and tigers, as well as knives with ring pommels and belt hooks, they were not found in the Jinggouzi Remains, probably because of the insufficient research materials and the location of Tiejianggou to the south.

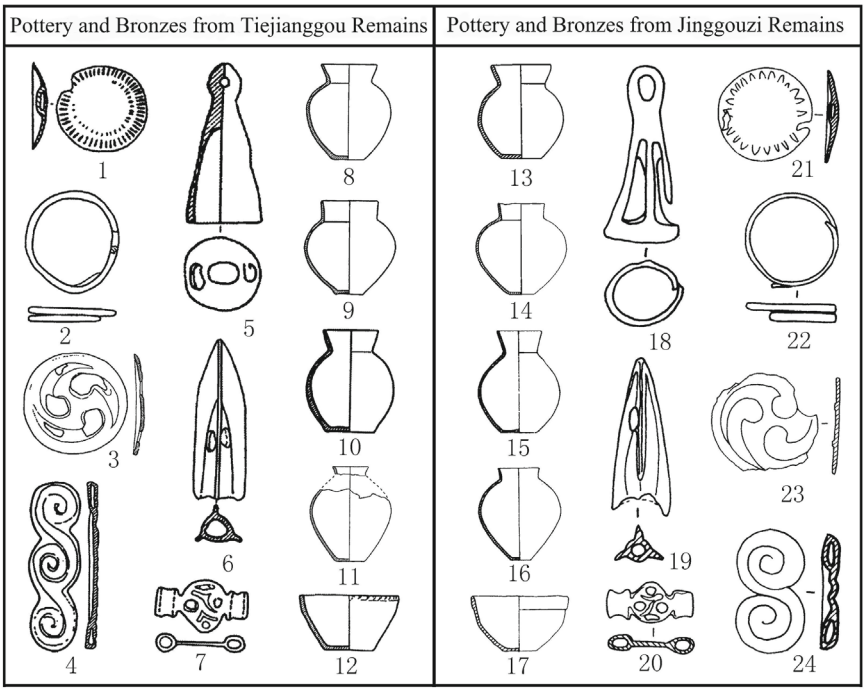

Fig. 2.11 The comparison between artifacts unearthed from Tiejianggou Remains and the ones from Jinggouzi Remains, 1, 9(AM3:2, 1), 2, 5, 7, 8, 10, 12 (AM2:27, 6, 11, 1, 2, 3), 3, 4, 11 (AM1:15, 17/1), 6 (collected in Zone A), 13 (unearthed during the clearing in 1996), 14, 15, 24 (M13:2, 40, 33), 16 (M31:1), 17 (M2:2), 18, 22 (M3:46, 57–1), 19 (M26:20) 20 (M25:10–4) 21 (M23:7) 23 (M5:10)

2.6.3 Features and Age of the Wudaohezi Remains

The Wudaohezi Remains are represented by the eleven tombs in Wudaohezi in Lingyuan County, Liaoning Province (Liaoning Provincial Institute of Archaeology, 1989). These remains can only be seen in the Wudaohezi tombs, with their special burial system. The plane of the tomb pit is in the shape of a trapezoid, generally wide in the front and narrow in the back, and some of them have a two-level ledge. The bottom of the tomb is generally covered with a layer of birch bark, and piles or rows of horse teeth were found in the bottom or in the filling dirt. The burial relics were mainly bronze artifacts and no pottery was found here. The bronzes were mainly bronze *ge* daggers, bronze swords, bronze knives, cart devices, plaque ornaments in the shape of horses and gold oxen, belt hooks, hanging pendants in the shape of a human figure or other figures, frontlets in the shape of rays and bronze yokes in the shape of the Chinese character 凵 (Fig. 2.12). Due to the complicated connotations of these artifacts, opinions vary on the aspect of cultural characterization of the Wudaohezi Remains. Jin and Wang (Jin and Wang, 2001) believed that the Remains should be categorized as a part of the Shanrong Culture, also known as the Yuhuangmiao Culture, in Jibei (now the northern part of Hebei Province). Meanwhile Yang held the view that the Wudaohezi Remains should be separated from the Yuhuangmiao Culture (Yang, 2003). In this book, the latter view was accepted, supporting Wang's opinion that these relics should not belong to any cultures in the Liaoxi region and the adjacent areas (Wang, 2004).

Although opinions vary regarding the understanding of the cultural nature of the Wudaohezi Remains, the views on the dating of these Remains are the same, placing them during the early or middle Warring State period.

2.7 Cultural Remains of the Yan Culture in the Warring States Period

As Zheng said, a small number of factors of the Yan culture had seeped into the Liaoxi Mountainous region after the General Qin Kai in Yan State defeated Donghu in the northern part of Yan (Zheng, 2005). In the late Warring States period, with the large-scale northward movement of the Yan Culture, the Yan State began to set up counties and built the Great Wall, causing the local culture to be rapidly replaced by the Yan Culture. As can be seen from the published investigation and excavation materials, many remains in the Liaoxi Mountainous region had relics and artifacts with typical features of the Yan Culture. Moreover, Yan cultural strata overlaid by the Upper Xiajiadian Culture had been found in some remains as well. The unearthed relics, whether living utensils, production tools or architectural tools, all had typical features of the Yan Culture, while only few had with non-Yan features. Evidently, the Liaoxi Mountainous region had already become a territory of the Yan State from the late Warring States period.

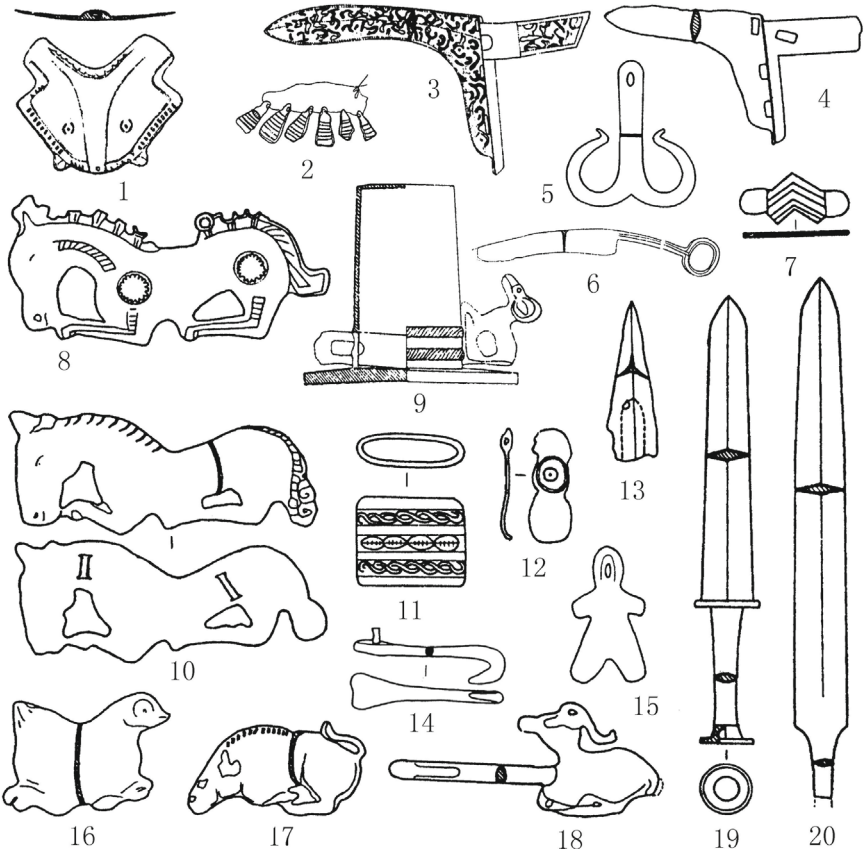

Fig. 2.12 Bronzes in Wudaohezi Remains, 1 frontlet in shape of ray (M1:18), 2, 7, 12, 15 bronze ornaments (M9:2; M7:2; M7:19, M7:13), 3, 4. bronze *ge* dagger (M1:43, M8:4), 5 bronze yoke (M1:15), 6 knife with a ring pommel (M8:8), 8, 10 plague ornaments in shape of horse (M8:3, M9:7), 9 cart device (M1:1), 11 bronze hoop (M1:50), 13 bronze arrowhead (M9:18), 14, 18 belt hook (M10:8 & M9:14), 16 plague ornament in shape of rooster (M8:7), 17 plague ornament in shape of ox (M1:39), 19, 20 bronze sword (M1:5 & M8:10)

2.8 Chronological Coordinates of Archaeological Cultures of the Liaoxi Mountainous Region

The Remains in the Liaoxi Mountainous region from Xia to the Warring States period can be divided into six stages.

- The first stage is represented by the early lower Xiajiadian culture, dating back to the Xia period.
- The second stage is represented by the late upper Xiajiadian culture, dating back to the early Shang period.

- The third stage is represented by the Weiyingzi culture, dating back to the late Shang period.
- The fourth stage is represented by the upper Xiajiadian Culture and early Linghe remains, dating back from the Western Zhou to the Spring and Autumn period.
- The fifth stage is represented by the late Linghe remains, the Shuiquan remains, the Jinggouzi remains (including the Tiejianggou remains), and the Wudaohezi remains, dating back to the early and middle Warring States period.
- The sixth stage is represented by the Yan remains in the Warring States period, dating back to the late Warring States period.

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Chapter 3
Staging and Chronology of Archaeological Cultures in the Liaoxi Plain

Abstract Chapter Three focuses on the staging and chronology of archaeological cultures in the Liaoxi plain. It is proposed for the first time that the "Phase II of Ping'anpu remains" dates to the early Xia period and represents a precursor to the Gaotaishan culture. The cultural remains in this region are divided into three chronological stages: the early Xia period ("Phase II of Ping'anpu remains"), the mid-to-late Xia period to the early Shang period (early Gaotaishan culture), and the late Shang period (late Gaotaishan culture)

Liaoxi Plain is located to the east of Yiwulu Mountain, to the west of the Xiushui River and the main channel of the Liao River, to the north of the eastern edge of the Horqin Sandy Land, and to the north of the Bohai Sea. The archaeological cultures found in the Liaoxi Plain, which date back to the Xia and Warring State period, are mainly the Ping'anpu Culture and Gaotaishan Culture. Both of them are distributed in the northern region centered along the Liuhe River Basin.

3.1 Features and Age of the Ping'anpu Remains Phase II

Ping'anpu culture Phase II, also known as Ping'anpu culture Type II, were new cultural remains first identified when the first excavation of Ping'anpu sites was conducted in 1988 (Liaoning Institute of Cultural Relics and Archaeology, 1992). These remains were quite different from the Pianbuzi Culture in the late Neolithic period and the Gaotaishan Culture in the Bronze Age. The same kind of remains are also found in Wangjia Village, Laofangshen Village, Houbeiyingzi Village, Daqinggou Village and Luoguoliang Village in Zhangwu County (Liaoning Institute of Cultural Relics and Archaeology, 1991). Since the remains mentioned above have not been officially excavated, the features and date of the Ping'anpu culture Phase II can only be understood by the excavation materials from the Ping'anpu Site.

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3.1.1 Cultural Features

The Ping'anpu Site, excavated in 1988, contained three different cultural remains from top to bottom. The first phase of the remains was from the Neolithic culture, the second phase was named the Ping'anpu culture Phase II, and the third phase was dwellings and tombs from the Gaotaishan Culture.

The number of the relics from the second phase was quite small, and they were only found in Excavation Zone I. The representative artifacts are layer ⑥ in Zone I, and H1027, H1029, H1031, H1032, H1057, H1060 under layer ⑤, as well as M1005 under layer ⑥. Based on the unearthed artifacts, the cultural features of the Ping'anpu culture Phase II can be summarized as follows.

First, the openings of the ash pits are rectangular in shape and there are two types of cavities, namely vertical cavities and cavities with steps. The former has straight walls and a flat base while the latter has one sterile subsoil on both sides of the walls. The tombs are vertical earthen pits with no burial containers or complete burial pottery.

Second, the pottery unearthed was mainly sand-tempered pottery with various colors like yellowish-brown, reddish-brown or grayish-brown. Some of them were covered with red coatings. The surface of some pieces of pottery were partially decorated with incised triangle patterns, 人patterns, short diagonal line patterns and applique patterns. The shapes of the vessels were all handmade, and some have been polished on the inside and outside. Representative artifacts include the tubular *guan* jar, everted -belly *pen* basin, everted-belly *bo* bowl, bowl with a base, short-necked *hu* pot (*weng urn*) with applique patterns, small *guan* jar with contracted mouth, *bo* bowl with flat base, and the foot of a *yan* steamer with slanted straight inner walls (Fig. 3.1).

3.1.2 Dating of the Ping'anpu Culture Phase II

The pottery collections of the Ping'anpu culture Phase II Remains are represented by the tubular *guan* jar with vertical handles, *pen* basin with vertical handles and ring-foot bowl with unpunched ears. Moreover, no *li* cauldron or *ding* tripod were unearthed in these remains but a slice of a *yan* steamer without solid feet was found here.

Tubular *guan* jars are typical pieces of pottery from the Neolithic period in the Liaoxi Plain and the Northeast region. Meanwhile the tubular *guan* jar in the Ping'anpu culture Phase II had arced, contracted walls and a shallow belly. On the outside were symmetrical, vertical bridge-shaped ears, some of which even had handled ears on top. As can be seen, the shape of the tubular *guan* jar in the Ping'anpu culture Phase II is quite different from the ones in the Neolithic period. The fragment of the foot of the plain *yan* steamer with oblique straight inner walls but no solid heels outside shared common features with the plain pouch-legged *yan* steamer from the

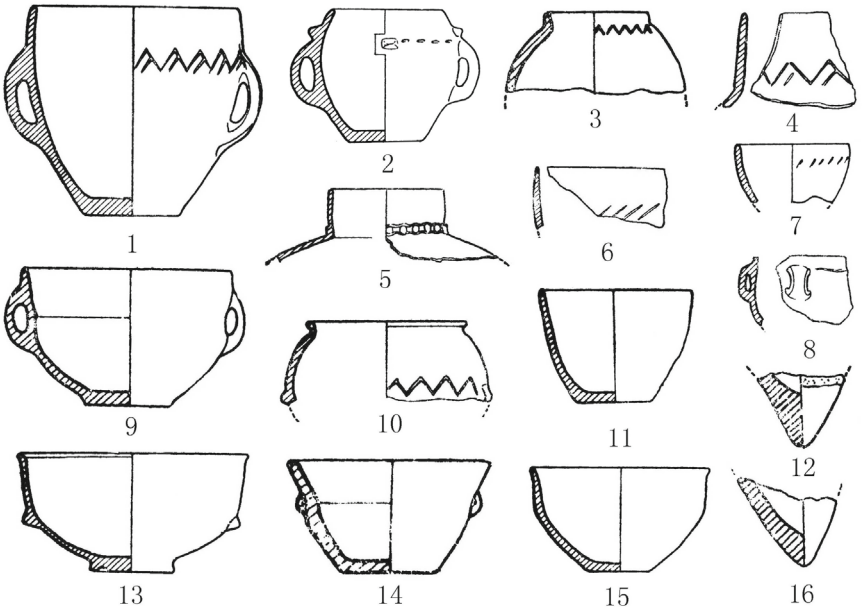

Fig. 3.1 Pottery in Ping'anpu culture Phase II. 1, 2, 3, 10 *guan* jars (H1032:1, collected:01, H1032:6, H1027:3); 4, 5 *hu* pots (H1032:4, 3); 6, 7, 11, 15 *bo* bowls (H1027:2, collected:013, H1060:1, H1031:9); 8, 9 *pen* basins (H1031:13, 2); 12, 16 *qizu* feet of the artifacts (H1029:1, H1031:14); 13, 14 *wan* bowls (H1031:3, 1); The artifacts above were all excavated from Ping'anpu sites in Zhangwu County, except for No 2 which was collected in Daqinggou sites in Zhangwu

Yueshi Culture in Shandong Peninsula (Fang, 1997). Moreover, the tubular *guan* jar with vertical ears, everted-belly *pen* basin with vertical ears, and the foot of the plain *yan* steamer with no solid heel are similar to the upper part of tubular *li* cauldron with vertical ears, rounded-belly *pen* basin with vertical ears, and the plain pouch-legged *yan* steamer in the Gaotaishan culture Phase I (Fig. 3.2). However, there might be certain differences among the above. The similarities indicate that these remains might be the predecessor of the Gaotaishan culture, while the differences indicate that it is not appropriate to incorporate it into the Gaotaishan culture represented by the plain tubular *li* cauldron. Therefore, the date of the Ping'anpu culture Phase II Remains should be between the Neolithic period and the forming of the the Gaotaishan culture. In other words, the variation in shape of the tubular *guan* jar and the appearance of the three-foot *ya*n steamer mark a new stage of archaeological culture in this area.

The charcoal specimen unearthed in H1057 in Ping'anpu was tested and found to be 4355 ± 245 years old (WB88-34 with half-life period 5730 years) (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1992), which is significantly older than the above analysis results. In this book, based on the comparison and analysis of pottery morphology, the date of the Ping'anpu culture Phase II Remains

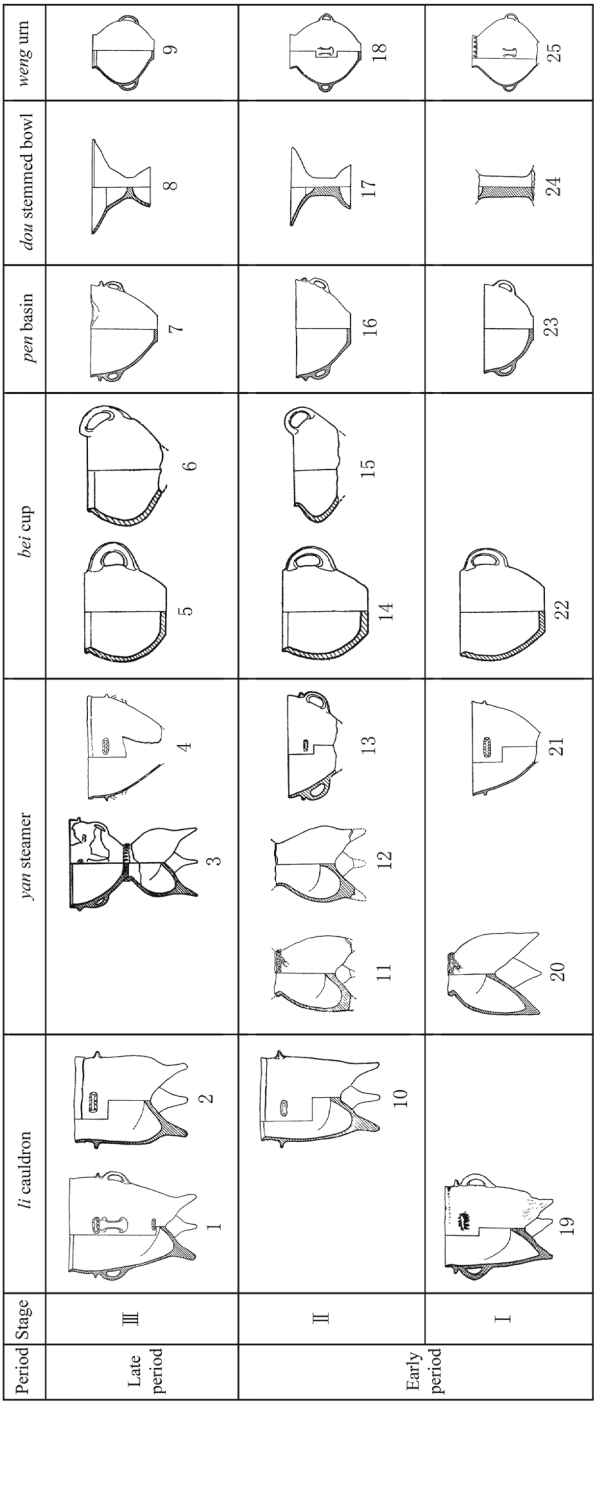

Fig. 3.2 The periodization of typical pottery in the Gaotaishan culture. 1 (88 Ping'anpu H3053:1); 2 (88 Ping'anpu H1012:1); 3 (76 Gaotaishan T1H1:5); 4, 8 (88 Ping'anpu H3038:9, 4); 5 (88 Ping'anpu H3013:3); 6 (88 Ping'anpu H3075:1); 7 (88 Ping'anpu H3006:1); 9 (88 Ping'anpu H1002:1); 10 (88 Ping'anpu T103④:7); 11 (88 Ping'anpu F3005:1); 12, 13 (88 Ping'anpu H3052:5, 9); 14 (88 Ping'anpu H1003:4); 15 (88 Ping'anpu H1018:3); 16 (88 Ping'anpu H3086:1); 17 (88 Ping'anpu T312③:1); 18 (88 Ping'anpu M1003:1); 19 (collected from Ping'anpu); 20, 21 (88 Ping'anpu H3094:1, 3); 22, 24 (88 Ping'anpu G1003:4 and 5); 23 (88 Ping'anpu T101⑤:9); 25 (88 Ping'anpu H3080:1)

should be within the chronology of the Xia, which is roughly close to the date of the early Shuangtuozi Culture, equivalent to the early Xia.

3.2 Staging and Age of the Gaotaishan Culture

The Gaotaishan culture was named after the Gaotaishan Relics in Xinming County in Liaoing Province, which were discovered in the early 1970s (Shenyang Cultural Relics Management Office, 1981). These remains were initially considered to be the same as the Upper Xinle Culture (Shenyang Cultural Relics Management Office, 1982) but were later named the Upper Gaotiashan Type (Qu, 1981) or Gaotiashan Type (Guo, 1983; Sun, 1984) when the differences between them and the Upper Xinle Culture became apparent. After the excavation of the Ping'anpu Site in 1988, an in-depth understanding was attained of the residential sites and tombs of these remains. Because of this, the researchers had officially named it "Gaotaishan Culture" in their archaeological report (Liaoning Provincial Institute of Archaeology, etc., 1989), which was later accepted by the academic community (Zhao, 1993; Dong, 1996).

Judging from the materials published so far, the remains of Gaotaishan culture mainly come from the following sites:

The first one is Gaotaishan Site in Xinmin County, which is composed of Donggaotai Mountain, Yaogaotai Mountain and Xigaotai Mountian. In 1973, the Shenyang Cultural Relics Management Office cleared seven tombs (73M1 to M7) and two ash pits (73H1 to H2) in Yaogaotai Mountain. Later in 1974, they cleared another five tombs (74M1 to M5) and conducted investigations and trial excavations in Donggaotai Mountain (Shenyang Cultural Relics Management Office, 1982). During the first cultural relics and archaeology short training class in Shenyang City held in 1976, the trainees cleared thirteen tombs (76M1 to M13) in Yaogaotai Mountain and conducted a small-scale excavation in Donggaotai Mountain (Xinmin County Cultural Center, etc., 1983). In 1979 and 1980, the Archaeological Department of the Shenyang Palace Museum conducted two excavations on the Donggaotaishan site. The first one was during August to November in 1976, with fifty-two tombs found but the excavation materials are yet to be published. The second one was during May to August in 1980, with sixty-one tombs (80M53 to M114) and eight ash pits (80H1 to H8) found (Shenyang Cultural Relics Management Office, 1986).

The second one is Houshan Site in Gongzhutun Township in Xinmin County. In 1980, an investigation and trial excavation was conducted and three tombs (M1 to M3) and seven ash pits (H1 to H7) were found (Shenyang Cultural Relics Management Committee, 1987).

The third one is Ping'anpu Site in Zhangwu County. During the investigation in 1979, some pottery specimens like cylindrical-belly *li* cauldrons and *hu* pots with a red coating were collected (Sun, 1984). The first excavation in 1988 was very productive, not only were residential sites found but tombs were also uncovered (Liaoning Institute of Cultural Relics and Archaeology, 1992).

The fourth one is spread across Qianwulamanhan Village, Dongdawopu Village, Mutou Village in Daleng Township, Zhanggutai Township, and Jiguanshantun Village. Through the investigations of the above sites, a small number of pottery specimens with features of the Gaotaishan Culture were found (Liaoning Institute of Cultural Relics and Archaeology, 1991).

The fifth one is Pingtingshan Site in Fuxin City. In 1989, five tombs (M102, M103 and M106 to M108) were excavated here (Liaoning Institute of Cultural Relics and Archaeology, 1992).

The sixth is Wuhanchi Site in Fuxin City. In 1992, seventeen ash pits (G1 to G17) and thirty-five tombs (M1 to M35) were excavated in this site (Xin, 1997).

As can be seen above, the Gaotaishan sites and tombs are mainly distributed in Xinmin County, Zhangwu County and Fuxin County, west of the Xiushui River and the main channel of the Lower Liaohe River. As for the small amount of Gaotaishan relics unearthed in Yemaotai Township in Faku County and Baisha Village in Kangping County (Liaoning Tieling Cultural Relics Group, 1981; Zhang and Xu, 1992), this might be explained by the fact that the Gaotaishan Culture had spread eastward to the marginal areas of Liaodong region and consequently influenced the Machengzi Culture, which was in the same time period as the Gaotaishan Culture.

Articles focusing on the periodization and date of the Gaotaishan Culture do exist, but the conclusions are not consistent in the aspects of the attributions and characterizations of some artifacts. In view of this, another analysis and discussion about the periodization and date of the Gaotaishan Culture is presented below, based on the current materials.

3.2.1 Analysis of Site Remains

The Ping'anpu Site (Phase III) excavated in 1988 is rich in materials and complex remains. The overlapping and intrusive relationships between units are various. Thus, it could be viewed as a benchmark to study the remains of the Gaotaishan sites in various stages.

According to the *Investigation Report of the Ping'anpu Site in Zhangwu County*, there are forty-seven strata units with pottery relics from the Gaotiashan Culture. Based on their excavation zones and strata relationships, the units are arranged as follows in chronological order.

Zone I contains H1002 and G1001 which are beneath Stratum②, T103③ and T108③ which are in Stratum③, H1003, H1007, H1008, H1012, H1018, H1039, H1048 and M1003 which are beneath Stratum③, T103④ and T112④ which are in Stratum④, H1021 and G1004 which are beneath Stratum④, T101⑤ which is in Stratum⑤ and H1059 and G1003 which are beneath Stratum⑤.

Zone III consists of H3006, H3013, H3038, H3053, H3057, H3072, H3074, H3075, H3085, H3100 and G3003 which are beneath Stratum①, H3021, H3029, H3052, H3054, H3058, H3086 and F3005 which are beneath Stratum②, T301③,

T312③, T316③ and T336③ which are in Stratum③ and H3089, H3112, H3115, H3080, H3094 and H3101 which are beneath Stratum③.

Based on the chronological sequence from early to late, the above units can be divided into three stages after comparison and analysis of the combination and morphology of the unearthed pottery from each unit.

Stage I contains eight units, namely T101⑤, H1021, H1059, G1003 and G1004 from Zone I as well as H3080, H3094 and H3101 from Zone III.

Stage II contains twenty-three units. They are T103④, T112④, H1003, H1007, H1008, H1018, H1039, H1048 and M1003 from Zone I as well as T301③, T312③, T316③, T336③, H3021, H3029, H3052, H3054, H3058, H3086, H3089, H3112, H3115 and F3005 from Zone III.

Stage III contains sixteen units. They are T103③, T108③, H1002, H1012 and G1001 from Zone I as well as H3006, H3013, H3038, H3053, H3057, H3072, H3074, H3075, H3085, H3100 and G3003 from Zone III.

In addition to the Ping'anpu Remains in Zhangwu County, a small number of residential materials of the Gaotaishan Culture has been found in other sites in Zhangwu County as well as in Gaotaishan in Xinmin County and the Houshan Site in Gongzhutun Township. As these materials are so small in number and some of them even have no indications of the excavation sites or be collected specimens, only a small number of units and pottery can be categorized into the various stages by comparing the pottery from different stages in the Ping'anpu Remains. Those units and specimens that lack combination relationships or without comparable pottery or specimens with other remains will not be mentioned here.

Among the pottery unearthed from 76T1H1 in the Donggaotaishan site, the H1:2 cylindrical belly *li* cauldron with vertical and handled ears shared the similar overall patterns with the H3053:1 cylindrical belly *li* cauldron from Stage III in the Ping'anpu Site. The H1:3 *li* cauldron with handled ears had a big mouth, a relatively straight abdominal wall, high feet and shallow pouch-shaped legs with arced, round inner walls. The style of it is similar to the straight belly *li* cauldron in T108③:4 from Stage III in the Ping'anpu Site. Fragments of the feet of a *li* cauldron with the same pattern as the straight belly *li* cauldron mentioned above were also found in 76T1H3 from Donggaotaishan site. From the above discussion, it can be seen that the dates of 76T1H1 and 76T1H3 in the Donggaotaishan site should be the same as the ones in Stage III in the Ping'anpu Site. The S7450 *ding* tripod and S740:2 *guan* jar with handled ears in the Donggaotaishan site shared similar patterns with 76 T1H3:7 in the Donggaotaishan site and H3038:9 in Stage III in the Ping'anpu Site respectively. Thus, the dates of them should also be equivalent to the date of Stage III in the Ping'anpu Site. The jar-shaped *ding* tripod with handled ears, collected from Zhanggutai Township in Zhangwu County, had a similar upper belly pattern to the round-belly *guan* jar with a straight mouth and appliqué patterns. Thus, the dates of the above artifacts should be relatively the same. The round-belly *guan* jar collected from Jiguanshan Village in Zhangwu County had a pair of ears high above the rim. The overall pattern of it is quite similar to the H3075:1 of Stage III in the Ping'anpu Site. Thus, the dates of them should be the same.

Based on the patterns, the H1:1 straight-mouth *weng* urn from the Houshan Site in Gongzhutun Township in Xinmin County should be the prototype of the 76T1H1:1 *weng* urn in Stage III in Donggaotaishan. Thus, the date of it is considered to be the same as the date of Stage II. The 76T4H1:14 contracted-mouth *bo* bowl with a flat base and unpunched ears from the Donggaotaishan Site should be the prototype of 76T1H1:7 in the Donggaotaishan Site as they share the same pattern. Moreover, the shape of it is quite similar to the H3112:1 *bo* bowl from Stage II in the Ping'anpu Site. Therefore, the date of it should be equivalent to the one in Stage II in the Ping'anpu Site.

Two small plain pottery *li* cauldrons unearthed from Qianwulamanhan Village and Mutou Village in Daleng Township have curved crotches but no solid feet. Their shapes are quite similar to the H1059:1 small plain *li* cauldron from Stage I in the Ping'anpu Site. Therefore, they can be considered to be artifacts from the same period. A pottery *li* cauldron with similar features was also found in Dongdawopu Village, while another two small plain pottery *li* cauldrons were unearthed at the same time, possessing complex patterned mouth rims. One of them already had a neck while the other had a relatively long and wide flared mouth rim. Comparing to the aforementioned small *li* cauldrons, the dates of these two *li* cauldrons might be later than Stage II in the Ping'anpu Site.

From the above, the relics in the Gaotaishan Culture can be categorized into three stages mentioned above based on the materials unearthed from the Ping'anpu Site as well as by the comparison and analysis of the shapes of pottery unearthed from other sites. Pottery with an obvious gradual changing relationship in each stage can be seen in Fig. 3.2, and other pottery with obvious period characteristics can be seen in Fig. 3.3.

3.2.2 Analysis of Tomb Remains

Nearly two hundred tombs of the Gaotaishan Culture have been found, among which thirteen were in Ping'anpu in Zhangwu County, one hundred and thirteen in Donggaotaishan in Xinmin County, twenty-five in Yaogaotai Mountain, three in Houshan Site in Gongzhutun Township, five in Pingtingshan Site in Fuxin City, and thirty-five in Wuhuanchi Site in Fuxin City. The pottery unearthed in the above sites mainly consisted of *hu* pots, *wan* bowls, *bo* bowls, *pen* basins, *guan* jars and so on. Based on the various shapes and the evolution of their coexistence relationships, the sixty tombs from the Gaotaishan Culture, which have been published and had pottery unearthed from them, can be classified into three groups.

Group One has seventeen tombs, namely M3002 and M3012 in Ping'anpu in Zhangwu County, 80M74, 80M79, 80M86 and 80M103 in Donggaotaishan in Xinmin County, 76M5, 76M10 and 76M12 in Yaogaotai Mountain in Xinmin County, M2 and M3 in Houshan Site in Gongzhutun Township in Xinmin County, and M3, M15, M16, M26, G2 and G6 in Wuhuanchi Site in Fuxin City (the pottery in the moat is the same as the ones in the tomb).

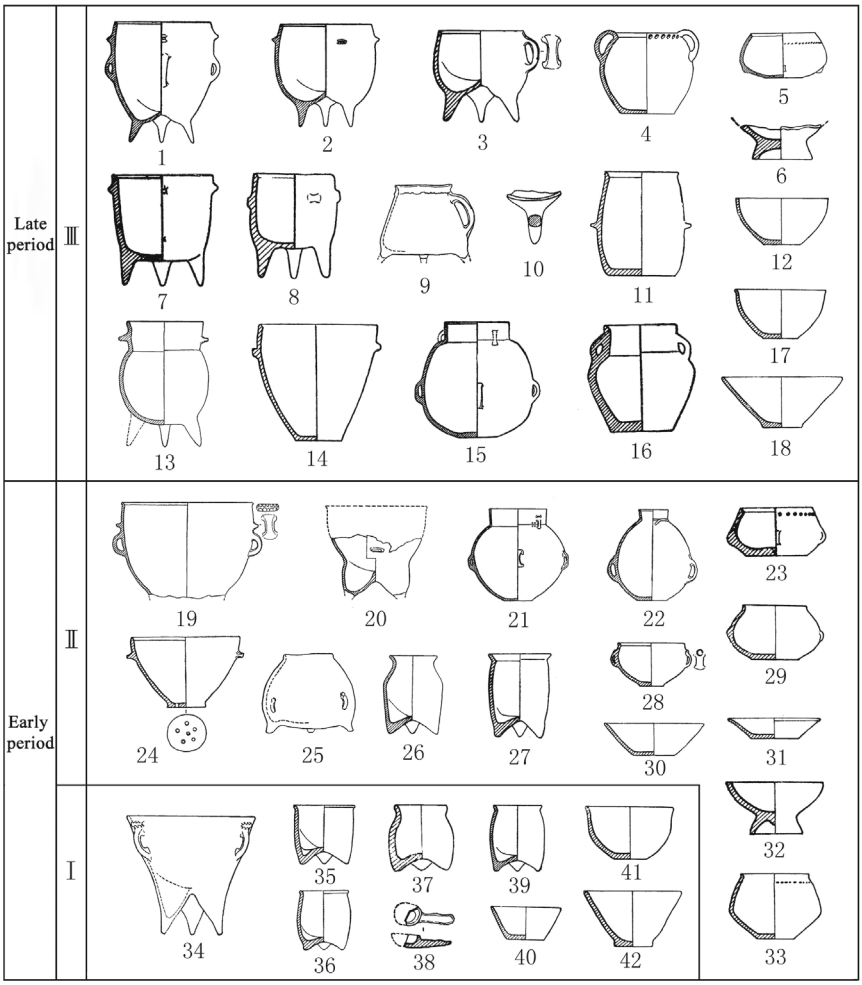

Fig. 3.3 The periodization of other pottery in the Gaotaishan culture. 1, 2, 5, 15 (76 Dongaotaishan T1H1:2, 3, 7, 1); 3 (T108③:4); 4 (Jiguanshantun in Zhangwu); 6, 11 (H3074:9, 1); 7, 10, 16 (76 Donggaotaishan T1H3:7, 93, 8); 8, 14 (74 Donggaotaishan S7450, S7402:1); 9 (G3003:2); 12 (T103③:16); 13 (Zhanggutai Town in Zhangwu); 17 (H3053:6); 18 (H3013:1); 19 (H1007:3); 20 (H1008:2); 21 (H1:1 in Houshan Site in Gongzhutun in Xinmin); 22, 25 (H3054:9, 8); 23 (76 Dongaotaishan T4H1:14); 24 (H3058:24); 26, 27, 39 (Dongdawopu in Zhangwu); 28 (T112④:6); 29 (H3112:1); 30 (T301③:3); 31 (T316③:3); 32 (H1048:1); 33 (H1003:1); 34 (H3094:1); 35 (Qianwulamanhan in Zhangwu); 36 (Mutou Village in Daleng in Zhangwu); 37 (H1059:1); 38 (H3101:2); 40 (H1021:1); 41 (G1004:5); 42 (T101⑤:5); The above artifacts were all excavated from Ping'anpu Site in Zhangwu County in 1988, except for those specifically listed

Group Two has fourteen tombs, namely M3011 and M3013 in Ping'anpu in Zhangwu County, 80M53 in Donggaotaishan in Xinmin County, 73M2, 73M4, 76M4, 76M6 and 76M7 in Yaogaotai Mountain in Xinmin County, G1 in Wuhuanchi Site in Fuxin City, and M102, M103 and M106-108 in Pingtingshan Site in Fuxin City.

Group Three has twenty-nine tombs, namely M3001 and M3003-3010 in Ping'anpu in Zhangwu County, 80M54, 80M66, 80M68, 80M76, 80M82, 80M91, 80M92, 80M93 and 80M111 in Donggaotaishan in Xinmin County, and 73M1, 74M1-5, 76M1-3, 76M9 and 76M11 in Yaogaotai Mountain in Xinmin County.

Taking the pottery from the above three groups as the objects for analysis, the typology research was conducted based on three types of typical pottery from the tombs, namely the *hu* pot, *guan* jar and ring-foot *wan* bowl.

Pottery *hu* jars can be divided into three types, namely vertical-ear *hu* jars, unpunched-ear *hu* jars and earless *hu* jars. Vertical-ear *hu* jars and earless *hu* jars can be further distinguished into different subtypes according to the various patterns of their mouths. The major differences among various types and subtypes of these pottery *hu* jars are listed below. From Group One to Group Three, the belly of the *hu* jar from a high position to a lower position; the section with the longest diameter in the belly moved from the top position to a bottom position. In other words, the belly changed from a contracted lower belly (bulging shoulder) to a bulging belly (rounded belly) and finally to a saggy belly (tapering belly). Among the types of earless *hu* jars, the ring-foot *hu* jar transformed from a jar with a muddy protrusion inside the ring foot to one without any protrusion but a smooth foot.

The pottery *guan* pot can be divided into vertical-ear *guan* jars and handled-ear *guan* jars. The position of the ears in the vertical-ear *guan* jars moved upwards, from the belly to a position between the mouth and the belly. Meanwhile the protruding appliqué patterns around the handled-ear *guan* jars changed to four handled ears. Morphologically, the S73:7 vertical-ear *guan* jars in the Yaogaotai Mountain in Xinmin County should be the prototype of the artifacts from Group Two and Three. Thus, they should be categorized into Group One.

The ring-foot wan bowl can be divided into contracted-mouth bowls with everted walls and wide-flared mouth bowls with arc walls. The difference between Group One and Group Three are the muddy protrusions inside the ring foot, which vanished as time went by.

The types and subtypes of the above pottery *hu* pots have the same transforming patterns from Group One to Group Three. Meanwhile *guan* jars, ring-foot *wan* bowls and other kinds of pottery coexisted with the pottery *hu* pots. Thus, the date of various types of pottery should be the same.

As can be seen from the stratigraphical relationship of Zone Three in the Ping'anpu Site, M3002, M3012, M3011 and M3013 from Group One and Two are all beneath Stratum③, and M3001, M3003, M3004, M3005, M3006, M3007, M3008, M3009 and M3010 from Group Three are all beneath Stratum② (Liaoning Provincial Institute of Archaeology, etc., 1992). Therefore, the date of Group One and Two should be earlier than that of Group Three. Although there are no overlapping and intrusion relationships between Group One and Two, it can be concluded that the date of Group

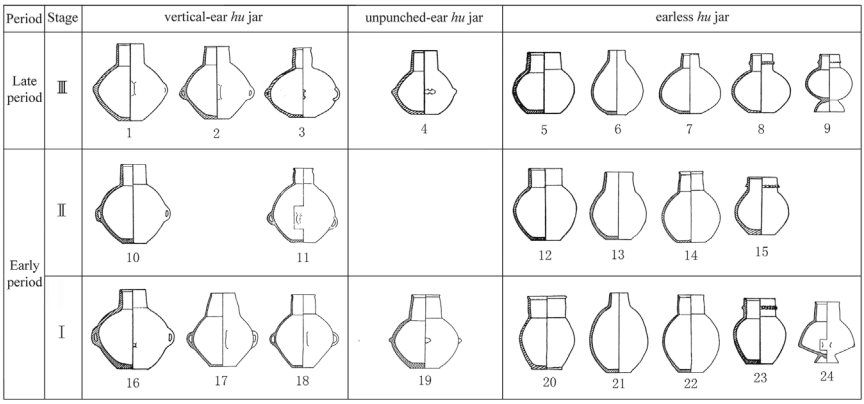

Fig. 3.4 The periodization of pottery *hu* pots in the Gaotaishan culture. 1, 2, 4, 5, 8, 9, 10, 12, 15, 16, 23 (74M3:1, 74M4:1, 74M21, 76M1:2, 74M1:1, 76M3:1, 76M4:1, 76M7:2, 73M4:3, 76M10:1, 76M12:1 in Gaotaishan); 3 (80M111:2 in Donggaotaishan); 6, 7, 13, 21, 24 (M3006:1, M3005:4, M3013:1, M3002:1, M3012:2 in Ping'anpu); 11 (M102:1 in Pingdingshan); 14, 17, 18, 19, 20, 22 (G1:1, M16:3, M15:5, M16:1, M16:5, M15:2 in Wuhuanchi)

One is earlier than that of Group Two based on the morphological evolution trend of the artifacts.

From the above analysis, the three groups of tombs actually represent three stages of archaeology materials of the Gaotaishan Culture. Figure 3.4 shows the relationship between the *hu* pot, *guan* jar and ring-foot *wan* bowl from Stage I to III as well as the other pottery unearthed at the same time. One thing to notice is that the S73:6 vertical-ear guan jar shared the same pattern as the 80M76:1 guan jar from Stage III in Donggaotaishan, thus it is categorized into Stage III.

3.2.3 Cultural Staging and Age

3.2.3.1 Staging

Stratum② in Zone Three of the Ping'anpu Site belongs to Stage III of the relics while Stratum③ belongs to Stage II of the relics. The Stage III tombs unearthed from Ping'anpu are all beneath Stratum② in Zone Three, so they should date to no later than Stage III of the Ping'anpu Remains. Stage II and I tombs are all beneath Stratum③ in Zone Three, thus they should date to no later than Stage II of the Ping'anpu Remains.

The ring-foot *hu* pot in Stage I tombs (Fig. 3.4: 24) and ring-foot *wan* bowl in Stage I and II (Fig. 3.5: 14, 15, 26) have prevailing muddy protrusions inside the foot. Pottery with the same features was also found in Stage II of the relics (Fig. 3.3: 32). As can be seen above, the Stage II tomb and Stage II relics should be in the same

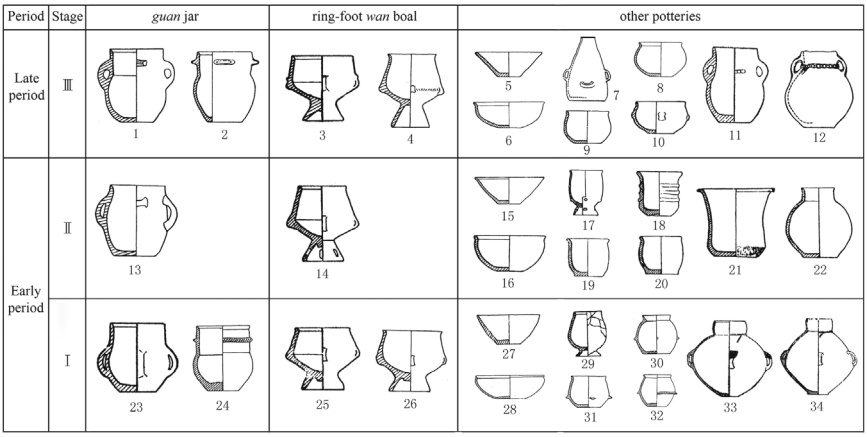

Fig. 3.5 The periodization of pottery in the Gaotaishan culture. 1, 4, 26 (80M76:1, 80M111:1, M74:2 in Donggaitaishan); 2, 5, 6, 7, 8, 9, 10, 12, 15, 16, 31 (M3005:1, M3005:2, M3006:4, M3003:1, M3001:1, M3006:3, M3004:1, M3010:2, M3013:3, M3013:2, M3012:1 in Ping'anpu); 3, 11, 13, 14, 23, 25 (74M3:2, S73:6, 76M4:4, 76M4:2, S73:7, 76M10:2 in Yaogaotaishan); 17, 18, 19, 20, 21, 22 (M102:3, M107:3, M102:5, M102:4, M107:1, M102:2 in Pingdingshan); 24, 27, 28, 29, 30, 32 (M26:2, M16:4, M3:5, G6:1, M3:6, M26:4 in Wuhuanchi); 33, 34 (M3:1, M2:1 in Gongzhutun)

period, but the date of the Stage I tomb might be earlier than the date of the Stage I relics.

Since the Stage I, II and III relics and Stage I, II and III tombs are closely related and there are no obvious gaps in time, and as the Stage II tomb and Stage II relics are in the same period, then the Stage I tomb and Stage II relics should be close in time, as should the Stage III tombs and Stage III relics.

Moreover, the ring-foot *wan* bowl from the Stage III relics (Fig. 3.3: 6) had no muddy protrusions inside the foot, just like the ring-foot *hu* pot (Fig. 3.4: 9) and ring-foot *wan* bowl (Fig. 3.5: 3, 4) from the Stage III tombs. The contracted mouth *guan* jar with a straight belly (Fig. 3.3: 11) from the Stage III relics and the small mouth *guan* jar with a straight belly (Fig. 3.5: 7) have similar styles, although the patterns are not exactly the same. The existence of these common features among the artifacts further proves that the Stage III relics and Stage III tombs should be in the same period.

Therefore, based on the analysis above, the relics and tomb materials of the Gaotaishan Culture are divided into two periods, namely the early Gaotaishan Culture and the late Gaotaishan Culture. The Stage I relics and Stage I tombs are combined into Stage I of the early Gaotaishan Culture, and the Stage II relics and Stage II tombs into Stage II of the early Gaotaishan Culture. The Stage III relics and Stage III tombs are combined into the late Gaotaishan Culture.

3.2.3.2 Age

The pottery in the Gaotaishan Culture shared similar shapes with the ones in the Upper Xiajiadian Culture and the Weiyingzi Culture in the Liaoxi Mountainous region during the Xia and Shang periods. Their similarities not only reflect the interaction and influences between different cultures but also provide evidence to determine the date of the Gaotaishan Culture.

Examples from the late Gaotaishan Culture are listed below. 76T1H1:3 the flat-rim *li* cauldron with an arc belly in Donggaotaishan had a similar shape to the flat-rim *li* cauldron with a cord pattern unearthed from Harqin Left Wing Mongolian Autonomous County in the Weiyingzi Culture (Harqin Left Wing Cultural Center, 1982) (Fig. 3.6: 6, 2). The H1012:1 *li* cauldron with handled ears in Ping'anpu was close in shape to H302:7 in Pingdingshan Phase III in the Weiyingzi Culture (Liaoning Institute of Cultural Relics and Archaeology, etc., 1992). The round-belly *ding* tripod with a straight neck and handled ears unearthed from Zhanggutai Township in Zhangwu County shared a similar overall style with the *ding*-like *li* cauldron with a straight neck and round belly in the Nan'goumen in Harqin Left Wing Mongolian Autonomous County (Guo, 1987) (Fig. 3.6: 9, 3). The pattern of the M3010:2 hu pot with double ears in Ping'anpu and the pattern of H112:13 in the Weiyingzi Culture are completely the same (Fig. 3.6: 8, 4). Artifacts with similar patterns were also found in tombs in Harqin Left Wing Mongolian Autonomous County (Fig. 3.6:5). From the above comparisons, a conclusion can be drawn that the date of the late Gaotaishan Culture should be close to the date of the Weiyingzi Culture in the Liaoxi Mountainous region, both of which should be in the late Shang period.

Examples from the early Gaotaishan Culture are listed below. The M107:1 pottery *zun* wine vessel from Pingdingshan shared the same pattern as the 96G2(12):1 *zun* wine vessel in Dashanqian in Chifeng City (Institute of Archaeology, Chinese Academy of Social Sciences, 1998) and the T1③:16 *zun* wine vessel in Weifang, Jizhou District (Archaeology Team of Tianjin Cultural Relics Management Office, 1983) in the Lower Xiajiadian Culture (Fig. 3.6: 22, 12, 13). The small-scale plain sand-tempered pottery *li* cauldrons belonging to the Gaotaishan Culture, unearthed from Ping'anpu in Zhangwu County, Dongdawopu Village, Qianwulamanhan Village and Mutou Village in Daleng Township, had curved crotches or triangular crotches (Fig. 3.6: 23–28). Artifacts with similar or the same shapes were also found in Kulun, Naman Banner (Li, 1983), Dadianzi in Aohan Banner (Institute of Archaeology, Chinese Academy of Social Sciences, 1998), Nanshan'gen Village in Ningcheng County (Inner Mongolia Excavation Team of the Institute of Archaeology in Chinese Academy of Social Sciences, 1975) along the West Liaohe River, and Xueshan Village in Changping District in Beijing (Zou, 1980) and Qianpu Village in Yu county in Hebei (Zhangjiakou Archaeological Team, 1984) along the Huliu River Basin in the North Hai River (Fig. 3.6: 10, 11, 14–21). Moreover, the bronze ornaments in the early Gaotaishan Culture are quite similar to the U-shaped bronze earrings in the Lower Xiajiadian Culture. From the above comparison, a conclusion can be drawn that the date of the early Gaotaishan Culture should be equivalent to the date of the Lower Xiajiadian Culture, which is during the Xia and the early Shang

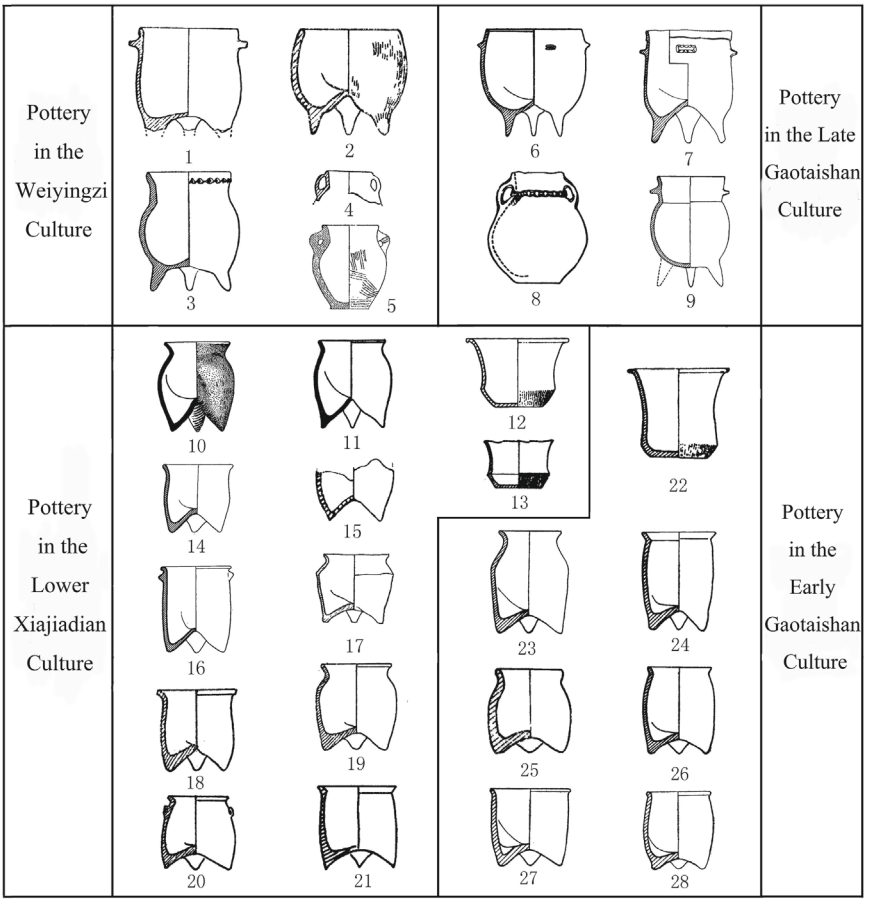

Fig. 3.6 Comparison between pottery in the Gaotaishan culture and pottery in the Upper Xiajiadian culture and the Weiyingzi culture. 1, 4 (H302:7, H112:13 in Pingdingshan); 2, 5 (Houfen Village in Harqin Left Wing Mongolian Autonomous County); 3 (Nan'goumen in Harqin Left Wing Mongolian Autonomous County); 6 (76T1H1:3 in Donggaotaishan); 7, 8, 25 (H1012:1, M3010:2, H1059:1 in Ping'anpu); 9 (Zhanggutai Town in Zhangwu); 10 (F1:7 in Qianpu in Yu County); 11 (H66④:94 in Xueshan in Changping); 12 (96G2(12):1 in Dashanqian in Chifeng City); 13 (T1③:16 in Weifang); 14, 16 (M1017:2, M31:3 in Dadianzi); 15 (H2047 in San'guan in Yu County); 17 (collected from the Nanshan'gen in Ningcheng County); 18 -21 (Kulun and Naiman); 22 (M107:1 in Pingdingshan); 23, 24, 26 (Dongdawopu Village in Zhangwu); 27 (Qianwulamanhan Village in Zhangwu); 28 (Mutou Village in Daleng Township in Zhangwu)

period. However, as the date of the Ping'anpu Remains Phase II has already been determined as the early Xia, the date of the early Gaotaishan Culture might be during the middle and late Xia and the early Shang period.

3.3 Chronological Coordinates of Archaeological Cultures of the Liaoxi Plain

Based on the analysis of the date of the Ping'anpu Remains Phase II as well as the research on the periodization and date of the Gaotaishan Culture, the archaeological remains in the Liaoxi Plain during the Xia and the Warring State Periods can be classified into three stages.

- The first stage is represented by the Ping'anpu remains Phase II, dating back to the early Xia period.
- The second stage is represented by the early Gaotaishan culture, dating back from the middle and late Xia to the early Shang period.
- The third stage is represented by the late Gaotaishan culture, dating back to the late Shang period.

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Chapter 4
Staging and Chronology of Archaeological Cultures in South Liaodong

Abstract Chapter Four focuses on the staging and chronology of archaeological cultures in southern Liaodong. It is pointed out that the Laotieshan stone-lined tombs belong to Phase I of the Shuangtuozi culture, a bronze culture dating to the early stage of the Xia period. Phase II of the Shuangtuozi culture is not a local variant of the Yueshi culture, but an indigenous culture strongly influenced by the Yueshi culture of the Shandong Peninsula. From a typological perspective, the Shuangfang culture is divided into three phases (early, middle, and late) for the first time. Based on pottery comparisons, the Shuangfang culture is considered to have developed from Phases I, II, and III of the Shuangtuozi culture. The bronze short swords with pillar-shaped ridges of the Shuangfang culture have been reclassified into eight distinct styles; through correlation with associated pottery, their casting dates are determined to range from the early Western Zhou period to the late Warring States period. The four archaeological cultural assemblages in this region are divided into seven chronological stages: the initial stage of the Xia period (Phase I of the Shuangtuozi culture), the early Xia to the early Shang period (Phase II of the Shuangtuozi culture), the early stage of the late Shang period (the early period of Phase III of the Shuangtuozi culture), the late stage of the late Shang period (the late period of Phase III of the Shuangtuozi culture), the Western Zhou period (the early Shuangfang culture), the Spring and Autumn period (the middle Shuangfang culture), and the Warring States period (the late Shuangfang culture)

The discoveries and studies of archaeological relics from the Xia to the Warring States period in South Liaodong can be divided into two major stages, with the establishment of the Northeast Archaeological Team from the Institute of Archaeology at the Chinese Academy of Social Sciences in 1963 as a timeline.

The fieldwork in the previous stage was primarily conducted by the Japanese archaeological team. Its three major agendas involve: (1) the archaeological fieldwork in Lvshun, Xinjin, Fuxian, Jinxian, Xiongyuecheng, Pikou and other places in the late nineteenth century and the early twentieth century (Torii, 1910); (2) the excavation of the Dantuozi site and the Gaolizhai site along the Biliu River in Pulandian City in 1927 (Hamada, 1929); (3) the site excavation of Yangtouwa, Lvshun and Wanghaiguan,

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Jinzhou in 1933 (Kanaseki et al, 1942). Nonetheless, the limitation of the excavation method, the number of remains and the research level in that period led to some differences in outcome between Japanese and Chinese scholars regarding the age and nature of the related remains. In terms of age, they were identified as Neolithic, and culturally as Liaodong Neolithic (Kanaseki et al., 1942; An, 1962) or Longshan, Liaodong Peninsula (Yin, 1979; Tong, 1961).

The later fieldwork was primarily carried out by Chinese scholars. It was divided into two periods: (1) from 1963 to 1965, the Northeast Archaeological Team of IACASS (the Institute of Archaeology, Chinese Academy of Social Sciences) excavated the Shuangtuozi site of Houmuchengyi, the Loushang and Gangshang cemeteries in Dalian, the Xiaoxigou cemetery of Liangjiadian in Jinxian County, the Wolongquan cemetery in Dongjiagou, the Yinjiacun site in Lvshun, and the Jiangjunshan stone tombs (IACASS, 1996). (2) From the 1970s to the 1990s, other important sites and tombs were excavated successively, including the Shangmashi site and cemetery (in Changhai County), Laotieshan stone-lined tombs, Yujiatuotou stone-lined tombs, Yujiacun site, Shancheng site (Gaoli) and Dazuizi site (in Lvshun City) (Dalian City), Wangbaoshan stone-lined tombs, Tulong stone-lined tombs, Shuangfang stone-covered sarcophagus tomb and Wangtun sarcophagus tomb (in Xinjinxian County), Biliuhe large stone-covered tomb, Wafangdian stone shed, Gaizhou stone shed, Miaoshan and Dagoutou (Jinzhou City), etc. by Lushun Museum (LM), Liaoning Provincial Museum (LPM), the Luda City Cultural Relics Management Committee (LCCRMC), the Dalian Institute of Cultural Relics and Archaeology, Liaoning Provincial Institute of Archaeology, and the Department of Archaeology, Jilin University. These fieldworks not only clarified many misunderstandings in the former period, but also provided a new series of comparatively systematic materials and some reliable stratigraphic evidence for a comprehensive perception of the cultural relics in the Liaodong Peninsula and their chronological relations from the Xia to the Warring States period.

The current documented research results revealed that the ancient cultural remains in south Liaodong mainly include four different cultures from the Xia to the Warring States period:

(1) Shuangtuozi culture phase I
(2) Shuangtuozi culture phase II
(3) Shuangtuozi culture phase III
(4) Shuangfang culture

The stratigraphic relationship uncovered at the Shuangtuozi, Dazuizi and Yujiacun sites, and the Shangmashi and Gangshang cemeteries indicated that the chronological order of the above four cultures is beyond dispute. However, the nature of certain remains, especially the staging and chronology of these archaeological cultures, needs further explanation and in-depth research on different levels.

4.1 Several Problems on the Shuangtuozi Culture Phase I and II

4.1.1 Laotieshan Stone-Lined Tombs, Shuangtuozi Culture Phase I

The tomb location map published in the paper "*Laotieshan Stone-Lined Tombs in Lushun*" shows that Laotieshan Mountain and Jiangjun Mountain are adjacent, with more than 40 stone-lined tombs linked up. (Fig. 4.1) In the past archaeological publications about the tomb materials unearthed there, both names of Laotieshan stone-lined tombs (Lvda Municipal Cultural Relics Administration Team, 1978) and Jiangjunshan Stone Tombs (Institute of Archaeology, Chinese Academy of Social Sciences, 1996) have been employed, but they effectively referred to one cemetery, which is hereby named as "Laotieshan stone-lined tombs" for the convenience of the presentation below.

Previous understandings on the nature of the Laotieshan stone-lined tombs have been rather vague: some argued that the tombs belong to the upper Xiaozhushan type or the upper Guojiacun type (M. Xu, 1990; Y. Xu, 1982; Lvda Municipal Cultural Relics Administration Team, 1978), while others assumed that they are closely related to both the upper Guojiacun type and the Shuangtuozi culture Phase I (Institute of Archaeology, Chinese Academy of Social Sciences, 1996).

The upper Guojiacun and the upper Xiaozhushan belong to one culture, namely the upper Xiaozhushan culture of the Neolithic age in the Liaodong Peninsula. A comparative analysis of the pottery unearthed from the Laotieshan stone-lined tombs

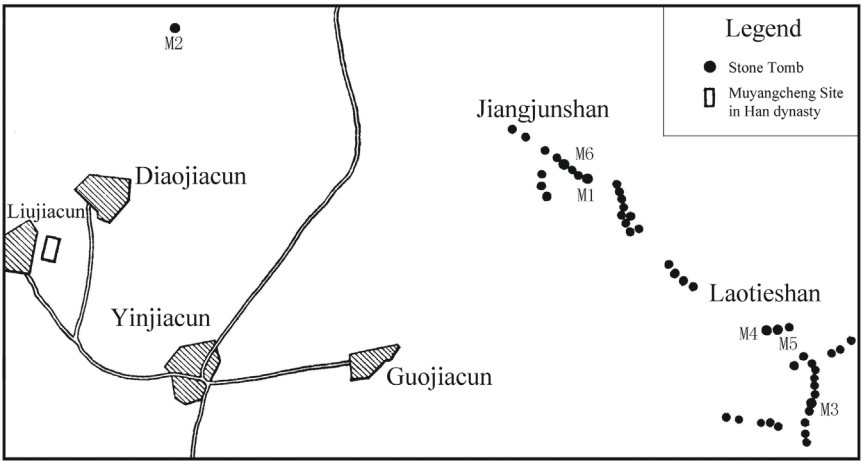

Fig. 4.1 Map of the stone-lined tombs in Laotieshan and Jiangjunshan in Lvshun City. *Source* Lvda Municipal Cultural Relics Administration Team. (1978). Lvshun laotieshan jishimu [Stone-lined tombs at Laotieshan, Lvshun]. *Kaogu*, 2, Fig. 1

and from different sites of the upper Xiaozhushan culture suggested that clear distinctions can be detected in most of the pottery pieces, except for a few commonly found triple ring-footed pans and *wa*-footed pans from the Longshan culture. The pottery combination of the upper Xiaozhushan culture was dominated by *guan* jars, while pottery other than *guan* jars were common among the buried objects in the Laotieshan stone-lined tombs, such as *bei* cups, *hu* pots, *weng* urns, *wan* bowls, *dou* stemmed bowls, *gai* lids, and even a small amount of pottery *gui* tripods. In brief, differences did exist in the combination of artifacts between the two cultures. Further comparisons between a selection of their numerous shared pottery clearly demonstrated that some pottery pieces may have influenced each other in terms of shape, however identical or similar shapes failed to be tracked.

In contrast, the types and shapes of the burial pottery found in the Laotieshan stone-lined tombs shared more common features with the pottery from the Shuangtuozi culture Phase I unearthed at Yujiacun village, Shuangtuozi, and Dazuizi sites, etc. On the one hand, their pottery combination is basically the same (in view of the artifact type); on the other hand, there is a larger number of artifacts with the same or very similar shape among the same category of pottery. Taking *guan* jars as an example, two pottery pots from Laotieshan M1 (6), and Jiangjunshan M1A: 8 and M1D: 5 are exactly the same in shape as those from Shuangzhuzi T5: 40, Yujiacun T2④: 15 and 87, Dazuizi T33④: 33 and 87, and Dazuizi T33④: 36 (Fig. 4.2: 28, 29, 31, 36 v.s. 2, 3, 8, 11). Among the *dou* stemmed bowls, Jiangjunshan M1E:1 and the *dou* stemmed bowl from Lao Tieshan M1(6) are very similar in shape to T4: 44 and T3: 4 from Shuangtuozi (Fig. 4.2: 32, 34 v.s. 5, 7). Among the *bei* cups, the single ear *bei* cups from Jiangjunshan M1B: 1 and from Lao Tieshan are no different in shape, in comparison with the two pieces from Shuangtuozi T4: 48 and T2: 76 (Fig. 4.2: 37, 38 v.s. 10, 9). In addition, the similarly shaped earless *bei* cups and *wan* bowls with ears unearthed from the Laotieshan stone-lined tombs can be found in the relics from the Shuangtuozi culture Phase I (Fig. 4.2: 33, 35, 30 v.s. 4, 6, 1).

Based on the above analysis, the author was convinced that the Laotieshan stone-lined tomb belongs to the first phase of the Shuangtuozi culture, rather than the upper Xiaozhushan culture.

4.1.2 Shuangtuozi Culture Phase I, a Bronze Culture in the Initial Stage of the Xia Period

The first phase of the Shuangtuozi culture is sometimes referred to as the lower Yujiacun culture (Lvshun Municipal Museum, 1981a) or the lower Yujiacun culture type (Y. L. Xu et al., 1982). So far, many relics from this culture have been discovered. In addition to the first phase of the Shuangtuozi site (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1996), there are remains from the lower Yujiacun culture (Lvshun Municipal Museum et al., 1981a), Gaolishancheng remains (Lvshun Municipal Museum et al., 1981b), category A remains from Xiaoheishituozi (J. Y.

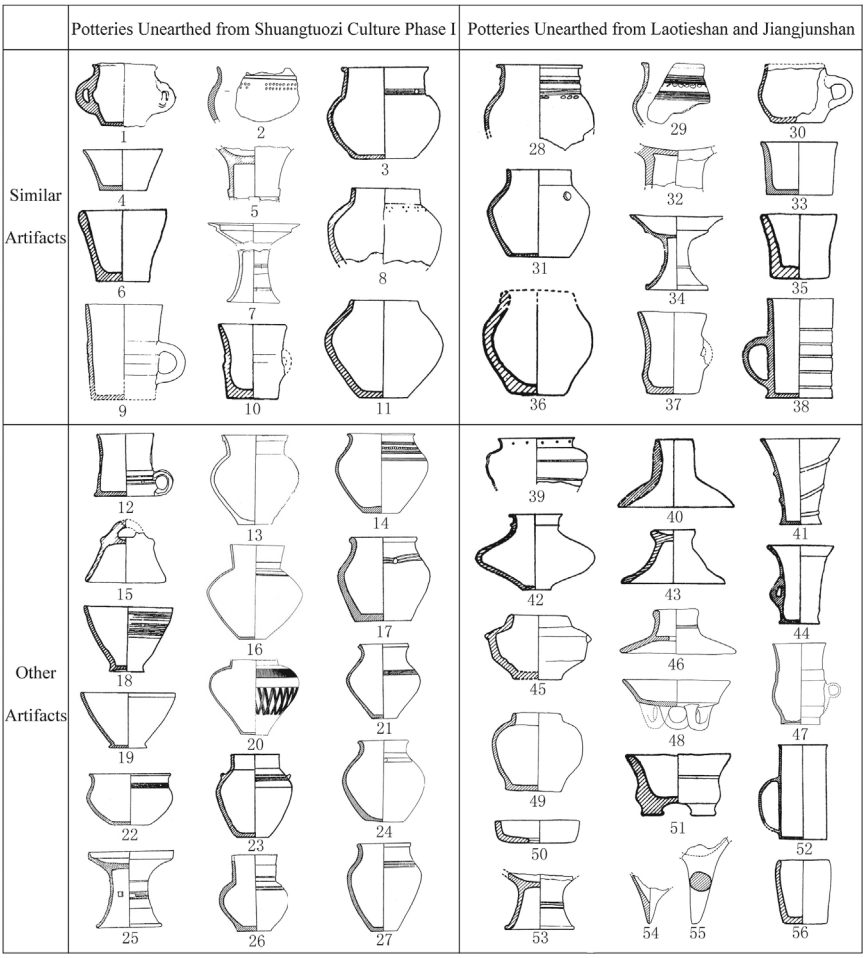

Fig. 4.2 Comparison between pottery unearthed from sites and tombs of Shuangtuozi Culture Phase I. Pottery from the sites: 1, 5, 7–10, 13–16, 20, 24 (Shuangtuozi T4:35, T7:44, T3:4 and T5:40, T2:76, T4:48, T5:36, T1:10, T4:44, T4:36, F14:6, T4:44, F16:2); 2, 11, 18, 19 (Dazuizi, unearthed in 1987, T33④:33, T33④:36, T94④:21, T8④:48); 3, 4, 6, 12, 17, 21–23, 25–27 (Yujiacun T2④:15, T2④:16, T4③:11, T2④:13, F7:1, T3③:14, F6:3, T3③:99, T3③:15, T3③:89, T4③:58). Pottery from the tombs: 28, 31, 33, 34, 39, 40 (Laotieshan M1(6)); 42, 44, 51 (Laotieshan M(3)); 38, 41, 43, 52 (Laotieshan); 29, 47 (Jiangjunshan M1D:5, 2); 30, 36, 48, 50, 54, 55, 56 (Jiangjunshan M1A:2, 8, 9, 7, 13, 12, 1); 32 (Jiangjunshan M1E:1); 35, 37, 49 (Jiangjunshan M1B: 2, 1, 5); 45, 53 (Jiangjunshan M1C: 5, 6); 46 (Jiangjunshan M1:01)

Liu, 1981; C. Wang, 1982; J. Y. Liu, 1994), early remains from Jinzhou Temple Mountain (Department of Archaeology at Jilin University et al., 1992), the first phase remains excavated in 1987 (Dalian Municipal Institute of Cultural Relics and Archaeology, 2000a; M. G. Xu and J. Y. Liu, 1991) and the early remains excavated in 1992 from the Dazuizi Site (Liaoning Provincial Institute of Cultural Relics and Archaeology et al., 1996). The confirmation of the nature of the Laotieshan stone-lined tombs laid the foundation for a deeper understanding of these tombs.

The age and the nature of the Shuangtuozi culture Phase I have been covered in previous works, but some uncertainty still remains. Therefore, specific analysis and explanation will be required hereby from the following three aspects.

Firstly, the bronze *ge* dagger (T33④: 21) (Dalian Municipal Institute of Cultural Relics and Archaeology, 2000b) unearthed in 1987 from the first phase of the Dazuizi site indicates that the Shuangtuozi culture Phase I had entered the Bronze Age.

Secondly, the pottery group unearthed from the sites and tombs of the Shuangtuozi culture Phase I (Fig. 4.2) demonstrates that most of the utensils (such as *guan* jars, *weng* urns, *hu* pots, *wan* flat-bottomed bowls, etc.) are characterized with distinctive regional features. In addition, some artifacts involved (such as *bei* cups, *dou* stemmed bowls, *gui* tripod feet, *gai* lids, ring-foot *ding* tripods, etc.) are basically identical or similar in shape to those from the late stage of the Longshan culture, Shandong province. The existence of the latter type of pottery artifacts indicates that the first phase of the Shuangtuozi culture is contemporaneous with the late stage of the Longshan culture in Shandong province. As the study shows, the later period of the late Longshan culture in Shandong is around 1900 BC, which corresponds to the Xia period (Li, 2004).

Thirdly, some data results obtained by carbon-14 suggested that the two charcoal specimens of T3F3 in the lower Yujiacun are 3630 ± 85 years old (with a tree ring calibrated value of 2015~1748 BC) and 3655 ± 80 years old (with a tree ring calibrated value of 2028 to 1771 BC), respectively; the T3F1 charcoal artefact from the lower Gaolicheng Mountain is 3710 ± 100 years old (with a tree ring calibrated value of 2135 to 1829 BC); while the charcoal specimen found in the F16 room pillars area from Shuangtuozi Phase I is 4010 ± 95 years old (with a tree ring calibrated value of 2561 to 2280 BC). Most of the above data demonstrated that the overall age is around 2100 to 1900 BC (Institute of Archaeology, Chinese Academy of Social Sciences, 1996), except for the last one which appears to be from an earlier era. This timeline exactly corresponds to the late Longshan culture in Shandong and thus belongs to the early Xia period.

In summary, the discovery of bronze artefacts, the time-related features of the pottery group, and the time range measured by carbon-14 confirmed that the Shuangtuozi culture Phase I spans approximately from 2100 to 1900 BC. Therefore, it can be assimilated as the bronze culture of the early Xia period in the southeast of Liaodong.

4.1.3 *Shuangtuozi Culture Phase II, an Indigenous Local Culture Strongly Influenced by the Yueshi Culture of the Shandong Peninsula from the Early Xia to the Early Shang Period*

The Shuangtuozi culture Phase II is mainly represented by remains unearthed in the second phase of the Shuangtuozi site (Institute of Archaeology, Chinese Academy of Social Sciences, 1996), which also includes part of the pottery unearthed at the Dazuizi site Phase II (middle stage) (Dalian Municipal Institute of Cultural Relics and Archaeology, 2000b; Liaoning Provincial Institute of Cultural Relics and Archaeology et al., 1996), the Xiaoheishituozi B remains (J. Y. Liu, 1981, 1994; C. Wang, 1982), the late Miaoshan A remains (Department of Archaeology at Jilin University et al., 1992), Shangmashi *weng* urn coffin tomb (Lvshun Municipal Museum et al., 1982), Wanghaiguo (Kanaseki, 1942), Dantuozi No. 1 and No. 2 earth pit tombs, and the Gaolizhai site (Hamada, 1929; Cai, 1993b).

Based on the existing literature on the sites and tombs, the pottery group from the second phase of the Shuangtuozi culture is mainly composed of two different cultural styles. The first type is characterised by indigenous cultural factors. The representative pottery involves *hu* pots, *guan* jars, *weng* urns, *wan* bowls, *bo* bowls, etc. (Fig. 4.3: left). Most of these artifacts can be traced back to earlier types of local pottery from these regions. Such a cultural inheritance suggests that the main cultural factor for this type of pottery is indigenous. The second type is characterised by exotic cultural factors. The typical pottery mainly consists of *yan* steamers, *pen* basins, *zun*-shaped wares, three-legged *bo* bowls, *guan* jars with a fitted lid and *gai* lids, etc. (Fig. 4.3, middle). With no recognisable features from the local area, these utensils were regarded as exotic, or as the result of the influence of neighbouring cultures. Comparative studies clearly revealed that these external or exotic features came from the Yueshi culture in the Shandong Peninsula (Fig. 4.3, right).

In summary, the first type of cultural factors indicated that the Shuangtuozi culture Phase II is an indigenous culture with its own cultural traditions in the south of Liaodong, while the second type revealed the strong influence of the Yueshi culture in the Shandong Peninsula and the contemporaneity with the Yueshi culture.

A consensus has now been reached in academic circles that the time period of the Yueshi culture in Shandong is situated between the Longshan and Zhenzhumen (Pearl Gate) cultures. However, no agreement has been achieved as yet regarding the exact duration of the culture. Five representative conclusions are summarized here accordingly: (1) 1900 to 1600 BC (Xu, 1993), (2) 2000 to 1500 BC (Ren, 1996), (3) 1950 to 1500 BC (Luan, 1997), (4) 1900 to 1500 BC (Cai, 1993a), (5) 1800 to 1450 BC (Fang, 1998).

Since the timeline of the Yueshi culture is regarded as an important basis for the determination of the timeline of the Shuangtuozi culture Phase II, it is necessary to review the time period of the Yueshi culture in reference to the Shuangtuozi culture Phase II.

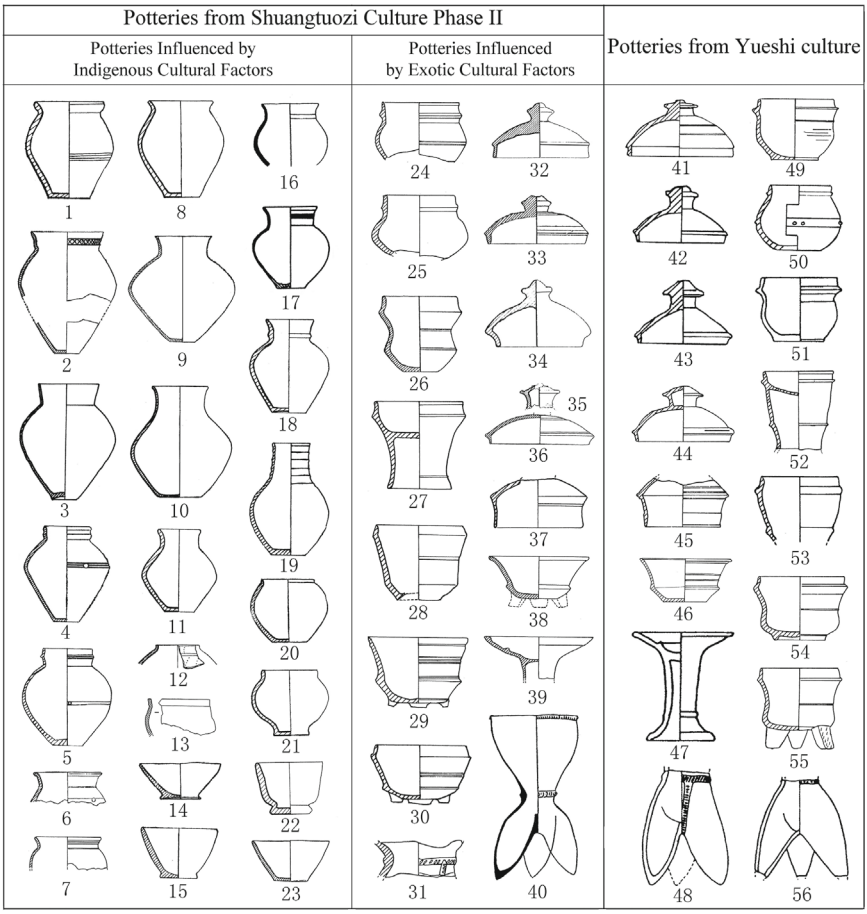

Fig. 4.3 Analysis of pottery cultural factors of Shuangtuozi Culture Phase II and comparison between pottery from Shuangtuozi Culture Phase II and from Yueshi Culture. Pottery from Shuangtuozi culture Phase II: 1, 2, 4, 8, 11, 18, 21, 22 (Shangmashi coffin burials); 3, 5, 19 (Dantuozi No. 1 tomb); 6, 12 -14, 20, 23, 36, 38, 39 (Dazuizi); 7, 15, 26, 27, 29, 30, 33 (Xiaohaizituozi); 16, 40 (Gaolizhai); 17 (Dantuozi No. 2 tomb); 24, 25, 28, 31, 32, 34, 35, 37 (Shuangtuozi). Pottery from Yueshi culture: 41, 44–46, 49, 54, 55 (Zhaogezhuang); 42, 43, 47, 48, 50 (Hejiazhuang); 51, 52, 56 (Yinjiacheng); 53 (Lvtaigang)

So far, 30 carbon-14 measurement data from the Yueshi culture are available for reference. Table 4.1 was conceived based on the variation of the measured values in a chronological order. Based on the tree ring calibrated values in this table, the upper limit age of the specimen No. 1 to No. 18 were all beyond 2000 BC, which means that they belong to the age range of the Longshan culture. Obviously, these specimens did not match the expected timeline, and were thus estimated to be from the beginning of the Yueshi culture. For the specimen No. 19 to No. 30, the values of

tree-ring calibrated age generally fell between 1889 and 1310 BC. These 12 specimens were considered representative, as they came from 6 different sites, including Zhaogezhuang in Muping, Yinjiacheng in Sishui, Qianzhai in Zhucheng, Dongyueshi in Pingdu, Beizhuang on Changdao Island, and Haojiazhuang in Qingzhou.

As the Yueshi culture cannot be earlier than the late period of the Longshan culture, Shandong (around 1900 BC), it is more reasonable to set the upper age limit at around 1900 BC. As the measurement data suggested, only one specimen revealed to be from the latest age at about 1300 BC, while four were at about 1400 BC. Therefore, a sensible way to determine the lower limit of the Yueshi culture is to discard the former and take into consideration the latter four showing a date of about 1400 BC. Based on this common understanding, the timeline of the Yueshi culture is determined to span from 1900 to 1400 BC. So is the second phase of the Shuangtuozi culture, which is equivalent to that from the early Xia to the early Shang period.

The Shuangtuozi culture Phase II has generally been regarded by scholars as a localised type of the Yueshi culture (Wu, 1993; Luan, 1997). In fact, this culture was confirmed to be an indigenous culture of its own, strongly influenced by the Yueshi culture in the Shandong Peninsula.

4.2 Staging and Age of the Shuangtuozi Culture Phase III

The third phase of the Shuangtuozi culture is also named as Yangtouwa type (Chen, 1989), upper Yujiacun culture (Lvshun Municipal Museum et al., 1981) or upper Yujiacun type (Xu et al., 1982). Before the two archaeological excavation reports of "*Shuangtuozi and Gangshang*" and "*Dazuizi*" were officially published, the staging and age of the Shuangtuozi Phase III had been addressed by some scholars (Chen, 1989; Xu, 1997). Now more available materials provide new favourable conditions for more in-depth discussions. Considering the slight difference between the site and tomb materials from the third phase of the Shuangtuozi culture, the analysis will first focus on the site materials, then on the tomb materials, and will be followed by further discussion on the staging and age of the overall culture.

4.2.1 Analysis of Site Remains

The site materials of the Shuangtuozi culture Phase III include the remains from the third phase of the Shuangtuozi site, as well as the upper Yujiacun, Dazuizi Phase III (the late stage), the upper Xiaoheishituozi, Datuozi, Dagoutou in Jinzhou, the late phase of Miaoshan B Pottery in Jinzhou, Yinjiacun Phase I, and the cultural layers and relics at the lower part of the tombs at the Gangshang site. In addition, a small number of the cultural relics excavated at the Yangtouwa, Wanghaiguo, and Dantuozi sites by the Japanese in the early years are also taken into account. Based on the materials unearthed at the aforementioned sites and the paper published, the third phase of the

Table 4.1 Data List of 30 C^{14} specimens from the Yueshi Culture, Shandong Province (arranged in time sequence)

No	Lab No	Specimen (C) Location	Age measured (Up to now)	Age calibrated by tree rings (B.C.)
01	BK87036	Yinjiacheng F204	4460 ± 90	
02	BK87134	Yinjiacheng H750	4420 ± 70	2923~2678
03	BK87034	Yinjiacheng T231⑦C	4300 ± 80	2904~2619
04	BK87038	Yinjiacheng H238	4280 ± 100	2900~2590
05	ZK—2314	Beichengzi T234②B	4185 ± 160	2888~2460
06	BK87033	Yinjiacheng T22l⑦A	4175 ± 80	2855~2476
07	ZK—2313	Beichengzi T112②B	4110 ± 80	2601~2459
08	BK87133	Yinjiacheng T201⑦C	4100 ± 70	2584~2459
09	BK88115	Qingliangshan, Xiayi H32	4080 ± 190	
10	BK87035	Yinjiacheng H248	4040 ± 80	
11	ZK—2308	Beichengzi T224②A	4025 ± 75	2556~2305
12	BK87032	Yinjiacheng H706	4000 ± 80	
13	ZK—2312	Beichengzi T112②B	3940 ± 85	2461~2143
14	ZK—2311	Beichengzi T111②B	3865 ± 145	2460~1976
15	ZK—2309	Beichengzi T231②	3865 ± 70	2301~2044
16	BK87135	Yinjiacheng H210	3860 ± 70	2289~2042
17	ZK—2310	Beichengzi T232②	3690 ± 130	2140~1761
18	ZK—2307	Beichengzi T214②	3615 ± 130	2030~1680
19	ZK—868	Zhaogezhuang T12②lower H6	3550 ± 90	1889~1677
20	ZK—871	Zhaogezhuang T5④	3530 ± 80	1880~1673
21	ZK—869	Zhaogezhuang T11②lower H7	3520 ± 80	1878~164 l
22	ZK—1017	Yinjiacheng T226⑧, T216⑦⑤	3445 ± 85	1745~1524
23	ZK—872	Zhaogezhuang T5④lower H41	3435 ± 80	1740~1523
24	ZK—870	Zhaogezhuang T6③lower H42	3430 ± 80	1737~1521
25	BK80035	QianzhaiT9②B	3400 ± 80	1685~1514
26	BK80036	Shihuozao middle, East Tai Mount	3370 ± 70	1670~1463
27	BK82027	Beizhuang T7②	3370 ± 100	1680~1440
28	BK87037	Yinjiacheng T278⑦A	3290 ± 70	1520~1403
29	BK84023	Haojiazhuang T9H14②	3280 ± 100	1599~1400
30	BK84022	Haojiazhuang T9H14④	3230 ± 100	1520~1310

Note The half-life period is calculated as 5730 years, while the number up to this year is 1950

Shuangtuozi site and the third (late) phase of the Dazuizi site contain a substantial number of remains. The published results from unearthed materials are therefore rather complete and the established stratigraphic relations relatively complicated. Therefore, these materials can be used as a benchmark for the segmentation of the entire site.

4.2.1.1 Grouping Study on the Excavation in 1987 at the Dazuizi Site Phase III

The Dazuizi site is located at the tip of the Peninsula along the North Coast of the Yellow Sea, about 2 km southeast of Dalianwan Town, Ganjingzi District, Dalian. It was first discovered in 1959 (Xu, 1960) and excavated initially in 1987 by the Institute of the Cultural Relics Management of Dalian. The subsequent publication on the archaeological excavation in 1987 reported that the site has three layers of cultural accumulation from bottom to top, the nature and age of which are identical to those of the first, second, and third phase of the Shuangtuozi site. The remains from the third phase of the Shuangtuozi culture Phase III contained 39 house sites (F1-39) and 6 ash pits (H1, H3-6, H8) in addition to the second and 3A layers (Dalian Municipal Institute of Cultural Relics and Archaeology, 2000a).

Sections 1 and 3 of Chapter 2 in "*Dazuizi*" (hereinafter referred to as the report) explains that 39 houses and 6 ash pits of the third phase have openings at different layers. There are 17 houses (F3, 5, 7, 8, 9, 10, 12, 13, 14, 16, 17, 21, 24, 28, 29, 34, 38) and 3 ash pits (H1, 3, 4) with openings under the first layer, 8 house sites (F1, 2, 4, 11, 20, 25, 26, 30) and 2 ash pits (H5, 6) under the second layer, and a building site (F33) and an ash pit (H8) under the 3A layer. In addition, specific analysis and explanation are needed for 13 housing sites in terms of their stratigraphic relations.

Firstly, 4 houses (F31, F23, F32 and F37), introduced in the report on pages 74, 57, 77 and 81, are all open on the second layer (the report failed to explain the difference from the opening under the second layer). Since F31 was intruded by F30 with its opening under the second layer, its age is judged as being no later than F30, and therefore no later than those on the second layer. Therefore, the other three F23, F32, and F37 (with their openings on the second layer) can be viewed as contemporaneous with F31 and no later than F30 and those on the second floor of the site.

Secondly, with its opening under F26, F27 may not be older than F26 (with its opening under the second layer) and those on the second floor.

Thirdly, F6 opens under F5, F15 under F14, F18 under F17, F19 under F18, F22 under F21, F35 is pressed below F34, F36 below F35, and F39 opens under F38. Since F5, F14, F17, F21, F34, and F38 have all under-level openings, the eight houses F6, F15, F18, F19, F22, F35, F36 and F39 underneath them may not be younger than them, and not precede those on the second layer of the entire site.

Based on the above analysis, the stratigraphic relations between the second layer, the 3A layer and the 39 houses and 6 ash pits of the third phase can be summarized into the following 7 groups from late to early eras:

1. F3, F5, F7, F8, F9, F10, F12, F13, F14, F16, F17, F21, F24, F28, F29, F34, F38 and H1, H3, H4 with their openings under the first layer;
2. F6, F15, F18, F19, F22, F35, F36, and F39 underneath those with their openings under the first layer;
3. The second layer;
4. F1, F2, F4, F11, F20, F25, F26, F30 and H5, H6 with their openings under the 2nd layer;
5. F27 and F31 underneath those with their openings under the 2nd floor, and F23, F32, and F37 with their openings on the 2nd layer;
6. Layer 3A;
7. F33 and H8 with openings under layer 3A.

What is more, the chronological order from early to late eras was applied for the examination and comparative study of the unearthed relics of each unit from group ⑦ to ①. Results showed that no pottery was found in F33 of group ⑦. A small amount of pottery pieces unearthed in group H8 were similar to those in group ⑥. No pottery was discovered from F23, F32, F4, F11, and F20 in group ⑤ and ④, and no substantial difference was observed in the pottery unearthed from the other units in these two groups when compared with the pottery unearthed in group ⑥⑦. In group ③②①, no pottery was unearthed in F18, F19, F39 and F7, F9, F14, F16, F24, F28, F29, and the pottery unearthed in other units shares clear common features.

Therefore, based on the stratigraphic relations, and combined with the comparison and analysis of the relics unearthed, we merged the above group ⑦—① with relative chronological significance into two major groups with cultural staging significance:

Group ⑦-④ is the first group. This group is earlier in age and includes 14 houses and 3 ash pits (F1, F2, F4, F11, F20, F23, F25, F26, F27, F30, F31, F32, F33, F37 and H5, H6, H8).

Group ③-① is the second group. This group is relatively later. In addition to the second layer of each excavation unit, it includes 25 houses and 3 ash pits (F3, F5, F6, F7, F8, F9, F10, F12, F13, F14, F15, F16, F17, F18, F19, F21, F22, F24, F28, F29, F34, F35, F36, F38, F39 and H1, H3, H4).

The pottery groups unearthed in groups ① and ② are mainly *guan* jars and *hu* pots, followed by *dou* stemmed bowls, *wan* bowls, *pen* basins, and *gui* tureens, and a very small number of bases and *yan* steamers. This shows that the two groups of pottery share identical composition and cultural features. More pottery of the same type from the two groups are identical in their shapes, while fewer specimens have uncommonly shared features. While the specimens in the two groups are similar in type and shape, differences do exist in terms of style between the two groups.

Finally, the pottery from the above two groups were selected with grouping significance and were arranged in Fig. 4.4.

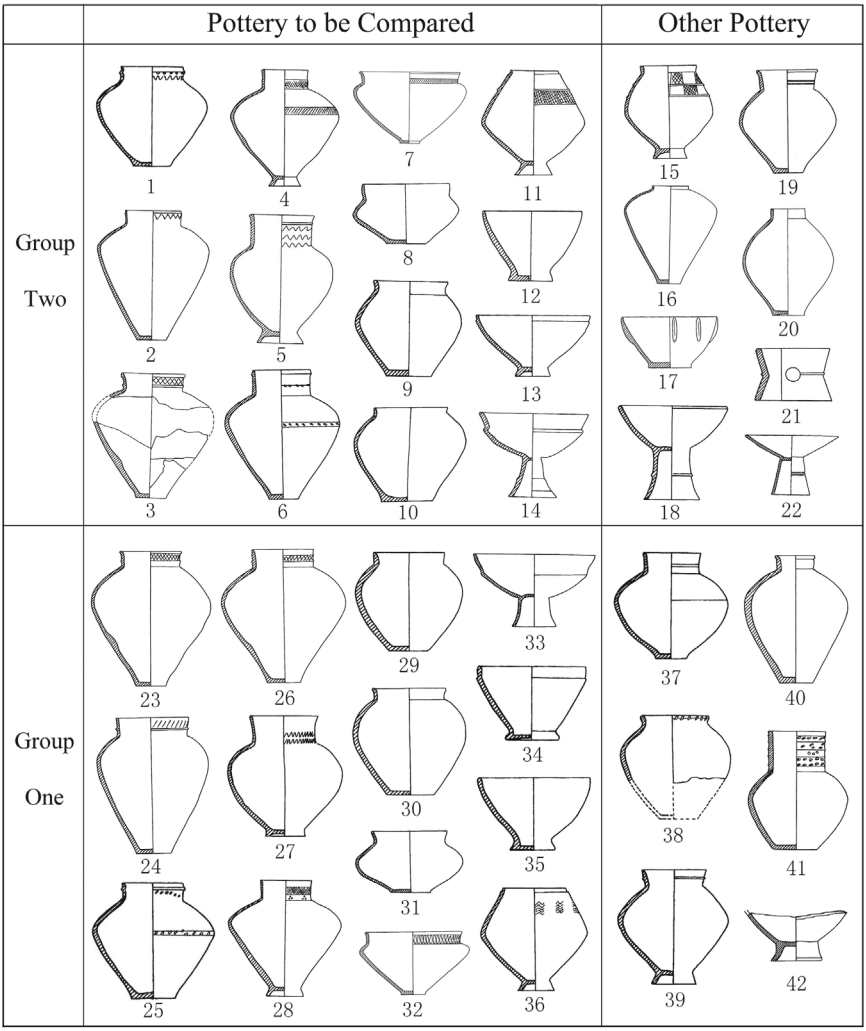

Fig. 4.4 Pottery categorized in Dazuizi Site Phase III. 1, 15 (F17:3, 2) 2 (T8②:50) 3 (F6:6) 4, 7, 9, 16 (F15:1, 6, 13, 3) 5 (T2②:4) 6, 19 (F3:5, 2) 8, 18 (F8:6, 10) 10 (F13:16) 11, 14 (F21:8, 6) 12, 13 (F22:7, 30) 15 (F17:2) 17 (T115②:1) 20 (F12:2) 21 (F36:6) 22 (T19②:1) 23, 25, 26 (F37:17, 11, 10) 24, 32, 36 (F30:14, 12, 3) 27, 28 (F25:6, 5) 29, 31, 33, 37 (F2:16, 31, 15, 11) 30, 39, 40 (F27:6, 3, 9) 34, 35 (T85③A:9, 1) 38 (T94③A:42) 41 (T8③A:32) 42 (F1:4)

4.2.1.2 Grouping Study on the Late Remains of the Dazuizi Site Excavated in 1992

In 1992, the Liaoning Provincial Institute of Cultural Relics & Archaeology and Department of Archaeology, Jilin University (1996) cooperated to proceed with the excavation of the Dazuizi site. This excavation confirmed the existence of the

"Triassic", with the results from the early, middle, and late phases published in this report being identical to those from the first, second, and third phases of the 1987 Dazuizi excavation and the 1964 Shuangtuozi excavation. In addition, the late remains were confirmed to be in the largest number, and the stratigraphic relationship to be clearly delineated. Therefore, it provides new materials for further discussion on the changing phases of the Shuangtuozi culture, Phase III.

The excavation units T1-6 (5 m × 5 m) and T7 (3 m × 5 m) were reported. Besides the second and third layers of each excavation unit, 9 houses (F1-9) and 3 ash pits (H1-3) opening under the second layer were confirmed to belong to the late remains group, that is to the Shuangtuozi culture, Phase III. The overlapping structure between these units can be summarized into the following three groups:

① 2nd floor → H1, F2 → F3 → F5 → 3rd floo
② 2nd floor → F7 → F4 up → F4 → 3rd floor
③ 2nd floor → F8 → F9 → 3rd floor

On the basis of these three groups of stratigraphic relationships, a comprehensive study of the unearthed relics in each unit can first divide units with pottery into two groups: early (first) group and late (second) group:

Group 1: represented by F4, F5 and the third layer of the entire site.
Group 2: represented by H1, F3, F4, F8 and T2②, T3②, T5②, T6②.

The three units F2, F7, F9 and T1②, T4②, and T7② from where pottery was not unearthed cannot be included in these groups. Although the third layer of the entire site has not been fully excavated and no relics have been classified, it can nevertheless be designated as belonging to the first group.

It is worth mentioning that we merged F4 and F5 into the same age group. This is slightly different from the understanding of the excavators, who believed that F4 is from a later age group than F5 (Hua and Chen, 1996). The reasons for our decision to merge F4 and F5 into the same age group can be explained from the following three aspects: firstly, F4: 13, the big-mouthed bulging *guan* jar unearthed in F4 (Fig. 4.5: 27) features a higher collar and thicker lip. Its shape is basically the same as F5: 11 (Fig. 4.5: 25) and F5: 20 (Fig. 4.5: 29) and it is not seen in other units from the second group. Secondly, F4: 22, the straight-necked bulging *guan* jar unearthed in F4 (Fig. 4.5: 18) is similar in shape to the pots from the earlier Shuangtuozi culture Phase II in this area (Fig. 4.3: 3). Therefore, its age is considered to be earlier. Thirdly, the mouth of F4: 8, a ring-footed *wan* bowl (Fig. 4.5: 24), is identical to that of T6: 64 from the first group of Shuangtuozi Phase III (Fig. 4.6: 21).

Further examination of the materials from the other four units (H2, H3, F1, & F6) that do not overlap revealed that pottery pieces in H2, H3, and F6 have not been reported, and thus the group cannot be determined. Among the three reported pottery items in F1, F1: 4, the *guan* jar with a flared mouth, and F1: 3, the *wan* bowl with false ring foot, are identical in shape to F3: 15 and F3: 37 from the second group respectively. The first two were regarded as the ancestors to the last two (Fig. 4.5: 19, 23, 4, 5). The mouth fragment F1: 10 is clearly an early form of T2②: 1 from the second group (Fig. 4.5: 21, 7). Therefore, F1 can be incorporated into the first group.

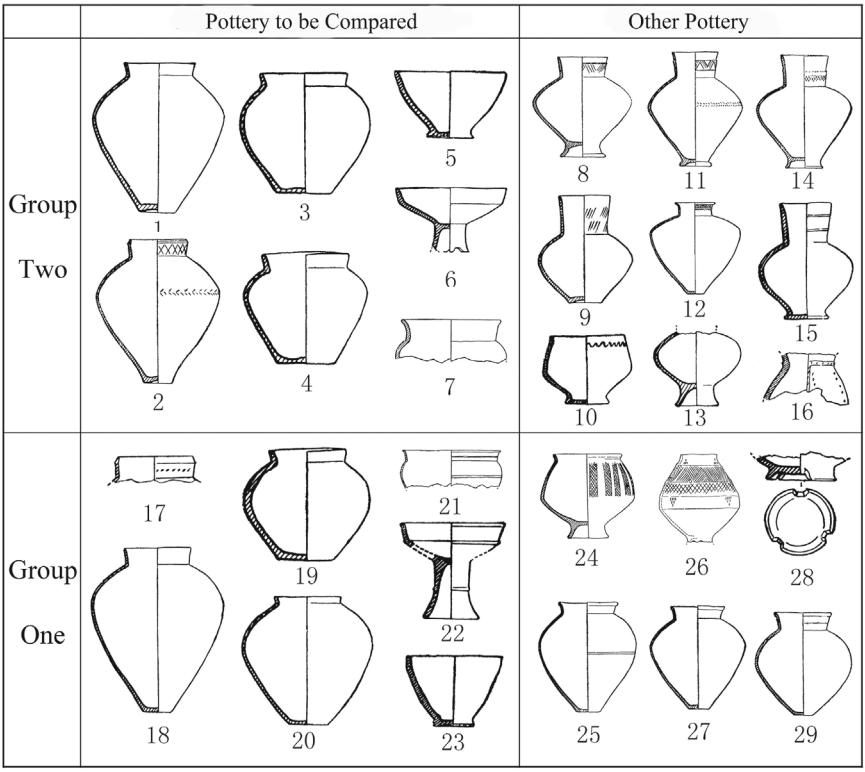

Fig. 4.5 Pottery categorized in late Dazuizi site (excavated in 1992). 1, 3 (F4 upper:10, 12) 2, 4, 5, 8-12, 14, 15 (F3:35, 15, 37, 4, 18, 17, 22, 34, 36, 10) 6, 16 (T6②:1, 8) 7 (T2②:1) 13 (H1:8) 17, 20, 22, 25, 28, 29 (F5:37, 30, 2, 11, 8, 20) 18, 24, 26, 27 (F4:22, 8, 7, 13) 19, 21, 23 (F1:4, 10, 3)

Comparable pottery and other typical pottery from the above two groups can be found in Fig. 4.5.

4.2.1.3 Grouping Study on Remains of Shuangtuozi Site Phase III

The Shuangtuozi site was first discovered during the Japanese archaeological investigation of the Lvda area in the 1930s (Egami et al., 1934). Two excavations followed in 1964 and were done by the Northeast Archaeological Team from Institute of Archaeology, Chinese Academy of Social Sciences. The results showed that the Shuangtuozi site contained cultural relics from three different periods corresponding to three different layers, with the third phase of the remains being referred to as the Shuangtuozi culture Phase III (Institute of Archaeology, Chinese Academy of Social Sciences, 1996).

The report entitled "Shuangtuozi and Gangshang" revealed that 19 of the units unearthed at the Shuangtuozi site were clearly from the Shuangtuozi culture Phase

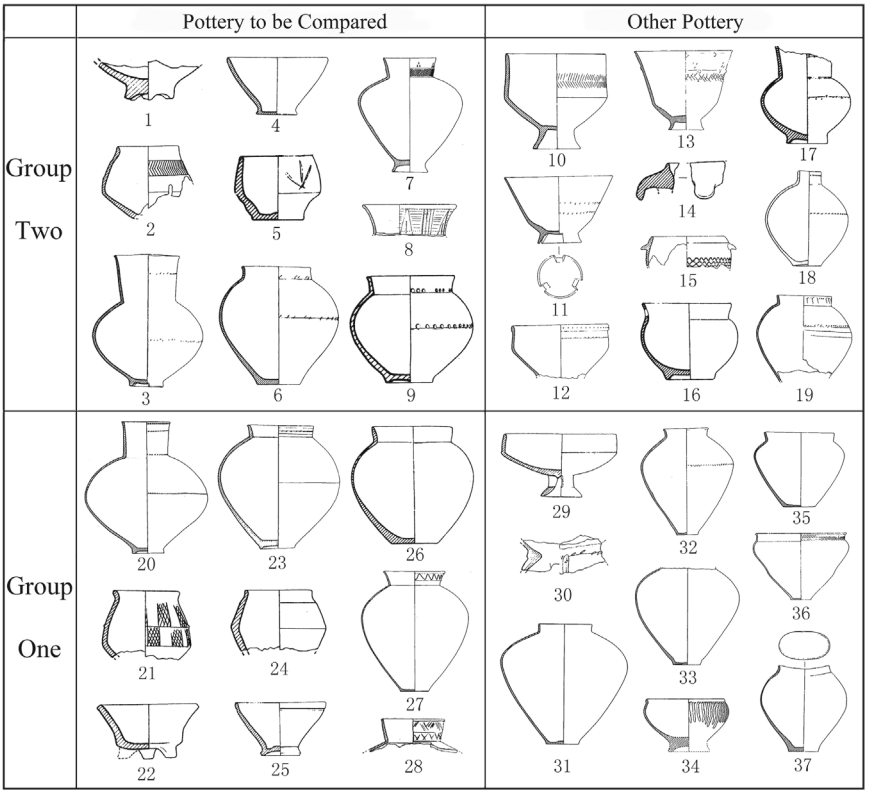

Fig. 4.6 Pottery categorized in Shuangtuozi Site Phase III. 1 (T12:16) 2-4, 6, 7, 9-12, 16-18 (F4:32, 3, 7, 34, 22, 19, 21, 33, 5, 18, 1, 26) 5 (T5:35) 8 (T2:70) 13-15 (F6:2, 11, 12) 19 (F1:5) 20, 25, 35 (F12:2, 5, 4) 21 (T6:64) 22, 23 (F2:1, 4) 24, 34 (T4:50, 49) 26, 28, 30, 37 (F11:9, 1, 16, 6) 27, 31, 32 (F17:6, 3, 5) 29 (T11:41) 33 (F8:3) 36 (F7:4)

III. Specifically, there were 14 houses numbered F1-13 and F17, 5 ash pits numbered H1-4 and H9, and a small amount of pottery or pottery fragments from unknown units in 6 excavation units of T2, T4, T5, T6, T11, and T12.

The report states that F6 is located within the south slope of T6, underneath F3 and above F8; F7 is located within the south slope of T2 and T7 is underneath F4 and above F9, with its west wall intruded by H4; while F17 is located within the south slope of T6, underneath F10. H2 is intruding F2.

According to the "Fig. 2 Shuangtuozi South Slope Building Relic Distribution Map" and "Fig. 3 Shuangtuozi East Slope Building Site Distribution Map" published in the report, F1 intruded F5, F4 intruded F2, and F6 was superimposed on F7. F13 is superimposed on F12.

Integrating the stratigraphic information provided by the written report and the graph, the stratigraphic relationship between the units can be summarized into the

following 9 groups: ①F4 → F2, ②F4 → F7 → F9, ③F3 → F6 → F8, ④F6 → 17, ⑤F1 → F5, ⑥F10 → F17, ⑦F13 → F12, ⑧H2 → F2, ⑨H4 → F7.

Since no pottery has been reported in F9, F3, F5, F10, F13 and H2, H4, the groups ⑤-⑨ cannot be taken as the reference for pottery grouping. Therefore, the remaining 4 groups (①-④) can be rearranged as:

① F4 → F2, F7
② F6 → F8, F17

According to the similarities and differences of the pottery unearthed from F4, F6 and F2, F7, F8, F17, these six units can be divided into two age groups: early and late.

The first group is represented by F2, F7, F8, and F17, whose age range is relatively early.
The second group is represented by F4 and F6, whose age range is relatively late.

Further comparison with the pottery unearthed in other units clarified that the *guan* jar F1: 5 is very similar in shape and decoration to the *guan* jar F4: 34. F1 is accordingly incorporated into the second group. While F11: 9, a *guan* jar with pointed round lips, a bulging belly and flat bottom, is considered to be an earlier form of F4: 19. F12: 2, a ring-footed *hu* pot with a straight neck and a slightly flat abdomen, is seen as the early form of F4: 3, a ring-footed *hu* pot. Accordingly, F11 and F12 can be classified into the first group. In addition, four other pieces (T6: 64, T11: 41, T4: 49 and T4: 50) of pottery or pottery fragments from unknown units in the excavation units can be placed into the first group through comparison of their shape since their corresponding remains can be found in the second group of artifacts. Similarly, the other three pieces (T2: 70, T5: 35 and T12: 16) were incorporated into the second group since earlier forms can be traced back in the first group.

The H3: 2 *guan* jar and mouth fragments of *guan* jar (T6: 63) were not found in the units of the first and second groups, so could not be grouped by way of comparison. Moreover, no pottery was discovered in F3, F5, F9, F10, F13 and H1, H2, H4, and H9, so their groups were not determined.

The pottery of the first and second groups mentioned above are shown in Fig. 4.6.

4.2.1.4 Analysis of Remains Unearthed from Other Sites

In addition to Shuangtuozi and Dazuizi, remains from the Shuangtuozi culture Phase III were discovered in the sites of Dantuozi, Yangtouwa, Wanghaiguo, Gangshang, Yinjiacun, Yujiacun, Miaoshan, Xiaoheishituozi, Datuozi, and Dagoutou.

(1) Category A2 remains at the Dantuozi site: in the "*Piziwo*" report, the pottery unearthed at the Dantuozi site, Pulandian City by a Japanese team in 1927 are mainly divided into two categories: A and B. Category A has the largest number, containing three subcategories A1, A2, and A3, of which category A2 mainly features three painted *hu* pots (*gui* tureens) and some painted pottery fragments (Hamada, 1929).

One of these three painted pottery *hu* pots is identical in shape to the M21: 5 ring-footed *gui* tureen from Group 1 in the Tuotou Cemetery in Yujia Village, which will be discussed later. The other two pots are similar to the two pottery pieces unearthed from 92F4 in the late Dazuizi group (92F4: 7 & 8), so they are considered contemporaneous in age.

(2) Yangtouwa site: This site was discovered and excavated in the 1930s by a Japanese team (Kanaseki et al., 1942). Among the many pottery fragments unearthed, few artifacts were complete or recoverable. Due to the adoption of a depth-based method in the excavation, there is a lack of reliable stratigraphic relationship and coexistence between the remains.

Regarding the characteristics and age of this batch of materials, many scholars have put forward their own view in recent years, but their conclusions are very inconsistent. Some scholars believe that the pottery at the Yangtouwa site can be regarded as being the remains from a time period later than the upper Shuangtuozi (Chen, 1989), while others insist that they belong to an earlier time period (Miyamoto, 1985). There is also an intermediate opinion (Xu, 1997), according to which the Yangtouwa pottery can be divided into two groups – group A (early) and group B (late). Both groups span from the mid- to the upper Shuangtuozi culture. The controversy arises mainly from two perspectives: first, does the pottery at the Yangtouwa site need to be further grouped? Second, is its age range earlier or later than the upper Shuangtuozi?

Generally speaking, the analysis of materials from the Yangtouwa site is relatively simple. They are considered to belong to one time period, neither earlier nor later than the upper Shuangtuozi, but contemporaneous with it. Following our own study on the remains from the upper Shuangtuozi (Phase III) and the late Dazuizi (Phase III), a definite conclusion regarding their grouping can be drawn through careful comparison: the pottery unearthed at the Yangtouwa site is contemporaneous with the second group of the upper Shuangtuozi and the second group of the late Dazuizi. For example, the multi-footed *bo* pot and the high-necked *hu* pot at the Yangtouwa site (Fig. 4.7: 11, 16 & 17) were compared with T12: 16, F4: 3, and F4:1 from the second group of the upper Shuangtuozi (Fig. 4.6: 1, 3, 17) and are similar in shape to F3: 10 from the second group of late Dazuizi (Fig. 4.5: 15). The high-necked *guan* jar with a string pattern on the neck (Fig. 4.7: 1) and the *bo* and *pen* pottery items with a vertical stripe pattern on the upper abdomen (Fig. 4.7: 2–4, 6–8) are also relatively common in the second group of the late Dazuizi (Fig. 4.4: 19, 17). The short ring-footed *dou* stemmed bowl with a folded belly (Fig. 4.7: 9) was regarded as a late form of T11:41, a folded-bellied *dou* stemmed bowl from the first group of the upper Shuangtuozi (Fig. 4.6: 29).

(3) The lower Gangshang remains: this site was excavated in 1965 and the results from the excavation were published in 1996 (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1996). The deposits and unearthed relics at the site are divided into the upper and lower layers. The upper layer is a stone-lined cemetery featuring bronze daggers, and the lower layer is the “cultural layer and relics under the tomb”, which represents sites of the Shuangtuozi Phase III.

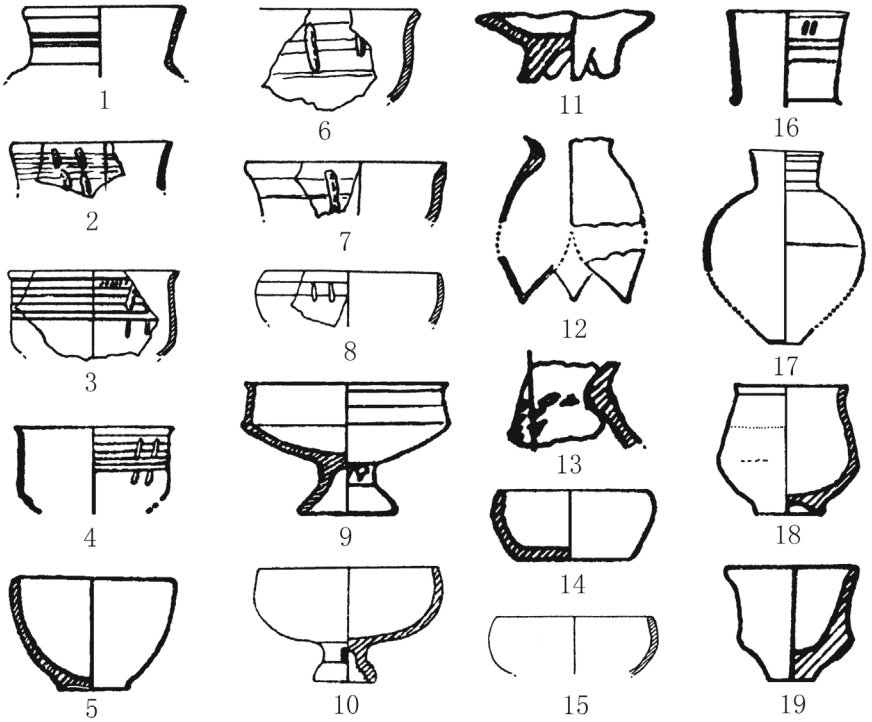

Fig. 4.7 Pottery from Yangtouwa Site. 1 *guan* jar; 2–7 *wan* bowls; 8 -10, 15 *dou* vessels; 11 *ding* tripod; 12, 13 *yan* steamers; 14 *bo* bowl; 16, 17 *hu* pots; 18, 19 *bei* cups

According to the report, the deposits from the residential sites of the Shuangtuozi culture Phase III were located in the lower layer and covered by tombs and stone walls. Considering the relatively well-preserved state of the cemetery, no excavation was carried out, except from T1 and three additional excavation units in the north and south sides of the cemetery (T11-13). Therefore, there are few unearthed relics, with only one house site (F1) and 4 ash pits (H1 and H2 are all cleared, as well as the inner part of H3 and H4 excavation units). The unearthed relics are all pottery, mainly found in F1, H2, H3 and T1, T12, and T13 (Fig. 4.8).

Long before the Chinese version of the Gangshang site excavation report was officially published, scholars mainly focused on the materials found in the Gangshang stone graveyard (especially the bronze dagger), but the nature and age of the lower layer that was covered by the graveyard was hardly discussed. From the report "The Gangshang Cemetery is overlaid on the Shuangtuozi Phase III Cultural Site", we can clearly see that the excavator's point of view is that the remains of the lower Gangshang should belong to the Shuangtuozi culture Phase III. Let us try to provide further analysis and explanation about its group and age range.

First of all, regarding the decoration, the vertical raised strip-shaped patterns (Fig. 4.8: 3–5) that are common to some pottery in lower Gangshang are also found

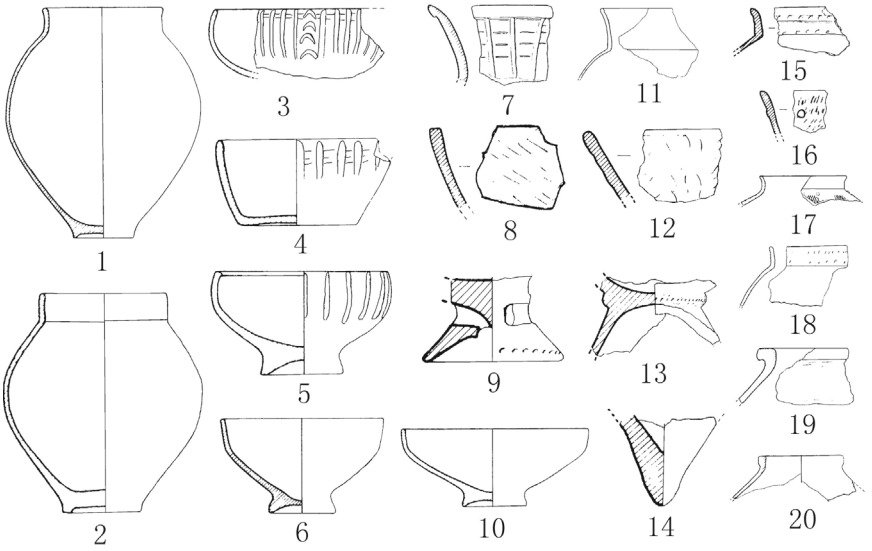

Fig. 4.8 Pottery unearthed from lower Gangshang Cemetery. 1, 2 *guan* jar (F1:12, 11); 3, 5, 6, 9, 10, 13 *dou* stemmed bowls (H2:27, H2:26, F1:15, unearthed from H3, F1:14, and unearthed fromT1); 4, 8, 12 *wan* bowls (F1:13, unearthed from T12 and unearthed from H2); 7, 11, 15, 16 *hu* pots (unearthed from T3, H2, T13 and T12); 14 are *qizu* vessel foot (unearthed from H3); 17–20 *weng* urns unearthed from (H2:28, unearthed from H2, unearthed from H2, unearthed from T12)

on the Yangtouwa pottery (Fig. 4.7: 2–4, 6–8). It demonstrates that their age should be relatively close to the second group of pottery from the late Dazuizi period (Fig. 4.4: 17). Secondly, regarding the shape of the vessels, F1: 12, a large-mouth Gangshang jar (Fig. 4.8: 1), can be compared with the F4: 34 jar (Fig. 4.6: 6) from the second group of upper Shuangtuozi. The mouth's features and overall shape are clearly similar. As for Gangshang F1: 11 *guan* jar with a slightly inwardly drawn mouth (Fig. 4.8, 2), it appears that this shape is only found in some pottery from the second group of the Dazuizi site, such as the 87F15: 10 *guan* jar and the F8: 6 *guan* jar (Fig. 4.4: 8). Similarly, the shape of Gangshang F1: 14 & 15, two plain ring-footed *wan* bowls, is similar to the 87F 22: 30 from the second group of Dazuizi (Fig. 4.4: 13). The shape of Gangshang H2: 26, 27, two vertical bar-shaped ring-footed *wan* bowls with introverted mouth but no eversion on the small edges (Fig. 4.8: 5, 3), should be viewed as a late form of similar devices from the first group of Shuangtuozi (Fig. 4.6: 34). In addition, the base of *dou* stemmed bowls and feet of *yan* steamers excavated from the lower layers of the Gangshang site (Fig. 4.8: 9, 14) are also found in the group of artifacts from the Yangtouwa site (Fig. 4.7: 9, 10, 12).

The above findings further confirm that the lower Gangshang remains not only belong to the Shuangtuozi culture phase III, but are also contemporaneous with the period represented by the upper Shuangtuozi group II, the late Dazuizi group II and the Yangtouwa pottery.

(4) Yinjiacun Phase I remains: The Yinjiacun site contains cultural relics from three different periods, namely the first phase of Yinjiacun, the second phase of Yinjiacun and the Han Dynasty. Judging from the "Yinjia Village Phase I Cultural Relics" and "Yinjia Village Phase I Cultural Relics" (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1996), two reports detailing the nature of relics unearthed from 1963–1964, the ears' shape of the H8: 6 *guan* jar and of the T11: 8 horizontal bridge-shaped *guan* jar (see Fig. 75: 13 and 12 of the original report) are the same as those featuring on the H11: 31 *guan* jar from Yinjiacun Phase II (see Fig. 77:6 of the original report) and on the T6②: 41 *guan* jar from the Shangmashi site (Liaoning Provincial Museum, 1981) (see the original report Fig. 32: 3). Therefore, their age range should be relatively late and these specimens should not be seen as relics from the "Yinjiacun Phase I". After excluding these two specimens, it is not difficult to determine the real nature of the "Remains of the Yinjiacun Phase I" (Fig. 4.9). Their overall characteristics are basically the same as those from the Shuangtuozi culture Phase III, and their nature and age should therefore be the same. For example, the triangle and grid patterns on the surface of the pottery from the Yinjiacun Phase I are commonly found on the decoration of items from the Shuangtuozi culture Phase III. The ring-footed bowls from Yinjiacun Phase I (Fig. 4.9: 1–4) and from the late Dazuizi period Group II (Fig. 4.4: 13) are similar to the ring-footed bowls unearthed from the underlayer of the Gangshang cemetery (Fig. 4.8: 5, 6, 10). The feet's characteristics of the *yan* steamer (Fig. 4.9: 12) are similar to those unearthed from the Yangtouwa site and the lower Gangshang cemetery (Fig. 1.8: 12; Fig. 4.8: 14). The straight mouth and grid-patterned features of the high-necked *guan* jar H7: 1 (Fig. 4.9: 9) are similar to those of F4: 10 and F3: 35 (Fig. 4.5: 1, 2) from the second group of the Dazuizi late stage. The existence of these common features further shows that the "Remains of the Yinjiacun site Phase I" should be of equivalent age to the lower Gangshang site, the second group of the upper Shuangtuozi site, and the second group of the late stage of the Dazuizi site.

(5) The upper Yujiacun site remains: only two units, F1 and H2 are available, and the published pottery specimens are all from F1. Regarding basic vessel types and morphological characteristics, the mouth's shape of the F1: 59 *guan* jar (Fig. 4.10: 2) is the same as F4: 34, F1: 5 (Fig. 4.6: 6, 19) from the second group of Shuangtongzi. The *dou* stemmed bowl F1: 58 (Fig. 4.10: 14) is similar to the one unearthed in Yangtouwa (Fig. 1.8: 10). The shape of the ring-footed bowl and the vertical raised strip-shaped patterns are similar to those seen in the two late stage groups of Yangtouwa and Dazuizi. This shows that the remains found in Yujiacun F1 should be comparable to those found in the Yangtouwa site and the second group of the late stage of the Dazuizi site.

(6) Class B pottery in the late Miaoshan site: The Miaoshan site is located in Jinzhou district, Dalian City. It was investigated in the 1970s and excavated in 1991. The unearthed relics were divided into early and late phases, among which the Class B pottery in the late phase was classified into the relics of the Shuangtuozi culture Phase III (Department of Archaeology at Jilin University et al., 1992). Judging from the main types of pottery reported in this group, the T12②: 10 *guan* jar and F8: 2 *dou* stemmed bowl (Fig. 4.11: 1, 11) are similar to the F4: 12 *guan* jar and T6②:

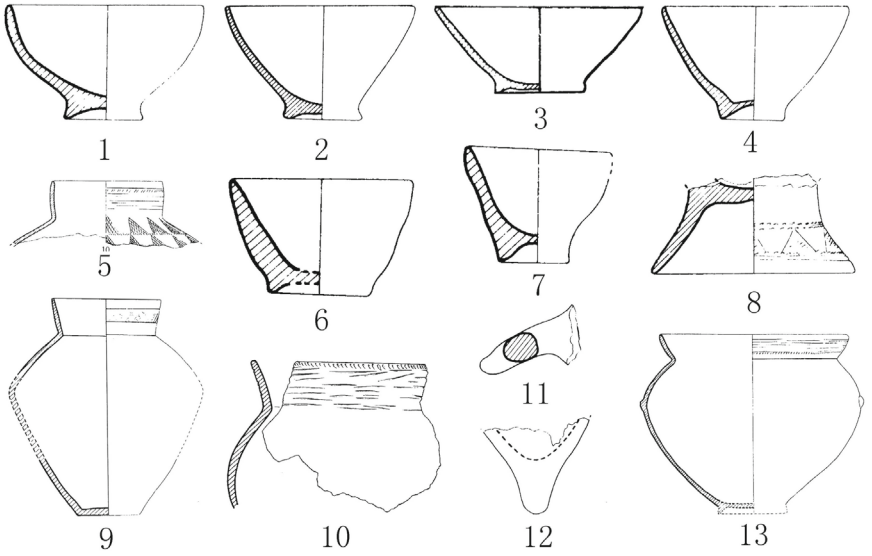

Fig. 4.9 Pottery from remains of Yinjiacun Site Phase I. 1–4, 6, 7 *wan* bowls (H3:2, H4:1, H6:3, H4:12, T13:35, H1:3); 5, 9 *hu* pots (T11:18, H7:1); 8 *dou* stemmed bowl (H4:13); 10, 13 *guan* jars (H4:11, 4); 11 *bashou* handle (H3:1); 12 *qizu* vessel foot (T11:5)

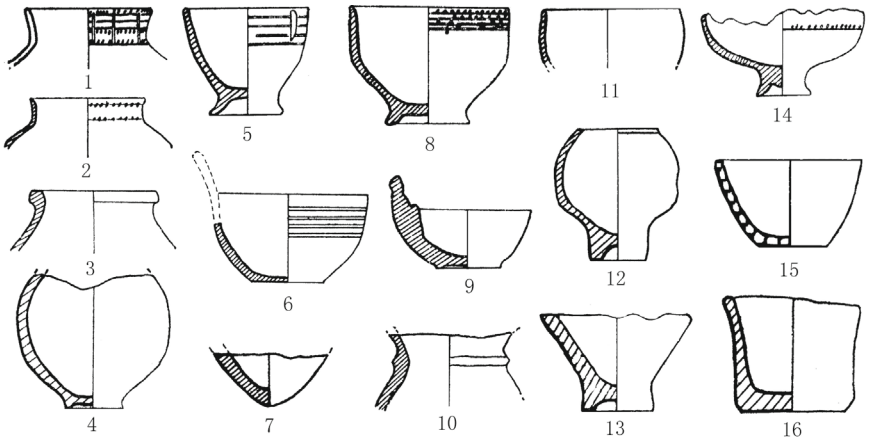

Fig. 4.10 Pottery unearthed from F1 of the upper layer of Yujiacun. 1, 2 *hu* pots; 3 *guan* jar; 4, 12 *guan* jars; 5, 8 *wan* bowls; 6, 9 *bo* bowls; 7 *qizu* vessel foot; 10 *yan* streamer; 11, 14 *dou* vessels; 13, 15, 16 *bei* cups

1 *dou* stemmed bowl (Fig. 4.5: 3, 6) from the late stage of Dazuizi Group II. The shape of T8②A: 5 (Fig. 4.11: 4) is the same as F3: 2 (Fig. 4.4: 19) from late stage of Dazuizi Group II. Similarly, F5: 2, a folded-bellied *pen* basin, and the collected 48 false ring-footed bowl with a folded belly (Fig. 4.11: 12, 15) are similar in shape to F15: 6 (Fig. 4.4: 7) and F3: 17 from late Dazuizi Group II (Fig. 4.5: 10). In addition, the F4: 5 bulging-bellied *guan* jar with a laced mouth (Fig. 4.11: 2) should be the late form of T94 ③A: 42 (Fig. 4.4: 38) from the late Dazuizi Group I. Through the above comparison, it is not difficult to see that the age of the late Class B pottery at the Miaoshan site should correspond to the late Dazuizi Group II from the Shuangtuozi culture Phase III.

Finally, it is worth mentioning that a small number of cultural relics from the Shuangtuozi Phase III have been unearthed in previous excavations at the Wanghaiguo, Xiaoheishituozi, Datuozi, and Dagoutou sites (Kanaseki et al., 1942; Liu, 1981; Liu, 1994; Department of Archaeology at Jilin University et al., 1992). However, the lack of a complete piece of representative pottery in the scattered materials discovered in these sites makes further group analysis impossible for the time being.

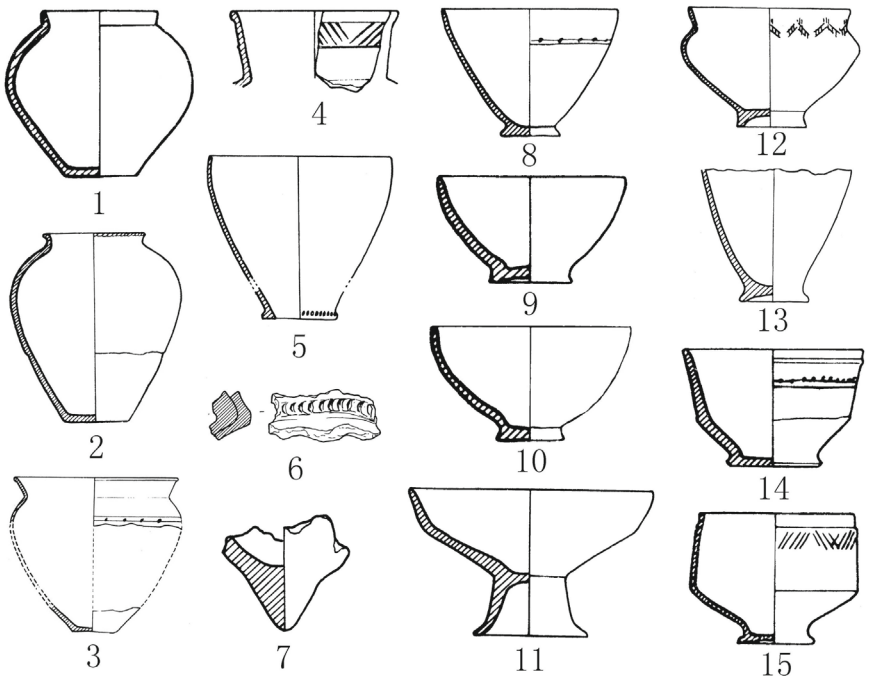

Fig. 4.11 Class B Pottery from the late period of Miaoshan site. 1–3 *guan* jars unearthed (T12②:10, F4:5, and F6:2); 4 *hu* pot (T8②A:5); 5, 13 *bei* cup (T5②B:4, T3③:10); 6 *yan* steamer (F1:4); 7 *qizu* vessel foot (F5:7); 8–10, 12, 14, 15 *wan* bowls (T3②:10, T5③:17, F4:3, F5:2, T7②A:6, collected from 48); 11 *dou* stemmed bowl (F8:2)

4.2.1.5 Periodization of Site Remains

The remains of Shuangtuozi Phase III (upper layer) and Dazuizi Phase III (late stage) are the two groups of most important relic materials of the Shuangtuozi culture Phase III. The three successive excavations of these two sites revealed that the group differences between them are effectively similar, and the age correspondence between groups is also in concomitance.

First of all, the grouping of the excavated materials from the Dazuizi site in 1987 and 1992 demonstrated that the *guan* jars F2: 16 and F27: 6 in the first group from the 1987 excavation (Fig. 4.4: 29, 30) are identical in shape to F1: 4 and F5: 30 in the first group from the 1992 excavation (Fig. 4.5: 19, 20). The *guan* jars F15: 13 and F13: 16 and the *wan* bowl F22: 7 in the second group from the 1987 excavation (Fig. 4.4: 9, 10, 12) are identical to the *guan* jars F4: 12 and F3: 15 and the *wan* bowl F3: 37 in the second group from the 1992 excavation (Fig. 4.5: 3, 4, 5). The false ring-footed *hu* pot F2: 11 and flat-bottomed *hu* pot T8③A: 32 in the first group from the 1987 excavation (Fig. 4.4: 37, 41) are regarded as earlier forms of the false ring-footed *hu* pot F3: 10 and the flat-bottomed *hu* pot F3: 18 (Fig. 4.5:15, 9) in the second group from the 1992 excavation. The ring-footed *gui* tureen F17: 2 and the lip-folded *guan* jar with a high neck F3: 2 (Fig. 4.4: 15, 19) in the second group from the 1987 excavation are taken as the derivative form of the ring-footed *gui* tureen F4: 8 and the lip-folded *guan* jars with a high neck F5: 11, F4: 13 and F5: 20 in the first group from the 1992 excavation (Fig. 4.5: 24, 25, 27, 29). Based on the above comparisons, the first and second groups of remains unearthed in 1987 at the Dazuizi site were confirmed to correspond to the first and second groups unearthed in 1992.

Secondly, further comparison of pottery from the first and second groups at the Shuangtuozi site and the Dazuizi site, reveals more similitudes. The folded-shoulder *pen* basin F7: 6 and the ring-footed *gui* tureen T6: 64 in the first group of Shuangtuozi (Fig. 4.6: 36, 21) are similar to the folded-shoulder *pen*-basin F30: 12 (Fig. 4.4: 32) and the ring-footed *gui* tureen F4: 8 (Fig. 4.5: 24). The ring-footed *gui* tureen F4: 32 and the false round-footed *wan* bowl F4: 7 in the second group of Shuangtuozi (Fig. 4.6: 2, 4) are identical in shape to the ring-footed *gui* tureen F21: 8 and the false ring-footed *wan* bowls F22: 7 in the second group of Dazuizi (Fig. 4.4: 11, 12). The shape of the ring-footed *hu* pots F4: 3 and F4: 22 (Fig. 4.6: 3, 7) in the second group of Shuangtuozi are similar to the shape of the ring-footed *hu* pots F3: 10 and F3: 4 in the second group of Dazuizi (Fig. 4.5: 15, 8). In addition, the small-mouthed *weng* urn F17: 3 in Shuangtuozi Group I (Fig. 4.6: 31) is clearly seen as the forerunner to the small-mouthed *weng* urn F15: 3 in Dazuizi Group II (Fig. 4.4: 16). The above observations indicated that the first group of the Shuangtuozi site is contemporaneous with the first group of the Dazuizi site, and the second group of Shuangtuozi with the second group of Dazuizi.

Third, the Dantuozi Class A2 pottery is contemporaneous with the first group of the Dazuizi site; the pottery unearthed at the Yangtouwa site, the lower Gangshang remains, the Yinjiacun Phase I remains, the upper Yujiacun remains, and the late Miaoshan Class B pottery are contemporaneous with the second group of the

Dazuizi site and the second group of the Shuangtuozi site. Please refer to the previous discussion for greater details.

In summary, from this grouping study on Dazuizi Phase III (late stage) and Shuangtuozi Phase III (upper layer), and in combination with the analysis of the materials unearthed at other sites, all cultural relics from Shuangtuozi culture Phase III can be divided into two stages—the early and the late.

The first stage mainly involves remains from the first group of the Dazuizi site Phase III, excavated in 1987 and remains from the first group of the Dazuizi site (late stage), the first group of the Shuangtuozi site Phase III and A2 pottery at the Dantuozi site, excavated in 1992.

The second stage mainly includes remains from the second group of the Dazuizi site Phase III, excavated in 1987 and remains from the second group of the Dazuizi site (late stage), the second group of the Shuangtuozi site Phase III, pottery unearthed at the Yangtouwa site, as well as remains from the lower Gangshang site, the Yinjiacun site Phase I, the upper Yujiacun site, and B pottery at the Miaoshan site (late stage), excavated in 1992.

Please refer to Fig. 4.12, 4.13 and 4.14 for pottery with a clear evolution between these two stages.

4.2.2 Analysis of Tomb Remains

The tomb materials from the Shuangtuozi culture Phase III mainly involve Tuotou stone-lined tombs at Yujiacun, Wangbaoshan stone-lined tombs and Tulong stone-lined tombs. Amongst them, Tuotou stone-lined tombs are taken as the basic study materials for the grouping and segmenting of the entire tomb materials, due to the large number of well-preserved burial pottery unearthed.

4.2.2.1 Grouping Study on Tuotou Stone-Lined Cemetery at Yujiacun

Tuotou stone-lined tombs are located about 100 m southwest to the Yujiacun Site. As early as 1977, when it was discovered and cleaned up, it was confirmed to be a public cemetery of the upper Yujiacun Site (Lvshun Municipal Museum et al., 1981).

In the past two decades different theories in academia over the staging of the cemetery and its chronological position in the Shuangtuozi culture Phase III have been put forward, two of them being mainly representative. The first theory is based on the proportional relationship between the main parts of the pottery (mouth, belly, and bottom). Through measurements, statistics, and comparative analyses, a part of the evolutionary sequence between the pottery patterns has been set out. Accordingly, the whole cemetery is chronologically divided into groups I, II, and III, with the conclusion drawn that all three groups date back to a later era than the remains unearthed at the sites of Shuangtuozi, Yangtouwa and Yujiacun (Chen, 1989). The other theory infers the building sequence of the tombs from the size, structure and

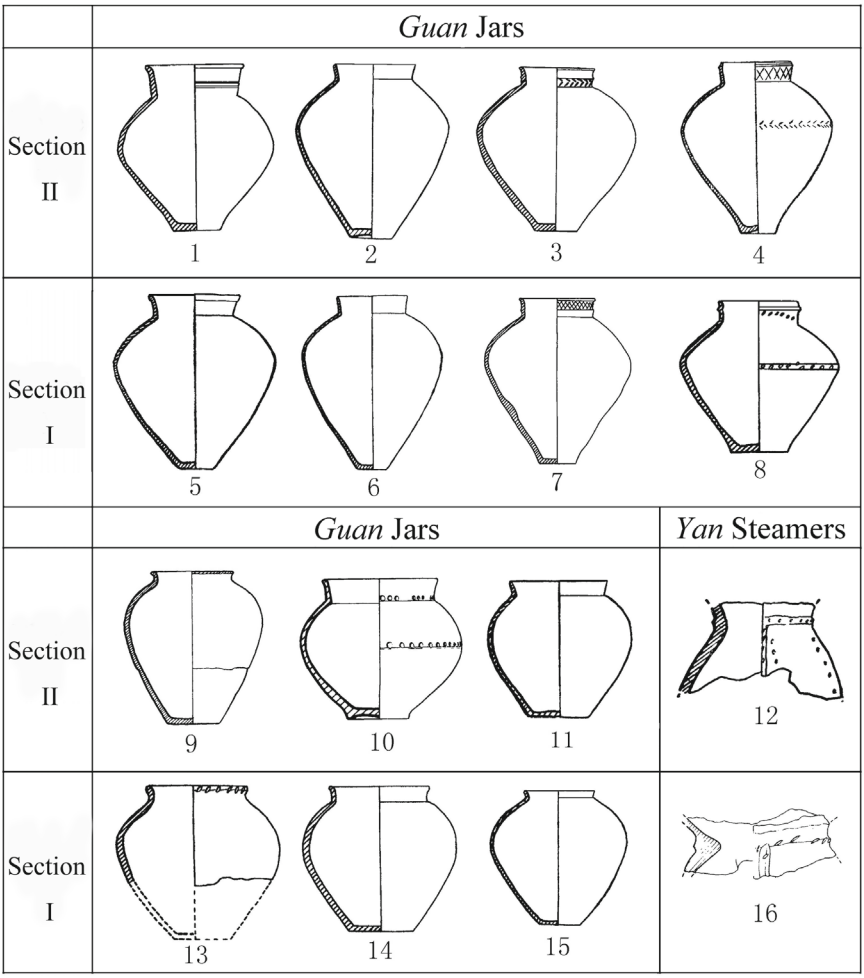

Fig. 4.12 Periodization of pottery unearthed from Shuangtuozi Culture Phase III (A). 1 (Dazuizi 87F3:2); 2, 11 (upper Dazuizi 92F4: 10, 12); 3 (Dazuizi 87F36:3); 4 (Dazuizi 92F3:35); 5, 6 (Dazuizi 92F4:13, 22); 7, 8 (Dazuizi 87F37:17, 2); 9 (Miaoshan F4:5); 10 (Shuangtuozi F4:19); 12 (Dazuizi 92T6②:8); 13 (Dazuizi 87T94③A:42); 14 (Dazuizi 87F27:6); 15 (Dazuizi 92F5:30); 16 (Shuangtuozi F11:16)

layout of the stone-lined tombs in the entire cemetery. With this as a parameter, the types of pottery in the tombs have been analysed and three groups A, B, and C are classified accordingly, with the conclusion that groups A and B are as old as the remains from the Shuangtuozi culture phase III, while group C is slightly later (Xu, 1997). Drawing from the above two conclusions, it is not difficult to see that regarding the staging and chronology of the Yujiacun Tuotou cemetery, there is still a

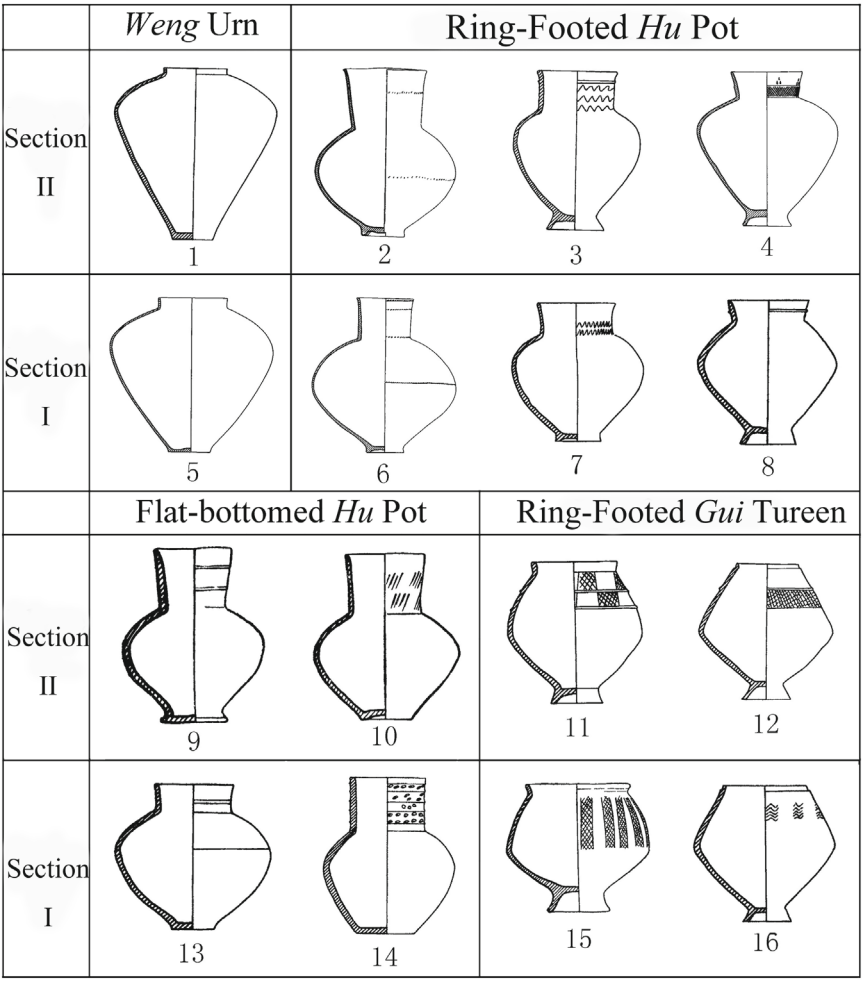

Fig. 4.13 Periodization of pottery unearthed from Shuangtuozi Culture Phase III (B). 1 (Dazuizi 87F15:3); 2, 4 (Shuangtuozi F4:3, 32); 3 (Dazuizi 87T2②:4); 5 (Shuangtuozi F17:3); 6 (Shuangtuozi F12:2); 7 (Dazuizi 87F25:6); 8 (Dazuizi 87F27:3); 9 (Dazuizi 92F3:10, 18); 11 (Dazuizi 87F17:2); 12 (Dazuizi 87F21:8); 13 (Dazuizi 87F2:11); 14 (Dazuizi 87t3③A:32); 15 (Dazuizi 92F4:8); 16 (Dazuizi 87F30:3)

lack of direct reference of similar opinions at the present stage; consequently, further analysis and discussion are necessary.

There are currently 58 tombs in the Tuotou cemetery at Yujiacun. No pottery has been found in 23 tombs including M4, 6, 10, 12, 14, 16–19, 22, 23, 26, 27, 29, 32, 35, 37, 49, 52–54, 56 and 57. Out of the remaining 35 tombs, the discovered remains in 25 tombs (M3, 8, 9, 11, 13, 15, 21, 24, 25, 28, 30, 31, 33, 36, 38, 39, 40, 41, 42, 44, 46, 48, 50, 51, 55) served as our study materials to establish the grouping of

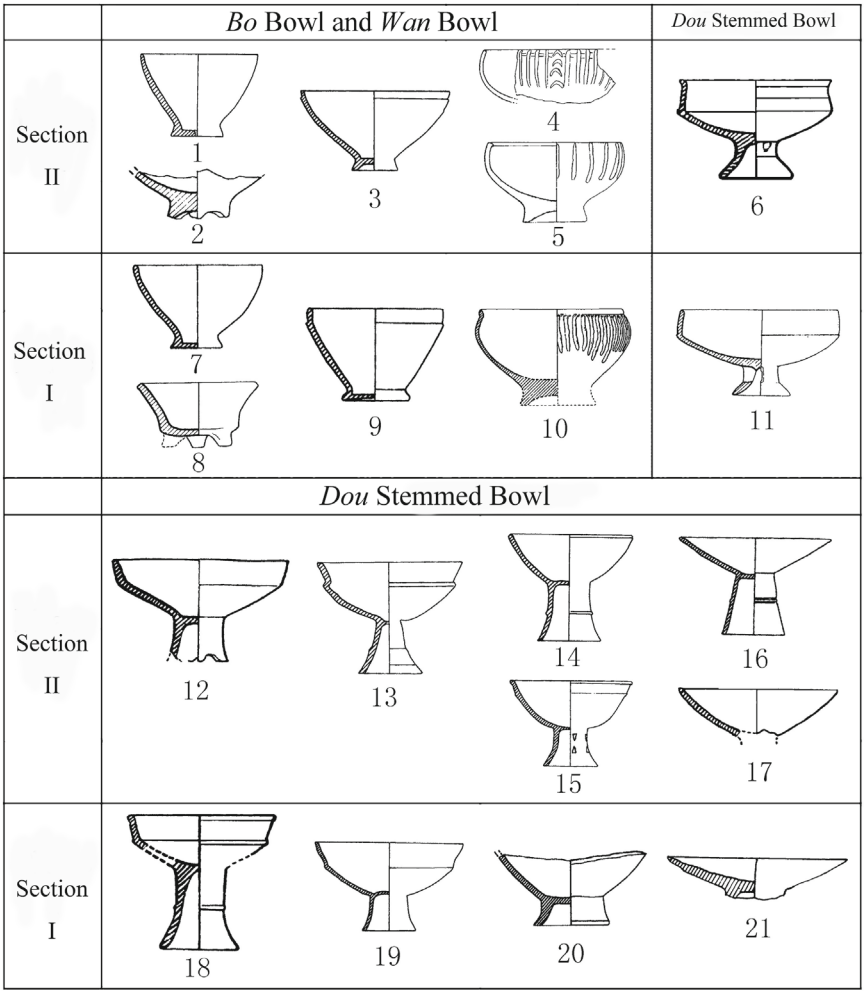

Fig. 4.14 Periodization of pottery unearthed from Shuangtuozi Culture Phase III (C). 1, 3 (Dazuizi 87F22:7, 30); 2 (Shuangtuozi T12:16); 4, 5 (Gangshang H2:27, 26); 6 (Yangtouwa); 7, 9 (Dazuizi 87T85③A:1, 9); 8 (Shuangtuozi F2:1); 10 (Shuangtuozi T4:49); 11 (Shuangtuozi T11:41); 12, 17 (Dazuizi 92T6②:1, 4); 13 (Dazuizi, 87F21:6); 14 (Dazuizi 87F8:10); 15 (Dazuizi 87T82②:5); 16 (Dazuizi 87T19②:1); 18 (Dazuizi 92F5:2); 19 (Dazuizi 87F2:15); 20 (Dazuizi 87F1:4); 21 (Dazuizi T202③:16)

this cemetery. Since no overlapping or intruding of layers was observed in these 25 tombs, we can solely rely on this typological method to analyse the types of buried pottery and investigate whether there are any group differences between them.

In view of the pottery unearthed from the above 25 tombs, the burial objects in this cemetery mainly include *guan* jars, *gui* (*hu*) tureens, *dou* stemmed bowls and

bo (*wan* and *bei*) bowls. Our analysis of artifacts starts with the *gui* (*hu*) tureen type, which was found in the largest number and has the most distinctive features.

(1) Analysis of the groups and types of *gui* (*hu*) pottery: some of the *gui* (*hu*) tureens mentioned here are called high ring-footed *guan* jars and some are called *hu* pots. Based on the shape of their mouths, they can be divided into "*bo*-bowl mouth" and "flared mouth". Those with a *bo*-bowl mouth feature concave string patterns or have a plain surface on their abdomen, while those with a flared mouth have raised ridge patterns (vertical strip- or saddle-shaped), banded thorn patterns or banded grid patterns on the abdomen. Further inspection of their features reveals that both *gui* (*hu*) tureens with *bo*-bowl mouth and *gui* (*hu*) tureens with flared mouth not only originated from M21, but were also found in M30. The coexistence of these two groups reflects that these burials objects should belong to same era. Therefore, the difference in their mouths is considered morphological but not time-related in *gui* (*hu*) tureen pottery, i.e., it is a difference in "type" (*gui* (*hu*) tureens with *bo*-bowl mouth and *gui* (*hu*) tureens with flared mouth are seen as separate types).

Another noteworthy phenomenon is that in *gui* (*hu*) tureens with *bo*-bowl mouth, some of the inner lines at the bottom are relatively smooth, while some are obviously concave. In *gui* (*hu*) tureens with flared mouth, either with raised ridge patterns (vertical strips or saddle) or bands (thorns or grids), there is a similarly clear difference between the inner lines. If we regard this difference as a common feature shared by various "types" of pottery at different time periods, then their relationship will be expressed as the coexistence of "smooth" and "smooth", or of "concave" and "concave". However, upon careful inspection of the pottery combinations in each tomb, no such example could be discovered. On the contrary, a coexistence of "smooth" and "concave" was observed in M21. Therefore, the "smooth" or "concave" nature of the inner lines at the bottom is not considered as a determining factor for the difference in style between *gui* (*hu*) tureens with *bo*-bowl mouth and *gui* (*hu*) tureens with flared mouth, but between the coexisting "subtypes" of these two larger types.

With "type" and "subtype" as clues, further analysis on the morphological differences between objects of the same "type" will contribute to the detection of their possible difference in "style" with chronological significance. Based on the above understanding and the coexistence of various "types" and "styles", the entire *gui* (*hu*) tureen pottery and their corresponding tombs can be first divided into group I and II, with 6 tombs in group I (M9, 13, 15, 21, 24 and 42) and 6 tombs in group II (M3, 8, 30, 31, 36 and 40). Please refer to Fig. 4.15 for the comparison between *gui* (*hu*) tureen pottery of group I and II.

(2) Analysis of the groups and types of *guan* pottery: according to the classification standards of the original report, the pottery classified as *guan* jars mainly include eight kinds of "*guan* jar with a straight mouth and a deep belly", "*guan* jar with a straight mouth and a shallow belly", "*guan* jar with a flared mouth and a deep belly", "*guan* jar with a flared mouth and a bulging belly", "*guan* jar with a flared mouth and an everted belly", "*guan* jar with a big mouth and an everted belly", "*guan* jar with a high neck and an everted shoulder" and "*guan* jar with a flaring mouth and a slanted shoulder".

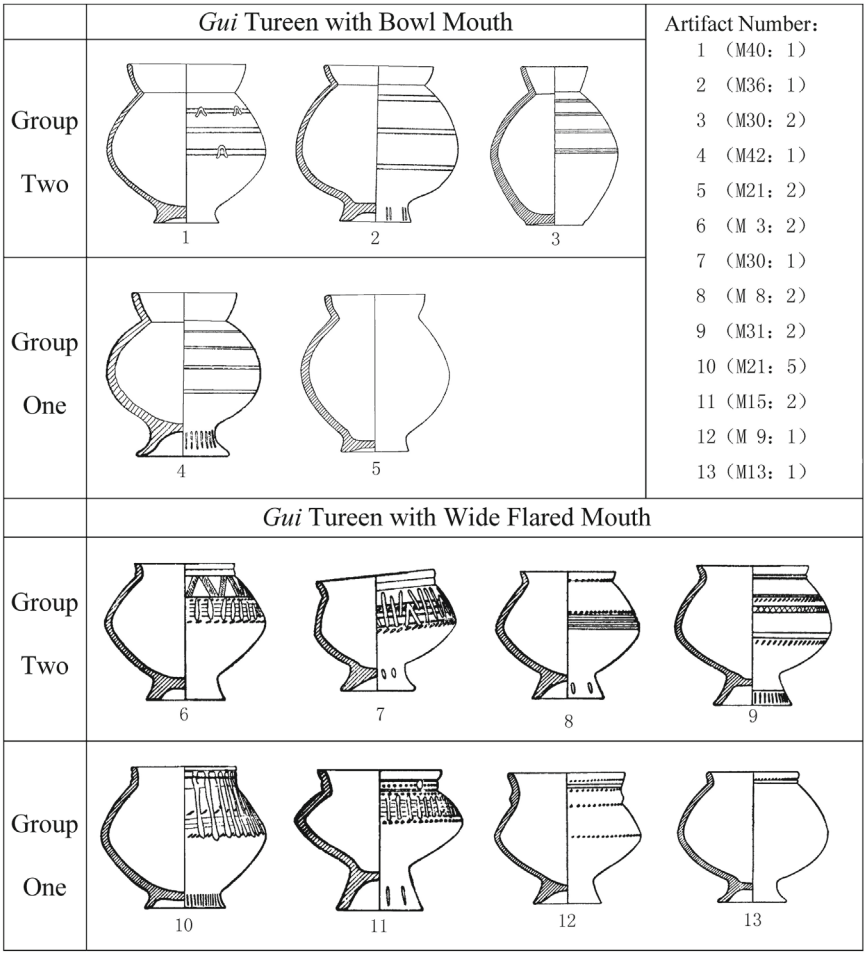

Fig. 4.15 Comparison of the *gui* (*hu*) tureens in Tuotou stone-lined tombs in Yujiacun

Firstly, judging from the coexistence relationship between *guan* jar pottery and *gui* (*hu*) tureen pottery, M42: 8 (a *guan* jar with a high neck and an everted shoulder), M24: 1 (a *guan* jar with a flared mouth and an everted belly), M21: 7 (a *guan* jar with a straight mouth and a shallow belly), which were unearthed together with M42: 1, M24: 2 and M21: 2, 5 which belong to the *gui* (*hu*) group I, can be judged as equivalent in age and group. Two *guan* jars with a flared mouth and a deep belly (M3: 3 and M8: 1) were unearthed from M3 and M8, together with M3: 2 and M8: 2 which belong to the *gui* (*hu*) group II, respectively. Therefore, they should belong to the same age and group.

Secondly, M46: 3 (a *guan* jar with a straight mouth and a deep belly) should be from the same period as M40: 1 which belongs to the *gui* (*hu*) group II, since the

tombs from where both were unearthed contained *dou* stemmed bowls of a similar shape (M40: 2 is called "Style II *dou* stemmed bowl" and M46: 2 is called "Style II *pen* basin", but their shapes are basically the same). M44: 1, named as Style I *dou* stemmed bowl in the original report, has more in common with M15: 2 and M24: 2, two *gui* (*hu)* tureens with ring foot from the *gui* (*hu*) group, in particular the shape of their mouth, the abdomen patterns, and the short-lined engraving on the high ring foot. These artefacts should therefore be of the same age. Finally, M44: 3, a *guan* jar with a straight mouth and a deep belly and with short lines engraved on the mouth, was unearthed from the same tomb and should therefore be of the same age and belong to the *gui* (*hu*) group I.

Thirdly, given the shape of the artifacts, M25: 1 (a *guan* jar with a straight mouth and a deep belly) should be a forerunner to M46: 3 (a *guan* jar with a straight mouth and a deep belly) from the *gui* (*hu*) group II identified above, and its age might be as early as that of the *gui* (*hu*) group I. M51: 3 (a *guan* jar with a flared mouth and a bulging belly) and M48: 1 (a *guan* jar with a big mouth and an everted belly) are both of the same age as the *gui* (*hu*) group II and should have inherited the shape of M44: 3 (a *guan* jar with a straight mouth and a deep belly) and M24: 1 (a *guan* jar with a flared mouth and an everted belly) respectively, both of which being of the same age as the *gui* (*hu*) group II. M51: 4 (another *guan* jar with a straight mouth and a deep belly), unearthed together with M51: 3 (a *guan* jar with a flared mouth and a bulging belly), is a clear forerunner to M50: 1 (a *guan* jar with a flared mouth and a deep belly), therefore, M50 might date back as early as the *gui* (*hu*) group I.

Based on the above analysis of three different occurrences of direct coexistence, indirect coexistence, and morphological comparison, we can finally divide the *guan* pottery unearthed from the Tuotou Cemetery at Yujiacun into Group I and II in correspondence with to the *gui* (*hu*) pottery (adding M25, 44, 50 to Group I and M46, 48, 51 to Group II). Please refer to Fig. 4.16 for the type relationship between the two groups of *guan* pottery.

(3) Analysis of the groups and types of *dou* and *bo* (*wan, bei*) pottery: In addition to *gui* (*hu*) and *guan* pottery, the Yujiacun Tuotou Cemetery also contains *dou* and *bo* (*wan, bei*) pottery as part of its burial materials.

The number of *dou* pottery is very small, and only three pieces were found in the entire cemetery (the report divides them into Style I and II), of which one "Style I *dou* stemmed bowl" comes from M44 of Group I, and two "Style II *dou* stemmed bowls" come from M3 of Group II (line graph unpublished) and M40 (the report Fig. 1.22 misprinted them as "Style I *dou* stemmed bowl"). The two different styles of *dou* stemmed bowls have obvious morphological differences (Fig. 4.17: 1, 5).

There is a large number of *bo* (*wan, bei*) pottery, some of which come from Group I or II identified above, while others lack the coexistence relationship with *gui* (*hu*) or *guan* pottery and need further morphological comparison and analysis. The first one is M28: 3, a *bo* bowl with a contracted mouth and zigzag raised ridge patterns on the upper belly. These patterns are similar to those found on M3: 2 and M30: 1, two ring-footed *gui* tureens of Group II; they should therefore be of similar age. The M41:1 cup with an ear and M41:2 cup with a handle should be the forerunner to the M8: 4 cup with ears and M51: 5 cup with a handle of Group II and their age

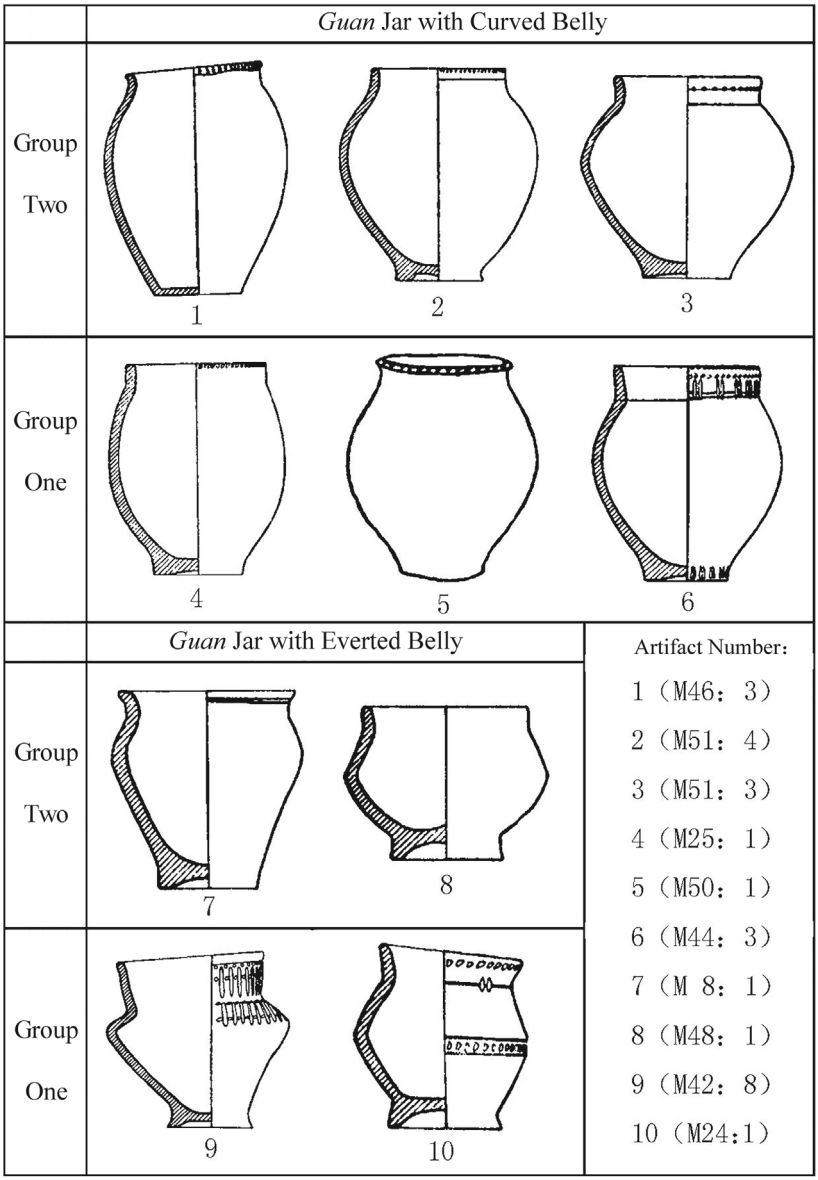

Fig. 4.16 Comparison of the *guan* jars in Tuotou stone-lined tombs in Yujiacun

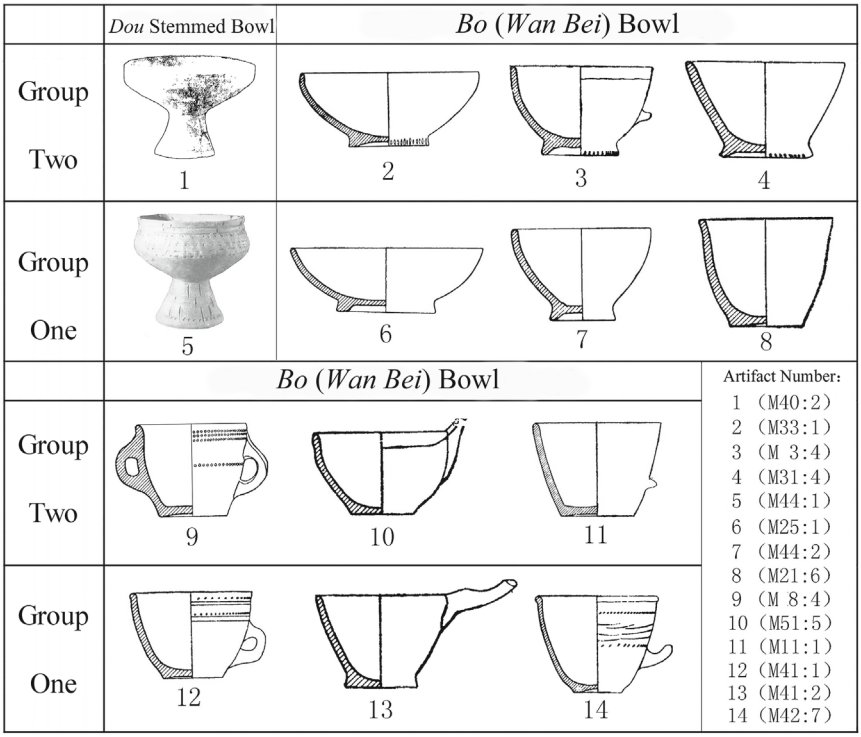

Fig. 4.17 Comparison of the *dou s*temmed bowls and *bo (wan, bei)* bowls in Tuotou stone-lined tombs in Yujiacun

might be as early as that of Group I. And the shapes of the M11: 1 cup and M33:1 bowl clearly show that they derive from the M42: 7 cup and M25:1 bowl of group I respectively, so they might be of the same age as Group II. In this way, *bo* (*wan, bei*) pottery is divided into Group I and II in correspondence with the *gui* (*hu*) and *guan* pottery (M41 is added to Group I, and M11, 28, 33 to Group II). This division is based on the clear coexistence of features between the *bo* (*wan, bei*) and the *gui* (*hu)* or *guan* pottery, and the comparative analysis of artifacts without any coexisting features. Please refer to Fig. 4.17 for the type relationship between the two groups of artifacts.

(4) Summary: based on the above research, among the 25 tombs with unearthed burial pottery materials, for which results have been published, 22 of them have been divided into Group I and II (Group I includes M9, 13, 15, 21, 24, 25, 41, 42, 44, and 50; Group II includes M3, 8, 11, 28, 30, 31, 33, 36, 40, 46, 48, 51). The other three tombs (M38, 39, 55) cannot be identified because of lack of comparable type of artifacts, even though burial materials have also been unearthed from them. Among the remaining 33 tombs, 23 (M4, 6, 10, 12, 14, 16–19, 22, 23, 26, 27, 29, 32, 35, 37, 49, 52–54, 56, 57) have no pottery, and 10 (M1, 2, 5, 7, 20, 34, 43, 45, 47, 58)

contain pottery but no related research has been published; it is therefore impossible to determine their group.

Finally, what needs to be stressed is that the above typological analysis of the pottery unearthed from the Yujiacun Tuotou Cemetery and the resulting grouping of tombs are essentially different from those established by previous research.

4.2.2.2 Description of the Situations of Wangbaoshan Stone-Lined Cemetery and of Tulong Stone-Lined Cemetery

From 1991 to 1992, the Liaoning Provincial Institute of Cultural Relics and Archaeology investigated and cleared two stone-lined cemeteries while excavating the Jinzhou Miaoshan site, namely the Wangbaoshan stone-lined cemetery (Wang and Wan, 1996) and the Tulong stone-lined cemetery (Hua et al., 1996).

The WangBaoshan stone-lined cemetery is located in Daweijia Town, Jinzhou District, with Taishan Mountain in the north and seas in the east, west and south. The stone-lined tombs are arranged in a north–south direction along the ridge. Because the covering stones have been severely disturbed, there are 8 random rock piles of different sizes (numbered M1-8 from south to north). When M5, M7, and M8 were cleaned up, pottery pieces from Phase I, II, and III of the Shuangtuozi culture were unearthed. Based on these remains, this cemetery can be determined to be from the Shuangtuozi culture Phase III. The pottery pieces from Phase I and II of the Shuangtuozi culture unearthed from the tombs should be from an earlier period but present in later tombs. The overall characteristics of the Shuangtuozi culture Phase III pottery pieces are similar to those of the Section II pottery of this cultural site.

The Tulong stone-lined cemetery is connected to the Miaoshan site in the north and consists of 8 stone-lined tomb mounds. The No. 1 stone-lined tomb mound cleaned up then is located at the northernmost end of the entire cemetery. There are 17 identifiable tombs on the mound, 11 of which have human bones inside. Excavators believe that "the site is about 200 meters away from the Miaoshan site. Based on the overall analysis of the unearthed pottery pieces, it is speculated that the Tulong stone-lined cemetery should be the place where people were buried together in the late period of the Miaoshan site, since the remains unearthed from the two places are similar." However, "the relics unearthed from the tomb mound are not complete, and most of the pottery pieces obtained are from the soil or the cracks in the tomb wall." Therefore, "a small number of pottery pieces found in the tomb chamber are also indistinguishable due to the collapse and disturbance of the tomb. The texture, decoration, and shape of the pottery pieces are not very different." It is therefore difficult to conduct a more in-depth group study of the tomb mound based on the materials provided by this cleaning work. In other words, its position in time within the entire Shuangtuozi culture Phase III is still uncertain.

4.2.2.3 Periodization of Tomb Remains

The pottery at the site and the pottery in the tombs of the Shuangtuozi culture Phase III share certain similarities despite their differences. For example, the pottery at the site mainly includes ring-footed *hu* pots with a high neck and *guan* jars with a small mouth and bulging shoulder, together with a small amount of *yan* steamers and three-legged *bo* bowls, while the pottery in the tombs mainly includes ring-footed *gui* (*hu*) tureens with a flaring mouth and large-mouthed *guan* jars with an everted belly, but no three-legged wares). The main similarity lies in the combination of basic artifacts (*guan* jars, *gui* (*hu*) tureens, *bo* (*wan bei*) bowls and *dou* stemmed bowls), while the less obvious commonality concerns the various types of pottery and their decorations. Therefore, further exploration of these minor similarities, based on the major ones, will facilitate the identification not only of the chronological order of the tombs in different groups, but also of the corresponding period between tomb segmentation and site segmentation.

Firstly, the study focuses on the corresponding relationship between the tomb pottery of Group I & II and the site pottery of Section I & II in the Toutuo Cemetery in Yujiacun. In terms of decorative patterns, the saddle-shaped pattern applied to the surface of *gui* (*hu*) vessels of Group II's tomb pottery (Fig. 4.15: 1, 7) at the Tuotou Cemetery is only found in Section II of the site pottery (Fig. 4.14: 4). In terms of vessel shape, Group II's tomb pottery at the Tuotou Cemetery, including arc-bellied *guan* jars M51: 4 and M51: 3 (Fig. 4.16: 2, 3), a plain *dou* stemmed bowl with an everted belly M40: 2 (Fig. 4.17: 1) and a *bei* cup with handles M51: 5 (Fig. 4.17: 10), are similar to the following items, respectively: the F4: 34 *guan* jar (Fig. 4.6: 6) at Shuangtuazi, the F1: 12 *guan* jar (Fig. 4.8: 1) at Gangshang, the 92T6②: 1 *dou* stemmed bowl (Fig. 4.14: 12) at Dazuizi, and upper Yujiacun's F1: 1 and 2 *bei* cups (Fig. 4.10: 6, 9) of Section II of the site. M44:1, a *dou* stemmed bowl with striped appliqué in Group I's tomb pottery in Yujiacun Tuotou Cemetery (Fig. 4.17: 5), has a similarly shaped upper abdomen to Shuangtuozi T4: 49, a ring-footed *bo* bowl with vertical striped appliqué (Fig. 4.14: 10). As for M21:5, a ring-footed *gui* tureen in Group I's tomb pottery in Yujiacun Tuotou Cemetery (Fig. 4.15: 10), its outline is the same as the painted *gui* tureen from Type A2 pottery in Dantuozi's Section I. The above-mentioned commonalities indicate that the age of the tomb pottery of Group I in Yujiacun Tuotou stone-lined cemetery should be equivalent to the site's Section I, and Group II should be equivalent to Section II.

Secondly, the overall characteristic of the tomb pottery belonging to the Shuangtuozi culture Phase III unearthed from the Wangbaoshan Stone-lined Cemetery are similar to those in Section II of the site. In particular, one of the *dou* stemmed bowls (see Fig. 5: 8 in the original report) has a shallow bowl, whose shape is the same as that of Shuangtuozi 92T6②: 1 *dou* stemmed bowl (Fig. 4.14: 12) from Section II of the site. Another fragment of artifact found at the bottom has obvious tapering in the lower abdomen (see Fig. 5: 10 of the original report), which is similar in shape to the instrument unearthed in the upper layer F1 in Section II of the Yujiacun site (Fig. 4.10: 4, 12). There is also a fragment of a vessel mouth, and the grid-shaped pattern engraved on its outer surface (see Fig. 5: 9 of the original report) is exactly

the same as that on Dazuizi 87F17:2 (Fig. 4.13: 11) in Section II of the site. We can thus deduct that the age of the Wangbaoshan stone-lined Cemetery should coincide with Section II of the site.

In this way, based on the results of the above comparative analysis, we can rename the tombs of Group I and II in the original Yujiacun Tuotou stone-lined cemetery as Section I and II. In terms of chronological significance, the age of the Wangbaoshan stone-lined cemetery should be equivalent to Section II of the Yujiacun Tuotou stone-lined cemetery. Please refer to Fig. 4.15, 4.16, and 4.17 for artifact types and the segmentation of pottery for the two sections.

4.2.3 Cultural Staging and Age

4.2.3.1 Staging

The above analysis of site and tomb materials, together with the corresponding relations between site and tomb sections, confirmed our division of the entire Shuangtuozi culture Phase III into two stages—the early and the late stages. The early stage is represented by the site's section I and the tomb's section I, while the late stage is represented by the site's section II and the tomb's section II. Please refer to the following Table 4.2 for the specific correspondence between cultural stages/sections and groups of the sites and tombs from the Shuangtuozi culture Phase III.

Table 4.2 Stages of phase III of the Shuangtuozi culture and their corresponding periodization and grouping of site and burial remains

Culture		Stage (corresponding section)	
		Late stage (Section II)	Early stage (Section I)
Site remains	Shuangtuozi Culture, Phase III	Group II	Group I
	87 Dazuizi Culture, Phase III	Group II	Group I
	92 Dazuizi Culture, Late Phase	Group II	Group I
	Dantuozi A2		✓
	Yangtouwa Remains	✓	
	Lower Gangshang Remains	✓	
	Yinjiacun, Phase I	✓	
	Upper Yujiacun, Phase I	✓	
	Miaoshan Culture, Late Phase, B	✓	
Burial remains	Yujiatuotou Tombs	Group II	Group I
	Wangbaoshang, Slab Stone Tombs	✓	

4.2.3.2 Age

The stratigraphic relationships of some of the sites such as Shuangtuozi and Dazuizi have clarified that the Shuangtuozi culture Phase III comes later than the Shuangtuozi culture Phase II. Meanwhile, the stratum relationship revealed in the Gangshang site confirms that the stone-lined cemetery of the early Shuangfang culture is directly superimposed on the late residential site of the Shuangtuozi Culture Phase III (Institute of Archaeology, China Academy of Social Science, 1996). Therefore, the corresponding age of the Shuangtuozi culture Phase III lies between the Shuangtuozi culture Phase II and the Shuangfang culture.

There are 8 carbon-14 measurement data now available in reference to the Shuangtuozi culture Phase III (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1991; Liaoning Provincial Institute of Cultural Relics and Archaeology et al., 1996). The two measurements from the early period of the culture include: (1) the 92F1 charcoal from the Dazuizi site, 3384 ± 92 years old, with a tree ring calibrated value from 1691 to 1459 BC. (2) the 87F1 charcoal from the Dazuizi site, 3170 ± 75 years old, with a tree ring calibrated value of 1431~1264 BC. The 6 measurements from the late period include: (1) the lower charcoal at the Gangshang site, 3285 ± 90 years old, with a tree ring calibrated value from 1591 to 1405 BC; (2) the charcoal measured value of F1 at the Yujiacun site is 1 (ZK-0565), 3230 ± 90 years old, with a tree ring calibrated value of 1516–1317 BC; (3) the charcoal measured value of F1 at the Yujiacun site is 2 (BK-78031), 3280 ± 85 years old, with a tree ring calibrated value of 1527~1408 BC; (4) the F4 charcoal at the Shuangtuozi site, 3120 ± 90 years old, with a tree ring calibrated value of 1416~1137 BC; (5) the 92F4 (upper) charcoal at the Dazuizi site, 3053 ± 86 years old, with a tree ring calibrated value of 1373–1051 BC; (6) the 87F3 charcoal at the Dazuizi site, 2945 ± 75 years old, with a tree ring calibrated value of 1157~923 BC.

The above 8 data demonstrate that the date range falls between 1591 and 1051 BC (Shang period), except for the earliest one in 1691 BC (late Xia period) and the latest in 923 BC (early Western Zhou period).

However, the time span of the Shuangtuozi culture Phase II has been confirmed in the previous chapter as being between 1900 and 1400 BC (from the middle and late Xia period to the early Shang period) by comparing it with the Yueshi culture. Taking into consideration the corresponding age relationship between the Shuangtuozi culture Phase II and the Shuangtuozi culture Phase III, the upper limit of the Shuangtuozi culture Phase III is speculated to be no earlier than 1400 BC, while the entire culture spans approximately between 1400 and 1100 BC, a time period that is contemporaneous with the late Shang period, whose early period is around 1400 to 1300 BC and late period around 1300 to 1100 BC.

4.3 Staging and Age of the Shuangfang Culture

The Shuangfang culture is also known as the "Shuangfang remains" or "Shuangfang type" (Chen, 1989; Zhu, 1998; Wang, 2004). The stratigraphic relationship revealed by Gangshang cemetery in Dalian shows that this culture was later than Phase III of the Shuangtuozi culture, but geographically, its distribution was much wider than that of Phase III of the Shuangtuozi culture, covering not only the southern part of Liaodong, but also the northern part of Liaodong and the eastern edge of Liaoxi plain. For convenience it is analysed and discussed in the next section.

4.3.1 Identification of Remains and Cultural Features

Past archaeological discoveries and research processes show that the academic circles have a vague understanding of the remains unearthed in the Liaodong area that were later than Phase III of the Shuangtuozi culture.

First of all, there is no consensus on how the remains should be identified. Many cultural definitions have been put forward, but their connotations are not clear enough, and the understanding of the differences and connections between remains is vague. For example, the upper layer remains unearthed from the Shangmashi site are named "upper Shangmashi type" (Liaoning Provincial Museum, etc., 1981), since they contain not only the fragments of *hu* vessels with horizontal handles and a bowl mouth, but also *guan* jars with overlapped lips and a tubular belly and pottery *yan* steamers. The earthen pit tomb is named "Shangmashi bronze short sword cultural type" (Xu et al., 1982), since it contains both the northeast type bronze sword unearthed from Shangmashi (Lin, 1980) and the plain and straight-necked earless pot. Phase II remains unearthed from the Yinjiacun site are named "Yinjiacun Phase II culture" (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1996) since they contain not only the northeast type bronze sword, but also the *guan* jars with overlapped lips and a tubular belly and plain earless *hu* vessels. Large stone covered tomb remains unearthed at Shuangfang, Biliuhe, etc., are named "Shuangfang type", since they contain not only the northeast type bronze sword, but also *guan* jars with overlapped lips and a tubular belly and *hu* vessels with bowstring and a bowl mouth. The remains found at the Laohuchong site are named "Laohuchong type" (Qu, 1981), since they contain both *hu* vessels with horizontal handles and a bowl mouth and *guan* jars with overlapped lips and a tubular belly. In addition, some remains have not been identified but are called by their names, such as "the Zhengjiawazi bronze short sword tomb", "the Dahuofang sarcophagus tomb at Fushun", "the Dongshan large stone covered tomb at Fengcheng", and so on.

Secondly, in terms of research orientation, most articles focus on certain types of remains, while few articles discuss problems comprehensively. For example, there a large number of articles that discuss bronze short swords, and also many articles devoted to stone-structured tombs. However, few articles discuss the nature of various

remains that were later than Phase III of the Shuangtuozi culture in the Liaodong area, and the cultural relationship between them according to standard and combination of pottery. It is this kind of research situation that has led to people's lack of understanding and clarity regarding the cultural attributes of the remains.

Fortunately, the recently published "Research on Shuangfang Remains" defines the cultural connotation of the "Shuangfang remains" clearly, stating that the "Shuangfang remains are archeological cultural relics represented by the large stone covered tomb found at the Shuangfang site in Xinjin County (modern day Pulandian City), Dalian City, Liaoning Province, in 1980. They have also been found in Shuangfang and Biliuhe in Xinjin, Dongshan in Fengcheng, Dajiabang in Fushun, Erdaohezi in Liaoyang, etc." Moreover, through the comparison of artifacts, it is further proposed that the "upper Shangmashi type", "Zhujiagou remains" and "Laohuchong remains" mentioned in the past all belong to this cultural category of "Shuangfang remains" (Wang, 2004) (The connotation of Laohuchong remains is complex and cannot be generalized. Among them, the *hu* vessel with double vertical ears between neck and belly and the *yan* steamer with bag feet should belong to the Machengzi culture– the author).

The author fully agrees with the views expressed in this article and would like to add two further points based on them: first, "Shuangfang remains" could be defined as "Shuangfang culture" because their age, distribution and basic cultural characteristics can be clarified through further study of this article; second, many stone-lined tombs, earth pit tombs and house sites in this area, from which plain earless *hu* vessels, *guan* jars with overlapped lips and a tubular belly, *guan* jars with a flared mouth and a bulging belly, *guan* jars with a flared mouth and lugs etc. were unearthed, can also be regarded as relics of the Shuangfang culture, in addition to tombs and sites confirmed by "*Research on Shuangfang Remains*". The differences they represent might be the differences between different ages, regions or heritage categories within the same culture instead of differences between different cultures.

Therefore, based on "Research on Shuangfang Remains" and the above two supplementary points, the remains that can be included in the category of the Shuangfang culture are: the Shuangfang stone shed and stone covered tomb at Xinjin (Xu and Xu, 1983), Biliuhe large stone covered tomb at Xinjin (Lvshun Museum, 1984), Wangtun Sarcophagus Tomb at Xinjin (Liu and Dai, 1988), Gezhou stone shed (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1994), Dongshan large stone covered tomb at Fengcheng (Xu and Cui, 1990), Xishan large stone covered tomb at Fengcheng (Cui, 1997), Erdaohezi sarcophagus tomb at Liaoyang (Shenyang Municipal Cultural Relics Administration Institute, 1977), Liangjiashan earth pit tomb at Liaoyang (Sun and Xu, 1964), Jieguanting Sarcophagus tomb at Liaoyang (Liaoyang Municipal Cultural Relics Administration Institute, 1983), Dajiabang Sarcophagus Tomb at Fushun (Xu, 1983; Archeological Team of Fushun Municipal Museum, 1983), Dahuofang Sarcophagus Tomb at Fushun (Tong and Zhang, 1989), Xiajiabu and Tukouzi Middle School sarcophagus tomb at Qingyuan (Qingyuan County Cultural Relics Bureau, etc., 1982), Xifeng sarcophagus tomb (Xifeng County Cultural Relics Administration Institute of Liaoning Province, 1995),

Shilazi sarcophagus tomb at Faku (Xu et al., 1993), Lijiadian site at Kaiyuan, Taipingxiang sarcophagus tomb at Shuangyang (Liu, 1982), Zhengjiawazi bronze short sword tomb in Shenyang (Shenyang Palace Museum, etc., 1975), Zhengjiawazi site earth pit tomb and its lower layer in Shenyang (Northeast Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1989), Shangmashi bronze short sword tomb in Changhai County (Lvshun Museum, etc., 1982), the upper layer remains of Shangmashi site at Changhai County (Liaoning Provincial Museum, etc., 1981), Tongjiangyu and Longtoushan sarcophagus tomb at Benxi (Liang, 2003), Shangbu bronze short sword tomb at Benxi (Wei & Liang, 1998), Shuangtuozi bronze short sword tomb in Dalian, Gangshang stone-lined tomb in Dalian, Loushang stone-lined tomb in Dalian, Yinjiacun Phase II remains in Dalian (Institute of Archaeology, Chinese Academy of Social Sciences, 1996), Laohuchong remains in Shenyang (Qu, 1981), Gongzhutunhoushan F1 at Xinmin (Zhou, 1990), etc.

No cord pattern appeared in the above 28 batches of pottery from the Shuangfang culture. Except for some with distinctive negative string patterns distributed in groups, the majority of the pottery is plain. The combination of utensils is relatively simple, including mainly *hu* pots and *guan* jars instead of *ding* tripods and *li* tripods, together with a few fragments of *dou* stemmed bowls, *wan* bowls, *bo* bowls, *pen* vessels, and *yan* steamers. Tombs are divided into two categories: earth pit tombs and stone-structured tombs, with stone-structured tombs further divided into stone-lined tombs, sarcophagus tombs, stone-covered tombs and stone sheds. In addition to pottery pots and jars, some bronze short swords, bronze axes, spears, chisels, arrowheads and other relics were also unearthed as burial goods.

4.3.2 Material Features and Research Approach

Three characteristics could be determined by comprehensively analyzing the remains of tombs and sites belonging to the Shuangfang culture. First, the majority of remains are from tombs rather than sites, and no significant difference exists between the pottery unearthed in the sites and those in the tombs. Second, most of the remains are scattered in both tombs and sites, and few of them were unearthed in batches. Third, the existing remains neither provide any overlapping relationship nor break any relationship between units.

The specific approach and methods for studying the phases and age of the Shuangfang culture are determined below, in relation to the above three specific situations. Firstly, a typological analysis of all the pottery unearthed from tombs and sites is carried out in order to decide categories, types and styles based on the logical relationship between them. Then, the corresponding relationships between different categories, types and styles are further determined, and different groups are distinguished according to the degree of contemporaneity or common characteristics between them. Finally, the staging research on the pottery of the entire Shuangfang culture and its affiliated units is completed through the determination of the age category and the

investigation of the chronological order. In the last part of the research, two different methods will be applied. One is to rely on the degree of contemporaneity, that is, to infer the age of the group according to the age of the known pottery (such as the Warring States pottery) unearthed in this group. The other is to rely on the comparison of artifacts to infer the chronological position of the group through the comparative analysis of the pottery form of this group and the pottery form of the earlier or later culture in this area. The type analysis and age determination of bronzeware should be based on the research of pottery. Only bronzeware that is unearthed together with pottery is considered a first-hand material that can be used to establish the standards for the staging and dating of bronzeware in the Shuangfang culture. However, for bronzeware unearthed without accompanying pottery, the actual casting ages cannot easily be determined by simply comparing their shapes, deciding their types and inferring the time range of their distribution.

4.3.3 Typological Study and Staging of Pottery

There are less than 130 pieces of Shuangfang culture pottery which have been currently reported, mainly consisting of *hu* pots, *guan* jars, and *dou* stemmed bowls. However, in terms of quantity, the first two types are more common compared to the latter one. *Bo* bowls, *wan* bowls, *pen* basins and *yan* steamers can only be found in individual sites and in small numbers. Clearly, they are not the typical type of pottery of this culture.

4.3.3.1 Classification of Typical Pottery (*Hu* Pot, *Guan* Jar, and *Dou* Stemmed Bowl)

(1) The *hu* pot category can be further divided into three sub-categories: earless *hu* pot, *hu* pot with horizontal ears and *hu* pot with vertical ears, according to whether it has ears and different patterns of ears.

The earless *hu* pot can be divided into two types, A and B. Type A has a thin, high neck, while type B has a thick, short neck (Fig. 4.18).

Type A is divided into a and b sub-types. Sub-type Aa has a straight neck and wall, while sub-type Ab has a slightly curved neck and wall.

Sub-type Aa is divided into three styles according to different bellies and bases.

Style AaI has a bulging belly and a concave lateral base. The only piece unearthed is specimen Gangshang M13:4 (Fig. 4.18: 9).

Style AaII has a round belly and a flat base. Two pieces were unearthed. The representative specimen is Zhengjiawazi M6512:63 (Fig. 4.18: 5), and the other specimen is Zhengjiawazi M659:3.

Style AaIII has a falling belly and a convex inner base. Two pieces were unearthed. The representative specimen is Liaoyang Liangjiashan M5:1 (Fig. 4.18: 1), and the other specimen is Liaoyang Liangjiashan M7:1.

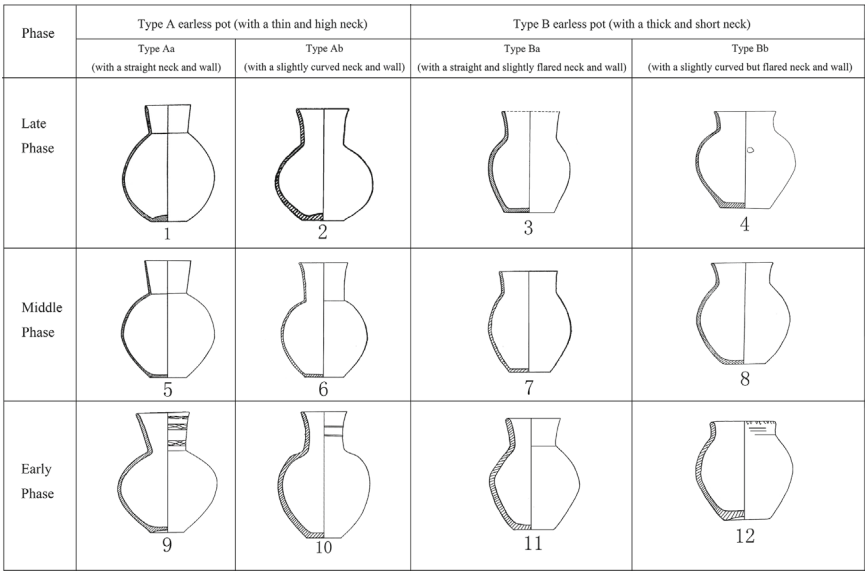

Fig. 4.18 Comparison and staging of types of earless pots in Shuangfang culture. 1.Style AaIII Earless Pot (Liangjiashan M5:1); 2.Style AbIII Earless Pot (Zhengjiawazi M2:3); 3.Style BaIII Earless Pot (Yinjiacun M12:5); 4.Style BaIII Earless Pot (Yinjiacun M12:3); 5.Style AaII Earless Pot (Zhengjiawazi M6512:63); 6.Style AbII Earless Pot (Shangmashi M3:2); 7.Style BaII Earless Pot (Shangmashi M4:1); 8.Style BbII Earless Pot (unearthed in Jinshantun); 9.Style AaI Earless Pot (Gangshang M13:4); 10.Style AbI Earless Pot (Biliuhe M16:1); 11.Style BaI Earless Pot (unearthed in the No. 1Huojiawopu Stone Shed); 12.Style BbI Earless Pot (Loushang M6:1)

Sub-type Ab is divided into three styles according to different bellies and bases.

Style AbI has a bulging belly, flat shoulders and a flat base. Two pieces were unearthed. The representative specimen is Xinjin Biliuhe large stone covered tomb M16:1 (Fig. 4.18: 10), and the other specimen is Xinjin Biliuhe large stone covered tomb M15:1.

Style AbII has a round belly and a flat bottom. Three pieces were unearthed. The representative specimen is Changhai County Shangmashi M3:2 (Fig. 4.18: 6). The other two specimens are Xinjin Wangtun M2:1 and Shangmashi site upper layerIT1②: 24.

Style AbIII has a falling belly and a convex inner base. The only specimen unearthed is Zhengjiawazi site M2:3(Fig. 4.18: 2).

Type B is divided into a and b sub-types. Sub-type Ba has a straight and slightly flared neck and wall, while sub-type Bb has a slightly curved but flared neck and wall.

Sub-type Ba is divided into three styles according to different types of bellies.

Style BaI has a bulging belly. The only specimen was unearthed in the No. 1 Huojiawopu stone shed at Gezhou (Fig. 4.18: 11).

Style BaII has a round belly. The only specimen is Shangmashi M4:1 at Changhai County (Fig. 4.18: 7).

Style BaIII has a bulging upper belly and a tapering lower belly. The only specimen is Yinjia village Phase II M12:5 at Lüshun (Fig. 4.18: 3).

Sub-type Bb is divided into two styles according to different types of bellies and bases.

Style BbI has a bulging belly and a concave lateral base. Two pieces were unearthed. The representative specimen is Loushang tomb M6:1 (Fig. 4.18: 12), and the other specimen is Dongshan large stone covered tomb M3:1 at Fengcheng.

Style BbII has a round belly and a flat base. The only specimen is from Jinshantun sarcophagus tomb at Xifeng (Fig. 4.18: 8).

Style BbIII has a bulging upper belly and a tapering lower belly. The only specimen is Yinjia village Phase II M12:3 at Lüshun (Fig. 4.18: 4).

Hu pots with horizontal ears can be divided into three types, A, B and C, according to the shape of the mouth. Type A has a wide flared mouth, Type B has a *bo*-shaped mouth, and Type C has a bowl-shaped mouth (Fig. 4.19).

Type A is divided into a and b sub-types. Sub-type Aa has a bulging belly, while sub-type Ab has a falling belly.

Sub-type Aa is divided into three styles according to different types of ears and mouths. Style AaI and AaII have flat ears, and Style AaIII has tilted ears.

Style AaI has flat ears and a flat, everted and flared mouth. The only piece unearthed is specimen Babaogou Dahuofang Reservoir M6:2 at Fushun (Fig. 4.19: 13).

Style AaII has flat ears and an arced, everted and flared mouth. Three pieces were unearthed. The representative specimen is from Douhutun sarcophagus tomb at Qingyuan (Fig. 4.19: 7), and the other two specimens are from Xiajiapu sarcophagus tomb at Qingyuan, and Tukouzi Middle School sarcophagus tomb.

Style AaIII has tilted horizontal ears and an arced, flared mouth. Three pieces were unearthed. The representative specimen is Zhujiagou Dahuofang Reservoir M3: 3 at Fushun (Fig. 4.19: 1), and the other two specimens are Zhujiagou M2:3 and M4: 4.

Sub-type Ab is divided into three styles according to different types of ears and mouths. Style AbI and AbII have flat ears, and Style AbIII has tilted ears.

Style AbI has flat ears and a flat, everted and flared mouth. Two pieces were unearthed. The representative specimen is No.1 *hu* pot (Fig. 4.19: 14) unearthed from Dajiabang sarcophagus tomb at Fushun, and the other specimen is No. 2 *hu* pot from the same tomb.

Style AbII has flat ears and an arced, everted and flared mouth. The only specimen unearthed is from Lijiatai site at Kaiyuan (Fig. 4.19: 8).

Style AbIII has tilted horizontal ears and an arced, flared mouth. Two pieces were unearthed. The representative specimen is Dongshan large stone covered tomb M9: 1 (Fig. 4.19: 2) at Fengcheng, and the other is Dongshan large stone covered tomb M7:1 at Fengcheng.

Type B is divided into a and b sub-types. Sub-type Ba has a bulging belly, while sub-type Bb has a falling belly.

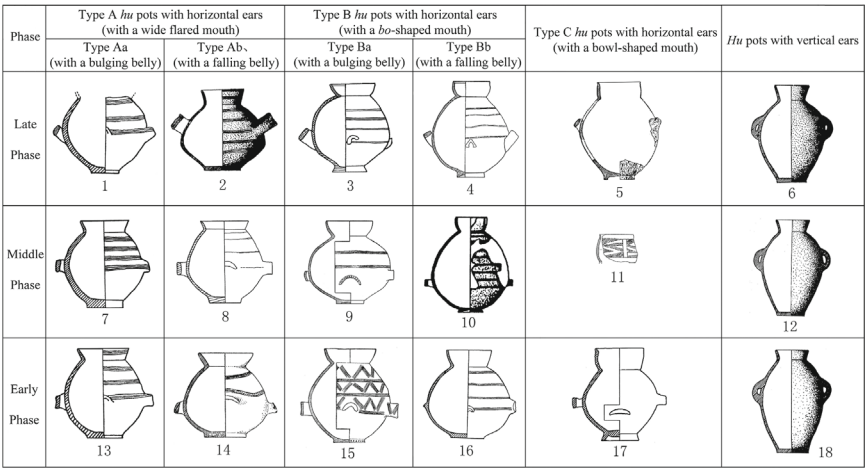

Fig. 4.19 Comparison and staging of types of *hu* pots with horizontal ears and *hu* pots with vertical ears in Shuangfang culture. 1 Style AaIII *hu* pots with horizontal ears (Zhujiagou M3:3); 2 Style AbIII *hu* pots with horizontal ears (Fengcheng Dongshan M9:1); 3 Style BaIII *hu* pots with horizontal ears (Shuangfang M6:1); 4 Style BbIII *hu* pots with horizontal ears (Shuangfang M6:2); 5 Style CIII *hu* pots with horizontal ears (collected before the Erdaohezi No. 1 tomb was excavated); 6 Style III *hu* pots with vertical ears (Fengcheng Dongshan M9:2); 7 Style AaII *hu* pots with horizontal ears (Douhutun Sarcophagus Tomb); 8 Style AbII *hu* pots with horizontal ears (unearthed at Lijiatai); 9 Style BaII *hu* pots with horizontal ears (sarcophagus tomb at Chengxin village, Xifeng); 10 Style BbII *hu* pots with horizontal ears (Fengcheng Xishan M1:1); 11 Style CII *hu* pots with horizontal ears (Shangmashi II T1②:5); 12 Style II *hu* pots with vertical ears (Fengcheng Dongshan M4:1); 13 Style AaI *hu* pots with horizontal ears (Babaogou M6:2); 14 Style AbI *hu* pots with horizontal ears (Dajiabang Sarcophagus Tomb); 15 Style BaI *hu* pots with horizontal ears (Sarcophagus Tomb at Xifeng Fire Brigade); 16 Style BbI *hu* pots with horizontal ears (collected at Erdaohezi); 17 Style CI *hu* pots with horizontal ears (Longtoushan Sarcophagus Tomb); 18 Style I *hu* pots with vertical ears (Fengcheng Dongshan M6:3)

Sub-type Ba is divided into three styles according to different types of ears and bellies. Style BaI and BaII have flat ears, and Style BaIII has tilted ears.

Style BaI has flat ears and a round bulging belly. Five pieces were unearthed. The representative specimen is from the sarcophagus tomb at Xifeng fire brigade (Fig. 4.19: 15). Among the other four specimens, one is the small Qingdao M5:2 from Dahuofang Reservoir at Fushun, one is the B:02 collected from the Xishan site of Zhenwu temple at Xiuyan, and the other two are from a sarcophagus tomb investigated in 1960 at Tongjiangyu, Benxi.

Style BaII has flat ears and a right-angled bulging belly. The only piece unearthed is from the sarcophagus tomb at Chengxin village, Xifeng (Fig. 4.19: 9).

Style BaIII has tilted horizontal ears and a round bulging belly. Four pieces were unearthed. The representative specimen is Shuangfang M6: 1 (Fig. 4.19: 3) at Xinjin. Among the other three specimens, one is Shilazi sarcophagus tomb M9:1 at Faku, and the other two are IT3 ②: 31 and I T6 ②: 61 from upper layer of Shangmashi site, respectively.

Sub-type Bb is divided into three styles according to different types of ears and bellies. Style BbI and BbII have flat ears, and Style BbIII has tilted ears.

Style BbI has flat ears and a short belly. The only piece unearthed is from Erdaohezi sarcophagus tomb at Liaoyang (Fig. 4.19: 16).

Style BbII has flat ears and a tall belly. The only piece unearthed is Xishan large stone covered tomb M1:1 at Fengcheng (Fig. 4.19: 10).

Style BbIII has tilted horizontal ears and a tall belly. The only piece unearthed is Shuangfang M6:2 at Xinjin (Fig. 4.19: 4).

Type C can also be divided into sub-types with a bulging belly or a falling belly, like Type A and B. However, due to the limited number unearthed, it has not yet been possible to further distinguish its sub-types. According to the classification standard of Type A and B, it can be divided into three types.

Style CI has a bulging belly and flat ears. The only specimen is from Longtoushan sarcophagus tomb at Benxi (Fig. 4.19: 17).

The only specimen of Style CII is one fragment from the mouth. It is IIT1②: 5 in the upper layer of Shangmashi site (Fig. 4.19: 11).

Style CIII has a bulging belly and tilted horizontal ears. Three pieces were unearthed. The representative specimen was collected before the Erdaohezi No. 1 sarcophagus tomb at Liaoyang was excavated (Fig. 4.19: 5), and the other one is from Erdaohezi No. 2 sarcophagus tomb (according to the report, its shape and style is the same as the one from No. 1 sarcophagus tomb). Another specimen is Laohuchong H1:2 in Shenyang.

Hu pots with vertical ears can be divided into three styles according to the height of the pot mouth and the slight differences in the shape of the belly.

Style I has a short neck, round inner corner, and an olive-shaped belly. The only specimen is Dongshan large stone covered tomb M6:3 at Fengcheng (Fig. 4.19: 18).

Style II has a slightly higher neck, curved inner corner, and a slightly tapered lower belly. Three pieces were found. The representative specimen is Dongshan large stone covered tomb M4:1 at Fengcheng (Fig. 4.19: 12), and the other two specimens are M10:2 and M11:1 from Dongshan large stone covered tomb at Fengcheng, respectively.

Style III has a slightly higher neck, angular inner corner, and a distinctly tapered lower belly. The only specimen is Dongshan large stone covered tomb M9:2 at Fengcheng (Fig. 4.19: 6).

(2) The *guan* jar category can be further divided into three sub-categories: the earless g*uan* jar, g*uan* jar with lugs and g*uan* jar with horizontal ears, according to whether it has ears and different patterns of ears. The *guan* jar with horizontal ears will not be analyzed since the number of them is rather small.

The earless g*uan* jar can be divided into two types, A and B, according to the different patterns of the mouth. The mouth of type A is folded outwards and type B has a flared mouth (Fig. 4.20).

Type A is divided into a and b sub-types. Sub-type Aa has bordering ornament on the outer lip, while sub-type Ab does not.

Sub-type Aa is divided into three styles.

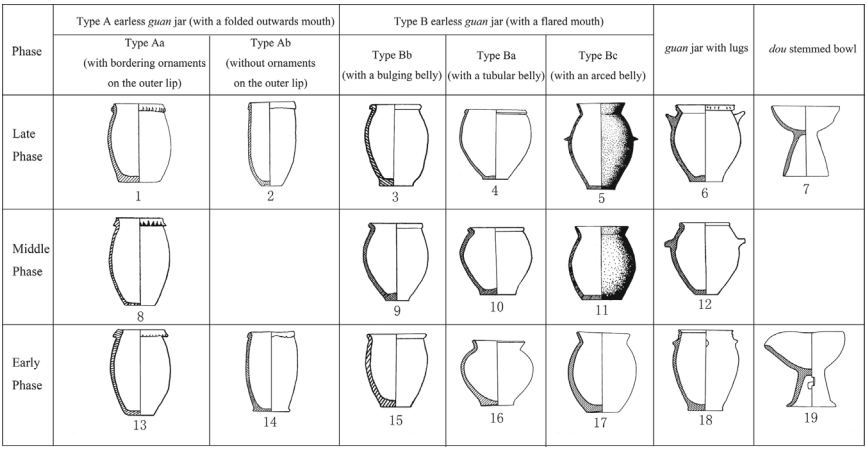

Fig. 4.20 Comparison and staging of types of g*uan* jars and *dou* stemmed bowls in Shuangfang culture. 1 Style AaIII earless *guan* jar (Yinjiacun M12:1); 2 Style AbII earless *guan* jar (Shuangfang M6:3); 3 Style BaIII earless *guan* jar (Shangpu M2:2); 4 Style BbIII earless *guan* jar (Zhengjiawazi T7:3); 5 Style BcIII earless *guan* jar (Fengcheng Dongshan M1:1); 6 Style III *guan* jar with lugs (Liangjiashan M5:2); 7 Style II *dou* stemmed bowl (Yinjiacun M12:4); 8 Style AaII earless *guan* jar (Wangtun M1:3); 9 Style BaII earless *guan* jar (Gongzhutun Houshan F1:1); 10 Style BbII earless *guan* jar (Gongzhutun Houshan F1:3); 11 Style BcII earless *guan* jar (Fengcheng Dongshan M5:1); 12 Style II *guan* jar with lugs (Gongzhutun Houshan F1:4); 13 Style AaI earless *guan* jar (Huojiawopu No.3 Stone Shed); 14 Style AbI earless *guan* jar (Biliuhe M23:1); 16 Style BaI earless *guan* jar (collected at Lijiaxiang, Fushun); 16 Style BbI earless *guan* jar (Gangshang M19:5); 17 Style BcI earless *guan* jar (Gangshang M13:3); 18 Style I *guan* jar with lugs (Taipingxiang M1:4); 19 Style I *dou* stemmed bowl (Gangshang M13:2)

Style AaI has a constricted mouth rim and a straight inner mouth wall. Two pieces were unearthed. The representative specimen is from the No.3 stone shed of Huojiawopu at Gezhou (Fig. 4.20: 13), and the other specimen is from the No.1 stone shed of Huojiawopu in Gezhou.

Style AaII has a flared mouth rim and a rounded inner mouth wall. The only specimen is Xinjin Wangtun M1:3 (Fig. 4.20: 8).

Style AaIII has a flared mouth rim, a rounded straight wall and a big base. The only specimen is Yinjiacun M12:1 (Fig. 4.20: 1).

Sub-type Ab is divided into two styles.

Style AbI is tubular, with a slightly tapering upper belly and a large base. The only specimen is M23:1 from Xinjin Biliuhe large stone covered tomb (Fig. 4.20: 14).

Style AbII is tubular, with a straight upper belly and a small base. The only specimen is Xinjin Shuangfang M6:3 (Fig. 4.20: 2).

Type B is divided into a, b and c sub-types. Sub-type Ba has a tubular belly and sub-type Bb has a bulging belly, while sub-type Bc has an arced belly.

Sub-type Ba is divided into three styles.

Style BaI has a flared upper belly and a flared rim. The only specimen is from the sarcophagus tomb in Lijiaxiang, Fushun (Fig. 4.20: 15).

Style BaII has a tapering upper belly and a flared rim. The only specimen is F1:1 from Gongzhutun Houshan in Xinmin.

Style BaIII has a tapering upper belly and an outward-curling rim. Five pieces were unearthed. The representative specimen is Benxi Shangpu M2:2 (Fig. 4.20: 3), and the other four are Benxi Shangpu M1:2, M2:3, M3:2 and the No. 1 specimen collected at Region I of the Shangmashi site.

Sub-type Bb is divided into three styles.

Style BbI has a long rim and a round bulging belly. The only specimen is Gangshang M19:5 (Fig. 4.20: 16).

Style BbII has a short rim and an angular bulging belly. Two pieces were unearthed. The representative specimen is F1:3 from Gongzhutun Houshan in Xinmin (Fig. 4.20: 10), and the other is F1:2 from the same site.

Style BbIII has a rim that forms a straight mouth with a concave groove along the outside, and a round belly and small base. The only specimen is T7:3 from Zhengjiawazi in Shenyang.

Sub-type Bc is divided into three styles.

Style BcI has a flat, everted, flared rim and a round belly. Two pieces were unearthed. The representative specimen is Gangshang M13:3 (Fig. 4.20: 17), and the other specimen is Gangshang m20:1.

Style BcII has an arced flared rim and a short belly. The only specimen is M5:1 from the large stone covered tomb of Dongshan in Fengcheng (Fig. 4.20: 11).

Style BcIII has a flared rim and a tall belly, the lower part of which tapers. The only specimen is M1:1 from the large stone covered tomb of Dongshan in Fengcheng, with double lugs influenced by the Style III *guan* jar with lugs (Fig. 4.20: 5).

The *guan* jar with lugs can be divided into three styles, according to the different lugs and bellies (Fig. 4.20).

Style I is tubular with small lugs and an arced tapering upper belly. The only specimen is M1:4 from Taipingxiang in Shuangyang (Fig. 4.20: 18).

Style II has big lugs and a tapering upper belly. The only specimen is F1:4 from Gongzhutun Houshan in Xinmin (Fig. 4.20: 12).

Style III has tilted lugs, a long rim and a tapering lower belly. Two pieces were unearthed. The representative specimen is M5:2 from Liangjiashan in Liaoyang (Fig. 4.20: 6), and the other one is Liangjiashan M7:2.

(3) The *dou* stemmed bowl category can be divided into two styles according to the different shapes and patterns of shallow bowl and ring foot. The number of them is small, and complete artifacts were only found in Gangshang and Yinjiacun.

Style I has a deep bowl and a short and slightly flared ring foot. The only specimen is Gangshang M13:2 (Fig. 4.20: 19).

Style II has a shallow bowl, a high ring foot, and a straight foot wall. Four pieces were unearthed. The representative specimen is Yinjiacun M12:4 (Fig. 4.20: 7), and the other three are Yinjiacun M12:6, H11:3 and the collection's No. 01 pottery *dou* stemmed bowl.

4.3.3.2 The Corresponding Relationship and Grouping of Typical Pottery (*Hu* Pot, *Guan* Jar and *Dou* Stemmed Bowl)

In terms of coexistence, two cases show that Style I pottery of different categories or types can be found in the same unit: one is that the Style AaI earless *hu* pot, Style BcI earless *guan* jar and Style I *dou* stemmed bowl were unearthed in Gangshang M13, and the other is that the Style BaI *hu* pot and Style AaI earless *guan* jar were unearthed in the No.1 stone shed of Huojiawopu, Gezhou city. These situations, to a certain extent, reflect the fact that the ages of different Style I pottery, such as the *hu* pot, *guan* jar and *dou* stemmed bowl, might be relatively close. Among the four pottery *guan* jars unearthed in F1 of Gongzhutun Houshan in Xinmin, one is a Style BaII earless *guan* jar, two are Style BbII earless *guan* jars, and the last is a Style II *guan* jar with lugs. This phenomenon not only proves that the three kinds of Style II *guan* jars were in the same period, but also establishes a reference point for judging the ages of Style I and Style III pottery based on the logical order of their existence. Five existing units reflect the coexistence of different kinds of Style III pottery: the first one is Yinjiacun M12 in which the Style BaIII earless *hu* pot, Style BbIII earless *hu* pot, Style AaIII earless *guan* jar and Style III *dou* stemmed bowl were unearthed together. The second one is Xinjin Shuangfang M6 in which the Style BaIII earless *hu* pot with horizontal ears, Style BbIII earless *hu* pot with horizontal ears and Style AbIII earless *guan* jar were unearthed together. The third one is Fengcheng Dongshan M9. The two coexisting pottery *hu* pots in it are the Style III *hu* pot with vertical ears and Style AbIII *hu* pot with horizontal ears. The other two are M5 and M7 in Liangjiashan, Liaoyang, in both of which the Style AaIII earless *hu* pot and Style III *guan* jar with lugs were unearthed together. The ages of different Style III pottery, like the *hu* pot, *guan* jar and *dou* stemmed bowl, might be close since both Style III pottery of different categories and Style III pottery of different types coexist in these five units. In a word, pottery of the same style could be preliminarily determined as being the same age according to the coexistence of pottery of the same style in the above eight units.

Considering the common characteristics, all Style I earless *hu* pots have an irregular belly, string patterns or carved patterns on the neck, and some have a lateral concave base. However, Style II earless *hu* pots have an obvious round belly, flat base, and regular mouth. Style III earless *hu* pots have a thin and high neck, and an inner bulging base, which is the same as the Style III *guan* jars with lugs. In *hu* pots with horizontal ears, both Style I and Style II have flat and straight ears, while Style III have distinct upturned ears. In addition, the mouth of Style I is slightly larger compared with that of Style II and Style III. Among the five types of Style II earless *guan* jars and Style II *guan* jars with lugs, three types of Style II *guan* jars were in one unit, and the mouth shape of these three types is basically the same. Although the overall shape of Style BcIII earless jars (Fengcheng Dongshan M1:1) is most suitably classified as being the same as the Type Bc earless *guan* jar, the double lugs on its belly were obviously influenced by the Style III *guan* jar with lugs. At the same time, the awl-pricked dot pattern on the outer lip of M5:2 Style III *guan* jars

with lugs from Liangjiashan, can also be seen on the lip of Style BaIII earless *guan* jars from the upper layer of Shangmashi.

The typical pottery of the Shuangfang culture (*hu* pot, *guan* jar and *dou* stemmed bowl) can be divided into three groups (the Arabic numerals in brackets represent the number of pieces) based on the above analysis of coexistence and the common characteristics of artifacts.

The first group consists of 27 pieces of pottery, including Style AaI (1), AbI (3), BaI (1) and BbI (2) earless *hu* pots, Style AaI (1), AbI (2), BaI (5), BbI (1) and CI (1) *hu* pots with horizontal ears, a Style I (1) *hu* pot with vertical ears, AaI (2), AbI (1), BaI (1), BbI (1) and BCI (2) earless *hu* pots, a Style I (1) *hu* pot with lugs and a Style I (1) *dou* stemmed bowl.

The second group consists of 23 pieces of pottery, including Style AaII (2), AbII (3), BaII (1) and BbII (1) *hu* pots without ears, Style AaII (3), AbII (1), BaII (1), BbII (1) and CII (1) *hu* pots with horizontal ears, Style II (3) *hu* pots with vertical ears, Style AaII (1), BaII (1), BbII (2) and BCII (1) *hu* pots without ears and a Style II (1) *hu* pot with lugs.

The third group consists of 34 pieces of pottery, including Style AaIII (2), AbIII (1), BaIII (1) and BbIII (1) earless *hu* pots, Style AaIII (3), AbIII (2), BaIII (4), BbIII (1) and CIII (3) *hu* pots with horizontal ears, a Style III (1) *hu* pot with vertical ears, Style AaIII (1), AbII (1), BaIII (5), BbIII (1) and BCIII (1) earless *hu* pots, Style III (2) *hu* pots with lugs and Style II (4) *dou* stemmed bowls.

4.3.3.3 Group Analysis of Other Pottery

In addition to the above 84 pieces of typical pottery belonging to the three groups determined by typological research, there are 35 other pieces of pottery that can be classified into group one, group two and group three respectively according to the following three reasons (Fig. 4.21).

The first reason is that some of this pottery was unearthed from the same unit as the typical pottery of each group, so it would be of the same group. This is the case for 22 pieces of pottery, among which 5 pieces, 20, 21, 30, 33, 34 in Fig. 4.21, are classified into group one because they were unearthed together with the pottery of group one. 9 pieces of pottery, 11–19 in Fig. 4.21, are classified into group two because they coexisted with the pottery of group two. 8 pieces of pottery, 2–9 in Fig. 4.21, are classified into group three because they were unearthed together with the pottery of group three.

The second reason is since the shape or style of some of these artifacts is the same as that of the typical pottery of certain groups, they can be determined to be of the same group. For example, a small *guan* jar with a small mouth and a bulging belly unearthed from M11 sarcophagus tomb of Jieguanting in Liaoyang (Fig. 4.21: 1) has a pair of horizontal bridge-shaped ears on the belly and the ears are obviously upturned. Its style is completely the same as that of Style III *hu* pots with horizontal bridge-shaped ears belonging to group three, so it should be classified into group

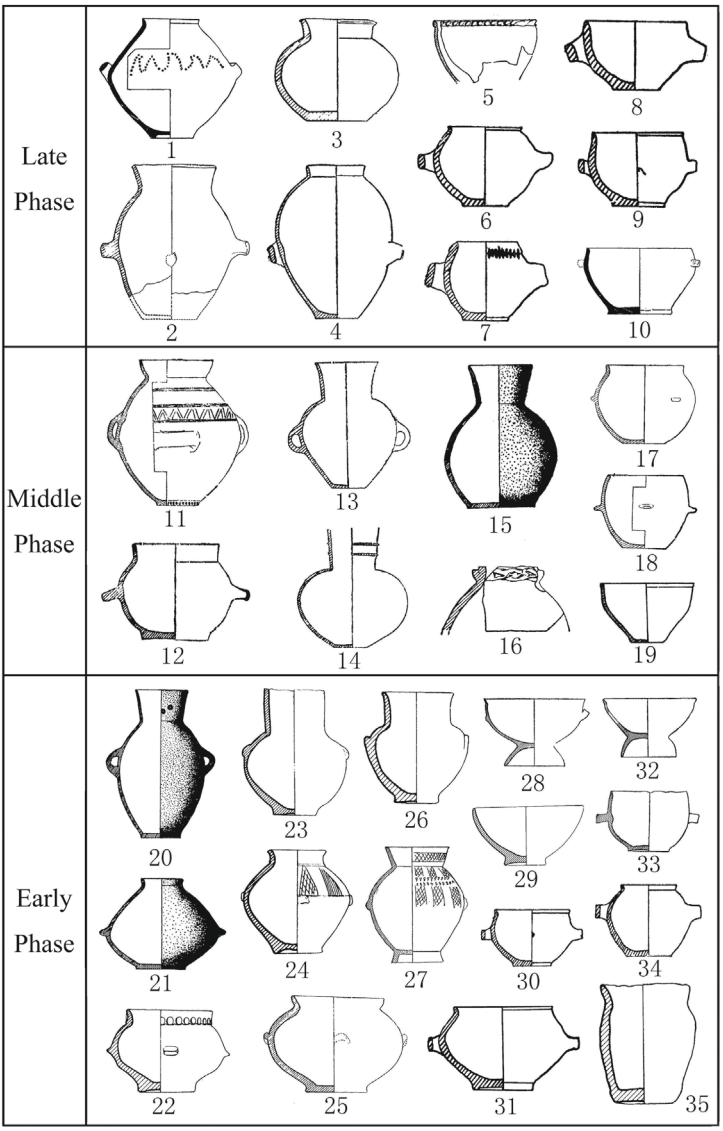

Fig. 4.21 Other pottery representing different stages in Shuangfang culture. 1, 10 (Jieguanting M11); 2, 3 (Yinjiacun H11); 4, 5 (ShangmashiIT6②); 6-9 (Zhujiagou M3, M4, M2); 11, 12 (Chengxincun Sarcophagus Tomb); 13, 14 (Wangtun M1); 15 (Fengcheng Dongshan M10); 16 (ShangmashiIT1②); 17, 18 (Jinshantun Sarcophagus Tomb); 19 (Gongzhutun Houshan F1); 20, 21 (Fengcheng Dongshan M6); 22, 24, 26, 29, 35 (Gangshang M7, M12, M2, M14); 23 (Loushang M5); 25 (Shuangtuozi M1); 27 (Shuangfang No. 2 Stone Shed); 28, 32 (Erdaohezi No. 1 Sarcophagus Tomb); 30, 34 (Lijiaxiang Sarcophagus Tomb)); 31 (Fushunta Yuxiang Earthen Pit Tomb)); 33 (Xifeng Fire Brigade Sarcophagus Tomb)

three. Another pottery *pen* vessel (Fig. 4.21: 10) from the same tomb should belong to the same group.

The third reason is that since some of this pottery bears an obvious inheritance relationship, in terms of shape, with similar pottery of the late Phase III Shuangtuozi culture and the late Machengzi culture, which were around earlier in this area, they can be classified as part of the same group. This is the case for 11 pieces of pottery, 22–29, 31, 32 and 35 in Fig. 4.21 (see Figs. 4.22 and 4.24 for specific comparison).

In addition to the above-mentioned 119 pieces of pottery, a small number of pottery could not be classified due to the lack of a clear co-existence relationship or other artifacts for comparison.

4.3.3.4 Age Determination and Cultural Stages of Each Group of Pottery

The above classification of the whole Shuangfang culture pottery is based on a pure typological method. Since no stratigraphic relationship is used as a basis, the classification of group one, group two, and group three pottery by type division and coexistence relationship is based on what is logical. The chronological sequence can only be decided if other evidence can be found. In other words, as long as group one and group three can be proven to be from different periods, the above classification of group one, group two, and group three pottery is meaningful for staging. The following section attempts to discuss the age of group one and group three from the two aspects of relationship comparison and age analysis of the coexisting relics respectively, and to determine the stage of Shuangfang culture pottery on this basis.

First of all, in terms of the genetic relationship between pottery, among the 33 kinds of pottery that have been identified as belonging to group one, the ancestral forms of 18 of them can be found in earlier pottery of the late period of the Shuangtuozi culture Phase III (Figs. 4.22 and 4.23), and 9 kinds of pottery show a clear inheritance of features from earlier pottery of the late period of the Machengzi culture (Fig. 4.24). Because the late period of the Shuangtuozi culture Phase III and the later period of the Machengzi culture are both around 1100 BC, both of them belong to the late Shang period. In addition, in Fig. 4.22, 4.23, and 4.24, the modeling of pottery of similar types can be traced from one generation to another, and no significant time interval between them can be observed. Therefore, according to the close relationship between the artifacts, the overall age of the group one pottery in the Shuangfang culture can be determined as the Western Zhou period, and the upper age limit may be as early as the early Western Zhou period.

Secondly, at least two batches of remains can prove that group three pottery of the Shuangfang culture are the remains of the Warring States period, based on the coexistence of pottery.

The first batch of remains are from the Yinjiacun site in Lüshunkou District, Dalian. Only one unit, namely Yinjiacun M12 (Fig. 4.25, left) was unearthed. It is a stone chambered tomb with a rectangular earth pit. Eight burial goods were found during the excavation. Besides a stone stick (Fig. 4.25: 7) and a bronze short

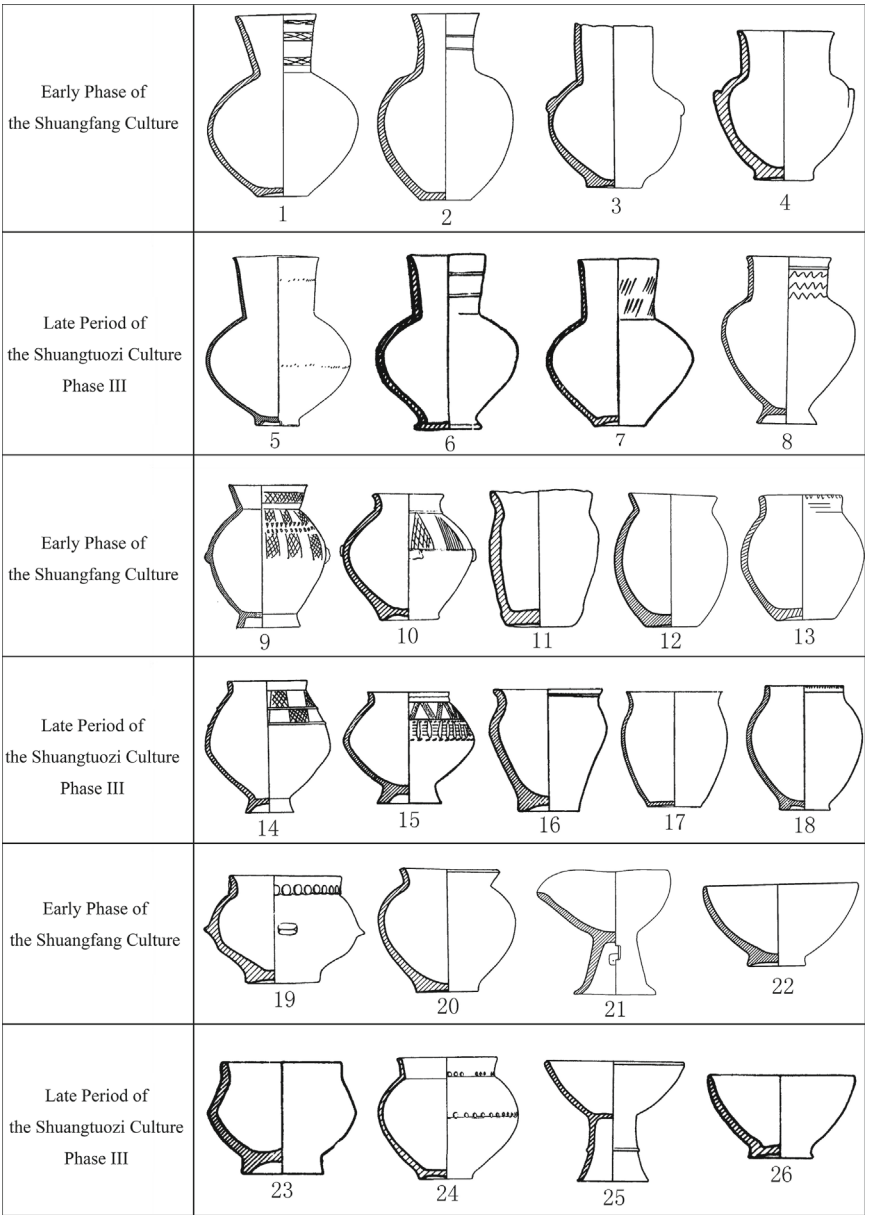

Fig. 4.22 Comparison between pottery in early phase of Shuangfang culture and pottery in late period of Shuangtuozi culture Phase III (A). 1, 12, 21 (Gangshang M13:4, 3, 2); 2 (Biliuhe Large Stone Covered Tomb M16:1); 3, 13 (Loushang M5:2, M6:1); 4, 10, 11, 19, 20, 22 (Gangshang M2:4,M12:4、5,M7:8 ,M19:5,M14:1); 5, 24 (Shuangtuozi F4:3, 19); 6, 7 (Dazuizi 92F3:10, 18); 8, 14, 25 (Dazuizi 87T2②:4,F17:2, F8:10); 9 (unearthed in Shuangfang No.2 Stone Shed); 15, 16, 17, 18, 23 (Yujiacun Tuotou Stone-Lined Tombs M3:2,M8:1,M3:3,M51:4,M48:1); 26 (Miaohoushan Site T5③:17)

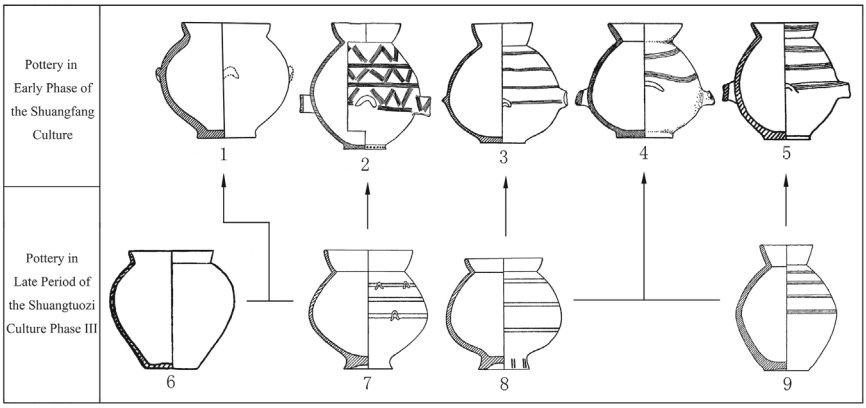

Fig. 4.23 Comparison between pottery in early phase of Shuangfang culture and pottery in late period of Shuangtuozi culture Phase III (B). 1 (Shuangtuozi Bronze Short Sword Tomb M1:4); 2 (Xifeng Fire Brigade Sarcophagus Tomb); 3 (Collected at Erdaohezi); 4 (Dajiabang Sarcophagus Tomb at Fushun); 5 (Fushun Babaogou M6: 2); 6 (Dalian Dazuizi 92F 4upper: 12); 7-9 (Lvshun Yujiacun Tuotou Tombs M40: 1, M36: 1, M30: 2)

sword (M12:8), five of the other six pieces of pottery are a combination of *hu* pots, *guan* jars and *dou* stemmed bowls (Fig. 4.25: 1–5), representing the mainstream characteristics of group three indigenous pottery in the Shuangfang culture. The last piece of pottery is a gray temperless pottery *dou* stemmed bowl with a shallow bowl and a thin stem (Fig. 4.25: 6). The material of this piece of pottery is exquisite, the stem is nearly solid, the lower end is in the shape of a trumpet, the handle has a node shaped raised ridge pattern, and the bowl has carved symbols. Compared with the other two sandy brown pottery high ring foot *dou* stemmed bowls with indigenous characteristics, this artifact has quite a different style. On the contrary, it has similar form when compared with the pottery *dou* stemmed bowls of the Warring States period unearthed in Yanxiadu, Yixian County, Hebei Province and Jiagezhuang, Tangshan. Therefore, it may belong to "Yan style *dou* stemmed bowl" (Institute of Cultural Relics of Hebei Province, 1987; An, 1953).

The second batch of remains come from the Shangbao cemetery in Benxi, with a total of four units, M1-4 (Fig. 4.25, right), respectively. Among the four units, in M4, only one piece of gray temperless pottery, a "Yan style *guan* jar" with cord pattern, was found (Fig. 4.25: 12), while in each of the other three tombs, sandy brown pottery indigenous plain tubular *guan* jars of Shuangfang culture group three (Fig. 4.25: 8–11) and gray temperless pottery "Yan style *guan* jar" with cord pattern (Fig. 4.25: 13–15) were found together.

The existence of the "Yan style *dou* stemmed bowl" and "Yan style *guan* jar" in the above two batches of remains not only shows that the Yan culture in the Warring States period had certain influence on the indigenous culture in Liaodong Area, but also proves that group three pottery in the Shuangfang culture and "Yan style pottery" might belong to the same period, that is, the Warring States period.

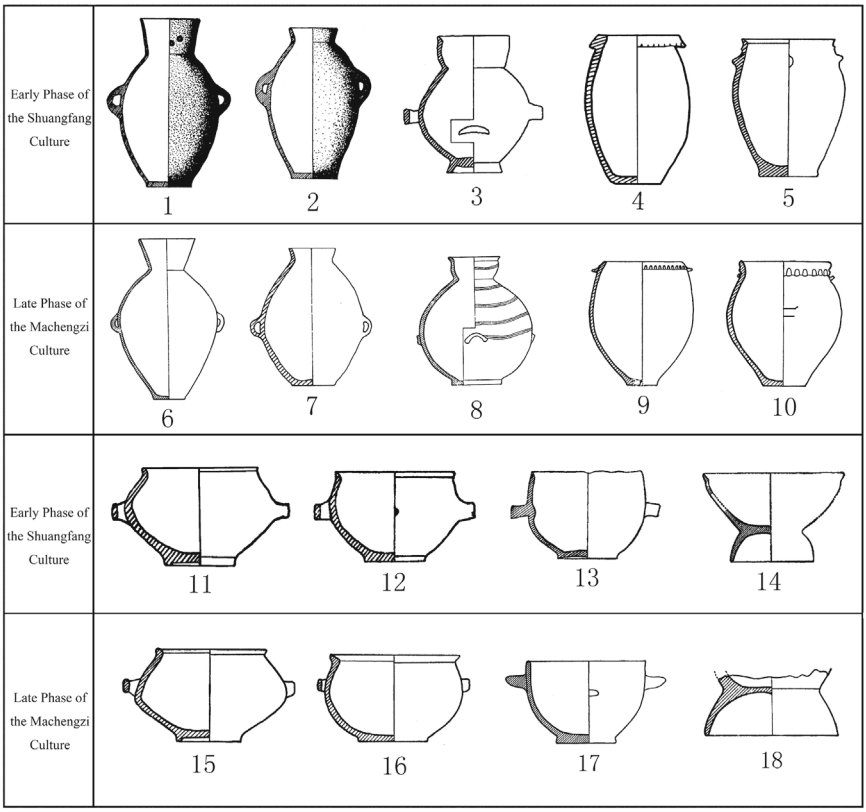

Fig. 4.24 Comparison between pottery in early phase of Shuangfang culture and pottery in late phase of Machengzi culture. 1, 2 (Fengcheng Dongshan M6:1, 3); 3 (Longtoushan Sarcophagus Tomb at Benxi); 4 (No.3 Stone Shed of Huojiawopu at Gezhou); 5 (Taipingxiang M1:4 at Shuangyang); 6 (Zhangjiapu Cave A M33:2 at Benxi); 7 (Xinbinlaocheng M4:4); 8 (Shanchengzi Cave C M2:2 at Benxi); 9 (Zhangjiapu Cave A M36:17 at Benxi); 10 (Machengzi Cave A M18:23 at Benxi); 11 (Tayuxiang Earth Pit Tomb at Fushun); 12 (Lijiaxiang Sarcophagus Tomb at Fushun); 13 (Xifeng Fire Brigade Sarcophagus Tomb); 14 (Erdaohezi No. 1 Sarcophagus Tomb at Liaoyang); 15 (Zhangjiapu Cave A M17:1 at Benxi); 16 (Zhangjiapu Cave A M6:2 at Benxi); 17 (Zhangjiapu Cave A M28:5 at Benxi); 18 (Shanchengzi Cave C M8:1 at Benxi)

Based on the above analysis and discussion of specific remains, a clearer understanding can be achieved: the group one pottery (Western Zhou period) of the Shuangfang culture was earlier than the group three pottery (Warring States period), and the group two pottery was in the transitional stage from group one to group three, therefore its age might be between group one and group three.

The Shuangfang culture can be divided into three phases of early, middle and late by substituting “phase” for “group”, since a chronological sequence exists between group one, group two and group three pottery in this culture,

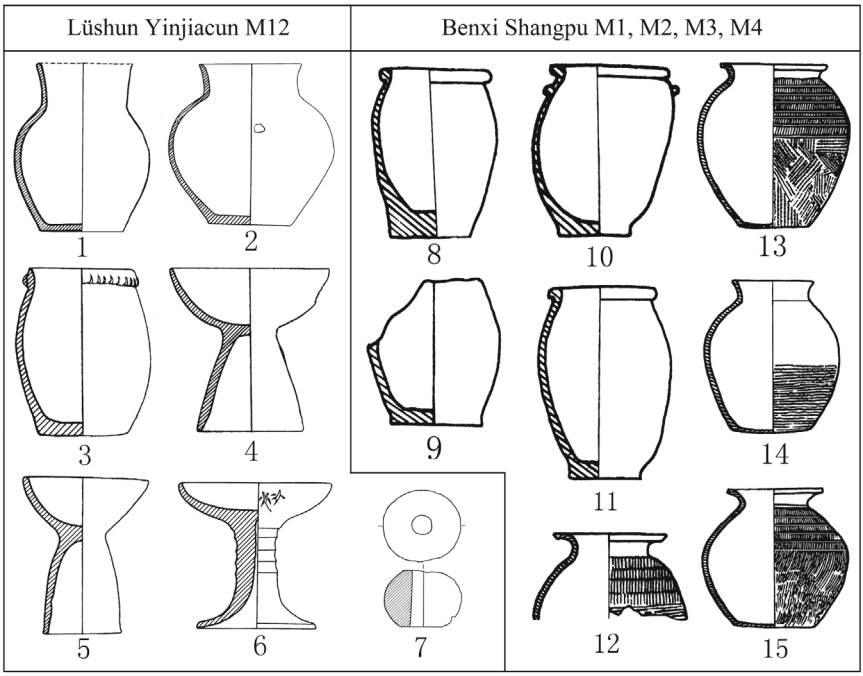

Fig. 4.25 Pottery and stoneware unearthed from Lüshun Yinjiacun M12 and Benxi Shangpu M1-4. 1-7 (Lüshun Yinjiacun M12: 5, 3, 1, 4, 6, 2, 7); 8, 11, 13 (Benxi Shangpu M2: 3, 2, 1); 9, 15 (Benxi Shangpu M1: 2, 1); 10, 14 (Benxi Shangpu M3: 2, 1); 12 (Benxi Shangpu M4: 1)

Group one pottery is representative of the early phase, which is equivalent to the Western Zhou period.
Group three pottery is representative of the late phase, which is equivalent to the Warring States period.
Group two pottery is representative of the middle phase, which may be between the early phase and the late phase, therefore its time period is the Spring and Autumn period.

The basic composition of the pottery and the evolutionary sequence of the main pottery types in the early, middle and late phases of the Shuangfang culture can be seen in Figs. 4.18, 4.19 and 4.20. Other pottery representing different stages can be seen in Fig. 4.21. For clarity, the main representative units and the sites of excavation of some typical specimens of the three phases are summarized in Table 4.3.

Table 4.3 Representative units and the sites of excavation of some typical specimens of early, middle and late phases in the Shuangfang culture

	Dalian	Changhai	Xinjin	Liaoyang	Benxi	Shenyang	Fushun	Xifeng	Fengcheng	Others
Late phase	Yinjiacun Phase II M12, H11 Collected Specimen 01	Upper Layer of Shangmashi Site IT3②: Specimen 31, I T6②: Specimen 60, I T6②: Specimen 61, I Collected: Specimen 1	Shuangfang M6	Pottery *hu* pot collected before excavation at the No. 1 sarcophagus tomb in Erdaohezi, the No. 2 sarcophagus tomb, Liangjiashan earth pit tomb M5, M7, Jieguanting Mil	Shangbao Ml, M2, M3, M4	Zhengjiawazi Site Earth Pit Tomb M2, Lower Cultural Layer Specimen T7:3, Laohuchong Site HI	Dahuofang Reservoir Zhujiagou M2, M3, M4		Dongshan Large Stone Covered Tomb Ml, M7, M9	Shilazi Sarcophagus Tomb at Faku County M9

(continued)

Table 4.3 (continued)

	Dalian	Changhai	Xinjin	Liaoyang	Benxi	Shenyang	Fushun	Xifeng	Fengcheng	Others
Middle phase		Shangmashi Earth Pit Bronze Short Swords Tomb M3, M4, Upper Layer of Shangmashi Site I T1②: Specimen 24, I T1②: Specimen 26, II T1②: Specimen 5	Wangtun Stone Coffin Tomb Ml, M2			Zhengjiawazi Site Earth Pit Bronze Short Sword Tomb M6512, M659		Chengxin Village Sarcophagus Tomb, Jinshan tun Sarcophagus Tomb	Dongshan Large Stone Covered Tomb M4, M5, M10, Mil, Xishan Large Stone Covered Tomb Ml	Pottery *hu* pot collected at Lijiatai Site, Kaiyuan, Douhutun Sarcophagus Tomb at Qingyuan, Xiajiapu Sarcophagus Tomb, Tukouzi Middle School Sarcophagus Tomb, Xinmin Gongzhutun Houshan Fl

(continued)

Table 4.3 (continued)

	Dalian	Changhai	Xinjin	Liaoyang	Benxi	Shenyang	Fushun	Xifeng	Fengcheng	Others
Early phase	Gangshang M2, M7, M12, M13, M14, M19, M20, Loushang M5, M6, Shuangtuozi Bronze Short Swords Tomb Ml		Biliuhe Large Stone Covered Tomb Ml5, M16, M23, Shuangfang No. 2 Stone Shed	Remains unearthed at the No. 1 sarcophagus tomb in Erdaohezi, two pottery specimens from disordered sarcophagus	Tongjiangyu Stone Coffin Tomb, Longtoushan Stone Coffin Tomb		Dahuofang Reservoir Xiaoqingdao M5, Babaogou M6, Lijiaxiang Sarcophagus Tomb, Tayuxiang Earth Pit Tomb, Dajiabang Sarcophagus Tomb	Fire Brigade Sarcophagus Tomb	Dongshan Large Stone Covered Tomb M3, M6	No. l and No. 3 stone shed of Huojiawobao, Gezhou city, Pottery *hu* pot collected at B District Xishan site of Zhenwu temple at Xiuyan, Ml at Taipingxiang, Shuangyang

4.3.4 Typological Study and Dating of Bronze

Among the artifacts of the Shuangfang culture, besides pottery, the most striking group is the so-called "northeast bronzeware". These bronze products with distinctive local characteristics and age characteristics are widely distributed in the Liaoxi area, northern Hebei Province (Zheng, 1975), the Korean Peninsula, and parts of Jilin Province and Heilongjiang Province, in addition to the Shuangfang culture in Liaodong area. For a long time, Chinese and foreign academic circles have been paying attention to them. However, due to the limitation of subjective and objective conditions, a consensus was only reached on one point, that the northeast bronzeware is not unique to one archaeological culture, or that the northeast bronzeware cannot be used as a criteria to define archaeological culture. Other issues, such as type division, dating, research on origins and naming of artifacts have yet to be agreed on.

Since the northeast bronzeware, especially three types: the short sword with a pillar-shaped ridge, the axe with a square hole and the spear with a curved blade, were mostly unearthed from the Shuangfang culture, it is necessary to study the cultural staging and dating study based on pottery and make a further type analysis and age determination of these three representative northeast bronzes.

4.3.4.1 A Preliminary Observation of the Short Sword with a Pillar-Shaped Ridge, Axe with a Square Hole and Spear with a Curved Blade Which Were Unearthed with Pottery

Among the Shuangfang culture remains that have been officially excavated and cleaned up, pottery and northeast bronzeware were unearthed together in 14 units (to ensure the accuracy of the number, the artifacts excavated and the artifacts collected are not regarded as coexisting in the same unit). In terms of coexisting artifacts, pottery and the short sword with a pillar-shaped ridge were unearthed together in nine units; pottery and the axe with a square hole (mold) were unearthed together in one unit; pottery and the spear with a curved blade were unearthed together in one unit; pottery, the short sword with a pillar-shaped ridge and the axe with a square hole (mold) were unearthed together in two units; and pottery, the short sword with a pillar-shaped ridge, the axe with a square hole (mold) and the spear with a curved blade were unearthed together in one unit. In terms of phases, six units belong to the early phase of the Shuangfang culture; three belong to the middle phase, and five belong to the late phase.

The six units of the early phase are the Shuangtuozi bronze short sword tomb M1 in Dalian, Loushang tomb M6, Gangshang tomb M13, Gangshang tomb M19, the Erdaohezi No. 1 sarcophagus tomb at Liaoyang (the officially unearthed remains) and Dajiabang Sarcophagus Tomb at Fushun. The unearthed bronzeware includes the short sword with a pillar-shaped ridge and axe with a square hole (mold), and coexisting pottery includes the Style AaI earless *hu* pot, Style AbI *hu* pot with horizontal ears, Style BbI earless *hu* pot, Style BbI earless *guan* jar, Style I *dou*

stemmed bowl and bowl with a ringfoot in the early phase of the Shuangfang culture (Fig. 4.26).

The three units of the middle phase are the sarcophagus tomb at Chengxin village in Xifeng, Shangmashi bronze short sword tomb M3 in Changhai, and Zhengjiawazi bronze short sword tomb M6512 in Shenyang. The unearthed bronzeware includes the short sword with a pillar-shaped ridge, axe with a square hole and spear with a curved blade, and coexisting pottery includes the Style AaII earless *hu* pot, Style AbII

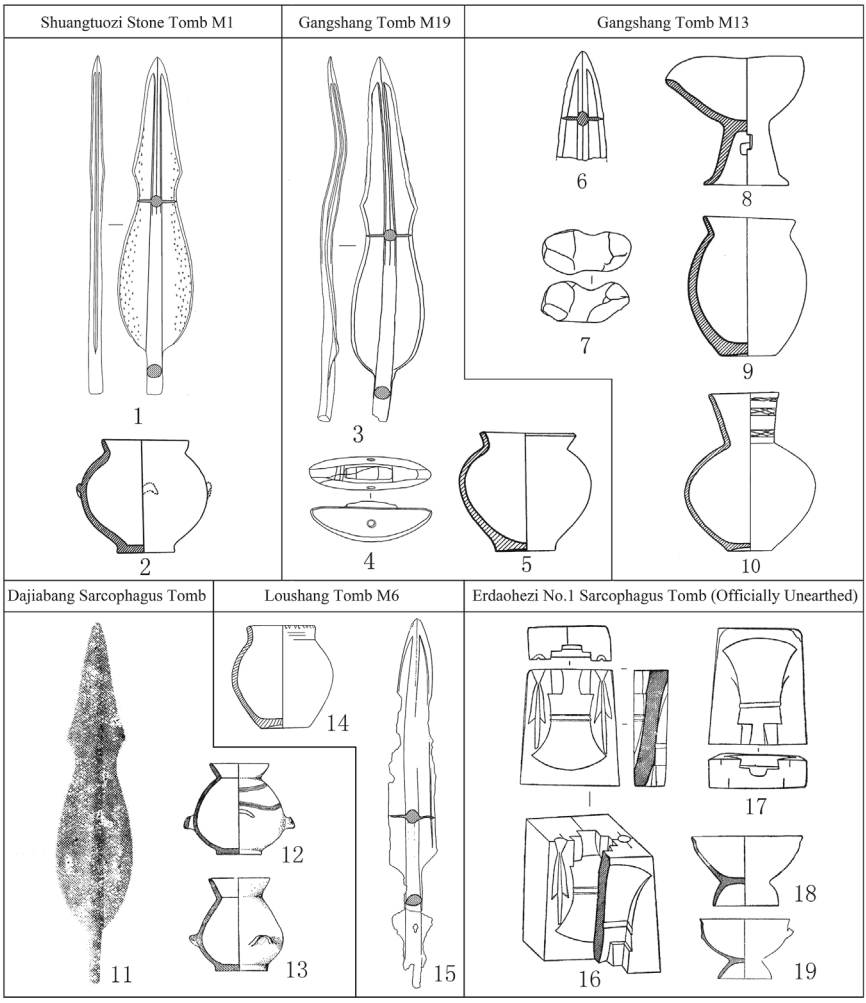

Fig. 4.26 Bronzes and pottery unearthed together in unit of the early Shuangfang culture. 1, 2 (Shuangtuozi M1:1, 4); 3–5 (Gangshang M19:1, 3, 5); 6–10 (Gangshang M13:5, 1, 2, 3, 4); 11–13 (Dajiabang Sarcophagus Tomb); 14, 15 (Loushang M6:1, 2); 16–19 (Officially Unearthed from Erdaohezi No.1 Sarcophagus Tomb)

earless *hu* pot, Style BaII *hu* pot with horizontal ears, *hu* pot with a *bo* bowl-shaped mouth and vertical ears and *guan* jar with horizontal lugs in the middle phase of the Shuangfang culture (Fig. 4.27).

The five units of the late phase are Yinjiacun M12 in Lüshun, Shuangfang M6 in Xinjin, Zhengjiawazi M2 in Shenyang, Shangbao M1 in Benxi and Zhujiagou M4 in Fushun. The unearthed bronzeware also contains three types of short sword with a pillar-shaped ridge, the axe with a square hole and spear with a curved blade, and the pottery unearthed together includes the Style AbIII earless *hu* pot, Style BaIII earless *hu* pot, Style BbIII earless *hu* pot, Style AaIII *hu* pot with horizontal ears, Style BaIII *hu* pot with horizontal ears, Style BbIII *hu* pot with horizontal ears, Style AaIII earless *guan* jar, Style AbII earless *guan* jar, Style BaIII earless *guan* jar, Style II *dou* stemmed bowl, "Yan Style *dou* stemmed bowl" and "Yan Style *guan* jar" and so on (Fig. 4.28).

The bronzeware unearthed together with pottery has different shapes in the early and late phases. The bronze short swords of both the early and late phases have a pillar-shaped ridge (therefore it is named "short sword with a pillar-shaped ridge"), which is their common feature, and also the most essential feature of "northeast bronze swords". However, the bronze short swords of different phases also have obvious differences in the shape of the sword body. The differences include: the

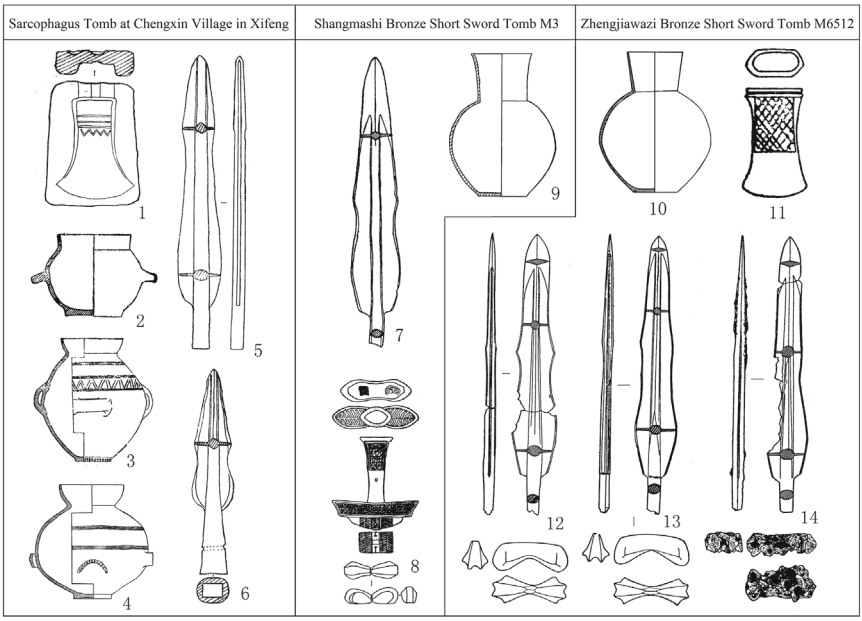

Fig. 4.27 Bronzes and pottery unearthed together in unit of the middle Shuangfang culture. 1–6 (Unearthed in the Sarcophagus Tomb at Chengxin Village in Xifeng); 7–9 (Shangmashi Bronze Short Sword Tomb M3:1, 2); 10–14 (Zhengjiawazi Bronze Short Sword Tomb M6512:63, numberless, 1, 33, 2)

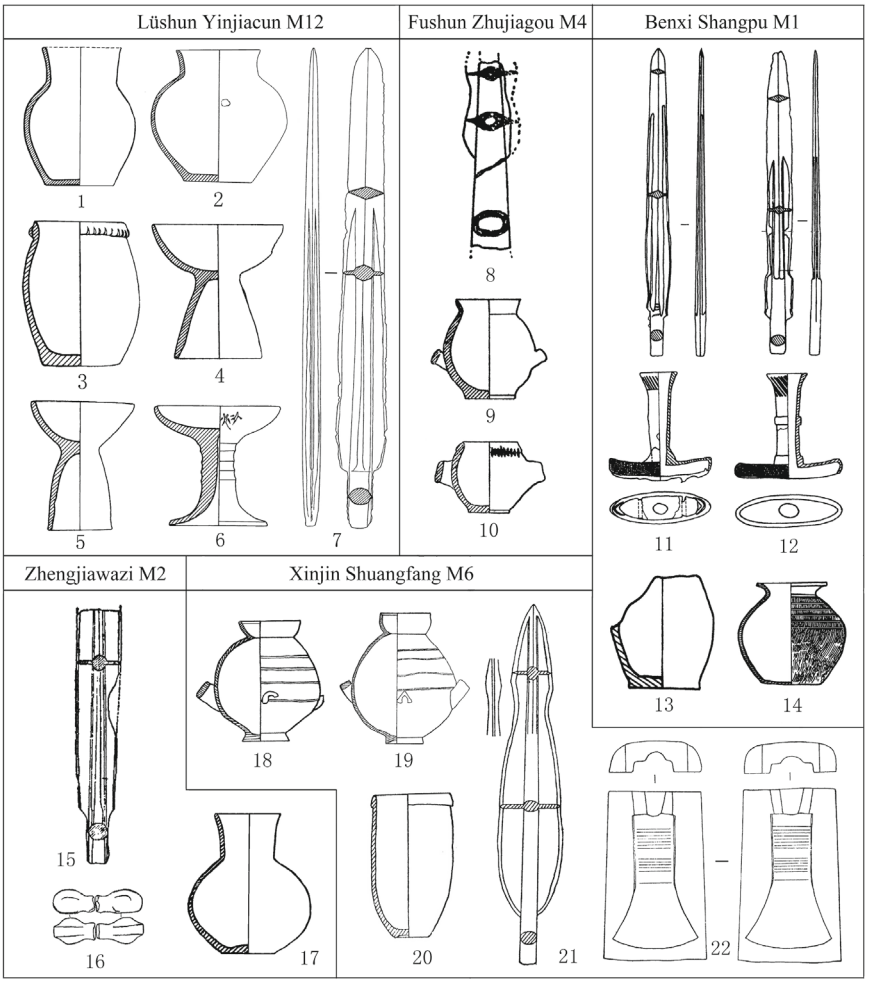

Fig. 4.28 Bronzes and pottery unearthed together in unit of the late Shuangfang culture. 1–7 (Yinjiacun M12:5, 3, 1, 4, 6, 2, 8); 8–10 (Zhujiagou M4:1, 4, 6); 11–14 (Shangpu M1:3, 4, 2, 1); 15–17 (Zhengjiawazi M2:1, 2, 3); 18–22 (Shuangfang M6:1, 2, 3, 4, 5)

angle between sections changing from small (obvious) to large (not obvious) until it reaches 180 degrees (disappears); the back section of the sword body changing from wide and thick to narrow and thin; the ridge disappearing; and the edge appearing and changing from short to long. When these differences are combined together, the sword changed from "a triangular curved sword without an edge" to "a long curved sword with a sharp edge" and finally to "a long straight sword with a sharp edge". Although there were not many axes with square holes, it exists in all three phases. The ax body in the early phase is wide and short, similar to a square, and in the late phase it is narrow and long, similar to a rectangle, while the ax body in the middle

phase is in between the two. The only two curved-edged *mao* spearheads are from the middle phase and late phase respectively, and also have some differences in shape.

It is clear that the bronzeware and pottery have a coexistence relationship, age differences, and various different shapes through preliminary observation of 33 bronzes unearthed from the above 14 units. Therefore, they are the basic materials for the study of the changes and ages of the three kinds of bronzeware of the Shuangfang culture, namely, the short sword with a pillar-shaped ridge, axe with a square hole and spear with a curved blade. In addition, they can be considered as the benchmark and entry point for understanding these problems.

4.3.4.2 Classification of Short Swords with Pillar-Shaped Ridges, Axes with Square Holes and Spears with Curved Blades Based on Pottery Staging

The bronzes unearthed together with pottery of the early and the late phases of the Shuangfang culture can be regarded as two extreme types of bronzeware of this culture, while the bronzes of the middle phase can be regarded as a transitional type between these two extreme types. Therefore, not only can the evolutionary sequence of various types of bronzeware unearthed with pottery be decided, but the types and styles of bronzeware without accompanying pottery unearthed from other sites can also be determined, together with their position in the evolutionary sequence of all of the Shuangfang culture bronzeware.

(1) Typological analysis of the short sword with a pillar-shaped ridge: a large number of specimens were found. Apart from 15 specimens unearthed with pottery, many specimens were not accompanied by pottery. In view of these two different kinds of short sword specimens, our research idea is to confirm the Shuangtuozi stone tomb M1:1, which came from the early Shuangfang culture unit and coexisted with early pottery, as the earliest style of short sword with a pillar-shaped ridge, and to confirm the Yinjiacun M12:8, which came from the late Shuangfang culture unit and coexisted with late pottery, as the latest style of short sword with a pillar-shaped ridge, then to observe whether other styles of short sword with a pillar-shaped ridge belong to the transitional form between the two extreme styles. Through careful observation and comparison, the vast majority of short sword with a pillar-shaped ridge specimens can be divided into seven types from early phase to late phase.

Eleven specimens belong to Style I. The representative specimen is the Shuangtuozi stone tomb M1:1 in Lüda, and eight other specimens are from the Lijiabu sarcophagus tomb in Qingyuan (Qingyuan County Cultural Bureau, 1982), the Menlian sarcophagus tomb in Qingyuan (Qingyuan County Cultural Bureau, 1981), Zhaowangcun of Liangjiadian in Jinzhou (Xu, 1993), the Erdaohezi No. 1 sarcophagus tomb at Liaoyang (collected before excavation) (Liaoyang Municipal Cultural Relics Administration Institute, 1977), the Houmuchengyi No.3 sarcophagus tomb in Lüda (Lüshun Municipal Museum, 1960), Huangzuizi of Shuangtaigou village in Yingchengzi town, Lüda (Xu, 1993), the Dajiabang sarcophagus tomb in Fushun (Xu, 1983; Archeological Team of Fushun Municipal Museum, 1983) and Liujiatuan

in Lüda (Harada & Komai, 1931) (Fig. 4.29: 1–9), respectively. The other two specimens are fragments of artifacts. One is Gangshang tomb M13:5, with only one tip left (Fig. 4.26: 6), and the other is Loushang tomb M6:2, with joint tip and back section missing (Fig. 4.26: 15). They are tentatively categorized in this style because both of them have no obvious sword edge and were unearthed together with the early pottery of the Shuangfang culture, and it is most probable that they belong to this style (no later than Style II).

Ten specimens belong to Style II. The representative specimens are Liangjiacun M1:1 in Benxi (Wei, 1987) and Gangshang tomb M6: 7, M18:1, and M19:1 in Dalian. The other six specimens are from Houmuchengyi in Lüda (Lvshun Municipal Museum, 1960; Xu, 1993), Zhaowangcun of Liangjiadian in Jinzhou, Jiangjiacun of Sanjianbao town in Lüda, and Xiaopanjiacun of Jiangxi town in Lüda (Xu, 1993), respectively (Fig. 4.29: 10–19).

Two specimens belong to Style III. The representative specimen is Zhengjiawazi M6512:1 in Shenyang (Shenyang Palace Museum, 1975). The other specimen is from the Yaolingzi sarcophagus tomb in Dongliao County (Jin, 1992) (Fig. 4.29: 20–21).

Six specimens belong to Style IV. The representative specimens are Zhengjiawazi M6512:33 in Shenyang and Shangmashi M3:1 in Changhai (Lvshun Museum, etc., 1982). The other four specimens are from Fushun Knitting Factory, Shenyang South Tower (Shenyang Municipal Cultural Relics Working Team, 1964) and Wolongquan in Lüda (Institute of Archaeology, Chinese Academy of Social Sciences ed., 1996), respectively (Fig. 4.29: 22–27).

Two specimens belong to Style V. The representative specimen is Zhengjiawazi M6512:2 in Shenyang. The other specimen is from Wolongquan in Lüda (Fig. 4.29: 28–29).

Thirteen specimens belong to Style VI. The representative specimen is Shangbao M1:3 in Benxi (Wei and Liang, 1998) and Shangmashi M2:1 in Changhai. The other eleven specimens are from Nanfen railway station and Shawo in Benxi (Liang, 2003), Liu Jiashao in Benxi (Liang, 1992), Jixiangtun in Shuangliao (Jin, 1992), the Liangjiashan No. 1 and No. 3 tombs in Liaoyang (Sun and Xu, 1964), Zhaojiabao in Kuandian (Xu and Zhao, 1984), Dalingdicun in Jinzhou, Kuaimachangcun in Pulandian, Xujiagou in Changhai (Xu, 1993), and Houmuchengyi M1 in Lüshun (Lüshun Municipal Museum, 1960), respectively (Fig. 4.30: 1–13).

Six specimens belong to Style VII. The representative specimen is Shangbao M1:4 in Benxi. The other 5 specimens are from Wudaogoumen in Ji'an (Ji'an County Cultural Relics Administration Institute, 1981), Zhaijiacun in Changtu (Pei, 1989), Dafangshen in Donggou (Xu and Zhao, 1984), Majiazi in Fushun (Archeological Team of Fushun Municipal Museum, 1983) and Tieshan town in Lüshun (Xu, 1993), respectively (Fig. 4.30: 14–19).

Five specimens belong to Style VIII. The representative specimen is Zhengjiawazi M2:1 in Shenyang (Northeast Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences, 1989) and Yinjiacun M12:8 in Dalian. The other three specimens are from Xiaochenjia in Fengcheng, Dandong (Xu and Zhao,

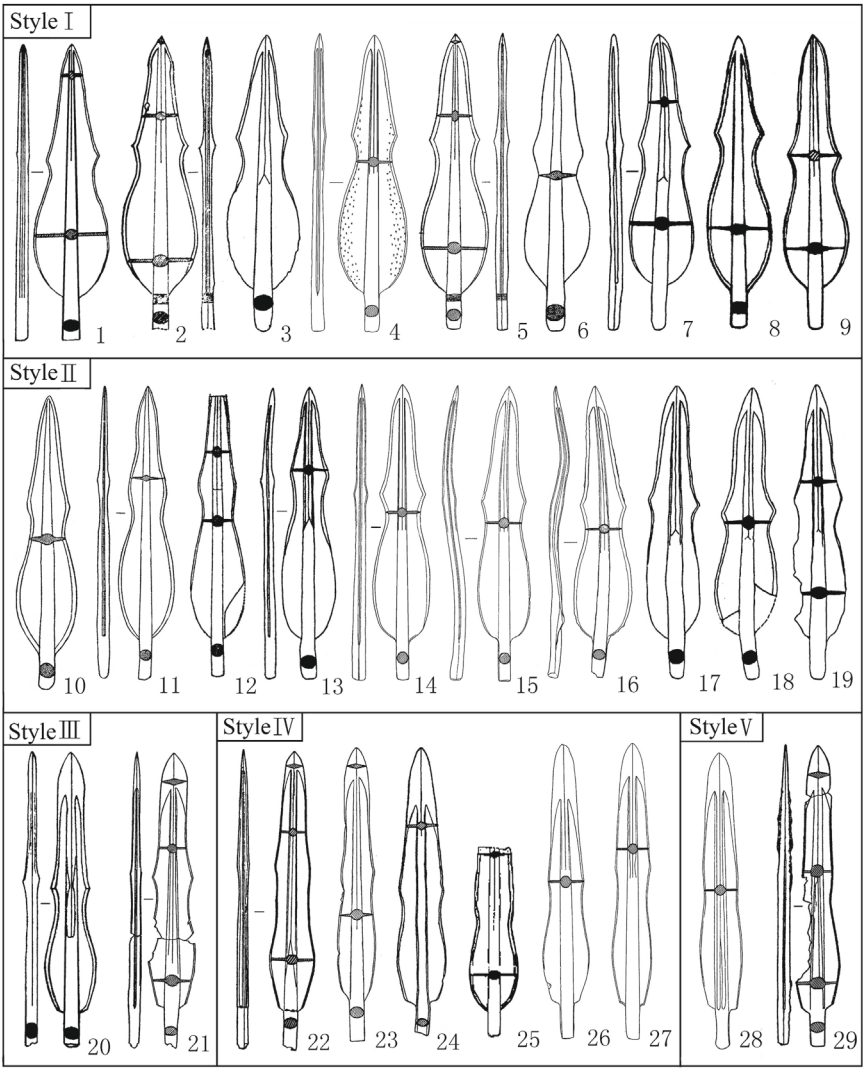

Fig. 4.29 Style I-V bronze short sword with a pillar-shaped ridge in Shuangfang culture. 1.Qingyuan Lijiabu; 2. Qingyuan Menlian; 3, 13 Jinzhou Zhaowangcun; 4. Lüda Shuangtuozi M1:1; 5. Liaoyang Erdaohezi; 6, 10, 11, 17 Lüda Houmuchengyi; 7.Lüda Huangzuizi; 8. Fushun Dajiabang; 9. Lüda Liujiatuan; 12. Benxi Liangjiacun M1:1; 14. Gangshang M6: 7; 15. Gangshang M18: 1; 16. Gangshang M19: 1; 18. Lüda Jiangjiacun; 19. Lüda Xiaopanjiacun; 20. Dongliao Yaolingzi; 21、22、29.Shenyang Zhengjiawazi M6512:1, 33, 2; 23. Fushun Zhenzhichang; 24. Changhai Shangmashi M3:1; 25. Shenyang South Tower; 26–28. Lüda Wolongquan

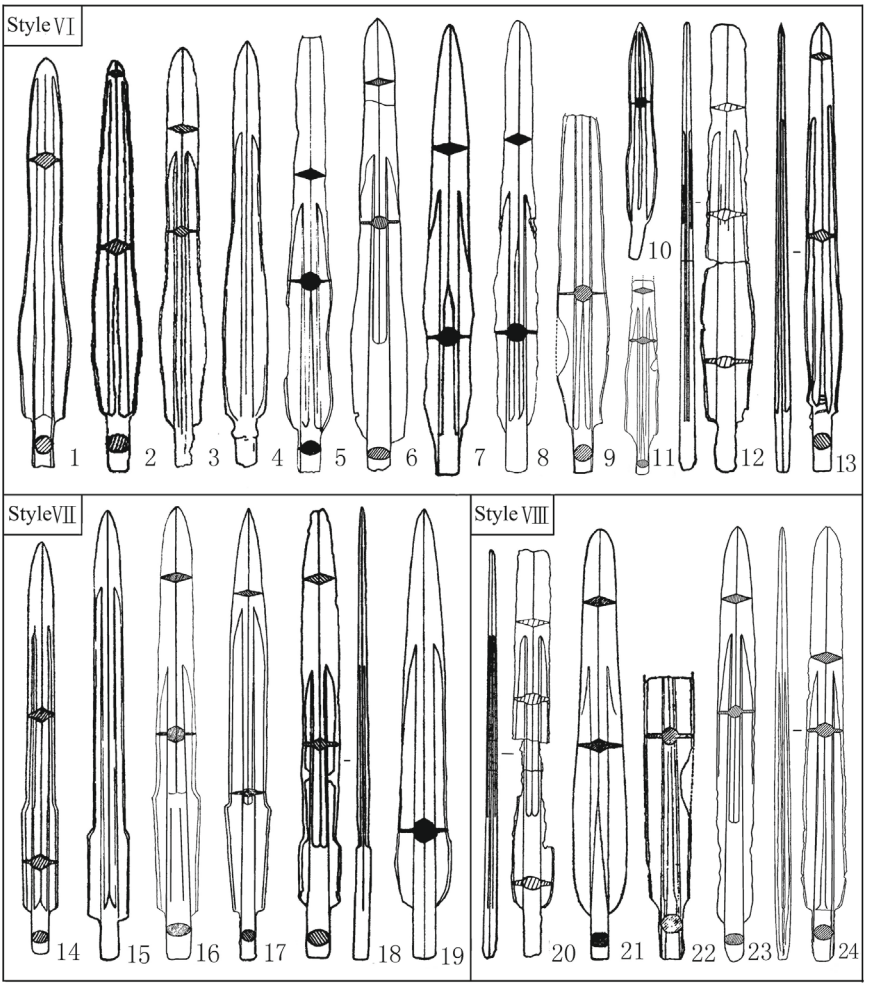

Fig. 4.30 Style VI-VIII bronze short sword with a pillar-shaped ridge in the Shuangfang culture. 1. Changhai Shangmashi M2:1; 2. Benxi Nanfen Railway Station; 3. Benxi Shawo; 4. Shuangliao Jixiangtun; 5. Changhai Xujiagou; 6. Kuandian Zhaojiapu; 7. Jinzhou Dalingdicun; 8. Pulandian Kuaimachangcun; 9. Liaoyang Liangjiashan No.3 Tomb; 10. Lüshun Houmuchengyi M1; 11. Liaoyang Liangjiashan No.1 Tomb; 12. Benxi Liujiashao; 13. Benxi Shangpu M1:3; 14. Ji'an Wudaogoumen; 15. Changtu Zhaijiacun; 16. Donggou Dafangshen; 17. Fushun Majiazi; 18. Benxi Shangpu M1:4; 19. Lüshun Tieshanzhen; 20. Benxi Liujiashao; 21. Benxi Liangjiacun; 22. Shenyang Zhengjiawazi M2:1; 23. Dandong Fengcheng Xiaochenjia; 24. Dalian Yinjiacun M12:8

1984), Liangjiacun in Benxi (Wei, 1987), and Liujiashao in Benxi, respectively (Fig. 4.30: 20–24).

The differences (evolutionary trend) from Style I to VIII are shown by the following changes in different parts of the short sword: (1) the ridge disappearing (from obvious to not obvious to completely disappeared), (2) the node tip disappearing (from obvious to not obvious to completely disappeared), (3) the sword edge appearing (from edgeless or nearly edgeless to short edge and then to long edge; a few specimens show the "atavism" phenomenon, however, the general trend of the sword edge developing from short to long has not changed) (4) the sword tip changing from sharp to blunt (from conic shape to *gui* tablet head shape, with only a few late specimens in the original conic shape), (5) the back section of the body changing from wide and fat to narrow and thin (from wider than the front section to the same as the front section, in which the two connecting lines between the two node tips and the outer points of the back section of Style I to IV swords with a curved blade show a trend of changing from intersecting to being gradually parallel). It is worth noting that the evolutionary trends of the above parts are parallel, and they are all in the same direction. But the evolutionary rate and the time points where each part changed are not synchronous. Their speeds vary and the times are staggered.

From the overall shape of the short sword, the differences (evolutionary trend) between Styles I and VIII can be further summarized as follows: (1) from a sword with a curved edge to a sword with a straight edge; (2) from a two-sectioned sword to a one-sectioned sword; (3) from triangular to strip-shaped; (4) from a spear-shaped sword to a sword-shaped sword.

The following points need further explanation concerning the analysis of the type and shape of the short sword with a pillar-shaped ridge:

Firstly, it is difficult to determine whether the short sword with a rounded blade tail and the short sword with an angular blade tail appeared successively or are from the same time. According to the existing materials, there is no sword with an angular blade tail in Style I, and no sword with a rounded blade tail in Style III and V. While there are both swords with a rounded blade tail and swords with an angular blade tail in Style II, IV, VI, VII and VIII, there are more swords with a rounded blade tail than swords with an angular blade tail in Style II (Fig. 4.29: 14, 16 and 19), and more swords with an angular blade tail than swords with a rounded blade tail in Style IV, VI, VII and VIII (Fig. 4.29: 23, 25; Fig. 4.30: 5, 8, 10, 19, 21, 23). In this situation, two kinds of preliminary conjectures can be made: firstly, whether the blade tail is rounded or angular shows the difference in age, or difference in "style". It is based on the fact that the blade tails of Style I swords are all rounded, the blade tails of most Style II swords are mainly rounded, with some angular ones, while the blade tails of swords after Style III are all angular. As for the small number of swords with a rounded tail in Style III-VIII, they may be swords with an angular tail drawn mistakenly because the draftsman failed to observe the original objects carefully. The Style IV sword unearthed from the South Tower of Shenyang (Fig. 4.29: 25) is a good example. According to the line map published in the report, it is a sword with a rounded blade tail, but according to the photos published at the same time, it is clearly a sword with an angular blade tail (Fig. 4.31). Secondly, although the

numbers of swords with rounded blade tails and swords with angular blade tails are different in Style II-VIII (which may be related to the probability of discovery), the two kinds of swords always existed in parallel, and the mistake of Shenyang South Tower is a special case. If so, the sword with a rounded blade tail and the sword with an angular blade tail are two different forms of short swords that were used at the same time, and which belong to different "types". That is to say, the short sword with a pillar-shaped ridge had only one type with a rounded blade tail at the beginning (Style I stage), and it evolved into two sub-types, namely, with a rounded blade tail and with an angular blade tail. The two sub-types existed in parallel after that. Of course, the two sword types, the sword with a rounded blade tail and the sword with an angular blade tail may have existed together at the beginning (Style I stage), but so far evidence of the Style I sword with an angular blade tail coexisting with Style I sword with a rounded blade tail has yet to be found. It is not clear which of the above two situations is factual. This is the reason why the former type analysis only focuses on "style" instead of "type".

Secondly, from the perspective of morphological characteristics, the evolutionary trajectory of Style I-VI swords is very clear, and the successive relationship between them is almost certain. However, different genetic relationships may exist between swords of the three styles of VI, VII and VIII: one possibility may be "single line" evolution, that is, the sword evolved from Style VI to Style VII and then to Style VIII successively; another possibility may be "double line" evolution, that is, the Style VI evolved into Style VII and VIII, and the latter two coexisted instead of appearing one after the other. A third possibility is that Style VI evolved into Style VIII directly, while Style VII coexisted with the former two, but it did not belong to the same system, and had another source. Because the author believes that the first possibility is more likely, in the previous analysis, the Style VII sword is temporarily placed

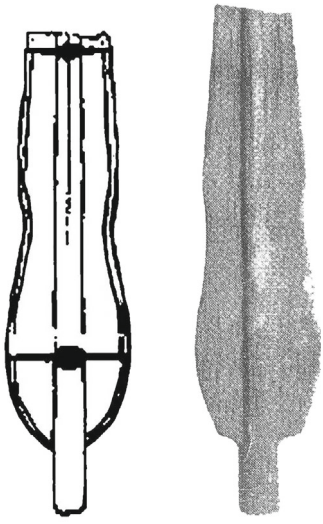

Fig. 4.31 Unearthed in Shenyang South Tower (The left one is a line painting, while the right one is a picture)

between the Style VI sword and the Style VIII sword. The reasons are as follows: (1) the Style VII sword has the same columnar ridge as swords of other styles, so they belong to the same pedigree, (2) the Style VII sword has the same T-shaped hilt as swords of other styles, (3) the Style VII sword seems to be the transitional style between Style VI sword and Style VIII sword, that is, the junction between the back section and the front section of the sword body changed from an arc line to a broken line, until the back section disappeared completely and the sword finally evolved into a long sword with a straight blade.

Thirdly, the bronze short sword of Chengxin Village in Xifeng (Fig. 4.27: 5) and the bronze short sword M6:4 of Shuangfang in Xinjin (Fig. 4.28: 21) come from the middle period and the late period of the Shuangfang culture, respectively. According to the shape characteristics of these two swords, the former could be Style IV, but the differences between it and other Style IV swords are that its tip has no blade, the ridge is very strong, and the whole front section is relatively short. The latter could be Style II, but compared with other Style II swords, the front section is also short and small, the tip has no blade, and the ridge is thick. These two swords resemble the Style IV swords and Style II swords in essence, respectively, but not in shape. Therefore, they may have been Style IV and Style II swords originally, but the front sections were polished during use or while being spread around. In other words, these two swords may be the "modified products" of the Style IV sword and the Style II sword, respectively.

Fourthly, the seriously damaged short swords are not included in the analysis since their overall shape cannot be observed and categorized. The hilt and the hilt end stabilizer of a bronze short sword with a pillar-shaped ridge changed from simple and rough to complex and delicate. However, no further comparison and discussion can be made due to the uncertainty of the synchronic relationship between the sword body, the sword hilt and the hilt end stabilizer.

(2) The typological analysis of the ax with a square hole (mold): according to the published materials, only four specimens clearly coexisted with pottery. The category and age relationship of the four typical specimens lay a foundation for the following typological analysis. First of all, based on the differences between the ax blades, the axes with a square hole (mold), which have been collected up to the present, can be divided into two types. Type A has a wide arced blade, with a sharp upward blade tip and a sharp blade angle. Type B has a narrow arced blade, with a slightly upward blade, and a round and blunt blade angle.

Type A includes eighteen specimens which are divided into three styles.

Eleven specimens belong to Style AI. The four representative specimens (Fig. 4.32: 9–12) are two specimens unearthed from the Erdaohezi No. 1 sarcophagus tomb at Liaoyang, one specimen unearthed from the Fufengtun sarcophagus tomb at Helong (Pei, 1986) and Gangshang M16:7, respectively. The other seven specimens are Gangshang M16:8, Wolongquan M5:3, A:4, and four "*yue* battle ax-shaped bronze axes" unearthed from Wudaolinggoumen in Ji'an (Ji'an County Cultural Relics Custodial Office, 1981).

Four specimens belong to Style AII. Three representative specimens (Fig. 4.32: 5–7) are from the sarcophagus tomb at Chengxin village in Xifeng, the Zhonghoutun

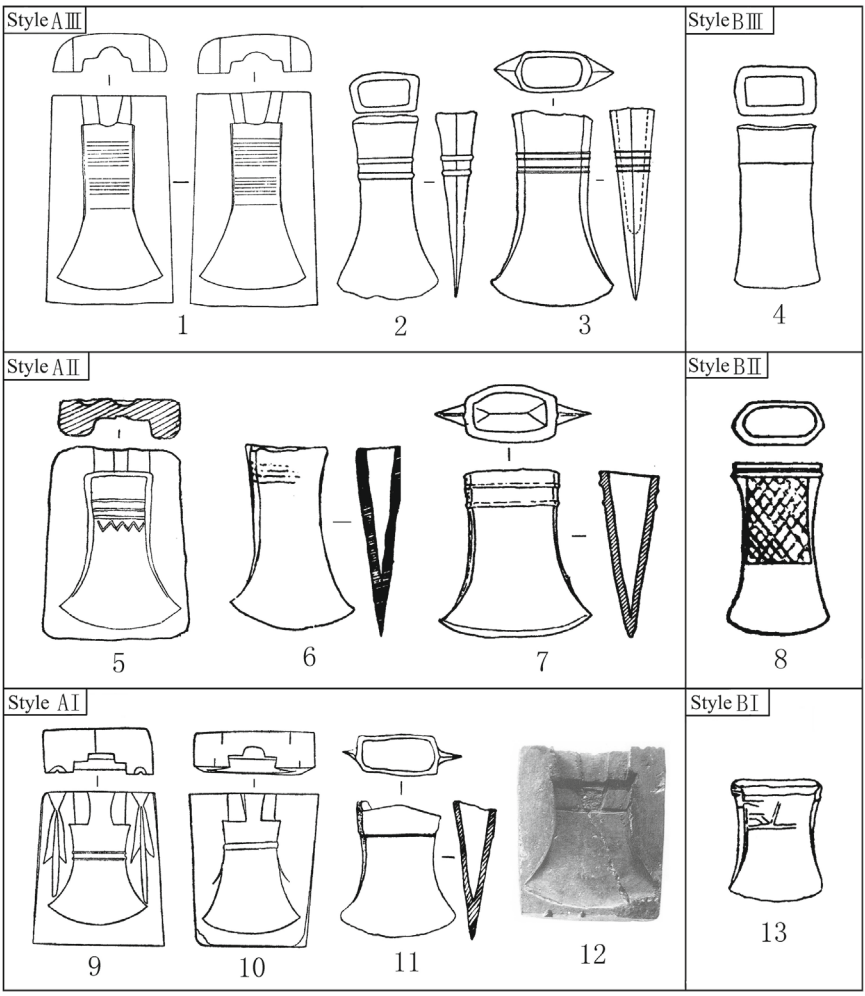

Fig. 4.32 Samples of Style AI-AIII, BI-BIII Axes with a square hole (mold) in the Shuangfang culture. 1 (Shuangfang M6: 5); 2, 4 (Unearthed in Houmuchengyi); 3 (Unearthed in Erdaohezi No. 1 Sarcophagus Tomb Before Excavation); 5 (Sarcophagus Tomb at Chengxin Village); 6 (Zhonghoutun Sarcophagus Tomb at Helong); 7 (No.1 Tomb Surveyed in 1956 from Dahuofang Sarcophagus Tomb); 8 (Unearthed in Zhengjiawazi M6512); 9, 10 (Offcially Unearthed in Erdaohezi No. 1 Sarcophagus Tomb); 11 (Fufengtun Sarcophagus Tomb at Helong); 12 (Gangshan M16: 7); 13 (Unearthed in Sikuaishi Town of Dachangshan in Changhai County)

sarcophagus tomb in Helong and the Dahuofang No. 1 tomb in Fushun, surveyed in 1956 (Sun and Xu, 1964), respectively. The fourth specimen is Zhujiagou M1:1 in Fushun.

Three specimens belong to Style AIII (Fig. 4.32: 1–3). One is Shuangfang M6:5 in Xinjin, another was collected before the excavation of the Erdaohezi No. 1

sarcophagus tomb in Liaoyang, and the third one is from the Houmuchengyi No. 3 sarcophagus tomb in Lüshun.

The evolutionary trend from Style AI to Style AIII is that the axe body changes from wide and short to narrow and long, and the plane shape changes from approximately square to approximately rectangular.

Type B includes eleven specimens which are divided into three styles.

Two specimens belong to Style BI. One representative specimen (Fig. 4.32: 13) is from Sikuaishi Town of Dachangshan in Changhai County (Xu, 1993). The other specimen is from the Menlian sarcophagus tomb in Qingyuan.

Four specimens belong to Style BII. One representative specimen (Fig. 4.32: 8) is from Zhengjiawazi M6512. The other three specimens are from the first site of Zhengjiawazi (Shenyang Municipal Cultural Relics Workstation, 1964), the Guanyinge sarcophagus tomb in Benxi, and the Xinlitun sarcophagus tomb (Liang, 2003), respectively.

Six specimens belong to Style BIII. One representative specimen (Fig. 4.32: 4) is from the Houmuchengyi No. 3 sarcophagus tomb in Lüshun. Among the other five specimens, three are from the tomb at Nanfen railway station in Benxi, one from Wudaolinggoumen in Ji'an, and the last one is from the Xujiagou sarcophagus tomb of Dachangshan in Changhai (Xu, 1993).

The evolutionary trend from Style BI to Style BIII is that the axe body changes from wide and short to narrow and long, and the plane shape changes from approximately square to approximately rectangular.

(3) Typological analysis of the spear with a curved blade: published materials show that three specimens belong to this category and two of them were unearthed together with pottery. The three specimens can be divided into two styles:

One specimen belonging to Style I has a square hole, a pillar-shaped ridge, and a curved blade, but not a sharp point. The specimen is from the sarcophagus tomb of Chengxin village in Xifeng (Fig. 4.27: 6).

Two specimens belonging to Style II both have a round hole and a hollow ridge, but no sharp point. The representative specimen is Zhujiagou M4:1 in Fushun (Fig. 4.28: 8). The other specimen is from the Lijiabu sarcophagus tomb in Qingyuan County.

4.3.4.3 Age Determination of the Short Sword with a Pillar-Shaped Ridge, Axe with a Square Hole and Spear with a Curved Blade

The age of the remains can be divided into three levels: the age of production, the age of use and the age of abandonment. But in actual archaeological work, age determination depends on the specific materials. Sometimes the three ages can be distinguished clearly, sometimes not so clearly, and other times they can hardly be distinguished at all.

Pottery is brittle and easy to break, existing only for a short time between production and abandonment. Therefore, its age level is generally not (in fact, it is difficult to be) subdivided. Its age of production, age of use and age of abandonment are considered to be the same. Compared with pottery, bronzes are hard and cannot be

damaged easily, so they will last a long time. In this way, the time interval between the age of production, the age of use and the age of abandonment will be considered when the age of bronzes is determined. For example, a bronze piece cast in the Western Zhou period may be abandoned in the Spring and Autumn period or later, that is, it can be buried in the same unit as relics of the Spring and Autumn period or later. Therefore, the age of a unit cannot be determined simply as the Western Zhou period just because a bronze piece from the Western Zhou period was unearthed from it, but it may be determined according to the age of pottery unearthed with the bronze piece. If the pottery unearthed in a unit is from the Warring States period, and the bronzes unearthed with it are from the Spring and Autumn period or earlier, the age of the unit can be considered to be the Warring States period, and the coexisting bronzes may be earlier relics used or preserved until the later period. Of course, not all bronzes are unearthed together with pottery and this is often the case in actual excavation. However, in this case, extra attention should be paid to determine the age of bronzes. Sometimes a big deviation may occur if other pieces of evidence are not used sufficiently. For example, when no pottery is unearthed simultaneously, it is dangerous to identify one or several northeast bronzes coexisting with the bronzes of the late Western Zhou period in the Central Plains as relics of the late Western Zhou period. This is because this is only one possibility, and another possibility is that this or this group of northeast bronzes were produced later than the late Western Zhou period. As a matter of fact, dating unknown bronzes, pottery or units with "known" bronzes has been long doubted, but no due attention was paid to it.

For example, when discussing the periodization and chronology of the Xituanshan culture, the following opinion has been put forward: "in the past archaeological chronology studies, bronzes were often used as the basis for dating, and so was the case in the units where bronzes coexisted with pottery. As a result, the later pottery and units were often dated earlier than their actual age. … The reason for this deviation is that pottery is easily damaged and evolves quickly, and one type lasts a relatively short time; while bronzes are durable and evolve slowly, and one type lasts a relatively long time. Therefore, a 'time difference' between the production age of pottery and bronzes in the same tomb may exist. Generally speaking, pottery tends to come later than bronzes. For this reason, bronzes are not used as the basis for dating the Xituanshan culture in this article" (Chen, 1993).

As another example, when it comes to the age of the Shuangfang culture, some scholars pointed out: "no final conclusion can be made about the age of the Shuangfang remains. The short sword with a curved blade unearthed from the Shuangfang No.6 Large stone covered sarcophagus tomb is often used as a yardstick to determine the age, but scholars have different opinions. Some scholars think it is around the middle of the Western Zhou period, while others think it may be as late as the Spring and Autumn period. In our opinion, although the bronze short sword can be used as a basis for dating, pottery with fast changing shapes and obvious characteristics may play a role in comparing the relationships between different cultures and even in determining their age. And the role cannot be ignored" (Wang, 2004).

Based on the above understanding, when it comes to the age of the bronzes unearthed in Northeast China, the author will not use the bronzes themselves or

other coexisting bronzes as the basis of dating, but will use pottery unearthed with the bronzes as the yardstick to determine the age of the bronzes, and on this basis, further infer their production age and their possible duration.

The bronzes of the Shuangfang culture can be divided into eight types according to the above analysis. The short sword with a pillar-shaped ridge can be divided into eight styles, the axe with a square hole can be divided into six styles under two types, and the spear with a curved blade can be divided into two styles. According to their coexistence with pottery, their respective casting ages and durations will be discussed.

Style I and II bronze short swords with a pillar-shaped ridge were unearthed together with the early pottery of the Shuangfang culture in the Shuangtuozi stone tomb M1, the Gangshang tomb M19, the Gangshang tomb M13, the Loushang tomb M6 and the Dajiabang sarcophagus tomb, respectively. According to the results of the previous staging and dating on pottery of the Shuangfang culture, the early pottery of the Shuangfang culture should be relics of the Western Zhou period. Therefore, the casting age of Style I and II bronze short swords with a pillar-shaped ridge cannot be later than the Western Zhou period, or at the latest may be relics of the Western Zhou period. According to morphological observation, a slight difference exists between Style I and II short swords. Judged from the logical developmental order of short swords, the former may be earlier than the latter. The direct evidence is that a close relationship exists between the shape of the *guan* jar with a flared mouth and a round belly unearthed together with the Style I sword from the Shuangtuozi stone tomb M1:4 and the Style AbI *hu* pot with horizontal ears from the Dajiabang sarcophagus tomb and that of similar pottery of the Phase III Shuangtuozi culture (the culture of the late Shang period) (Fig. 4.23: 1, 4), and no big time interval exists between them. Therefore, the casting age of the Style I sword may be early Western Zhou period, while that of the Style II sword may be a little later and in middle and late Western Zhou period.

According to the previous analysis, the Xinjin Shuangfang M6:4 bronze short sword may be a "modified product" of the style II sword (Fig. 4.28: 21). This is because this sword was unearthed together with the late pottery of the Shuangfang culture, so it's age of abandonment may be in the Warring States period. With this artifact as evidence, it can be basically confirmed that the age of use of the Style II sword in the Shuangfang culture may have lasted until the Warring States period.

As for the duration of the Style I sword, since no coexisting artifact explaining this problem has been found at present, it is difficult to determine. (Just as the determination of the production age of bronzes requires pottery unearthed with them as evidence, the determination of the abandonment age and duration of bronzes also requires this kind of evidence. If the coexisting artifact of the later pottery cannot be found, the age of use and the age of abandonment of bronzes cannot be determined. The following similar situations will no longer be consciously mentioned and discussed.)

The shapes of Style III, IV and V bronze short swords with a pillar-shaped ridge are different, and their casting ages may be slightly different. However, based on the currently known coexistence, their casting ages can only be determined as no later

than the Spring and Autumn period. The Style IV sword was unearthed together with the pottery of the middle Shuangfang culture (spring and Autumn period) in M3 of the Shangmashi site in Changhai County, and Style III, IV and V swords and the typical pottery *hu* pot of the middle Shuangfang culture were also found in Zhengjiawazi M6512 in Shenyang. If the Style III and IV swords unearthed in Zhengjiawazi M6512 in Shenyang are considered to be relics of the early period which lasted until the late period and were abandoned together with late relics (Style IV swords) based on the fact that Style IV swords were unearthed together with the pottery of the middle Shuangfang culture (Shangmashi M3) alone, the casting age of Style III and IV swords may be in the early and middle Spring and Autumn period, and Style V swords may appear in the late Spring and Autumn period.

The internal relationship of Style VI, VII and VIII swords has been explained in the previous section. From the perspective of production age, since all of them were once unearthed together with typical pottery of the late Shuangfang culture, including "Yan style pottery", their casting age can be determined as no later than the Warring States period. If the evolutionary relationship between them and the fact that Style VI and VII swords were unearthed together (Shangbao M1), while Style VIII swords were unearthed alone (Yinjiacun M12), are considered further, the casting age of Style VI swords may be earlier than that of Style VIII swords. The former may be relics of the early Warring States period, while the latter may be relics of the late Warring States period. The casting age of Style VII swords may be between them, at the same time as Style VI swords, or at the same time as Style VIII swords.

The axe with a square hole (mold) can be divided into two types, Type A and Type B, and each type can be further divided into three styles, Style I, Style II and Style III. Because Style AI, AII and AIII were unearthed together with the pottery of the early, middle and late Shuangfang culture in the Erdaohezi No.1 sarcophagus tomb, the sarcophagus tomb of Chengxin village in Xifeng, and Shuangfang M6 in Xinjin, respectively, their casting ages should be determined as no later than the Western Zhou period, the Spring and Autumn period, and the Warring States period. It is quite possible that the artifact shape of the former style was used until the time of the later style. Among the three styles of Type B axes with a square hole, only Style BII has a direct coexistence relationship with pottery. That is to say, Style BII axes with a square hole were unearthed together with pottery of the middle Shuangfang culture and Style III, IV, and V swords in Zhengjiawazi M6512 (Fig. 4.27: 11). Therefore, the production age of Style BII can be no later than the Spring and Autumn period or the late Spring and Autumn Period which Zhengjiawazi M6512 belongs to. Although Style BI and BIII were not unearthed together with pottery, if the evolutionary order of Style BI, BII and BIII and the same style characteristics of Type A and B axes with a square hole (mold) are considered, the age of Style BI and AI can be regarded as the same (produced in the Western Zhou period) and the age of Style BIII and AIII as the same (produced in the Warring States period).

The spear with a curved blade is only divided into two styles. Style I was unearthed together with pottery of the middle Shuangfang culture (the stone tomb in Chengxin Village), and Style II was unearthed together with pottery of the late Shuangfang culture (Zhujiagou M4). Therefore, the casting age of the former is no later than the

Spring and Autumn period, while that of the latter is no later than the Warring States period.

According to the above analysis, Style I and II short swords with a pillar-shaped ridge, and Style AI and BI axes with a square hole (mold) can be determined to belong to the early phase of the Shuangfang culture based on their casting ages. Style III, IV and V short swords with a pillar-shaped ridge, Style AII and BII axes with a square hole (mold) and Style I spears with a curved blade can be determined to belong to the middle phase of the Shuangfang culture. Style VI, VII and VIII short swords with a pillar-shaped ridge, Style AIII and BIII axes with a square hole (mold) and Style II spears with a curved blade can be determined to belong to the late phase of the Shuangfang culture. In order to explain them clearly, the chronological relationship and shape evolution of bronze short swords with a pillar-shaped ridge, axes with a square hole (mold) and spears with a curved blade of the Shuangfang culture are shown in Fig. 4.33.

4.4 Chronological Coordinates of Archaeological Cultures of South Liaodong

Based on the above results of the research on the staging and ages of Phase I, II, and III of the Shuangtuozi culture and the Shuangfang culture, the sequence and chronology of the archaeological cultural relics from the Xia period to the Warring States period unearthed in the south of Liaodong can be divided into the following seven stages:

The first stage is represented by Phase I of the Shuangtuozi culture, and its age is the initial stage of the Xia period.
The second stage is represented by Phase II of the Shuangtuozi culture, and its age is from the early Xia period to the early Shang period.
The third stage is represented by the early period of Phase III of the Shuangtuozi culture, and its age is the early period of the late Shang period.
The fourth stage is represented by the late period of Phase III of the Shuangtuozi culture, and its age is the late period of the late Shang period.
The fifth stage is represented by the early Shuangfang culture and its age is the Western Zhou period.
The sixth stage is represented by the middle Shuangfang culture and its age is the Spring and Autumn period.
The seventh stage is represented by the late Shuangfang culture and its age is the Warring States period.

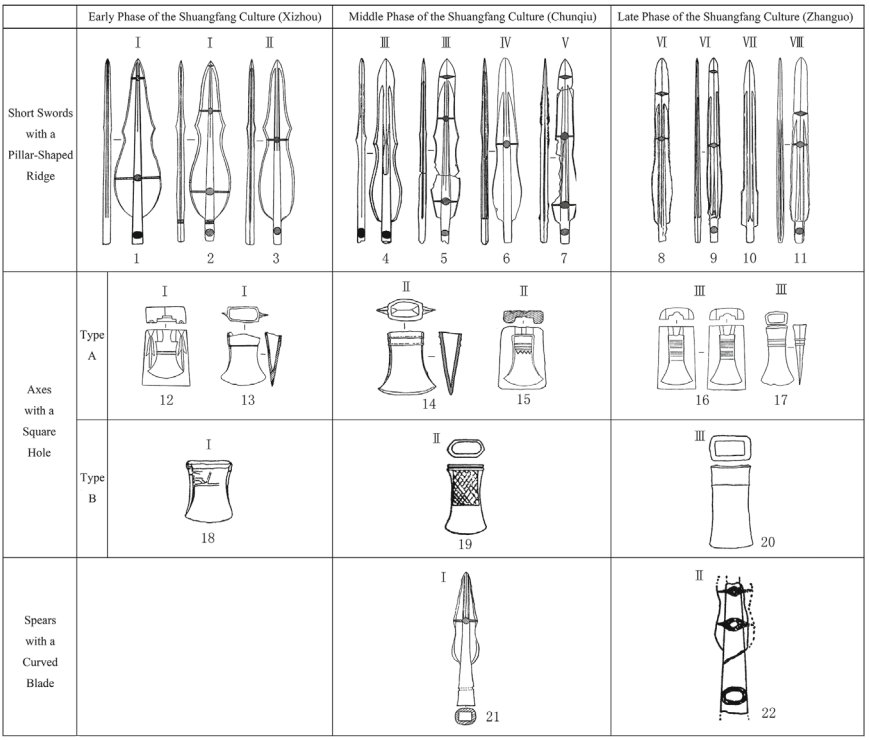

Fig. 4.33 Age comparison among bronze short swords with a pillar-shaped ridge, axes with a square hole (mold) and spears with a curved blade. 1. Qingyuan Lijiabu; 2. Liaoyang Erdaohezi; 3. Lüda Gangshang M6: 7; 4. Dongliao Yaolingzi; 5, 7. Shengyang Zhengjiawazi M6512: 1, 2; 6. Lüda Wolongquan; 8. Benxi Shawo; 9. Benxi Shangpu M1: 3; 10. Changtu Zhaijiacun; 11. Lüda Yinjiacun M12: 8; 12. Liaoyang Erdaohezi No.1 Sarcophagus Tomb; 13. Xifeng Fufengtun; 14. Fushun Dahuofang No.1 Tomb (1956); 15, 21. Xifeng Chengxin Village; 16. Lüda Shuangfang M6: 5; 17, 20. Lüda Houmuchengyi; 18. Sikuaishi Town of Dachangshan in Changhai County; 19. Shenyang Zhengjiawazi M6512; 22. Zhujiagou M4: 1

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Chapter 5
Staging and Chronology of Archaeological Cultures in North Liaodong

Abstract The fifth chapter focuses on the staging and chronology of archaeological cultures in northern Liaodong. Its innovative contribution lies in the first-time inclusion of several previously identified remains in this region—namely, the so-called "Upper Xinle culture" of Shenyang, the "Shunshantun type" of Kangping, the "Wanliu remains" of Faku, and the "Wanghua remains" of Fushun—into the category of the Machengzi culture through rigorous argumentation. It is pointed out that these remains are actually part of the Machengzi culture, which serves as a collective designation for archaeological cultural remains of the Xia and Shang periods in northern Liaodong. Based on an analysis and comparison of stratigraphic relationships and artifact co-occurrence patterns, the Machengzi culture and the Shuangfang culture in this region are divided into five stages: the early Xia and Shang periods (early Machengzi culture); the late Shang period (late Machengzi culture); the Western Zhou period (early Shuangfang culture); the Spring and Autumn period (middle Shuangfang culture); and the Warring States period (late Shuangfang culture).

The northern part of Liaodong area refers to the vast area to the north of the Yingkou-Dandong line, south of the three main sources of the West Songhua River (the Huifa River, the Toudao River and the Erdao River), west of the Yalu River, and east of the main channel of the lower reaches of the Liaohe River and its tributary, the Xiushui River. This area mainly consists of the Liaodong mountains and hills and only a small part in the west belongs to the Liaohe Plain (Fig. 1.1: 5).

Two archaeological cultures from the Xia period to the Warring States period found in this area are the earlier Machengzi culture and the later Shuangfang culture. The Shuangfang culture was an archeological culture that covered this area after the Machengzi culture, from the Western Zhou period to the Warring States period. Only the connotations, periodization and age of the Machengzi culture will be discussed here, since the Shuangfang culture has been analyzed in-depth in the previous section on archaeological culture periodization and chronology in the south part of Liaodong.

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5.1 The Machengzi Culture as the Full Name of the Xia and Shang Remains in North Liaodong

A large number of relics belonging to the Xia and Shang periods have been found in the north Liaodong area, especially in Shenyang, Kangping, Benxi, Fushun and other places to the east of the Liaohe River and the Xiushui River, with Taizi River Basin as the center, and many cultural names have been put forward according to past work and experience. For example, the "upper Xinle culture" (Shenyang Municipal Cultural Relics Administration Office, 1978), "Laohuchong type" (Qu, 1981; Chen, 1989), "Shunshantun type" (Tian, 1988), " Wanghua type" (Archeological Team of Fushun Municipal Museum, 1983), "Miaohoushan culture" (Li, 1985), "Machengzi culture" (Li, 1992), etc. Apart from the "Machengzi culture", which is another name for the "Miaohoushan culture", the other five names mentioned were originally used to refer to different archaeological cultures, or at least to express the difference between these kinds of remains and other cultural remains that have been found.

Through comprehensive collection and analysis of the field archaeological remains of the above "cultures", it is not difficult to find that the so-called "upper Xinle culture", "Laohuchong type", "Shunshantun type", "Wanghua type", and even the "Miaohoushan culture", are only based on one or two periods of work on a site. Therefore, the temporospatial category and cultural content they refer to are both vague and limited.

In fact, based on the current point of view, these relics or batches of remains should belong to the same archaeological culture,[1] collectively referred to as the "Machengzi culture", especially considering the archaeological cultural pattern and genealogical relationship of the Xia, Shang and Zhou periods in Northeast China.

There are several reasons for this conclusion:

Firstly, from the perspective of time, these relics are basically of the same period, and are relics of the Xia and Shang periods. They are all older than the Shuangfang culture, which began to appear in this area during the Western Zhou period and featured pottery with horizontal ears and bronze short swords with pillar-shaped ridges. The previous opinions are relatively consistent on this point.

Secondly, from the perspective of space, they have a common distribution area, which is the north of Liaodong, to the east of the Xiushui River and the main channel of the Liaohe River. To the south of this area are Phase I, II, and III of the Shuangtuozi culture, and to the west is the coexisting Gaotaishan culture. It did not become an area of activity of the Gaotaishan culture to the west and Phase I, II, and III of the Shuangtuozi culture to the south, because another archaeological culture represented by the above relics existed here. The differences in the distribution of these relics may be due to the lack of field work. In other words, these differences may be understood as the differences between individual sites and cemeteries within the culture, rather than the differences in the distribution area of the whole archaeological culture.

[1] The materials published on the "Laohuchong type" are sporadic. Being judged from the existing pottery, only two pieces of pottery, a yan steamer and a guan jar with double ears, can be classified into this culture. Other pottery belongs to the Shuangfang culture after it.

Thirdly, from the perspective of cultural nature, the differences in the combination of artifacts among these relics may show the differences between the relics and remains that are different in nature within the same culture, rather than the differences between different cultures. According to the artifacts found at present, the "Miaohoushan culture" mainly consists of tombs, so most of the unearthed pottery is hu pots and guan jars. The "upper Xinle culture" and "Wanghua type" are mainly sites, so most of the unearthed pottery is ding tripods and li tripods. The "Shunshantun type" consists of remains with both sites and tombs, so the unearthed pottery includes ding tripods, li tripods, hu pots, guan jars, and so on. The differences between the earth pit tombs of the "Shunshantun type" and the cave tombs and sarcophagus tombs of the "Miaohoushan culture" may be caused by the strict differences between the burial methods of public cemeteries and site tombs at that time. In other words, the site tombs and cemetery tombs are different in nature.

Fourthly, the pottery unearthed from sites and the pottery unearthed from tombs are different and did not coexist with each other, which is a major feature of the archaeological culture from the Bronze Age to the early Iron Age in Northeast China. It is also a common phenomenon in other archaeological cultures, apart from the lower Xiajiadian Culture. For example, the Gaotaishan culture and the Xituanshan culture have this feature, as does the Baijinbao culture and the Phase II Hanshu culture. This proves that the differences between the site remains represented by the "upper Xinle culture" and the tomb remains represented by the "Miaohoushan culture" in north Liaodong may reflect the same situation, that is, the differences between the site remains and tomb remains within the same archaeological culture.

Fifthly, ding tripods instead of li tripods are the major pottery cooking utensils in the "upper Xinle culture", "Wanghua type", "Shunshantun type" and "Wanliu remains" to the east of the Xiushui River and the main channel of the lower Liaohe River, whose main remains are sites. Like in the Gaotaishan culture, li tripods, instead of ding tripods, are also the major cooking utensils in the upper Xiajiadian culture, the Baijinbao culture and Phase II of the Hanshu culture in the western part of Northeast China (from the eastern culture). Both the li tripods here and the li tripods in the Xituanshan culture can be regarded as a testimony to the cultural exchanges between the east and the west (from the western culture), rather than the mainstream of the local culture.

Based on the above five aspects, the author believes that the so-called "upper Xinle culture", "Laohuchong type" (only a few remains), "Shunshantun type", "Wanghua type" and "Miaohoushan culture" found in this area in the past may all be the same culture. The naming of it can be discussed further. In order to make it simple and avoid confusion with other names, the "Machengzi culture" proposed by Report of the Machengzi is borrowed and used here.

Due to the differences between pottery unearthed from sites and tombs of the Machengzi culture, their respective staging will be discussed first, then the staging of the sites and the tombs will be compared, and finally the staging and the age of the Machengzi culture will be discussed.

5.2 Periodization of the Tomb Remains of the Machengzi Culture

According to the published materials, the tombs from the Machengzi Culture are mainly divided into cave tombs and sarcophagus tombs.

There is a large number of cave tombs, and as many as a dozen sites have been excavated. Results from the excavation materials of the following seven cave tombs have been published (Liaoning Provincial Institute of Archaeology et al., 1994). They are Cave A, Cave B, and Cave C in Machengzi, Benxi; Cave B and Cave C in Shanchengzi (Shanchengzi is also called Miaohoushan, and Cave A is a Paleolithic site), Cave A in Zhangjiabao and Cave A in Beidian. The materials from the Shuidong Cave in Benxi (Qi et al., 1988), the Laolabeidong Cave, the Sanjiaodong Cave (Qi, 1987), the Niuxinshan Cave in Xinbin and the Dongsheng Cave (Li, 1989) have also been partially disclosed. Although some field work has been done in other locations, such as the Jinbian Temple, the materials have not yet been published (Fushun Museum et al., 2002).

On the contrary, studies on materials from sarcophagus tombs are less published, except for those excavated from the Laocheng village in Xinbin (Li et al., 1993) and in Lianshanguan and Xiamatang, Benxi (Wei, 1991). Most of the materials found in the sarcophagus tombs have been collected. However, judging from the type and shape of the sarcophagus tombs, the pottery artifacts unearthed from these tombs should be of the same nature as those unearthed from the cave tombs found in Machengzi. Therefore, they should also be identified as tombs from the Machengzi culture. Since this type of materials is scarce and the excavated relics belong to the same time period as the cave tombs, the following research on the Machengzi tombs is mainly based on the currently published materials on Cave tombs. And in respect of sarcophagus tombs, the scattered materials collected from other locations will not be discussed, except for the materials from Laocheng in Xinbin, Lianshanguan and Ximatang in Benxi, Shuyatun in Tieling and Dalishugou in Huanren.

5.2.1 *Grouping Study of Seven Cave Tombs as Published in the* Machengzi *Report*

The burial materials of the seven caves, the results of which are published in the *Machengzi* report, are Cave A tomb in Zhangjiabao; Cave A tomb in Beidian; Cave A, B and C in Machengzi; and Cave B and C in Shanchengzi (the unmarked source for the Machengzi cultural burial materials are from this report). Clear stratigraphic relationships can only be detected between Cave A tombs in Zhangjiabao and Cave C tombs in Shanchengzi (Liaoning Provincial Institute of Archaeology et al., 1994). Therefore, the results of the group study on these two cemeteries will serve as a criterion for determining other tomb groups lacking stratification.

5.2.1.1 The Grouping of the Stratigraphically Related Tombs of Cave A in Zhaghuabao and Cave C in Shanchengzi

According to the *Machengzi* Report, there are 52 tombs in Cave A in Zhangjiabao, from the Stratums ②, ③, and ④.

Stratum ②: 18 tombs, they are M1—10, M15—18, M26, M39, M42, and M48.

Stratum ③: 21 tombs, they are M11—14, M19—25, and M27—36.

Stratum ④: 13 tombs, they are M37, M38, M40, M41, M43—47, and M49—52.

There are 12 tombs in Cave C in Shanchengzi, which are all from the Stratums ②, ③, and ④.

Stratum ②: 6 tombs, they are M1—3 and M8—10.

Stratum ③: 3 tombs, they are M4, M5, and M11.

Stratum ④: 3 tombs, they are M6, M7, M12.

According to the grouping and staging result reported in *Machengzi*, the Cave A tombs in Zhangjiabao and the Cave C tombs in Shanchengzi fall into two periods: the early and the late periods. Among them, the tombs at stratum ④ and ③ from Cave A in Zhangjiabao and the tombs at stratum ④ and ③ from Cave A in Shanchengzi belong to the same period, which are earlier than the tombs at stratum ② from Cave A in Zhangjiabao and the tomb at stratum ② from Cave C in Shanchengzi.

After examining the tombs containing pottery in the two cemeteries, it is evident that the basic pottery assemblages found in both caves include *hu*-vessels, *guan* jars, *pen* basins, *bo* bowls and *wan* bowls. There are certain differences in shape among pottery artefacts from the same category, which is due to the tombs' different stratums, as well as the differences between the tombs at stratum ④ and the tombs at stratum ③ and ②. In other words, there is a small difference in pottery between the tombs at stratum ③ and stratum ②, but the pottery from the tombs at stratum ③ are distinct from those found in the tombs at stratum ④. Another discovery is that the pottery pieces from the tombs at stratum ④ in both cemeteries have a lot in common while those found in the tombs at stratums ③ and ② in both cemeteries have great similarities. For example, among the tombs at stratum ④ in both cemeteries, the shape of the *pen* basin M7: 6 from Cave C in Shanchengzi is exactly the same as the *pen* basin M46: 2 from Cave A in Zhangjiabao. And if we compare the shape of the *hu* vessel M12: 4 from Cave C in Shanchengzi with the *hu* vessel M37: 1 from Cave A in Zhangjiabao, their bellies are both tall and bulging and the design of their mouth is quite similar. The double overlapping lips of the mouth of the *guan* jar M12: 3 from Cave C in Shanchengzi is exactly the same as the one featured on the *pen* basin M46: 4 from Cave A in Zhangjiabao—in fact, it seems to have been made from the same mould.

Here is another example. The *hu*-vessel M2: 2 with a *wan* bowl-like mouth found at stratum ② in Shanchengzi is identical to the *hu* vessels M31: 7 and M34: 12 from Cave A in Zhangjiabao at Stratum ③. The mouth of the *hu* vessel M11: 8 found in Shanchengzi at stratum② has the same shape as M2: 5, M8: 4, M9: 9, M17: 10, M20: 17 from Cave A at stratum ② in Zhangjiabao, whose mouth is flared like a trumpet. In addition, the *hu* vessel M5: 4 from Cave C at stratum ③ in Shanchengzi is similar in its overall shape to the *hu* vessel M24: 4 at stratum ③ and the *hu* vessel M7: 10

from Cave A at stratum ② in Zhangjiabao. The shape of the *pen* basin M9: 4 from Cave A at stratum ② in Shanchengzi is basically the same as the *pen* basin M33: 19 from Cave A at stratum ③ in Zhangjiabao.

Based on these comparisons of the pottery unearthed from the above tombs, it is now reasonable to believe that the Cave A tombs at stratum ③ in Zhangjiabao and the Cave C tombs at Stratum ②, rather than at Stratum ④ in Shanchengzi, are from the same period, which is different from the results of the first report. That is, without changing the burial order of the tombs at various stratums (as per original report), the 64 tombs unearthed from the two cemeteries in Zhangjiabao's Cave A and Shanchengzi's Cave C can be reclassified as belonging to the early and late groups, respectively. Therefore, this reclassification is both different from and related to the grouping and staging established in the *Machengzi* report.

Group 1 consists of 13 tombs from Cave A at stratum ④ in Zhangjiabao and 3 tombs from Cave C at stratum ④ in Shanchengzi. They belong to the early period.

While Group 2 consists of 39 tombs from Cave A at stratum ③ and ② in Zhangjiabao and 9 tombs from Cave C at stratum ③ and ② in Shanchengzi, which are relatively late.

5.2.1.2 The Grouping of Five Other Cave Tombs That Are Not Stratigraphically Related

Because of the lack of overlapping or interweaving relationship between Cave A tombs in Beidian, Cave B tombs in Shanchengzi and Cave A, B, and C tombs in Machengzi, further analysis of these cave tombs was not undertaken. However, the following prediction was made after a direct comparison of the burial objects: firstly, all the tombs unearthed from Cave A and C in Machengzi are from the same period as the tombs from Cave A in Zhangjiabao at stratum ② and Cave C in Shanchengzi at stratum ②; secondly, the tombs from Cave B in Shanchengzi and Cave A in Zhangjiabao at stratum ④ and ③, and Cave C in Shanchengzi at stratum ④ and ③ are from the same period; thirdly, all tombs from Cave B in Shanchengzi and Cave A in Beidian predate the tombs from Cave A in Zhangjiabao at stratum ③ and ④ or Cave C in Shanchengzi at stratum ④ and ③.

Based on the author's analysis and comparison, it has been established that all the burial sites generally share similar features, except for 22 tombs unearthed from Cave A in Machengzi (there are no pottery in 7 tombs). The 22 tombs are from the same period as Zhangjiabao's Cave A at stratum ② and Shanchengzi's Cave C at stratum ②. In addition, there are three tombs in the other four caves (Cave B in Shanchengzi, Cave B and C in Machengzi) which can be further divided into different age groups according to the different pottery found in the burial sites. One cave (Cave A in Beidian) could not be included in any group, but the overall age is substantially different from the original report. The specific analysis is as follows:

(1) Burials from Cave B in Shanchengzi: A total of 11 tombs were discovered, all of which contained pottery. They can be classified into two groups based on the coexistence of pottery artefacts and their shape.

Group 1 includes M2, M3, M4, M5, M8, and M9. The unearthed pottery was similar to the first group of pottery found in Shanchengzi's Cave C and Zhangjiabao's Cave A. For example, the *pen* basin M9: 2 is the same in shape as M7: 6 from Shanchengzi's Cave C at Stratum ④; *pen* basins with overlapping lips, M4: 2 and M3: 1, were the same as the *pen* basin M7: 2 from Shanchengzi's Cave C at stratum ④. Compared with *hu* vessels found at Stratum ④ in Zhangjiabao's Cave A (M44: 3 and M45: 7), the mouth of M9: 4 was identical in style. The overall shape of the *hu* vessel M5: 9 from Cave B in Shanchengzi was closer to that of M41: 4 from Cave A at stratum ④ in Zhangjiabao. Based on this observation, it can be established that this group of tombs coincides with the first group of Cave A in Zhangjiabao and Cave C in Shanchengzi.

Group 2 comprises M1, M6, M7, M10, M11. The artifacts from Cave C in Shanchengzi share many similarities with the two groups of pottery from Cave A in Zhangjiabao. For example, M11: 12, a *pen* basin with lugs and cone patterns, is similar in shape to M9: 4 from Cave C in Shanchengzi at stratum ②. M7: 9, a *wan* bowl with overlapping lips and purfled brim is exactly the same as M11: 1 from Cave C in Shanchengzi at stratum ③. Moreover, the overall style of M10: 1, M11: 7, two *guan* jars with straight mouth and lugs, is very similar to M9: 3 from Cave C in Shanchengzi at stratum ②. In addition, the *hu* vessels M1: 3 and M25: 3 from Cave A in Zhangjiabao at stratum ③ have the same shape characteristics. Similarly, the *guan* jar M6: 4 shares the same shape as M6: 5 from Cave A in Zhangjiabao at stratum ②. From this perspective, the age of this group of tombs should be the same as the two groups of tombs from Cave A in Zhangjiabao and Cave C in Shanchengzi.

(2) Burials from Cave B in Machengzi: A total of 14 tombs were discovered, of which 13 can be classified into two groups based on different burial artefacts, except for M6 where no pottery was found.

Group 1 includes M7, M8, M9, M10, M12, and M13, where the unearthed pottery is similar to Group 1 in Shanchengzi's Cave B. For example, M13: 9, a *hu* vessel with a straight neck and a round belly, has similar morphological characteristics to M9: 4 from Cave B in Shanchengzi. Another two *hu vessel*s with a bundle mouth, M9: 1 and 3, are basically the same as M5: 9 from Group 1 of Cave B in Shanchengzi. This shows that the Group 1 tombs from Cave B in Machengzi and Group 1 of Cave B in Shanchengzi are from the same period; that is, the tombs from Cave A in Zhangjiabao and those from Group 1 of Cave C in Shanchengzi are from the same period.

Group 2 includes M1, M2, M3, M4, M5, M11, and M14, where the unearthed pottery pieces share great similarities with the pottery found in Group 2 tombs from Cave A in Zhangjiabao and the Cave A tombs in Machengzi. For example, the mouth brim of two *hu* vessels with a straight mouth, M5: 23 and 25, have the same shape and characteristics as the mouths of M4: 1 and M2: 15 from Cave A at stratum ② in Zhangjiabao. Comparing the heaped patterns featuring on M1: 5, a *guan* jar with a round belly and a contracted mouth, and those on M23: 3, a *guan jar* with a high belly and a high neck from Cave A in Machengzi, it is evident that they are exactly the same. In addition, the heaped patterns on M4: 5, a *guan* jar with a round belly and a converging mouth, and on M11: 3, a guan jar with a high neck and high belly jar, are exactly the same as two similar objects (M12: 18, M18: 17) unearthed from

Cave A in Machengzi. It demonstrates that the burial assemblage from Cave B in Machengzi should be from the same period as the Group 2 tombs from Cave A in Zhangjiabao and those from Cave A in Machengzi.

(3) Burials from Cave C in Machengzi: A total of 23 tombs were discovered, of which 18 can be classified into two groups based on different burial artefacts, except for 5 tombs where no pottery was found.

Group 1 includes M1, M4, M6, M23, where the number of unearthed pottery pieces is low. As far as the shape of the vessels is concerned, the *hu* vessels M6: 2 and M1: 1 are similar to M37: 1, a *hu* vessel found in Cave A at stratum ④ in Zhangjiabao and M8: 6, another *hu* vessel from Group 1 of Cave B in Shanchengzi respectively. The shape of M23: 1, a *pen* basin with a converging mouth, is the same as M13: 10 from Group 1 of Cave B in Machengzi. Therefore, it can be inferred that the tombs from this group should belong to the same period as Group 1 of Cave A in Zhangjiabao, Group 1 of Cave B in Shanchengzi and Group 1 of Cave B in Machengzi.

Group 2 includes 2, 3, 5, 7, 8, 10, 11, 12, 13, 14, 16, 17, 21, 22, among which three *hu* vessels with straight mouth brim, M3: 14, M11: 7 and M17: 3, share the same shape and characteristics with M4: 1 and M2: 15, two *hu* vessels from Cave A at stratum ② in Zhangjiabao. M7: 3, a *guan* jar with horizontal handles, is similar to two other *guan* jars with horizontal handles, M6: 2 and 13 from Cave A at stratum ② in Zhangjiabao. The rims of *guan* jars with applique, M2: 5 and M11: 5, are the same in shapes as the brim fragments of M23: 3 from Cave A in Machengzi and those of M5: 29 from Group 2 of Cave B in Machengzi. The *guan* jar with a contracted mouth M11: 12 is similar to M5: 29 from Group 2 of Cave B in Machengzi. Based on these comparisons, it can be concluded that this group of tombs belong to the same period as Group 2 of Cave A in Zhangjiabao and Group 2 tombs of Cave B in Machengzi.

(4) Burials of Cave A in Beidian: A total of 4 tombs (M1-4) were found, all with pottery. According to the segmentation reported in Mach*engzi*, these four tombs were earlier than all the tombs unearthed from Cave A in Zhangjiabao and Cave C in Shanchengzi. In fact, by carefully observing the pottery unearthed from these tombs and comparing it with pottery from other cave tombs, it is clear that M2: 1, a *guan* jar with a heaped-patterned mouth and round body, is identical to the jars M4: 5 from Group 2 of Cave B in Machengzi and M2: 18 of Cave A in Machengzi. The brims of the *guan* jars with a straight mouth and heaped patterns, M3: 2, 3, and M4: 4, are exactly the same in shape and characteristics as those featured on M1: 5 from Group 2 of Cave B in Machengzi, M2: 5 from Group 2 of Cave C in Machengzi and M23: 3 of Cave A in Machengzi. In addition, pottery artefacts such as the *bo* bowls with outer overlapping lips and the *bo* bowls with a contracted mouth and straight body unearthed from M1-M3 can also be found in the Group 2 tombs of Cave A in Zhangjiabao and the Group 2 tombs of Cave B in Machengzi. This proves that the four tombs unearthed from Cave A in Beidian are not from an earlier period, but their age should actually be the same as those unearthed from Group 2 of Cave A in Zhangjiabao, Group 2 of Cave B in Machengzi, and Cave A in Machengzi.

Based on the above analysis, the grouping of the seven cave cemeteries established in the *Machengzi* report can be summarized into the following two major chronological groups.

Group One: From the early period, it mainly includes M37, M38, M40, M41, M43-47, M49-52 from the fourth stratum of Cave A in Zhangjiabao; M6, M7, M12 from the fourth stratum of Cave C in Shanchengzi; M2, M3, M4, M5, M8, M9 from Cave B in Shanchengzi; M7, M8, M9, M10, M12, M13 from Cave B in Machengzi and M1, M4, M6, M23 from Cave C in Machengzi.

Group Two: From a relatively later period, it mainly includes M11-14, M19-25, M27-36 from the third stratum of Cave A in Zhangjiabao; M1-10, M15-18, M26, M39, M42, M48 from the second stratum of Cave A in Zhangjiabao; M4, M5, M11 from the third stratum, M1-3 and M8-10 from the second stratum of Cave C in Shanchengzi; M1, M6, M7, M10, M11 from Cave B in Shanchengzi, M1, M2, M3, M4, M5, M11, and M14 from Cave B in Machengzi; 2, 3, 5, 7, 8, 10, 11, 12, 13, 14, 16, 17, 21, 22,from Cave C in Machengzi; M4, M28, M3, M27, M1, M2, M5, M23, M9, M19, M21, M29, M4, M28, M3, M27, M1, M2, M5, M23, M9, M19, M21, M29, M6, M8, M18, M7, M12, M10, M15, M25, M11, M26 from Cave A in Machengzi; and M1-4 from Cave A in Beidian.

5.2.1.3 Comparison Between the Grouping of This Study and the Periodising Results of the *Machengzi* Report

Compared with the periodising results established in the *Machengzi* report and the chronological grouping proposed in this study (see above), both bear similarities and differences.

First of all, when examining and summarizing the age of the two tombs from Cave A in Zhangjiabao and Cave C in Shanchengzi, the two studies determined the same stratigraphical relationship and agreed on the identified burial sequence. In addition, they both refuted the possibility of further division of tombs within the same stratum. However, the *Machengzi* report argues that the third stratum tombs should belong to the same period as the fourth stratum tombs, whereas this study postulates that the third stratum tombs belong to the same period as the second stratum tombs.

Secondly, it is believed that further grouping between the tombs of the two cemeteries are not necessary, and that they could belong to two independent groups when studying the Cave A tombs in Machengzi and Cave A tombs in Beidian. In terms of age determination, it is believed that the age of Cave A in Machengzi is similar to the age of the Cave A tombs at stratum ② in Zhangjiabao and the Cave C tombs at stratum ② in Shanchengzi. The difference is that the *Machengzi* report stipulates that Cave A in Beidian is the earliest, even earlier than the first tombs in the two cemeteries, that is Cave A in Zhangjiabao and Cave C in Shanchengzi. This study postulates that Cave A in Beidian should be contemporaneous to Cave A in Zhangjiabao and the second and third stratum tombs in the two cemeteries contemporaneous to Cave C in Shanchengzi.

Table 5.1 Comparison of the staging results of the *Machengzi Report* and the grouping results of this study

	staging results of the *Machengzi Report*			the grouping results of this article	
Tombs	early	middle	late	Group 1 (early)	Group 2 (late)
Cave A in Zhangjiabao		④③	②	④	③②
Cave C in Shangchengzi		④③	②	④	③②
Cave B in Shangchengzi		√		Group 1	Group 2
Cave B in Machengzi	√			Group 1	Group 2
Cave C in Machengzi			√	Group 1	Group 2
Cave A in Machengzi			√		√
Cave A in Beidian	√				√

Moreover, the *Machengzi* report assumes the tombs of Cave B in Machengzi, Cave B in Shanchengzi and Cave C in Machengzi are from different periods, solely based on pictorial evidence rather than an analysis of the age of the tombs in each cave. In this study, the tombs unearthed in each of the three caves have been reclassified into chronological groups, based on an analysis of the differences in the ceramic assemblages and the shapes and styles of the burial pottery. Through comparison and analysis of the artefacts, this study then puts forward the theory that the early Group 1 belongs to the same period as Cave A in Zhangjiabao and Group 1 of Cave C in Shanchengzi, while the late Group 2 belongs to the same period as Group 2 of Cave A in Zhangjiabao and Group 2 of Cave C in Shanchengzi.

Another significant difference is that the *Machengzi* report divides the seven cave tombs into three chronological phases, while this article reclassifies them into two groups (phases) subsequently.

For the convenience of this study's comparative approach, the staging results of the *Machengzi* report and the grouping (periodising) established in this study are recorded into a table, which is Table 5.1.

5.2.2 Grouping Study of Tombs Unearthed from Other Sites

In addition to the seven cave tombs examined in the *Machengzi* report, a small amount of tomb pottery has also been discovered in Water Cave (Qi et al., 1988), Laolabei Cave and Sanjiao Cave in Benxi (Qi, 1987), Niuxinshan Cave and Dongsheng Cave in Xinbin (Fushun Museum et al, 2002).

In terms of the shape of the vessels with a bulging belly and high neck, a *hu* vessel with a bell-shaped mouth and a bulging belly, and a *wan* bowl with a ring foot and a bulging belly unearthed in Laolabei Cave (see Fig. 5: 3, 7 and 6 in the original report) resemble the *hu* vessel M4: 2 from Cave A in Machengzi, as well as the *hu* vessels M27: 2 and M5: 7, and the *guan* jar M12: 9.

The overall shape of the *guan* jar with a bulging belly and an applique patterned mouth, and of the high-bellied, collared *guan* jars unearthed from Laolabei Cave No. 2 and Triangle Cave (see Fig. 3: 8 and Fig. 6: 1, 4 in the original report) is similar to M12: 18 unearthed from Cave A in Machengzi and to the vessels of the same category as M18: 7.

In addition to the relics from the Neolithic period, there are also burial pottery artefacts from the Machengzi culture among the "relics unearthed from the lower stratum" of Water Cave in Benxi. A *guan* jar with legs and straight belly (see Fig. 1: 14 in the original report) is similar in shape to M9: 3 from Group 2 of Cave C in Shanchengzi.

The pottery unearthed in Niuxinshan and Dongsheng Caves are exactly the same. Among them, a *guan* jar and a *wan* bowl with horizontal handles (see Fig. 3: 1, 3, 4, 5, 6, 10 in the original report) have the same short bodies and slightly indented mouths, their shape being similar to the large number of objects unearthed from Group 2 tombs of Cave A in Zhangjiabao. The belly of the pot drops significantly (see Fig. 2: 1, 2 in the original report), exactly like the M2: 1 and M21: 3 pots in the Group 2 tombs of Cave C in Machengzi.

It is not difficult to see through careful comparison that a small number of tombs unearthed in the above five caves might be from the same period as the Cave A tombs in Machengzi, Group 2 tombs of Cave A in Zhangjiabao and Group 2 tombs of Cave C in Machengzi. So, the tombs in these five caves can be classified into the second group of cave tombs in the *Machengzi* report.

There are only a few sarcophagus tombs from the Machengzi culture. Two of them were discovered at Lianshanguan and Xiamatang in Benxi (Wei, 1991). Judging from the shape of the unearthed pots, they may be classified into the second group of cave tombs, which indicates they are from the same period. The burial assemblages of the four sarcophagus tombs found in Laocheng, Xinbin (Li, 1993) are identical from the following aspects: they are all oval-shaped vessels with vertical ears, *hu* vessels with a small mouth, a falling belly and two lugs, and *pen* and *ho* vessels with horizontal ears or lugs. However, the pottery unearthed in M2 and M3 dates from an earlier time in terms of shape, while the pottery unearthed in M1 and M4 is relatively late. Compared with the cave tombs examined in the *Machengzi* report, the *hu* vessel with vertical handles M4: 1 is similar in style to those from Group 2 of Cave A in Zhangjiabao (M25: 1, M28: 6) and the *hu* vessel with a small mouth, falling belly and two lugs M4: 1 is similar to M2: 12 of Cave A in Zhangjiabao. M1: 4, a *wan* bowl with lugs, is the same in shape as M11: 13 from Cave A in Machengzi. This indicates that M1 and M4 should belong to the same period as the second group of tombs reported in *Machengzi*. While M2: 2, a *hu* vessel with vertical handles, and M2: 6 and M3: 3, *hu* vessels with a small mouth, falling belly and two lugs should be seen prototypes for M4: 4, a *hu* vessel with vertical handles and ears and for M4: 1, a *hu* vessel with a small mouth, falling belly and two lugs. So these should be from an earlier period, perhaps from the same period as the group of tombs reported in *Machengzi*.

Among the sarcophagus tomb materials, a handleless *hu* vessel with a high neck unearthed in Shuyatun, Tieling (Liaoning Tieling Cultural Relics Group, 1981),

derives from a handleless pot (M12: 4) from the first group of Cave C in Shanchengzi. It should therefore belong to the same period as M10: 4, a later pot of from Group 2 of Cave C in Shanchengzi. The pottery unearthed from the Dalishugou Sarcophagus Tomb in Huanren county (Liang, 1991), a *hu* vessel with a vertical collar and a round body and a *hu* vessel with a wide flared mouth and an everted belly (see Fig. 2: 7 and 10 in the original report), share the shape of the pots M2: 15 and M4: 1 from Group 2 and the pot M20: 8 respectively. Compared with the known materials, the bowl with an everted belly and a ring foot (see Fig. 2: 12 in the original report) is similar to the bowl from late period of the Gaotaishan Culture and a *wan* bowl with a bulging belly and a ring foot (see Fig. 2: 13 in the original report) is similar to the bowl M12: 19 of Cave A in Machengzi. Therefore, it can be concluded that the pottery unearthed from the sarcophagus tomb in Dalishugou, Huanren county is contemporaneous to the pottery unearthed from the Cave A tombs of Group 2 in Zhangjiabao and Cave A in Machengzi, which is equivalent to the second group of cave tombs reported in *Machengzi.*

5.2.3 Periodization and Age of Burial Remains

5.2.3.1 The Division of Burial Remains

Based on the above chronological research on the materials from the seven cave tombs and the other 11 cave tombs and sarcophagus tombs published in the *Machengzi* report, the existing tomb materials from the Machengzi culture can be divided into two parts in a chronological manner.

Early stage: it is represented by the first group of cave tombs reported in *Machengzi* and also includes the sarcophagus tombs M2 and M3 in Xinbin, Laocheng.

Late stage: it is represented by the second group of cave tombs in the *Machengzi* report and includes the following caves: Shuidong Cave in Benxi, Laolabeidong Cave One and Laolabei Cave Two, Sanjiaodong Cave, Niuxinshan Cave in Xinbin and Dongsheng Cave, Lianshanguan in Benxi, as well as the sarcophagus tombs in Xia Matang, Shuyatun sarcophagus tombs in Tieling, Dalishugou sarcophagus tombs in Huanren and sarcophagus tombs M1 and M4 in Xinbin, Laocheng.

Being the representative pottery of these two stages, *hu* vessels can be found in Fig. 5.1, from which their evolution in shape can be traced in pottery artefacts such as *guan* jars, *pen* basins, *bo* bowls, and *wan* bowl as in Fig. 5.2.

5.2.3.2 Aging of Burial Remains

Among the pottery groups unearthed from the tombs dating back to the early Machengzi culture, some of the shapes are identical or similar to those found in the early Gaotaishan culture in the western region and in the Shuangtuozi second-phase pottery in the southern region. For example, the two handless pots M5: 9 and

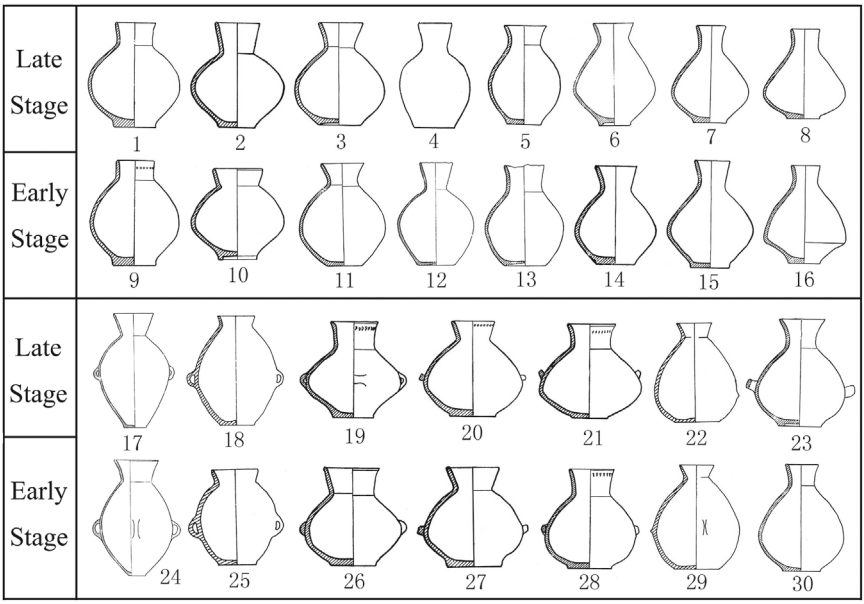

Fig. 5.1 The shape comparison and stages of *hu* vessels from cemeteries of the Machengzi culture. 1, 2, 3, 6, 9, 10, 11, 14, 15, 17, 20, 21, 23, 26, 27. (Cave A of Zhangjiabao M3: 3, M28: 3, M6: 8, M20: 8, M45: 7, M28: 3, M46: 5, M38: 1, M37: 1, M33: 2, M36: 9, M25: 5, M8: 4, M50: 3, M45: 11); 4, 5, 12, 13, 24 (Cave C of Shanchengzi M10: 1, M5: 4, M12: 4, M7: 4, M7: 5); 7, 8, 16, 30 (Cave C of Machengzi M14: 6, M22: 3, M6: 2, M1: 1); 18, 22, 25, 29 (Laochen of Xinbin M4: 4, M4: 1, M2: 2, M2: 6); 19, 28 (Cave B of Shanchengzi M1: 3, M8: 6)

M2: 1 from Cave B in Shanchengzi that belongs to the early tombs of the Machengzi culture (Fig. 5.3: 5, 6) are similar in shape to the handleless *hu* from M3013: 1 in Ping'anpu and M1: 01 in Baishagou from the early Gaotaishan culture. The two earless pots (Fig. 5.3: 1, 2) are identical. The mouth shape of M45: 7, an earless pot found in Zhangjiabao Cave A from the early Machengzi culture (Fig. 5.3: 7), is basically the same as M3002: 1, a Ping Anbao pot (Fig. 5.3: 3) from the early Gaotaishan culture. Among the burial artefacts from the early Machengzi culture, a *hu* vessel with a bulging upper belly and folding lower part, M6: 2 of Cave C in Machengzi (Fig. 5.3: 8), is similar in shape to M3012: 2, a *hu* pot found in Ping'anpu from the early Gaotaishan culture (Fig. 5.3: 4). Another example is the *pen* basin T2③: 43 (Fig. 5.3: 9) from Cave B in Shanchengzi that belongs to the early tombs of the Machengzi culture. There are obvious traces of inscribed marks at the edge of the mouth. Its style is similar to the mouth featuring on the *pen* basin with three legs from Xiaoheishituozi that belongs to the second stage of the Shuangtuozi culture (Fig. 5.3: 13) (collection: 62). In addition, among the early Machengzi tombs, the *guan* jars M9: 14, M13: 12, and M8: 3 from Cave B in Machengzi (Fig. 5.3: 10, 12) have a prominent rounded pattern. Both the shape and patterns of these pottery pieces are consistent with the *guan* jars unearthed from H5: 3 and H6: 6 at the Shuangtuozi site

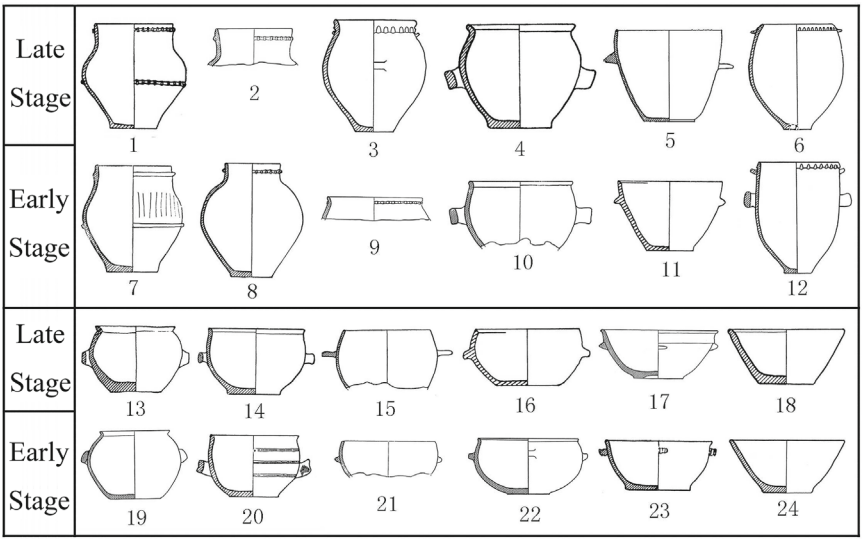

Fig. 5.2 The shape comparison and stages of *guan, pen, bo and wan* vessels from cemeteries of the Machengzi culture. 1, 7, 9 (Cave B of Machengzi M5: 20,M4: 4,M13: 15); 2, 3 (Cave A of Machengzi M23: 3,M18: 23); 4, 6, 8, 12, 14, 17, 18, 20, 22, 23, 24 (Cave A of Zhangjiabao M2: 2,M36: 17,M47: 4,M50: 1,M25: 2,M27: 1,M35: 4,M45: 6,M46: 2,M45: 4,M41: 6); 5(Cave C of Shuangchengzi M9: 3); 10, 15, 19, 21 (Cave C of Machengzi M1: 4,M3: 7,M6: 1,M4: 3); 11, 16 (Laocheng of Xinbin M2: 4,M4: 3); 13 (Cave Niuxinshan of Xinbin)

which belongs to the second phase of the Shuangtuozi culture in the southern region (Fig. 5.3: 14, 15). Such similar cultural characteristics not only show that there was a certain degree of cultural exchange and influence between the three cultures, but also demonstrate that the tombs of the early Machengzi culture should be contemporaneous to the early Gaotaishan culture and the second phase of the Shuangdangzi culture. The existing research results indicate that the early Gaotaishan culture and the second phase of the Shuangtuozi culture span from the Xia dynasty to the early Shang dynasty, so does the age of the tombs of the early Machengzi culture.

Among the tombs of the late Machengzi culture, some pottery shapes share great similarities with those of the late Gaotaishan culture and with the pottery from the third phase of the Shuangtuozi culture. For example, the *guan* jar M11: 1 (Fig. 5.4: 3) from Cave B in Shanchengzi that belongs to the late Machengzi culture is characterized by its round belly, straight collar, and symmetrical floral handles on the collar. These characteristics are clearly similar to those featuring on the *guan* vessel 80M66: 1 (Fig. 5.4: 1) from the late Gaotaishan culture. The shape of the ring-footed vessel M8: 1 from Cave C in Shanchegnzi (Fig. 5.4: 4) from tombs of the late Machengzi culture is exactly the same as the *hu* vessel with a ring foot 76M3: 1(Fig. 5.4: 2) in the middle era of the Gaotaishan culture. Another example is the shape of the *guan* jar with a constricted mouth and folded belly, M2: 4 (Fig. 5.4: 5) found in Cave A in Beidian from the late Machengzi culture, which is similar to that of the *gui* vessel

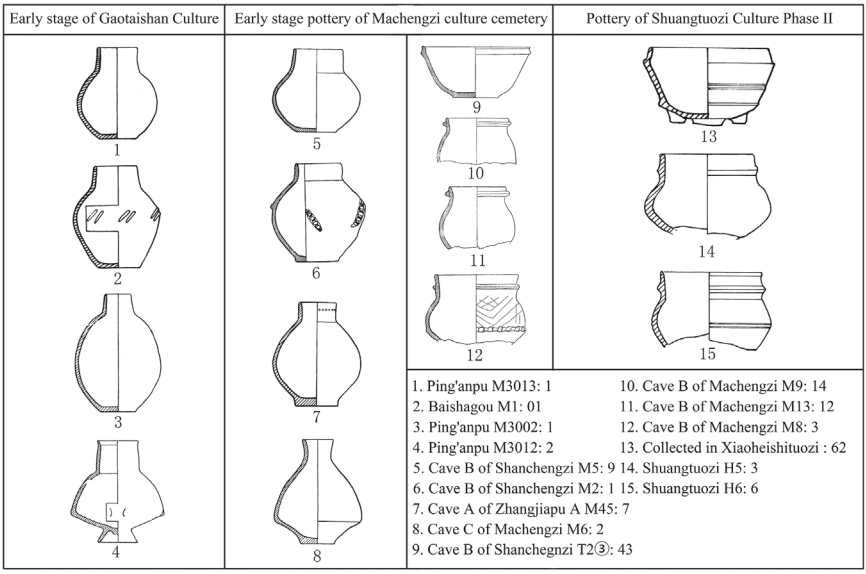

Fig. 5.3 The pottery comparison of the Shuangtuozi culture Phase II and the early stage of cemetery of Machengzi culture and Gaotaishan culture

with a contracted mouth and a ring foot 92F4: 7 (Fig. 5.4: 14) from the third phase of the Shuangtuozi culture. Two *wan* bowls with a ring foot (M12: 9) from Cave A in Machengzi from the late Machengzi period and in Dalishugou (Fig. 5.4: 6, 10) are similar to the *gui* vessel with a ring foot 92F4: 8 in Dazuizi from the third stage of the Shuangtuozi culture (Fig. 5.4: 15) and a *wan* bowl with a ring foot T4: 49 in Shuangtuozi. The shape of the *bo* bowl with a decorative ring foot, M8: 18 from Cave A in Machengzi from the third phase of the Machengzi culture, is basically the same as that of 92F3: 37 (Fig. 5.4: 11) in Dazuizi from the third phase of Shuangtuozi culture. Two fragments of *guan* jars with a flared mouth, M5: 22 from Cave B in Machengzi and M11: 12 from Cave C in Machengzi from the late Machengzi culture (Fig. 5.4: 8, 9), and the *guan* jar with a flared mouth, 92F4: 12 from the third phase of the Shuangdingzi culture, have the same in the type of mouth. These similarities in pottery shapes indicate that the tombs from the late Machengzi culture should be from the same era as the late Gaotaishan culture and the third phase of the Shuangtuozi culture, whose relics date back to the late Shang Dynasty.

There are currently 8 data of the carbon-14 measurement from the Machengzi culture's cemeteries (Liaoning Provincial Institute of Archaeology et al., 1994). Two of the data are from the early cemeteries: one is the charcoal of M52 in Layer ④ from Cave A in Zhangjiabao, which is believed to be 3885 ± 50 year old according to the latest research, though it was once measured to be 3585 ± 65 year old (1635 ± 65 BC). The other is a human bone from M5 unearthed in Cave B in Shanchengzi, whose age is evaluated as 3600 ± 80 years old (1610 ± 80 BC). These two data

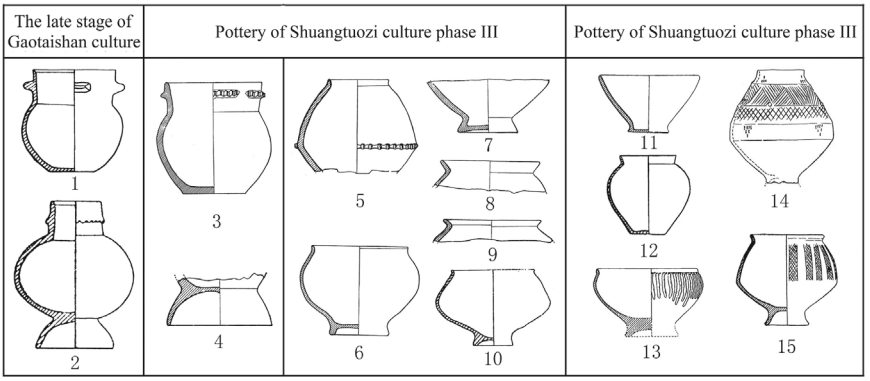

Fig. 5.4 The comparison between the pottery of late stage of Machengzi culture and late stage of Gaotaishan culture and the pottery of the Shuangtuozi culture Phase III. 1 (the east part of Gaotaishan 80M66: 1) 2 (the middle part of Gaotaishan 76M3: 1) 3 (Cave B of Shanchengzi M11: 1) 4 (Cave C of Shanchengzi M8: 1) 5 (Cave A od Beidian M2: 4) 6, 7 (Cave A of Machegnzi M12: 19, M8: 18) 8 (Cave B of Machegnzi M5: 22) 9 (Cave C of Machegnzi M11: 12) 10 (Unearthed from Dalishugou) 11, 12, 14, 15 (Dazuizi 92F3: 37,Upper 92F4: 12, 92F4: 7, 92F4: 8) 13 (Shuangtuozi T4: 49)

therefore belong to the period from the Xia dynasty to the early Shang dynasty, since it is about 1800–1600 BC.

This conclusion regarding the age of the cemeteries from the Machengzi culture is confirmed by the results of the carbon-14 dating on human bones unearthed from M7 in Shanchengzi's Cave B. The measurement results are 3300 ± 80 years to the testing date (1310 ± 80 BC). The M14 charcoal found in layer ③ in Zhangjiabao's Cave A was measured to be 3115 ± 60 years to the testing date (1165 ± 60 BC) and is believed to be 3305 ± 140 years old after several rounds of measurement. The M11 charcoal in the same layer ③ was determined to be 3090 ± 55 years to the testing date (1140 ± 55 BC) and is believed to be 3270 ± 135 years ago after several rounds of measurements. The M4 charcoal found in layer ② in Zhangjiabao's Cave A was measured to be 3065 ± 60 years to the testing date (1115 ± 60 BC) and is believed to be 3240 ± 140 years after several rounds of measurement. The age of the M7 charcoal from Machengzi's Cave A was established as 3015 ± 70 years to the testing date (1025 ± 70 BC) and is believed to be 3180 ± 145 years after several rounds of measurement. Finally, the age of the M7 charcoal in layer ② in Zhangjiabao's Cave A was established as 2980 ± 55 years to the testing date (1030 ± 55 BC) and is believed to be 3135 ± 95 years after several rounds of measurement. Based on these dating results, these charcoal pieces belong to the late Shang Dynasty since they all date back from around 1300–1100 BC.

Based on the above analysis, it is obvious that the conclusions reached from an horizontal comparison of the pottery artefacts and the results from the carbon-14 testing are consistent with each other. Therefore, we can finally determine the age of the Machengzi cemeteries: the early period spans from the Xia dynasty to the early Shang dynasty, and the late period belongs to the late Shang dynasty.

5.3 Segmentation of the Site Remains of the Machengzi Culture

According to the previous analysis, the sites from the Machengzi culture are mainly distributed in the areas east of the main rivers—the Xiushui River and the Liaohe River. The sites where fieldwork has been undertaken and from which published materials are available mainly comprise the following areas: the upper layer of the Xinle site in Shenyang, Laohuchong (H4) in Shenyang, Shunshantun in Kangping, Wanliu in Faku, Wanghua in Fushun, Xiaoqingdao, Gujiazi, Yingzui Lizi, Dongshan in Shijia, Dongshan in No. 2 Petroleum Plant (Archaeological Team of Fushun Municipal Museum, 1983), Paotaishan in Liaoyuan and Yehe Film and Television City in Lishu. Among them, more materials were unearthed from Wanliu in Faku, Shunshantun in Kangping and the upper layer in Xinle than from the relics at other sites.

5.3.1 Grouping Study of the Wanliu and Shunshantun Sites and Their Stratigraphic Relationship

1. Grouping of the Wanliu site: the Wanliu site is located on a narrow hilltop, southeast of the village of Wanliujie in Dingjiafang, Faku County. It was first discovered in 1979 and the trial excavation was carried out in 1986 (the report includes survey specimens from 1989) (Tieling Museum, 1990). Another excavation was carried out in 1988 (Archaeology Faculty Working Office, Department of History, Liaoning University, 1989).

A total of 7 units of materials were published in the 1986 trial excavation report, which can be divided into two age groups: the early period and late period, based on the layer relationship and the comparison between artifacts:

Group 1, from the early period, mainly includes TG5③, H1, H2, H3.

Group 2, from the late period, mainly consists of TG5②, TG1②, and TG3②. The report also includes two pottery specimens fw89:01 and fw89:02 collected in 1989.

In the 1988 excavation report, results from a total of 17 units were published. The layer relationship among them is as follows: Layer ② (T1②, T8②, T11②, T21②, T26②, T29②, T30②, T31②) → H2, H3 with openings under Layer ② → Layer ③ (T1③, T8③, T11③, T29③) → H4, H5, M1 with openings under Layer ③. Judging from the pottery pieces unearthed in each unit, they can also be combined into two age groups: the early period and late period.

Group 1, from the early period, mainly consists of 7 units: T1③, T8③, T11③, T29③ and H4, H5, M1 with openings under Layer ③.

Group 2, from the late period, mainly consists of 10 units: T1②, T8②, T11②, T21②, T26②, T29②, T30②, T31② and H2, H3 with openings under Layer②.

Comparing the two batches of materials excavated in 1986 and 1988, it can be observed that the first group of trial excavations in 1986 and the first group excavated

in 1988 are from the same period. Similarly, the second group of test excavations in 1986 and the second group excavated in 1988 are from the same period. For example, all the *ding* pottery tripods examined in the first group of the two batches of materials have their abdominal walls retracted and their feet turned outwards (such as 86H1: 7 and 88T11③: 2), while the *ding* tripods unearthed from the second groups have relatively straight or flared abdominal walls and their feet are not turned outward (such as 86TG1②: 11 and 88T30②: 3). Another example is the *bo* bowls seen in the first group are generally shallow and have no handles on the outer wall (such as 86H1: 8 and 88T11③: 5), while those in the second group are generally deeper, and horizontal handles have been drawn on most of the outer wall (such as 86TG3②: 6 and 88T21②: 4).

In this way, all the materials from the Wanliu site can be divided into two groups: the early period group and the late period group. One group includes the first group of the 1986 trial excavation and the first group of the 1988 excavation, and the second group includes the second group of the 1986 trial excavation and the second group of the 1988 excavation.

2. Grouping of the Shunshantun site: the Shunshantun site is located on a hilly ground commonly known as "Xishan" near Kangping Town, Kangping County. It was discovered in 1973 and re-examined and excavated in 1977. Judging from the archaeological report published a decade later, Shunshantun should be a residential site. However, there are not only everyday-life relics and remains (F1-3, H1-10), but also a small number of child tombs, earth pit tombs without burial artefacts, and scattered tombs (M1-10) (Xin, 1988). Because these tombs are located in the same place as the house site and the ash pit, and the relics and burial artefacts are different from the Machengzi cave and sarcophagus tombs, they will be discussed together with the materials unearthed from the house site and ash pit for the time being.

The Shunshantun report published a total of 15 units of materials including F1, F2, H1-3, H5, M4-6, M9-14, and another piece of pottery marked as "T3②下". Judging from the four groups of layer relationships M10 → F2 → F1, M6 → F1, H1 → M5 → M9, H1 → H5 and the comparison of the pottery unearthed in each unit, the above 14 units can be divided into two age groups: the early period and the late period.

Group 1, from the early period, mainly includes F1, F2, H3, H5, M6, M12, M13 and M14. "T3②下" is a *li* tripod pottery item with lugs, its shape is the same as F1: 1, a *li* tripod with lugs, so it can be incorporated into the same group.

Group 2, from the late period, mainly includes H1, H2, M4, M5, M9, M10 and M11.

It can be concluded after comparing the two sets of pottery that they all have different shape which can be explained from a chronological perspective. For example, a *li* tripod with a vertical handle and a lug and a *li* tripod with two lugs are different in shape compared to a large-mouthed *guan* jar, and a small-mouthed *hu* vessel because of chronological differences. Through further examination of the first and second groups of pottery at the Wanliu site, it can be found that the foot of the *li* tripod F1: 2 from the first group in Shunshantun is the same as 86H1: 6t, another *li* tripod from the first group in Wanliu. Similarly, the shape of M6: 2, a *bo* bowl with

a contracted mouth from the first group in Shunshantun is similar to those featuring on 88M1: 1 and 88T29③: 2 from the first group in Wanliu. F2: 3, a *wan* bowl with a shallow belly and a false ring foot from the first group in Shunshantun, is basically the same as 86H2: 1, a *wan* bowl with a shallow belly and a false ring foot from the first group in Wanliu. And the shape of a *li* tripod vessel with a vertical handle and of the lug of H1: 1 from the second group in Shunshantun is basically the same as the *li* tripod FW89: 2 from the second group in Wanliu. The shape of a *wan* bowl with a shallow belly and a flat bottom from M4: 2, M5: 1, M10: 2 from the second group in Shunshantun is the same as those from 88T1②: 2 and 88T11②: 2 from the second group in Wanliu. In addition, H1: 9, a *wan* bowl with a deep belly from the second group in Shunshantun, is similar to 88T1②: 1 from the second group in Wanliu.

From the above analysis, Shunshantun's first group is supposed to be contemporaneous to Wanliu's first group, and Shunshantun's second group to Wanliu's second group.

5.3.2 *Group Analysis and Chronological Description of Excavated Remains from Other Sites Without Stratigraphic Relationship*

1. The upper layer of the Xinle site: the site is located in the northern part of Shenyang city. The unearthed remains are divided into the upper and the lower layers (Shenyang Cultural Relics Management Office, 1978). There are more than ten pieces of intact ceramic or recoverable pottery in the upper layer, and a small number of mouth brim fragments and pieces of foot and bottom parts as well. Most of the pottery could not be grouped according to their own materials since the unearthed layer or the unit to which they belonged could not be ascertained. However, judging from the differences in pottery shapes and styles and the grouping results from the two sites in Wanliu and Shunshantun, the pottery in the upper layer of Xinle can also be divided into early and late groups. The age of the first set of pottery should be the same as the first group in Wanliu and the first group in Shunshantun. It includes a *ding* vessel from T12: 2, a *li* vessel from SV73: 5, the foot of a *li* vessel A82: 10, and a *bo* bowl from SV74: 51. Take the *ding* vessel from T12: 2, as an example, whose shape is the same as the *ding* vessel from 88T11 ③: 2 in the following aspects: two lugs arranged at the belly of the cylindrical jar, everted brim, inverted wall and outward feet. The overall shape is basically the same as the 88T11 ③: 2 *ding* from the Wanliu group. The second set of pottery includes a *ding* vessel from SV74: 49, a *yan* pot from T12: 1, a *yan* basin from SV74: 50, a *guan* cylindrical jar with two lugs from SV74: 47, the mouth part of a jar from A5H1: 9. Among the pottery, the *ding* from SV74: 49 is similar to 86TG1②: 11 and 88T30②: 3 from Group 1 in Wanliu, their lugs being arranged on the belly of the jar with extraverted wall and straight feet. The shape of the lower part of the T12: 1 *yan* is exactly the same as the *yan* 88T21②: 3 from Group 1 in Wanliu, while the SV74: 50 *yan* is closely similar in shape to the *yan*

basin 88H2: 1. This indicates that the age of the pottery from this group should be the same as that of Group 1 in Wanliu and Group 1 in Shunshantun.

The few other pottery or pottery fragments are not grouped for the time being due to the lack of comparable shapes.

2. Wanghua Site: located in the courtyard of the Tractor Parts Factory in Wanghua District, Fushun City, it was excavated in 1977 and 1979, but the exposed area was very small and few relics were unearthed. Among them, a red-brown *ding* vessel made of grit-filled sand is similar to the one found in the upper layer of the Xinle site and resembles the pottery from SV74: 49 in Wanliu's Group II, the brim being slightly extravagant, the abdomen wall wide, and the feet subtly outward. They are believed to be from the same period.

3. Dongshan site of Shijia: located on the outskirts of Fushun City, one test trench and one excavation unit were explored in the Dongshan site during a national survey. Apart from burnt mud blocks mixed with straw used for houses, most of the pottery pieces were fragments of tripods. One of the restored *ding* tripods has double lugs, a contracted mouth and slanted walls. The shape of the upper abdomen is similar to 88T11③: 2 from the second group in the Wanliu site. The other, practically intact, *guan*, a cylindrical jar with two lugs, resembles the traditional type from the upper layer of the Xinle site, which is similar to the jar from SV74: 47 from the second group in Wanliu. Based on this observation, it can be preliminarily determined that the pottery specimens unearthed at the Dongshan site in Shijia should be comparable in age to Group 1 in Wanliu and Group 1 in Shunshantun.

4. Dongshan site of the Second Petroleum Factory: located in the suburbs of Fushun, 5 pottery pieces were discovered and the findings from four of them were published, namely 1 *ding*, 2 *guan*, and 1 *wan*. First of all, judging from the shape of the *ding* tripod, the line drawings and photographs are obviously not matching each other. Based on the photographs, it is determined that the pottery can be as early as the relics found in Wanliu and Shunshantun, for the abdominal wall of this tripod is slightly introverted, the bottom flat, and the three feet extraverted. Such a shape is clearly reminiscent of the traditional *ding* type M9: 3 from Shunshantun's second group. Moreover, regarding the shape of the *wan* bowl, it may be seen as a later form of a set of flat-bottomed bowls from TG5③: 7 from the Wanliu group. Its age may therefore be as late as Wanliu's second group. The shape of the two *guan* jars is rather unique. One of them is of unknown age and the other has an everted belly and a false ring foot, whose style is similar to the everted-belly bowl from the late Gaotaishan culture. Therefore, they are temporarily considered to be comparable in age to the second group in Wanliu.

5. Gujiazi site: located on the outskirts of Fushun City, a piece of sand-filled red pottery was found. From the line drawing, the feet of the pottery stand upright, but the three toes are obviously outward in the photo. Based on this observation, the overall shape of this artifact is similar to that of a *yan* pot from T12: 1 from Wanliu's second group in the Xinle site and from 76T1H1: 5 in Donggaotaishan from the late Gaotaishan culture. Hence, their respective age should relatively be the same.

6. Laohuchong Site in Shenyang: located in the Red Brick Factory courtyard of the Shenyang Storage and Transportation Company in Sujiatun District, Shenyang

City, two rescue excavations were carried out in 1978 and 1979, but results from the unearthed materials have not been officially published. Judging from the drawings of some of the pottery pieces featuring in some papers (Qu, 1981; Chen, 1989), most of the relics, such as a pot with a *wan* bowl-like mouth and two horizontal handles, should belong to the Shuangfang culture, as previously discussed. The only pottery piece that can be classified into the the Machengzi culture is a *yan* pottery item and a *hu* vessel with vertical handles (they are said to come from H4). Only the lower part of the *yan* pot remains, it has a high crotch, deep pockets, and short solid feet. On the whole, it looks like three hollow pockets are pinched together. A similar shaped *yan* was unearthed in H2 in Donggaotaishan 80 (H2: 1) (Shenyang, 1986) and has been identified as a late relic from the Gaotaishan culture. Another *hu* pottery pot has a pair of vertical bridge handles between the collar and abdomen and has a high belly. The overall shape is the same as the *hu* vessel with vertical handles from S73: 6 which belongs to the middle-late Gaotaishan culture. Based on the above comparison, the two pottery pieces which are similar to the relics from the late Gaotaishan culture can be regarded as comparable in age to the second groups in Wanliu and Shunshantun.

7. Yehnara Film and Television City Site and other sites: Yehnara Film and Television City is located in Lishu County where two distinctive red-brown *li* tripod with grit-filled sand were unearthed (Jilin, 2004). One has a curved upper abdomen, whose feet are long like the feet of a *ding* tripod, and a pair of lugs and horizontal bridge handles were placed below the mouth brim. The overall shape is similar to the *li* tripod from H3053: 1 in Ping'anpu which belongs to the late Gaotaishan culture. Hence its age should correspond to the late Gaotaishan culture. Artefacts with a similar shape was also found in the Paotaishan site in Liaoyuan (Jin, 1992). For the time being, their age is regarded as the same as the second groups of pottery in Wanliu and Shunshantun.

The other piece of *li* tripod is cylindrical, with a pair of lugs placed outside the brim; its bag legs have no solid feet, and there is no obvious boundary between the legs and the abdominal cavity. On the whole, it seems that this *li* tripod is comprised of the lower part of a cylindrical body and three bag-legged feet. Another type of *li* tripod, similar in shape to this artifact, can also be found in the Xiaoqingdao and Yingzuilazi sites in Fushun (Archaeological Team of Fushun Municipal Museum, 1983). A small number of feet from this type of *li* tripod were unearthed in the Dongshan site of Shijia in Fushun (Archaeological Team of Fushun Municipal Museum, 1983) and the Paotaishan site in Liaoyuan mentioned above (Jilin Provincial Institute of Cultural Relics and Archaeology, 1995). It is difficult to determine the age of this kind of pottery because of its singular shape. Judging from the existing comparable materials, there are two possibilities regarding its age:

The first possibility is that its age is equivalent to the early days of the Gaotaishan culture or earlier than this time. The reason is that the complete shape or foot fragments of this kind of *li* tripod and *yan* basin without solid foundation have been found before in the early units from the Gaotaishan Culture and the earlier "Phase II of Ping' anpu Remains". For example, one *li* tripod collected in Ping' anpu in 1979 has a clear cylindrical shape around the upper abdomen (Sun, 1984), and the feet are not prominent, like those unearthed from the Yehnara Film and Television City

site and the Xiaoaqingdao sites. This *li* vessel is generally recognized as being the earliest cylindrical *li* tripod from the Gaotaishan culture (Zhao, 1993; Dong, 1986. The *Yan* basin without solid feet from H3094: 4 in Ping' anpu belongs to the early days of the Gaotaishan culture (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1992). Hollow-footed *li* and *yan* dating back from before the "Phase II Ping'anpu Remains" of the Gaotaishan Culture were also unearthed. Based on these examples, it can be argued that the time period of the bag-legged *li* tripod with a cylindrical belly and hollow feet unearthed in Xiaoqingdao and in the Yehnara Film and Television City site should be equivalent to the early stage of the Gaotaishan culture or to the "Phase II Ping' anpu Remains" stage, namely no later than the first groups in Wanliu and Shunshan.

The second possibility is that the time period of this type of pottery is as late as the late Shuangfang culture of the Warring States period. Similar shaped *li* vessels from the second phase of the Hanshu culture were unearthed in the northwest region, this second phase being contemporaneous to the late Shuangfang culture. Both cylindrical *li* from T121②: 19 in Zhaoyuan Xiaolaha (Heilongjiang Provincial Institute of Cultural Relics and Archaeology et al., 1998) and the one from M134: 2 in Pingyang (Heilongjiang Provincial Institute of Cultural Relics and Archaeology, 1990) are from the second phase of the Hanshu culture. Their shapes are similar to each other. Based on this assumption, the culture from the Nenjiang River basin during the Warring States period had a far-reaching influence on the northern part of Liaodong.

Among the tomb materials from the Machengzi culture, many characteristics have been found to be related to the Gaotaishan culture in the western region during the same period. There are also some elements in the site materials that clearly indicate influences from the Gaotaishan culture. Therefore, this study endorses the first possibility for the time being. In other words, the bag-legged cylindrical *li* with hollow feet unearthed in Xiaoqingdao, the Yehnara Film and Television City site and other sites are regarded as non-mainstream cultural factors originating from the Machengzi culture in Liaodong, while being influenced by the early Gaotaishan culture or the second phase of Ping'anpu remains. These *li* tripods are thus tentatively regarded to be from the same period as the first groups in Wanliu and Shunshantun.

5.3.3 Periodization and Age of Site Remains

5.3.3.1 Division

Based on the above research and analysis of the materials unearthed from the sites with and without stratification, the site materials from the Machengzi Culture can be divided into two sections: the early section and the late section.

The early section: represented by Group 1 in Wanliu, Group 1 in Shunshantun and Group 1 in Xinle's upper layer. Pottery from the same section is also found in the Dongshan site, Shijia, Fushun, the Dongshan site in the Second Petroleum

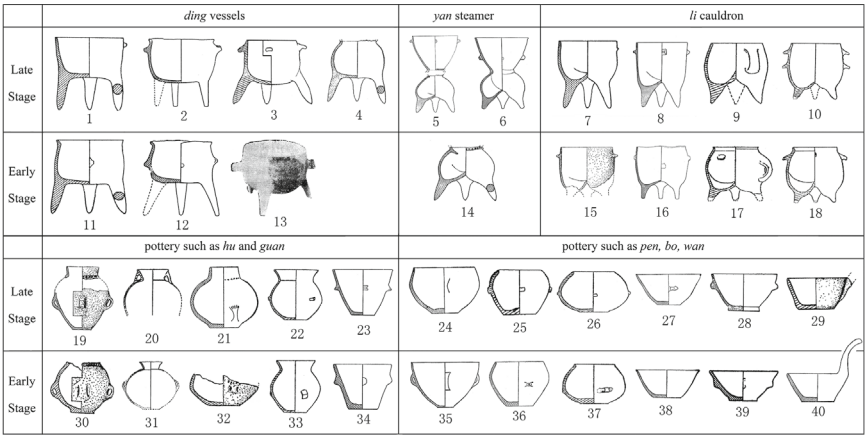

Fig. 5.5 The style comparison and stages of the pottery from the Machengzi culture remains. 1, 4, 5, 7, 8, 11, 14, 15, 19, 21, 24, 27, 29, 30, 32, 35, 36, 38, 40 (Liuwan 88T30②: 3,88H3: 3,88H2: 1+88T21②: 3,88T26②: 1,88H2: 2,88T11③: 2,88H5: 3,86H2: 10,86TG5②: 4,88T31②: 3,88T31②: 2,88T21②: 4,89 collected: 1,86H1: 2,86H1: 1,88H5: 2,88H4: 3,88T11③: 5,88H4: 2) 2, 6, 12, 16, 23, 39 (Xinle SV74: 49,T12: 1,T12: 2,SV73: 5,SV74: 47,SV74: 51) 3, 9, 10, 17, 18, 20, 22, 25, 26, 31, 33, 37 (ShunshantunM9: 3,H1: 1,H1: 2,F2: 1,F1: 1,H1: 4,M9: 2,H1: 8,H2: 1,F1: 3,M6: 1,M6: 2) 13, 28 (unearthed from remains of Dongshan of the Second Petroleum Factory in Fushun City) 34 (unearthed from remains of Dongshan of Shijia in Fushun City)

Factory, Xiaoqingdao, Yingzuilazi and Paotaishan, Liaoyuan and Yehnara Film and Television City, Lishu and other sites.

The late section: represented by Group 2 in Wanliu, Group 2 in Shunshantun and Group 2 in Xinle's upper layer. Pottery from the same period is also found in Wanghua Fushun, Gujiazi, Dongshan No. 2 Petroleum Plant, Laohuchong, Liaoyuan Paotaishan, and Liye He Film City and other sites.

The pottery that can be incorporated in the two stages can be seen in Fig. 5.5.

5.3.3.2 Age

Among the early pottery from the Machengzi cultural sites, some of the pottery shapes are close to similar items from the early Gaotaishan culture or the second phase of Ping'anpu, indicating that their age is relatively the same. For example, the *yan* basin from 86TG5 ③: 12 in Wanliu and the one from H3094: 3 in Ping' anpu are similar in shape (Fig. 5.6: 26, 47), and the shape of the *zeng* vessel from H3: 1 in Shunshantun is similar to that from T112④: 6 in Ping'anpu (Fig. 5.6: 27, 44). The overall shape and foot shape of pottery pieces, including footless cylindrical *li*, feet of *zeng* basins, fragments of *li* feet, unearthed from Xiaoqingdao, the Yehnara Film and Television City site, Shijiadongshan, Paotaishan, Xinle, Shunshantun and other sites (Fig. 5.6: 28, 29, 35–39), are similar to the collected *li* pottery from Ping' anpu in 1979 and *zeng* vessels from H3094: 4 in Ping'anpu (Fig. 5.6: 41, 42). The

plain-faced *li* from M13: 1 is similar to the one from H1059: 1 in Ping'anpu which shares the features as the plain-faced *li* from the lower Xiajiadian Culture. In addition, *pen* basins with vertical handles from 86TG5③: 8 and 88H5: 2 in Wanliu are in the same shape as the one from T101⑤: 9 in Ping'anpu (Fig. 5.6: 30, 31, 48). The *wan* bowls with a contracted mouth from 88M1: 1 in Wanliu and M6: 2 in Shunshantun are similar to the one from 76H1: 14 in Donggaotaishan and H3112: 1 in Ping'anpu (Fig. 5.6: 33, 34, 45, 46), and *shao* spoons from H5: 2 in Shunshantun are in the same shape as the one from H3101: 2 in Ping'anpu.

Some of the pottery from the late period of the Machengzi culture was identical or similar in shape to the same kind of pottery from the late Gaotaishan culture, indicating that they may be from the same period. For example, the *wan* bowl with a false ring foot and angular belly unearthed from the Fushun No. 2 Petroleum Factory in Dongshan is similar in shape to the *wan* bowl with a ring foot and angular belly from 74M5: 2 from the middle and late Gaotaishan culture (Fig. 5.6: 1, 16). The shapes of the *guan* jar with a cylindrical belly and two lugs from SV74: 47 in Xinle and of the mouth fragments from A5H1: 9 (Fig. 5.6: 2, 3) are similar to the *guan* jar with a cylindrical belly and two lugs from S740: 2 and the *guan* jar with vertical handles from 76T1H3: 8 from early Gaotaishan culture (Fig. 5.6: 15, 14). The *yan* basin from T12: 1 in Xinle is similar in shape to the one from 76H1: 5 from early Gaotaishan culture (Fig. 5.6: 4, 19). The shape of the *hu* vessel with vertical handles from M4: 3 in Shunshantun and H4: 1 in Laohuchong (Fig. 5.6: 5, 6) is similar or identical to those from M3010: 2 in Ping'anpu and S73: 6 from the middle Gaotaishan culture (Fig. 5.6: 18, 17). The shape of two pieces of *li* tripod with a handle and two vertical lugs, collected from FW89: 2 in Wanliu and H1: 1 in Shunshantun (Fig. 5.6: 7, 8), is the same as those from 76H1: 3 from early Gaotaishan culture and T108 ③: 4 in Ping'anpu respectively, the mouth of the latter being slightly everted and the brim oblique. The two pieces are similar in shape (Fig. 5.6: 22, 21), except for the overlapping lips. The shape of the *li* tripod with a straight belly from 88H2: 2 in Wanliu is similar to the ones from H1012: 1 in Ping'anpu (Fig. 5.6: 9, 20). Two *ding*-shaped *li* with lug and bridge-shaped handles from the Yehnara site and the Paotaishan site (Fig. 5.6: 10 and 11) clearly share the same features as the homogeneous vessels from 76H1: 2 from early Gaotaishan culture (Fig. 5.6: 25). In addition, compared with the two *ding* tripods from 76T1H3: 7 and S7450 from early Gaotaishan culture (Fig. 5.6: 23, 24), the bellies of two pieces of straight-bellied *li* tripods from 86TG1②: 11 in Wanliu and XSV74: 49 in Xinle (Fig. 5.6: 12, 13) are slightly shallower, but their belly and overall shapes are similar.

Since the early and late periods of the Gaotaishan culture correspond to the Xia dynasty and the early and late Shang dynasty respectively, the early and late periods of the Machengzi cultural sites should also be contemporaneous to the Xia dynasty and the early and late Shang dynasty respectively.

Finally, it should be noted that the F1 charcoal artefact in Shunshantun, which is a site categorised as belonging to the early part of the Machengzi culture, was determined by carbon 14 to be 3350 ± 90 years ago, and the tree ring correction value is 1674–1438 BC (Institute of Archaeology Chinese Academy of Social Sciences, 1991); it thus belongs to the late Machengzi culture. The thermoluminescence dating

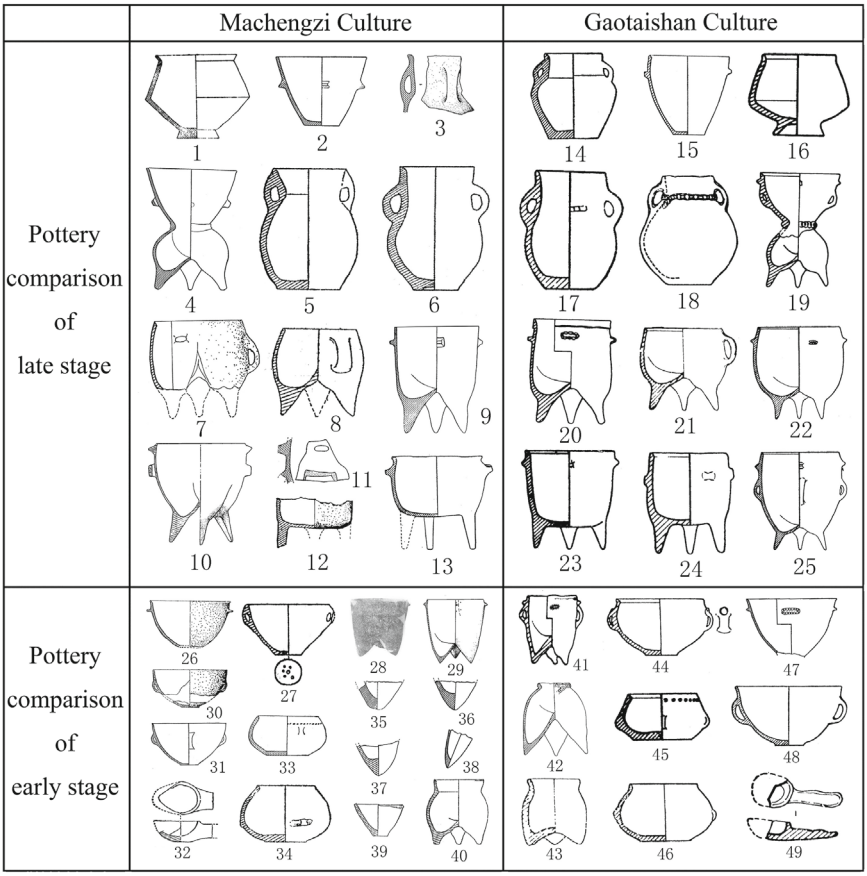

Fig. 5.6 The comparison of the pottery from the early and late stages of Machengzi culture remains and the pottery from the early and late stages of Gaotaishan culture. 1(Dongshan of the Second Petroleum Plant); 2-4, 13, 38 (Xinle SV74: 47, A5H1: 9, T12: 1, SV74: 49, A82: 10); 5, 8, 27, 32, 34, 39, 40 (Shunshantun M4: 3, H1: 1, H3: 1, H5: 2, M6: 2, M6: 4, M13: 1); 6 (Laohuchong H4: 1) 7, 9, 12, 26, 30, 31, 33 (collected in Wanliu fw89: 2, 88H2: 2, 86TG1②: 11, 86TG5③: 12, 86TG5③: 8, 88H5: 2, 88M1: 1); 10, 29 (Yehe film and TV city) 11, 37 (Paotaishan); 14, 15, 19, 22-25, 45 (East part of Gaotaishan76T1H3: 8, S740: 2, 76H1: 5, 76H1: 3, 76T1H3: 7, S7450, 76H1: 2, 76H1: 14); 16, 17 (Middle part of Gaotaishan 74M5: 2, S73: 6); 18, 20, 21, 41-44, 46-49 (Ping'anpu M3010: 2,H1012: 1,T108③: 4,79collected,H3094: 4,H1059: 1,T112④: 6,H3112: 1,H3094: 3,T101⑤: 9,H3101: 2); 28 (Xiaoqingdao) 35, 36 (Dongshan of Shijia)

of the Wanghua site in Fushun in Duan is 3090 ± 100 years ago (Archaeological Team of Fushun Municipal Museum, 1983). These two dating results can also be used as important reference data for determining the early and late stages of the materials from the Machengzi culture.

5.4 Staging and Age of the Machengzi Culture

The division of the culture tends to be based on the tomb periodization and the site segmentation. Although the pottery unearthed from tombs and sites from the Machengzi Culture are different, it has been established that some pottery from the early tombs and sites are similar to those of the early Gaotaishan culture, while some of the pottery from the late tombs and sites share significant features with those from the late Gaotaishan culture. It proves that the age of the early tombs from the Machengzi culture should be comparable to that of the early sites of the Gaotaishan culture, and the age of the late tombs should be equivalent to that of the late sites from the Gaotaishan culture.

In fact, although most of the pottery unearthed from sites and tombs belonging the Machengzi culture are different in shapes, there are also some pottery artefacts that are common to each other. For example, the shape of *hu* vessel with vertical handles and a small mouth from M2: 2 in Laocheng, Xinbin (Fig. 5.1: 25) is similar to the one from M14: 1 in Shunshantun from the early phase of the site (see Fig. 9: 14 in the original report). The same or similar ceramic assemblage can be found in the M33: 3 and M36: 1 from Cave A in Zhagjiabao (see Fig. 149: 4 and 154: 6 in the *Machengzi* report), as well as a *hu* vessel with a wide-flared mouth and a dropping belly from M4: 1 in Shunshantun from the late phase of the site (see Fig. 10: 2 in the original report). In particular, the early and late periods of the tombs and the early and late phases of the sites produced *guan* jars with symmetrical handles and a straight belly which show basic consistency in the designing and the difference in shape from the early and late periods (Fig. 5.2: 5, 11 and Fig. 5.5: 23, 34).

In short, based on the respective periodisation of tombs and sites, combining two different types of materials with the comparative analysis of the early and late relics from the Gaotaishan culture, and referring to the existing carbon 14 and thermoluminescence dating data, the entire Machengzi culture can be divided into two phases:

The early stage: it encompasses the early period of the tomb and the early phase of the sites. Its age is equivalent to that of the early Gaotaishan culture. Some remains may be as early as the "Phase II of Ping'anpu Remains". It should therefore be placed within a time period that spans from the Xia dynasty to the early Shang dynasty.

The late stage: it encompasses the late period of the tombs and the late phase of the sites. Its age is equivalent to the late Gaotaishan culture, that is, the late Shang Dynasty.

5.5 Chronological Coordinates of the Archaeological Cultures of North Liaodong

As early as the 1980s, scholars put forward that the theory that "before the Qin and Han dynasties, there were two types of bronze cultural relics, the early and the late ones" in Fushun (Wang, Archaeological Team of Fushun Municipal Museum, 1983). Currently, it is still seen as an incisive argument, for the difference between these two types of remains in the Fushun area is actually a reflection of the difference between early and late archaeological cultures in the entire northern Liaodong region. With the continuous accumulation of materials and the gradual improvement of knowledge, we can now clarify the name of the cultures represented by these two types of remains and define them as the Machengzi Culture and the Shuangfang Culture. Consequently, both cultures can be divided according to their typology, their stratification and through chronological methods. Thus, the initial chronological coordinates of archaeological cultures in northern Liaodong from the Xia dynasty to the Warring States period can be established as follows:

Phase I: represented by the early period of the Machengzi culture, which is equivalent to the period from the Xia Dynasty to the early Shang Dynasty.
Phase II: represented by the late Machengzi culture, which is equivalent to the late Shang Dynasty.
Phase III: represented by the early period of the Shuangfang culture, which is equivalent to the Western Zhou period.
Phase IV: represented by the middle period of the Shuangfang culture, which is equivalent to the Spring and Autumn period.
Phase V: represented by the late Shuangfang Culture, which is equivalent to the Warring States Period.

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Chapter 6
Staging and Chronology of Archaeological Cultures in the West Songhua River Basin

Abstract The sixth chapter focuses on the staging and chronology of archaeological cultures in the West Songhua River basin. Based on the chronological grouping of the third excavation at the Dahaimeng site in Yangtun, Yongji, a phased study was conducted on the site materials of the Xituanshan culture. The unearthed pottery pots of the Xituanshan Culture were reclassified and grouped for further research using typological methods. Through comparison with pottery from various contexts within the site and with pottery from other archaeological cultures, the Xituanshan culture has been divided into three phases: early, middle, and late. These three phases are dated to the Western Zhou period, the Spring and Autumn period, and the Warring States period, respectively.

Originating from the great lakes of Changbai Mountain, the West Songhua River flows through the central part of Jilin Province. It nurtures important tributaries such as the Toudao River, the Erdao River, the Huifa River, the Lafa River, the Mangniu River, the Yitong River and the Yinma River (Fig. 1.1: 6). The river's middle and upper reaches are mostly mountains and hills, while the lower reaches are mainly valleys and terraces. The Xituanshan culture, whose influence spread from the middle to the upper reaches of the region, is the only archaeological culture spanning from the Xia Dynasty to the Warring States period. According to the available materials, with Changchun City in Jilin Province as the center, the culture was mainly prevalent in the west of Weihu Ridge, the east of Yitong River, the south of Lalin River, and the north of Dongliao River (Jin, 1993a).

Much has been discussed about the age and stage of the Xituanshan culture in the past. For example, some scholars have specifically discussed the age of certain types of the culture survival (Liu, 1982), while others have specifically discussed the stage of a single site or cemetery (Song, 1989). In addition to the comprehensive study of the stage of the burial materials from the Xituanshan culture (Zhu, 1991), there is also an integrated study of the age and stage of all the sites and cemeteries from the Xituanshan culture (Chen, 1993; Dong, 1983). Unfortunately, except for the acceptance that the Xituanshan culture does not belong to the era spanning from the Western Zhou to the Warring States period, there is no consensus on various

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aspects, especially on the issue of staging which has led to different conclusions. Indeed, scholars hold completely opposite views as far as the analysis of the same batches of materials are concerned.

Given that there is no universally accepted theory on the staging of the Xituanshan culture, we intend to make a more in-depth comprehensive study of this issue, starting with an analysis of all the burial and site materials from this culture.

6.1 Periodization of Tomb Remains of the Xituanshan Culture

A large number of burial materials from the Xituanshan culture has been found. According to published results, the tombs containing ceramic items are mainly found in 13 locations in Jilin, including Xituanshan (Li, 1987; Northeast Archaeological Excavation Group, 1964; Tong, 1987; Jilin, 1983), Houshi Mountain (Jilin Archaeology Training Program, 1980; Dong, 1983), Langtou Mountain (Jilin Municipal Museum, 1984), Liangban Mountain (Zhang, 1964), Saodagou (Duan te al., 1985), Tuchengzi (Jilin Municipal Museum, 1957), Xingxingshao in Yongji (1978), Wangqitun (Liu, 1960), Xiaotuanshan in Kouqian, Dongliangang (Jilin Municipal Museum, 1983), Wenshuihoushan in Panshi (Zhang & Wang, 1992), Xiaoxishan (Jilin Provincial Cultural Relics Working Team, 1984), and Wanbaoshan in Shuangyang (Xu, 1984). Judging from the shape of the tombs unearthed at these sites, they are generally sarcophagus tombs, and the ceramics excavated are mainly *hu* vessels, *guan* jars, *wan* bowls, and a small number of *ding* tripods. Since there is little overlap or interweaving between the tombs, the chronological differences between the tombs will not be discussed. Instead, all *hu* pots unearthed from the tombs will be classified and grouped following a strict typological approach. The tombs from the Xituanshan culture will subsequently be divided according to the corresponding period of each type of pottery wares. This division will be based on the coexistence of other pottery and *hu* vessels, as well as the morphological comparison between different types of wares.

6.1.1 Typological Analysis and Grouping of Pottery Hu *Pots*

Judging from the materials officially published in the present report and indirectly cited in other research papers, there were 59 ceramic *hu* vessels with diagrams or plates found in 56 tombs from the Xituanshan culture. In addition to three tombs with two burial artefacts, there was only one found in the other 53 tombs. Thus, it seems that placing one *hu* vessel in a tomb was the most common burial practice in the Xituanshan culture.

Judging from their shape, these burial *hu* vessels that belong to the Xituanshan culture can be divided into four categories: *hu* vessels without handles, with lugs, with vertical handles, and with horizontal handles. Each category can be divided into several types according to the different shapes of the belly, and each type can be further divided into styles according to the stylistic differences of the neck.

1. Type division of *hu* vessels without handles: 16 specimens were examined, 13 of which can be divided into four types: A, B, C, and D according to the shape of the belly area. The upper belly of type A specimens protrudes significantly outward (hereinafter referred to as bulging belly), type B specimens have a rounded belly (hereinafter referred to as round belly), the belly of type C items is characterized by an oval shape (hereinafter referred to as oval belly), and the belly of type D items protrudes outward on the lower part (hereinafter referred to as falling belly).

Type A: the *hu* vessels with a bulging belly are divided into three stylistic categories. Style I is represented by No. 598 in M2, Saodagou, style II by 79M36:1 in Houshishan, and style III by M105:1 in Langtoushan. Their neck evolves from short to tall and from flared to straight respectively (Fig. 6.1:7, 4 and 1).

Type B: the *hu* vessels with a round belly are divided into three stylistic categories. Style I is represented by BM2: 2 in Xingxingshao, style II by AM11: 1 in Xingxingshao, and style III by 56M2: 1 in Xituanshan. Morphologically, their neck evolves from contracted to everted (Fig. 6.1: 8, 5, 2).

Type C: the *hu* vessels with an oval belly are divided into three stylistic categories. Style I is represented by M1: 2 in Wanbaoshan, style II by DM15: 2 in Xingxingshao and M2: 1 in Xiaotuanshan, and style III by 76M3: 2 in Houshishan. Their neck varies from short to high and from contracted to everted (Fig. 6.1: 9, 6, 3).

Type D: the *hu* vessels with a falling belly are divided into two subtypes. Two pieces of *da* with an upper contracted belly are designated as style I. They are M1: 1 in Houshan, Wenshui and M1: 1 in Wanbaoshan (Fig. 6.1: 10). There is only one *da* type with an upper everted belly that is designated as style I. The specimen is DM12: 1 in Xingxingshao (Fig. 6.1: 11).

In addition to the 13 *hu* vessels without handles, there are 3 undivided *hu* vessels without handles that require a more specific analysis and explanation. The first one is M6: 1 in Tuchengzi (Fig. 6.4: 1) with a round belly and a high-straight neck, which appears to be a new shape combining the neck of type A-style III with the belly of type B-style III. It should thus be contemporaneous to the type A-style III and type B-style III *hu* vessels. The second one is 62M1: 5 in Liangbanshan (Fig. 6.4: 2) with a high collar, a contracted mouth brim, and a bulging belly on the lower part. The belly of this *hu* vessel is exactly the same as the type A-style III vessel, so should its age. There is also a curved-neck *hu* vessel unearthed from the grand tomb in Shanding, Saodagou (Fig. 6.4: 3) which should be contemporaneous to the type A-style II vessel (Fig. 6.2: 3) for they are from the same tomb.

2. Division of *hu* vessels with lugs: 3 specimens were examined and are divided into type A and type B according to their belly shape. Type A belly is relatively tall and has an elliptical shape (hereinafter referred to as oval belly), and type B has a lower bulging belly (hereinafter referred to as falling belly).

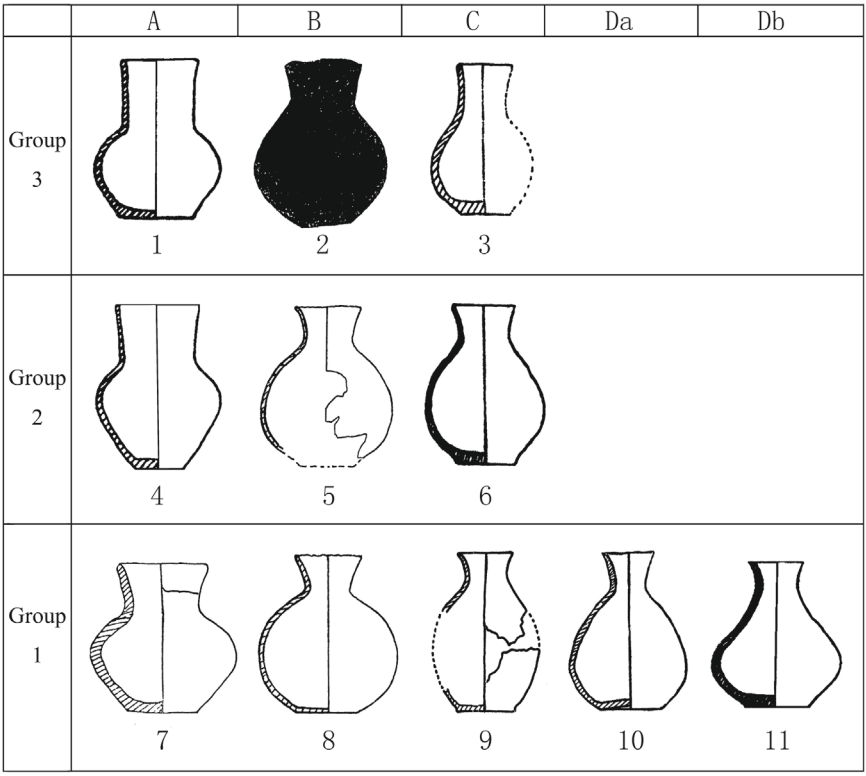

Fig. 6.1 The styles and grouping of *hu* pots without lugs from the cemetery of the Xituanshan culture 1, 4, 7.AIII, AII, AI style (Langtoushan M105: 1, Houshishan 79M36: 1, Saodagou M2: 598); 2, 5, 8. BIII, BII, BI style (Xituanshan 56M2: 1, Xingxingshao AM11: 1, Xingxingshao BM2: 2) 3, 6, 9. CIII, CII, CI style (Houshishan 76M3: 2, Xingxingshao DM15: 2, Wanbaoshan M1: 2); 10. DaI style (Wanbaoshan M1: 1) 11. DbI style (XingxngshaoDM12: 1)

Type A: the *hu* vessels with an oval belly are divided into two styles. Style I is represented by 56M1: 1 in Xituanshan, style II by the Saodagou Shanding tomb. The pottery evolution from style I to style II is reflected by a transition from a slightly contracted mouth to a straight mouth. There should be an intermediate form between these two styles (Fig. 6.2: 8, 3).

Type B: this *hu* vessel with a falling belly only has one style and is represented by DM6: 1 in Xingxingshao (Fig. 6.2: 9).

3. Division of *hu* vessels with vertical handles: 7 specimens were examined, 6 of them can be divided into three types: A, B, and C, according to their belly shape. Type A has a bulging belly on the upper or middle part (hereinafter referred to as bulging belly), type B has a round belly (hereinafter referred to as round belly), and type C has a bulging belly on the lower part (hereinafter referred to as falling belly).

Type A: the *hu* vessels with a bulging belly can be divided into three stylistic categories. Style I is represented by CM18: 1 in Xingxingshao, style II by AM31:

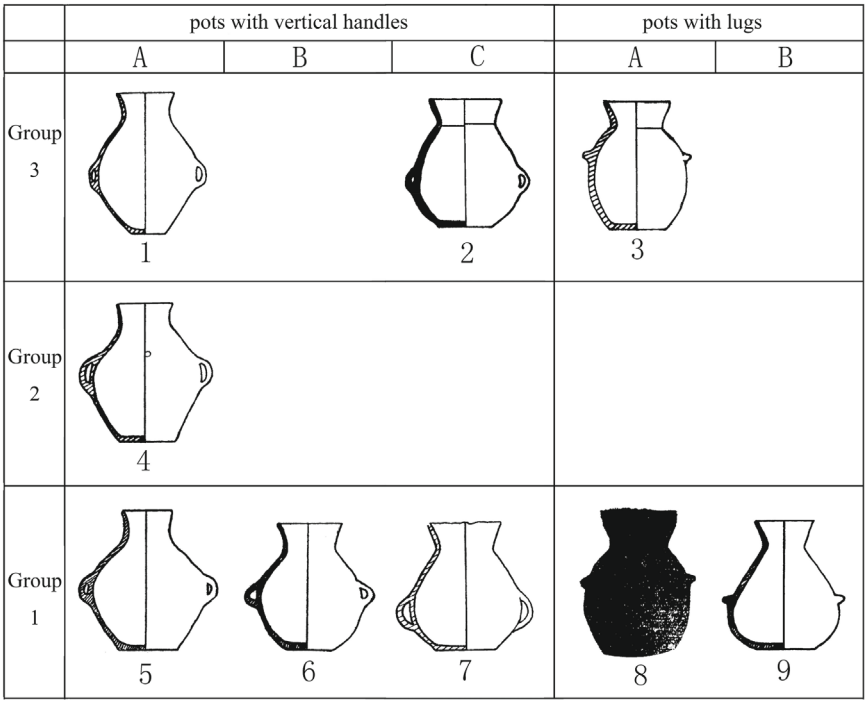

Fig. 6.2 The styles and grouping of *hu* pots with vertical lugs or horizontal lugs from the cemetery of the Xituanshan culture 1, 4, 5. AIII, AII, AI style pots with vertical handles (Xingxingshao AM23: 1, Xingxingshao AM31: 3, Xingxingshao CM18: 1); 6. BI style pots with lugs (Xingxingshao DM11: 4); 2, 7. CII, CI style pots with vertical handles (Xingxingshao AM35: 1, Xingxingshao CM1: 1); 3, 8. AII, AI style pots with lugs (Shandingdamu of Saodagou, Xituanshan 56M1: 1) 9. BI style pots with lugs (Xingxingshao DM6: 1)

3 in Xingxingshao, and style III by AM23: 1 in Xingxingshao. The morphological evolution from style I to style III is reflected in the changing shape of the belly from short to high, of the pedestal from large to small, and of the mouth from slightly flared to featuring an curved rim (Fig. 6.2: 5, 4, 1).

Type B: the *hu* vessel with a round belly has only one style and is represented by DM11: 4 in Xingxingshao (Fig. 6.2: 6).

Type C: the *hu* vessels with a falling belly are divided into two stylistic categories. Style I is represented by CM1: 1 in Xingxingshao and style II by AM35: 1 in Xingxingshao (Song, 1989). The morphological evolution from style I to style II is noticeable on the vessel's pedestal which goes from large to small, while the upper belly gradually expands outward. There should be a transitional form between the two styles (Fig. 6.2: 7, 2).

In addition to the above 6 *hu* vessels with vertical handles, there is also one that has not been assigned a proper style. The specimen is DM5: 1 in Xingxingshao and has a small mouth, a thin tall body, and an olive-shaped falling belly. Due to its

singular shape and the lack of similarity with other specimens, it is impossible to determine its style and date.

4. Division of *hu* vessels with horizontal handles: there is a total of 33 studied specimens, and 30 of them can be further differentiated into four types A, B, C and D according to the shape of their belly. The upper and the middle part of type A belly significantly protrudes outward (hereinafter referred to as bulging belly), the belly of type B has an oval shape (hereinafter referred to as oval belly), type C has a rounded belly (hereinafter referred to as round belly) and type D is flattened or dropping (hereinafter referred to as falling belly).

Type A: the *hu* vessels with a bulging belly can be divided into two subtypes, a and b.

Type Aa: the *hu* vessels with a bulging upper belly, resembling square shoulders, is divided into three stylistic categories. Style I is represented by 50M10: 3 in Xituanshan, style II by 50M16: 2 in Xituanshan, and style III by the No. 517 *hu* vessel from M4 in Saodagou (Fig. 6.3: 11, 6, 1). The evolution from style I to style III can be observed by the shape of the belly curving at a higher level and the mouth gradually converging.

Type Ab: the *hu* vessels with a belly bulging in the middle part, and looking like an everted belly, is divided into three stylistic categories. Specimens respectively representing style I, II, and III are M2: 5 in Donglianggang, 50M1: 8 in Xituanshan, and the No. 558 *hu* vessel from M18 in Saodagou (Fig. 6.3: 12, 7, 2). As far as the evolution from style I to style III is concerned, the everting belly becomes less and less noticeable, and the flaring mouth evolves from being everted to arched.

Type B: the *hu* vessels with an oval belly can be divided into three stylistic categories. Style I includes 50M18: 3 and 50M19: 1 in Xituanshan, and M7: 4 in Donglianggang. The specimen representing style II is 50M4:9 in Xituanshan; and the specimens representing style III are M101: 1 in Langtoushan, the No. 604 pot from M3 in Saodagou, and 50M8: 5 in Xituanshan. Morphologically, the belly of the vessels gradually becomes higher, while the shape of the mouth from style I to style III changes from being oblique and everted to slanted and open (Fig. 6.3: 13, 8, 3).

Type C: the *hu* vessels with a round belly is divided into two subtypes, a and b.

Type Ca: the *hu* vessels with an everted mouth can be divided into three stylistic categories. There are two specimens representing style I which are CM6: 1 in Xingxingshao and the *hu* vessel excavated from the No. 9 tomb in Xituanshan in the year of 48–49. The two specimens representing styleII are AM6: 1 in Xingxingshao and 50M5: 4 in Xituansshan. Style III includes two specimens, namely, M1: 5 in Xiaotuanshan and the *hu* vessel excavated from the No. 11 tomb in Xituanshan in the year of 48–49. Regarding the evolution from style I to style III, the neck of the *hu* vessels ranges from short to high and the neck walls from curved to straight (Fig. 6.3: 14, 9, 4).

Type Cb: the *hu* vessels with a slightly straight mouth can be divided into three stylistic categories. Style I is represented by AM1: 2 in Xingxingshao and style II by 50M14: 3 in Xituanshan. Regarding style III, there are two specimens, namely M1: 4 in Xiaotuanshan and 79M59: 5 in Houshishan (Zhu, 1991). From style I to style

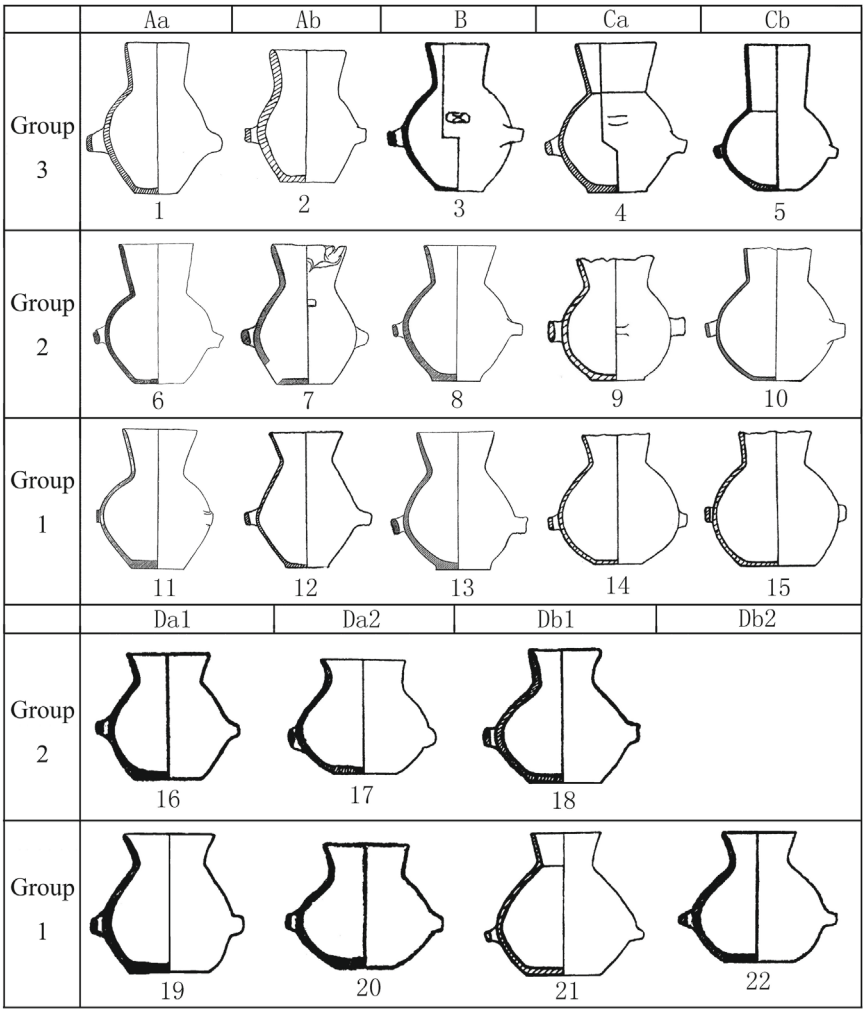

Fig. 6.3 The styles and grouping of *hu* pots with horizontal handless from the cemetery of the Xituanshan culture 1, 6, 11. AaIII, AaII, AaIstyle (Saodagou M4: 517, Xituanshan 50M16: 2, Xituanshan 50M10: 3); 2, 7, 12. AbIII, AbII, AbIstyle (Saodagou M18: 558, Xituanshan 50M1: 8, Dongianggang M2: 5); 3, 8, 13. BIII, BII, BIstyle (Langtoushan M101: 1, Xituanshan 50M4: 9, Xituanshan 50M18: 3); 4, 9, 14. CaIII, CaII, CaIstyle (Xiaotuanshan M1: 5, Xingxingshao AM6: 1, Xingxingshao CM6: 1); 5, 10, 15. CbIII, CbII, CbIstyle (Xiaotuanshan M1: 4, Xituanshan 50M14: 3, Xingxingshao AM1: 2); 16, 19. Da1II, Da1Istyle (Xingxingshao DM21: 1, Xingxingshao DM16: 2); 17, 20. Da2II, Da2Istyle (Xingxingshao AM26: 3, Xingxingshao CM19: 1); 18, 21. Db1II, Db1Istyle (Xingxingshao AM19: 6, Xingxingshao CM21: 1); 22. Db2Istyle (Xingxingshao DM13: 6)

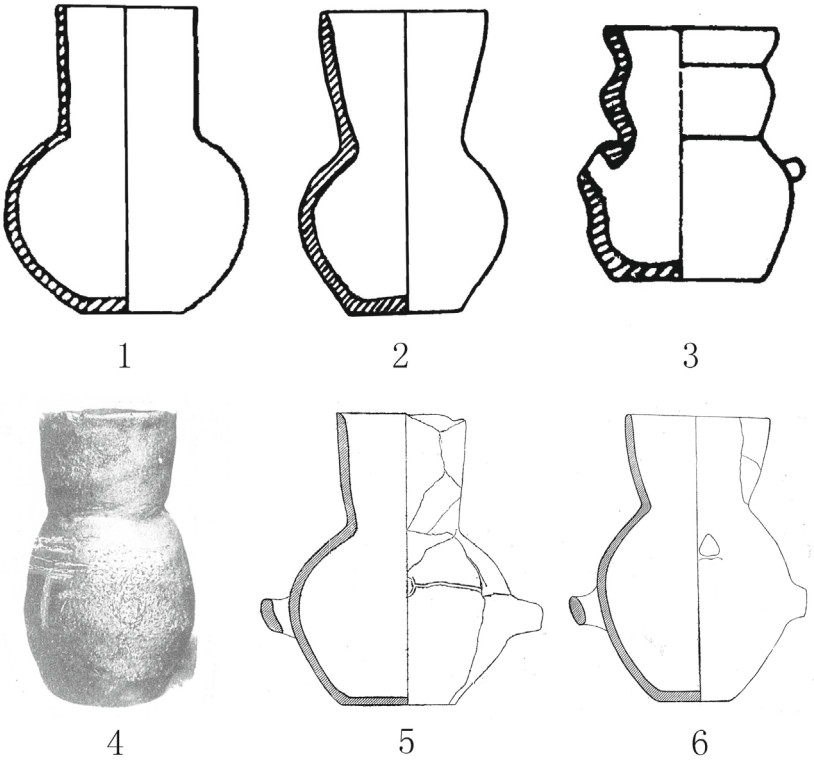

Fig. 6.4 The *hu* pots without classifiction of the third group of cemetery of the Xituanshan Culture 1. Tucehgnzi 56M6: 1, 2. Liangbansha 62M1: 5, 3. Shandingdamu of Saodagou, 4. Xituanshan 48-49M6 5. Xituanshan 50M15: 2 6. Xituanshan 50M13: 4

III, the belly becomes more rounded, and the neck taller and straighter (Fig. 6.3: 15, 10 and 5).

Type D: the *hu* vessels with a falling belly can be divided into two subtypes, a and b, on the basis of the size of their calibre.

Type Da: the *hu* vessels with a big mouth can be further divided into two subtypes Da1 and Da2, according to differences in the neck.

Type Da1: the *hu* vessels with a big mouth and an everted neck can be divided into two stylistic categories. DM16: 2 in Xingxingshao and DM21: 1 in Xingxingshao represent style I and style II respectively (Fig. 6.3: 19, 16). The lower belly of the style I specimen is more pronounced than that of the style II.

Type Da2: the *hu* vessels with a big mouth and an arched neck can be divided into style I and style II. They are CM19: 1 in Xingxingshao and AM26: 3 in Xingxingshao respectively (Fig. 6.3: 20, 17). The neck of the style I specimen is longer than that of style II.

Type Db: the *hu* vessels with a small mouth can be divided into subtypes, Db1 and Db2, according to the shape of the neck.

Type Db1: the *hu* vessels with a small mouth and an everted neck can be divided into style I (50M7: 5 in Xituanshan and CM21: 1 in Xingxingshao) (Song, 1989) and Style II (AM19: 6 in Xingxingshao). Their evolution is similar to that of type Da1 (Fig. 6.3: 21 and 18).

Type Db2: there is only one *hu* vessel with a small mouth and an arched neck which is represented by DM13: 6 in Xingxingshao, a *hu* vessel with a squat round belly (Fig. 6.3: 22).

In addition to the 30 *hu* vessels with horizontal handles described above, 3 specimens have not been classified. The first specimen, 50M15: 2 in Xituanshan (Fig. 6.4: 5), can be assigned to the same era as style Ab III and style Cb III ceramics, as it combines their respective style of belly and neck. The second specimen is a *hu* vessel (Fig. 6.4: 4) unearthed from No. 6 Tomb in Xituanshan in 1948 and 1949 whose neck and belly are similar to style Ab III and style AII respectively (Fig. 6.2: 3). Since it is a combination of these two *hu*-vessel styles with horizontal handles, they are from the same period. The third specimen, 50M13: 4 in Xituanshan (Fig. 6.4: 6), is from the same era as the style Aa III *hu* vessels with horizontal handles and as 62M1:5 in Liangbanshan (Fig. 6.4: 2) as they share similar shapes of belly and mouth respectively.

5. Grouping of pottery *hu* vessel. From the above analysis, it is the belly's shape ranging from bulging, oval, round, to falling that distinguishes the *hu* vessels without handles, with lugs, with vertical handles and with horizontal handles. For the ceramic vessels of same type but with a different style, the evolution can be observed in the neck which becomes taller and straighter. For the ceramic vessels of a different type but with the same style share, the mouth of style I vessels, for example, is relatively short with an obvious everted rim, while that of style III vessels is relatively long with a straight rim. In addition, two *hu* vessels were excavated at the same time from each of these 3 tombs: style CI and style Da1 *hu* vessels without handles (Fig. 6.1: 9, 10) are both from M1 in Wanbaoshan; style Ca III and style Cb III *hu* vessels with horizontal handles (Fig. 6.3: 4, 5) is from M1 in Xiaotuanshan; and the style A II *hu* vessel with lugs (Fig. 6.2: 3) and an unclassified bent-necked *hu* vessel without handles (Fig. 6.4: 3) are both from the grand tomb in Shanding, Saodagou. Therefore, the vessels with the same style but of a different type can be assigned to the same era, while those with a different style shall be assigned to different areas. According to the types and styles, the *hu* vessels are divided into three groups:

Group 1: it mainly includes *hu* vessels without handles (Style AI, BI, CI, DaI, DbI), *hu* vessel with lugs (Style AI, BI), *hu* vessels with vertical handles (Style AI, BI, CI), and *hu* vessels with horizontal handles (Style AaI, AbI, BI, CaI, CbI, Da1I, Da2I, Db1I, Db2I). These *hu* vessels were unearthed from 23 tombs: 48-49M9 in Xituanshan, 50M7, M10, M18, M19 in Xituanshan, 56M1 in Xituanshan, M2 in Saodagou, AM1, BM2, CM1, CM6, CM18, CM19, CM21, DM6, DM11, DM12, DM13, DM16 in Xingxingshao, M1 in Houshan Wenshui, M1 in Wanbaoshan and M2, M7 in Donglianggang.

Group 2: it mainly includes *hu* vessels without handles (Style AII, BII, CII), *hu* vessels with vertical handles (Style AII) and hu vessels with horizontal handles (Style AaII, AbII, BII, CaII, CbII, Da1II, Da2II, Db1II) unearthed from 14 tombs: 50M1,

M4, M5, M14, M16 in Xituanshan, AM6, AM11, AM19, AM26, AM31, DM15, DM21 in Xingxingshao, 79M36 in Houshishan and M2 in Xiaotuanshan.

Group 3: it mainly includes *hu* vessels without handles (Style AIII, BIII, CIII), *hu* vessels with lugs (Style AII), *hu* vessels with vertical handles (Style AIII, CII), *hu* vessels with horizontal handles (Style AaIII, AbIII, BIII, CaIII, CbIII). It also includes unclassified items from 56M6: 1 in Tuchengzi, 62M1: 5 in Liangbanshan, 50M15: 2 in Xituanshan, 50M13: 4 in Xituanshan, the bet-necked *hu* vessels from the grand tomb in Shanding Saodagou and the *hu* vessels from the No. 6 tomb in Xituanshan excavated in 1948 to 1949. These hu vessels were unearthed from 19 tombs: 48–49 M6, M11 in Xituanshan, 50M2, M8, M13, M15 in Xituanshan, AM23, AM35 in Xingxingshao, M101, 105 in Langtoushan, 76M3, 79M59 in Houshishan, 56M6 in Tuchengzi, M1 in Liangbanshan, M1 in Xiaotuanshan, M3, 4, 18 in Saodagou and the grand tomb in Shanding, Saodagou.

The above three groups can be seen in Figs. 6.1–6.4.

6.1.2 Group Determination and Type Comparison of Other Pottery

In addition to *hu* vessels, *guan* jars, *bo* bowls, *wan* bowls and a small number of *ding* tripods were also found in the cemeteries from the Xituanshan culture. As far as their coexistence is concerned, some of them were unearthed from tombs containing pottery *hu* vessels, while others did not contain any *hu* vessel. The former pottery can be grouped according to the types and styles of *hu* vessels unearthed from the same tomb. However, the latter artefacts require further analysis, such as shape comparison and coexistence of items, to break them into groups.

1. Grouping of Pottery Coexisting with *Hu* vessels: among the 56 tombs in group 1, group 2 and group 3, both *hu* vessels and other pottery were unearthed from 32 tombs.

23 pieces of pottery (Fig. 6.5: 25–47), together with *hu* vessels, were unearthed from 13 tombs in Group 1: 50M7 in Xi Tuanshan, 10, 19, M2 in Saodagou, AM1, BM2, CM6, CM18, DM13, DM16 in Xingxingshao, M1 in Wanbaoshan and M2, M7 in Donglianggang.

12 pieces of pottery (Fig. 6.5: 13–24), together with *hu* vessels, were unearthed from 9 tombs in Group 2: 50M1, 4, 14, 16 in Xituanshan, AM11, AM31, DM15, DM21 in Xingxingshao and M2 in Xiaotuanshan.

The above 47 pieces of pottery fall into four categories: *guan* jars, *ding* tripods, *bo* bowls and *wan* bowls. They are grouped according to their coexistence with *hu* vessel pottery. This is regarded as the basis for grouping those pottery, whether they coexist with *hu* vessels, or not coexist.

2. Grouping of pottery not coexisting with *hu* vessels: pottery that does not coexist with *hu* vessels and items unearthed from the same tomb can be grouped by comparing them with pottery artefacts whose group has been determined.

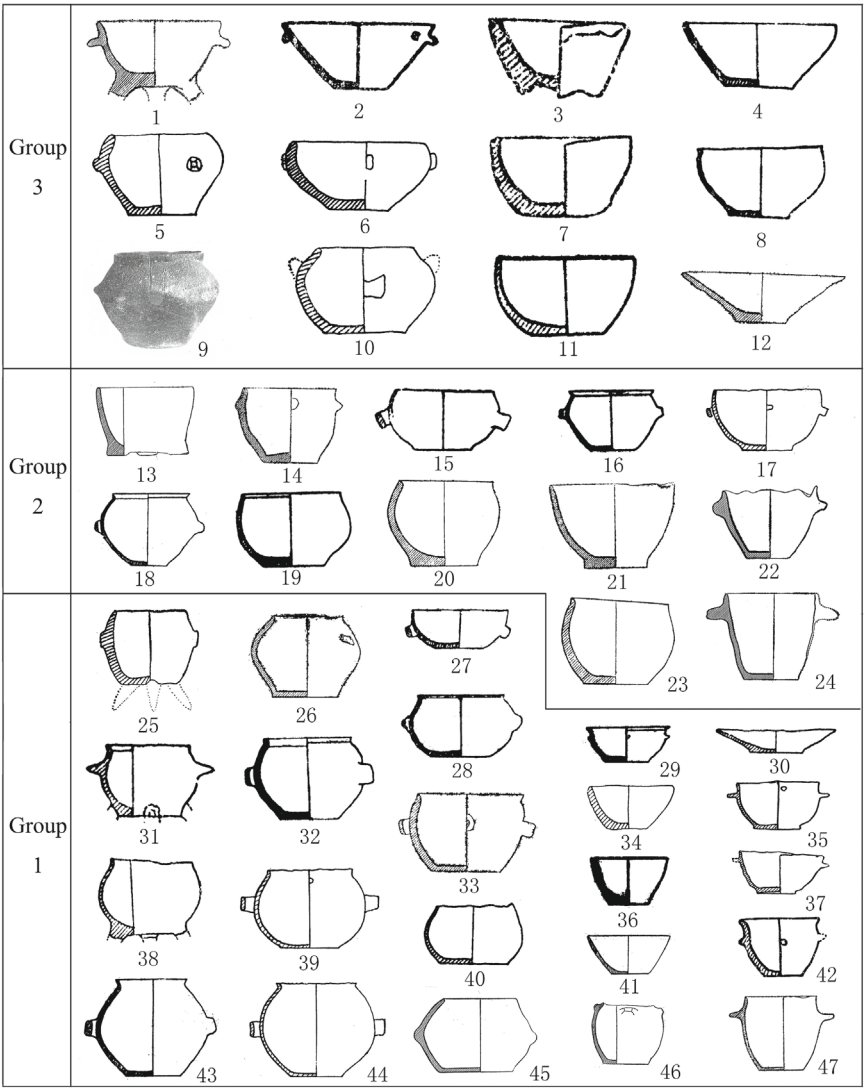

Fig. 6.5 The grouping of the vessels of cemetery of the Xituanshan culture coexisting with the *hu* pots of the three groups 1–12 (These 12 vessels were from 10 tombs: Xituanshan 50M8, 49M6, Saodagou M3,4, 18, Langtoushan M101,105, Xingxingshao M23, Liangbanshan M1, Xiaotuanshan M1 and etc.); 13–24 (These 12 vessels were from 9 tombs: Xituanshan 50M1, 4, 14, 16, Xingxingshao AM11, AM31, DM15, DM21, Xiaotuanshan M2); 25–47 (These 23 vessels were from 13 tombs: Xituanshan 50M7, 10, 19, Saodagou M2, Xingxingshao AM1, BM2, CM6, CM18, DM13, DM16, Wanbaoshan M1, Dongliangang M2, M7)

In terms of shape, the *guan* jar with horizontal handles and a round belly, 50M6:4 in Xituanshan, shares a similarly shaped belly with the *hu* vessel with horizontal handles, 50M10: 3 in Xituanshan's Group One, whose style has been determined as Aal. The belly of the *guan* jar with horizontal handles, 50M9: 4 in Xituanshan, is roughly the same as that of the *hu* vessel with horizontal handles, M2: 5 in Dongliang-gang's Group One, whose style is Abl. The *guan* jar with horizontal handles and an oval belly, AM24: 1 in Xingxingshao, is similar I shape to the *hu* vessel with horizontal handles, M7: 4 in Dongliangang, whose is style is BI. The belly of the *guan* jar with horizontal handles and a round belly, A-M1: 2 in Xiaoxishan, is similar to that of the *hu* vessel with vertical handles, DM11: 4 in Xingxingshao's Group One, whose style is BI. The upper belly of the *ding* tripod, B-M3: 1 in Xiaoxishan, is similar to that of the *hu* vessel with horizontal handles, DM13: 6 in Xingxingshao, whose style is Db2l. The *guan* jar with lugs and a slightly everted mouth, 50M2: 1 and the one from 48–49 M3 in Xituanshan share similar characteristics with 50M19: 3 in Xituanshan's Group1, but is significantly different from the *guan* jar with horizontal handles and a straight mouth, 50M14: 5 in Xituanshan's Group 2. The *wan* bowl with horizontal handles, DM22: 1 in Xingxingshao, is similar in shape to the *wan* bowl DM16: 4 in Xingxingshao's Group 1. The *wan* bowl with a pair of lugs on the belly, Xingxingshao BM4: 1, has the same lower belly as the *hu* vessel with lugs, DM6: 1 in Xingxingshao, whose style is BI. The overall shape of the *wan* bowl with horizontal handles, A-M1: 1 in Xiaoxishan, resembles the features of the *wan* bowl with lugs, M1: 4 in Wanbaoshan's Group 1. In conclusion, the above 10 pottery pieces together with the other 3 (AM24: 3 in Xingxingshao, 50M6: 5 in Xituanshan, 50M9: 5 in Xituanshan) can be assigned to the same time period as those from Group 1 (Fig. 6.6: 44–56), and belong to the following 10 tombs: 48-49M3, 50M6, 50M9, 50M2 in Xituanshan; AM24, BM4, DM22 in Xingxingshao; and A-M1, B-M3 in Xiaoxishan.

The belly of the *guan* jar with horizontal handles, 50M17: 3, and the one from 48-49M8 in Xituanshan is the same as that of the *hu* vessel with horizontal handles, 50M1: 8 in Xituanshan's Group 2, whose style is AbII, and 50M16: 2 in Xituanshan, whose style is AaIII. The belly of the *guan* jar with horizontal handles and a round belly, B-M2: 2 in Xiaoxishan, is similar to the *hu* vessel with horizontal handles, AM6: 1 in Xingxingshao's Group 2, whose style is CaII. The shape of the *wan* bowl with a flat bottom, M3: 3 in Dongliangang and of the *wan* bowls with a ring foot, AM25: 1 in Xingxingshao and B-M4: 3 in Xiaoxishan, is similar to the *wan* bowl with a flat bottom, 50M4: 11 in Xituanshan and to the bowl with a ring foot, 50M1: 4 in Xituanshan. The two *guan* jars with a falling belly and a small mouth, AM20: 4 and AM30: 5 in Xingxingshao, resemble the *guan* jar with horizontal handles, AM1: 1 in Xingxingshao's Group 1. The two *bo* bowls with straight bellies, CM22: 3 and DM19: 3 in Xingxingshao, have an intermediate shape of the same type of *bo* bowls in Group 1 (CM18: 2 in Xingxingshao) and Group 3 (AM23: 2 in Xingxingshao). The two *bo* bowls with lugs and a deep belly featuring a contracted mouth, M5: 1 in Wangqitun and M5: 6 in Dongliangang, are the transition between 50M19:4 in Xituanshan's Group 1 and M18:557 in Saodagou's Group 3. By comparing their shape, the above 12 pottery pieces, together with the other 4 (M5: 5 in Dongliangang,

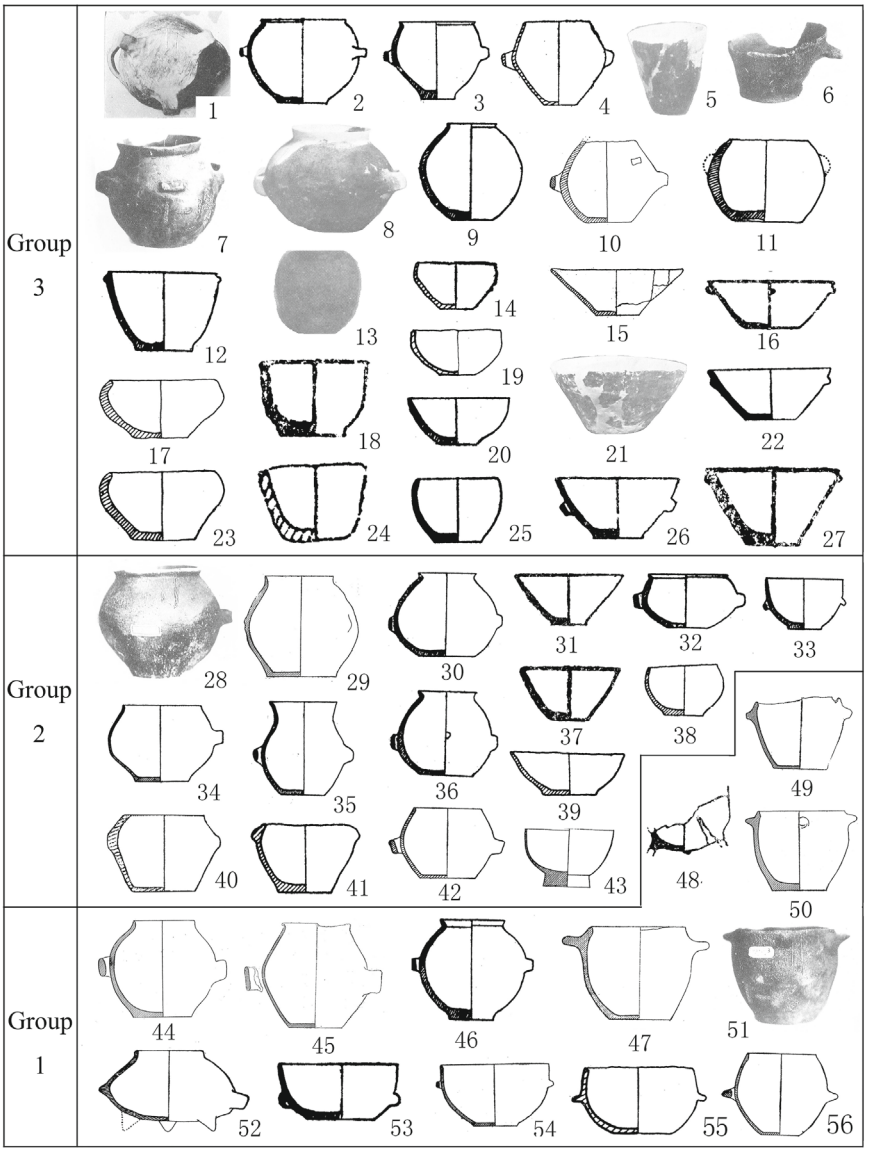

Fig. 6.6 The grouping of the vessels of cemetery of the Xituanshan culture non-coexisting with the *hu* pots of the three groups 1–27 (unearthed from Xituanshan 48-49M2, M14, tombs for kids, Xingxingshao AM10, AM29, AM34, DM8, DM9, DM17, DM18, Saodagou M3, M14, M15, Langtoushan M109, Tuchengzi M8, M12, M24, Houshishan 76M2, 79M16, 79M19, 79M60); 28–43 (unearthed from Xituanshan 48-49M8, 50M17, Xingxingshao AM20, AM25, AM30, CM22, DM19, Dongtlianggang M3, M5, Wangqitun M5, B of Xiaoxishan M2, M4); 44–56 (unearthed from Xituanshan 48-49M3, 50M6, 50M9, 50M2, Xingxingshao AM24, BM4, DM22, A of Xiaoxishan M1, B of Xiaoxishan M3)

AM20: 5 in Xingxingshao, AM30: 4, B-M4:2 in Xiaoxishan) can be assigned to the same time period as those from Group 2 (Fig. 6.6: 28–43), and belong to the following 10 tombs: 48-49M8, 50M17 in Xituanshan; AM20, AM25, AM30, CM22, DM19 in Xingxingshao; M3, M5 in Donglianggang; B-M2, M4 in Xiaoxishan and M5 in Wangqitun.

The *ding* tripod with a flat bottom and horizontal handles from Xituanshan 48-49M2 resembles 50M8:3 in Xituanshan's Group 1. The *guan* jars with horizontal handles and a round belly, 79M19: 12 in Houshishan, those from 48-49 M14 in Xituanshan and M24 in Tuchengzi, are similar to the *hu* vessel with horizontal handles, M18: 558 in Saodagou, whose style is AbIII, and to the *hu* vessels with horizontal handles from M1 Xiaotuanshan's Group 3, whose belly's style have been categorised as CaIII and CbIII. The overall shape of two handless *bo* bowls with a contracted mouth, M14: 548 and M15: 553 in Saodagou, is basically the same as M18: 557 in Saodagou's Group 3. The *bo* bowls with a straight belly and small symmetrical handles, AM29:2, DM8:4, DM9:4 and DM17:3 in Xingxingshao share the exactly same shape as AM23:2 in Xingxingshao's Group 3. Eight pieces of *wan* bowls and a few *bo* bowls without handles, 76M2: 1, 79M16: 9, 79M60: 19 in Houshishan, M8: 1 and M12: 2 in Tuchengzi, and AM10: 1, AM34: 2, DM18: 1 in Xingxingshao, are identical or similar to M101: 2 and M105: 2 in Langtoushan, 50M8: 4 in Xituanshan, M1: 6 in Liangbanshan, and M1: 6 in Xiaotuanshan's Group 3. Considering the shapes and the styles, the *guan* jar with horizontal handles, M109: 1 in Langtoushan, the *guan* jar with lugs unearthed from the 48–49 children graves in Xituanshan and the *guan* jar with a round belly, M3: 509 in Saodagou, are the evolved forms of the *guan* jar with horizontal handles, AM31: 4 in Xingxingshao, the *guan* jar with lugs, 50M14: 5 in Xituanshan, and the *guan* jar with horizontal handles and a round belly, B-M2: 2 in Xiaoxishan's Group 2. Therefore, based on the comparison of their shapes and styles, the above 22 pottery pieces, together with the other 5 pieces (DM8: 3, DM9: 3, DM18: 3 in Xingxingshao, M12: 1 inTuchengzi, M14: 547 in Saodagou) can be assigned to Group 3 (Fig. 6.6: 1–27). They are from the following 21 tombs: 48-49M2, M14 children graves in Xituanshan, AM10, AM29, AM34, DM8, DM9, DM17, DM18 in Xingxingshao, M3, M14, M15 in Saodagou, M8, M12, M24 in Tuchengzi, 76M2, 79M16, 79M19, 79M60 in Houshishan and M109 in Langtoushan.

Finally, in addition to these pottery pieces, which have been grouped according to their shape and their coexisting relationship, it remains difficult to include a few of them in these groups due to their singular shapes which cannot be matched with other comparable pottery. It is also extremely difficult to assign the tombs which do not contain any pottery.

3. Type comparison of *guan* jars, *bo* bowls, *wan* bowls, and *ding* cauldrons: apart from *hu* vessels, other pottery artefacts have generally been grouped based on the comprehensive investigation and analysis of *guan* jars, *bo* bowls, *wan* bowls, and *ding* cauldrons, whose coexisting relationship with *hu* vessels has been taken into consideration. As far as categories are concerned, *guan* jars, *bo* bowls, *wan* bowls, and *ding* cauldrons all belong to the same time period as the corresponding *hu* vessels in Group 1, Group 2, and Group 3. In addition to the unique shapes found in each

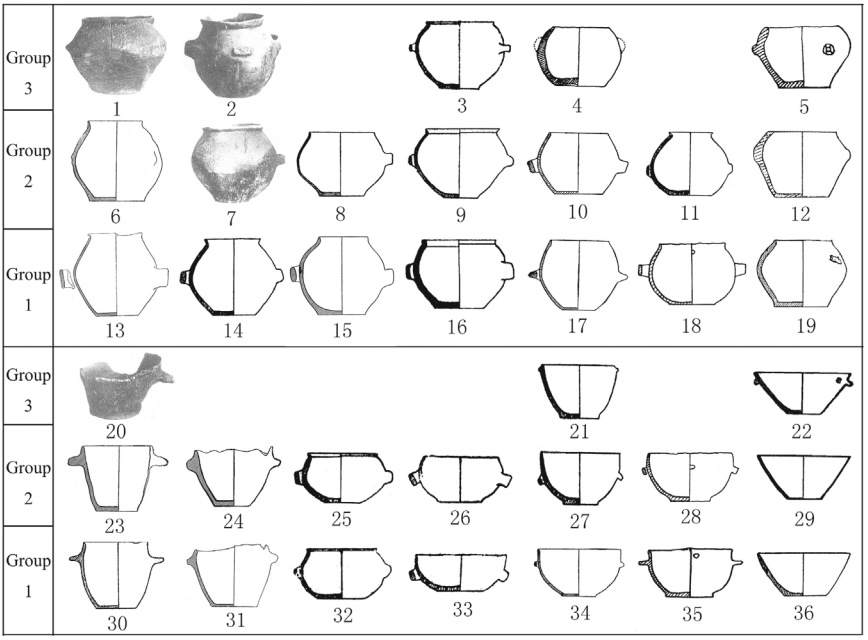

Fig. 6.7 The style comparison of the pottery *guan, bo, wan* of cemetery of the Xituanshan culture 1, 2, 7, 20 (Xituanshan 48–49M6, M14, M8, tombs for kids); 3 (Langtoushan M109); 4, 5 (Saodagou M3: 509, M18: 557); 6, 13, 15, 19, 23, 24, 30, 31 (Xituanshan 50M17: 3, M9: 4, M6: 4, M19: 4, M14: 5, M14: 4, M19: 3, M9: 5); 8, 10, 17, 34 (B of Xiaoxishan M4: 2, B of Xiaoxishan M2: 2, A of Xiaoxishan M1: 2, A of Xiaoxishan M1: 1); 9, 11, 14, 16, 18, 21, 22, 25, 27, 28, 29, 32, 33, 36 (Xingxingshao AM31: 4, AM20: 4, DM16: 1, BM2: 1, AM1: 1, DM18: 3, AM23: 2, AM20: 5, AM25: 1, AM11: 2, CM22: 3, DM16: 3, DM16: 4, CM18: 2); 12 (Wangqitun M5: 1); 26 (Xiaotuanshan M2: 2); 35 (Wanbaoshan M1: 4)

group and a small number of *ding* tripods, *guan* jars, *bo* bowls and *wan* bowls can be further divided into different styles. Furthermore, there is a clear distinction and evolutionary relationship among different types and styles. For the sake of clarity and in correspondence with the pottery groupings, a comparison chart (Fig. 6.7) featuring the types of *guan* jars, *bo* bowls and *wan* bowls has therefore been established. It draws on the classification of pottery, whose types and evolutionary trajectory have already been determined (Figs. 6.5 and 6.6).

6.1.3 Tomb Periodization Based on Chronology of Pottery

First, compared with an earlier archaeological culture of this area, the Machengzi culture, four out of the five types of pottery unearthed from the cemeteries of the Xituanshan culture were also found in the cemeteries of the late stage of the Machengzi

culture. The pottery assemblages from the tombs of the two cultures share the same basic composition (pots, jars, bo bowls, and bowls). Of the four types of pottery, clear inheritance relationships can be found in at least 21 shape-based subtypes (Fig. 6.8). The inheritance relationship indicates that the origin of the Xituanshan culture might be related to the northward migration of the Machengzi culture, and the Group 1 pottery of the Xituanshan culture is older than the late-stage Machengzi culture. Since no noticeable distinction in terms of chronology can be observed between the pottery of the early Xituanshan culture and the late-stage Machengzi culture, they are considered roughly successive in time. Based on the age of the late-stage Machengzi culture, the late Shang period, it is inferred that the Xituanshan culture Group 1 pottery dates to the Western Zhou period, even as early as the early Western Zhou period.

Second, the Xituanshan culture is compared with a culture to its south, the Shuangfang culture in the Liaodong area, which was from the Western Zhou to the Warring States period. As concluded in Sect. 3, Chapter Four, the Shuangfang culture can be divided into three stages: the early, middle, and late stages, roughly corresponding to the Western Zhou period, the Spring and Autumn period, and the Warring States period. It has been observed that some, although only a few, of the Group 1 pottery are similar to those of the early stage Shuangfang culture in shape and style (Fig. 6.9). This similarity is considered as the result of communication between the two cultures.

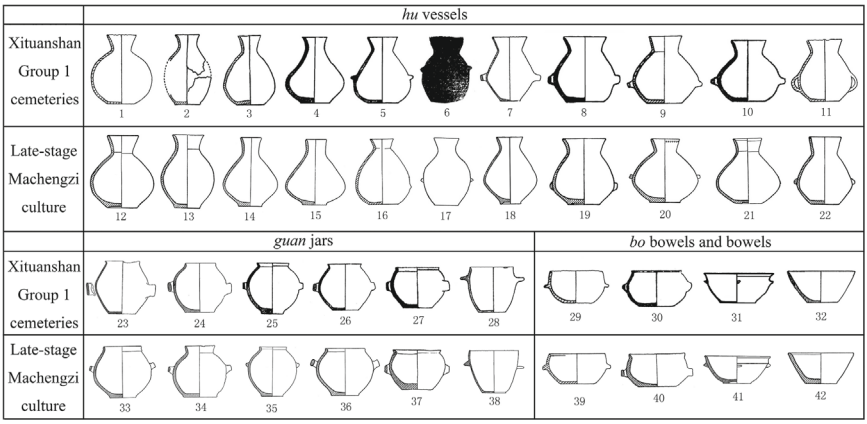

Fig. 6.8 Comparison between the pottery of the Xituanshan culture Group 1 and that of the late-stage Machengzi culture 1, 4, 5, 8–11, 25–27, 29–32 (Xingxingshao BM2:2, DM12:1, DM6:1, DM16:2, CM21:1, DM13:6, CM1:1, AM24:1, DM16:1, BM2:1, BM4:1, DM16:3, DM13:4, CM18:2); 2, 3 (Wanbaoshan M1:2, 1); 6, 23, 24, 28 (Xituanshan 56M1:1, 50M9:4, 50M6:4, 50M19:3); 7 (Donglianggang M2:5); 12, 18–20, 22, 41, 42 (Zhangjiabao Cave A M6:8, M20:8, M33:3, M36:9, M33:16, M27:1, M35:4); 13, 17, 38 (Shanchengzi Cave C M5:4, M1:1, M9:9); 14, 15, 35, 36 (Machengzi Cave C M14:6, M22:3, M3:1, M5:1); 16, 39 (Xinbin Old Town M4:1, 3); 21 (Machengzi Cave A M18:1); 33, 34 (Shangchengzi Cave B M7:7, M6:1); 37, 40 (Niuxin Hill Cave and Dongsheng Cave at Xinbin County)

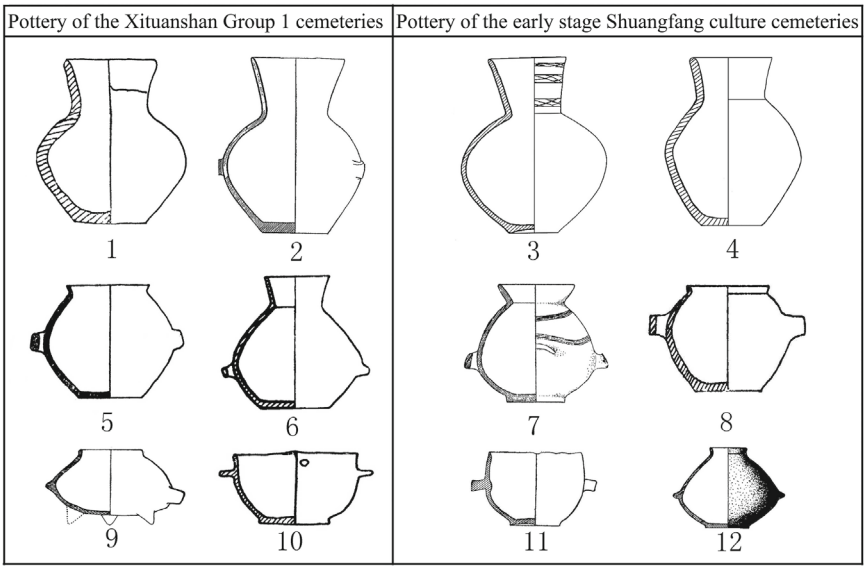

Fig. 6.9 Comparison between the pottery of Xituanshan Group 1 cemeteries and that of the early stage Shuangfang culture cemeteries 1 (Saodagou M2:598); 2 (Xituanshan 50M10:3); 3 (Gangshang M13:4); 4 (No. 1 dolmen at Huojiawobao); 5, 6 (Xingxingshao DM16:1, CM21:1); 7 (stone coffin tomb at Dajiabang); 8 (stone coffin tomb at Liji Town); 9 (Xiaoxishan B-M3:1); 10 (Wanbaoshan M1:4); 11 (stone coffin tomb at Xifeng fire station); 12 (Dongshan M6:2 at Fengcheng)

Therefore, we can conclude that the Xituanshan culture was contemporaneous with the early stage of the Shuangfang culture, both during the Western Zhou period.

This conclusion on the age of the Xituanshan Group 1 cemeteries is also confirmed by the results of the carbon-14 dating on the Xingxingshao CM21 unearthed human bones (3055 ± 100 years to the testing time, around BC 1105) (Institute of Archaeology Chinese Academy of Social Sciences, 1991).

Based on the above three pieces of evidence, the age of the Xituanshan Group 1 cemeteries is determined as dating to the Western Zhou period, with the starting time as early as the Western Zhou period.

Previous studies show that five different types of cultures (the remains of the Paoziyan type, the remains represented by the Zhushan M1, the Xingjiadian type, the Tianjiatuozi type, and the 'Hantao' remains) appeared after the Xituanshan culture in the West Songhuajiang valley, and they date to the period between the end of the Warring States period and the Western and Eastern Han Dynasty (Jin, 1993; Qiao, 1993). The findings of these studies indicate that the Xituanshan Group 3 cemeteries were no later than this period.

Some of the Xituanshan Group 3 pottery is similar in shape and style to the pottery of the same type unearthed from the cemeteries of the Hanshu culture Phase II, which bordered the former culture in the west. For example, of the Xituanshan Group 3 pottery, the 1BIII type handless hu vessel of 56M2 is similar to the M104:3

from the Pingyang cemetery of the Hanshu culture phase II (Fig. 6.10: 1, 2). Also, the Houshishan 6M3-2CIII type handless hu vessel, especially the neck and belly part, resembles the Pingyang M104:33, which belongs to the middle stage of the Hanshu culture phase II (Fig. 6.10: 3, 4). Similarities are also found between the Xiaotuanshan M1-4CIII hu vessel with horizontal handles and their counterparts from the Hanshu culture phase II (Fig. 6.10: 5, 6). Despite the handles on the belly, they look almost the same, with a long straight neck and round belly. This style can also be found in other vessels of Group 3, for example, the Tuchengzi 56M6:1 and the Xituanshan 50M15:2 (Fig. 6.4: 1, 5). In addition, vessels with similar shapes to the Xituanshan Group 3 pottery were also found in the Hanshu culture phase II early-stage cemeteries. For example, the Pingyang M159:1 hu vessel (Fig. 6.10: 8) from the Hanshu culture phase II early-stage cemetery shares the same shape of belly with the Xingxingshao CM21:1 of Xituanshan Group 3 (Fig. 6.10: 7), albeit they are slightly different in the neck part.

The above comparison indicates that the Xituanshan Group 3 pottery is roughly contemporaneous with the early and middle stage cemeteries of the Hanshu culture phase II. Since the early and middle stages of the Hanshu culture phase II dates to the Warring States period, it is inferred that the Group 3 cemeteries of the Xituanshan culture also date to the Warring States period.

As shown in the analysis above, it was determined that the Group 1 and Group 3 cemeteries date to the Western Zhou and Waring States periods, respectively. Since the pottery unearthed from the three Groups of cemeteries falls on a chronological evolutionary line in terms of their shapes and styles, with Group 2 in between, Group 2 is inferred to be between the Western Zhou period and the Warring States period. That is, it can be dated to the Spring and Autumn period.

Since the three groups of pottery, which are typologically categorized, have been proven to be in chronological succession, if each group is considered to represent a stage, the pottery and the corresponding cemeteries of the Xituanshan culture can be divided into three stages.

The first stage of the Xituanshan culture is represented by the Group 1 pottery, dated to the Western Zhou period, including 32 tombs. They are the Xituanshan 48-49M3, 48-49M9, 50M2, 50M6, 50M7, 50M9, 50M10, 50M18, 50M19, 56M1, Saodagou M2, Xingxingshao AM1, AM24, BM2, BM4, CM1, CM6, CM18, CM19, CM21, DM6, DM11, DM12, DM13, DM16, DM22, the Wenshuihoushan M1, Wanbaoshan M1, Xiaoxishan A-M1, B-M3, and Donglianggang M2, M7.

The second stage is represented by the Group 2 pottery, dated to the Spring and Autumn period, including 26 tombs. They are 48-49M8, 50M1, 50M4, 50M5, 50M14, 50M16, 50M17, Xingxingshao AM6, AM11, AM19, AM20, AM25, AM26, AM30, AM31, CM22, DM15, DM19, DM21, Wangqitun M5, Houshishan 79M36, Xiaotuanshan M2, Xiaoxishan B-M2, M4, and Donglianggang M3, M5.

The third stage is represented by the Group 3 pottery, dating back to the Warring States period, including 39 tombs. They are Xituanshan 48-49M2, 48-49M6, 48-49M11, 48-49M14, 48-49 graves of children, 50M2, 50M8, 50M13, 50M15, Xingxingshao AM10, AM23, AM29, AM34, AM35, DM8, DM9, DM17, DM18, Langtoushan M101, M105, M109, Houshishan 76M2, 76M3, 79M16, 79M19, 79M59,

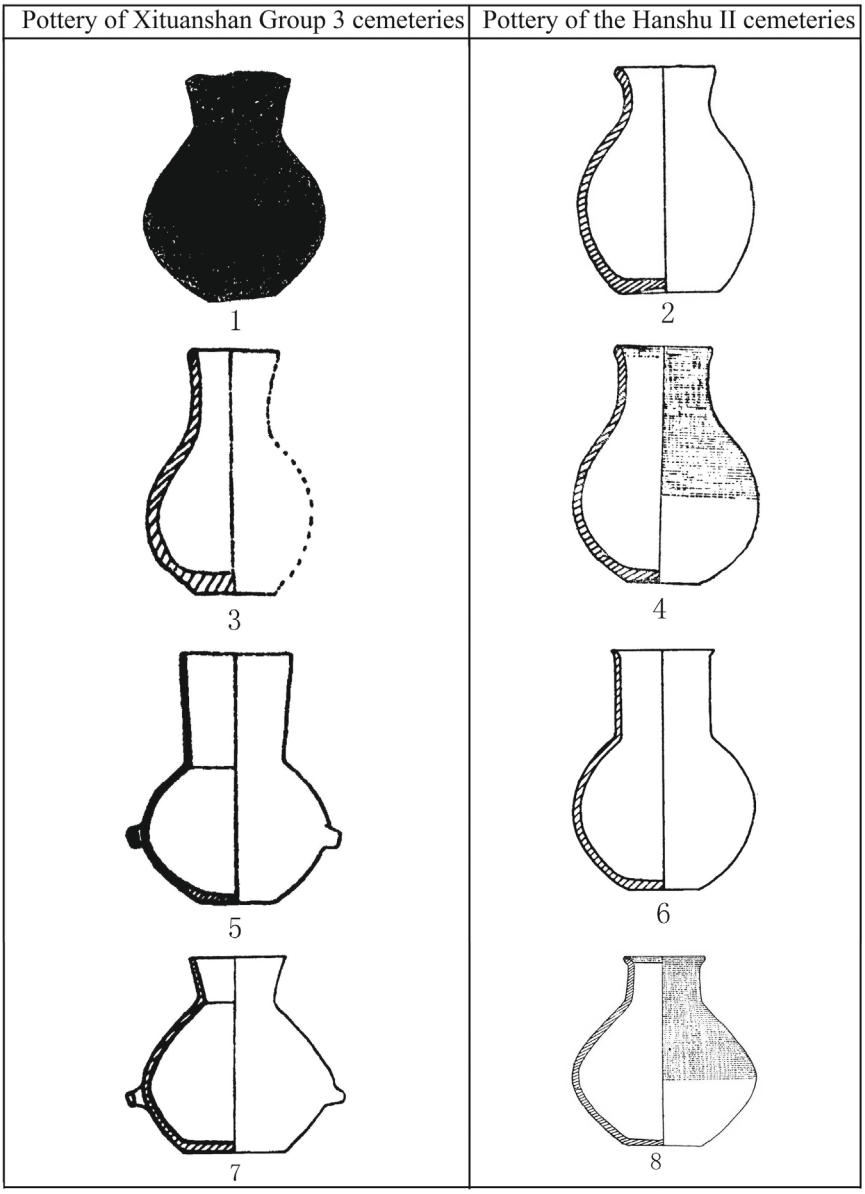

Fig. 6.10 Comparison between the pottery of Xituanshan Group 3 cemeteries and that of the early and middle stage of the Hanshu II cemeteries. 1 (Xituanshan 56M2:1); 2, 4 (Pingyang M104:3, 33); 3 (Houshishan 76M3:2); 5 (Xiaotuanshan M1:4); 6 (unearthed from Houtumu); 7 (Xingxingshao CM21:1); 8 (Pingyang M159:1)

79M60, Tuchengzi M6, M8, M12, M24, Liangbanshan M1, Xiaotuanshan M1, Saodagou M3, M4, M14, M15, M18 and the hill-top tomb.

Apart from the 97 tombs mentioned above, the other tombs with no pottery excavated have not yet been attributed to any stage.

6.1.4 Shapes and Dating of the Bronze Daggers, Square-Socketed Axes, and Curve-Edged Spears

Besides the pottery, a small number of bronzewares were also unearthed from the cemeteries of the Xituanshan culture. In terms of type, these bronzewares are similar to those of the Shuangfang culture, which borders the Xituanshan culture in the south. Regarding the Shuangfang culture, the northeastern type bronzewares such as the column-ridged daggers, square-socketed axes, and axe molds, as well as the curve-edged spears, have been discussed in detail, especially regarding their types, styles, and dating. In the following sections, these bronzewares are discussed in relation to the above periodization of the culture in order to locate the bronzewares of the Xituanshan culture on the timeline.

Seven pieces of Xituanshan culture bronzeware have been unearthed from the same tombs with pottery. One square-socketed axe was excavated together with the Group 2 pottery and was thus dated to the second stage of the Xituanshan culture, the Spring and Autumn period. This axe, Xiaoxishan B-M4:1 (Fig. 6.11: 6), was similar in shape and style to the AII type axe of the middle stage Shuangfang culture (the Spring and Autumn period). This similarity provides further evidence that this type of axe was made in the Spring and Autumn period, or at least no later than that. Another two square-socketed axes were respectively unearthed from the third-stage tombs of the Xituanshan culture, the hill-top tomb at Saodagou (Fig. 6.11: 2) and Langtoushan M101 (Fig. 6.9: 1, 3). These two axes look similar to the AI type and BI type axes of the early Shuangfang culture (the early Western Zhou period). This evidence shows that this type of axe can be dated to the Western Zhou period, and their existence lasted until the Warring States period.

The Xingxingshao AM19:1 (Fig. 6.11: 5) is the only column-ridged dagger that was unearthed together with pottery. Since it was unearthed with the Group 2 Db1II type *hu* vessel (Fig. 6.3: 18), it is also considered an artifact of the second stage Xituanshan culture, the Spring and Autumn period. Based on the type categorizing criteria of the Shuangfang cultural daggers, it is designated as a type I dagger, which can be dated to the Western Zhou or early Western Zhou period. Since no Shuangfang cultural type I dagger has been unearthed together with pottery later than the Western Zhou period, the discovery of this Xingxingshao AM19:1 indicated that the type I daggers appeared as early as the Western Zhou or early Western Zhou period. Its existence lasted, at least, until the Spring and Autumn period.

Three curve-edged spears were unearthed with accompanying pottery. The Goushishan 79M19:1 (Fig. 6.11: 1) was accompanied by a Group 3 guan vessel with

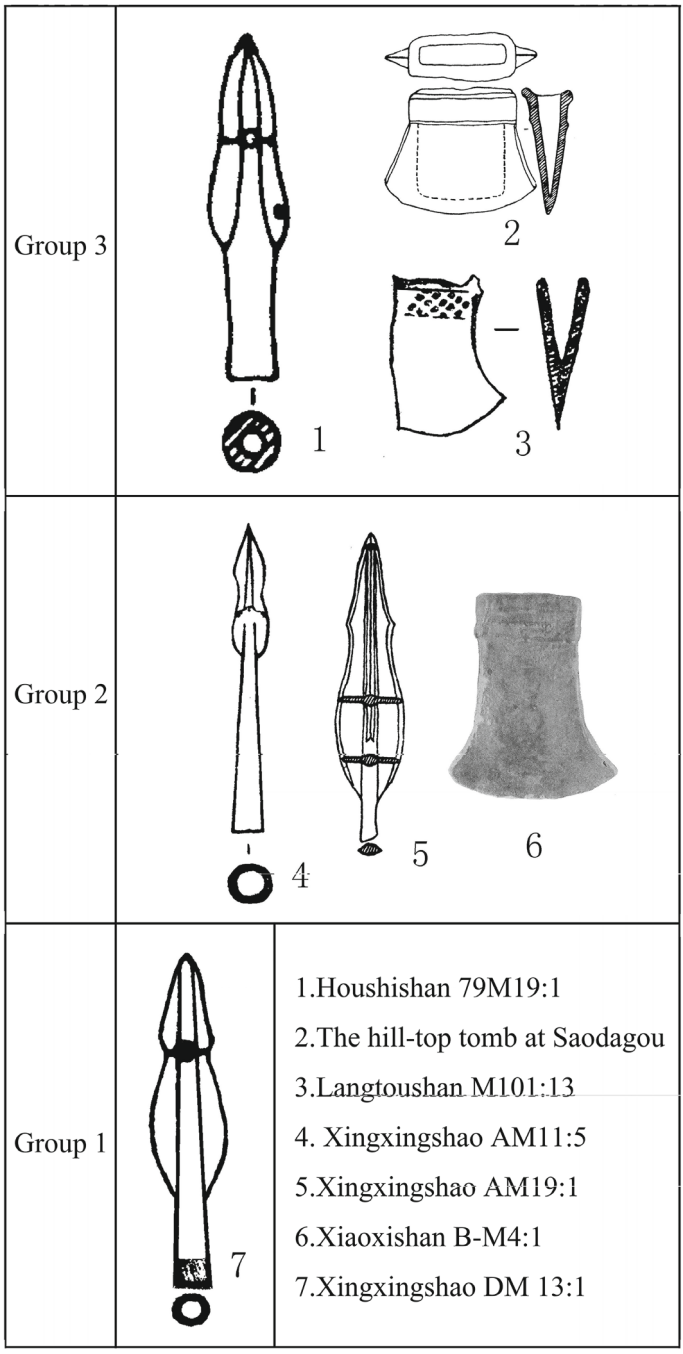

Fig. 6.11 Xituanshan culture bronze daggers, square-socketed axes, and curve-edged spears unearthed from the same tombs with pottery

horizontal handles and a bulging belly (Fig. 6.6: 4). This spear is dated to the third stage of the Xituanshan culture. Similarly, the Xingxingshao AM11:5 (Fig. 6.11: 4) is dated to the second stage, as its two accompanying pottery pieces, the BII earless *hu* vessel (Fig. 6.1: 5) and the bowl with horizontal handles (Fig. 6.7: 28), belong to the second stage. These two spears of Xituanshan culture stage II and stage III are similar to the Shuangfang type I and type II spears, exhibiting features of the late-stage curve-edged spears.

The Xingxingshao DM13:1 (Fig. 6.11: 7) is the only piece of bronzeware unearthed from a tomb where Group 1 pottery was also discovered. Since this spear was unearthed accompanied by Group 1 pottery, the Db2I type hu vessel (Fig. 6.3: 22), it was designated as belonging to the first stage of the Xituanshan culture. This spear is edgeless and has a pointed protrusion and a column ridge. Its back section is longer and wider than the front section. These features indicate that it represents the early form of the Xituanshan culture stage II and stage III spears and the type I spears of the neighboring Shuangfang culture. Its overall design is also similar to the Shuangfang type I column-ridged daggers. Since this spear was unearthed from the stage I cemetery of the Xituanshan culture, the age of this spear should be no later than the Western Zhou period. That is, this spear appeared in the same period as the Shuangfang column-ridged daggers. Therefore, it can be speculated that the type I column-ridged daggers in the eastern area of the northeast, the earliest column-ridged daggers, were probably cast in the shape of a curve-edged spear. That is, the column-ridged daggers are considered a derivation of the curve-edged spears. The age of these types of daggers should be no later than the Western Zhou period, maybe as early as the early Western Zhou period. The type I to V double-bladed curve-edged daggers were referred to as 'spear-shaped daggers' when discussing the Shuangfang cultural column-ridged daggers. With this term, a clear point is stated that the curve-edged spears were the early form of the northeastern type of bronze daggers.

Several other pieces of bronzeware from the Xituanshan culture, including column-ridged daggers, square-socketed axes, and curve-edged spears, were unearthed from tombs where no pottery was discovered. Therefore, they cannot be dated in reference to the age of the pottery. Judging from their shapes and styles, they can also be attributed to a corresponding type of Shuangfang culture bronzeware. For example, the three unearthed bronze daggers, the Xiaoxishan A-M2:1, the dagger from Daqingshan, Huaide county (Jilin Provincial Cultural Relics Administration Committee, 1974), and the one from the Changsheshan, Jilin city (Jilin Municipal Museum, 1996) are similar to the type II daggers of the middle stage, and the type VI and VII column-ridged daggers of the late stage Shuangfang culture, respectively. This similarity indicates that the Shuangfang culture daggers types also appeared in the Xituanshan culture.

6.2 Stage-Based Analysis of the Excavated Materials of the Xituanshan Culture

There are nine sites of the Xituanshan cultural remains where pottery has been unearthed. These sites include Jilin Changsheshan, Houshishan, Liangbanshan, Tuchengzi, the Qianshan site at Paoziyan, the Xuegudongshan in Yongji county, Dahaimeng at Yangtun village, Laoheshen in Yushu county, and Zhushan at Huangyuquan village in Shulan county. Of these nine sites, the Dahaimeng site and the Changsheshan site revealed relatively abundant excavations with clear stratification. Therefore, the following stage-based analysis starts with these two sites.

6.2.1 Excavation Grouping of the Two Stratified Sites, Dahaimeng and Changsheshan

6.2.1.1 Grouping the Excavation Materials of Dahaimeng

At the Dahaimeng site, a small number of artifacts were found during the first excavation in 1971 (Liu, 1973), and numerous materials were discovered in the second excavation in 1979 (Jilin Municipal Museum, 1987) and the third excavation in 1980 (Jilin Provincial Archeological Team, 1991).

Based on the stratum and with reference to the unearthed pottery, the 19 units reported by the second excavation in 1980 were first classified into three groups in chronological order.

The first group includes eight units, T1⑤, T2⑤, T4⑤, T10⑤, H2, F4, F1, and F2.
The second group comprises four units, T1④, T7④, F6, and M33.
The third group includes seven units, T12②, T3③, T4③, T6③, T15③, G1③, and H5.

Similarly, the 11 units reported by the 1979 excavation were divided into two groups: the first group, including F1 and W1, and the second group, including T1②, T3②, T5②, T6②, T7②, T8②, T9②, F2, and F6.

By comparing the three groups of materials from the 1980 excavation and the two groups from the 1979 excavation, the five groups of materials from the Dahaimeng site were recategorized into three larger groups.

Group 1: the first group from the 1980 excavation and the first group from 1979.
Group 2: the second group from the 1980 excavation.
Group 3: the third group from the 1980 excavation and the second group from 1979.

6.2.1.2 Grouping the Excavation Materials of Changsheshan

The Changsheshan site was excavated three times, in 1957, 1962, and 1963 respectively (Jilin Provincial Archeological Team, 1980), during which the remains of 6 houses were discovered in 1957 (57F1-6), 3 in 1962 (62F1-3), and 6 in 1963 (63F1-6). The excavation report reveals that all 15 of these houses were at stratum ③. Therefore, they should not be older than the rest of stratum ③ of the site. Based on this stratum information, the 12 units where pottery has been discovered can be divided into three groups in time order.

Group 1: 63T19⑦, 63T19⑧
Group 2: 63T8④
Group 3: 57F1-3, 57F6, 62F1, 62F3, 63F1, 63F3, 63F6.

6.2.1.3 Temporal Relationship Between the Dahaimeng Groups and the Changsheshan Groups

There is strong evidence that the Changsheshan Group 3 pottery is roughly the same age as that of Dahaimeng Group 3. First, the 63F6:129 *ding* tripod of Shangsheshan Group 3 is the same as the 80T15③:5 of Dahaimeng Group 3 regarding the shape of the belly area, although the foot of the 63F6:129 is damaged. Second, the belly of the 57F6:20 *ding* tripod of Changsheshan Group 3 resembles that of the Dahaimeng 79F6:8, although its three feet are a little bit shorter than the latter's. The 57F2:189 and 57F3:124, two horizontal-eared *wong* vessels with bulging bellies, of Changsheshan Group 3 look similar to the 80G1③:1 of Dahaimeng Group 3. In addition, *hu* vessels similar to the 79T9②:11 and 80T4③:12 of Dahaimeng Group 3 were also found in the 62F3 (62F3:56, 58) of Changsheshan Group 3.

Regarding the Group 1 pottery of the two sites, the 63T19⑦:53, a straight-bellied *guan* jar with lugs, is similar in shape to one from Dahaimeng Group 1 (80F4:8). Also, the 63T19⑧:48, a *ding* with a flat base, shares a similar belly shape with the 80F4:8, a guan jar with lugs, of Dahaimeng Group 1. It looks like a derivation of the latter with three feet added. These similarities show that the age of Changsheshan Group 1 is relatively close to that of Dahaimeng Group 1.

As for the relationship between the second groups of each site, no counterpart of the Damenghai Group 2 pottery has been found in Changsheshan Group 2. However, considering that the first and third groups of the two sites share similar ages, we assume that the age of Changsheshan Group 2 is roughly similar to that of Dahaimeng Group 2.

6.2.2 Excavations of Other Sites

Unlike the above two sites, the other seven sites of the Xituanshan culture, the Laoheshen in Yushu county, Zhushan at Huangyuquan of Shulan county, Qianshan in Jilin, Houshishan in Jilin, Liangbanshan in Jilin, Tuchengzi in Jilin, and the Xuegudongshan in Yongji county, have produced few materials in comparison. At the same time, these excavations lack consistency and stratum information. Therefore, it is almost impossible to group the sites and decide their ages based solely on the finds of these two sites. Alternatively, attempts can be made to group and date the two sites by comparing their unearthed pottery either with those of Dahaimeng or Changsheshan or with the overall typology-based sequence of the pottery within the entire Xituanshan cultural remains or even with the pottery of other archaeological cultures.

6.2.2.1 The Laoheshen Site in Yushu

At the Laoheshen site in Yushu, two houses (F1 and F2)(Jilin Provincial Institute of Archaeology, 1987) were discovered. Regarding the unearthed pottery, two *ding* vessels with horizontal ears, F1:3 and F2:1, are similar in shape to the 79W1:1 of Dahaimeng Group 1. Also, the *ding* vessel with lugs, F1:2, may be classified as having derived from the 86TG1②:11 discovered at Wanliu, from the late-stage Machengzi culture. Based on these two pieces of evidence, these two units from Laoheshen are considered contemporaneous with Dahaimeng Group 1.

6.2.2.2 The Zhushan Site

At the Zhushan site, nine houses and one ash pit were discovered (Jilin Provincial Archeological Team, 1985), with three units, F2, F3, and F5, specified in the excavation report. Since the ceramics from F5 share no similarity with those that were dated precisely, the age of the F5 cannot be inferred. The shapes and styles of the ceramics from F2 and F3 indicate that these two houses are similar in age to Damenghai Group 2 and Changsheshan Group 2. For example, the vertical-handled *hu* vessel with a bulging belly (F2:1) falls between the 80H5:4 of Damenghai Group 3 and 80F1:26 of Group 1, judging by its shape. Similarly, the shape of the vertical-handled *hu* vessel with a round belly (F3:19) falls between those of the 79T1②:14 of Damenghai Group 3 and 80T10⑤:7 of Group 1. The F3:10 horizontal-eared *ding* vessel looks almost the same as the 80T1④:8 of Dahaimeng Group 2.

6.2.2.3 The Qianshan Site

At this site, five units were discovered with ceramics (Jilin Provincial Museum, 1985). F3② and W1 are considered contemporaneous with Dahaimeng Group 1, as the round-based *ding* vessel with a straight belly (F3②:3) and the round-bellied *hu* vessel with horizontal ears (W1:1) are similar, respectively, with the corresponding vessels, 79W1:1 and 80T10⑤:7 of Dahaimeng Group 1. The two *hu* vessels, W2:1 and F1②:3, appear to be predecessors of the 62F3:56 and 58 of Changsheshan Group 3. The flat-based *ding* vessel, F2②:2, can be considered a later developed type of the 63T19⑧:48 of Changsheshan Group 2. Therefore, it is inferred that the three units, F1, F2, and W1, can be attributed to the same time as Changsheshan Group 2.

6.2.2.4 The Houshishan Site

Five units from this site were reported with unearthed ceramics (Dong, 1983; Jilin Archaeology Training Program, 1980). The dating of two units was accomplished using the information provided by the excavated ceramics. The *ding* tripod with a straight belly and two lugs, 76F3:1, is similar to the 79W1:1 of Dahaimeng Group 1. Regarding the shape and style of this *ding* tripod, it can be considered a predecessor type of the Zhushan F3:22, a *ding* tripod with double lugs. Since the Zhushan F3:22 is similar to Dahaimeng Group 2, the 76F3:1 is dated to the same period as Dahaimeng Group 1. The *li* tripod, 79IIT2③:58, relatively short with horizontal ears and a straight belly, resembles the straight-bellied *li* tripod, Wanliu 88H2:2, of the late-stage Machengzi culture. It is, therefore, considered to be the same age as Dahaimeng Group 1. Due to the lack of ceramic comparison evidence, the age of the other three units is unclear.

6.2.2.5 The Liangbanshan Site

No intact ceramic has been unearthed from this site, with only potsherds being reported (Zhang, 1964). The T3③:14, the rim part of a guan jar with lugs, is similar to the 80F6:1 of Dahaimeng Group 2. The T4③:1, a part of a *li* tripod, shows a horizontal ear, round rim, and straight mouth, which resembles the 80F6:9 of Dahaimeng Group 2. Based on these two pieces of information, the ceramics of the Liangbanshan site are dated to the time of Dahaimeng Group 2.

6.2.2.6 The Xuegudongshan Site

On this site, only one unit has been discovered (Jilin Municipal Museum, 1981). The shallow vessel, a boat-shaped vessel with vertical ears, unearthed from this unit is considered the latest developmental form of the F1:8 and F2:16 in Dahaimeng Group 1. The unearthed *ding* tripod with a concave base and flared feet is regarded

as a development of the Zhushan F3:4, although the upper part of this *ding* tripod is broken. In addition, since the boat-shaped vessel is similar to those of the early Han dynasty (Liu, 1982), this unit is dated to the time of Dahaimeng and Changsheshan Group 3 or later.

6.2.2.7 The Tuchengzi Site

Regarding this site, only four ceramics with no serial numbers can be found in the literature (Jilin Provincial Museum, 1957; Tong, 1957). Of the four artifacts, one cylindrical jar with lugs is similar to the 63T19⑦:53 of Changsheshan Group1. The two *li* tripods with lugs and the one with horizontal ears are small in size and fall in between the shape of a *li* tripod and *ding* tripod. In addition to these features, their shape also indicates a successive relationship with the *li* tripod of the late-stage Machengzi culture. Therefore, the four ceramics from the Tuchengzi site are of the same age, contemporaneous with Changsheshan and Dahaimeng Group 1.

6.2.3 Periodization and Dating of the Xituanshan Finds

Based on the comparison of the ceramics from other sites with those of Dahaimeng and Changsheshan, the finds of all the Xituanshan cultural sites are divided into three sequential stages:

The finds of stage I, represented mainly by Dahaimeng Group 1 and Changsheshan Group 1, include the lower layer F1 and F2 of the Laoheshen site, the Qianshan F3② and W1, Houshishan 76F3, 79IIT2③, and some of the ceramic from Tuchengzi.

The finds of stage II, represented by Dahaimeng Group 2 and Changsheshan Group 2, include the Zhushan F2 and F3, Liangbanshan T3③ and T4③, and Qianshan F1②, F2②, and W2.

The finds of stage III are represented by Dahaimeng Group 1 and Changsheshan Group 1. The Xuegudongshan F1 is also included in this stage.

See Figs. 6.12 and 6.13 for the prototypical ceramics and their evolutionary pattern across these three stages.

The Xituanshan cultural remains unearthed from the sites such as Dahaimeng, Zhushan, Qianshan, Laoheshen, and Xuegudongshan, were under the stratum of the remains dating from the late Warring States to the Han dynasty. This stratum relationship indicates that the Xituanshan culture lasted no later than the late Warring States period.

Similar to the tomb excavations, some of the ceramics unearthed from the Xituanshan cultural remains also indicate a close relationship with those from the late-stage remains of the Machengzi culture, a culture earlier than the Xituanshan culture. This relatedness can be observed from the main type of ceramics from these sites, the *ding*

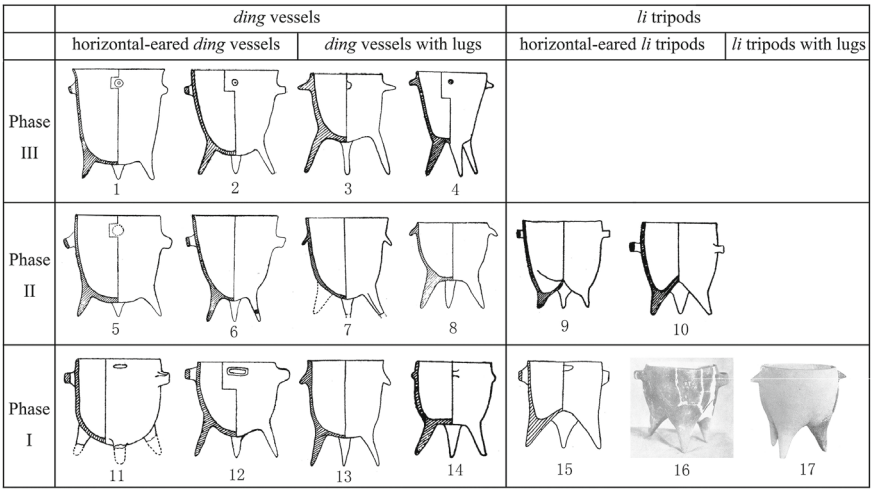

Fig. 6.12 Comparison and Periodization of the pottery unearthed from the Xituanshan cultural sites (*ding* vessels and *li* tripods) 1, 2, 3, 5, 6, 11, 12 (Dahaimeng 80T15③:5, 79T6②:16, 80T3③:12, 80F6:9, 80T1④:8, 79W1:1, 80H2:19); 4, 10, 14 (Changsheshan 57F3:28, 63T8④:21, 63T19⑧:48); 7, 9 (Zhushan F3:22, F2:3); 8 (Qianshan F2②:2); 13, 15 (Houshishan 76F3:1, 79IIT2③:58); 16, 17 (unearthed from Tuchengzi)

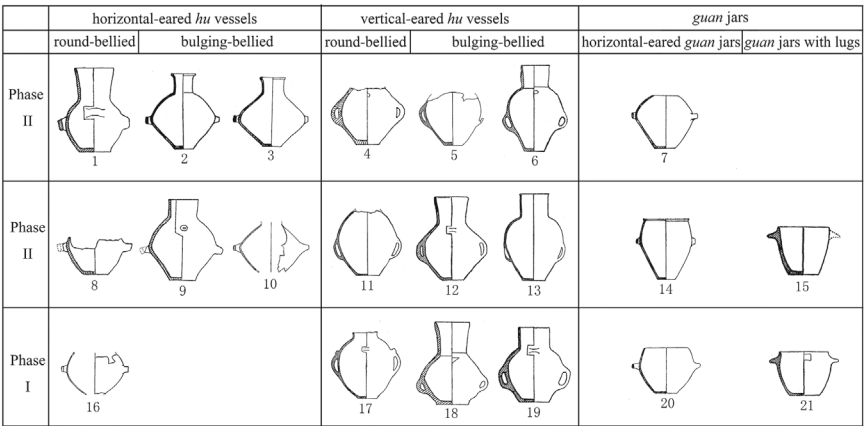

Fig. 6.13 Comparison and periodization of the pottery unearthed from the Xituanshan cultural sites (*hu* vessels and *guan* jar). 1, 4, 5, 6, 8, 9, 12, 14, 15, 17, 18, 19, 20, 21 (Dahaimeng 80T4③:8, 79F2:12, 79T1②:14, 80H5:4, 79 collected:109, 79 collected:21, 80F6:8, 80T7④:8, 80F6:1, 80T10⑤:7, 80F2:19, 80F1:26, 80F2:21, 80F4:8); 2, 3, 7 (Changsheshan 62F3:56, 62F3:58, 57F2:189); 10, 16 (Qianshan F1②:3, W1:1); 11, 13 (Zhushan F3:19, Zhushan F2:1)

tripods and *li* tripods. For example, the Xituanshan stage I ceramics (Laoheshen F1:2 straight-bellied *li* tripod, Laoheshen F2:2 slant-bellied *ding* tripod, Changsheshan 63T19⑧:48 *ding* tripod with an arced belly, and Qianshan F3②:3 round-based *ding* tripod) (Fig. 6.14: 1–4), show a clear inheritance relationship with those of the late-stage Machengzi culture (Wanliu 86TG1②:11, Wanliu 88T30②:3, Xinle SV74:49, Shuntunshan M9:3) (Fig. 6.14: 5–8). A similar inheritance relationship can also be observed between other ceramics of the Xituanshan Stage I (Fig. 6.14: 9–12) and the corresponding artifacts of the late-stage Machengzi culture (Fig. 6.14: 13–16). Since the late-stage Machengzi culture dates to the late Shang period, the Xituanshan culture remains cannot be earlier than that. Furthermore, the *ding* tripods and *li* tripods from the two cultures show no large time interval between their ages. Therefore, the Xituanshan stage I remains can be dated to the early Western Zhou period. With the above evidence, the Xituanshan culture stage I-III is considered to span from the Western Zhou to the Warring States period.

6.3 Staging and Age of the Xituanshan Culture

The previous two sections have divided the tombs and remains of the Xituanshan culture respectively into three stages and concluded that they both span from the Western Zhou to the Warring States period. In section one, the three stages of the tombs were identified through ceramic comparison: stage I is the Western Zhou period, stage II is the Spring and Autumn period, and stage III is the Warring States period. Next, by clarifying the correspondence between the different stages of the remains and those of the tombs, the Xituanshan culture is periodized and dated.

As discussed above, the ceramics unearthed from the remains are slightly different from those from the tombs in terms of both types and shapes. The major types of vessels, *ding* tripod and *li* tripod were mainly discovered in the remains and were seldomly found in the tombs. Another difference is that a number of earless hu jars were found in the tombs, but almost no such artifacts were found in the remains. Nonetheless, there are still some ceramics of different stages that have been found both in the remains and the tombs. In the following, the ceramics from the Xituanshan cultural remains and those from the tombs are compared in detail.

Similarities are observed between the Dahaimeng 80F2:21 (Fig. 6.15: 11), a horizontal-eared guan jar from the stage I site, and the Xiaoxishan M1:2 (Fig. 6.15: 14). The Dahaimeng 80F4:8 (Fig. 6.15: 12), a guan jar with lugs, shows similar features, like an arced belly, sharp-edged round lip, and slightly tapering mouth, to the 50M19:3 of the Xituanshan stage I tomb (Fig. 6.15: 15). Other similarities between the ceramics of the stage I remains and stage I tombs include the tapering-mouthed *li* tripod with lugs from Tuchengzi site (Fig. 6.15: 15) and the Donglianggang M2:7 (Fig. 6.15: 18), Changsheshan 63T19⑧:48 (Fig. 6.15: 16) and Saodagou 53M2:599 (Fig. 6.15: 17).

Of the stage II ceramics, the Dahaimeng 80F6:3 (Fig. 6.15: 7) and the Dahaimeng 80F6:1 (Fig. 6.15: 8) are respectively similar to the two tomb-unearthed ceramics,

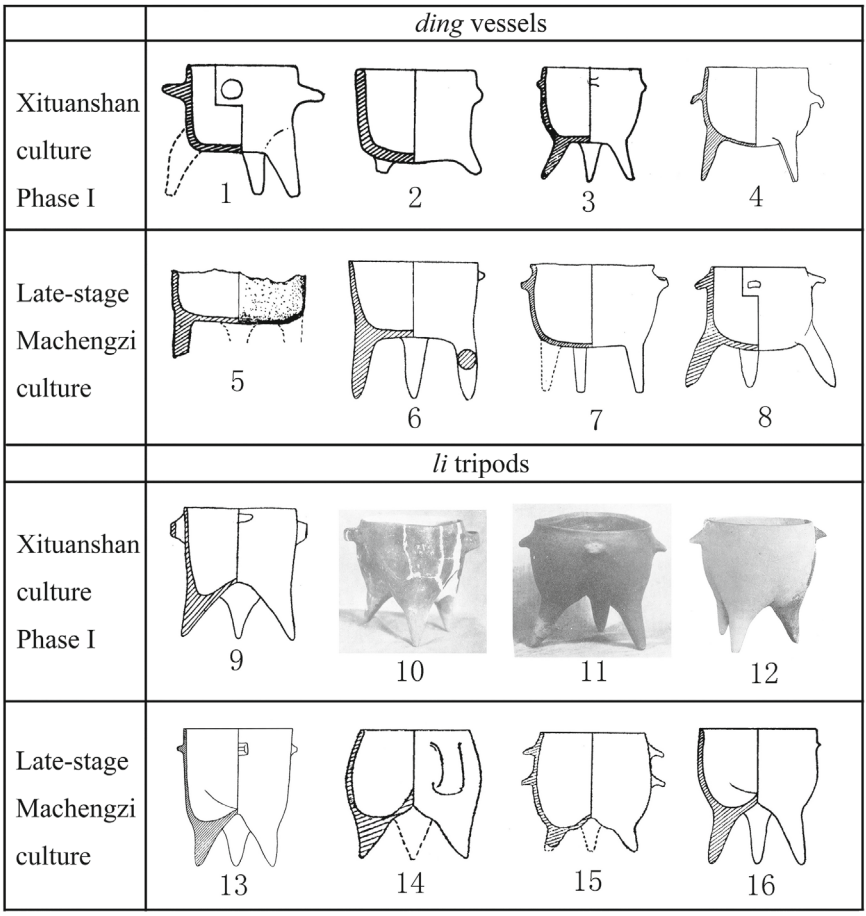

Fig. 6.14 Comparison between the pottery of the Xituanshan culture Phase I and that of the late-stage Machengzi culture. 1, 2 (Laoheshen F1:2, F2:2); 3 (Changsheshan 63T19⑧:48); 4 (Qianshan F3②:3);

Xituanshan 50M1:3 (Fig. 6.15: 10) and the Xituanshan 50M14:5 (Fig. 6.15: 9). Although the small jar 80F6:3 has a straight belly, its burl-shaped ears resemble the features of the Xituanshan 50M1:3. The Dahaimeng 80F6:1 and the Xituanshan 50M14:5 share the features of a straight wall, sharp-edged round lip, and flared mouth.

Similarities were also found between the ceramics of the stage III remains and stage III tombs. For example, the Dahaimeng 80T4③:8 *hu* vessel with horizontal ears (Fig. 6.15: 1) resembles the Langtoushan M101:1 (Fig. 6.15: 6) in its round bulging belly and high and flared neck. Also, the Changsheshan 57F3:199 (Fig. 6.15: 2), a *ding*-like tri-legged *bo* vessel, which is flat-based and small in size, shares a similar style with the Xituanshan 50M8:3 (Fig. 6.15: 4). In addition, the shape of the

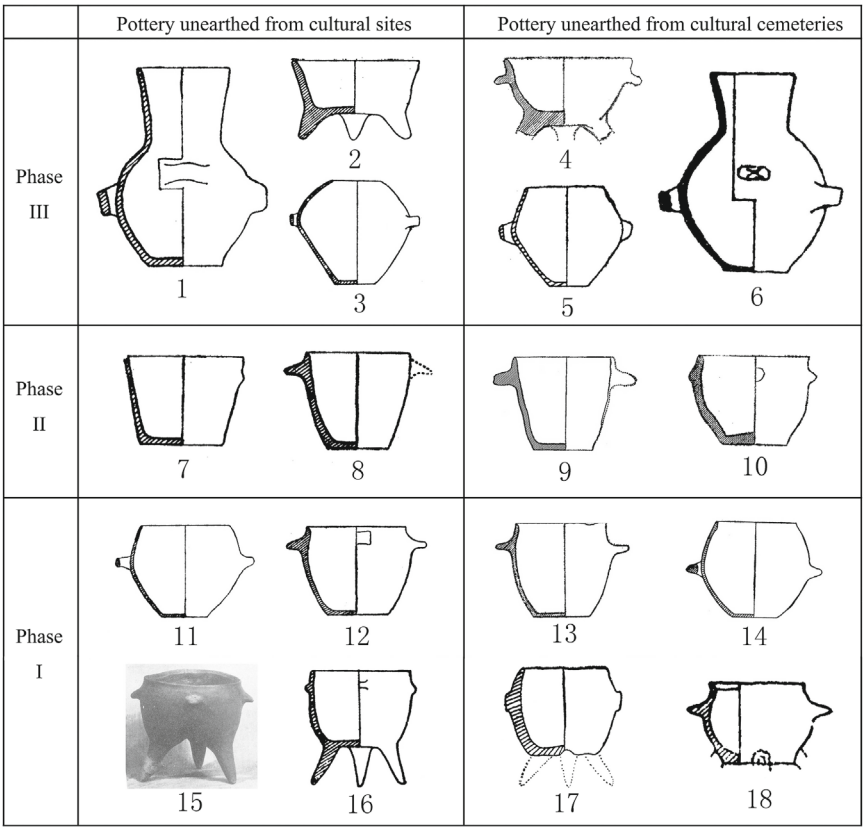

Fig. 6.15 Comparison between pottery unearthed from Xituanshan cultural sites and cemeteries 1, 7, 8, 11, 12 (Dahaimeng 80T4③:8, 80F6:3, 80F6:1, 80F2:21, 80F4:8); 2, 3, 16 (Changsheshan 57F3:199, 57F2:189, 63T19⑧:48); 4, 9, 10, 13(Xituanshan 50M8:3, 50M14:5, 50M1:3, 50M19:3); 5 (Houshishan 79M19:2); 6 (Langtoushan M101:1); 14 (Xiaoxishan A-M1:2); 15 (unearthed from Tuchengzi); 17 (Saodagou 53M2:599); 18 (Donglianggang M2:7)

Changsheshan 57F2:189 (Fig. 6.15: 3) is almost the same as that of the Houshishan 79M19:2 (Fig. 6.15: 5), both showing a tapering mouth and a bulging belly tapering at the lower part.

All the above-listed similar ceramics substantiate the fact that the three stages of the Xituanshan culture correspond with the three stages of the Xituanshan tombs. That is, the Xituanshan culture can be divided into three stages, the early stage, the middle stage, and the late stage.

The early stage is represented by the stage I tombs and stage I sites, dating to the Western Zhou period.

The second stage, represented by the stage II tombs and stage II sites, dates to the Spring and Autumn period.

The late-stage, represented by the stage III tombs and stage III sites, dates to the Warring States period.

6.4 Chronological Coordinates of Archaeological Cultures of the West Songhua River Basin

In the West Songhua River Basin, no cultural remains of the Xia to Shang period have been discovered. After the Zuojia culture of the Neolithic Age, the Xituanshan culture is the only archaeological culture that has been discovered between the Xia to the Warring States period. Therefore, the three stages of the Xituanshan culture can be considered a chronological frame of reference for the archaeological cultures of the area.

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Chapter 7
Staging and Chronology of Archaeological Cultures in the Tumen River Basin

Abstract Chapter Seven focuses on the staging and chronology of archaeological cultures in the Tumen River basin. According to the stratigraphic relationship revealed by the Wudong site in Hoeryong city, North Korea, and the archaeological findings from this region, the ancient cultural remains in the Tumen River basin dating from the Xia period to the Warring States period are divided into two cultures. The earlier Xingcheng culture is subdivided into an early phase and a late phase according to the stratigraphic sequence of the Xingcheng site, while the later Liutingdong culture is also divided into an early phase and a late phase based on the stratigraphic relationships of the Wudong site. Finally, through vertical chronological comparison, the Tumen River basin is divided into four stages: the Xia to early Shang period (early Xingcheng culture); the late Shang period (late Xingcheng culture); the Western Zhou to Spring and Autumn period (early Liutingdong culture); and the Warring States period (late Liutingdong culture).

The Tumen River originates from the eastern foot of Mount Baitou and meanders from south to north between the Changbai Mountains and the Hamgyong Mountain Range. It turns eastward from Tumen City and finally flows into the Sea of Japan. The main tributaries of the Tumen River along the way are the Hailan River, Burhatong River, Gaya River, Hunchun River, etc. The northern part of this water system is the Suifen River Basin, and to the west of Laoyeling are the upper reaches of the Mudanjiang River. The area covered is mainly the southeast of the Yanbian Korean Autonomous Prefecture in Jilin, the northeast of North Hoamyong/Hamgyongbuk-do in North Korea, and the southern end of the Russian coastal area (Fig. 1.1: 7).

The materials published so far reveal that although only sporadic cultural remains of the Xia to the Warring States period have been discovered in the Tumen River basin, their distinctive features and stage characteristics can be observed. In particular, the information regarding stratum relationship and coexistence of cultures observed from the Wudong site in Hoeryong city (Institute of Archaeology and Folklore of the Academy of Sciences in the Democratic People's Republic of Korea, 1960), North Korea, and Xingcheng site in Helong county, Jilin province (Jilin Provincial Institute of Cultural Relics and Archaeology, 2001) makes it possible to identify the

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archaeological culture of this area during the Xia to the Warring States period and to explore their staging and chronology further.

7.1 Stratum of the Wudong Site and the Analysis of Related Sites

7.1.1 Analysis of the Stratum Situation and the Pottery of the Wudong Houses in Hoeryong

The Wudong site of Hoeryong is located in North Korea on the east bank of the middle reaches of the Tumen River, not far from Helong County and Yanji City in Yanbian Korean Autonomous Prefecture. The excavation of this site began in 1954 and ended in 1955. The major findings published in the excavation report include eight remains of houses. The reported line graph and description of the houses indicate an overlap or interweaving relationship among the three house sites of IV, V, and VI (hereinafter referred to as F4, F5, F6) (Fig. 7.1).

It can be seen from the plan of the site in the excavation report that the sites of two houses, F4 and F5, do overlap in space, but it is difficult to determine which one existed earlier. The report also mentions that 'house site IV may have been destroyed during the construction of house V.' Combining this description and the site plan, we regard F4 as being earlier than F5, and the former was damaged during the latter's construction. In contrast, the stratum of F6 is very clear. Both the line drawing and the text description show that it is superimposed on F5, which means it was constructed later than F5. The relationship between the three houses in terms of stratum as well as the age of the three houses can be expressed as F6 → F5 → F4. That is, the three houses appeared in time order of F4, F5, and F6, with the later houses overlaid on top of, resulting in damage to, the earlier ones.

According to the report, F4 and F5 have had clear groups of ceramics unearthed from them. Although there are few finds from F6, 'a deep jar with a breast-shaped handle' is reported as having been found in F6. Therefore, the only deep jar with a breast-shaped handle reported should be from F6. Some, though maybe not all, of the rim part potsherds with papillary ears come from F6. Nonetheless, all of them can be dated to the same time as F6.

Both commonalities and differences can be found in the three groups of ceramics unearthed from F4, F5, and F6 (Fig. 7.1). They are mainly plain-faced cylindrical pots with no three-legged pottery. Different groups also have distinctive features. For example, the cylindrical jars of F4 show flared rims, and some have applique patterns near the rim. Most of them also have false ring feet. In contrast, the cylindrical jars of F5 are mainly straight-mouthed with flat bottoms. Exceptions in this group have applique patterns along the outside of the rims. The overall shape of the F6 group is basically the same as that of F5. The difference lies in that, for F6 jars, a pair of small papillary ears are attached to the outside of the rims. In F4, besides the cylindrical

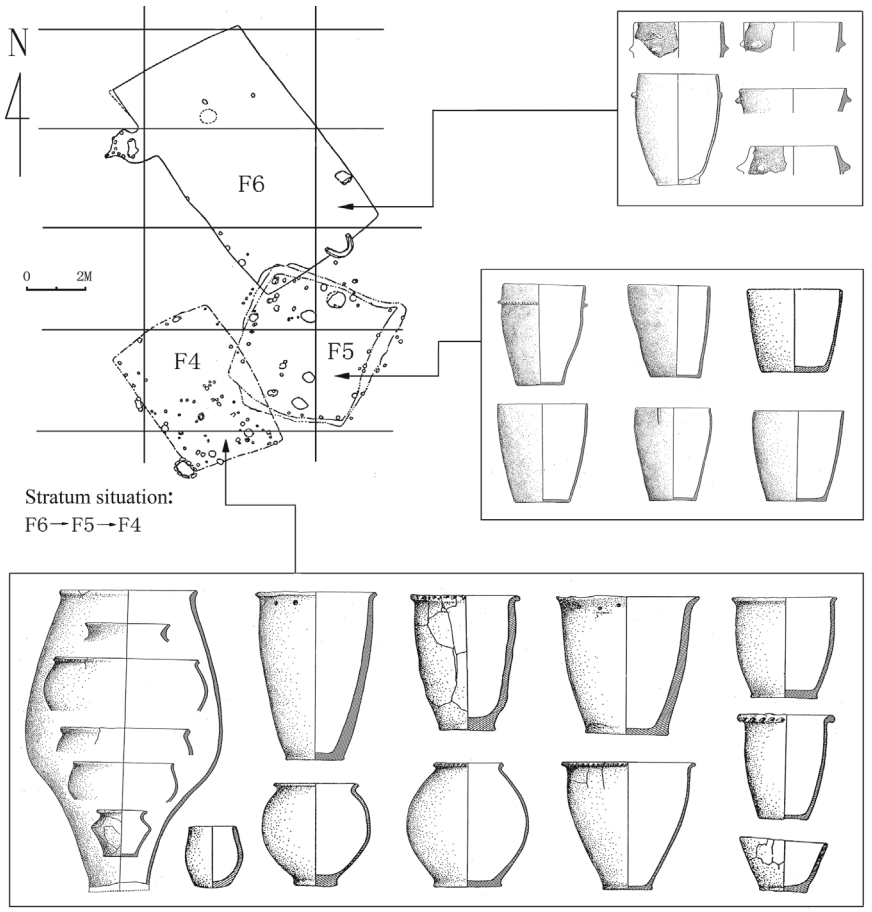

Fig. 7.1 Stratum situation and the pottery of the house sites, F4, F5, and F6, at Wudong, Hoeryong

tanks, there are also vessels such as *weng* urns and *guan* jars which are plain-faced with a flaring mouth and bulging belly.

Based on the above analysis, two preliminary conclusions can be drawn: First, the plain-faced pottery with a flat bottom instead of tripods is a cultural commonality in the area where the site is located. Second, the ceramics of F4 with distinctive features are older than the other two groups and should be regarded as an archeological culture alone. The ceramics of F5 and F6 differ from those of F4, and they also came later than those of F4. Therefore, F4 and F6 can be regarded as another archeological culture. As for the difference between the F6 and F5 sets of pottery (with or without small papillary ears), it can be considered as the difference between an earlier stage and a later stage of the same archaeological culture.

7.1.2 Two Different Archaeological Cultures in the Tumen River Basin

Regarding the sites where the F4, F5, and F6 groups of ceramics were unearthed, similar archaeological sites have also been found on the China side of the Tumen River valley. However, these sites have yet to be sequenced due to a lack of clear stratum information.

In his 1985 paper *On the Tuanjie archaeological culture,* Lin was the first to distinguish the remains represented by five sites, Liutingdong site of Yanji, the Xinhualü cemetery, the Jingu cemetery in Yanji, the Jincheng cemetery in Wangqing, and the lower Xinanlü site, from the Tuanjie culture, and he refers to the former five sites as the Liutingdong type. He notes that of the Liutingdong type, the ceramics only consist of some simple-shaped items like cylindrical jars, basins, bowls, and cups, with some exceptions possessing small papillary ears. The features like the straight mouth and flat base, as well as the papillary ears of these ceramics, indicate that this Liutingdong type is the same as the ceramics from F5 and F6 of the Wudong site in Hoeryong. As such, the Liutingdong type can be regarded as belonging to the same culture as the Wudong site in Hoeryong. Since the characteristics and age, as well as the distribution range of the Liutingdong type, can now be demonstrated clearly, it is acceptable for it to be named as an archaeological culture, the Liutingdong culture. With reference to the stratum and coexistence information provided by the Wudong site in Hoeryong, the Liutingdong ceramics with flared rims and papillary ears are representative ceramics of the late-stage Liutingdong culture.

In an excavation report on the Neolithic and Bronze Age site at Xingcheng Helong county, the Bronze Age finds of the third, fourth, and fifth stages of the site are called the Xingcheng culture (Jilin Provincial Institute of Cultural Relics and Archaeology, 2001). The ceramic assemblage and styles of this culture, mainly consisting of cylindrical jars, bulging-bellied *weng* urns and slant-bodied bowls, are similar to those of the F4 group of Wudong site in Hoeryong. They are, therefore, both referred to as the Xingcheng culture hereafter. The stratum information observed from the Xingcheng site of Helong county makes it possible for further stage division of the Xingcheng culture.

The fact that the Xingcheng culture was earlier than the Liutingdong type was first noted by Song (2002). Based on the stratum relation between F4 and F5 of the Wudong site in Hoeryong, this paper clarifies that the two cultures should be regarded as the remains of two stages from the Bronze Age in the Tumen River valley, one earlier than the other. This finding is taken as a starting point in the staging and chronology of the archaeological cultures between the Xia to the Warring States period in the Tumen River valley.

To recap the above analysis, we regard the archaeological cultures between the Xia to the Warring States period in the Tumen River valley as two archaeological cultures. The earlier one is the Xingcheng culture, and the later one is the Liutingdong culture.

7.2 Staging and Age of the Xingcheng Culture

The sites of the Xingcheng culture that have been discovered so far include, on the China side, the Xingcheng sites in Helong, Jilin province and Xinlong cemetery in Yanbian, and several sites in North Korea, the Wudong (F4) in Hoeryong, Songpingdong site and Xipohang site in Xiongji. Among them, the Xingcheng site has contributed the greatest abundance of materials, and there are overlapping and breaking relationships between different units. Therefore, the staging and chronological research on the Xingcheng culture in this section is mainly based on the finds of the Xingcheng site for the time being.

7.2.1 Staging and Age of the Xingcheng Culture Based on the Finds of the Xingcheng Site

The Xingcheng site has been excavated twice, first in 1986 and then in 1987 (Jilin Provincial Institute of Cultural Relics and Archaeology, 1998). A total of 21 remains of houses were found. Except for 6 of them, which were seriously damaged, the other 15 had different amounts of ceramics unearthed.

The ceramics assemblage of this site, reported in the book *The Xingcheng Site in Helong* (Jilin Provincial Institute of Cultural Relics and Archaeology, 2001), mainly consists of cylindrical jars, slant-bodied jars, bulging-bellied jars and urns, and bowls (bowls and basins). Based on the differences in the shape of similar pottery, the relative locations of different types of pottery, and the stratum relationship between certain houses, the 15 houses with ceramics can be divided into two stages, stage one and stage two, and further into three phases:

Stage one phase I includes five house remains, 86F2, 87AF4, 87AF6-B、87AF13, 87BF4.

Stage one phase II includes 6 house remains, 87AF6-A, 87AF7, 87AF12, 87BF1, 87BF2, 87BF3.

Stage two phase III consists of five house remains, 86F1, 87AF2, 87AF9, 87AF15.

The representative ceramics of these three phases of two stages can be seen in (Figs. 7.2 and 7.3).

Three main pieces of evidence support the above-mentioned grouping and staging results. First, there are clear distinctions between phases I to III of the same type of ceramics. Second, the coexistence between different types of ceramics of the same style can be clearly observed. The third is the stratigraphic evidence of the overlapping and damaging of house sites between stage one phase I and II. That is, 87AF6-A in stage one phase II is overlaid on 87AF6-B in stage one phase I, and 87BF3 in stage one phase II damaged the site of 87BF4 of stage one phase I.

In addition, the carbon-14 dating of 86F1 of stage two phase III shows that it is 3260 ± 150 years old, and the carbon-14 dating of 87AF7 and 87BF3 of stage one

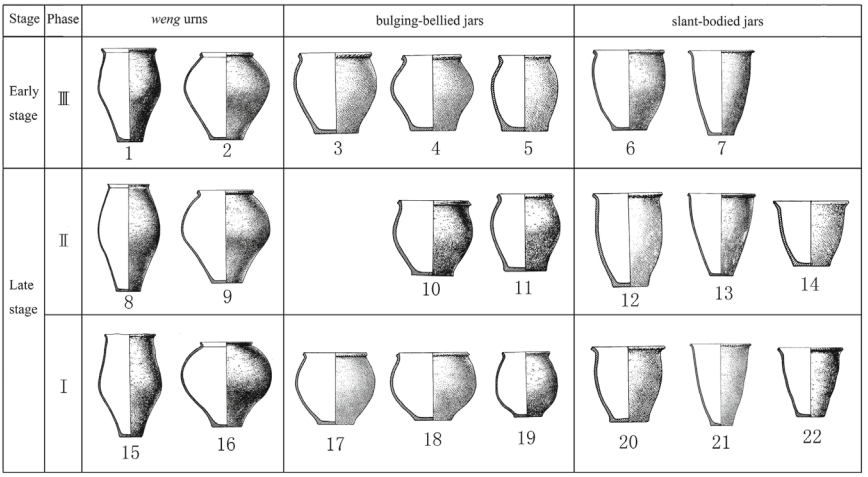

Fig. 7.2 Pottery of different stages and phases of Xingcheng culture (*weng* urn, bulging-bellied jars, and slant-bodied jars). 1–3, 5–7 (86F1:65, 62, 60, 64, 88, 32); 4 (97AF9:29); 8, 10, 139(87BF3:6, 35, 1); 9 (87BF1:34); 11 (87AF12:4); 12 (87BF2:11); 14 (87AF7:12); 15–20 (87AF13:31, 32, 30, 6, 52, 24); 21 (86F2:1); 22 (87BF4:63); (all unearthed from Xingcheng in Helong)

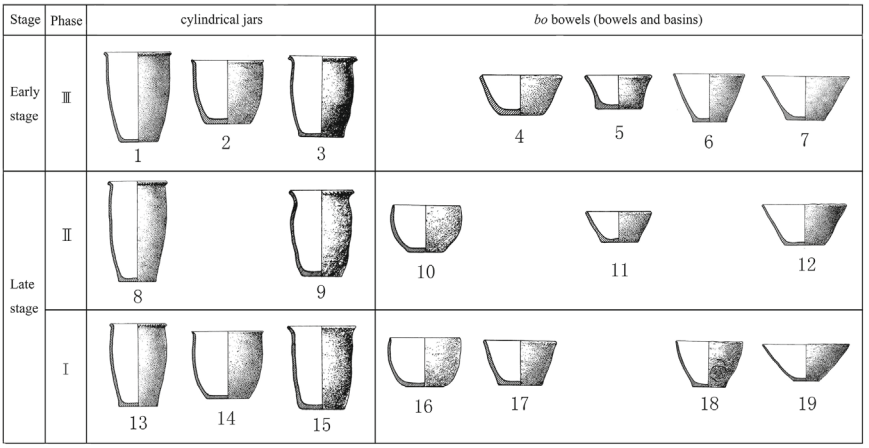

Fig. 7.3 98 Pottery of different stages and phases of Xingcheng culture (cylindrical jars and *bo* bowels). 1, 3–5 (87AF9:26, 28, 45, 49); 2 (87AF15 heap:19); 6 (87AF2:2); 7 (86F1:103); 8, 9, 11 (87AF6 A:3, 8, 4); 10 (87BF3:28); 12 (87AF7:10); 13, 19 (87AF6 B:1, 18); 14–16 (87AF4:4, 7, 2); 17 (87BF4:54); 18 (87AF13:25) (all unearthed from Xingcheng in Helong)

phase II reveals they are 3785 ± 140 years old and 3885 ± 115 years old respectively (values with tree-ring adjustment). These dating data confirm the previously mentioned staging results based on ceramic typology and stratigraphy. The results of carbon-14 dating also prove that a period of the late-stage Xingcheng culture was

around 1200 BC. The Xingcheng culture stage two phase III may, therefore, be dated to the late Shang period. The carbon-14 dating of 3785 ± 140 and 3885 ± 115 years old indicate that stage one phase II was in 1800–1600 BC. Although there is no dating data reference for stage one phase I, based on the data of the other two phases, it can be dated to as early as the early Xia period. The early stage of the Xingcheng culture may, therefore, have started in the early Shang to the Xia period.

Regarding the staging of the Xingcheng site, this study agrees with the report, *The Xingcheng Site in Helong*, on some points but disagrees on some others. The book also proposes a three-stage division of the house remains at the Xingcheng site, an early stage (the third phase of the site), a middle stage (the fourth phase), and a late-stage (the fifth phase). Except for the staging concerning the six units, 87AF4, 87AF6-B, 87AF6-A, 87AF7, 87BF2, and 86F1, the present study disagrees with the report on the staging of all the other units. For example, 87AF13 is attributed to the early stage in this study but is considered to belong to the late stage in the report. Similarly, 87AF2 is regarded as being in the late stage in this study but is considered in the early stage in the report. Nonetheless, in terms of the overall age of the Xingcheng culture, the conclusions of this study and the report are exactly the same. That is, they both believe that this culture should be dated to the Xia to Shang period.

7.2.2 Other Sites of the Xingcheng Culture

Compared with the Xingcheng site, finds from other sites and cemeteries are relatively small in number. Among the eight tombs in the Xinlong cemetery in Changbai county (Hou, 1994), only two types of ceramics, *bo* bowls (basins) and cups, were unearthed. The bowls have slanted walls, and some of them have false ring feet. The overall shape of the bowls is similar to the 87AF6-A:4 and 87AF7:10 bowls of stage one phase II of the Xingcheng site. The cups are small in size, with a hemispherical shape, which shows a simplified form, compared with the two ring-foot cups 87AF4:17 and 23 of the Xingcheng stage one phase I. Therefore, the age of Xinlong cemetery should be roughly equivalent to stage one phase II of the Xingcheng site.

Regarding F4 of the Wudong site in Hoerying, North Korea (Institute of Archaeology and Folklore of the Academy of Sciences in the Democratic People's Republic of Korea, 1960), a group of ceramics found there indicates that this unit should be dated to the time of stage two phase III of the Xingcheng site. For example, the shapes of the F4 urns and bulging jars are similar to those of 86F1: 65 and 64 of stage two phase III of the Xingcheng site, respectively. Also, the shapes of the slant-bellied and straight-bellied jars are respectively the same as those of 86F1:3 and 87AF9: 28 of stage two phase III.

The pottery unearthed from the Songpyeongdong and Seopohang sites in Xionggi is mainly slant-bellied pots and straight-bellied pots (Institute of Archaeology of the Academy of Social Sciences in the Democratic People's Republic of Korea, 1983). Judging from the shape of some of the slant-bellied pots, they are similar to that of

87AF13:24 and 87BF4:63 of Xingcheng stage one phase I. The age of these two sites should be roughly equivalent to the Xingcheng stage one phase I.

Since the ages of the excavations at the above sites fall within the time range of the Xingcheng site, the stage and chronological results of the Xingcheng site actually represent the stage and chronological span of the entire Xingcheng culture.

7.3 Staging and Age of the Liutingdong Culture

Compared with the Xingcheng culture, the most distinctive stylistic features of the Liutingdong culture are that the flared rim is not observable, and the false ring foot is rare in the ceramics of this culture. Its ceramic assemblage mainly consists of the straight-mouthed *guan* jar with a slant belly or tubular belly, the flat-based *bo* bowl (bowl and basin), and the newly discovered ring-foot vessel (*dou* vessel).

7.3.1 Staging of the Culture

In the ceramic assemblage of the Liutingdong culture, two different styles can be seen within one type of vessel. That is, for a certain type of vessel, some of them are earless, while the others show a pair of symmetrically designed papillary ears. These ears are different from the column-shaped ears of the Tuanjie cultural ceramics, a culture from later in time in the same area. The papillary ears are mainly decorative, while the latter has practical functions and may have derived from the former.

When circumscribing the finds of the Liutingdong culture, Lin (1985) and Song (2002) regarded both the above-mentioned earless vessels and those with papillary ears as the Liutingdong cultural ceramics. This study follows this delimitation but further divides the Liutingdong culture into two stages. The stratigraphy findings from the Wudong site in Hoeryong, North Korea, show that F6 disrupted the previously existing site F5, and F6 is characterized by the papillary-eared ceramics, F5 by earless ones. Together with the discovery that ceramics with and without papillary ears have seldomly been found to coexist, the present study considers the distinction between ceramics in terms of ears as an indication of a difference in age. That is, the plain-faced earless pottery is considered as representing ceramics of the early stage Liutingdong culture. In contrast, the late-stage ceramics of the culture are characterized by, for the most part, symmetrical papillary ears near the rim.

In the following section, the archaeological sites and units of the Liutingdong culture are categorized into two different age groups. The categorization is mainly based on comparing the ceramics found in the Liutingdong cultural site with those of F5 and F6 of the Wudong site.

The early-stage units and sites include F5 of the Wudong site, F1 of the Liutingdong site in Yanji (Yanbian Museum, 1983), F1 of the Nanshan site in Longjing county (Yanbian Korean Autonomous Prefecture Museum, 1985), F1-4 of the

Yinghua site in Hunchun (Tumen-Hunchun Railway Archaeological Team of Jilin Province, 1993), the lower layer of the Xin'anlv site in Wangqing county (Wang, 1961), the 87BM1 urn-coffin tomb of the Xingcheng site in Helong (Jilin Provincial Institute of Cultural Relics and Archaeology, 2001), M2, M5, M7, M10, and M17 of the Jingu cemetery in Dexin (Yanbian Korean Autonomous Prefecture Museum, 1982), Yanji, 79M1, 80M2, 80M7, 80M8, 80M22, and 80M28 of the Jincheng cemetery in Wangqing county (Jilin Provincial Institute of Cultural Relics and Archaeology, 1986), as well as Shiyan cemetery, where earless pottery has been found, in Tumen (Hou & Piao, 1995).

The late-stage units and sites include F6 of the Wudong site in Hoeryong, F3 and F4 of the Xinguang site in Yanji (Wangqing-Yanji Highway Archaeological Team of Jilin Province, 1992), the Daliudaogou site in Hunchun (Liu, 1982) (the ceramics with papillary ears found in this site were previously regarded as artifacts of the Neolithic age until Song (2002) attributed them to the Liutingdong type), the upper layer of the Xin'anlü site in Wangqing (attributed to the Tuanjie culture in Lin (1985)), M10, M14, M16, M28 of the Xinxingdong cemetery in Hunchun (Jilin Provincial Institute of Cultural Relics and Archaeology, 1992), and 79M3, 80M1, 80M3, 80M4, 80M15, and 80M29 of the Jincheng cemetery in Wangqing. The ceramics collected from Xiwaizi, Wangqing (Piao, 1993), the remains of the Beishan cemetery at Hexi of the Hunchun county (Jilin Provincial Institute of Cultural Relics and Archaeology, 1992), as well as part of the ceramics (with papillary ears) unearthed from the Shiyan cemetery in Tumen are also considered to belong to this stage.

Besides the above-categorized units and sites, there are also some others whose ages remain uncertain. For example, only potsherds were found in the 12 tombs at the Beishan cemetery in Xinhua, Wangqing. Since these broken ceramics are reported by the excavator to 'include cups and jars with burl-shaped ears on the shoulder' (Wang, 1961), these 12 tombs might belong to the late stage of the Liutingdong culture. Another site, the Xiaoyingzi cemetery in Yanji, is reported to have been found to have stoneware made of obsidian and a few bone daggers inlaid with a stone blade as well as polished red pottery (Fujita, 1942). Since the archaeological sites in the Tumen River valley were either found to have no obsidian wares (for example, the Jincheng cemetery) or very few (such as the Xinhualü cemetery and the Jingu cemetery), the Xiaoyingzi cemetery is considered an exception. In addition, the red pottery found in this cemetery has not been described in the excavation report, which makes the comparison between the pottery of this site and those of the others impossible. Although Tong (1957) believes that this cemetery is older than the Xinhualü cemetery, due to a lack of evidence, the present study declines to make a claim about the age and attribution of this cemetery.

To better delineate the features of the ceramics in the above two stages, some vessel types that existed in both of the two stages and at the same time, which illustrate a clear evolutionary lineage in the two stages, are selected and listed in (Figs. 7.4 and 7.5).

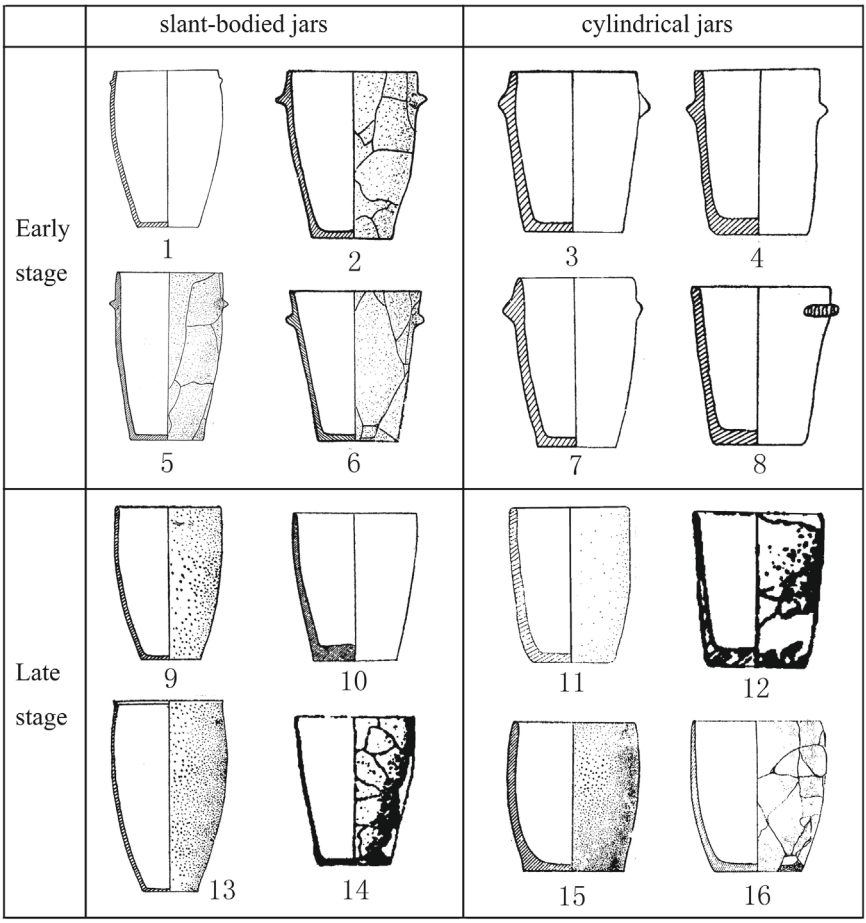

Fig. 7.4 Pottery of different stages and phases of Liutingdong culture (slant-bodied jars and cylindrical jars). 1 (Xinguang in Yanji F3:34); 2, 5, 6 (Daliudaogou in Hunchun); 3, 7 (Beishan cemetery in Hunchun M17:3, ②:3); 4, 8 (Jincheng in Wangqing 79M3:1, 80M1:8); 9, 13 (Yinghua in Hunchun F3:7, F1:1); 10 (lower layer of the Xin'anlv site); 11 (Shiyan cemetery in Tumen); 12, 14 (Liutingdong site in Yanji); 15 (Jingu site in Yanji M17:14); 16 (Nanshan site in Longjing F1:6)

7.3.2 Age of the Culture

The ceramics of the late-stage Liutingdong culture have symmetrical papillary ears on the rim, which indicates a relationship with the ceramics with column-shaped ears of the Tuanjie culture. Also, the Tuanjie culture is a culture that came later than and was in the same area as the Liutingdong culture. Therefore, the Tuanjie culture is considered one of the successors of the Liutingdong culture. In the previous literature, the Tuanjie culture is dated to the period from the turn of the Spring and Autumn period and the Warring States period to the Western and Eastern Han dynasty (Lin,

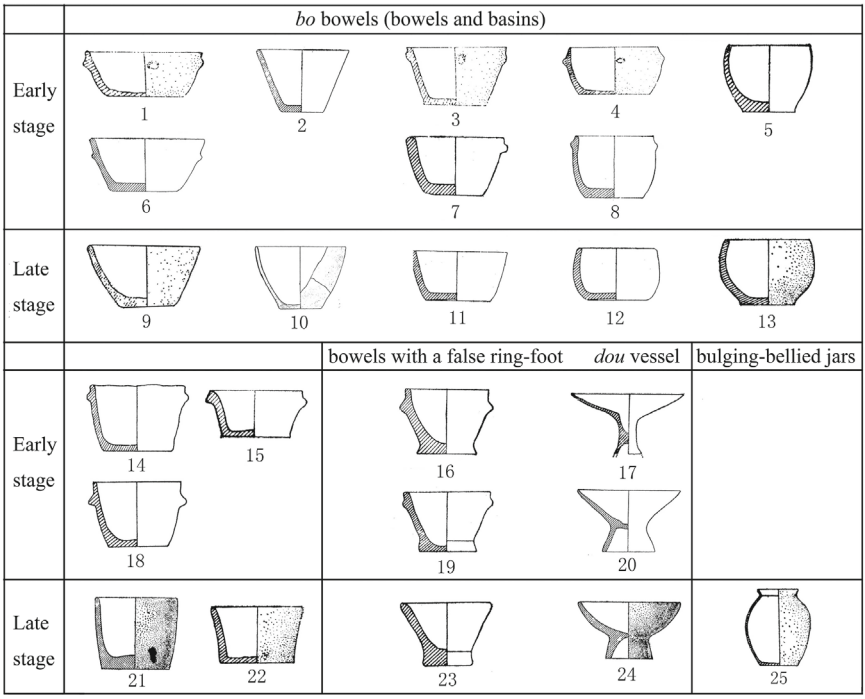

Fig. 7.5 Pottery of different stages and phases of Liutingdong culture (Bowels, ring-foot vessels, bulging-bellied jars). 1, 3, 4, 9 (Shiyan site in Tumen); 2 (Xinxingdong in Hunchun M16:12); 5, 17, 18 (Xinguang site in Yanji F3:3, 24, 7); 6, 7, 11, 12, 19, 23 (Jincheng site in Wangqing 80M4:1, 80M15:1, 80M8:1, 79M1:2, 80M3:1, 80M2:2); 8 (Xinxingdong in Hunchun M16:13); 10 (Nanshan site in Longjing F1:1); 13, 22, 25 (Yinghua site in Hunchun F2:16, F3:9, F4:7); 14 (Collected at Xiwaizi in Wangqing); 15, 16, 20 (Beishan cemetery in Hunchun ①:3, ①:1, M15:2); 21, 24 (Jingu site in Yanji M5:14, M2:6)

1985). Since this study has attributed the two originally assumed Tuanjie cultural sites, the upper Xinanlü site and F6 of the Wudong site in Hoeryong, to the late-stage Liutingdong culture, the Tuanjie culture may have come into being after the early Western Han dynasty and existed during the Western and Eastern Han period. As the late-stage Liutingdong culture precedes the Tuanjie culture, it can be dated to a time no later than the Western Han dynasty, that is, it may be dated to the Warring States period.

Regarding the age of the late Liutingdong culture, an inference can also be made by comparing it with the post-Xituanshan cultural sites represented by the Zhushan M1 at Huangyuquan in Shulan county (Fig. 7.6). In these sites, at least 12 types of ceramics have corresponding precedent types in the late-stage Liutingdong culture. Although some of these types may have thicker walls or longer ears compared to their counterparts in the Liutingdong culture, their styles indicate they are derivative

of those of the late-stage Liutingdong culture. That is, the late-stage Liutingdong culture should be older than the sites represented by the Zhushan M1.

The conclusion of previous research is that the sites represented by the Zhushan M1 came later than the Xituanshan culture, existing between the late Warring States period and the Western Han dynasty (Qiao, 1993). As analyzed in Chapter 6, the Xituanshan Culture may have lasted until the late Warring States period, and the sites represented by the Zhushan M1, which are located in the stratum above the Xituanshan remains, should be dated to the period after the Warring States period, the Western Han period or later. Because there is no obvious time interval between the ceramics of the late-stage Liutingdong culture and those of the Zhushan M1, the late-stage Liutingdong culture can be dated to a period contemporaneous with the culture closely preceding the Zhushan M1, the late-stage Xituanshan culture. In other words, the late-stage Liutingdong culture dates to the time of the late-stage Xituanshan culture in the Warring States period.

Since the late Liutingdong culture was part of the Warring States period, its early stage, which falls between the late stage Xingcheng culture (the late Shang period) and the Warring States period, should be dated from the Western Zhou to the Spring and Autumn period. Considering that no obvious time interval can be observed

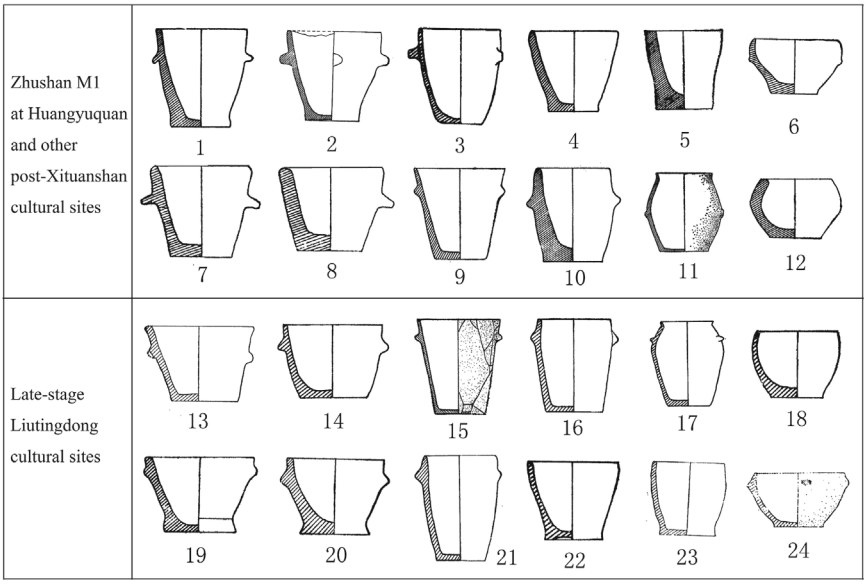

Fig. 7.6 Comparison between the pottery of late-stage Liutingdong culture and that of post-Xituanshan culture represented by Zhushan M1 in Huangyuquan. 1, 4, 10 (Zhushan site M1:1, 4, 2); 2, 5, 12 (Collected at Shili hill in Jiutai, T4②:1, T2②:2); 3 (Guanmashan site in Jiutai M1:1); 6, 9, 11 (Xihuangshan village M4:14, M4:18, H2:1); 7, 8 (unearthed from the ancient tomb at Houshi); 13, 16, 20, 21, 23 (Beishan cemetery in Hunchun M4:1, M17:3, T12①extended:1, T4②:3, M2:7); 14, 17, 18, 22 (Xinguang site in Yanji F3:7, 20, 3, 9); 15 (unearthed from Daliudaogou in Hunchun); 19 (Jincheng site in Wangqing 80M3:1); 24 (Shiyan site in Tumen)

between the ceramics of the two stages of the Liutingdong culture, the early stage Liutingdong culture may have lasted until the late Spring and Autumn period. Carbon-14 testing indicates that the charcoal found in F1 of the Liutingdong is 3160 ± 90 years old from the testing time. The early stage of the Liutingdong culture is, therefore, dated to the period from the early Western Zhou to the late Spring Autumn period, parallel to the early and middle stages of the Xituanshan culture.

7.4 Chronological Coordinates of Archaeological Cultures of the Tumen River Basin

Based on the above staging and dating of the Xingcheng culture and the Liutingdong culture, the cultural remains of the Xia to the Warring States period of the Tumen River valley are divided into four phases:

Phase I: from the Xia to the early Shang period, represented by the early-stage Xingcheng culture.

Phase II: the late Shang period, represented by the late-stage Xingcheng culture.

Phase III: from the Western Zhou to the Spring and Autumn period, represented by the early-stage Liutingdong culture.

Phase IV: the late Warring States period, represented by the late-stage Liutingdong culture.

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Chapter 8
Northeast China During the Xia to Warring States Period: A Temporal and Spatial Framework of the Archaeological Cultures

Abstract Chapter Eight focuses on the spatio-temporal framework of archaeological cultures from the Xia period to the Warring States period. By comparing and integrating the chronological coordinates of archaeological cultures across the seven regions established in the previous seven chapters, it is revealed that the origins of archaeological cultures in Northeast China during the Xia to Warring States periods were diverse, while their cultural development remained continuous. Despite variations in the evolutionary pace across different regions, cultural changes were generally synchronous. Based on this synchronicity, the entire period is divided into four stages: the Xia to early Shang period, the late Shang period, the Western Zhou to Spring and Autumn period, and the Warring States period. Thus, through both vertical (temporal) and horizontal (spatial) analyses, the spatio-temporal framework of archaeological cultures in Northeast China from the Xia period to the Warring States period has been constructed.

A temporospatial framework of archaeological culture refers to the time–space positional relationship between different archaeological cultures or between different stages of one archeological culture within a certain time and a certain area.

The construction of a temporospatial framework should generally include two aspects of research: one is the investigation of the ages of the different cultural sites, that is, the diachronic study between archaeological sites; the second is the comparison between different cultural sites of a certain period within an area, the synchronic study of the distribution of archaeological sites in a certain period. The diachronic research establishes several time intervals, marking the archaeological sites on the time axis, the meridian. The synchronic research identifies the abscissas of the archeological cultural sites. In combination, the two constitute a coordinate of time and space, a temporal and spatial framework of the archaeological cultures.

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The previous seven chapters have examined the archeological cultural remains in seven different regions of Northeast China from the Xia to the Warring States period. These cultures are circumscribed, staged, and chronologized. The seven chronological sequences between the archaeological cultures in the seven regions are identified. These seven chronological sequences are actually the timeline of the diachronic development of archaeological cultures in the seven different regions. On the basis of these seven meridians, the synchronization of the development of archaeological cultures between different regions on certain time scales can be reached through comparison. Based on the characteristics of this synchronization, all the archaeological cultures within northeast China during the Xia to the Warring States period can be divided into several stages. Each stage profiles an archaeological map of the area in a certain period of history. In this way, after completing the research on the sequence and distribution of the archaeological sites, the temporo-spatial framework of the archaeological cultures during the Xia to the Warring States period in the entirety of northeastern China can be constructed.

8.1 Comparison Between the Seven Regional Timelines

In the seven different regions of Northeast China, the seven chronological sequences of archaeological cultures during the Xia to the Warring States period (some areas can be extended to the Western Han dynasty) show slightly different timescales. They are as follows:

1. The eight timescales of the archaeological cultures of the Nenjiang River Valley:

   ① The Xia to early Shang period (the early and late stage of the Xiaohala culture),
   ② The late Shang period (the Gucheng remains),
   ③ The early Western Zhou period (the early Baijinbao culture).
   ④ The middle Western Zhou period (the middle Baijinbao culture).
   ⑤ The late Western Zhou to the late Spring and Autumn period (the late Baijinbao culture).
   ⑥ The early Warring States period (the early stage of the phase II Hanshu culture).
   ⑦ The late Warring States period (the middle stage of the phase II Hanshu culture).
   ⑧ The Western Han period (the late stage of the phase II Hanshu culture).

2. The six timescales identified on the timeline of the Liaoxi mountainous region:

   ① The Xia period (the early stage of the Lower Xiajiadian culture),
   ② The early Shang period (the late stage of the Lower Xiajiadian culture),
   ③ The late Shang period (the Weiyingzi culture),
   ④ The early Western Zhou to Spring and Autumn period (the Upper Xiajiadian culture, the early stage of the Linghe remains),

⑤ The early and middle Warring States period (the Shuiquan remains, the Jinggouzi remains (including the Tiejianggou remains), the Wudaohezi remains, the late stage of the Linghe remains),
⑥ The late Warring States period (the Warring States period Yan culture).

3. The three timescales identified on the timeline of the Liaoxi plain region:

① The early Xia period (the Ping'anpu culture phase II).
② The late and middle Xia to early Shang period (the early stage Gaotaishan culture).
③ The late Shang period (the late stage Gaotaishan culture).

4. The seven timescales on the timeline of the southern Liaodong region:

① The beginning period of the Xia period (the Shuangtuozi culture phase I),
② The early Xia to early Shang period (the Shuangtuozi culture phase II),
③ The first half of the late Shang period (the early stage of the Shuangtuozi culture phase III),
④ The second half of the late Shang period (the late stage of the Shuangtuozi culture phase III),
⑤ The Western Zhou period (the early stage of the Shuangfang culture),
⑥ The Spring and Autumn period (the middle stage of the Shuangfang culture),
⑦ The Warring States period (the late stage Shuangfang culture).

5. The five timescales on the timeline of the northern Liaodong region (including the Shuangfang culture):

① The Xia to early Shang period (the early stage of the Machengzi culture),
② The late Shang period (the late stage of the Machengzi culture),
③ The Western Zhou period (the early stage of the Shuangfang culture),
④ The Spring and Autumn period (the middle stage of the Shuangfang culture),
⑤ The Warring States period (the late stage of the Shuangfang culture).

6. The three timescales of the west Songhuajiang River valley:

① The Western Zhou period (the early stage of the Xituanshan culture),
② The Spring and Autumn period (the middle stage of the Xituanshan culture),
③ The Warring States period (the late stage of the Xituanshan culture).

7. The four timescales of the Tumenjiang River Valley:

① The Xia to early Shang period (the early stage of the Xingcheng culture),
② The late Shang period (the late stage of the Xingcheng culture),
③ The Western Zhou to Spring and Autumn period (the early stage of the Liutingdong culture).
④ The Warring States period (the late stage of the Liutingdong culture).
Comparing the timescales of the above timelines of the seven different regions, the following features of the archaeological cultures in Northeast China have been identified:

8.1.1 Diversity of Origin

Apart from the West Songhua River valley, the other six regions in Northeast China have been discovered to have archaeological remains of the Xia period. However, due to the distinctive differences between these remains, they are attributed to different archaeological cultures. In other words, the archaeological cultures in Northeast China share similar originating times but show diverse origins.

8.1.2 Continuity of Cultural Development

There is not much of a time gap between the different phases and stages within the same archaeological culture, judging from the staging and chronology of archaeological cultures in various regions. Also, there is no obvious time gap between different archaeological cultures in the areas, except for two regions, the West Songhuajiang River valley, where no cultural remains of the Xia and Shang period have been discovered, and the Liaoxi Plain, with no remains of the Western and Eastern Zhou period. It is evident that the occurrence and development of archaeological cultures in Northeast China during the Xia to the Warring States period were not only parallel but also continuous.

8.1.3 Synchronization of Cultural Changes

The timescales of the diachronic chronological coordinates of the seven different regions are not neat and uniform but slightly different. However, some coexisting cultures at some significant historical points have been found, such as the time of the establishment of the Xia Dynasty, Pangeng moving the capital to Yin (from Yan), the change from Shang to Zhou, the split of Jin into three states, and the unification of the Qin Kingdom. Considering Northeast China during the Xia to the Warring States period as a whole, although archaeological cultures evolved at different rates in different regions, they coincided in several major stages of development. This coexistence and synchronicity make it possible to further explore the development stages of the archaeological cultures during Xia to the Warring States period in the entire Northeast.

8.2 Four Cross-Sections: Cultural Remains in the Seven Regions

Besides setting the archaeological remains of different regions on seven timelines, they are also compared cross sectionally. With the five crucial turning points in history, the Xia period to the Warring States period is divided into four sections: the

Table 8.1 Correspondences between 7 chronological sequences and 4 synchronic development stages

Development stages	Region chronoly							
		Nenjiang river valley	Liaoxi mountainous region	Liaoxi Plain	Southern Liaodong region	Northern Liaodong region	West Songhua river valley	Tumen river valley
Fouth	Warring states period	⑦ ⑥	⑥ ⑤		⑦	⑤	③	④
Third	Western Zhou to spring and autumn period	⑤ ④ ③	④		⑥ ⑤	④ ③	② ①	③
Second	Late Shang period	②	③	③	④ ③	②		②
First	Xia to early Shang period	①	② ①	② ①	② ①	①		①

Xia to early Shang period, the late Shang period, the Western Zhou to Spring and Autumn, and the Warring States period. The archaeological remains of the seven different regions in Northeast China are listed in the following table (Table 8.1) in terms of the four periods.

8.2.1 The Xia to Early Shang Period

The archaeological cultures of this period include the ① of the Nenjiang River valley, the ① and ② of the Liaoxi mountainous region, the c stage of the Liaoxi plain, the ① and ② of the southern Liaodong region, the ① of the northern Liaodong region, and the ① of the Tumen River valley (no remains of this period having been found in the West Songhuajiang River valley). The representative archaeological cultures of this period are the early stage Xiaohala culture, the early and late stages of the Lower Xiajiadian culture, the Ping'anpu culture phase II, the early stage of the Gaotaishan culture, the Shuangtuozi culture phase I and phase II, the early stage of the Machengzi culture, and the early Xingcheng culture.

8.2.2 The Late Shang Period

Of the seven regions, the archaeological cultures that fall into this period include the ② of the Nenjiang River valley, the ③ of the Liaoxi mountainous region, the ③ of the Liaoxi plain, the ③ and ④ of the southern Liaodong region, the ② of the northern Liaodong region, and the ② of the Tumen River valley (no remains of this period having been found in the West Songhuajiang River valley). The corresponding representative cultures are the Gucheng remains, the Weiyingzi culture, the late stage of the Gaotaishan culture, the early and late stages of the Shuangtuozi culture, phase III, the late stage of the Machengzi culture, and the late stage of the Xingcheng culture.

8.2.3 The Western Zhou to Spring and Autumn Period

Cultures of this period in Northeast China include the ③, ④, and ⑤ of the Nenjiang River valley, the ④ of the Liaoxi mountainous region, the ⑤ and ⑥ of the southern Liaodong region, the ③ and ④ of the northern Liaodong region, the ① and ② of the West Songhuajiang River valley, and the ③ of the Tumenjiang River valley (no remains of this period having been found in the Liaoxi plain). Representative cultures of this period consist of the early, middle, and late stages of the Baijinbao culture, the Upper Xiajiadian culture, the early stage of the Linghe remains, the early and middle stages of the Shuangfang culture, the early and late stages of the Xituanshan culture, and the early stage of the Liutingdong culture.

8.2.4 The Warring States Period

Cultures of this period include the ⑥ and ⑦ of the Nenjiang River valley, the ⑤ and ⑥ of the Liaoxi mountainous region, the ⑦ of the southern Liaodong region, the ⑤ of the northern Liaodong region, the ③ of the West Songhuajiang River valley, and the ④ of the Tumenjiang River valley (no remains of this period having been found in the Liaoxi plain). Representative cultures of this period include the early and middle stages of the Hanshu culture phase II (the late stage of the Hanshu culture phase II, which is dated to the Western Han dynasty, is not included), the late stage of the Linghe remains, the Wudaohezi remains, the Shuiquan remains, the Jinggouzi remains (including the Tiejianggou remains), the Warring States Yan culture, the late stage of the Shuangfang culture, the late stage of the Xituanshan culture, and the late stage of the Liutingdong culture.

Regarding how to divide the archaeological cultures of the Xia to the Warring States period in Northeast China into different stages, previous studies have different answers. For example, Zhu (1998) proposes a three-stage division, the Xia to early

Shang period, the late Shang to early Zhou period, and the middle Western Zhou to the Warring States period. L. Wang (2004) provides a four-stage segmentation, the Xia to early Shang period, the late Shang to middle Spring and Autumn period, the late Spring and Autumn to the middle Warring States period, and the late Warring States period. Based on the staging and chronology of all the cultural sites in Northeast China, the present study comes up with very different divisions than the previous ones. Although the present study agrees that the Xia to early Shang period is the first stage of cultural development in Northeast China, it differs from the previous segmentations in the cultures attributed to this period. For the other periods, the present study is different from the others in both time segmentation and categorization of cultures.

8.3 The Temporospatial Framework

The four stages of archaeological cultures in Northeast China not only have division points corresponding to the important turning points of the cultural development in the Central Plains, but the cultures of each stage also show different degrees of influence from the Central Plains. This influence indicates that the archaeological cultures in Northeast China not only correspond to the times of the Central Plains cultures' turning points but also in stages.

Around 2000 BC, when the Central Plains entered a brand-new historical stage, represented by the Xia culture, from the end of the Neolithic Age, an epoch-making cultural change also took place in the entire Northeast region at the same time. The signs of this change are mainly manifested in the following two aspects.

First, the local archaeological culture in the region developed and achieved great progress. Although this progress was far less advanced than the Xia culture in terms of technology, cultural content, and degree of civilization, it involved some fundamental changes that were significant compared to the local prehistoric culture. For example, some archaeological cultures in the southern part began to use small pieces of bronze products, marking that the level of technology had entered a new era of development. The beginning of the new phase was also reflected by the appearance of the Lower Xiajiadian cultural fortress and the prevalence of rubble-deposited tombs of the Shuangdanzi culture. Although for the archeological cultures of the northern region, bronzeware and key evidence such as fortresses have not been discovered yet, the pottery assemblages of this stage show significant differences in shape and diversity in type compared with the stage before. The changes in pottery craftsmanship and concepts during this period are particularly reflected by the popularity of plain-faced and bulging-bellied ceramics, the appearance of pot pottery, and the disappearance of pattern-decorated pottery.

The second aspect of cultural change in Northeast China results from the cultural influence of the Central Plains and the Shandong peninsula. The local cultures incorporated the style of the Central Plains ceramics, such as *yan* steamers with cord

patterns and *li* tripods, and that of the plain-faced pottery from the Shandong peninsular, like *gui* tripods, *yan* steamers, and *ding* tripods. With the influence of these types, some new tripod types were developed and passed further to the north and the east by the local cultures. As a result, the entire Northeast region, except for the geographically isolated Tumen River valley, almost simultaneously entered a new era with three-legged pottery such as *yan* steamers, *li* tripods, and *gui* tripods. Because the stage shift of the cultures in the Northeast was under the influence of the Central Plains and Shandong peninsula, the appearance of bronze, three-legged pottery, or new flat-based pottery in the Northeast is taken as a sign of this shift. The time when the Central Plains entered the Xia period from the Neolithic period (around 2000BC) is also taken as a cut-off point for the development of the cultures in the Northeast region, dividing it into one stage comprising the Neolithic age and another stage comprising the Xia to the Warring States period.

The appearance of tripods in the Northeast region added new types to the ceramic assemblage of the local cultures, which previously contained only flat-based pottery. From then onwards, the local cultures were under constant influence from the Central Plains and the Shandong peninsula. This influence can be observed from the *jue* cups and *gui* tripods of the Erlitou cultural styles unearthed from the Dadianzi cemetery of the Lower Xiajiadian culture (Du, 1995). Other evidence includes the Yueshi cultural pottery unearthed from the Shuangtuozi culture phase II (Institute of Archaeology Chinese Academy of Social Sciences, 1996) and the bronzewares with the Central Plains style unearthed from the remains of the Weiyingzi culture, Linghe remains and the Upper Xiajiadian culture. By the Warring States period, although the archaeological cultures of the Northeast had developed to a higher level, represented by their plain-faced tempered brown pottery and quite mature bronzeware production technology, they were still under the influence of the cultures from the Central Plains. With the northward advancement of the Yan culture during the Warring States Period and the continuous enhancement of its developmental power, the evolutionary pattern of archaeological cultures in the Northeast also changed.

In the early and middle stages of the Warring States period, the Liaoxi mountainous regions had already begun to be influenced by the Yan culture. For example, Yan-style artifacts have been found in the Meiyangou urn-coffin burial in Kazuo (Chaoyang Museum, 1985), the Yuantaizi cemetery in Chaoyang (Liaoning Provincial Training Class for the General Investigation of Cultural Relics, 1980), and even the Renaojie cemetery of Shenyang (Jin, 1959) in the Liaodong region. These Yan-style artifacts show that as early as the middle of the Warring States period, the influence of the Yan culture had already reached the southern part of the Northeast region, the Liaoxi area, and even farther to the Liaodong area.

At the end of the Warring States Period, after General Qin Kai of the Yan Kingdom defeated the Donghu to the north, as recorded in historical documents, the Yan Kingdom began to set up counties and build the Great Wall in the vast southern area of the Northeast and officially included this area into the territory of the Yan Kingdom. Archaeological findings from the sites of this area, the Zhizhushan site in Chifeng (Inner Mongolia Archaeological Team of CASS Institute of Archaeology, 1979), Shuiquan site (Liaoning Provincial Museum, 1986) and Kalaqinhedong site

(Archaeological Team of the Liaoning Provincial Museum, 1983) in Jianping, and the Shabayingzi site in Naiman, confirmed that in the Liaoxi mountainous region the local culture was substituted by the Yan culture at the end of the Warring States period. Even in the Liaodong area, Yan cultural pottery and ironware of the late Warring States period have been unearthed from archaeological sites such as the Qiutai site (Tieling Municipal Cultural Relics Administration Office, 1996) in Tieling and the Lianhuabao site in Fushun (Z. Wang, 1964). Also, Yan-style jars, *dou* stemmed bowls, and knives were excavated from the late Shuangfang cultural sites, the Zhangjiabao site in Benxi (Qi, 1994), the stone cist tomb at Shangbao in Benxi (Wei and Liang, 1998), the Yijiacun M12 in Lüshun (Institute of Archaeology Chinese Academy of Social Sciences, 1996), the stone cist tomb at the Nanfen railway station in Benxi (Liang, 2003), and the Houmuchengyi stone cist tomb. It is particularly noteworthy that a fortress containing a large number of Yan cultural relics was also found at the Erlonghu site in Lishu County, Jilin Province, in the far northern area (Siping Museum, 1988).

These archaeological discoveries show that in the late Warring States period, the Yan culture occupied the entire Liaoxi area and reached the eastern part of Liaoning and even the southern part of Jilin. In the entire Northeast, only the Nenjiang valley, where the cultures mainly relied on fishing and hunting, and the geographically isolated Tumen River valley, were not influenced by the Yan culture of the South. They kept their own cultural styles after the Warring States period and had not been replaced by but coexisted with the Qin and Han cultures. Even though there are these exceptions, the northward expansion of the Yan culture had a significant impact on the local cultures. It changed the developmental trend and evolution pattern of archaeological cultures in most areas of Northeast China.

In a sense, the expansion of the Yan culture marks the end of one stage and the beginning of the next. Therefore, the northern advance of the Yan culture in the late Warring States period and the later influence of the Qin and Han empires on the Northeast are taken as cut-off points. With these points, the archaeological cultures of the Northeast region are divided into the Xia to the Warring States period and the later (Qin), Han, and Wei period. This staging is not only consistent with documentary records but also substantiated by archaeological evidence.

In short, during the Xia to the Warring States period, the process of cultural development in the Northeast and Central Plains was not only synchronous but also closely connected. The cultural influence of the Central Plains on the cultures of the same period in the Northeast gradually weakened from west to east and from south to north but increased over time. The impact was especially strong in the Xia period and the Warring States period. Therefore, referring to the two major historical boundaries of the establishment of the Xia and the unification of the Qin Emperor in the Central Plains, the archaeological cultures of the entire Northeast can be divided into three stages, the Neolithic Age and earlier, the Xia to the Warring States period, and from the Han Dynasty onwards.

For perspicuity, the findings of diachronic research and synchronic comparison are organized in the following table (Table 8.2) to further clarify the temporospatial framework of the archaeological cultures in the Northeast. It is worth noting that there

Table 8.2 Northeast China during the Xia to Warring States period: a temporal and spatial framework of the archaeological cultures

Period	Stage		Liaoxi mountainous region		Liaoxi plain	Liaodong region		West Songhuajiang River valley	Nenjiang River valley	Tumenjiang River valley
			western part	Eastern part		Southern part	Northern part			
Western and Eastern Zhou Period	Warring States Period	Late-stage	Yan culture of the Warring States period			Late-stage Shuangfang culture (including the Yan cultural elements)		Late-stage Xituanshan culture	Hanshu culture phase II	Late-stage Liutingdong culture
		The early and middle stage	①Shuiquan remains ②Jinggouzi remains (including the Tiejianggou remains)	①Wudaohezi remains ②Late-stage Linghe remains						
	Western Zhou to Spring and Autumn period		Upper Xiajiadian culture	Early-stage Linghe remains		Early and middle stage Shuangfang culture		Early and middle stage Xituanshan culture	Baijinbao culture	Early-stagc Liutingdong culture
Xia to Shang period	Late Shang period		Weiyingzi culture		Late-stage Gaotaishan culture	Shuangtuozi culture phase III	Late-stage Machengzi culture		Gucheng remains	Late-stage Xingcheng culture
	Xia to early Shang period		Lower Xiajiadian culture		①Early-stage Gaotaishan culture ②Ping'anpu culture phase II	①Shuangtuozi culture phase II ②Shuangtuozi culture phase I	Early-stagc Machengzi culture		Xiaohala culture	Early-stage Xingcheng culture

are two blank spaces in this temporospatial framework. In the West Songhuajiang River valley, no archaeological site from the Xia to Shang period has been discovered, and no Zhou period site in the Liaoxi plain. Therefore, future fieldwork should stress searching for corresponding cultural sites of the two periods in the two regions.

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Chapter 9
Pedigree Relations Between Archaeological Cultures in the Northeast from Xia to Warring States Period

Abstract Chapter Nine focuses on the pedigree relationships of archaeological cultures in Northeast China from the Xia period to the Warring States period. First, based on the spatio-temporal framework, a cross-regional and cross-chronological comparative study of various archaeological cultures has been conducted from the perspective of identifying kinship ties among remains. It is found that archaeological cultures in Northeast China from the Xia period to the Warring States period can be divided into at least six distinct cultural systems: ① the Cultural System of Shuangtuozi culture Phase I → Shuangtuozi culture Phase II → Shuangtuozi culture Phase III → Shuangfang culture, ② the Cultural System of Machengzi culture → Xituanshan culture, ③ the Cutural System of Ping'anpu culture Phase II → Gaotaishan culture → upper Xiajiadian culture, ④ the Culture System of lower Xiajiadian culture (Southern Branch) → Tazhao culture Phase I & II → upper Zhangjiayuan culture, ⑤ the Cultural Systme of Xiaolaha culture → Gucheng remains → Baijinbao culture → Hanshu culture Phase II, ⑥ the Culture System of Xingcheng culture → Liutingdong culture. Archaeological cultures within each system share cultural continuity and belong to the same archaeological cultural pedigree. Secondly, according to the differences in the relationships between cultures in each geographical region, three "serial archaeological cultural regions" (the Nenjiang River basin, the Tumen River basin, and southern Liaodong) and two "sequential archaeological cultural regions" (the Liaoxi mountainous area and the northern Liaodong area) are identified, while the other two regions (the Liaoxi Plain and the West Songhua River basin) remain difficult to classify. Finally, based on differences in natural environment, cultural characteristics, historical context, and cultural background, two parallel cultural belts are delineated: one is the western "Greater Khingan Mountains – Yanshan Mountain Cultural Belt" centered on the Great Khingan Mountains and the Yanshan Mountains; the other is the eastern "Changbai Mountain – Qianshan Mountain Cultural Belt" centered on the Changbai Mountains and the Qianshan Mountains.

Constructing a spatio-temporal framework is the prerequisite and basis for pedigree research on archaeological cultures. The previous chapters construct the time–space framework of archaeological cultures from the Xia period to the Warring States period

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in Northeast China. This framework is based on the chronological sequence in seven areas and the development stages of four periods, revealing the chronology of the cultural remains in the same area and the synchronic relations between the cultural remains in different areas (see Table 8.2). In other words, the 'area' in this framework is just a concept of physical geography, so it belongs to the category of 'natural area'. The 'stage' and 'phase' in this framework suggest the time sequence of the cultural remains in the same area and the synchronic relations of the remains in different areas respectively. The current chapter aims to explore the internal connection between different cultures across time and space, so as to study the pedigree relations between them.

Pedigree relations refer to the kinship among the archaeological cultures of different time and space categories. Since "the term pedigree not only suggests inheritance and origin, but also communication, infiltration and borrowing of cultural factors among various archaeological cultures" (Zhang, 1986), the pedigree analysis could be carried out on both a longitudinal and horizontal basis: the former concerning inheritance or origin relation between different cultures in the same area or different areas, i.e. evolution from one culture to another or inheritance reversely; the latter focusing on communication, infiltration and borrowing between cultures of the same period, i.e. cultural interactions across areas, possible consequences of the interaction, and the identification of whether cultures were aggressive, vulnerable, or evenly matched.

The longitudinal inheritance, horizontal influence and regional migration among archaeological cultures would inevitably result in changes in the relationship between and patterns of different cultures within the same geographic area or in different areas. Therefore, the research on archeological pedigree should also present the patterns and features of cultural areas and zones that would possibly occur as the result of various cultural interactions.

9.1 Longitudinal Inheritance and Development: Differentiation of Six Cultural Systems

Through a thorough examination of 22 archeological remains hitherto identified and confirmed in the Northeast, at least six cultural systems can be established on the basis of chronology and the kinship revealed by pottery, without considering spatial restriction. Each of the systems consists of two or more cultural remains which exhibit the longitudinal inheritance relationship.

9.1.1 The Cultural System from the Shuangtuozi Culture Phase I, II & III to the Shuangfang Culture

The first and second phases of Shuangtuozi culture existed during the Xia and the early Shang periods. The third phase of this culture occurred in late Shang, and the Shuangfang culture lasted from the Western Zhou to the Warring States periods. These cultures were in chronological succession. The remains of the Shuangtuozi culture were found mainly at the southern end of the Liaodong Peninsula, while the Shuangfang culture covered the entire Liaodong (the east of Liaoning) area. The study on the pottery kinship revealed that the above-mentioned cultures were successive and inherited. Therefore, they can be categorized into the same cultural system.

Cultural factors distinctive of the Shandong Peninsula were detected on the pottery from the first and second phases of the Shuangtuozi remains. Typical artifacts or fragments of the Longshan culture in Shandong were found from the first phase of Shuangtuozi remains, such as broken legs of *ding* and *gui* tripods, vessel lids, vessels with three ring-shaped legs, bowls with ring feet or handles, and *dou* stemmed bowls (Fig. 4.2: 54, 55). Features typical of the Yueshi culture in Shandong were detected in the second phase of Shuangtuozi remains (Fig. 4.3: 24–40). Some scholars even proposed that they might be a local type of the archaeological culture in the Shandong Peninsula during the same period (Wang, 1995; Wu, 1993; Luan, 1997; Chen, 1989).

In fact, when examining the pottery artifacts as a whole, we found that the first and second phases of the Shuangtuozi culture had not given up their own traditions, let alone been conquered. For example, the indigenous flat-based pottery of the culture was always in a state of separation and borrowing with the tripods from foreign cultures. There was not any influential relationship in the real sense between them, let alone the emergence of a new type of pottery combining features of both cultural systems.

When external forces, especially the Yueshi culture, withdrew, the Shuangtuozi culture quickly recovered its indigenous elements and developed into the third phase. As can be seen on artifacts such as the plain-walled *yan* boiler, although elements distinctive of the Zhenzhumen culture in Shandong occasionally occurred in the third phase, their influence was rather weak. Instead, the majority of the third phase pottery artifacts evolved from the indigenous ancestors of the previous two phases. The evolution of the Shuangtuozi culture is evidently manifested in the typical pottery of this culture such as the *hu* pot, *weng* urn, *wan* bowl, *gui* tureen, etc. As for the *taodou* stemmed bowl, an artifact produced under the influence of cultures in Shandong, clear evolutionary traces between types can be detected on it (Fig. 9.1). It is evident that the third phase of the Shuangtuozi culture was in direct succession to the first two phases. It is mainly due to its weak influence and the inadequacy of archaeological excavations that only a small number of pottery artifacts, in quantity and typology as well, have been found from the first two phases of this culture.

The Shuangfang culture emerged later than the third phase of the Shuangtuozi culture. Judging by the category and shape, at least 14 types of the Shuangfang pottery

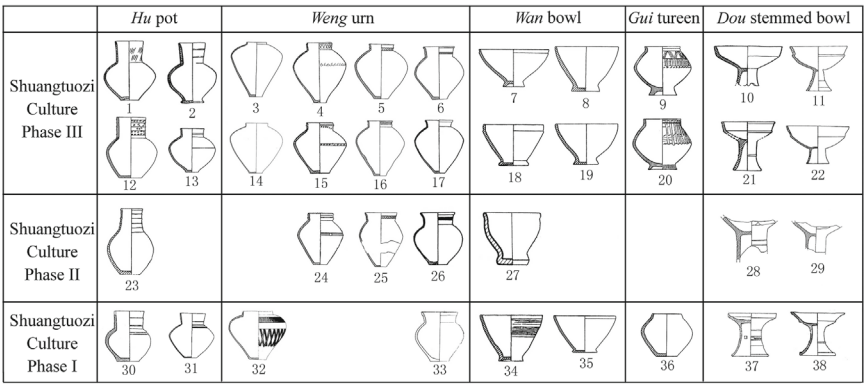


Fig. 9.1 Comparison chart of the kinship between pottery of the Shuangtuozi culture Phase I, II and III 1, 2, 4, 10, 17, 21 (92 Dazuizi) 3, 5, 6, 7, 8, 11, 12, 13, 15, 16, 18, 19, 22, 28, 29, 34, 35, 36 (87 Dazuizi) 9, 20 (Stone-lined tombs at Yujiatuotou) 14, 31, 32, 33 (Shuangtuozi) 23, 26 (No. 1 and 2 tombs at Dantuozi) 24, 25, 27 (Weng urn coffin tomb at Shangmashi) 30, 37 (Yujiacun remains) 38 (Laotieshan)

have had their origin traced back to the Shuangtuozi culture, which indicates a close kinship between the two cultures. Firstly, features of succession and evolution are clearly shown on such four categories of Shuangfang pottery as earless *hu* or *guan* pots, ring-footed *gui* tureens and *dou* stemmed bowls (Fig. 9.2). Additionally, either direct evolution from artifacts of the same type or a combination of techniques of two types has been identified on the other five categories of pottery such as the *hu* pot with horizontal handles and alms bowl mouth or flared mouth, and *guan* jar with saddle-shaped lug (Fig. 9.3). Therefore, the kinship study on the Shuangfang culture and the Shuangtuozi culture Phase III suggests that the former should be successor of the latter.

In short, the Shuangtuozi culture Phase I, II, III and the Shuangfang culture belong to the same cultural system and bear close kinship. The pottery characteristics of this system manifest as two features. First, the *weng* with a flat bottom, *guan* jar, *hu* pot, *wan* bowl and ring-footed *gui* tureen are representative artifacts, while tripods from the Longshan culture, Yueshi culture and Zhenzhumen culture in Shandong such as the *ding* tripod, *gui* tripod, and *yan* steamer are small in number. Second, the majority of pottery have plain walls. Only a few types such as the *hu* pot with horizontal handles or without handles, *weng* urn, and ring-footed *gui* tureen bear patches of incised bowstrings, grid patterns, doted lines or raised ridge patterns. In addition, houses and tombs of this cultural system were mainly built of stones. The Shuangtuozi culture Phase I, II, and III during Xia and Shang periods displayed mainly stone-lined tomb cemeteries. By the time of the Shuangfang culture during the the West and the East Zhou periods, stone-lined tombs had been replaced by varied types, such as graves containing single stone coffins, those covered with slab stone blankets or built in the shape of stone sheds, and those in the form of earthen pits. Meanwhile, bronze weapons distinctive of this cultural system also emerged

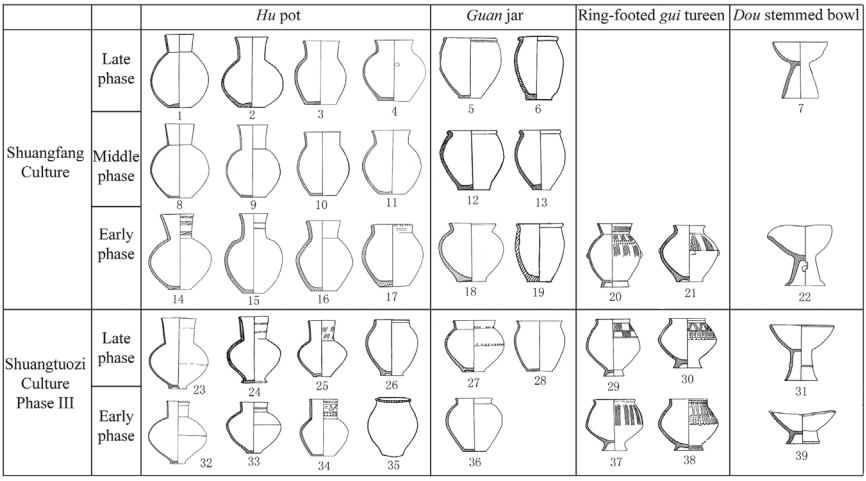


Fig. 9.2 Comparison chart of the kinship between pottery of the Shuangfang culture and the Shuangtuozi culture Phase III (1) 1 (Liangjiashan) 2, 5, 8 (Zhengjiawazi) 3, 4, 7 (Yinjiacun) 6 (Shangbu) 9, 10 (Shangmashi) 11 (Jinshantun) 12, 13 (Gongzhutunhousan) 14, 18, 21, 22 (Gangshang) 15 (Large stone covered tomb at Biliuhe) 16 (Huojiawobu) 17 (Loushang) 19 (Lijiaxiang in Fushun) 20 (Stone shed at Shuangfang) 29, 31, 33, 34, 39 (87 Dazuizi) 26, 28, 30, 35, 38 (Stone-lined tomb at Yujiatuotou) 24, 25, 37 (92 Dazuizi) 23, 27, 32, 36 (Shuangtuozi)

during this period, among which are spears with curved edges, swords with curved blades and cylindrical ridges, and axes with square sockets.

With the emergence of bronze weapons, the Shuangtuozi cultural system became more influential. By the time of the Western Zhou and Warring States periods, its distribution extended from the southern end of the Liaodong Peninsula to the entire Liaodong area. The scope of influence even spread to the mountainous area of Liaoxi, the Korean Peninsula and the West Songhua River basin (previously 'the Second Songhua River basin'). It is worth noting that in this process of extreme expansion, this cultural system had also absorbed or incorporated some elements from other cultures. For example, some pottery artifacts of the Shuangfang culture appeared only in northern Liaodong, and were not found in southern Liaodong. Such pottery includes the *hu* vessel with vertical handles, *guan* jar with lugs or horizontal handles, *pen* vessel with lugs, and ring-footed bowl. According to their shapes and the cultural convention they bear, these artifacts can be identified as derivatives of the Machengzi culture which existed in the same area during the Xia and Shang periods (Fig. 4.24). Therefore, it is reasonable to infer that the Shuangfang culture evolved from the Shuangtuozi culture Phase III in southern Liaodong. Some elements of the Machengzi culture were incorporated in its development and expansion northwards to northern Liaodong. On these grounds, the Shuangfang culture could possibly be divided into two regional varieties: the southern and northern ones.

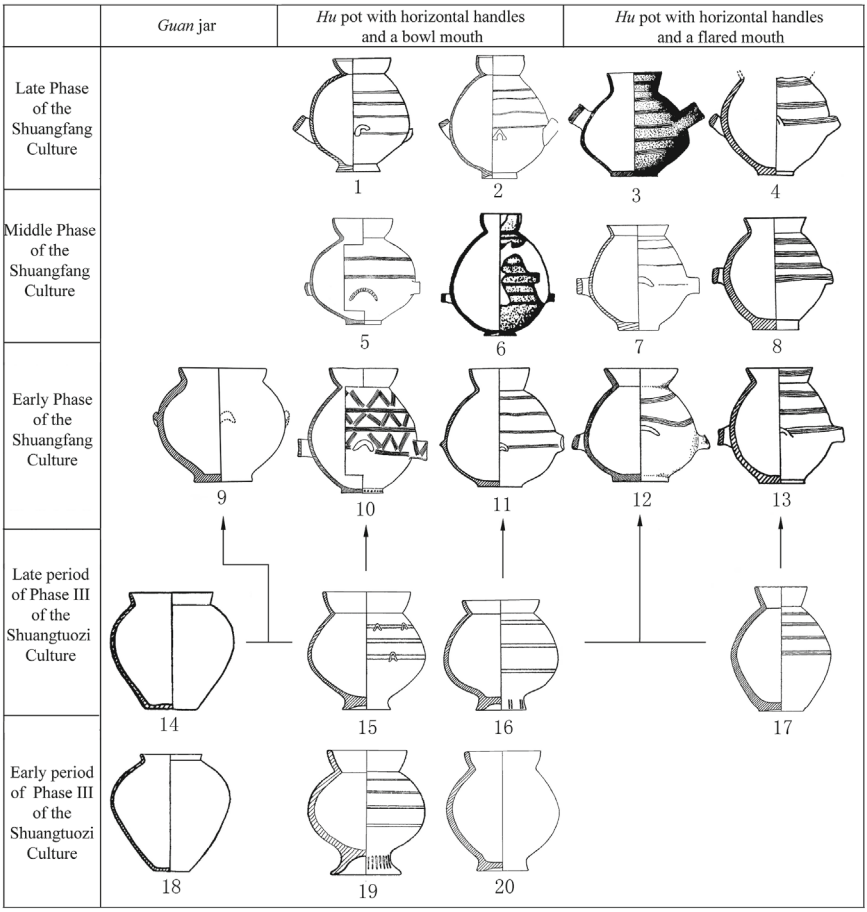


Fig. 9.3 Comparison chart of the kinship between pottery of the Shuangfang culture and the Shuangtuozi culture Phase III (2) 1, 2 (Shuangfang) 3, 6 (Fengchengdongshan) 4 (Zhujiagou) 5 (Chengxincun) 7 (Lijiatai) 8 (Douhutun) 9 (Bronze Short Sword Tomb at Shuangtuozi) 10 (Xifeng Fire Brigade) 11 (Erdaohezi) 12 (Dajiabang) 13 (Bajiagou) 14, 18 (92 Dazuizi) 15–17, 19, 20 (Stone-lined Tomb at Yujiatuotou)

9.1.2 The Cultural System from the Machengzi Culture to the Xituanshan Culture

Despite the geographical distance between them, the Machengzi culture and the Xituanshan culture bear a close relationship. The Machengzi culture in the northern part of Liaodong[1] can be traced back to the Xia and Shang periods while the Xituanshan culture in the West Songhua River basin can date back to the West and the East

[1] Liaodong is a region located to the east of the Liao River in China, and it refers to the southeastern part of Liaoning Province today.

Zhou periods. The two cultures are not only successive in time but share considerable commonalities in the type and style of their pottery. Such consistency is especially embodied in the transitional and evolutionary relationship between the pottery from the late Machengzi culture to the early Xituanshan culture.

First, in terms of type, the ceramic assemblages of the two cultures are identical. Both cultures cover a wide series of finds, such as: *hu* vessel, *guan* jar, *bo* bowl, *wan* bowl from the tombs, and *ding* and *li* tripods from the remains.

Second, the characteristics demonstrated on the pottery of the two cultures are basically the same. As noticed, the *hu* vessels of the two cultures cover a wide range of styles, from artifacts with no handles or with lugs, to those with vertical handles or with horizontal handles; the majority of their jars and bowls have horizontal handles and most of the *bo* bowls have lugs or even no handles at all. The same features can also be seen in their typical cooking vessels. For example, the *ding* and *li* tripods of the two cultures have either lugs or bridge-shaped handles. In addition, all of the pottery is plain ware, made out of either coarse sand or clay, with the overwhelming majority being reddish brown pottery made out of coarse sand.

Third, among the six typical categories of pottery mentioned above, an obvious transitional and evolutionary relation can be observed on at least 30 varieties of the pottery shared by both cultures (Figs. 9.4, 9.5, 9.6, and 9.7).

Apart from the kinship shown in the above pottery, the two cultures also share similarities in tomb form. In the Machengzi culture, tombs are mainly cave ones, with only a small number of stone-cist tombs buried outside the caves. Many dead were usually buried collectively inside a cave, mostly without any cist, with only a few exceptions. Meanwhile, in the Xituanshan culture, tombs are mainly stone-cist ones, either built with stacking stones or standing stone slabs.

When comparing the burial customs, the commonalities between the two cultures can be summarized in two aspects. One is the close association of the concept of burial with stone, as embodied in the use of either stone caves or stone-cists. Chronologically, cave tombs emerged first, then the cave tombs used for collective burials gradually evolved into stone-cist tombs for an individually body. Second, there are signs of cremation of the deceased to varying degrees.

Based on the above analysis, it may be concluded that the Xituanshan culture in the West Songhua River basin grew out of the Machengzi culture in the northern part of Liaodong. Although the locations of the cultures are dispersed, they belong to the same cultural system, the Machengzi Cultural System to be specific. This system was originally distributed in what is currently the northern part of Liaodong during the Xia and Shang periods, and later migrated to the West Songhua River basin during the West and East Zhou periods. However, during the migration, a small part of the culture system remained in its original area and merged into the Shuangfang culture from the southern part of Liaodong.

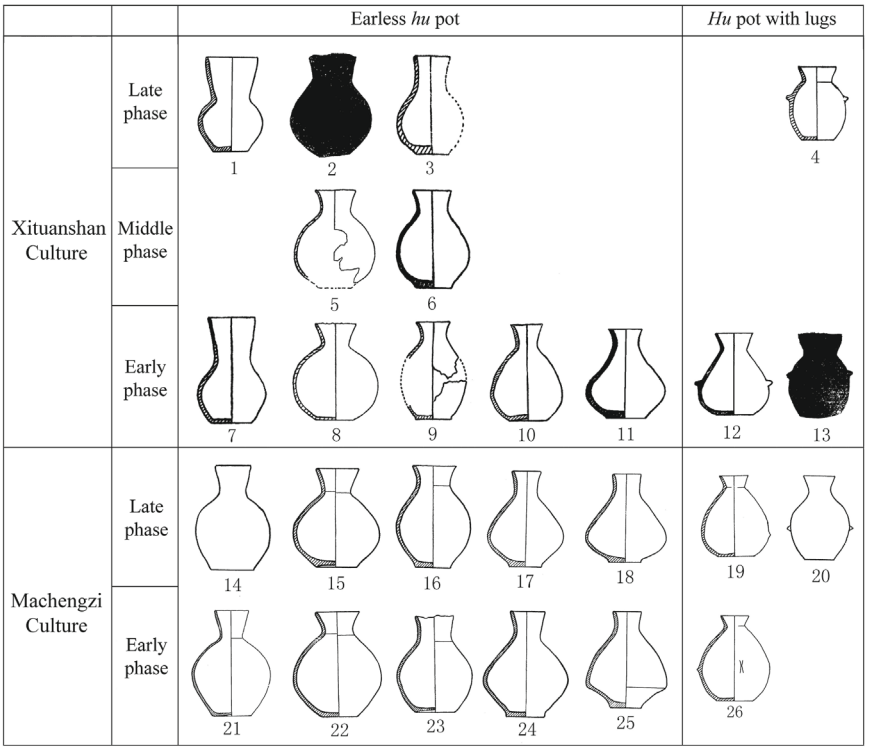


Fig. 9.4 Comparison chart of the kinship between earless *hu* pot and *hu* pot with lugs in the Machengzi culture and in the Xituanshan culture 1 (Liangbanshan 62M1:5) 2, 13 (Xituanshan 56M2:1, 56M1:1) 3 (Houshishan 76M 3:2) 4 (Large Tomb at the top of Saodagou Mountain) 5, 6, 8, 11, 12 (Xingxingshao AM 11:1, DM 15:2, BM 2:2, DM 12:1, DM 6:1) 7 (Dahaimeng F2: 18) 9, 10 (Wanbaoshan M1:2, M1:1) 14, 21 (Cave C at Shanchengzi M10:1, M 12:4) 15, 16, 22-24 (Cave A at Zhangjiabu M6:8, M20:8, M46:5, M8:4, M37:1) 17, 18, 25 (Cave C at Machengzi M14:6, M22:3, M6:2) 19, 26 (Xinbinlaocheng M4:1, M2:6) 20 (Unearthed from Cave C at Shanchengzi)

9.1.3 The Cultural System from the Ping'anpu Culture Phase II Through the Gaotaishan Culture to the Upper Xiajiadian Culture

The Ping'anpu culture Phase II can be dated back to the early Xia period while the Gaotaishan culture existed from the middle and late Xia period to the late Shang period. Both are distributed in the northern part of the Liaoxi (west of the Liao River) Plain with the Liuhe River basin as the center of the region. Despite the scant archaeological literature, the findings on the Ping'anpu culture Phase II, as valuable clues, have great implications for the study on the origin of the Gaotaishan culture and the genesis of tripods in the Liaoxi Plain.

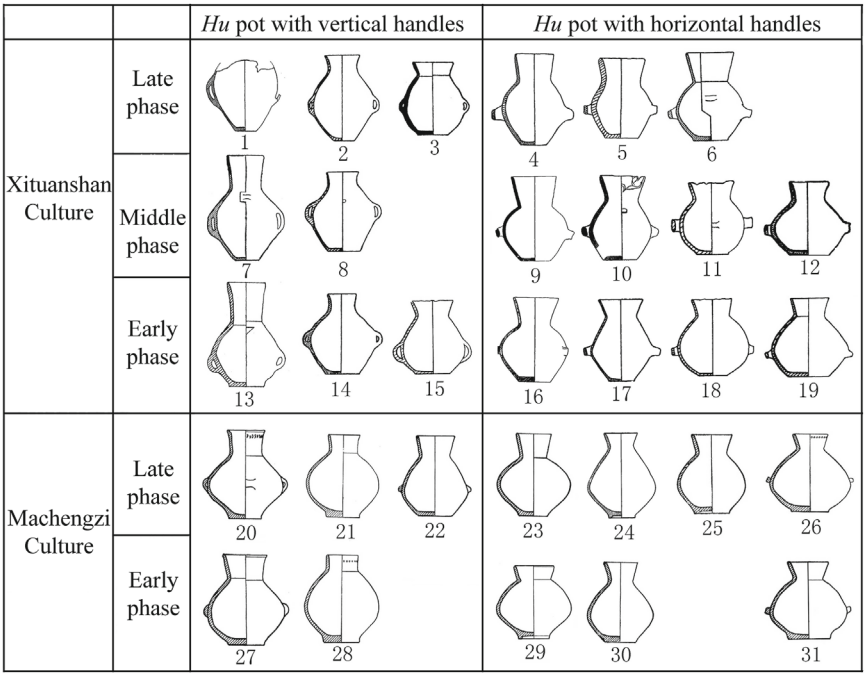


Fig. 9.5 Comparison chart of the kinship between *hu* pot with vertical handles and *hu* pot with horizontal handles in the Machengzi culture and in the Xituanshan culture 1, 7, 13 (Dahaimeng 79T1②: 14, 80F6:8, 80T10⑤: 7) 2, 3, 8, 11, 12, 14, 15, 18, 19 (Xingxingshao 23:1, AM35:1, AM31:3, AM6:1, AM19:6, CM18:1, CM1:1, CM6:1, CM21:1) 4, 5 (Saodagou M4: 517, M18:558) 6 (Xiaotuanshan M1:5) 9, 10, 16 (Xituanshan 50M16:2, M1:8, M10:3) 17 (Donglianggang M2:5) 20 (Cave B at Shanchengzi M1:3) 21-31 (Cave A at Zhangjiabu M3:3, M33:16, M28:3, M20:8, M6:8, M25:5, M50:3, M45:7, M28:3, M38:1, M45:1)

The Ping'anpu culture Phase II mainly produced two main types of artifacts. One is flat-bottomed pottery with the characteristics of the Neolithic cultural tradition in the Northeast of China; the other is leg fragments of the hollow feet of tripods. The former has vertical handles or lugs, which is different from its counterpart during the Neolithic Age. The latter is plain ware, quite similar in style to the feet of the *yan* steamers from the Yueshi culture in the Shandong Peninsula such as T162⑦:16 from the Yijiacheng site and H36: 9 and H5: 6 from the Zhaogezhuang site.[2] Similar finds were made in the Shuangtuozi culture Phase II in the Liaodong Peninsula.[3] As noted, the hollow feet of a tripod from the Ping'anpu culture Phase II is likely to

[2] See Fig. 1.1: 6, and Fig. 1.3: 3, 8 in Luan, F. S. (1997). Yueshiwenhua de fenqi he leixing [The periodizations and types of Yueshi culture]. In *Haidai diqu kaogu yanjiu* [Archaeological research in Haidai region]. Jinan: Shandong daxue chubanshe.

[3] See Fig. 1.2 in Cai, F. S. (1993). Guanyu Piziwo de taoqi [On the pottery of *Piziwo*]. *Liaohai wenwu xuekan*, 2.

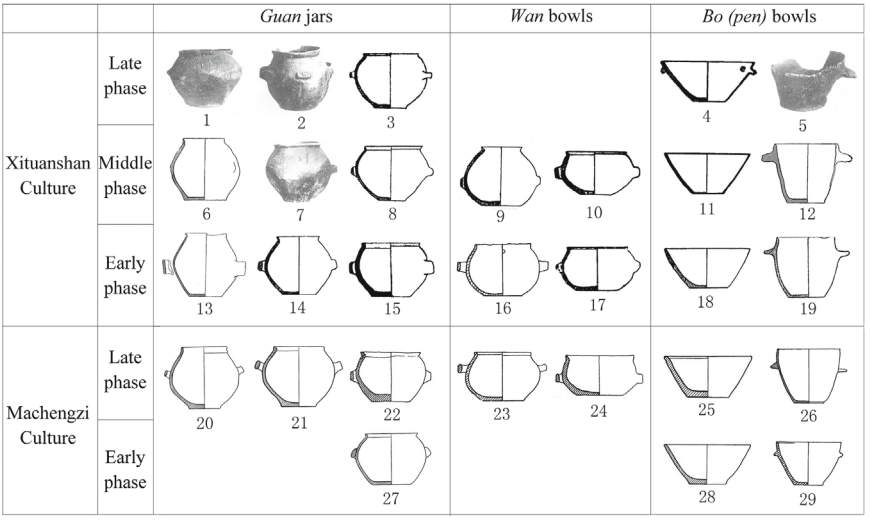


Fig. 9.6 Comparison chart of the kinship between *guan* jars, *wan* bowls and *bo* (pen) bowls in the Machengzi culture and in the Xituanshan culture 1, 2, 7 (Xituanshan 48-49M6, M14, M8) 3 (Langtoushan M109) 4, 8-11, 14-18 (Xingxingshao AM23:2, DM16:1, AM20:4, AM20:5, CM22:3, AM31:4, BM2:1, AM1:1, DM16:3, CM18:2) 5 (Xituanshan Children's Tomb) 6, 12, 13, 19 (Xituanshan 50M17:3, M14:5, M9:4, M19:3) 20, 26 (Cave B at Shanchengzi M7:7, Cave C M9:3) 21, 27 (Cave C at Machengzi M5:1, M6:1) 22, 24 (Xinbinniuxin Cave) 23, 25, 28 (Cave A at Zhangjiabu M6:1, M35:4, M41:6) 29 (Xinbinlaocheng M2:4)

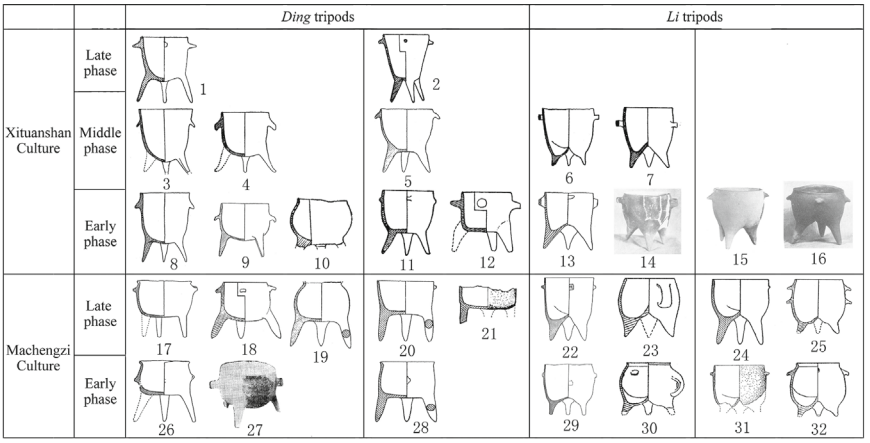


Fig. 9.7 Comparison chart of the kinship between *ding* tripod and *li* tripod in the Machengzi culture and in the Xituanshan culture 1 (Dahaimeng 80T3③:12) 2, 7, 11 (Changsheshan 57F3:28, 63T8④:21, 63T19⑧:48) 3, 4, 6 (Zhushan F3:22, F3:4, F2:3) 5, 9 (Qianshan F2②:2, F3②: 3) 8, 13 (Houshishan 76F3:1, 79 II T2③:58) 10 (Donglianggang M2:6) 12 (Laoheshen F1:2) 14-16 (Tuchengzi) 17, 26, 29 (Xinle SV74:49, T12:2, SV73:5) 18, 23, 25, 30, 32 (Shunshantun M9:3, H1:1, H1:2, F2:1, F1:1) 19-22, 24, 28, 31 (Wanliu 88H3:3, 88T30②:3, 86TG1②:11, 86H2:10, 88T26②:1, 88T11③:2, 86H2:10) 27(Fushundongshan)

have been an imported cultural factor, most probably borrowing from the feet of the plain *yan* steamers from the early Yueshi culture through the Liaodong Peninsular.

Comparing the pottery from the Ping'anpu culture Phase II and the early Gaotaishan culture Phase I, more types of finds have been made from the latter. Apart from cylindrical *guan* jars with vertical handles, *pen* vessels with vertical handles, and bag-legged *yan* steamers discovered from the Ping'anpu culture Phase II, cylindrical *li* tripods and basin-shaped *li* tripods, both with vertical handles are also discoveries from the Gaotaishan culture Phase I. Therefore, it can be speculated that the two new styles of pottery of the latter culture may have been created by combining the features of cylindrical *guan* jars, *pen* vessels, and bag-legged *yan* steamers of the former culture. The emergence of the imported *li* tripods and the new styled *li* tripods in the Gaotaishan culture not only marks a new stage in the cultural history of the Liaoxi Plain, but also introduces a prosperous period of tripods in the Gaotaishan culture which is represented by plain *li* tripods and plain *yan* steamers. Therefore, the Ping'anpu culture Phase II can be viewed as the predecessor of the Gaotaishan culture.

However, no one could tell where the Gaotaishan culture had gone for a long period due to the scant archaeological discoveries concerning cultures beyond the Gaotaishan culture in the Liaoxi Plain. It was not until September 1990 that Zhongpei Zhang proposed that "the Upper Xiajiadian culture developed from the Gaotaishan culture" (Zhang, 1991) at the Bohai (or Bohai Sea) Rim Archaeology Seminar in Dalian. Later in October 1991, Yonggang Zhu raised the similar proposition in his paper submitted to the Eighth Annual Meeting of the Chinese Archaeological Society (Zhu, 1996). Their viewpoint still prevails nowadays.

The pottery assemblage of the Gaotaishan culture shares many commonalities with that of the Upper Xiajiadian culture. First, for example, they are all reddish-brown pottery made out of coarse sand, and produced through a unique **clay-collar-piecing method** (by sectioning a whole vessel into different clay collars for shaping and then piecing them together for firing). Second, due to the low temperature in the heat control, both assemblages show a loose texture. Third, almost all pottery is not decorated, but most of its surface is either polished or scraped. Fourth, great consistency can also be identified in the everted and overlapping lip on the rim, the straight belly/body of a *li* tripod, the lugs attached to the outer wall, and bridge-shaped ears of the pottery. Fifth, the similarities are also embodied in the type combination of pottery, which consists of *li* tripod, *yan* steamer, *ding* tripod, *guan* jar, *pen* vessel, dou stemmed bowl, cup, etc. Among these, tripods (*li* tripod, *yan* steamer, and *ding* tripod) of both cultures are not only similar in shape, but also share a similar development trajectory from the Gaotaishan culture to the Upper Xiajiadian culture (see Fig. 9.8). For example, their straight-bellied *li* tripods and the *yan* steamers may have the same ancestor, and the *li* and *ding* tripods, both with ring handles from the Upper Xiajiadian culture may have been created by combing features of the *guan* jars and flat-based *ding* tripods from the late Gaotaishan culture.

The Gaotaishan culture of the Xia and Shang periods was mainly distributed in the northern Liaoxi Plain while the Upper Xiajiadian culture in the West and the East Zhou periods mainly lived in the highlands of the Liaoxi Plain, to be specific, the

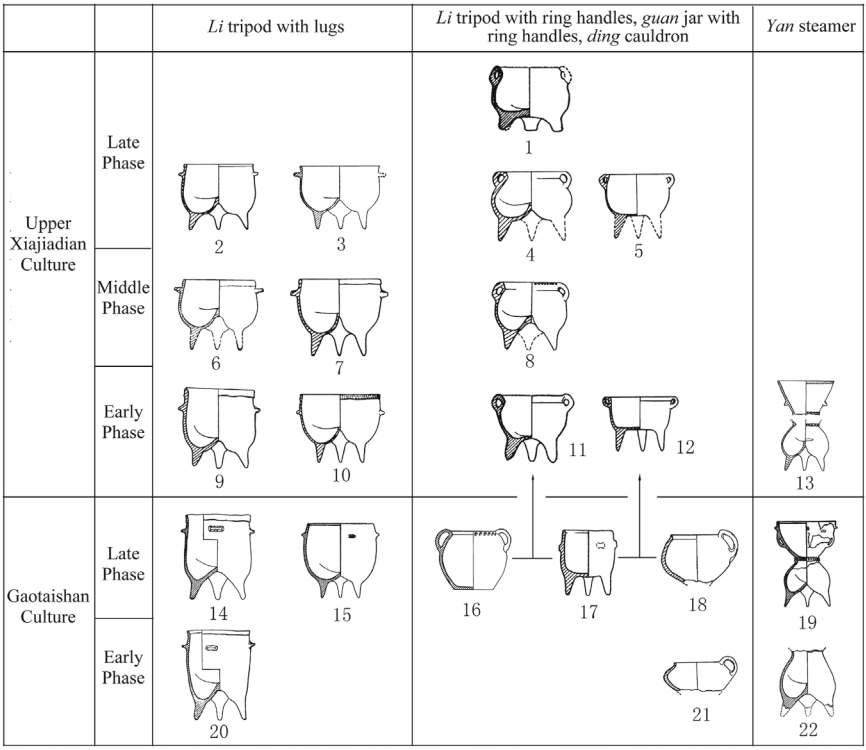


Fig. 9.8 Comparison chart of the kinship between tripod pottery in the Gaotaishan culture and in the upper Xiajiadian culture 1, 11 (Xiajiadian, Chifeng T7①:2, H5:15) 2-7, 10, 12 (Sacrificial pit in Longtoushan Area II, Hexigten Banner 1:6, T0803①:1, H11:3, T0902①:1, T0203②:4, Sacrificial pit 2:5, H70:1, H54:3) 8 (In front of Chifeng Mountain 98 (IV) H125④:2) 9 (Dajing ancient copper mine in Linxi F2:1) 13 (Unearthed from Longtoushan, Hexigten Banner) 14, 18, 20–22 (88 Ping'anbu H1012:1, H3075:1, T103④:7, H1018:3, H3052:5) 15, 19 (76 Donggaotaishan T1H1:3, 5) 16 (Unearthed from Jiguanshantun, Zhangwu) 17 (74 Donggaotaishan S7450)

basins of the Xar Moron River, Laoha River and Jiaolai River. As the two cultures are chronologically successive, the kinship between their pottery is obvious. Therefore, it can be assumed that the Ping'anpu culture Phase II might have developed into the Gaotaishan culture, then moved westward to the Xar Moron River basin under certain forces in the early Western Zhou. After the Upper Xiajiadian culture was born there in the mountainous region, it gradually expanded southwards to the Laoha River basin and Jiaolai River basin. In its process of travelling from east to west, this culture may also have absorbed factors from other cultures. A case in point is the *li* tripods with udder-shaped legs from the Upper Xiajiadian culture (Fig. 2.4: 3, 7), which are evident descendants of similar artifacts from the Weiyingzi culture (Fig. 2.2: 14) in Fuxin, Liaoning.

In conclusion, the Ping'anpu culture, the Gaotaishan culture and the Upper Xiajiadian culture should belong to the same cultural system, which may be referred to as

the Gaotaishan Cultural System. The most distinctive features of this system are the reddish-brown pottery made out of coarse sand, the everted and overlapping lip, the plain vertical handles, and the *li* tripods with plugs and a straight belly.

9.1.4 The Cultural System from the Lower Xiajiadian Culture (Southern Branch) Through Tazhao Culture Phase I & II to the Upper Zhangjiayuan Culture System

The lower Xiajiadian culture covers a wide range of areas, including the mountainous area of Liaoxi in Northeast China, and the northern region of North China to the south of Yanshan Mountain as well. The lower Xiajiadian culture can be categorized into two types, with Yanshan as the boundary, based on the regions and cultural connotations: the Southern Branch and Northern Branch. These names are used for convenience in subsequent narration.

The lower Xiajiadian culture (Southern Branch), distributed in the area south of Yanshan Mountain, is also called the Datuotou culture. Its development trend remains uncertain, for few related materials have been discovered. However, the latest report on the excavations from the Tazhao site in Fangshan district, Beijing, provided new clues for further understanding of the development of the lower Xiajiadian culture (Southern Branch). Based on the analysis of the report, the remains of Shang and Zhou periods unearthed at the Tazhao site can be divided into five phases, that is, five different cultures, which include Tazhao phase I and II, two newly discovered different archeological cultures; Tazhao phase III, the upper Zhangjiayuan culture; and phase IV and V, the Yan cultures in Western and Eastern Zhou periods respectively. The report also suggests that the first three phases are the same culture in three developmental stages based on their cultural relations (Beijing Municipal Institute of Cultural Relics, 1999). Mr. Zhang Zhongpei, in his preface to the report on *Zhenjiangying and Tazhao*, further affirmed Tazhao phase I, II, and III as the continuation of the lower Xiajiadian culture (Southern Branch) and confirmed that Tazhao phase III, namely the upper Zhangjiayuan culture, was identical to the Northern Yan culture during the reign of Shaogong. Consequently, the lower Xiajiadian culture (Southern Branch) was assumed to have developed into the Northern Yan culture represented by the upper Zhangjiayuan culture across Tazhao phase I and II and finally merged into the Yan culture of Western Zhou period in the reign of Shaogong (Zhang, 2005). This culture is referred to as the lower Xiajiadian culture (Southern Branch) for convenience in subsequent narration.

The leading direction in the development of the lower Xiajiadian culture (Northern Branch) still remains unclear, due to the limitations in the available materials and current knowledge, and thus it will not be addressed here.

9.1.5 The Cultural System from the Xiaolaha Culture Through Gucheng Remains and the Baijinbao Culture to Hanshu Cultural System Phase II

The Nenjiang River Basin nurtured the Xiaolaha culture, Gucheng remains, Baijinbao culture, and Hanshu culture phase II. They coexisted in the same geographical region and succeeded each other from the Xia period to the Western Han dynasty. Their pottery revealed the cultural characteristics in different stages and apparent evolutions between these successive cultures. Therefore, in the Nenjiang River Basin, the Xiaolaha culture in the Xia and the early Shang periods, the Gucheng remains in the late Shang period, the Baijinbao culture from the Western Zhou to the Spring and Autumn periods, and the Hanshu culture phase II from the Warring States period to the Western Han dynasty belong to the same cultural system (referred to as Xiaolaha Cultural System), with a relationship of inheritance and development.

During the Xiaolaha culture, the earliest culture in this region, flat-bottomed plain pottery was common, with nipple and vertical-shaped handles as well as platform bottoms (false ring feet). The basic types involved the flat-bottomed cylindrical *guan* jar, *weng* urn, *hu* vessel, and single-eared *bei* cup, as well as *wan* bowl with a platform bottom. Despite the current difficulty in finding the compatible remains of its earlier counterparts, it is apparent that the main component of this culture still retains much of the tradition of the Neolithic flat-bottomed cylindrical vessels in the Northeast. Therefore, no major changes have taken place in view of the overall pottery culture, though the occurrence of the plain pottery *li*-tripod like Baijinbao 86F3028:3 in the Xiaolaha culture period indicates the explicit difference from the previous Neolithic remains. Apart from the new shapes such as the *hu* vessel, *weng* urn, *wan* bowl, and *bei* cup, flat-bottomed vessels still make up the majority of the overall pottery shapes (Fig. 1.7).

The pottery in the period of the Gucheng remains can be divided into two types (Fig. 1.9). One type is represented by flat-bottomed pottery, whose major shapes, include the *guan* jar, *weng* urn, *hu* vessel, *bei* cup, and *wan* bowl, etc. The other type is characterized by the high-necked globular *li* tripods, with borders decorated in applique pattern and cord pattern. In comparison to the Xiaolaha culture, no change has been observed in the basic type of flat-bottomed pottery in the Gucheng remains, with the nipple and vertical shaped handles still prevalent, and a few even retaining the inherited style of the platform-based bottom. In particular, the shapes of the cylindrical *guan* jar, globular *weng* urn, *hu* vessel, *yu* vessel, and the *bei* cup with handles, etc. are inherited from of the Xiaolaha culture. This demonstrates that the Gucheng remains were derived from the Xiaolaha culture (Fig. 9.9). The major difference between these two cultures lies in the occurrence of the cord patterns and the comb patterns with geometric shapes and animal shapes in the flat-bottomed pottery of the Gucheng remains. The cord pattern may have been influenced by the surface decoration of the foreign globular *li* tripods with cord patterns, while the comb pattern may have been a new factor with local characteristics and prevalent in the subsequent Baijinbao culture. In addition, differences can be observed in the

shapes and sources of tripods, though only a small amount of pottery *li* tripods emerged, both in the Xiaolaha culture during the Xia to the early Shang periods and in Guchen remains during the late Shang period. Considering the shapes, the *li* tripod of the Xiaolaha culture was probably derived from the early stage of the Gaotaishan culture in Liaoxi Plain. Such *li* tripods had no impact on the decoration pattern of other pottery from the Xiaolaha culture in the Nenjiang River Basin, since no decoration was discovered on the surface. The pottery *li* tripod from the Gucheng remains was assumed to be a factor from the Weiyingzi culture in Liaoxi mountainous area, judging from the decoration and shapes. The cord pattern on the *li* tripods made a significant impact on the pottery of the Gucheng remains in the Nenjiang River Basin, which was embodied by the conversion of the cord pattern from the surface of *li* tripods into that of some flat-bottomed cylindrical *guan* jars.

In summary, two periods of the Xia to early Shang and the late Shang witnessed the successive influence and impact on the Nenjiang River Basin from two different *li* tripod cultures in the southern region. However, the majority of the pottery group still maintained the flat-bottom tradition. The direct influence of the foreign culture on the local culture was only manifested in the cord pattern in the late Shang period, with little influence on the shapes. Therefore, hardly any new shape can be detected within this period. The Xia-Shang period saw the main utilization of the traditional flat-bottomed pottery in the Nenjiang River Basin. The major change between the Xiaolaha culture and Gucheng remains was demonstrated in the periodical differences regarding the patterns and shapes of flat-bottomed pottery. The *li* tripods of the Xiaolaha culture and the Gucheng remains, with distinct origins, served as the significant age marker and proof of cultural transmission.

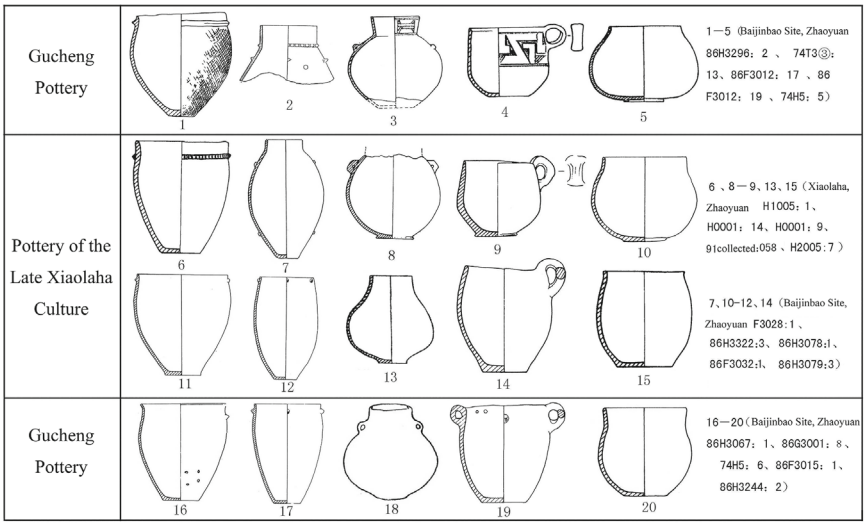


Fig. 9.9 Comparison chart of the kinship between pottery of the late Xiaolaha culture and Gucheng pottery

The emergence of the plain *li* tripods in the Xiaolaha culture was taken as an indicator of a new historical stage in archaeological culture in the Nenjiang River Basin. However, such foreign factor had little impact on the traditional local culture. When the globular *li* tripod with cord pattern was introduced in the period of the Gucheng remains, only its cord pattern was recognized and borrowed by the local culture. Actually, the realistic integration of the shapes didn't occur until the borrowed globular pottery *li* tripod with cord pattern incorporated with the local plain cylindrical *guan* jars with cord pattern. The incorporation generated two new shapes in the local area—the cylindrical *li* tripod with cord pattern and the plain cylindrical *li* tripod. It not only marked the official evolvement of the Gucheng remains into the Baijinbao culture, but also indicated the achievement of an epoch-making qualitative leap of the Nenjiang River Basin archaeological culture. As a consequence, the Nenjiang River Basin culture embarked on a new historical era with the *li* tripod as the main cookware.

Judging by the materials from the Baijinbao culture in the early stage, there was a very obvious inherited relation in the shapes of two pottery types between the *Weng* urn and *Hu* vessel and their counterparts in the Gucheng remains. It is explicit that some common geometric and animal comb patterns evolved from patterns of a similar type in the period of the Gucheng remains (Fig. 9.10). In particular, the conversion of the early cylindrical *li* tripods with either cord pattern or plain face can be detected at a glance by their shapes. The upper part was transformed from the flat-bottomed cylindrical *guan* jar and the lower part was borrowed from the bag-legged *li* tripod with globular belly. There were traces left at the joints of the two parts, which were reinforced with applique decoration in order to prevent breakage as well (Fig. 1.11).

The evolution of the pottery *li* tripod in the Baijinbao culture demonstrated the development of the techniques, which was reflected in the changes of its crotch from high to short, of its joint lines between belly and feet from visible to invisible, and of the workmanship from rough to exquisite. When the technique reached a relatively

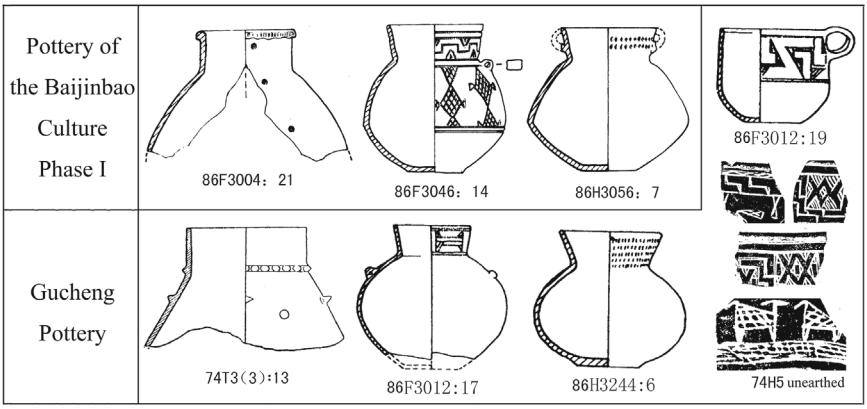


Fig. 9.10 Comparison chart of the kinship between Gucheng pottery and pottery of the early Baijinbao culture (All Samples Selected from the Baijinbao Site in Zhaoyuan, Heilongjiang)

high level after a considerably long period of time, the inventors launched another revolution in their own technique of pottery making during the Spring and Autumn period and the Warring States period. They took the initiative to adopt a new craft, with which three short udder-shaped legs, instead of three bag-shaped legs, were made under the straight-belly *guan* jar, resulting in the pottery *li* tripod. This change in the technique of pottery making shows that the Baijinbao culture actually evolved into the second phase of the Hanshu culture.

In terms of the artifact shape, the crotch of pottery *li* tripods from the Baijingbao culture is generally high. As such, the pottery legs found in the site are shaped like steamed buns and are relatively short. The crotch of pottery *li* tripods in Phase II of the Hanshu culture is generally low, so the supporting pottery legs unearthed in the site are solid trumpet shaped and high. It should be noted, regarding the differences in crafting techniques between the Hanshu culture Phase II and Baijinbao culture, that the most obvious distinction is in the crotch position. However, judging from the overall shape of the pottery *li* tripods in the Hanshu culture, Phase II was still a kind of straight bellied tubular *li* tripod without ears, which could be classified into two types of *li* tripods with cord pattern and plain *li* tripods (Fig. 9.11).

In addition, the pottery unearthed from the tombs of the Baijingbao culture bear similarities to those of the Hanshu culture Phase II. This kind of commonality is not only reflected in the similarity of their main types of artifacts, but also in the obvious progressive evolution relationship between many artifact types. Taking as an example the *hu* pot, the coexistence of at least 7 types throughout the two cultures can be revealed, with clear presentation of their evolutions (Fig. 9.12).

Based on the above analysis, a conclusion can be easily drawn that the Xiaolaha culture, the Gucheng Remains, the Baijingbao culture and the Hanshu culture Phase II are four interrelated archaeological cultures, derived from the Nenjiang River Basin successively. These four cultures succeed each other in one continuous line and belong to the same cultural system. The culture of this system, featuring the long-term utilization of flat-bottomed pottery, was influenced by pottery *li* tripods without ears from the Weiyingzi culture, and high-collared *hu* pots with a cup mouth and the *hu* pots with a straight mouth from the Gaotaishan culture in Xia and Shang periods. Therefore, in addition to the comb patterns, this cultural system is characterized by the existence of a large number of cord patterns; the popularity of earless cord-patterned *li* tripods and plain *li* tripods with a straight body; and the prevalence of high-collared *hu* pots with a cup mouth and with a straight mouth (trumpet-mouthed *hu* pots should be external factors), most earless or few with vertical ears.

9.1.6 The Culture System from the Xingcheng Culture to the Liutingdong Culture

Both the Xingcheng culture and the Liutingdong culture were distributed in the Tumen River Basin. The former was in the Xia and Shang periods, while the latter

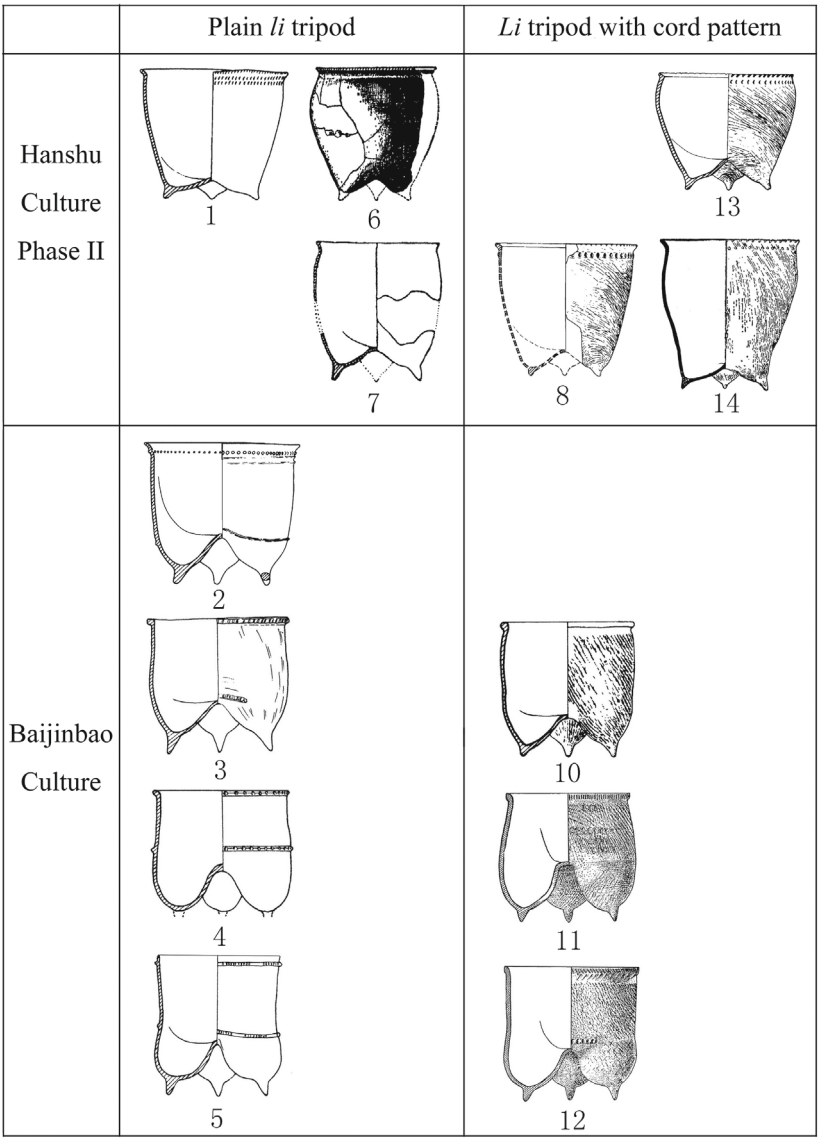


Fig. 9.11 Comparison chart of the kinship between pottery *li* tripod unearthed from sites of the Baijinbao culture and the Hanshu culture Phase II 1, 2, 8, 13 Xiaolaha (F0002:1, 92H1003:1, T121②:19, F0001:17) 3-5, 10-12 Baijinbao (86F3008:3, 86F3006:1, 86H3342:2, 86F3021:1, 74H1:63, 74F1:1) 6 Houqikeshu (Collected) 7 Hatugangzi (H1:28) 9 Wolong (84F103) 14 Hanshu (F104:45)

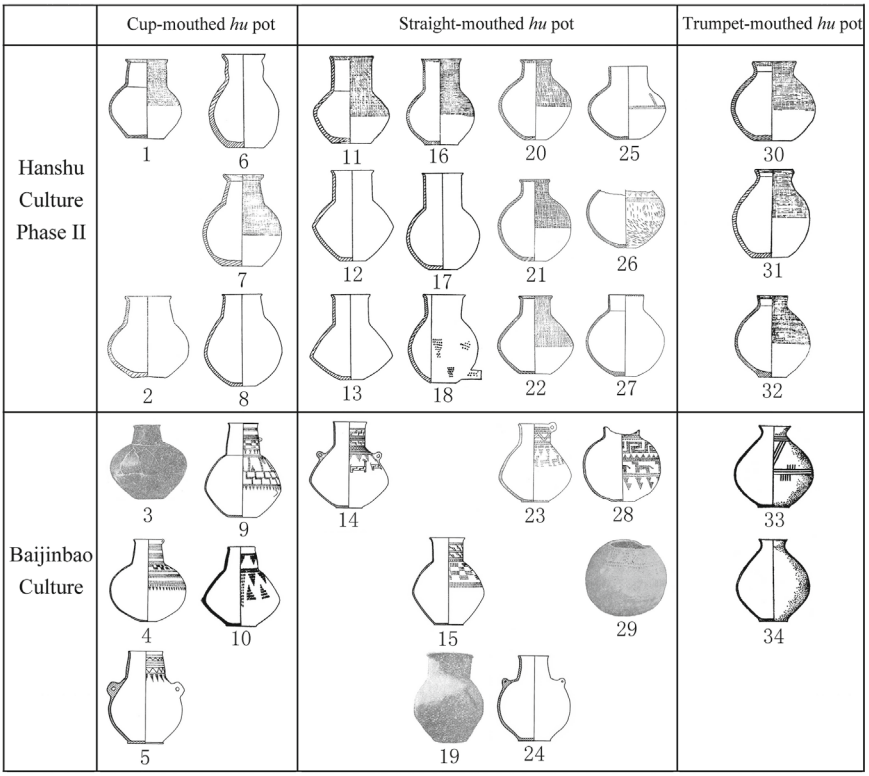


Fig. 9.12 Comparison chart of the kinship between pottery *hu* pot unearthed from sites of the Baijinbao culture and the Hanshu culture Phase II 1 (M107:90) 2 (85M101:1) 3, 33, 29, 34 (60M1:2, 81M3:1, 81M1:1, 81M1:2) 4, 5, 9, 14, 23, 15, 24 (01M63:8, 01M61:101M35:3, 01M35:1, 85M8:1, 01M63:12, 01M60:4) 6 (M214:7) 7, 21 (M207:3, 1) 8, 12, 13, 17 (Collected from Houtumu) 10, 19 (62M2:35, 60 Collected) 11, 16 (M133:36, 14) 18 (M205:2) 20 (M219:2) 22 (M159:1) 25 (M127:1) 26 (M184:1) 27 (M108:16) 28 (Collected from Niuweibagang) 30 (M145:5) 31 (M125:8) 32 (M141:52) (2, 3, 33, 29, 34 Unearthed from Xiaodengke, 8, 12, 13, 17 Collected from Houtumu, 4, 5, 9, 14, 23, 15, 24 Unearthed from Erkeqian, 28 Collected from Niuweibagang, 10, 19 Unearthed from Dongshantou, and the rest unearthed from Pingpang cemetery)

was from the Western Zhou to the Warring States periods. From the perspective of the kinship among pottery, the Liutingdong culture developed from the Xingcheng culture, so they may belong to the same cultural system (the Xingcheng culture system for short).

The pottery of the Xingcheng culture and the Liutingdong culture is characterized by plain surfaces without patterns, with flat-bottomed pottery as the majority. The most common artifacts are mainly slant-bellied *guan* jars, straight-bellied *guan* jars, bulging-bellied *guan* jars, *bo* bowls, *wan* bowls, and *pen* basins, etc. The only difference lies in the amounts of the artifacts unearthed, with more bulging-bellied *weng* urns in the Xingcheng culture, and a smaller number of ring footed bowls and *dou*

stemmed bowls in the Liutingdong culture. However, although yet to be found, it can be inferred that there were bulging-bellied *weng* urns between the late Shang period and Western Han dynasty, based on the remaining existence of bulging-bellied *weng* urns with cylindrical ears in the Tuanjie culture of the Han dynasty in the Tumen River Basin. Comparing the common pottery of the two cultures, it is obvious that at least nine types of pottery from four categories came from the same successive line, with their clear evolution (Fig. 9.13).

What needs to be explained is that the tradition of the flat-bottomed cylindrical vessels in the archaeological culture of the Tumen River Basin formed at the beginning of the Neolithic Age. Such tradition remained till the West and East Han Dynasties based on the pottery in the Tuanjie culture after the Warring States period, with no evidence of the tripod pottery found from the Xia to the Warring States periods. Therefore, compared with other areas, the Tumen River Basin might be a relatively closed area with little external influence on its cultural development. However, the Liutingdong culture evolved into the local Tuanjie culture in the West and East Han

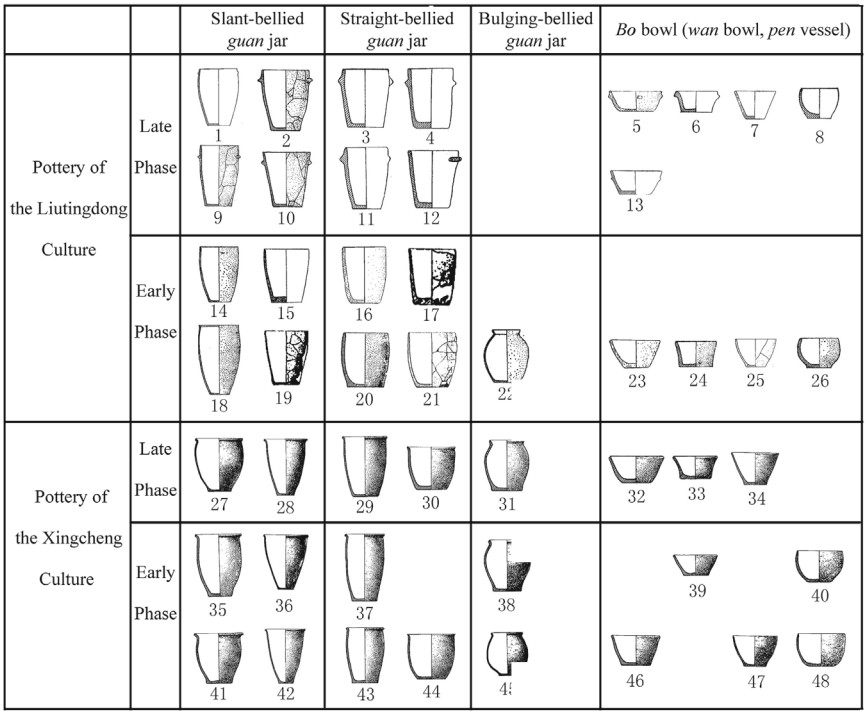
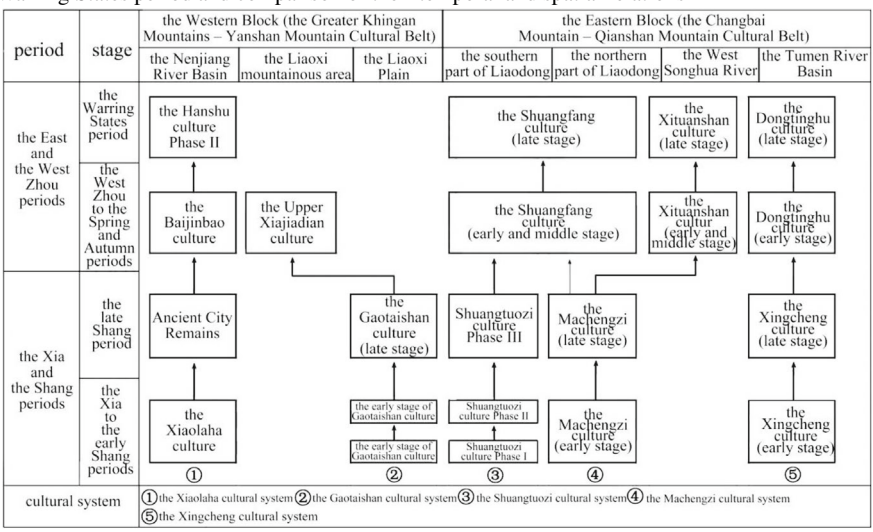


Fig. 9.13 Comparison chart of the kinship between pottery of the Xingcheng culture and the Liutingdong culture 1, 8 Xinguang, Yanji 2, 9, 10 Daliudaogou, Hunchun 3, 6, 11 Beishan Cemetery, Hunchun 4, 12, 13 Jincheng, Wangqing 5, 16, 23 Shiyan, Tumen 7 Xinxingdong, Hunchun 14, 18, 22, 24, 26 Yinghua, Hunchun 15 Lower Xin'anlv 17, 19 Liutingdong, Yanji 20 Jingu, Yanji 21, 25 Nanshan, Longjing 27–48 Xingcheng, Helong

Table 9.1 Evolution of five archaeological cultural systems in Northeast China from the Xia to Warring States period and comparison of their temporal and spatial relations



Dynasties, while another branch eventually departed from its origin, traveling westward to the West Songhua River Basin, and it formed the remains represented by M1 of the Huangyuquan Zhushan mountain in the early Han Dynasty (Fig. 7.6). The revelation of this phenomenon not only shows that the archaeological culture of Tumen River Basin had a certain impact on the outside world during the peak of its development, but also affirms Mr. Qiao Liang's assumption in the early 1990s that "the source of such remains as M1 of the Huangyuquan Zhushan mountain may be tracked in the Changbai mountain area to the east of Jichang area[4]" (Qiao, 1993).

The confirmation of the above six cultural systems is a definition of the kinship between archaeological cultures and the people who created them. From the distribution area of the six cultural systems, the archaeological cultures of five are mainly confined in the Northeast of China, except the lower Xiajiadian culture system (South Branch) in the north of North China to the south of Yanshan mountain. Table 9.1 demonstrates the development and the space–time relationship of the other five.

9.1.7 Other Cultural Remains in the Mountainous Region of Liaoxi

Among the seven kinds of archaeological culture (remains) with local characteristics found in the Liaoxi mountainous area, only the upper Xiajiadian culture has been confirmed as the successor of the Gaotai Mountain culture. For the remaining six

[4] It refers to the current surrounding area of Jilin City and Changchun City.

archaeological cultures including the Lower Xiajiadian Culture (North Branch), it is difficult to identify their respective origins and their cultural inheritance. Therefore, in order to clarify the problem and facilitate further research, this book will only focus on the analysis and discussion of their respective cultural structures or the sources of different cultural elements, rather than the identification of the longitudinal cultural inheritance and cultural systems in the absence of more evidence.

The lower Xiajiadian culture (North Branch) is characterized by the cord-patterned *yan* steamer, zun-styled *li* tripod, plain bulging-bellied *li* tripod and plain *bu*-styled *li* tripod. The origin of this culture is complex, as it not only inherited the local cultural elements of the Hongshan-Xiaoheyan cultural system (such as the *zun* wine vessel, *bo*-shaped *ding* cauldron, and shallow *dou* stemmed bowl), but also absorbed cultural elements of Hougang Phase II represented by the cord pattern from the Central Plains (such as the cord-patterned *yan* steamer without waistline, cord-patterned middle-mouthed *guan* jar with a deep belly, cord-patterned deep-bellied *pen* vessel with lugs). A new artifact type was also observed, upon the integration of these two cultural elements (such as the zun-styled *li* tripod). In addition, some elements of the Erlitou culture from the Central Plains (such as the *gui* tripod and *jue* cup) could be found. As for the development direction, some scholars believe that this culture may be partly integrated into the subsequent Weiyingzi culture (Guo, 1987). However, the comparison between their artifacts reveals its differences from the Weiyingzi culture. Firstly, their cord patterns are not the same. Most of the cord patterns in the Weiyingzi culture were scratched and unclear. Secondly, the shapes are very different, with the cylindrical plain *li* tripod rarely seen, and are incomparable to other pottery. In addition, the Weiyingzi culture mainly features brown pottery mixed with sand. This is the primary difference between the pottery in the two cultures. Therefore, judging by the current artifacts, the location of the lower Xiajiadian culture (North Branch) is an issue that requires further exploration and discussion.

The connotation of the Weiyingzi culture is vague, with different views put forward on the cultural characteristic, time, stage and distribution in recent years. This book defines the time range of the Weiyingzi culture as the late Shang period. The area was centered on the Dalinghe River Basin and Xiaolinghe River Basin, since few similar remains were found in the surrounding areas. The basic artifact type is represented by a batch of remains unearthed from the rear tombs of Kazuo, including Phase III remains of the Pingdingshan site at Fuxin and Phase III remains of the Xiangyangling site at Yixian County, with the bronze dagger with curved edge excluded.

Quite a few scholars believe that the Weiyingzi culture incorporated elements of three different cultures during its formation. Besides inheriting part of the local Lower Xiajiadian culture (North Branch), it also absorbed the representative cultural element of flower-rimmed *li* tripods with cord pattern from the Zhukaigou culture in the western Great Wall area and other elements from the Gaotaishan culture in the eastern area. The main component of the Weiyingzi culture reflects the characteristics of Gaotaishan culture. For example, the high-collared *li* tripods of the Weiyingzi culture, which were previously assumed to have been introduced from the west, may have actually developed from the high-collared *ding* tripods of the Gaotaishan

culture, as they exhibit similar applique patterns. From the high-collared *ding* tripods of the Gaotaishan culture excavated in Zhanggutai, Zhangwu County (Fig. 3.6: 9), to the high-collared *ding*-style *li* tripods with applique patterns of the Weiyingzi culture unearthed in nangoumen, Kazuo County (Fig. 3.6: 3), then to H201:1 high-collared applique-patterned *li* tripods of the Weiyingzi culture unearthed in Pingdingshan, Fuxin County (Fig. 2.2: 21), a clear culture evolution process can be observed. Therefore, with more artifacts unearthed in the future, it is possible to prove that the Weiyingzi culture is a sub-type of the Gaotaishan culture. It is also reasonable to speculate that the Weiyingzi culture was later integrated into the Upper Xiajiadian culture of the Western Zhou to the Spring and Autumn periods during the westward migration of the Gaotaishan culture. The *li* tripods with bag-shaped feet of the Upper Xiajiadian culture thus probably evolved from the Weiyingzi culture. These inferences remain to be validated by further studies.

East of Nulurhu Mountain, in the area of the Dalinghe River basin and Xiaolinghe River basin, the 'Linghe Remains' are located. The 'Linghe Remains' stand for a culture appearing later than the Weiyingzi culture. The representative artifacts of the Linghe Remains are curved-blade bronze daggers, but no tri-leg pottery has been found. The Linghe Remains reflect a period spanning from the Western Zhou period to the arrival of Yan culture of the late Warring States period. Findings of the Linghe Remains are mainly flat-bottomed pottery. However, due to the heterogeneous nature of the pottery and the lack of systematic excavation reports, no consensus has yet been reached regarding the origin of the Linghe Remains. One proposal relates the Linghe Remains to the Weiyingzi culture, but the distinctions between the two reflected by their different types of representative pottery and the short bronze daggers argue the contrary. In general, some of the artifacts indicate a relation between these remains and the contemporaneous archaeological sites of the Upper Xiajiadian culture, the Shuiquan Remains and the Jingzigou Remains. Some other artifacts reflect the influence from the Central Plains culture. To be specific, the bronze *ge* dagger axes and the stemmed bronze arrow heads with double wings are both of the Central Plains style. Also, the *hu* vessels, which are double-lugged and bulge-bellied, resemble the *hu* vessels of the Yuhuangmiao culture (the Jundushan culture) in Hebei Province in terms of shape and style (Yang, 2004). The prominent part of the remains, including lip-folded tube-belly pots, high-necked plain pots, and curved-blade bronze daggers, indicate a close relationship with the Shuangfang culture of the same era in the Liaodong area. This group of artifacts reflect the influence of the Shuangfang culture after it expanded northward and westward since the Western Zhou period and finally reached this place. However, in the area between the Linghe Remains and that of the Shuangfang culture, no remains of the West and the East Zhou periods have been discovered yet. Therefore, further evidence from field archaeology in this area is required to demystify the relationship between the Linghe Remains and the Shuangfang culture.

West of the Nulurhu Mountain, in the basin areas of the Xar Moron River, Laohahe River, and Jiaolaihe River existed the Upper Xiajiadian culture spanning from the Western Zhou period to the Spring and Autumn period, which evolved from the Gaotaishan culture after the latter moved westward.

Later remains of the early and mid-Warring States period in this area include the Shuiquan Remains and Jinggouzi Remains (including the Tiejianggou Remains). Judging from the available materials, these two kinds of remains not only share commonalities (similar artifacts, such as double-eared *guan* jars, stacked lip *guan* jars, etc.), but also have individual characteristics (for example, the absence of bulging *weng* urns and *li* tripods in the Shuiquan Remains and the absence of horn-handled *guan* jars in Jinggouzi Remains). Regarding the two types of remains, it is unclear whether they belong to the same culture or different cultures. Their respective origins are also unclear, although the influence from the late period of the Linghe Remains in the east can be seen in both types of remains. Since some artifacts with features of local cultures (clearly not Yan culture artifacts) are found in the remains of the Yan culture (Zheng, 2005), which arrived in this area in the late Warring States period, it is possible that these artifacts with local cultural features belong to the two types of remains. Therefore, one conjecture is that the two types of remains may have been integrated into the later Warring States Yan culture.

The Wudaohezi Remains of Lingyuan City, which is also noteworthy, was roughly contemporaneous with the late stage of the Linghe Remains, the Jinggouzi Remains as well as the Shuiquan Remains. Regarding this type of remains, only one cemetery of 11 tombs was identified. Burial goods of these tombs include bronze ware only, with no pottery having been found (Liaoning Provincial Institute of Cultural Relics and Archaeology, 1989). These bronze wares are of diverse styles, including the Central Plains style (the willow-shaped sword, the *ge* dagger ax with a long *hu* dewlap of three fastening holes, and the chariot accouterments), the Northern Steppe style (the triangular, human-shaped and linked-bead shaped pendants, horse-shaped plates and the bull-shaped gold plates) as well as the style of the Linghe Remains (the ray-shaped frontlets). The Wudaohezi Remains is considered to be representative remains of the late Shanrong culture in the northern Hebei province by some researchers (Jin & Wang, 2001). Some other researchers believe that these tombs are similar, in terms of the tomb system and burial customs, with the Xianbei tombs of the Donghu ethnic groups in Wangong Township and Dalai Nur District, which are dated to a later age than the Wudaohezi Remains (Zhu, 1997). Still, others argue that these remains should not be attributed to any currently known culture in Liaoxi and its neighboring areas (Wang, 2004). That is, the questions concerning the source and whereabouts of the Wudaohezi Remains are still unanswered.

In conclusion, regarding the archaeology in Northeast China from the Xia period to the Warring States period, few questions concerning the remains and cultures discovered in the mountainous area of Liaoxi have been clarified, although the excavation work in this area had the earliest start, with the most exposed materials and research results. Except for the Upper Xiajiadian culture, the attribution of the other cultures and the relationship among them are all unclear. Therefore, for a long time, the mountainous area of Liaoxi will remain the focus and sticking point of the archaeological work in Northeast China.

9.2 Communication and Expansion: An Analysis of the Cultural Landscape during the Xia, Shang, and Zhou Periods

If we investigate the communication between archaeological cultures in terms of four periods, namely, the Xia to early Shang period, the late Shang period, the Western Zhou to Spring and Autumn period, and the Warring States period, we can distinguish two different communication patterns. During the first two periods, communication among cultures is mainly manifested as relatively stable and equal exchanges between neighboring cultures. Whereas in the last two periods, the communication pattern features the expansion of strong cultures and the migration of weak cultures, and the penetration of cultures from faraway.

9.2.1 Communication and Influence from Cultures Outside the Region in the Xia and Shang Periods

The Xia to the early Shang period is a critical transitional stage for the archaeological cultures in Northeast China. One significant sign of this stage is the introduction and spread of the three-legged pottery from the cultures outside this area. However, different regions were affected by different cultures.

The cultures in the mountainous area of Liaoxi were influenced by the Central Plains and evolved into the Lower Xiajiadian culture, represented by cord-patterned *yan* steamers and basins and *li* tripods in the style of the *zun* wine vessel. The cord-patterned *yan* steamers and basins indicate a foreign origin (Fig. 2.1: 13, 14, 17–20), while the *zun*-styled *li* tripods are of a distinctive shape, exhibiting an integration of foreign and local styles, resulting from a collision between cultures (Fig. 2.1: 3, 4). Therefore, the Lower Xiajiadian culture is a result of influence of the culture in the Central Plains on the local culture, and the integration of the two cultures has been realized through accepting some foreign cultural elements.

The southern part of Liaodong area was mainly under the influence of the contemporaneous cultures from the Shandong peninsula. This influence is reflected by the Shuangtuozi culture Phase I, which combined the Longshan culture from Shandong, typified by the tri-legged artifacts like the *ding* cauldron and *gui* tripod, and the local culture, which featured flat-bottomed pottery (Fig. 4.2: 54, 55). Moreover, the Shuangtuozi culture further developed into its second phase, exhibiting a coexistence of the local flat-bottomed pottery and the typical artifacts of the Yueshi culture in Shandong, the plain *yan* steamers and pottery with raised ridge patterns (Fig. 4.3: 24–40). The remains of the Shuangtuozi culture Phase I and II manifest as a coexistence of foreign culture and local culture with no newly developed artifacts, which indicates that they have shown rejection or resistance in dealing with foreign cultures. This stubborn cultural character and tenacious sense of xenophobia may have stopped both the Longshan culture and the Yueshi culture from the Shandong

Peninsula from replacing the two phases of the Shuangtuozi culture and occupying the southern part of the Liaodong Peninsula. It is precisely this persevering spirit of self-development that has maintained the flat-bottomed pottery such as urns, jars and pots and rejected three-legged cookers from the Xia period to the Warring States period.

The Remains of Ping'anpu culture Phase II lies in the Liaoxi Plain, between the Lower Xiajiadian culture and the Shuangtuozi culture Phase I and II. Although it is geographically close to the Lower Xiajiadian culture, the foot tip of a tripod discovered in the remains tells another story. It is likely from the plain pottery *yan* tripod, a steaming vessel, indirectly spread from the Yueshi culture in Shandong through the Liaodong Peninsula, rather than from the Lower Xiajiadian culture, as its characteristics are solid feet and patterns. (Fig. 3.1: 12, 17) Upon their arrival, the exotic style of the plain tripods was incorporated with the local traditional flat-bottomed pottery, resulting in the plain *li* tripod with a cylindrical belly, the plain basin-style *li* tripod and the small plain pottery *li* tripod of the early Gaotaishan culture (Fig. 3.2: 19; Fig. 3.3: 34–37, 39). This incorporation indicates that both the remains of Ping'anpu culture Phase II from Xia to the early Shang period and the remains of the early Gaotaishan culture maintained a positive attitude to foreign cultures. They not only accepted cultural elements, but also integrated the elements into their own pottery. In this regard, it is as inclusive as the Lower Xiajiadian culture in the west, but different from the Shuangtuozi culture Phase I and II in the south.

Although all of the above three archaeological cultures, located in the frontier area of the south part of the Northeast, possessed tripods simultaneously, only the Gaotaishan culture transmitted the tripod vessels further northward and eastward to the Xiaolaha culture and the early Machengzi culture. Consequently, these two inland archeological cultures from the Xia to the early Shang period (Fig. 1.7: 1; Fig. 5.6: 28, 29, 35–38, 40) were discovered with tripod vessels similar to the plain *li* tripod of the Gaotaishan Culture. In the west, the Lower Xiajiadian culture of the same period, despite having the most advanced technology and culture, failed to have evident impact on the other cultures in the Northeast, although it extended toward the North China region, south of Yanshan. Instead, it incorporates the plain *li* tripod from the Gaotaishan culture (Fig. 2.1: 5, 6). In the south, the Shuangtuozi culture Phase I and II have long been confronted with the culture from the Shandong Peninsula. It did not engage in expanding its culture to the northern region. When the two representative archaeological cultures in the frontier area, actively or passively focused on competing with the cultures of the Central Plains and Shandong at the same time, the Gaotaishan culture had the opportunity to influence and penetrate the east, north, and west cultures.

The spread of the tripod vessels in the Northeast of the Xia to early Shang period can be attributed to three stages: from outside cultures to the Northeast, further spreading between cultures of this area, and the passing down of an evolved type from one culture to another. In the first stage, the *yan* tripod with cord pattern in Central Plains cultural area and the plain *ding* tripod, *gui* tripod, and *yan* tripod in the Shandong cultural area were directly passed into the Lower Xiajiadian culture in the mountainous area of Liaoxi and the Shuangtuozi culture phase I and phase

II in the southern part of Liaodong. In the second stage, the plain *yan* tripod of the Shandong Yueshi culture was transmitted by the Shuangtuozi culture phase II to the Ping'anpu culture phase II in the north of the Liaoxi Plain. Finally, the early stage of the Gaotaishan culture passed down a developed type of plain pottery *li* tripod to the Machengzi culture (early period) in the northern part of Liaodong, the Xiaolaha culture in the Nenjiang River Basin, and the Lower Xiajiadian culture in the mountainous area of Liaoxi. To conclude, the tripod pottery was spread around Northeast China by a succession of transmission, similar to a domino effect.

Xingcheng culture is the only exception out of the cultures in the Northeast that has not been discovered with tripod vessels in the Xia to early Shang period. The reason why it was not affected by other cultures may be due to its remote location in the isolated Tumen Valley area.

The cultures in Northeast China demonstrate new distribution and developing patterns in the late Shang period.

The Shuangtuozi culture Phase I and II had evolved into its third phase in the southern part of Liaodong. As the Yueshi culture from Shandong had declined in this period and the newly emerged Zhenzhumen culture had limited influence, the local traditional culture gained the opportunity of rapid restoration and development. The Shuangtuozi culture Phase III had surpassed the other cultures of the same period as indicated by the remains and excavated materials of this stage. However, from the perspective of cultural exchanges, little evidence of its impact on other cultures or the other way around has been found.

In the of Liaoxi, the Weiyingzi culture came after the Lower Xiajiadian culture. When looking at the artifact assemblage of this culture, quite a few cultural factors can be detected from the Gaotaishan culture in the eastern region (Fig. 3.6: 1–5). These factors suggest that the Gaotaishan culture (the late stage) still maintained its strong influence on the western region at this stage. Meanwhile, the tendency of its eastward expansion is more obvious. Its eastward influence in this stage was also stronger than that from Xia to early Shang period. This enhancement in influence is confirmed by the discovery of more typical Gaotaishan cultural artifacts, such as the *li* tripods, *yan* tripods, *hu* jars, and *wan* bowls in the pottery assemblage in the late stage of the Machengzi culture than in its early stage (Fig. 5.3: 78, 80).

Moreover, in this period, the Weiyingzi culture, active in the basin areas of the Dalinghe River and the Xiaolinghe River, exerted great influence on the northern Nenjiang River Basin, replacing the Gaotaishan culture which previously heavily influenced it. The Weiyingzi culture transmitted the relics represented by the *li* tripod with a bulging belly and cord patterns northward to the Gucheng Remains in Nenjiang River Basin (Fig. 1.9: 1, 2). It also played a crucial role in changing the appearance of the Gucheng Remains and facilitating the formation of the Baijinbao culture in the later stage. On the other hand, a small number of pottery *ding* cauldrons in the assemblage of the late Gaotanshan culture indicates that besides shedding influence on the Machengzi culture, it also absorbed some cultural elements from the latter during their interactions.

The Xingcheng culture in the Tumenjiang River Basin, as in the previous stage, had only completed the internal changes of the same archaeological culture, but had not yet interacted with external cultures.

In these two periods, the Xia to early Shang period and the late Shang period, each culture had its relatively fixed developing area. That is, the culture succession of these two stages was completed in the same area. The culture exchange and interaction were mainly manifested as one-way or two-way influence between adjacent cultures. Some cultures, such as the Gaotaishan culture, were more active and proactive in the process of cultural exchanges and spread during this period with a strong influence on the cultures in the surrounding areas, especially the Machengzi culture in the eastern area. Nevertheless, its influence was still limited in general, as it did not change the local cultural traditions in the areas under its influence, let alone the overall culture distribution structure in the Northeast. With the background of the relative stability of the cultural structure and the relative balance of the power development in the Xia and Shang periods, the Gaotaishan culture can be regarded as a relatively active culture during this period, but not a superior one.

9.2.2 Cultural Expansion, Migration and Substitution in the Western Zhou and Eastern Zhou Periods

From the Western Zhou period to the Warring States period, the layout of the cultures in the southern part of Northeast China had undergone two major changes. One change resulted from the rapid expansion of the Shuangfang culture in the Liaodong area from the Western Zhou period to the Spring and Autumn period, and the other from the northward advance of the Yan culture in the Central Plains during the Warring States period.

During the Western Zhou period to Spring and Autumn period, the Shuangfang culture, which evolved from the third phase of Shuangtuozi culture in the south part of Liaodong, reached its developmental peak. With the most advanced bronze weapons of that time such as the curve-edged spear and the curved-edged sword, the Shuangfang culture launched a large-scale expansion, boosting its central activity areas from the south end of the Liaodong Peninsula to the entire Liaodong Region within a short period of time. The peripheral areas under its influence covered almost half of the Northeast China and the adjacent Korean Peninsula on the east.

The Shuangfang culture reached the following areas and had great influence on its traditional culture there. Judging from the available materials, from the Western Zhou period to the early and mid-Warring States period there were a large number of curve-edged bronze swords and pottery *guan* jars with thick lips and a cylindrical belly (Fig. 3.7: 1, 12, 11, 22; Fig. 2.8) in the Linghe Remains located in the mountainous area of Liaoxi, separated by the Liaoxi Plain, far away from Liaodong. These artifacts are the same or similar to those of the Shuangfang culture. A small number of such artifacts were also found in the Shuiquan Remains of the early and middle Warring

States period, and in the upper Xiajiadian culture in the west of the Nulurhu Mountain from the Western Zhou period to the Spring and Autumn period (Fig. 2.9: 3–5, 10, 11). In addition, the stone assembly unit of a curved-edged bronze dagger has been found in the remains of the Hanshu culture phase II during the Warring States Period in the Nenjiang basin (Archaeology Specialty, Department of History, Jilin University, 1982). Pottery and bronze wares resembling those of the Shuangfang culture were also found in the Xituanshan remains in the West Songhua River basin from the Western Zhou period to the Warring States Period (Fig. 6.9: 1, 2, 5, 6, 9, 10; Fig. 6.11). It was shown that the Xinyanli Phase I type and the Xinyanli Phase II type remains appeared on the Korean Peninsula as early as in the Xia and Shang periods (Wang, 1993b). They are closely related to the Shuangtuozi Phase I, II and III culture in the south part of the Liaodong (Wang, 1993a, b). In the West and the East Zhou periods, both the spinning-top-shaped pottery of Xinyanli Phase III and the pottery *hu* pot of the Upper Meisongli were closely related to their counterparts of the Shuangfang culture. In addition, the curve-edged bronze daggers found in Jingudong, Longxingli, and Xipudong on the Korean Peninsula show similar shapes to the curve-edged sword of the Shuangfang culture (Jin, 1983).

Shuangfang culture is viewed as an influential culture dating from the Western Zhou to the Spring and Autumn period. Its expansion directly led to the occurrence of the following two events. First, the Machengzi culture, distributed in the northern Liaodong during the Xia and Shang periods, was under great pressure due to the northward advance of the Shuangfang culture. It was then forced to move northward to the West Songhua River basin, where it evolved into the Xituanshan culture which existed from Western Zhou to the Warring States periods. A small number of elements of the Xituanshan culture were integrated into the Shuangfang culture. Second, the Gaotaishan culture, prevalent during the Xia and Shang periods, was forced to move westward from the northern Liaoxi Plain to Xar Moron River basin in the mountainous region of Liaoxi. It then evolved into the upper Xiajiadian culture there and later expanded to the Laoha River and Jiaolai River basin.

A certain relationship exists among the expansion of the Shuangfang culture, the migration of the Machengzi culture and the Gaotaishan culture, and the changes of culture pattern in the southern Northeast. First, the expansion of the Shuangfang culture directly led to the changes of culture pattern in northern Liaodong and the Liaoxi Plain. Second, the northward movement of the Machengzi culture and the westward movement of the Gaotaishan culture successively led to the change of culture pattern in West Songhua River basin and the mountainous region in Liaoxi. Thus, there might be a certain causal link among culture expansion, culture migration and culture patterns. The link is similar to a domino effect when one event initiates a succession of similar events.

If the rapid expansion of the Shuangfang culture from Western Zhou to the Spring and Autumn period for the first time led to the change of pattern in archaeological culture in southern Northeast, then the northward movement of the Yan culture in the Central Plains during the Warring States period led to the second major change of culture pattern in this area.

During the early and middle Warring States period, a small amount of Yan culture flowed into the Northeast. However, due to its limited impact, these culture factors didn't influence the local traditional culture too much. Even those which existed in the mountainous region of Liaoxi during early and middle Warring States period, such as the Shuiquan Remains, the Jinggouzi Remains and the late phase of the Linghe Remains, developed rather independently with little influence from the Yan culture. However, in the late period of the Warring States, a general of Yan named Qin Kai defeated Donghu, set up five commanderies, constructed the Great Wall and migrated Yan people to the Northeast for farming and guarding. These led to a great number of Yan people moving to the vast region in the southern part of the Northeast. This intrusion of the Yan culture not only directly caused the disappearance of the local traditional culture, but also realized culture substitution by fighting. Eventually, the southern regions along Yanbei Great Wall[5] officially became part of the territory of Yan State.

Based on the findings of previous archaeological investigations and surveys, the west stretch of Yanbei Great Wall was from Chifeng, Aohan, Naiman, Kulun to Fuxin (Tong, 1982). The east stretch started from Fuxin, passing through Zhangwu, Faku, Kaiyuan, Xinbin and moving east into Democratic People's Republic of Korea according to the research conducted by historians and geologists (Li, 1982). The living areas of the Yan people had previously been generally confined south of Yanbei Great Wall. From the current archaeological findings, however, the living areas of the Yan people should be larger than that, with the evidence that ancient sites dating back to the late period of the Warring States having been found outside the Yanbei Great Wall in Erlong Lake in Lishu county, Jilin province (Siping Museum et al., 1988). Moreover, there were spacious areas where the Yan culture dating back to the late period of the Warring States was found. In mountainous regions of Liaoxi, there was a complete cultural substitution, while in Liaoxi Plain, the situation is not clear as no evidence of the Yan culture was found there. In Liaodong, where the Shuangfang culture was distributed, some elements of the Yan culture was found, but they were only a cultural penetration or integration rather than a complete substitution of the Shuangfang culture which was considered as the leading culture in Liaodong. For example, in M12, situated in Yinjia village, Lüshun county and M1 to M4, situated in Benxi Shangbu village, the Yan-style *dou* stemmed bowls and Yan-style *guan* jars (Fig. 4.28: upper left and upper right), typical of the late period of the Warring States, were excavated. However, goods unearthed from the same tomb, namely *guan* jars, *hu* pots, *dou* stemmed bowls, and bronze swords from the Shuangfang culture Phase III, were larger in number. This phenomenon indicated that during the late period of the Warring States, the Shuangfang culture in Liaodong was not completely substituted by the Yan culture. Instead, the Yan culture had been integrated with the local culture. The exact time that the culture in Liaodong was replaced by the Central Plains culture was during the later period when the Han (Nationality) cultures prevailed. This can be proven by the Han culture remains unearthed from Yinjia village in Lüshun county (Institute of Archaeology, Chinese Academy of Social Sciences, 1996).

[5] The stretch of the Great Wall built along the northern border of the state of Yan.

Compared with the southern area, the Nenjiang River basin in the north and the Tumen River basin in the east were in a totally different situation during the West Zhou and East Zhou periods. Under no influence of cultural expansion nor cultural migration from the southern part during Western Zhou and Spring and Autumn periods, these two regions had successfully completed the transitions and transformations in the same timeline from the Gucheng Remains and the Xingcheng culture (late period) in Xia and Shang periods to the Baijinbao culture and the Liutingdong culture (early period). The transformations were achieved by the evolution of ceramic making and usage.

Apart from that, when the Yan culture moved northward and replaced the local culture in the south during the Warring States periods, the archaeological cultures in Nenjiang River Basin and Tumen River basin still achieved further development.

The Baijinbao culture along the Nenjiang River Basin, prevailing from the West Zhou to the Spring and Autumn periods, first transitioned to the early and middle periods of the Hanshu culture Phase II in the Warring States period. Then during the late period of the Warring States, it developed into the late period of the Hanshu culture Phase II represented by the late Pingyang cemetery and Dadao Sanjiazi cemetery. The Liutingdong culture along the Tumen River Basin first transitioned from the early period (from West Zhou to the Spring and Autumn periods) to the late period (the Warring States period), and later it developed into the Tuanjie culture after the Warring States period and remains in the west regions represented by the M1 in Huangyuquan Zhushan mountain.

These new archaeological remains, further developed and then evolved from the Xiaolaha culture and the Xingcheng culture under the conditions of certain activities like fishing and hunting, and the conditions of a closed physical geographical environment, did not decline but developed further during the West Han and the East Han dynasties. It was even advanced enough to compete with the Qin and the Han cultures in the Central Plains at that time. While the reason why the Yan, the Qin and the Han cultures in the Central Plains did not reach here and take complete control was that the local cultures here were always full of vitality and connected with strong blood ties that they had survived from the Xia period through the Warring States period hitherto.

To conclude, based on variations in patterns as well as ways of interacting in different periods, the archaeological culture in the Northeast from the Xia to the Warring States period can be divided into two different situations of the Xia and the Shang periods and the West and the East Zhou periods. The cultural patterns in the Xia and the Shang periods featured a stable interaction with other cultures and a continuous development in the same region. Meanwhile, the culture pattern in the West and the East Zhou periods showed expansion, migration and substitution among different systems in the south and a continuous evolution and development in the same region in the north and east.

9.3 The Division of Two Cultural Regions and Two Cultural Belts

9.3.1 The Division of Serial Archaeological Cultural Regions and Sequential Archaeological Cultural Regions

The development of archaeological cultures, to a large extent, determines the variations in cultural relationships in every physical geographical region. As the relationship might be continuous or substitute, various cultural regions were formed.

When comparing the seven physical geographical regions used to establish the chronological timeline of archaeological cultures in various regions and the pedigree relationships of six archaeological culture systems shown in four development stages during the Xia to the Warring States period, the relationships between each physical geographical regions in terms of archaeological cultures can be easily seen.

Firstly, the Nenjiang River basin, the Tumen River basin, and southern Liaodong belong to the same physical geographical region as they displayed the same features in archaeological culture. The cultures in the above regions were in chronological order and belonged to the same culture system. For instance, the Xiaolaha culture in the Nenjiang River basin, the Gucheng remains, the Baijinbao culture and the Hanshu culture Phase II were in chronological order and were considered as having been transformed by and developed from each other based on the research on the relationship of the pottery unearthed in these regions. The same situations could be seen between the Xingcheng culture in the Tumen River basin and the Shuangtuozi culture Phase I, II and III, and the Shuangfang culture. The archaeological cultures in these physical geographical regions developed from the same origin, no matter how large the number and how fast or slow the rate of evolution. In other words, the archaeological cultures in these three geographical regions were from the same group of people in the same areas but in different developing periods. Therefore, it could be named 'serial archaeological cultural regions'.

Secondly, the northern Liaodong and the Liaoxi mountainous area. The commonness of the two areas is that the archaeological cultures distributed in the same physical geographical region are only chronologically related instead of belonging to the same cultural system. For example, the relics of the Xia and the Shang periods unearthed in northern Liaodong belong to the Machengzi culture of the Machengzi culture system, while the Shuangfang culture of Shuangtuozi culture system of the West and the East Zhou periods is superimposed on this culture. Although the two cultures have chronological succession, they do not belong to the same cultural system. The same is true of the Lower Xiajiadian culture, the Weiyingzi culture, the Upper Xiajiadian culture, the Shuiquan relics, the Jinggouzi relics, the Linghe relics, the Yan culture and other relics in the Liaoxi mountainous area. Because the archaeological culture contained in the above two geographical regions presents an alternation of different cultures in chronological order. In other words, the archaeological cultures contained in the two geographical regions should be the remains

of different people in the same place with chronological relationship. In order to distinguish from the previous "serial archaeological cultural region", it can be called "sequential archaeological cultural region".

Because in the West Songhua River basin and the Liaoxi Plain, only one archaeological culture has been found, it is difficult to determine which type of archaeological cultural region they should belong to. For example, in the West Songhua River basin, only the Xituanshan culture of the West and the East Zhou periods was found, but not cultural relics of the Xia and the Shang periods. Although it can be proved that the predecessor of the local Xituanshan culture should be the Machengzi culture in the Xia and the Shang periods in northern Liaodong, before finding and confirming the remains in the West Songhua River basin of the Xia and the Shang periods, it is still impossible to determine whether the West Songhua River basin is a "serial archaeological cultural region" or a "sequential archaeological cultural region". Because once the Xia and the Shang periods remains in this area are found to be the same as those in the Machengzi culture, this region should be a "serial archaeological cultural region", otherwise, it should be a "sequential archaeological culture region". The same is true with the Liaoxi Plain.

The division of "serial archaeological cultural region" and "sequential archaeological culture region" should have universal significance. The reasons for the formation of "serial archaeological cultural region" and "sequential archaeological culture region" are mainly related to whether the archaeological culture has undergone expansion or migration. The method of distinguishing "serial archaeological cultural region" and "sequential archaeological culture region" is to make a comparative study of the temporal and spatial relationships and genealogical relationships of various archaeological cultures in the same region or several different regions.

9.3.2 The Division of the Greater Khingan Mountains–Yanshan Mountain Cultural Belt and the Changbai Mountain–Qianshan Mountain Cultural Belt

By comparing the spatial locations of different cultural regions and the different cultural systems contained in each cultural region against the background of natural environment, cultural characteristics and historical traditions, it is often possible to divide them into larger cultural blocks composed of different "cultural regions". They are called "cultural belts" to be distinguished from "cultural regions".

On the issue of how to divide the blocks of archaeological culture in the pre-Qin period in Northeast China, Prof. Zhang Zhongpei was the first to put forward the understanding that "the railway region from Harbin to Shenyang should be the middle zone that divides Northeast China into two regions of facing the hinterland of Asia and facing the sea" (Zhang, 1997). Later, on the basis of this view, Mr. Qiao Liang put forward more specifically that the northeast China can be divided into "the west of the

northeast China with the Greater Khingan Mountains and their extension as the axis" and "the east of the northeast China with the Changbai Mountains and their extension as the axis" (Qiao, 1993). From the perspective of this book, the above two opinions are not only reasonable, but also still correct. For the convenience of writing, "the west of the northeast China with the Greater Khingan Mountains and their extension as the axis" is referred to as "the Greater Khingan Mountains–Yanshan Mountain Cultural Belt", and "the east of the northeast China with the Changbai Mountains and their extension as the axis" is referred to as the "Changbai Mountain–Qianshan Mountain Cultural Belt". The explanations on the division of these two cultural belts are as follows:

First of all, from the perspective of the natural environment and cultural regions, the "Greater Khingan Mountains–Yanshan Mountain Cultural Belt" in the West should mainly rely on the Greater Khingan Mountains and the Yanshan Mountains, and take the central and western regions of the Northeast plain as the activity frontier area. The three cultural regions of the Liaoxi mountainous area, the Liaoxi Plain and the Nenjiang River Basin should belong to this part; the "Changbai Mountain–Qianshan Mountain Cultural Belt" in the East should mainly rely on the Changbai Mountains and the Qianshan Mountains, and take a small part of the narrow section in the east of the Northeast plain as the activity frontier area. The four cultural regions, namely, the southern part of Liaodong, the northern Liaodong, the West Songhua River basin and the Tumen River Basin, should belong to this part.

Secondly, from the perspective of the main characteristics of cultural connotation, the Gaotaishan cultural system and the Xiaolaha cultural system, as well as the lower Xiajiadian culture, the weiyingzi culture, the Jinggouzi relics, etc. included in the "Greater Khingan Mountains–Yanshan Mountain Cultural Belt" in the west, generally take the *li* tripod as the main cooker (the *ding* tripod is the cultural factor from the East), and most of them have cord patterns. Earth pit tombs are the main form of burials (with few sarcophagus tombs), and the typical burial objects are pottery pots with a straight or cup-shaped mouth, most popularly, with vertical-shaped handles. The Shuangtuozi culture system, the Machengzi culture system and the Xingcheng culture system included in the "Changbai Mountain–Qianshan Mountain Cultural Belt" in the east generally have the *dou* stemmed bowl, as well as the *guan* jar and the *ding* tripod as main cooking utensils (the *li* tripod is a cultural factor from the West), without cord patterns. Stone-lined tombs, cave tombs, sarcophagus tombs, large stone covered tombs, stone sheds and other stone-structured tombs have been popular successively. The trumpet-mouthed *hu* pot and the bowl-mouthed *hu* pot are the most characterized burial objects, mostly with horizontal ears and lugs.

Third, from the perspective of cultural traditions and cultural relations with Chinese mainland, the "Greater Khingan Mountains–Yanshan Mountain Cultural Belt" in the west has maintained close contacts with the Central Plains since the Neolithic age, and the contacts were even more closely from the Xia to the Warring States period. Since the cultural belt is connected with the "inland facing" part or the "Asian hinterland facing" part through the land passage in the Liaoxi area and the Northern and southern Yanshan area, they can be regarded as the same large cultural plate as a whole. The "Changbai Mountain–Qianshan Mountain Cultural Belt" in the

east has maintained frequent cultural exchanges with Shandong Peninsula through the Bohai Strait and Liaodong peninsula since the Neolithic age, which is still the case from the Xia to the Warring States period. Since this part is always connected with the "ocean facing" part in the south through waterway, they can be regarded as the same large cultural plate as a whole.

Finally, from the point of view of the activity boundary between the eastern and western blocks or the frontier area contested by the two cultural belts, a rough boundary can be drawn according to the opinion of "along the Harbin-Shenyang Railway" put forward by Prof. Zhang Zhongpei. However, combined with the understanding of this book, this boundary seems to be divided into three sections from south to north. The south section can be divided by Xialiao River-Xiushui River, the middle section can be divided by the connecting line between Harbin and the estuary of the Dongliao River, and the north section can be divided by the Hulan River and its northward extension. These three sections are connected to form the theoretical dividing line between the "Greater Khingan Mountains–Yanshan Mountain Cultural Belt" in the west and the "Changbai Mountain–Qianshan Mountain Cultural Belt" in the east (Fig. 9.14). However, it should be noted that what is given here is only a rough range. The actual situation may be a relatively narrow and long zone of northeast-southwest direction with this line as the central axis.

In short, the division of the above two cultural zones is not only feasible, but also necessary and meaningful. In particular, the close connection between the two cultural belts and the six cultural systems has a very important reference value and beneficial enlightenment for further revealing the internal relationship between the archaeological cultural regions in northeast China during the Xia to the Warring States period and the different groups of people later formed and found in the literature.

Fig. 9.14 Diagram of relative position relationship between the Greater Khingan Mountains – Yanshan Mountain Cultural Belt and the Changbai Mountain–Qianshan Mountain Cultural Belt

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Conclusion

The main research content of this book is the spatio-temporal framework and the pedigree relationship of the archaeological cultures in Northeast China from the Xia to the Warring States Period. Individual chapters also involve discussions on the typology and chronology of bronzeware of the Northeast system, or Northeast bronzeware.

Research on the spatio-temporal framework of archaeological cultures

The main research findings are presented in two stages. One, the historical development of the archaeological cultures in Northeast China from the Xia to the Warring States Period is established. Towards this end, seven important areas are selected as the research focus for periodization and chronology. Specifically, the seven areas are the Nenjiang River basin, the mountainous areas of Liaoxi (West of Liaohe River), the Liaoxi Plain, the southern area of Liaodong (East of Liaohe Rivier) and the northern area of Liaodong, the West Songhua River (once referred to as the Second Songhua River) basin, and the Tumen River basin, due to the fact that they are abundant in research materials concerning this particular historical period. Two, based on the spatial comparison among and integrative research on the seven areas, four development stages are delineated: the period from the early Shang to the Xia, the late Shang, the period from the Western Zhou to the Spring and Autumn Period, and the Warring States Period. Finally, based on the two-dimensional research, the spatio-temporal framework of the archaeological culture in China from the Xia to the Warring States Period is established.

Specific research findings include:

1. Identified the "Gucheng Remains" of the late Shang in the Nenjiang River Basin; completed the phased study of the Xiaolaha Culture, the Baijinbao Culture, and

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the Hanshu culture Phase II in the Nenjiang River Basin and divided them into 8 periods beginning from the Xia to the early Han; and clarified that the remains represented by the Erkeqian Cemetery belong to the Baijinbao culture, and the ruins were characteristic of the Hanshu culture Phase II.

2. It is proposed that majority of the period encompassing the Weiyingzi culture in the mountainous region of Liaoxi was during the late Shang, but no later than the early Western Zhou. The Upper Xiajiadian culture is determined to have existed from the early Western Zhou (no earlier than the Shang) to the late Spring and Autumn Period. It is proposed that the Tiejianggou site and the Jinggouzi site belong to the same culture, and are the same age as the Shuiquan site and the Wudaohezi site; that the Linghe site be divided into the early and the late phases, equivalent in time to the Upper Xiajiadian culture and the Shuiquan site respectively; and that the eight cultural remains in the mountainous areas of Liaoxi be divided into six development stages chronologically.
3. It is proposed for the first time that the Ping'anpu culture Phase II in the Liaoxi Plain is one of the remains of the early Xia and the immediate predecessor of the Gaotaishan culture.
4. It is believed that the Laotieshan stone-lined tomb in the southern part of the Liaodong (East of Liao River) Peninsula belongs to the Shuangtuozi culture Phase I, which is a bronze culture from the early Xia; that the Shuangtuozi culture Phase II is not a local variant of the Yueshi culture, but a local indigenous culture which was strongly influenced by the Yueshi culture in the Shandong Peninsula; Using the research methodology of pure typology, the Shuangfang culture is, for the first time, divided into three phrases: early, middle, and late, and based on the comparison of its pottery with that of other cultures, it is determined that the developmental basis of the Shuangfang culture was the Shuangtuozi culture, Phrases I, II, III to be precise. The daggers with a cylindrical ridge of the Shuangfang culture are re-categorized into eight different styles and their time of casting and use is determined as being from the early Western Zhou to the late Warring States Period, based on their coexistence with corresponding pottery. The four archaeological cultural remains in the entire southern area of Liaodong are divided into seven development stages chronologically.
5. It is proposed that, through rigorous verification, the so-called Upper Xinle culture in Shenyang, the Shunshantun type from Kangping, the Faku site in Wanliu, and the Wanghua site in Fushun, all of which were previously discovered in the north of Liaodong, be categorized for the first time into the Machengzi Culture. It is also pointed out that the artifacts discovered from these remains should belong to the Machengzi culture, and therefore, the Machengzi culture should be taken as the umbrella term for all the archeological cultural remains of the Xia and Shang in the north of Liaodong. Based on the analysis and comparison of the stratigraphic relationship and coexistence of the sites in this area, the Machengzi culture and the Shuangfang culture in the north of Liaodong are divided into five stages.

6. Based on the chronological grouping of the third excavation at the Dahaimeng site in Yangtun, Yongji, a further segmented study was carried out on the materials from the Xituanshan site in the West Songhua River basin. By applying the research methodology of pure typology, the clay pots unearthed from the tombs of the Xituanshan culture were re-classified and grouped. Through the comparison between the pottery of each historical period of the site and its spatial and temporal comparison with the pottery of other archeological cultures, the entire Xituanshan culture is divided into three periods: the early, the middle, and the late, chronologically, and in the Western Zhou, the Spring and Autumn Period, and the Warring States Period respectively. The result is quite different from any previous conclusion.
7. According to the stratigraphic relationship revealed by the Wudong site in Huining, North Korea, and combined with archaeological discoveries inside China, the ancient cultural remains of the Tumen River basin during the Xia and the Warring States Period are divided into two cultures: the Xingcheng culture, the earlier, and the Liutingdong culture, the later. Each is further divided into two phases based on the stratigraphic relationship. Finally, through longitudinal comparison, the remains in the Tumen River basin are divided into the early Xingcheng culture, which is from the early Shang to the Xia, the late Xingcheng culture in the late Shang, the early Liutingdong culture from the Western Zhou to the Spring and Autumn Period, and the late Liutingdong culture in the Warring States Period. This conclusion is the latest understanding of the issues of this kind.
8. Through the comparison and integrated study of the chronology of the seven archaeological cultural regions mentioned above, it is found that these archaeological cultures in Northeast China from the Xia to the Warring States Period were multi-sourced and successive in terms of development. Although the evolution rate of each region is not the same, the several major changes on the time scale are basically synchronized. Based on this synchronization, the entire Northeast China during this period is divided into four development stages chronologically, i.e., from the Xia to the early Shang, the late Shang, from the Western Zhou to the Spring and Autumn Period, and the Warring States Period.

Research on the pedigree of archaeological cultures

Based on the constructed spatio-temporal framework and with research carried out at different levels, such as culture, cultural system, cultural zone, and cultural belt, the pedigree of the archaeological cultures of the period has been discussed in two aspects.

The research findings include:

1. The archaeological cultures from the time period spanning the Xia to the Warring States Period in China can be divided into six different cultural systems, each consisting of more than one culture. The Shuangtuozi system contains the

Shuangtuozi culture Phase I, the Shuangtuozi culture Phase II, the Shuangtuozi culture Phase III, and the Shuangfang culture; the Machengzi cultural system is comprised of the Machengzi culture and the Xituanshan culture; the Gaotaishan culture and the Upper Xiajiadian culture can be referred to as the Gaotaishan cultural system; the Lower Xiajiadian cultural system contains the Lower Xiajiadian culture (south branch), the Tazhao culture Phases I and II, and the Upper Zhangjiayuan; the Xiao Laha Cultural System comprises the Xiaolaha culture, the Gucheng remains, the Baijinbao culture, and the Hanshu culture Phase II; and the Xingcheng culture and the Liutingdong culture are under the category of the Xingcheng cultural system.

2. Taking the four periods of the Xia to the early Shang, the late Shang, the Western Zhou to the Spring and Autumn Period, and the Warring States as the temporal background, and comparing the methods of communication among different archaeological cultures, it is found that the appearance and spread of tripods in Northeast China from the Xia to the early Shang occurred mainly at three different levels. The first level manifested as the direct influence of the *yan* steamers with cord patterns from the Central Plains Cultural Zone and the *ding*, *gui*, and *yan* tripods from the Shandong Cultural Zone on the Lower Xiajiadian culture in the mountainous region of Liaoxi and the Shuangtuozi culture Phases I and II in the south of Liaodong respectively. The second level was the dissemination, by the Shuangtuozi culture Phase II, of the *yan* steamers from the Shandong Yueshi culture to the Ping'anpu culture Phase II in the northern part of the Liaoxi Plain. The third level occurred when the new plain-faced *li* tripod produced in the early Gaotaishan culture further influenced the (early) Machengzi culture in the north of Liaodong, the Xiaolaha culture in the Nenjiang River basin, and the Lower Xiajiadian culture in the mountains of Liaoxi.
3. It is found, in terms of the cultural interaction and method of influence in the two stages during the Xia-Shang period (one from the Xia to the early Shang, the other in the late Shang), that the activity area within each cultural system was relatively stable, that the cultural inheritance between the two stages was completed in the same zone, and that the communications and influences among cultures were mainly manifested in two-way or one-way cultural transmission and penetration within a short distance.
4. It is believed that there may have been two major changes in the cultural landscape of the southern part of Northeast China during the Western and Eastern Zhou period (from the Western Zhou to Spring and Autumn and Warring States period to be specific).The direct cause of these two changes was the rapid expansion of the Liaodong Shuangfang culture from the Western Zhou to the Spring and Autumn Period and the aggressive northward movement of the Central Plains Yan Culture during the Warring States Period. Among them, the former directly altered the cultural pattern of the north of Liaodong and the Liaoxi Plain. Then, the northward migration of the Machengzi culture—with the Shuangfang culture as its driving force—and the westward expansion of the Gaotaishan culture reshaped the cultures in the West Songhua River basin and the mountainous areas in Liaoxi successively.

5. According to the difference in genetic relationships among the cultures in each natural geographic area, three "serial archaeological cultural areas" (Nenjiang River basin, Tumen River basin, and south of Liaodong) and two "sequential archaeological cultural areas" (mountainous areas in Liaoxi and the north of Liaodong) are distinguished. It is pointed out that the division of "serial archaeological cultural areas" and "sequential archaeological cultural areas" may have universal significance. It is believed that the reasons for the formation of "serial archaeological cultural areas" and "sequential archaeological cultural areas" are mainly related to whether the archaeological culture has been influenced by the expansion or migration outside their own cultural zone. The method of distinguishing them is to conduct a comparative study of various archaeological cultures in terms of the temporal and spatial relations and genealogical relations within the area or beyond within several different areas.
6. According to the analysis of natural environments, cultural characteristics, and historical and cultural backgrounds, the northeastern region of China during the time from the Xia to the Warring States Period was divided into two cultural belts, spatially parallel to each other. Both are named after mountains in the area, the first is the "Greater Khingan Mountains—Yanshan Mountain Cultural Belt" in the west; and the second, the "Changbai Mountain-Qianshan Mountain Cultural Belt" in the east. It is believed that the division of the two cultural belts is not only feasible, but also necessary and meaningful. In particular, when the two cultural belts and the six cultural systems are considered as a whole, it is of great value and benefit as it provides a means for the further revelation of the relationship between the archaeological and cultural systems in Northeast China during the Xia and the Warring States Period and the subsequent different ethnic groups formed there and recorded in literature.

Typology and dating of the Northeast bronzeware

The first is emphasizing the importance and the guiding role that archaeological chronology assumes in the study of the staging and chronology of archaeological remains after illustrating the erroneous method of dating remains based on bronzeware. The second is based on the pottery chronology and the study of the coexistence of Northeast bronze swords and pottery, and re-discussing the classification and dating issues concerning the Northeast bronze swords unearthed from the Liaodong Shuangfang culture, the Liaoxi Linghe Remains and the Xituanshan culture in the West Songhua River basin.

According to the research results of this book, the casting age of the Northeast bronze swords can not only be inferred to be as early as the early Western Zhou (represented by the I-style sword from the Shuangfang culture in Liaodong), but also raise the probability that it was in Liaodong that such a sword was first cast, then it gradually spread to Liaoxi, the Nenjiang River basin, the Korean Peninsula and the West Songhua River basin. This is because, except for Liaodong, no bronze sword

artifacts in the same shape as the I-style swords from the Shuangfang culture have ever been found elsewhere, and the casting date can be confirmed to be as early as the early Western Zhou (according to the assumed symbiotic relationship between bronze swords and pottery). From this point of view, there is a high probability that the bronze swords of the northeastern Chinese type may have originated from Liaodong. In other words, this book provides support, from its research conclusion on pottery, for the claim that Liaodong is the origin of the Northeast bronzeware.

Epilogue

This book is mainly based on my doctoral dissertation under the guidance of Prof. Zhang Zhongpei. The research project was initiated in November 2000, two months after I began my PhD study. After months of data collection, the composition of the first draft began in September 2003. I can still remember vividly the scenes when I finalized the dissertation in Changchun on October 25, 2005, and when I passed the thesis defense, one month later, in Beijing on December 2. After the defense, I spent more than half a year revising and another year and a half reflecting on the dissertation. The final version was only delivered to China Science Press in 2008 for publication.

I was so honored and pleased that my research had been recognized by experts and scholars in the community of Chinese archaeology. Even before the publication, it was awarded "Excellent Doctoral Dissertation of Jilin University (First Prize)", "Excellent Doctoral Dissertation of Jilin Province" and nominated as a candidate for the prize of "National Excellent Doctoral Dissertation" of China. However, it would have been difficult for me to accomplish such scientific research without the guidance, assistance and encouragement of the following teachers and friends.

First of all, I would like to thank my supervisor Prof. Zhang Zhongpei. It was him who helped me cultivate my confidence and courage to overcome difficulties, fight hard, and dare to fight tough battles through inspiring thinking, deepening theories, pushing the limits, and pursuing lofty training.

As early as 1985, when I was working on my degree thesis of Research on the Banpo Culture (Zhao, 1992) for my master's, Prof.Zhang once told me: "If you wanna be a first-rate scholar, you must have the courage to research big topics, working with a broad vision to challenge the authorities and voice your point of view."

Unfortunately, I did not understand the teacher's words and intentions. In the ten years since I graduated and worked in school, I have not been able to write any "big articles", nor have I become a "first-rate scholar". However, I never forgot what the teacher said. In 2000, when Prof. Zhang personally assigned me with the thesis title of "Archaeological Research on Cultures in Northeast China from the Xia to

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the Warring States Period", I felt a pressure that I had never had before. However, I got to understand a little bit of his true intentions and expectations of me on this topic. Therefore, with the knowledge that to complete this topic, I was destined to spend a lot of time and energy and endure great torture and pain to deal with a host of difficulties along the way, I did not bargain with my supervisor, but accepted the topic unswervingly. In 2005, when I finally completed this doctoral dissertation with perseverance and was congratulated by Prof. Zhang and many colleagues, I finally came to understand his goodwill and high expectations of me and realized that my dear supervisor was helping me develop my academic competence with this big research subject. It was a timely push on the path of growth, a grindstone to hone my perseverance, an opportunity to develop my potential and boost my confidence, and a signpost to guide my way forward. From Professor Zhang, I sensed the vision and strategy of a "great master" and understood the magnanimity and demeanor of an "eminent scholar". I am thankful that I have chosen such a "great master" and that this "master" has chosen me. Thanks to our joint efforts, I had the opportunity to make this contribution!

Secondly, I want to thank my two dear classmates from the same master's program. One is Qiao Liang, a researcher currently with the Cultural Heritage Research Institute of China (the previous Cultural Heritage Research Institute of China), who is very familiar with the literature and status quo of the archaeology in the Northeast of China. After graduating from university, he worked for the Heilongjiang Provincial Institute of Archaeology for a long time, during which, he investigated and unearthed many important sites in the Northeast and published many articles on Northeast archaeology. In the process of writing my thesis, I consulted him on some specific issues, regarding which he, as my senior, always shared his professional viewpoints selflessly. Some of my thoughts and opinions in this article directly benefited from his sharing. The other is Prof. Gao Menghe from the Department of Cultural Relics and Museology of Fudan University, China. After being awarded his master's degree, he studied under the guidance of the famous Chinese historian Ge Jianxiong. Upon his graduation from his PhD, Gao's dissertation of "Archaeological Geography of the Lower Yangtze River" (Fudan University Press, 2005) was awarded the 2005 National Excellent Doctoral Dissertation, which made him the only scholar in archaeology that has won this honor so far. In the process of writing my thesis, Gao called me many times to encourage me to put the quality of the thesis first, paying attention not only to practical exploration, but to theoretical achievements so as to combine theoretical discussions with empirical studies. The achievements of this thesis, if any, to a great extent, have a lot to do with the encouragement and influence of the above two classmates of mine.

Thirdly, I would also like to thank Prof. Chen Yong, Prof. Zhu Yanping, and Prof. Yang Jing for their professional comments before the finalization of this dissertation. My thanks also go to the thesis defense committee members: Prof. Lin Yuan, Prof. Xu Guangji, Prof. Chen Yong, Prof. Teng Mingyu, Prof. Zhu Yanping, and Prof. Qiao Liang for their valuable questions. And above all, I would like to thank my wife, Ms. Jiang Xiaodong and my son, Zhao Hongran for creating excellent writing conditions for me.

Finally, because of the massive amounts of time and energy that I spent on the dissertation, and completing this formidable task, I ended up abandoning a lot of things. But it was this "long", "fulfilling", and "painful" experience that afforded me the opportunity to reap the benefits of this academic fruit and to understand the life philosophy of "No pain, no gain." and "To gain, you have to give up something". In this sense, I have gained a lot from my PhD study, becoming more confident in myself and positive toward life.

The year of 2008 is a special year for Chinese people and in particular for myself. China's "Olympic Year" is also the 20th anniversary of my archaeological research work. I feel very fortunate and moved by the significance of the fact that my book "Archaeological Research on Cultures in Northeast China from the Xia to the Warring States Period", edited by Mr. Song Xiaojun from Science Press, could be published in 2008. First, through 20 years of perseverance and hard work, I finally realized my academic dream of completing the pre-*Han* "Archaeology Trilogy on the Northeast (of China)" before the age of 45 (this book is the third of my "Trilogy", with the first "*Neolithic Culture of Northeast China*" and the second "*Paleolithic Culture of Northeast China*" published by Jipmoondang Publishing House of Korea in 1996 and 2006, respectively). Second, I would like to regard these three works as three "medals" awarded to myself for my 20 years of hard work in archaeological research as well as to all those who have helped and encouraged me along the way.

Zhao Binfu
28 March 2008