

**The Redefined Centre, Periphery and Margin:  
The Long-term Interaction Sphere of Southern China**

**3000 – 221 BC**

Chen, Yi  
Merton College

A thesis submitted in partial fulfilment of the requirements  
For the degree of Doctoral of Philosophy  
University of Oxford  
Trinity Term 2014

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**Abstract**

This thesis investigates southern China as a part of dynamic and extensive interregional networks from the third to the first millennium BC and explores the changing roles of different southern regions within the interregional relationships. This was an important transitional period for southern China as it was the time when several prominent and far-reaching innovations of technologies and material culture were made or adopted in the area. Four key sets of materials – rice, bronze, ceramics and jade – are examined with a World-system perspective to reveal interregional contacts in different directions and of different nature between southern China and a number of neighbouring regions.

By stressing on local responses towards different technologies and material culture in different period, an alternative narrative to that stemmed from Chinese historiography is, therefore, suggested. Instead of being a passive and ‘backward’ periphery in the traditional sense, southern China presents diversification of material culture over time. Many of the mechanisms of transmission and circulation in the south are characterised by ‘leaked’ technologies and designs, as well as ‘selective adoption’ and local re-development of material culture.

## **Acknowledgements**

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# Chapter I Introduction

## I. Thesis introduction

The thesis focuses on the interregional communication and social development of southern China from 3000 BC down to the establishment of a first united country of China, the Qin dynasty in 221 BC. This research demonstrates the changing roles of southern China within interregional networks in different periods by tracing the distribution, variations and development of several indicating objects – ceramics, bronzes and jade. It argues for dynamic interregional relationships over a long period, in which southern China was well connected to other regions and many materials and technologies were taken over and adapted by the southern people and were integrated into local life.

For the purpose of this thesis, Southern China is defined as the area south of the Yangtze River, covering the following regions: the present day provinces of Hunan, Jiangxi, Zhejiang, Fujian, Guangdong and Guangxi, and also Hong Kong and Taiwan (map 1-1). The first three provinces all lie along the middle and lower Yangtze valley, while the rest are located south of the Nanling Mountains and in the southern coastland and islands. Southern China, as discussed in this thesis, is thus divided into two major regions: the Yangtze valley area and the Lingnan-Fujian region.

For the millennia covered in this thesis there is no reliable written history of the southern regions of ‘China’.<sup>1</sup> The region is, therefore, less well understood than the Yellow River Basin, about which we can consult transmitted texts and contemporary textual material such as inscriptions on oracle bones and bronze vessels cast at the time of manufacture. Archaeological evidence has, however, suggested that southern China experienced several significant changes in material culture and technology during this period.

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<sup>1</sup> Since this thesis deals with a time long before the idea of ‘China’ and ‘Chinese’ existed, the terms ‘China’ and ‘Chinese’ are mostly used in a geographical sense, referring to a place within the territory of modern China. Indeed, the misuse of both terms in Chinese archaeology has given the wrong impression that the history of the polity we call ‘China’ can be traced back to the time when traces of human activity can be found within the modern China territory. In defining these two terms in an ancient context, which is within the time span of this research for the period concerned, this thesis follows Jessica Rawson’s opinion, that the term China can really only refer to regions in which Chinese-speaking elites dominated. That is, the regions where (sets of) bronzes with inscriptions that we regard today as Chinese characters were used in both daily life, ritual and burial practices, the common form of burials being a vertical shaft with one, two or more coffins. See Rawson 2006, p.85, and Rawson 2010, p.12-13. Southern China, as discussed in this thesis, is not part of these regions.

Diversity in pottery shapes dramatically increased, together with wide similarities in decoration methods used from the third millennium BC. This process probably came along with the transmission of domesticated rice over southern China. From this period onwards, similar jade objects were also found within a vast area, from the Yangtze valley to mainland Southeast Asia. In a later period in the second millennium BC, two advanced technologies and related products, bronzes and high-fired ceramics, appeared and were widely used in southern China. How did these changes happen and what did they mean to the southern societies? To answer these questions an explanatory framework for these changes in southern China is necessary.

The changes mentioned above indicate the existence of an extensive interregional network of communication and exchange, which may not be restricted to the modern territory of China. Therefore, to understand the changes as seen in archaeological finds, Southern China needs to be understood in relation with its neighbouring areas. The hypothesis of this thesis is that, southern China's role and its interregional relations (both internal and external) were formed and altered by the ways in which technologies and material culture were transmitted, accepted and adapted. Therefore, by tracing the distribution and local variation of archaeological finds, this thesis explores the changing interregional relations of southern China and its role in a long-term communication network. It demonstrates changing interregional relations of southern China in three periods: the third, the second and the first millennium BC. I shall argue that southern China played different roles within interregional networks in these periods, in accordance with changes in technological developments and material culture.

In the third millennium BC, societies along the middle-lower Yangtze valley, represented by the Shijiahe and Liangzhu site complexes, may have been a major yet distant stimulus of change in the Lingnan-Fujian region. The latter had evidently acquired some technologies and material culture from the former, such as various pottery types, jade manufacturing and designs, as well as rice cultivation techniques. The responses to technologies and material culture that were initiated in the Yangtze valley can be seen as far as the Southeast Asia in a long time span. These regions in the further south<sup>2</sup> can,

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<sup>2</sup> In this thesis the term 'further south' refers to the Lingnan-Fujian region because this area is indeed located in the far south of the present day Chinese territory. However, it does not necessarily mean that this region is in the far edge of the map of this thesis. The term 'further south' is mainly used for convenience similar to the use of 'near east' and 'far east'.

therefore, be termed as the ‘marginal’ area<sup>3</sup> of the Yangtze valley societies. However, local response of material cultures in the further south regions usually occurred with a long time lag and various local modification. For instance, jade items found in the Lingnan-Fujian region and present-day Southeastern Asia do not only demonstrate variations on appearance but also reveal different use contexts. Such a phenomenon indicates that contacts between the Yangtze valley and the Lingnan-Fujian regions in this period were loose and discontinuous. Changes that appeared in material culture in the Lingnan-Fujian region may have been stimulated by but not directly and simultaneously related to the societies along the Yangtze valley.

In the second millennium BC, the whole of southern China was involved in more extensive networks than before, as indicated by the introduction and transmission of two new technologies and products – bronze casting and high fired ceramics. While adopting the technology of bronze casting from the Yellow River basin, societies in the middle-lower Yangtze valley were also a source of another novel product at the time, that is, high-fired ceramics. Societies along the Yangtze valley seemed to have lost the ‘core’ role that they held in the previous period, as it was greatly challenged and influenced by technologies and material culture, which were developed in the north. But the Yangtze valley still was a rather active constituent part within the interregional networks at this stage and can therefore be termed a ‘negotiated periphery’ while the major stimulus was generated in the Yellow River basin. Some new technologies and products were also brought to the Lingnan-Fujian region. Bronzes and high-fired ceramics have been found at sites such as Hulinshan and Chihu in the present-day Fujian province, indicating that southern coastlands were also part of the network. However, the links between the Lingnan-Fujian region and areas in the north were still much looser than those between the Yangtze valley and the Yellow River basin. The few finds of new products and technologies of this period in the Lingnan-Fujian region have indicated that it was still not in the reach of any powerful stimulus from the north.

Archaeological finds from the first millennium BC have revealed greater integration of various technologies and material culture, and therefore a growing articulation in the interregional network of this time. The designs of bronzes were used on ceramics in the south, as seen at some large-scale mounded tombs along the Yangtze valley. Bronzes

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<sup>3</sup> Definition of terms ‘core’, ‘periphery’ and ‘margin’, as well as ‘negotiated periphery’ as developed in the World-system approach will be given in below on p. 4, p. 23 and p. 32.

were also used on a much wider scale and in much larger numbers in the south with various local preferences. Bronzes weapons and tools seemed to be the more favoured products in the south, in place of various types and sets of vessels in the north. The use of bronzes had also reached the Lingnan-Fujian region in this period, while high-fired ceramics went the other way, going further north to the present-day Shanxi and Hebei provinces. This period saw adoption and negotiation of various ideas and material culture. Instead of being a place that constantly faced threats from northern powers and that would soon be included in a 'united' country, Southern China was actively responding towards external stimulus and contributing to the continuation and extension of the network.

The idea of dynamic interregional relations is absent in the traditional historiography of China, which has always emphasised an orthodox 'centre' in the Yellow River basin. The interactive role of southern China within interregional networks has therefore been for long overlooked and received little attention. My interest in this topic is inspired by Andrew Sherratt's research, which considered the transformation of Europe from the Neolithic to early Iron Age as a continuing adjustment to new opportunities of adoption, exchange and trading of technologies and products. The interregional contacts between the Near East, the Mediterranean and the temperate Europe, in which various technologies and products were involved, had eventually shaped the relationships between and these regions and their roles in the network.<sup>4</sup>

Sherratt had drawn distinctions between a core area of urban consumers in the Near East, a periphery that is actively altered by its role as a supplier of raw materials to the core, and an outer margin that is indirectly affected through the spread of innovations. For most of prehistory, Sherratt argued, temperate Europe acted as a margin to a Near Eastern/Mediterranean core-periphery system, while the formation of long-distance routes linking northern and southern Europe was critically affected by the spread of trading systems along the Mediterranean.<sup>5</sup>

Sherratt had termed such interregional relationships as 'structural',<sup>6</sup> describing a situation in which different regions are linked by flows of materials, which eventually brought a

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<sup>4</sup> Sherratt 1993c, p. 4.

<sup>5</sup> Sherratt 1976, 1982, 1993a & 1993b.

<sup>6</sup> By 'structure' Sherratt meant the pattern of cultural connections. Sherratt 1993c, p. 3. Sherratt believed that the term 'structure' is appropriated in describing the development of the world in the last six thousand

degree of functional differentiation to the participating regions. In Sherratt's words, 'by whatever mechanism the goods moved (gift exchange, disembedded barter, purchase via an exchange medium), the two sides were linked by flows of materials which structured the relationship.'<sup>7</sup> The appearance, change or disappearance of one participant within a network would alter/determine the character of the other and therefore the structure of the network.<sup>8</sup> As Sherratt suggested, for instance, the exchange of amber had linked central Europe, the Aegean and the Near East in prehistoric Europe and therefore the appearance of 'regional exchange cycles'. Also, the exchange of many commodities that originated in the farming context in the Near East and the Aegean, for instance flat-based pottery and axes, through multiple links with western and northern Europe, had made the latter regions a margin to an agricultural nucleus.<sup>9</sup>

Besides pointing out the directions of flows of materials and technologies, in the ways that were typical of a diffusionist approach, Sherratt's research also included the local contexts and responses for the adoption of new technologies and material culture into its consideration. He suggested that what played a major role in the process of adoption and adaptation 'were not the inherent characteristics of the materials', but rather the 'appropriateness' of the materials 'for a particular social context'.<sup>10</sup> For instance, the far-reaching transmission of flat-based pottery from 5500 BC to 3000 BC in Neolithic Europe was not just the spread of a technological feature, but was made 'in conjunction with local reasons for the adoption of more complex domestic arrangements and eating habits' beyond the Balkans.<sup>11</sup>

What Sherratt had put forward is, therefore, a more sophisticated and comprehensive view of inter-regional relations, by comparison with the earlier over simplified diffusionist or interventionist thinking. Narratives that involve words like 'dependent' or 'independent' are, in a way, meaningless, as the two situations may be relative, and depend on the framing of the question. Sherratt had illustrated this with an example of the Early Bronze Age culture in the Cyclades, which was regarded as a local creation. However, it is revealed that the Cyclades received much of its metallurgical technology

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years, because "of the growing articulation between the activities of populations in one area and those in another; and not merely because of a greater propensity for the exchange of goods, but a change in the nature of the goods exchanged." Sherratt 2011, p. 5.

<sup>7</sup> Sherratt 1993c, p. 4.

<sup>8</sup> Sherratt 1993c, p. 4.

<sup>9</sup> Sherratt 1993c, p. 14.

<sup>10</sup> Sherratt 1993c, p. 13.

<sup>11</sup> Sherratt 1993c, p. 10.

from Anatolia, when situating this local creation in a larger structure. It is, therefore, unhelpful to tell an outside reader that Cycladic culture was ‘autonomous’, as it was made possible by a conjunction of circumstances, which related to the existence of a trade networks in the east Mediterranean.<sup>12</sup> Similarly, this thesis demonstrates the changes in southern China as a result of a series of exposure to and adaptation of technologies and material culture. In this process, the local contexts of acceptance and responses in the south are essential for the understanding of this region.

Sherratt’s approach was inspired by and derived from Immanuel Wallerstein’s ‘World-system’ approach, which shared the same attempt of reconstruct/describe interregional relations and regional roles within a long-term network by tracing flows of materials. However, the latter has asserted that this approach is not for pre-capitalist societies. Archaeologists, such as Jane Schneider, Andrew Sherratt and Kristian Kristiansen, have modified the approach and made use of the idea of dynamic centre-periphery relations to further explore the concept of networking in ancient societies. These modifications will be reviewed in below. The dynamic interregional relations, as a foil for the traditional centre-periphery narrative in Chinese historiography, will be helpful for observing and understanding the position of southern China within an expanding interregional network from the third to the first millennium BC.

## **II. Setting the scene - geological conditions**

The geological conditions of southern China make it a region where both isolation and communications exist simultaneously. While the Nanling Mountains run along the borders of six southern provinces and create a barrier for travel, southern China also has the first and the third longest domestic rivers, the Yangtze River and the Pearl River, and their numerous tributaries, which stretch to every corner of the whole region (map 1-1).

The Yangtze River represents the northern border of the area to be discussed. The river flows eastwards from the Tibetan Plateau to the east coast, passing through 11 present day provinces in China. The Yangtze valley has several northward and southward tributaries, which have provided accessible interregional routes into the Yellow River basin and the further south Lingnan-Fujian region. The Hanshui River, for instance, is the longest tributary north of the Yangtze stretching to as far as the Yellow River valley.

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<sup>12</sup> Sherratt 1993c, p. 2.

It rises in southwestern present day Shaanxi and flows east across the southern part of this province. To the north of the Hanshui valley are the Qinling Mountains, followed by the Weishui River tributary of the Yellow River and the Ordos Loop region. To the south of Hanshui are the Daba Mountains, which form the east edge of the Sichuan basin. The Hanshui River then enters the present day Hubei province, crossing most of Hubei from the northwest to the southeast, feeding into the Yangtze at the present day provincial capital Wuhan.

To the south of the Yangtze, its major tributaries are the Zijiang River, the Xiangjiang River and the Ganjiang River. These rivers reach as far as the northern edge of the Nanling Mountains, and their valleys may have provided routes for communication between the Lingnan-Fujian region and the Yangtze valley.

The other large river system in southern China is the Pearl River valley, which covers the Lingnan area. The whole valley is made up from three major rivers from the west (the Xijiang River), the north (the Beijiang River) and the east (the Dongjiang River). These three major tributaries meet at Guangzhou, the capital city of Guangdong Province, and empty into the South China Sea through eight estuaries. The Pearl River Valley, with its associated valleys and coastlines, links not only to the Yangtze Valley, but also opens to the Bac Bo plain and the Red River/Song Hon valley in northern Vietnam through the Zuojiang valley.

Southern China also possesses a very long coastline. Its eastern and southern edges are surrounded by seas that open to the Pacific. There are islands in various sizes in the South China Sea, including Hong Kong, Hainan and Taiwan. These islands have different ecological conditions from the mainland but may have acted as springboards to regions even further south, for instance the southeast Asia. This geographical condition of southern China – the crisscrossing river valleys and vast sea areas – would have offered pre-existing passages for long-distance communication between southern China and its neighbouring areas from no later than 3000 BC.

While rivers and seas may link different areas of southern China and bridge southern China with its surrounding regions, the difficult terrain of the south may also have served as a block of interregional contacts. The Yangtze River is linked to the three greatest fresh water lakes in China – the Lake Dongting, the Lake Poyang, and the Lake Tai and they are all important ‘throughput’ lakes of the Yangtze. This means that the area and

capacity of these lakes changes along with seasons and the output of related rivers. In flood seasons in most of ancient times, when land exploitation was limited, these lakes could be as big as 20,000 km<sup>2</sup> and therefore form vast marsh areas, which made travelling between the north and the south much more difficult. The biggest among these marsh areas in the middle Yangtze valley was named as Yunmengze in ancient Chinese texts.<sup>13</sup>

Another major barrier to interregional contacts was the Nanling Mountains, the largest group of mountain ranges in southern China. As the natural borders of the present-day Guangxi, Guangdong and Hunan provinces, the Nanling Mountains are formed by a series of mountain ranges in a total west-east length of 1400 km, a north-south width of 200 km and an average height of 1000 m above sea level. These mountain ranges separate the tropical coastlands of the Lingnan-Fujian region from the warm and well-watered semitropical Yangtze region, as it has a significant impact on the north-south air current. Monsoons and warm air from the South China Sea are mostly stopped by the Nanling Mountains and are trapped in the Lingnan-Fujian region, bringing rich rainfall to this area, especially in spring and summer; while cold air from the north is usually blocked. The average winter temperature difference between the north and south slopes of Nanling can be up to 3 degrees. Winter average temperatures in Qujiang county, where the Shixia site was found, can be up to 10.7 degrees, while the average temperature in Pingshi county, on the north slope of Nanling, is only 7.5 degree. Though both enjoy relatively mild and warm weather and rich rainfall comparing to northern China, the south side of the Nanling Mountains, the Lingnan-Fujian region is, evidently warmer, more humid, and shows less difference in season temperature. Such geological and climate conditions may have also been one of the factors of asymmetric social development on either side of the Nanling Mountains.

Nearly 1000 years after the period discussed in this thesis, the people of the Han dynasty were still describing southern China as follow:

‘The Yue area [southern China] is the place outside of the [Han] state...[It is] among rivers and dales and covered by jungles...Lands are deeply hidden and water channels dangerous...mountains, rivers and passages are only several *cun* away from each other on

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<sup>13</sup> The name Yunmengze is seen in ancient texts such as the *Zuo* 左傳 and the *Guoyu* 國語. This marsh area, however, started to vanish gradually from the Qin period, as more and more agriculture activities and land exploitation took place in the area.

the map; however, the actual paths can be over hundreds and thousands *li*.<sup>14</sup> 'There are uncountable dangers in the dense jungles.' [越方外之地.....處溪谷之間，篁竹之中，.....地深昧而水多險.....以地圖察其山川要塞，相去不過數寸，而其間獨數百千里，阻險林叢，弗能盡者]<sup>15</sup>

This paragraph is from a letter by Liu An 劉安 (179 – 122 BC), the King of Huainan 淮南, to the Emperor Wu of Han (156 – 87 BC), in which Liu An was trying to persuade the Emperor Wu of Han not to go on an expedition into the south. The complex terrain which was very difficult to navigate for troops from the Central Plains was one of Liu An's reasons. Liu An's manor estate was in the present day Jiangxi and he had good connections with the south. It thus seems that his observation of the southern landscape is reliable. While the dense water channels seem to have provided convenience for communication, the practical situation was to a certain degree complicated by the depth of the rivers, the great marshes to the south of the Yangtze, the dense vegetation, the Nanling mountains, and very likely, dangerous animals.

The long-term interaction sphere of southern China was greatly conditioned by such complex geological factors. While extensive interregional contacts were made possible by numerous pre-existing passages like river valleys, natural barriers, such as mountain ranges and dense jungles, restricted the speed and scale of the move of people, goods and ideas, allowing time and space for various local variations and development, hence both diversity and similarities in material cultures and uneven social development across the whole southern region. Geographically, southern China was also bridging its surrounding areas. Indeed, archaeological finds reveal that these regions are of great significance and a more active factor in the expanding networks from the third to the first millennium BC.

### III. Previous research

Archaeological research in southern China started in the 1930s. It was Wei Juxian 衛聚賢 (1899–1989) who launched a primitive archaeological survey in the Hangzhou area in the present day Zhejiang province.<sup>16</sup> Dr. C. M. Heanley (1877–1970) and Joseph Lexden

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<sup>14</sup> Both *cun* and *li* are ancient Chinese length units.

<sup>15</sup> Hanshu 1998.

<sup>16</sup> Wei Juxian was one of the founding and leading members of the Society for the Study of the History and

Shellshear (1885–1958) surveyed over 100 sites in Hong Kong.<sup>17</sup> Their work was followed up by Father Daniel. J. Finn (1886–1936)<sup>18</sup> and Walter Schofield (1888–1968).<sup>19</sup> Meanwhile, Father Raffaele Maglioni (1891–1953) was investigating in eastern Guangdong<sup>20</sup> and Lin Huixiang 林惠祥 (1901–1958) was excavating in Fujian. However, there have been very little well-done and recorded surveys and excavations during this period.<sup>21</sup> In addition, most material found in this period, unfortunately, was lost during the Second World War (see map 1-2 and table 1-1).<sup>22</sup>

After 1949, Zhang Guangzhi 張光直 (1931–2001) who was from Taiwan and studied in the U.S. brought the subject of southern China archaeology to the front again. Other major scholars who focused on prehistoric southern China include Peter Bellwood, Deng Cong 鄧聰, William Meacham, Wu Chunming 吳春明 and Francis Allard.

These scholars' opinions mainly fall into two camps: one camp holds a diffusionist view, emphasizing migration and external stimulus (mainly from the Yellow River basin), while the other stresses on the indigenous development.

### **i. The diffusionist thinking in southern China archaeology**

The topics of migration and diffusion in different directions were initiated in 1930s, when studies of the southern regions in China began, and continued after 1949, when the

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Geography of Wu and Yue 吳越史地研究會 in 1936. Members of this society carried out local surveys and excavations in the lower Yangtze valley, mainly in the region near the present-day cities of Shanghai, Nanjing and Hangzhou. See Wuyue 1937.

<sup>17</sup> Dr. C. M. Heanley was the head of the Government Vaccine and Bacteriological Department and an amateur geologist. It is believed that he was the first person to carry out archaeology surveys in Hong Kong from 1926 to 1928. He surveyed over 100 sites in the New Territories, Lamma Island, Shek Pik. Joseph Lexden Shellshear, who was from Australia and was the Chair of Anatomy in the University of Hong Kong from 1922 to 1936, was Dr. Heanley's major partner. See Heanley and Shellshear 1932.

<sup>18</sup> Fr. Daniel. J. Finn arrived in Hong Kong in 1926 as a missionary. He carried out excavations on Lamma Island from 1932 to 1936, where he found a large amount of potsherds impressed with geometric patterns. See Finn 1958, p. 13.

<sup>19</sup> Schofield was a government administrator of Hong Kong. He at first accompanied Dr. Heanley and gathered a large and varied collection of stone implements from Kowloon, Cheung Chau and Lantau Island, then started archaeological excavations on his own in 1937. He was the first to apply stratigraphy in archaeological work in Hong Kong. See Shang Zhitan 2000.

<sup>20</sup> Maglioni was an Italian missionary and scholar who worked in east Guangdong and southern Fujian from 1934 to 1946, where he had conducted archaeological surveys and collected a large amount of cultural relics. See Maglioni 1938, 1952 and 1975.

<sup>21</sup> Some early excavation records were heavily questioned and criticized as the excavators, for instance Fr. Finn in Hong Kong, used absolute depth instead of stratigraphical depth during excavation. Such a method caused very confusing records. See Shang Zhitan 2000.

<sup>22</sup> The surviving collections include parts of Lin Huixiang's finds at Wuping, Fujian (now housed in Xiamen University), Fr. Finn's at Lamma Island and Fr. Maglioni's from eastern Guangdong and southern Fujian. Others were all lost during wartime. See Shang Zhitan 2000.

People's Republic of China was founded. Father Daniel Finn in the 1930s examined the impressed pottery he found in Hong Kong and concluded that the geometric patterns on pottery surfaces were developed from or inspired by bronze motifs.<sup>23</sup> Also in the 1930s, Father Raffaele Maglioni was working in eastern Guangdong and recovered not only impressed shards but also some painted pottery. Examining these painted wares from the south coastlands, he believed that the southern groups, who had been using these painted wares, could be related to the Yangshao Culture in the Yellow River basin, the first Neolithic culture discovered in China. The latter is characterised by painted wares. On this basis, and heavily influenced by the 'Western-origins theory' of Chinese civilisation,<sup>24</sup> Fr. Maglioni has suggested a migratory route of groups of people with their ceramic technology, from Western Asia to northern China via Cambodia, Hong Kong or Yunnan and Sichuan.<sup>25</sup> However, such a hypothesis, which was only based on similarities of objects (mostly collected from earth surface and not scientifically excavated), was soon discredited by increasing archaeological discoveries and more accurate dating methods.

Lin Huixiang was another important figure in the preliminary archaeological investigation of southern China. He was the head of and professor at the Department of History & Sociology of Xiamen University in Fujian Province. He launched a survey and an excavation at Wuping in Fujian because one of his students reported archaeological finds there. According to the Wuping report, over 900 pottery shards with geometric patterns were found.<sup>26</sup> Lin also undertook archaeological surveys in other regions of southern China, for instance at Gudang in Hangzhou. By comparing the surface decoration of pottery, Lin suggested that the patterns seen on Wuping ceramics were 'generally quite similar to those found at Gudang in Hangzhou...such similarities cannot be a coincidence but must be a result of cultural diffusion. And there is also a meander pattern found at Wuping, which can also be seen at the prehistoric sites in BuKie ChinTamina in the Malay Peninsula. This meander pattern is not a simple one and it is

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<sup>23</sup> See Finn 1958, p. 13.

<sup>24</sup> Meacham 1977, p. 420.

<sup>25</sup> Maglioni also presented his arguments at the Third Congress of the Prehistorians of the Far East in 1938 in Singapore. See Maglioni 1940.

<sup>26</sup> The report was finished in the winter of year 1937. A simple English introduction had been read out at the Third Congress of the Prehistorians of the Far East and published in the congress special issue *Proceedings of the Third Congress of the Prehistorians of the Far East*. But the whole report was not published till 1950 because of the war. See Lin Huixiang 1956, p. 115-151.

not likely to have been created separately in two different places by chance, so it must be a result of cultural diffusion.’ (fig. 1-1)<sup>27</sup>

Therefore, Lin Huixiang argued that, for the first time, there might have been a *Dongnan Wenhuaqu* 東南文化區 (Southeast Cultural Area), which was characterised by impressed pottery, shouldered stone implements, buildings on stilts, and tapa.<sup>28</sup> Lin’s ideas were based on the grounds of the similarities between archaeological finds and were heavily influenced by the concepts of diffusion and migration, which were widely accepted at that time.

A scholar who had similar opinions but went even further was Heine Geldern (1885-1968), another representative of the diffusionist school. Geldern’s paper, *Urheimat und früheste Wanderungen der Austronesier* in 1932, fully reviewed and analysed the existing archaeological material of his times, and argued for three waves of immigration, respectively represented by shouldered, stepped, and trapezoid stone implements, between Eastern Asia, Southeastern Asia and Pacific Rim in prehistory.<sup>29</sup> The idea of a ‘culture circle’ along the southern coastline of China, Japan, the Philippines, New Guinea and even Australia was then put forward. Furthermore, it is worth noting that the migration waves from southern China as addressed in Geldern’s work were not related to Chinese people as is usual the case in most Chinese historical narratives, but were attributed to a language family, the so called Austronesian. However, there has been a debate on the idea of the spread of Austronesian and it may not be reasonable to link a language family to prehistoric groups of people. It is still a debate whether the present-day distribution of Austronesian people can be traced back to migration in Neolithic times and whether it can be related to southern China.<sup>30</sup>

After 1949, archaeological work having been interrupted by the war gradually resumed in now communist China. Archaeological surveys and excavations became a national activity in the new state. Research scope was greatly extended and excavation and research methods greatly improved. However, interpretations of material did not change

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<sup>27</sup> See Lin Huixiang 1956. ‘大體與杭州古蕩所發現者相類……這樣相同決非偶然相合，而是由傳播。尚有曲折紋一種則馬來半島的 BuKie Chintamani 地方石器時代遺址也有，這種紋樣非甚簡單而可以偶合者，故亦似由傳播。’

<sup>28</sup> See also Lin Huixiang 1956.

<sup>29</sup> See Geldern 1932.

<sup>30</sup> See Dyen 1965. Before more convincing evidence comes out from large scale genetic studies of ancient southern groups, it may not be ideal to apply the idea of Austronesian migration to archaeological data relevant to southern China.

much, as ideas of migration and diffusion in different directions persisted. Zhang Guangzhi, as an important archaeologist who had great influences upon the research of southern China, established a north-to-south pattern of cultural movement, with his idea of so-called Lungshanoid diffusions.<sup>31</sup> Under such a pattern, Zhang has subsequently included the rise and growth of southern China societies under the impact of Shang culture and the emergence of Bronze Age cultures in the South from Eastern Zhou contacts.<sup>32</sup> This is certainly not a valid approach as it greatly overlooks the regional characteristics of local culture in the south and cannot explain new discoveries or fit in the updated chronology.

In more recent years, cultural contacts between southern China and southeastern Asia have been further discussed by scholars such as Peter Bellwood and Deng Cong. To a large degree Bellwood insists on the idea of cultural diffusion and suggests a diffusion of rice agriculture, impressed patterns wares and the groups of Austronesians from the lower Yangtze River valley to southeastern Asia. However, Bellwood has also, in his recent work on southeast Asia, admitted that “the reality was far more complex...it is not sufficient simply to accumulate all the data into a vague concept of ‘migration’...”<sup>33</sup> Deng, on the other hand, has broadened the discussion by including a variety of artefacts for instance jade *zhang*,<sup>34</sup> jade *jue*,<sup>35</sup> swords with bow-shape guard and decorated with human faces, and bark cloth, other than impressed wares and stone implements.<sup>36</sup>

In a way, the diffusionist view coincides well with the scenario given by the traditional Chinese historiography. This may be one of the reasons why the diffusionist approach has been widely accepted among Chinese scholars. The narrative in official textual

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<sup>31</sup> Zhang used the term ‘Lungshanoid’ to refer a cultural diffusion/movement, which ‘began in the north and the Yangtze valley by the middle of the fourth millennium BC and continued along the eastern coast all the way to Taiwan and the Pearl River delta up to the middle of the third millennium BC.’ Chang used such an idea to “account for the many similarities in stone and ceramic modes and types throughout eastern coastal China during a continuous time horizon.’ See Zhang Guangzhi 1986, p. 238.

<sup>32</sup> See Zhang 1986, p. 439. The Shang and Zhou dynasties were two succeeding dynasties with their major sites in the Yellow River basin. The Shang is dated to 1600 – 1046 BC. The Zhou is divided into the Western Zhou (1046 – 771 BC) and Eastern Zhou (770 – 256 BC). More details of these two polities will be discussed in the following chapters in relation to their interaction with the south.

<sup>33</sup> Bellwood 1988 & 2005.

<sup>34</sup> A jade tablet in the form of half of a halberd blade.

<sup>35</sup> A Ring-shaped jade with an indentation on the side.

<sup>36</sup> More discussion of such can be found in the essay collection *Ancient Cultures of South China and Neighboring Regions: Essays in Honor of Professor Cheng Te-K'un on the Occasion of the Sixtieth Anniversary of His Academic Career*. This book includes essays that are focusing on the jade *zhang* unearthed from the vast area of southern China and southeastern Asia. Discussions in this book have from various angles confirmed and elaborated the connections between different groups in southern China. See Nanzhongguo 南中國 1994.

records has established a firm image of a unified country with a linear development and a static and one-way centre-periphery structure. The heart of this country has been regarded as the area centred on the Yellow River basin. This is the area where most 'imperial' dynasties in China were based. Areas outside of the Yellow River basin, including southern China, have been considered as peripheries of a state with a continuous history. For example, the *Ersbisi Shi* 二十四史 (*the Twenty-Four Histories*) are one of the most basic and important collections of written Chinese history. These volumes have covered a period from 3000 BC to the Ming Dynasty (1368-1644), with 3213 volumes and about 40 million words. They are the so-called 'official history' of China and were granted the title the 'Twenty-Four Histories' in 1775, during the reign of the Qianlong Emperor of the Qing dynasty (1644-1911), the last imperial dynasty of China.<sup>37</sup> As one of the most important sources of Chinese history studies, the editing and revision of the Twenty-Four Histories follow the changes of central dynasties as the thread and the theme of all narratives. Each book in the Twenty-Four Histories is the history of one dynasty.

In addition, a traditional 'centre-periphery' approach has suggested a static and one-way structure of relations between different groups of people in different regions within the modern China territory. This approach has emphasised the role of the peoples of the Yellow River basin. Social development in this region has been regarded as the source of all major technological and cultural developments in all other parts of present-day China, while the polities that appeared near the Yellow River have been viewed as the orthodox and dominating ones. Thus the developments in southern China have been seen as off-shots of the cultures of the Yellow River basin.<sup>38</sup>

Owing to a deeply rooted historiographical tradition, archaeological studies in China have lived a much less independent life than in many other parts of the world. Chinese archaeology, to a large degree, has been shaped into a 'tool of Chinese historiography' as

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<sup>37</sup> Some historians have included the Draft History of Qing into the collection and made the whole set as the 'Twenty-Five Histories'.

<sup>38</sup> Francis Allard has pointed out that Chinese archaeologists have paid close attention to evidence indicating interregional interaction, but the explanation of data has long followed the 'core-periphery' model. "The core-periphery system of traditional Chinese history takes the position that cultural influences are expected to diffuse from the Yellow River valley toward the so-called peripheries, with major cultural 'leaps' in the latter being the result of input from the core." One of the most important themes throughout Chinese archaeology 'remains the opposition set up between any peripheral culture and northern China'. See Allard 1995, pp. 38-42.

discussed by Falkenhausen.<sup>39</sup> Archaeological finds have been used to ‘prove the classics and complement the written history’ 證經補史, instead of being an independent source of knowledge. In other words, the image of a powerful and advanced centre that kept radiating technologies and culture to its peripheries was, to a certain degree, extended in archaeological work in the south. Such an intention, therefore, easily resonates with the view of diffusion. However, the narrative, which centres the account on the origin of all aspects of China’s development in the Yellow River basin, is a later construction rather than being based on facts.

## ii. The ‘non-nuclear approach’ in southern China archaeology

Another camp of scholars suggests a ‘non-nuclear approach’ and emphasizes an indigenous development in the south. William Meacham arrived in Hong Kong in 1975 as a missionary. He attended and directed many excavation projects in Hong Kong at the time. Instead of emphasising the influences from and cultural contacts with other areas, Meacham argued for an indigenous development in southern China. He pointed out that ‘prehistorians have tended to trace the main Neolithic and Bronze Age innovations or populations to a single progressive centre’ and in China this ‘single progressive centre’ has been mainly the Yellow River valley.<sup>40</sup> He therefore criticized the northern China-centred model that had led to neglect of the indigenous cultural impetus and development within southern China. Meacham also argued that ‘the roots (not only of Geometric pottery but of southern bronze metallurgy as well) should be sought mainly in the local cultures which preceded it’.<sup>41</sup>

Some local scholars from southern China held similar views. Wu Chumming from Xiamen University in Fujian emphasised indigenous local culture features, such as round-bottomed and ring-footed vessels and termed the societies in the southeastern coastland as ‘*tuzhu*’ 土著, aboriginals that were far from the ‘Central Plains culture’.<sup>42</sup> Wu also

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<sup>39</sup> See Falkenhausen 1993. Falkenhausen has given a full review of the historiographical orientation of Chinese archaeology in this paper. He has in fact touched the core of all history related subjects in China, that is, to focus on ‘the concerns of the rulers’ and to propagate ‘the court’s official interpretations of historical events’, down till now (the interpretations may be about the legitimacy of the dynastic rules in the past and now the ‘Marxist historiography’ and ‘nationalism’ in the communist China). He also criticizes the lack of a questioning attitude and self-confidence among many Chinese archaeologists. All these have made Chinese archaeology a ‘handmaiden’ of historiography and have led to ‘a distorted picture of historical reality’.

<sup>40</sup> See Meacham 1977, p. 420.

<sup>41</sup> See Meacham 1977, p. 426.

<sup>42</sup> Wu Chunming 1999, p. 68.

argued that the social development of the southeast coastal area was far behind that of the north as ‘there was no clear evidence that this area had entered the Bronze Age, even in the time of Shang and Zhou, when bronze culture was well developed in the north.’<sup>43</sup> A similar opinion that emphasised local features, while taking the development in the north as a measuring scale or major stimulus was held by Francis Allard.<sup>44</sup>

Allard’s thesis is one of the most comprehensive works on the development of the Lingnan region back to the third millennium BC. The author is well aware of the problematic trends in Chinese archaeology and stresses on the examination of translation of imported technologies and culture on the ‘local level’ in the Lingnan region. However, the scenario Allard provides in the end is not much different from that rooted in north-south diffusionist thinking. He suggests that the Lingnan societies ‘repeatedly’ experienced the rise of complexity in some area, followed by a process of devolution, and that these societies were ‘inherently simple’ and would just ‘revert to their natural condition once the external impetus for complex developments is removed’.<sup>45</sup> However, I believe that this method, while recognising the local culture, has overlooked the active roles of this region within an extensive network.

Allard’s observation of a passive Lingnan region, whose development mainly relied on ‘external impetus’,<sup>46</sup> may be related to his initial question – how interaction between Lingnan and the areas north of it contributed to the emergence of complex societies in Lingnan. However, interregional interaction may not have been causally related to the emergence of local complex societies. Novel and elaborate imported products such as jade and metal, as well as related technologies may have helped to represent or indicate and reinforce social complexity, instead of leading to the emergence of it. It, therefore, can be misleading to assert that complex societies only emerged when imported elaborated goods were observed. More practical questions based upon archaeological finds may be how transmitted technologies and products transformed the interregional network structure and were integrated and presented in local tradition. Such questions are also the focus of this thesis.

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<sup>43</sup> Wu Chunming 1999, p. 70 (trans. Yi Chen).

<sup>44</sup> Allard 1995.

<sup>45</sup> Allard 1995, pp. 199-200.

<sup>46</sup> Allard 1995, p. 200.

Some studies that stressed southern features have also adopted a diffusionist approach, with only a few changes in the argument of directions of diffusion. For instance, in 1970s, Sloheim noted and wrote about the tradition of corded wares found in Taiwan, Indonesia and the Philippines. Sloheim suggested that the tradition of making corded wares was brought to Taiwan by the so-called Austronesians from eastern Indonesia and the Philippines.<sup>47</sup> This ceramic tradition then reached the southern coastlands of Mainland China, where it developed into the ‘geometric design ceramic culture’ around 3000 BC, and then kept travelling and finally arrived in Vietnam. However, Sloheim’s assumption of a south-north oriented spread of impressed wares was soon shown to be invalid by the dating results of sites in Mainland China and Taiwan.

### iii. Barriers to understanding southern China archaeology

Due to the long tradition of historiography in China, many Chinese scholars in both camps, either emphasising external stimulus or indigenous development, have applied historical records and late ethnic terms such as Wu and Yue in their research.

From the very beginning of archaeological studies of southern China in 1930s, finds have usually been simply equated with groups of ancient peoples in coastal southern China, identified as the so called Wu and Yue groups, known from some later texts.<sup>48</sup> These texts include the *Zuo zhuan* 左傳,<sup>49</sup> the *Mutianzi Zhuan* 穆天子傳,<sup>50</sup> the *Lüshi Chunqiu* 呂氏春秋,<sup>51</sup> the *Shiji* 史記, the *Wuyue Chunqiu* 吳越春秋<sup>52</sup> the *Yuejueshu* 越絕書<sup>53</sup> and the

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<sup>47</sup> See Sloheim 1976.

<sup>48</sup> Such a connection between archaeological finds from the south and southern groups as mentioned in ancient texts was firstly suggested by Wei Juxian, see Wei Juxian 1937b, pp. 310-356. This research method which combined archaeological finds and written history has been named as the use of the ‘dual evidence’ as suggested by a prominent historian Wang Guowei (1877 - 1927) in 1925. The ‘dual-evidence method’ refers to a research approach that applies both “textual record” and “unearthed material”. Wang himself has achieved great success in his research by using archaeological evidence alongside evidence from written history. For example Wang’s research on the lineage of Shang Kings and Han bureaucracy, using oracle texts and Han bamboo slips, is a representative of his ‘dual evidence’ approach.

<sup>49</sup> The *Zuo zhuan* is among the earliest Chinese written historic records. The book is traditionally attributed to Zuo Qiuming, 左丘明 as one of the commentaries on the Spring and Autumn Annals. The book follows the sequence of 12 dukes of the State of Lu (approximately the present day Shandong province), recording the history of various vassal states of the Zhou dynasty from 722 to 468 BCE. However, the authorship of Zuo Qiuming has been challenged by Chinese scholars since the Tang dynasty (618-907). See Cheng 1993, p. 69.

<sup>50</sup> Literally ‘The tale of King Mu, Son of Heaven’, *Mutianzi Zhuan* is a fantasy version of the biography of King Mu (reigned 956 – 918 BC), the fifth king of the Zhou dynasty. The book includes a detailed description of the King’s private, political and diplomatic activities and his relations with women, hence southern China and its people were mentioned. However, historical facts, if mentioned in this book, “serve no more than as a pretext for presenting a romantic tale, which is marked by exaggeration, grandiloquence and sentiment.” See Mathieu 1993, p. 342.

<sup>51</sup> An encyclopedic Chinese classic text compiled around 239 BCE under the patronage of the Qin Dynasty

*Hanshu* 漢書<sup>54</sup> (see table 1-2). In all these textual records, different groups of ancient peoples in coastal southern China have been mentioned and a collective image of these peoples is portrayed. The southern groups are described as being good at shipbuilding and sword forging, and sharing the custom of tattooing, as well as keeping their hairs short. They are often described as being the descendants of northern groups such as the Zhou, or even the Xia (see also table 1-2).

However, the dates of these texts undermine their claims as sound sources of information. Among all these documents, only the *Shiji* has a relatively specific author (Sima Qian 司馬遷, 145 BC – c. 87 BC) and a compilation date. The authors and compilation dates of the others are debated, and so far none of them can be dated back to the early 1st millennium BC. Moreover, the definitions of who were the Wu and Yue differ in these texts. In addition to referring to the people living along the coastlands of southern China, the terms also usually indicate the Wu and the Yue states, which were nominally two vassal states under the Zhou dynasty and centred on the present day provinces Zhejiang and Jiangsu around mid-first millennium BC.<sup>55</sup> Moreover, the references to ships or to swords indicate that the comments describe periods in the late first millennium BC and not earlier. Thus a false impression was given by these late texts

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Chancellor Lü Buwei. Though it is unclear to what extent Lü Buwei took part in the compilation of the book and a great part of the book seems to be gathered from other sources that are no longer extant, *Lüshi Chunqiu* is generally accepted as a pre-Qin text. See Carson & Loewe 1993, pp. 324-326.

<sup>52</sup> An informal historical record by the Eastern Han (AD 25 – 220) scholar Zhao Ye (time of birth and death unknown), which gives accounts of warfare between the Wu and Yue, states during the Spring-Autumn period (770-476 BC). The whole book was divided into two equal parts, one being devoted to the Wu and the other part to the Yue. At the beginning of each part, there is one chapter, which relates these two states to their legendary ancestors. “Briefly stated, the work belongs to the category of texts such as the *Mutianszj Zhuan* or the *Lüshi Chunqiu* which explore the nature of political legitimacy in more or less explicitly fictional manner.” See Lagerwey 1993, p.473.

<sup>53</sup> Another informal historical text of the Yue area compiled in the eastern Han period. The book is a collection of individual essays on a variety of subjects and has sometimes been regarded as the earliest example of a local gazetteer. This book has again traced the history of the Yue people to the so-called Xia dynasty. See Schuessler and Loewe 1993, p.490.

<sup>54</sup> *Hanshu* is a classical Chinese history finished in AD 111, covering the history of China under the Western Han from 206 BC to 25 AD. The book is also sometimes called *Qianhanshu*, the Book of Former Han. See Hulsewe 1993, p. 129.

<sup>55</sup> These two polities made their first appearance in textual records during the Spring and Autumn period (770 – 476 BC), but the narrative of their origins is dubious. Centred in the present-day Jiangsu Province, the establishment of the state of Wu is allegedly related to Taibo 太伯, an uncle of King Wen of Zhou 周文王 (1099—1050BC). But such a relationship is doubtful, and the first textual record of Wu did not appear before 583 BC. The written history of Wu is known from that time down to 473 BC, when it was conquered by the state of Yue. And the state of Yue, centred in the present-day Shaoxing area, Zhejiang province, claimed to be related to the Xia dynasty. However, such a relation is also doubtful and the early history of this state is still unclear. Yue was unknown in written history before the end of the Spring and Autumn period, when it was a main opponent of Wu. It was conquered by the state of Chu in 355 BC. See Falkenhausen 2008, p. 526 and Xu Zhuoyun 2008, pp. 563-566.

that two or three thousand years history of southern China, from the pre-Qin period<sup>56</sup> down to the Han dynasty (202 BC – AD 220), could all be attributed to (or obscured by) these groups of people. These groups were traced back to people who were thought to have originated in northern China. This narrative appears to be a later construction rather than being based on facts. The application of terms and narratives in late textual records has greatly restricted ways of interpretation of archaeological materials.

Furthermore, both camps' studies have, to a large degree, been based upon typological works. The methodology was first developed and used in the late nineteenth century.<sup>57</sup> Down to today, it is still one of the most widely deployed methods of managing archaeological data and so it is, indeed, when carefully applied, a necessary and useful approach to handle a large amount of archaeological data.

In China, Su Bingqi's typological study of the *li* 鬲 tripod vessels from the Doujitai site, Shaanxi, is regarded as the path-breaking work on Chinese archaeology. Su largely adapted Montelius's method and built up a chronological sequence of the Zhou period pottery in the Shaanxi area.<sup>58</sup> On one hand, Su's work has successfully established a material seriation, which has been widely used as a reference (or even the criteria in Chinese archaeological studies) for relative dating in the western Yellow River basin. On the other hand, his work has led to a narrowing of the focus of Chinese archaeology to pottery typology, as his study only considered the *li* vessel as a standard object type, while other objects and even burial contexts were rarely touched upon.

Since then, typological studies of pottery supported by stratigraphic evidence have been the main methodology and even the object of Chinese archaeology. The definition of an archaeological culture,<sup>59</sup> for instance, is supposed to be based upon whole assemblages of

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<sup>56</sup> The pre-Qin period refers to periods before the Qin dynasty (221 – 207 BC), the first imperial dynasty in Chinese history. In the mid and late third century BCE, the increasingly powerful Qin state conquered the six major vassal states under the powerless Zhou dynasty, bringing in a unified China for the first time in history. See Bodde 1986.

<sup>57</sup> Most archaeologists give the Swedish archaeologist Oscar Montelius (1843 – 1921) the credit for the first application of the method of seriation, which is used for reconstructing typological changes of artefacts of various materials on the basis of variations in form and decoration. By using this method Montelius managed, for the first time, to build up relative dating and chronological sequences for the Scandinavian Bronze Age, and later for the European Neolithic, Bronze and Iron Ages. Another early example of the application of this method is the typology published in 1899 by Sir William Matthew Flinders Petrie (1853 – 1942) for the objects (mainly pottery) found in 900 prehistoric Egyptian graves. This typology formed the basis for his seriation of the graves. See Darvill 2003, pp. 269-270, p. 319 and p. 443.

<sup>58</sup> See Su Bingqi 1948.

<sup>59</sup> The concept of archaeological culture was established and first discussed in the late 1920s by V. G. Childe. "We find certain types of remains – pots, implements, ornaments, burial rites and house forms –

archaeological finds. In China, however, the definition has generally come down to pottery typology. Also, analysis or description of finds in typological orders, rather than descriptions of archaeological contexts, has been the main element of most Chinese archaeological reports.

Typological studies of pottery have also played a major role in previous archaeological work in southern China. Much attention has been paid to ceramics that were decorated with impressed and incised geometric patterns as these ceramics have been found over southern China at sites dating from no later than 3000 BC, to at least 200 BC. These ceramics were once viewed as the feature artefact of southern societies and typological studies on the geometric patterns as surface decoration on the pottery and also the vessel shapes were the major approaches of research on ancient southern societies. In 1978, there even was a big conference that focused all its discussions on these so called geometric design ceramics. The conference was attended by the Institute of Archaeology CASS, National Museum of China, the Palace Museum, and provincial museums and universities of nearly all southern provinces. One of the major ‘achievements’ of this conference was to propose several ways of dividing southern China into different cultural zones according to different ‘styles’ of geometric patterns on pottery surfaces. Two major proposals were made by Zhang Zhiheng and Li Boqian.

Zhang suggested that southern China can be divided into four cultural zones – 1) Jiangzhe-wan 江浙皖 (Jiangsu, Zhejiang and Anhui) zone; 2) Min-tai 閩台 (Fujian and Taiwan) zone; 3) Jiangxi zone; 4) Guangdong zone. Li, on the other hand, subdivided these four zones into seven – 1) Ganbo 贛鄱 (mainly Jiangxi) zone, 2) Taihu 太湖 (the Lake Tai) (including southern Jiangsu and northern Zhejiang) zone, 3) Ningzhen 寧鎮 (mainly Jiangsu) zone, 4) Hunan zone, 5) Lingnan 嶺南 (mainly Guangdong) zone, 6) Min-tai zone, and 7) Eastern Guangdong and southern Fujian. Zhang and Li both claimed that their region divisions were based on the characteristics of geometric design

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constantly recurring together. Such a complex of associated traits we shall call a ‘cultural group’ or just a ‘culture’. We assume that such a complex is the material expressions of what today we would call a ‘people’”. See Childe 1929, v-vi. However, this way of treating a set of material features as an indicator of a specific group of people is considered with suspicion today. The straightforward relationship between material culture and human societies as implied in the concept of archaeological culture has been questioned, as material culture is, though important, only one aspect of human societies. Similarities among elements of a material culture do not always or even fully represent an ethnic community. Similar ways of life and material culture may arise independently under similar social and geographical conditions or be shared by separate or distant societies via exchange or trades. See Trigger 2006, pp. 232-234. This thesis deals with the closely interrelated material cultures in southern China, but will not treat the whole region as occupied by a single group of people.

ceramics unearthed from different areas, and each reconstructed cultural sequences for each zone. However, neither of them actually established clear criteria on which their division of area was based, nor did they seem to have taken into account the information from sites and different types of artefacts.

In fact, similar approaches have been applied on a national scale. Another important concept by Su Bingqi is the *quxi leixing* 區系類型 ‘regional systems and local cultural series’ model, based on Su’s typological studies of pottery.<sup>60</sup> This model was developed in the later years of Su’s career and is now the most often applied and advocated model of understanding prehistoric China.

In this model, six relatively stable regional divisions (*quxi*) were regarded as having formed within the area embraced by historical China: (1) the Northern region centred on the Yan Mountains and the Great Wall area; (2) the Eastern region centred in Shandong; (3) the Central Plains, an area generally including central Shaanxi, southern Shanxi, and western Henan; (4) the southeastern region around the Lake Tai area; (5) the southwestern region including the Lake Dongting area and the Sichuan Basin; and (6) the Southern region including an area from Lake Poyang to the Pearl River delta. These six regional cultures were further divided into a number of local phases (*leixing*). Each of these regions, according to Su, had its own cultural origins and developments, and interacted with the others in the developmental processes of Chinese civilisation.<sup>61</sup>

Both Su’s model and the regional division of southern China on the basis of geometric design ceramics stressed the ‘independent development of, and interaction between, different regional cultural traditions’. However, an overarching model of ‘*Duoyuanyiti*’ 多元一體 (unity in diversity) was further proposed by Su, in which a sense of oneness of an uninterrupted national development was emphasised. In other words, the model of ‘*Duoyuanyiti*’, though a new term, was actually a subtle variation of the traditional ‘centre-periphery’ framework based upon written history.

The traditional historiographic approach and typological studies are, therefore, two major barriers in archaeological studies of southern China. The deeply rooted historiographic approach has laid a biased view, while typological studies tend to tell a one sided story as

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<sup>60</sup> See Su Bingqi and Yin Weizhang 1981.

<sup>61</sup> For more general discussion of the *quxi leixing* model, see Liu Li 2005, pp.7-8.

they mainly focused on a single material, pottery. In addition, the diffusionist view that has continued in the studies of southern China has not, in fact, brought forward any comprehensive explanation why and how interregional interactions took place, except for coinciding with the traditional centre-periphery narrative in unreliable textual records or swinging between the north-south and the south-north patterns. An alternative approach, which breaks away from the debate between diffusionist and autonomist, is therefore needed for understanding southern China's role and development process in prehistoric time.

In recent years, there has also been work on southern China focusing on its role in interregional networks. For instance, following the path of transmission of rice agriculture, Zhang Chi and Hung Hsiao-chun have again suggested migration during the Neolithic period from the Yangtze valley to the southern coastlands and even Southeast Asia.<sup>62</sup> Dorian Fuller, Michael Rowland and Qin Lin have also focused on the issue of a 'food zone' to outline a big picture of the transmission of food and relevant artefacts and technologies in the south<sup>63</sup> By tracking down the jade objects and raw material, some scholars have started to consider a possible network of craft technology and tastes of objects, which covered most coastlands of China and Southeast Asia.<sup>64</sup>

In contrast to literature in Chinese, these studies have greatly diluted the role of historiography and have a strong tendency to demonstrate and emphasise on the role interregional interactions in the social development of southern China. This thesis will follow this path and aims to further demonstrate an interactive southern China, with the aid of a World-system perspective as expanded by Andrew Sherratt:

"The time has therefore come to examine these competing attitudes and to go beyond the often sterile debates which they have generated. In this way, it may be possible to combine the insights of detailed regional studies with a broader continental perspective,

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<sup>62</sup> The middle-lower Yangtze valley was a nuclear rice agricultural area from no later than 8000 BC. Decline in both numbers and scale of sites, however, was seen from the mid 3<sup>rd</sup> millennium BC. Meanwhile, farming sites and similar material cultures such as jade and pottery started to appear in the Lingnan-Fujian region. Zhang Chi and Hung Hsiao-chun, therefore, suggest southward migration from the Yangtze valley to the Lingnan-Fujian region, which may have been related to the expansion of Neolithic cultures such as the Longshan culture from the Yellow River valley. See Zhang Chi & Hung Hsiao-chun 2008. Such a proposal will be examined with more details in the second chapter of this thesis.

<sup>63</sup> Fuller and Rowland 2011, pp.37-60.

<sup>64</sup> See Hung Hsiao-chun 2008. Hung's research on the provenance of jade material from late Neolithic southern China (3000 BC) is a profound one as it has achieved solid evidence of the sources of the jade industries in the vast southern region including the Southeastern Asia. Hung's work will be examined with more details in chapter II of this thesis.

and at the same time to take advantage of new ideas about the role material culture, that avoid the passive role for local cultures which diffusionism implied. What this requires is a more sophisticated view of inter-regional relations.<sup>65</sup>

#### **IV. An alternative approach**

This thesis aims to reconstruct the changing patterns of interregional contacts of southern China in different periods and therefore redefine the centre-periphery relationship as addressed in Chinese historiography and deployed in Chinese archaeology. To do so, this research chases flows of technologies and material culture beyond modern borders and views regional changes from a World-system perspective.

The World-system approach was brought forward in the 1970s and its initiator, Immanuel Wallerstein, had a similar attempt to this thesis, though his aim was to describe and account for the condition of the modern world, especially the emergence of the current political and economic structure of capitalist world domination from the 16<sup>th</sup> century onward.<sup>66</sup>

Wallerstein's World-system approach centres on core-periphery relations between different regions. According to Wallerstein, the term 'World-system' refers to the international division of labour, which divides the world into core countries, semi-periphery countries and periphery countries.<sup>67</sup> The core area is defined as an area of strong state machinery, typically a cluster of states rather than a single state, and with high technological level and sophisticated economic institutions, where capital accumulation and industrialisation have begun. The periphery area is relatively weak in the above-mentioned features, but is regarded mainly as a source of raw materials exploited by the core countries. Another important element in the structure is the semi-periphery, which forms a link or a buffer zone between the core and the periphery. A semi-periphery area serves to integrate core and periphery economically as well as geographically, but also to provide a means of moderating political pressures that might be brought to bear on the core.<sup>68</sup> In other words, Wallerstein has characterised the world-system as a set of mechanisms, which redistributes resources between several peripheries and a core mainly by exploitative interregional relations. Wallerstein's World-

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<sup>65</sup> Sherratt 1993c, p.1-2

<sup>66</sup> Champion2004, p.5.

<sup>67</sup> Wallerstein 1974b & Barfield 1997.

<sup>68</sup> Champion 2004, pp. 5-9.

system is, therefore, an economic one which is specifically applied on a capitalist world. Interregional relations within such a system are exclusively by links generated in economic activities – the peripheries are exploited by the core regions for raw material and labour forces and therefore represent the producer. The core regions mainly play the role of a consumer by taking in the raw material or even products from the periphery, while exporting its capital and political power. The core-periphery relations are also usually a politically dependent relation as the core countries usually have full or partial control of the peripheries, while the latter's development relies on the economic links with the former.<sup>69</sup> The example Wallerstein raised was the relations between developed industrial nations in North America and west Europe and the less developed countries in Latin America, which have been colonized or were usually heavily dependent on economic activities with the core nations.<sup>70</sup>

### **i. Two features of networking**

Wallerstein insists that the World-system approach is restricted to exploited economic relations and therefore is not suitable for pre-capitalist societies.<sup>71</sup> However, his illustration has revealed two features of the development of such a web-like system, which may not be confined to the modern world.

First of all, the world-system analysis has, as Wallerstein wrote, 'raised a sceptical eyebrow, questioning whether any of these objects (e.g. national histories, national economies, national political structures and national societies) of study really existed, and in any case whether they were the most useful loci of analysis.'<sup>72</sup> Wallerstein has asked people to 'note the hyphen in world-system', as 'putting in the hyphen was intended to underline that we are talking not about systems, economies, empires of the (whole) world, but about systems, economies empires that are a world (but quite possibly, and indeed usually, not encompassing the entire globe.'<sup>73</sup> By emphasising the hyphen, Wallerstein has made it very clear that World-system analysis is not restricted to any specific political or cultural unit. Instead, the world-system approach is a macro scale approach, which traces interregional relations generated through the transmission of

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<sup>69</sup> Wallerstein 2004, pp. 11-12.

<sup>70</sup> Wallerstein 1974a.

<sup>71</sup> "We have insisted that the modern world economy is, and can only be a capitalist world economy", Wallerstein 1974b, p.350.

<sup>72</sup> Wallerstein 2004, p.16.

<sup>73</sup> Wallerstein2004, p.16.

technologies and material cultures. Such an idea is even valuable in the studies of prehistoric world. In the prehistoric world, where modern political borderlines did not exist, the application of modern territories and studies of so-called 'national history' would raise even more difficulties. A vision of expanding and interacting webs,<sup>74</sup> which were marked and illustrated by the flow of technologies and materials, is, therefore, more helpful for an understanding of a series of closely interrelated material cultures, instead of viewing their links as the result of one-way diffusion and passive acceptance.

Second, Wallerstein's discussion of the growth of the world-system from the 16<sup>th</sup> century onwards has revealed at least three shifts in the core-periphery relations. From AD 1600 onwards, the core area of the world economy shifted from Spain and Portugal to the Netherlands, then Britain and finally to the U.S.,<sup>75</sup> revealing dynamic interregional relationships. These shifts in the core and periphery areas within the system have revealed some of the important mechanisms of how a world-system works. This mechanism is what Wallerstein terms as 'linked compound TimeSpace'.<sup>76</sup> 'It must be emphasized that for world-systems analysts, time and space – or rather that linked compound TimeSpace – are not unchanging external realities, which are somehow just there, and within whose frames social reality exists. TimeSpace are constantly evolving constructed realities, whose construction is part and parcel of the social reality we are analysing.'<sup>77</sup> In other words, the core-periphery relation is a dynamic link, instead of a static structure, which can be altered by various factors in time and space, for instance changes in climate, geographical conditions, communication routes, exchanged products and introduction of new technologies.

Ian Morris has also proposed a similar theory, which he terms as the pattern of 'a two-way street'.<sup>78</sup> Here he addresses the geographical differences in relation to difference in social development. Morris suggested that geographical conditions do have long-term

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<sup>74</sup> The idea of expanding webs as a result of massive flows of information and energy has also been put forward by J. R. McNeill and W. H. McNeill. According to them, the 'human web(s)' dates at least to the development of human speech, as the ultimate basis of all webs is communication. 'Our distant ancestors created social solidarity within small bands by talking together, and exchanging information and goods.' Furthermore, groups that have achieved more efficient communication and cooperation with others are more likely to improve their competitive position and survival chances, 'so the general direction of history has been toward greater and greater social cooperation'. Therefore, over time, networks of all sorts of cooperating or competing groups tended to grow in size along with the development of communications and transport technologies. See McNeill & McNeill 2003, p.5-7.

<sup>75</sup> Wallerstein 1974b.

<sup>76</sup> Wallerstein 2004, p. 98.

<sup>77</sup> Wallerstein 2004, p.22.

<sup>78</sup> Morris 2010, p.34.

effects, but these are never locked in. They can drive social development, while social development determines what geographical conditions offer, being, for instance, advantageous or disadvantageous. Morris has called this condition the ‘advantages of backwardness’.<sup>79</sup> According to such a pattern, the most developed region within a network moves around over time. For instance, when new sea routes to America and Asia developed from 15<sup>th</sup> to 17<sup>th</sup> century, the Italian city states started to decline, as they were no longer vital in the communication and trading network with other areas or continents. Also, the two biggest and most important cities of China nowadays, Shanghai and Hong Kong, were both small fishing villages as recently as the 19<sup>th</sup> century. However, they have developed into economic and financial hubs during the last century as a result of frequent exchange of material products and ideas between China and the West.

This thesis, therefore, deals with the changing positions of southern China within interactive networks with its surrounding regions, considering the geographical conditions in relation to social development. When rice agriculture was developing, the Yangtze valley may have been the source of major stimuli for changes in southern China, as this region was favoured by particular soil and climate conditions. However, when more and more new technologies and material cultures were being transferred between southern China and its neighbouring areas, such as the Yellow River basin, new situations arose, as access to mineral sources, longer trade routes and sources of manpower started to matter more than soil and climate conditions. As for the Lingnan-Fujian region, the Nanling Mountains as a physical barrier made this region relatively distant from the areas to its north, and also delayed local reactions after the initial transmission of technologies and material cultures from the north were possible.

## **ii. The development of the World-system approach in archaeology**

With a focus on relations between societies and on the interaction patterns that emerge from them, the World-system approach is a ‘network’ approach. In archaeology, the idea of ‘network’ has been applied to explore research topics as diverse as (but not limited to) the transmission of ideas, the movement of people and objects,<sup>80</sup> and the identification

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<sup>79</sup> Morris 2010, p.34. Morris in a footnote has claimed that he borrowed this term from the economist Alexander Gershenkon but used it in a slightly different sense.

<sup>80</sup> The recent work of Jessica Rawson and some of her students have demonstrated a large picture of movement of people, objects and ideas across the Steppe, which brought profound changes to the

of social and cultural boundaries.<sup>81</sup> Having been much modified and developed by archaeologists to be more applicable to their research, the World-system approach embeds the study of a much wider range of materials within a broader phenomenon of ‘interaction’, than the exclusive exploitive relations and narrow focus on the flows of bulk goods in Wallerstein’s model. The World-system approach applied in archaeology has, therefore, its advantage as it offers an explicit explanatory role for intercultural contact in cultural changes.

One of the most significant modifications to the World-system approach for it to be applied to the pre-capitalist societies is the introduction of a prestige-goods economy.<sup>82</sup> In his ‘World-System’ analysis, Wallerstein paid most attention on the trade of bulk goods in the Europe-centred system, and he contended that the exchange of ‘preciosities’ did not produce important effects. However, Jane Schneider and many others hold a different opinion<sup>83</sup> and have widened the spectrum of research subjects and included precious items.

Focusing on a period prior to that of Wallerstein’s study, Schneider has argued that Wallerstein underestimated the scale and consequences of pre-capitalist exchanges, and particularly the exchange of luxury goods.<sup>84</sup> For instance, Wallerstein had conceived the Russian fur trade of the 16<sup>th</sup> century as ‘an exchange of preciosities, a method of consuming surplus rather than producing it, hence dispensable at moments of contraction, and consequently not central to the functioning of the economic system’.<sup>85</sup> Schneider argues that it is the exclusion of the exchanges of so-called luxury goods that has led to one of the biggest flaws in Wallerstein’s World-System approach. Indeed, such exclusion seems unwise to archaeologists who are familiar with the discussion of the role played by prestige goods in the structuring of social relations in pre-capitalist societies. After all, the ability of local leaders to monopolize the supply of prestige goods can often be an important source of stability or change in local power structures.<sup>86</sup>

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development of ancient China. See Rawson 2010 and Wu Hsiao-yun 2013.

<sup>81</sup> A fundamental work in this aspect may be Childe’s identification of cultures all across Europe and the Near East, and the ‘diffusion’ of cultural traits between them. Childe 2003.

<sup>82</sup> Schneider 1977, Ekholm 1977, Frankenstein & Rowland 1978, Glendhill 1978.

<sup>83</sup> Schneider 1977, Friedman 1992, Blanton & Feinman 1984, Blanton *et al.* 1992, Mcguire 1986, Peregrine 1992, Upham 1982, 1990, and Hall & Chase-Dunn 1993, p. 125.

<sup>84</sup> Schneider 1977 & Champion 2004, p. 8.

<sup>85</sup> Wallerstein 1974b, p. 306.

<sup>86</sup> Hall & Chase-Dunn 1993, p. 125.

In fact, there may not be an absolute dividing line between the luxury and utilitarian goods. Rather, the distinctions of luxury and utilitarian goods depend more on the economic and technological context than the properties of the goods themselves. For instance, jade has been highly valued by the Chinese people but it is not treasured to the same degree in the West. The difficulty in manufacture also counts. For instance, aluminium objects were once even more precious than gold, as this material was hard to come by. However, the price of aluminium objects dropped by up to 90% after an easier method of production was found. Larsen has also argued that, many of the commodities exchanged in Mesopotamia were both a source of commercial profit and a means of defining social status.<sup>87</sup> Therefore, luxuries have the potential to be transformed into more utilitarian products, and vice versa. As Allen suggested, luxury and bulk goods are really ‘poles of a continuum rather than unlinked opposites’.<sup>88</sup> To raise a distinction between luxury and utilitarian goods to the level of absolute opposition and then to deny the economic importance of either good may, as Schneider argued, have misrepresented both the pre-capitalist and capitalist worlds.<sup>89</sup>

The attention paid to the exchange of materials in a range larger than that of bulk goods has widened the scope of research. Kardulias, for instance, has suggested that there were various materials exchanged within and between various units in the Bronze Age Aegean at multiple levels (internal, intermediate, and long distance), including low-to-medium value bulk goods (e.g., obsidian for tool production) and high-value preciosities.<sup>90</sup> Another example is Kristiansen’s work on the developments in Europe from the 2<sup>nd</sup> to the 1<sup>st</sup> millennium BC from a World-System perspective. By looking at materials in multiple categories, from pottery to body armour, to skill in metal craftsmanship, Kristiansen has summarised the historical sequence of the Late Bronze Age Europe as reflecting a development ‘from small-scale luxury trade in the early phase (tin, amber and gold) towards large-scale bulk trade in commodities – including copper – in the late period.’<sup>91</sup>

In this thesis, the choice of materials and technologies covers a wide range, from commodity objects (pottery) to ritual and decorative objects for instance jade and

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<sup>87</sup> Larsen 1987.

<sup>88</sup> Allen 1997 & 2005.

<sup>89</sup> Champion 2004, p.9.

<sup>90</sup> Kardulias 1999a & 1999b.

<sup>91</sup> Kristiansen 1998, p.364.

bronze. Instead of focusing mainly on pottery typology as it was done before, such a method will enable us to widen the scope of current research on southern China, as others have done for other regions of the world.

Taking a wider range of materials into account results in discussions on more diverse interregional relations other than only the exploitive one. Hence this approach reveals more complex flows of materials and technologies, as well as the patterns of interactions between societies. While more attention is paid to the development of peripheral regions, the definition of centre-periphery relationships is also altered.

The idea of ‘contested periphery’ is brought forward by Mitchell Allen to describe zones of certain key resources and active cultural creation. These regions lie in a strategic location between major states and are, therefore, usually a prize over which they contest.<sup>92</sup> In this case, as summarised by Hall, Kardulias and Chase-Dunn, the peripheral area can often be a zone of innovation and even a key area for economic, political, social, and religious competition and exchange.<sup>93</sup> Similarly, Kardulias has put forward the concept of ‘negotiated peripherality’, which refers to regions that have ‘the willingness and ability of individuals...to determine the conditions under which they will engage in trade, ceremonial exchange, intermarriage, adoption of outside religions and political ideologies, etc. with representatives of expanding states.’<sup>94</sup>

Such development in the conception of peripheral areas has freed them from playing a passive role in the exploitive and hierarchical relationships and economic linkages with dominating cores, as emphasised by Wallerstein in the original world-system model. Instead, the concept of ‘negotiated periphery’ or ‘contested periphery’ has captured the active roles played by people living outside the core<sup>95</sup> and demonstrated that the World-System approach is not only a top-down but also bottom-up perspective.<sup>96</sup>

Having been freed from the specific connotations (exploitive economic relationships) given to it by its inventor, the definition of core-periphery relationship is, therefore, also altered. Instead of an exploited region, the term ‘periphery’ in archaeology now applies to societies that underwent structural transformation as a result of regular exchanges of

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<sup>92</sup> Allen 1997.

<sup>93</sup> Hall, Kardulias & Chase-Dunn 2011, p. 243.

<sup>94</sup> Kardulias 2007, p. 55.

<sup>95</sup> Hall 1986.

<sup>96</sup> Hall, Kardulias & Chase-Dunn 2011, p.253.

material products with a society elsewhere, usually more technologically advanced and more developed. It implies that a ‘technological gap’, as well as an asymmetric relation, is still taken as the defining characteristic of core-periphery structure.

The World-system approach, with its particular interest in structural connections between places, have forced scholars to consider broader regions as opposed to focusing on a single society or any one-way relationships. Therefore, the World-system perspective has the benefit of directing research toward otherwise neglected regions,<sup>97</sup> in this case southern China. These modified concepts of periphery and core-periphery relations as mentioned above are particularly useful for understanding the changing nature of the relationship between southern China and the Yellow River basin. Southern China’s roles and relations with its surrounding regions should be examined along with the appearance and transmission of various technologies and products in the three millennia discussed in this thesis, instead of being simply taken as passive recipients.

Furthermore, besides modifications in the conception of periphery, a concept of ‘margin’ has been developed to describe ‘the area of ‘escaped’ technologies and long-distance contacts based on directional exchange cycles.’<sup>98</sup> Sherratt has described the margin area as beyond the ‘periphery’, following the usage of Jane Schneider in 1977.<sup>99</sup> The relations between the ‘margin’ areas and the ‘core’ or ‘periphery’ are not established by the creation of inter-dependence. Instead, the ‘margin’ area is involved in the spatial relations with the ‘core’ or ‘periphery’, with long time lags, and it can potentially develop independently after an initial episode of transmission.<sup>100</sup> In such a situation, the transmission of technologies and material culture may have been the results of occasional long distance travels, discontinuous contacts or even spread of legend and hearsay.

Owing to the technological restrictions in long distance travel and communication, there may not have been as close and intensive interregional relations and immediate responses as those of the present day. The idea of ‘margin’ may therefore, indeed, have described a more common situation in ancient times. The idea of margin is, therefore, more useful to describe the characteristics of large parts of southern China in the late Neolithic to Bronze Age, especially the Lingnan-Fujian region. By examining the received and

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<sup>97</sup> Flad and Chen 2013, p. 7.

<sup>98</sup> Sherratt 1993c, p. 44.

<sup>99</sup> Schneider 1977.

<sup>100</sup> See Sherratt 1993c, p. 6.

adapted elements in the Lingnan-Fujian region, I shall argue that this area acted as a margin firstly to the Yangtze valley, and then to the Yellow River basin for most of time from the third to the first millennium BC.

Wallerstein's World-system theory is strictly restricted to the exploitive relations in a capitalist world. However, the World-system approach, as modified and applied in archaeological research, has been considerably widened to examine materials in multiple categories and diverse and interactive interregional relations, including catalytic contacts that did not create any direct or interdependent relationships. Also, while tracing origins and flows of technologies and material culture and mapping routes of interregional contacts, the World-system approach, as applied in archaeology, explores different local responses, as well as the active role of peripheral regions. In a way, the World-system approach in archaeology has called for a return of the 'grand narrative',<sup>101</sup> as it aims at providing an explanative framework for long-distance contacts and long term changes over a vast area.

However, this return, besides the constant quest of tracing of origins of things in archaeology, has taken much into account the local contextual information,<sup>102</sup> which was once advocated by its opponents – the contextual archaeology and others under the theoretical umbrella of 'post-processualism'. The mechanism of the transmission and adoption of certain goods or technologies, as suggested by Sherratt, plays a vital role in forming and structuring interregional relationships. By considering the interaction from both sides of the network, the World-system approach as applied in archaeology is, therefore, able to provide us with a more concrete and comprehensive explanatory

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<sup>101</sup> In a theoretical discussion in 1995 (at the David L. Clarke memorial Lecture), Sherratt reviewed 'an epic struggle' between 'processualism' and 'post-processualism' (in accordance with his advocacy of transcending the rhetorical competition between 'autonomist' and 'diffusionist' in 1993, see Sherratt 1993c, p.1), and investigated the possibility of a coherent description of long-term change on an archaeological time scale – the 'grand narrative'. This approach rejects an earlier ('processualist') synthesis based on ecology in the 1960s and early 1970s, as well as the introverted and fragmented post-modernism from the 1980s. Instead, Sherratt argued that social and technological changes were usually not simply the result of local conditions, but rather of processes of contagious spread and interaction between societies. The 'grand narrative' thinking is concerned primarily with relationships between communities, rather than between a community and its land. The approach, therefore, may be convenient called the 'interactionist' approach, by contrast with the autonomist or diffusionist thinking. See Sherratt 1995, p. 1-32.

<sup>102</sup> This is the 'mechanisms of translation' in Sherratt's term. In the 'grand narrative' that Sherratt advocated, different regions interact or are 'hit' by waves of technologies and cultural elements from different directions, leading to the changes to or development of the local systems. Sherratt suggested that the task of archaeology is both to chart the processes of 'growing uniformity' as results of transmissions of technologies and material culture, and to recover the locally unique patterns and structures in interregional interactions. See Sherratt 1995, pp. 24-25.

framework of interregional interaction and long-term social development than its oversimplified 'predecessors' for instance the diffusionist thinking.

### **iii. Southern China in core-periphery-margin relations**

A World-system perspective provides us with a completely different angle to view the roles of southern China from the static centre-periphery structure as stressed in traditional written Chinese history. As mentioned above, the terms 'core' and 'periphery', which have long been established in people's approaches, are usually heavily value-laden. The 'core' has always been attached to great societies and cultures with dominating political power, while the periphery related to remote, backward and passive societies. There would hardly be any doubt that northern-central China was regarded as a 'centre'. However, "much hesitation would follow if one applied the term 'centre' to the nomadic culture of the east Asian steppes, since...it was not correlated with a fixed social substrate with permanently developed social institutions."<sup>103</sup> In western European thought, there have also been similar opposed concepts such as town and country, civilized and barbarian, and urban and provincial.<sup>104</sup> The binary sets of opposed concepts of centre and periphery would therefore 'reduce centre-periphery relations to a one-sided flow of cultural values and artefacts from a developed region to an underdeveloped one, and would treat partners in the process solely as emitting or receiving agencies.'<sup>105</sup>

This thesis, however, aims to provide a reconsideration and re-definition of core and periphery in the narrative of the development of southern China. In this thesis, the core area usually refers to those regions that are most technologically advanced in a particular aspect and acted as an evident stimulus of development of another region, nearby or distant. 'Periphery' applies to regions that have close, continuous and most likely instantaneous interaction with the 'core', by showing fast adoption, adaptation and innovation of technologies and material cultures acquired from the 'core'.

In terms of the definition of 'margin', this thesis will follow Sherratt's use and refer to the 'margin' areas as those regions that were not maintained by contemporary flows of

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<sup>103</sup> Szykiewicz 2004, p.152.

<sup>104</sup> Champion 2004, p.15.

<sup>105</sup> Szykiewicz 2004, p.152.

products from the core area, but were likely to experience changes in material cultures and technologies within spatial processes with the core area with long time-lags.<sup>106</sup>

The core-periphery-margin relations as discussed in this thesis are therefore dynamic and would change along with different flows of materials and technologies and the pattern of communication. In this thesis, the appearance of new technologies such as bronze casting and high-fired ceramics will be examined, as well as the changes they brought to the interregional network.

The idea of dynamic interregional relations in the World-system approach is, therefore, helpful in understanding southern China, as it is able to remove the bias laid by traditional historiography and help get rid of the simple justification of southern China as ‘inferior’ or ‘backward’ compared to the societies in the Yellow River basin. A World-system approach thus provides a platform on which the changing roles of southern China within an extensive network can be discussed and examined.

## **V. Research material and methods**

### **i. Temporal and spatial consideration**

The temporal boundaries of the thesis are set to the third to the first millennium BC, and are divided into three periods, each covering one millennium. These divisions are roughly associated with a particular technological stage and changes in material culture in southern China. These chronological boundaries are also meant to avoid the better known and more widely used (probably even overused) historiographic narrative, which only follows dynastic transitions in northern central China.

Indeed, the dynastic terms from written history only refer to the history of the Yellow River basin and should not be applied to the history of other regions within the modern China territory. However, a brief time line of the ‘dynasties’ in northern-central China within the time frame of this thesis will be given in below as a time reference, as they will appear in later discussion in the following chapters in relation to their interactions with the south.

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<sup>106</sup> Sherratt 1993c, p.6.

According to traditional sources, there are three ‘imperial’ dynasties, the Xia, the Shang and the Zhou, which in turn came to power in the Yellow River basin over the time period covered in this thesis. The Xia dynasty is said to be the first Chinese dynasty, which ruled from the 21<sup>st</sup> to the 16<sup>th</sup> century BC. However, this proposal is not widely accepted by western scholars because of the lack of archaeological evidence.<sup>107</sup> The Shang, dated from 1600 to 1046 BC, has been traditionally regarded as the second imperial dynasty, as well as an archaeological culture, whose core area has been related to the Yellow River basin. The Zhou overturned the Shang in around 1045 BC and established their capital in present-day Shaanxi at Xi’an (termed as the Western Zhou in Chinese written history). In 771 BC, the invading steppe people devastated the Zhou capital. The country then fell into the power of different families, who had been vassals of the Zhou, such as the Jin (11<sup>th</sup> century – 376 BC), or newly arisen warlords, for instance the Chu (7<sup>th</sup> century – 223 BC). The royal household of the Zhou remained a nominal ruler in present-day Luoyang, Henan province, which is to the east of the old capital (therefore called the Eastern Zhou, 770 – 225 BC).

These political entities in northern central China are known for their manufacture and use of the bronze alloy on a massive scale. This material and related technologies, as will be discussed in the following chapters, was an important element in the forming of expanding interregional network in southern China in the second and the first millennium BC. Therefore, though these dynastic terms are not applicable to areas outside of the Yellow River basins, the Shang and the Zhou societies will be discussed as parts of the interregional network, in which southern China was increasingly involved.

Southern China, as discussed in this thesis, was not a homogenous area. As mentioned above, landscape and natural conditions varied significantly across the area. I, therefore, propose that we understand the region in two parts, the middle – lower Yangtze valley and the Lingnan-Fujian region, with the Nanling Mountains being the division.

The middle – lower Yangtze valley is a geographically distinct region, as it is naturally linked to both the Yellow River basin and the Lingnan-Fujian region via its numerous river tributaries. By the 3<sup>rd</sup> millennium BC, the Yangtze valley already developed flourishing rice agriculture and large-scale sites with elaborate material cultures. Later, from the mid second millennium BC onwards, the mid-lower Yangtze valley was a major

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<sup>107</sup> Bagley 2006, p. 126 and p. 133.

bronze-yielding region in the south and high-fired ceramic technologies also flourished in this area at the same time. During the first millennium BC, the region saw the rise of several local polities, such as Wu and Yue, in present day Jiangsu and Zhejiang. Therefore, the Yangtze valley is where ‘the south meets the north’. Stimulation from the north was particularly evident here. The introduction of novel technologies and material culture provoked strong response in this area and altered the position of this area within the interregional networks.

The Lingnan-Fujian region, however, was and is to a large degree physically isolated from the regions to the north, cut off by the Nanling Mountains. This region has revealed many fewer major sites than the Yellow River basin and the Yangtze valley in the period of 3000 to 1000 BC and has presented contrasting features in archaeological materials, with strong emphasis on hunting-gathering economy. The Lingnan-Fujian region has, however, a long coastline, indicating that this region may have interacted with different societies from the Yangtze valley via sea routes. Furthermore, the Lingnan-Fujian region has been the bridging area between the East Asian Mainland culture and the Southeast Asian culture. The consideration of the distinctions and links of these two regions, as well as their responses towards external stimulations will reveal interactive interregional relationships, in which societies in both regions played a part.

## **ii. Multiple materials**

Archaeological work that was interrupted by wars was resumed after 1949, when the People’s Republic of China was established. However, research in the south seems to have been in an unbalanced situation because of the historiographic orientation as discussed above and the differing financial status of individual provinces.

Comparing with the well-studied Central Plains region, the numbers of large-scale excavations in southern China are relatively small and do not provide us with substantial information on the peoples who produced the southern material cultures. Some significant finds were made along the Yangtze valley, but archaeological material in the southern coastlands has been quite limited and fragmented. Although sites are densely distributed along southeastern coastlands, few have been fully excavated. Most finds have been of fragmentary sherds, collected either from the surface or in cultural strata in which very few other features can be identified. Few reports on a single site have been

published. Existing reports are mostly survey records of a collection of sites in a certain area, for example a drainage area of a river or a range of low mountains.<sup>108</sup>

Also, even within the south, the situation in different provinces has been uneven. Organised archaeological surveys and excavations began to be carried out in provinces such as Jiangsu, Zhejiang and Jiangxi, as soon as the new state, the People's Republic of China, was established in 1949.<sup>109</sup> Large sites or burials, which yielded high numbers of jades and bronzes found in these provinces, have received a fair amount of attention. However, in some areas or provinces, such as Hainan Island and Guangxi Province, formal excavations were not started until the 1980s.<sup>110</sup> Scattered sites along the southeastern coastlands are generally assumed to be of lesser importance and are regarded as sites of 'less developed' groups of people, even before the area has been thoroughly investigated.

However, a rough chronological framework was after all established with some major finds from southern provinces after 1949 (fig. 1-2). The Liangzhu site complex located in the Liangzhu valley has been well excavated and is so far the largest Neolithic site complex found in southern China. Shijiahe is another large-scale Neolithic site complex found in the middle Yangtze valley which characterises the regional development in the period of the third millennium BC. In the Lingnan-Fujian region, Shixia in Guangdong and Tanshishan in Fujian have been two important finds that revealed intensive interregional communications in the south during the late Neolithic time. The sites of Wucheng and Xin'gan in Jiangxi, with their rich finds of bronzes, are important indicators of the interactive relations between societies in southern China and in the Yellow River basin in the second millennium BC. Later, the mounded burials found in

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<sup>108</sup> For an example of such reports of collections of sites, See Feiyunjiang 1993. This is a report of surveys and excavations carried out along the Feiyun River in Fujian Province. Since very few features can be recognized and finds are rather fragmented, this report simply introduces the landscape of the area and the numbers and categories of different finds. Typological analysis, usually one of the most important parts in Chinese archaeological reports, is absent. See Feiyunjiang 1993.

<sup>109</sup> Archaeologists in Jiangsu province already carried out four excavations in 1950s at the large-scale prehistoric residential site Beiyinyangying near Nanjing. Following the work done in pre-liberation period, archaeologists of Zhejiang province kept working in the area of the Lake Tai and officially put a series of sites under the name Liangzhu culture in 1959. Attention also started to be paid to mound burials and ceramic techniques during 1950s and 1960s. In Jiangxi province, the early prehistoric site Xianrendong was already excavated twice in early 1960s. See Xinzhongguo 1999, p. 153, p. 170, p. 173 and p. 216.

<sup>110</sup> General surveys of cultural relics were made in Hainan Island in 1957 and 1984. However, proper excavations were not carried until the Island was separated from Guangdong province and became a province itself in 1988. In Guangxi province, although more than 200 Neolithic sites have been found by 1999, proper excavations have been very rare. A convincing cultural sequence has not yet been established. See Xinzhongguo 1999, p. 347 and p. 333 and Hainan 1983.

the Lower Yangtze valley have demonstrated the blending of southern and northern cultures in the first millennium BC.

The discussions in the following chapters will be based on the sites shown in figure 1-2, which have relatively precise dating and rich contextual information. Some sites on this graph appear to have an extremely long occupation, for instance Shenwan in Hong Kong, Tanshishan in Taiwan, and Xiaojin in Guangxi, all contained more than one phase. However, these different phases within one site may not be continuous.

To move beyond the traditional centre-periphery framework, as addressed in written history, and to readdress the shape of the inter-societal network(s) with the World-System approach, it is necessary to review the research material that has been used. Studies of a single material, especially typological studies, without a concern for contexts, may have not only led to an incomplete picture but also to a distorted one. This thesis is thus going to examine four major materials and technologies that were being widely exchanged over southern China from 3000 to 1000 BC. The data range may be wide, but I believe that it is necessary to explore several different systems of exchange if we hope to achieve a better understanding of the long term development of the dynamic network(s) in southern China in this period, the period right before southern China was finally brought into the written 'Chinese' narrative of history. Furthermore, covering a long period of time allows one to look at the big picture and assess large-scale changes, which is a primary interest for archaeologists and aim of archaeology.

The four materials and technologies that will be discussed in the thesis are the developments of ceramic industry within the region south of the Yangtze, the wide spread of jade ornaments and implements in closely related shapes, and the introduction of bronze to the Yangtze valley and the Lingnan-Fujian region. The development and southward expansion of rice farming will also be mentioned as an important background of the development of societies in the Yangtze valley and the interregional communications in the third millennium BC.

All these materials or products were the results of complex technologies and usually came with products in specific designs. Their distributions are thus usually signs of contact instead another occasion of indigenous development. As a major invention which has, to a large degree, determined the cooking methods and dietary practices in a large part of Eastern Asia, the development of rice cultivation was heavily subject to the

availability of rice plants, knowledge of soil and climate condition, and the use of specific farming tools. Archaeological evidence suggests that the first rice cultivation started in southern China, mainly along the mid-lower Yangtze valley from no later than 8000 BC. The appearance of cultivated rice and farming tools in the Lingnan-Fujian region can therefore be important evidence of contacts through the Nanling Mountains or along the southeastern coast. The transmission of this food resource could have had further impact on the food preparation and serving methods, which might be represented in food vessels.

Pottery is a ubiquitous material at archaeological sites all around the world. However, it was from the third millennium BC that both shapes and surface finishing skills of pottery products started to show common features across southern China. Furthermore, a significant technical achievement, high-fired and glazed ceramics, started to appear in southern China from the second millennium BC. Achieving high-fired and glazed items required knowledge of specific clays and sophisticated firing techniques in handling kiln temperature and atmosphere. This achievement is so rare in the history of ceramics throughout the world that this innovation is of particular interest in tracking communication from south to north.

Jade artefacts are another good indicator of interregional contacts, as the production usually depends on a particular raw material source formed under specific geological conditions and highly specific technologies of cutting, grinding drilling, carving and polishing. The jade material used in prehistoric East Asia is mainly nephrite, which includes a variety of minerals such as tremolite, actinolite and serpentine, with Moh's hardness from 6.0 to 6.5.<sup>111</sup> There are, however, so far only about 120 known nephrite deposits in the world distributed in roughly 20 countries.<sup>112</sup> In Asia, most nephrite sources are located in Russia, Mainland China, and Korea. Jade artefacts are usually carriers of local value and ideas, given the specific shapes and use contexts. From the third millennium BC onwards, several particular jade products, such as *jue*, *bi*<sup>113</sup> and *cong*,<sup>114</sup> started to be extensively adopted and adapted in southern China and even areas beyond the southern China coast, in present-day Southeast Asia. This wide spread of

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<sup>111</sup> The term 'jade' used in this chapter refers to nephrite unless otherwise specified.

<sup>112</sup> Harlow and Sorensen 2005.

<sup>113</sup> Flat jade disc with a circular hole in the centre.

<sup>114</sup> Jade tubes with a square cross-section and a circular hole. *Cong* are among the most impressive yet most enigmatic of all ancient Chinese jade artifacts.

interest in particular designs and related craft skills is another important sign that southern China was an active participant of an extensive interregional network.

Another indicator of southern societies' responses towards external stimulation and therefore their roles in the network is bronze. Before its arrival in the south after the mid second millennium BC, this alloy of copper, tin and lead which requires specific smelting and casting technologies was already produced on a large scale and is closely related to the appearance of political power for instance the Shang in the Yellow River basin. Furthermore, at all times in northern central China, there were forms of standard sets existed that imply standard rituals in these societies.<sup>115</sup> This very distinctive character of the northern central Chinese ritual makes it possible to make a distinction between the bronze culture of the north and the south. The presence of bronzes together with the absence of sets in the Yangtze valley and further south indicate that the people there were in contact with the north but never followed the northern rituals.

Each of these materials was a 'techno-complex' that is usually transmitted as a 'package'.<sup>116</sup> The transmission of these materials in southern China can, therefore, be signs of interregional communication and the formation of a network, and indicators of the directions and of possible routes of the interregional links of southern China and of the changing structure of the network. Also, as will be explored in chapters two to four, another important aspect of the interregional contacts of southern China is a negotiation of material cultures, characterised by adoption of technologies and local modification of designs. The examination of separation and transfer of technologies, designs and meaning, which took place in the process of transmission,<sup>117</sup> will shed further light on

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<sup>115</sup> The idea of a 'set' of objects as developed by Jessica Rawson, refers to a whole set of objects instead of a single piece. Her observation and examination of bronze sets has revealed significant changes in the use of bronzes during the Shang and Zhou dynasties, which she called the "ritual revolution", Rawson 1989, p. 79-95. Such an approach has been proved to be much more useful than typology in the examination and interpretation of archaeological materials, as it has combined the consideration of contextual information and of related technologies and functions of objects.

<sup>116</sup> The notion of a 'techno-complex' is brought forward by Stuart Piggott's. He describes the introduction of chariot into China as a package deal, including the supply of horse, training and breeding of stock, as well as the skills of an adequate driver. See Piggott 1992, pp. 45-48.

<sup>117</sup> Jessica Rawson has given detailed account on the separation of 'form/design' and 'meaning' in the course of accommodation of 'foreign' objects in a completely local context with the example of 'hill censers' (*boshanlu* 博山爐). The hill censers became popular among the elite in the Han dynasty but the design was actually borrowed from Central and Western Asia. The most prominent evidence is the conical lid on top of the silver incense burners, which belonged to a tradition that extended from Iran to Egypt and further westwards to Greece, Etruria and Rome and eastwards to the Scythians as well as parts of the northwestern Indian subcontinent. However, while the basic form of the conical lid was altered into a three-dimensional image of mountain-peak, the meaning behind the shape was also turned to carry a Han cosmology, in which mountain peaks in clouds were related to the residence of immortal figures. The hill

details on southern China's reactions and, therefore its role, within an interactive network. Observations based upon archaeological evidence of technologies and material cultures transmitted between three regions will suggest neither a static core-periphery-margin structure nor a linear narrative, as argued previously, but a dynamic network structure generated and driven by regional asymmetries of technologies and material cultures, and vice versa.

## VI. Review of sources

Archaeological studies of southern China began in the early 20<sup>th</sup> century, but discussions in this thesis will mainly make use of archaeological reports of systematic and organised excavations that have taken place after 1949. These reports fall into two types, those in the form of a monograph dealing with large sites or site complexes, and those published as brief reports of a single site or tomb in archaeological journals. The latter are usually found in professional journals such as *Wenwu* 文物, *Kaogu* 考古 and *Kaogu Xuebao* 考古學報, and regional archaeological journals such as *Nanfang Wenwu* 南方文物, *Dongnan Wenhua* 東南文化, *Jiangnan Kaogu* 江漢考古 and *Fujian Wenbo* 福建文博, and so on. These professional journals are also an important source of relevant published discussions.

The published excavation reports, detailed or brief, have usually provided information on the location and the excavation process, and description of finds. In a sense, excavation reports are the major and the most basic sources of archaeological research. But there are some problems that all researchers need to bear in mind. The first one is that dating of prehistoric sites has always been a major problem in China. The radiocarbon dating technology was firstly developed by Willard Libby and his colleagues in early 1949, during his tenure as a professor at the University of Chicago, when China was still at war. It was not until 1955 that Xia Nai introduced this technique to China for the first time. However, due to the serious political disturbances in China that lasted from the 1950s to the 1970s, the first radiocarbon dating laboratory was not built until 1965 by Chou Shihua 仇士華 and Cai Lianzhen 蔡蓮珍. The routine use of radiocarbon dating of sites was not launched until 1971. Most excavations undertaken before 1970s rarely had any

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censer was, therefore, adapted as a new form of expression for new concept. Such a practice manifests loss of information in long-distance contacts. See Rawson 2006. In this thesis, the changes of designs and use contexts of different objects are regarded as important indicators of the position of a region within a network.

laboratory dating data, but mainly relied on cross comparison of typologies. Even for southern sites that were excavated after 1970s, laboratory dating was not a very usual or regular process, as the two major radio carbon dating laboratories were both in Beijing and dating equipment was very rare or even absent in universities in the southern provinces. Without a convincing chronological sequence of sites, the evaluation of southern sites has been vague and they have had to be referred to the Central Plains chronological sequence to find their place in the ‘Chinese Civilisation’. This has, again, emphasised the traditional centre-periphery model.

The second problem is, as discussed above, the obsession with typological studies, which has led to a detailed, but tedious and less useful organisation of reports. Archaeological finds are usually published in reports by categories but not by location or contexts of discoveries. Such an approach, though it has helped to provide full lists of finds at sites, has made it difficult for researchers to restore the contexts of any one burial or deposition. The attention to a single object or a single object type has, therefore, to a certain degree, been the major research method in Chinese archaeology. The idea of contextual archaeology has only been introduced to China in recent years.<sup>118</sup> And as Jessica Rawson suggested, it is the observation of sets of objects that helps us to identify changing customs and practices in early societies.

The third issue that has generated much confusion in Chinese archaeology is the problematic naming system for objects. The designation of objects found at prehistoric sites has followed the naming systems that were invented and used much later than the actual date of the sites, regardless of the material, manufacture technologies and their contexts. Such a naming method can easily cause misconception of objects and even misled comparison of objects. For instance, when all tripod vessels found within the modern Chinese territory are called ‘*ding*’, an object name devised from the Yellow River basin, it is easy to generate the impression that all these vessels were derived from the same origin and that people who used them may have been closely related and had similar conception of these objects. However, such an impression is almost certainly wrong.

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<sup>118</sup> Proposed by Ian Hodder in the mid-1980s, contextual archaeology is an approach to archaeological interpretation, which reads meanings of objects as if the objects were words in text. At archaeological sites, the ‘text’ can be the whole excavation unit, from environmental to behavior context of action. See Darvill 2003, p.98.

Furthermore, the designation of objects has largely restricted the scope of research. Once an object is named after a certain term in textual records, the interpretation of objects in the same category will then follow the explanations in the textual records, instead of being considered in its archaeological context. The term *mingqi* 明器, for instance, is widely applied in Chinese archaeology to refer to certain or even all burial goods following relevant concepts in textual resources.<sup>119</sup> Such a term has in fact largely restricted our understanding of the use and function of these objects. For instance, Jessica Rawson has from various angles argued that the term *mingqi* is not valid and that funeral objects in later China served as analogies of actual objects. They were thus understood as being functioning objects in tombs.<sup>120</sup>

This thesis, when discussing archaeological materials will, therefore, try to make use of sites with excavation reports and convincing dating evidence. Furthermore, contextual information as well as object sets, instead of a single object type, will be valued when comparing similar objects from different regions. And traditional naming and categorisation of objects will be avoided. Instead, detailed description of object shapes will be given and related manufacturing processes will be discussed.

## VII. Thesis structure

The changing interregional relationships of southern China from the third to the first millennium BC will be discussed in three major chapters. Chapter two concerns the interregional connections between different groups of people in the third millennium BC in southern China and argues for a loose but far-flung and important network in the south. This is the early stage of a long-term interregional network, which grew more extensive and more complex in a later phase, along with the transmission of more materials and technologies in different directions. This chapter is also concerned with the Yangtze valley as becoming the regional ‘core’ in the south in this period, as it was the major impetus for development of technologies and material culture in southern China. By examining large scale sites along the Yangtze valley and the transmission of rice agriculture, pottery and jade over the south during this period, this chapter is concerned

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<sup>119</sup> The most cited ‘criteria’ of commodity for the living and *mingqi* for the dead is from the scholar Xun Zi 荀子 (313-238 BC). As summarised by Xun Zi, “The spirit articles prepared especially for the dead resemble real objects but cannot be used”. See Watson 1963, p.104.

<sup>120</sup> For detailed discussion, see Rawson 2002, pp.123-154.

with the development of two very different areas in the south, the Yangtze valley and the Lingnan-Fujian region, and the possible links and routes between them.

Chapter three examines the significant changes to the interregional network, which involved southern China in the second millennium BC. During this period, southern China was brought into a wider network and encountered strong contact with the Yellow River basin. This chapter will examine the introduction of metallurgy from the north to southern China as well as the spread of high-fired ceramics from the south. Material remains from this period have demonstrated different situations from the earlier period. When facing significant changes, which were mainly triggered by societies from the Yellow River basin, the Yangtze valley developed its own response to the novel material cultures and technologies. In addition, the Yangtze valley seemed to have played a significant and negotiating role in the interregional network through its own resources and technologies in the ceramic industry. However, the further southern Lingnan-Fujian region seemed to have remained as a distant margin within this network.

Chapter four discusses the interregional interactions in the first millennium BC by examining the Hongshan necropolis in Zhejiang, the Guanjiucun mounded tombs in Fujian, and the Henglingshan cemetery in Guangdong. Material remains from these three burial sites have, again demonstrated different forms of local adaptation. Archaeological finds from southern China in this period still suggest diversity in southern societies but growing articulation in the interregional network.

Chapter five, as a conclusion chapter, will sum up the materials that has been discussed in the previous chapters and point out that there were great diversities of societies and material cultures in southern China, as well as complex and dynamic interregional networks, that had great impacts on the development of southern societies. This region has thus played significant yet changing roles in the expanding interregional networks. However, the local modification of technologies and material cultures and the various contexts have revealed a different image of southern China from the pictures that were provided by textual records.

## Chapter II The far-flung southern network in the third millennium BC

### I. Introduction and background of discussion

The late Neolithic era in the third millennium BC marked an early stage of the long-term interregional relationships of southern China, with the dramatic changes in material culture in the Lingnan-Fujian region being a major indicator of interregional contacts. By examining the introduction of cultivated rice, the changing pottery types and jade artefacts in the Lingnan-Fujian region, this chapter argues for a tenuous but extensive southern network, with its major stimulus coming from the Yangtze valley. The term stimulus is used to identify the source of materials or technologies that appear in southern China, in this case being the Yangtze valley.

Human activities in the Lingnan-Fujian region can be traced all the way back to 10,000 BC and archaeological finds have demonstrated a heavy emphasis on fishing and hunting continued in this region down to at least 3000 BC.<sup>121</sup> From west Guangxi to east Guangdong, cave sites, such as Zengpiyan (c. 10000 – 5000 BC)<sup>122</sup> and Dayan (c. 12000 – 1500 BC),<sup>123</sup> and shell-midden sites, for instance Dingsishan (phases I-III, c. 10000 – 7000 BC)<sup>124</sup> and Chao'an (c. 4000 – 3500 BC),<sup>125</sup> have all yielded traces of abundant flora and fauna resources. For example, a total of 108 species of animals have been found at Zengpiyan and Dayan in Guangxi, including 47 species of freshwater molluscs dominated by Chinese mystery snail, one species of crab, two species of fish, one species of alligator, 20 species of birds, and 37 species of mammals dominated by deer and wild boar.<sup>126</sup> Plant remains found at Zengpiyan include roots (yams), cruciferous plants, ferns, and other vegetables.<sup>127</sup> At Dingsishan, there has been discovered shell deposit as thick as 150 cm.<sup>128</sup> Most of these sites are characterised by a limited range of stone implements,

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<sup>121</sup> Zhang Chi & Hong Hsiao-chun 2008, p.312. Jiao Tianlong 2012, p. 600.

<sup>122</sup> Zengpiyan 2003.

<sup>123</sup> Dayan 2001.

<sup>124</sup> Dingsishan 1998.

<sup>125</sup> Chao'an 1961

<sup>126</sup> Lü Liedan 2009, p. 49.

<sup>127</sup> Zengpiyan 2003

<sup>128</sup> Dingsishan 1998, p.13.

including choppers, scrapers and knives which show little signs of farming activities, and pottery, characterised by coarse round-bottomed vessels and ring-footed pots (fig. 2-1).<sup>129</sup>

However, the Shixia site in northern Guangdong, discovered in 1973, reveals dramatic changes of technologies and material culture in the Lingnan-Fujian region since the third millennium BC. Three cultural layers have been identified at Shixia, with the lowest one being dated to 2700 – 2200 BC and named after the name of the place as the Shixia culture.<sup>130</sup> Some finds from this late Neolithic layer have drawn people's attention – remains of cultivated rice, various tripod vessels, and jade *cong* and *bi* (fig. 2-2).<sup>131</sup> Finds of these kinds, have so far never been seen in the Lingnan-Fujian region before the third millennium BC and, therefore, suggests a significant transition in life in the region. Indeed, these new elements appeared across southern China, as mature products, quite abruptly in a similar period of time, just at the beginning of the third millennium BC. Besides Shixia, these elements have also been found at many other sites in present-day Fujian, Guangxi and Taiwan across the strait (map 2-2, map 2-3 map 2-4).

Among these new elements in the Lingnan-Fujian region, the discovery of jade *cong* has particularly raised people's interest, as this type of jade artefact has features similar to those on *cong* found in the lower Yangtze valley. The latter, however, are from a much more complex site cluster, the Liangzhu site (3300 – 2200 BC) (map 2-1), which is famous for its numerous elaborate jade objects and large-scale constructions (fig. 2-2 and 2-3). Jade *cong* from Shixia and Liangzhu were both in the shape of a hollow tube, featured with rounded corners decorated with face-like patterns, though those from Shixia are smaller and rougher. Such a unique shape of *cong* and the use of similar materials have indicated a whole set of related processing techniques, including cutting, grinding, drilling and carving, which are unlikely to have been developed more than once

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<sup>129</sup> Deng Cong has even suggested a 'round-bottomed pottery' culture in the southeastern coastlands of China. See Deng Cong 1991. It is, therefore, possible to distinct the imported pottery design and local tradition.

<sup>130</sup> The middle and upper layers have been respectively dated to c.1800 – 1400 BC and c. 1000 – 500 BC. The three cultural layers of the Shixia site do not demonstrate continuous occupation. Finds of later phases of this site will be discussed in the following chapters. For a brief excavation report of this site, see Shixia 1978.

<sup>131</sup> *Cong* is the Chinese term for jade or stone tubes with a square cross-section and a circular hole. *Cong* are among the most impressive yet most enigmatic of all ancient Chinese jade artefacts. *Bi* is a flat jade disc with a circular hole in the centre. The distribution of jade material similar jade artefacts in southern China and the Southeast Asia has been extensively studied by Hung Hsiao-chun. See Hung Hsiao-chun *et al.* 2006 and 2007 and Hung Hsiao-chun 2008. Hung and her colleagues study, which will be introduced and discussed in below, has provided profound evidence and insight of the interregional network that southern China was heavily involved.

in different places. The jade objects found at Shixia and other locations in the Lingnan Fujian region, therefore, suggest an external stimulus, instead of being the outcomes of local conditions and indigenous development.

In the following sections, I shall examine the technological and cultural development in the Yangtze valley before and during the third millennium BC. I will argue that the societies in this region were a major stimulus in the network of southern China in this period and point out the major routes of this southern network. Then I shall discuss the nature of this interregional network, by examining the local traits of the Lingnan-Fujian societies, and the extent of the network, by exploring finds off the southern coast of China, beyond the modern Chinese territory.

As discussed in the introduction chapter, time lags in local responses, various local modifications of similar objects or materials, and different archaeological contexts help to reveal various relations between the different regions. This chapter, therefore, examines not only the transmission of technologies and material culture, but also the persistent local tradition (in both economy and culture) and the local variations of imported technologies and products. The widespread similarities in material cultures, such as ceramic types and jade in the south (as will be discussed in below), indicate sources and routes within an active network. Meanwhile, various local modifications, which appeared on a long time scale, indicate a weaker and less consistent 'centre' than we always believed. It is, therefore, necessary to review the roles of the different regions of southern China.

## **II. The Yangtze valley in the third millennium BC: A major stimulus of the network**

Societies on the north side of the Nanling Mountains seem to have experienced rather different developments compared to those on the south side of the mountain ranges. In comparison with the long lasting hunting-gathering economy in the Lingnan-Fujian region, archaeological finds along the mid-lower Yangtze valley suggest large populations supported by rice farming, which already had a long development history before the third millennium BC in this area. These societies also had an elaborate material culture featuring diverse pottery and numerous jade artefacts.

However, the impacts of technological achievements and the distinctive material culture in the Yangtze valley may not have been restricted to this region only, but also a growth point of increasing interregional contacts. As suggested by archaeological discoveries in southern China, novel elements in technologies and material culture may have been carried around by people from the Yangtze valley and desired by people from the further south. The development of the Yangtze societies had, therefore, the potential of leading to asymmetric interregional relationships between different groups of people in the south, in which the Yangtze societies were a major fountainhead of novel technologies and object designs.

### **i. The large-scale settlements in the Yangtze valley**

One of the most visible contrasts between the Lingnan-Fujian and Yangtze valley societies is the scale of human dwelling. Large settlements surrounded by thick walls or deep trenches started to appear along the Yangtze no later than 4000 BC and mega site complexes with functionally differentiated areas appeared in the third millennium BC. The construction and maintenance of these sites would have needed a large well organised population. So far at least nine such settlements have been found and dated to the period between the fourth and the third millennium BC. They mainly clustered around the Dongting Lake in the mid Yangtze valley and the Lake Tai in lower Yangtze valley (map 2-5).

The Chengtoushan site is located on the northwestern edge of Dongting Lake in present-day Hunan Province. It has been <sup>14</sup>C dated to 4000 to 2800 BC by samples from the rammed earth wall and is the oldest walled and moated site so far discovered in China. Dating evidence has also shown that the wall of the site was rebuilt several times during its occupation.<sup>132</sup> The wall is roughly circular with a circumference of 1000 metres and covers an area of around 76000m<sup>2</sup>. A well-preserved part of the wall is still 4 to 5 metres above ground today. Four gates have been found in the wall opening to four directions (fig. 2-4). Another settlement site on the edge of Dongting Lake is the Jijiaocheng site. It is dated to the mid third millennium BC, slightly later than Chengtoushan. The site wall in the shape of a rectangle with rounded corners enclosed an area of approximately

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<sup>132</sup> According to the excavation report, the Chengtoushan site spanned three separate archaeological cultures: the Daxi culture, the Qujialing culture and the Shijiahe culture. These are the three major mid-late Neolithic archaeological cultures in middle Yangtze valley in succession, from around 4500 to 2000 BC. The site was abandoned during the middle period of the Shijiahe culture in mid third millennium BC. See Chengtoushan 2007.

200000 m<sup>2</sup>. Besides, there was a 30 to 40 m wide trench surrounding the site.<sup>133</sup> Such a structure suggests the emergence of substantial organized labour forces just before 3000 BC in this area.

When it comes to the third millennium BC, there appeared to be large site complexes respectively in the mid and the lower Yangtze valley, the Shijiahe and the Liangzhu complexes (map 2-1). Though differ in details in archaeological finds, both Shijiahe and Liangzhu feature clustered settlements in a large area with functionally differentiated divisions and elaborate material culture. These two site complexes represent a peak of social development of their time.

The Shijiahe site complex covers a total area of over 8 km<sup>2</sup> with more than 40 settlements or cemeteries of different sizes in the present-day Hubei province in the middle Yangtze valley. The core of the site cluster, measuring about 1.2 km<sup>2</sup> in area, is surrounded by sections of earth walls, within which a smaller walled enclosure with a moat (up to 100 m wide) is located in the northeast part. The whole site complex contains several major locations, which seem to have served different functions (fig. 2-5). The Tanjialing site is located in the centre of the site complex, covering an area of 200000 m<sup>2</sup>, and probably was the major residential site of Shijiahe. The Dengjiawan site in the west was probably one of the major professional pottery workshop areas as numerous pottery figures were unearthed here. The Luojiabailing site, which is to the south of the central area of Shijiahe, was most likely a jade workshop area as it has yielded numerous finished and semi-finished jade objects. To the southwest of Luojiabailing is the Xiaojiawuji site. It is likely to have been a cemetery as the major find here are burials.<sup>134</sup> The layout of Shijiahe, which was continuously inhabited from 2500 to 2000 BC suggests occupation of a well-organized society with labour division.

The Liangzhu sites, which distributed in northern Zhejiang and southern Jiangsu, primarily around the Lake Tai, represent another major settlement cluster in the third millennium BC on the north side of the Nanling Mountains (map 2-1). Surveys and excavations of Liangzhu started in 1936 and have continued until today. To date, more

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<sup>133</sup> See Ren Shinan 1998, p.6.

<sup>134</sup> Shijiahe 1992.

than 200 Liangzhu sites of different sizes have been recorded within an area of 40 km<sup>2</sup>,<sup>135</sup> in the present day counties of Liangzhu, Anxi, Changming, Pingyao.

Some sites within the Liangzhu complex are on a massive scale and can be identified by either large public architecture or elite burials. For example, the Mojiaoshan site is an earth platform more than 10 metres high with an area of 300000 m<sup>2</sup>, located at the centre of the Liangzhu complex. Three artificial mounds, as high as 4 to 5 metres have been identified on top of this earth terrace. Rammed earth bases and pit holes in rows have been found at Mojiaoshan, indicating the existence of large architecture on top of it. Fanshan, Yaoshan and Huiguanshan are another three artificial mounds in the Liangzhu complex (see fig. 2-3). These three mounds seemed to have been the major areas for large burials and altars of the Liangzhu complex. Located to the northwest of Mojiaoshan, Fanshan has yielded 11 large burials with 1100 jade objects. Yaoshan and Huiguanshan are slightly further away from Mojiaoshan and are built on top of natural mounts, but with rammed earth in three different colours and edged with stones. Altars and large burials have also been found at these two sites. These constructions within the Liangzhu complex do not only suggested the a large population but also a hierarchies in the society, signs of which are so far very limited in the Lingnan-Fujian region at the time before the third millennium BC.

Similar to Shijiahe, the Liangzhu complex also has several locations that can be identified as craft production centres for making jade or pottery. These 'industrial' locations were placed on the outskirts of the Liangzhu complex. Jade raw materials, semi-finished jade products, and manufacturing tools have been found at Lucun and Wenjiashan, respectively to the north and south of the Liangzhu complex centred at Mojiaoshan. The locations of Changfen and Hengxuli at the southwest corner seem to have been the pottery production area, as large quantities of pottery waste products have been unearthed here (see also fig. 2-3). All this suggests that the societies in the Yangtze valley in the third millennium BC had a large of population which was well organised to fulfil large construction projects and to serve different industries in the society.

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<sup>135</sup> Liangzhu 2005.

## ii. The long development of rice cultivation along the Yangtze valley

The appearance and development of large-scale settlements along the Yangtze valley seem to have been closely related to another major technological achievement in the area – the rice cultivation. While the earliest remains of cultivated rice so far from the Lingnan-Fujian region, as will be discussed below, can only be dated to the third millennium BC, there are evidence of rice remains and agricultural tools dated from 9,000 to 3,000 BC in the mid-lower Yangtze valley. Rice farming brought a more secured and stable food resource, which may have played a major role in supporting and sustaining the large sedentary populations in the area. Indeed, archaeological finds in recent decades suggest that the Yangtze valley had gone through a long process in developing rice farming, from wild rice collection, to rice cultivation and finally rice domestication (see map 2-6 and table 2-1).<sup>136</sup> Some major and earliest finds coincide with the locations of the aforementioned large settlements.

Some of the earliest traces of rice cultivation have been found in the Middle and Lower Yangtze Valley Plain. Three cave sites, Diaotonghuan, Xianrendong and Yuchanyan, have provided the earliest <sup>14</sup>C dates of rice remains. The cave sites Diaotonghuan and Xianrendong, on opposite calcareous hillocks facing each other, are located in Wannian County, on the lower Le'an River which flows into the Poyang Lake from the east, in Jiangxi Province. Both sites have revealed evidence of a long occupation from 8,000 to 5,000 BC,<sup>137</sup> as well as a steady rising trend of domestic rice in proportion to wild rice (see tables 2-4 & 2-5).<sup>138</sup> Further south of the Yangtze valley in present-day southern

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<sup>136</sup> These three activities may have co-existed in prehistoric southern China and the establishment of livelihood dominated by rice farming is a very long process and reverses may have happened. The actual beginning of rice domestication and the standard of domesticated rice are still debated. See Fuller *et al*, 2007 and 2009. However, traces of all three activities have been found along the Yangtze valley in different sites from early Holocene, see Zhao Zhijun 1998 and Zhang Chi & Hsiao-chun Hung 2010 and the following discussion. This is the biggest contrast between the Yangtze valley and the Lingnan-Fujian region in the period before 3000 BC – though they may not have been continuous or successful at the beginning, there had been attempts and practice of cultivating rice along the Yangtze valley.

<sup>137</sup> Radiocarbon dates were obtained from the site but appear too early to apply to the associated cultural assemblages, see MacNeish & Taylor 1995 and Zhao Zhijun 1996, 1998. The date used here is a relative chronology based upon “the presence of a well-defined stratigraphy, combined with the careful analysis of cultural remains, as well as comparison with other dated sites in the region”, see Zhao Zhijun 1998, pp.887-889.

<sup>138</sup> A full-scale excavation of Diaotonghuan was carried out in 1993 (directed by Richard MacNeish and Yan Wenming) as part of the Sino-American Jiangxi Origin of Rice project (SAJOR). During the excavation, phytolith analysis was employed as the research method to recover and identify rice remains. This tunnel-liked cave was divided into 16 clear-cut stratigraphic zones, from zone A to zone P. Remains of wild rice has been identified from the terminal Pleistocene level (Zone O to G), but up to 55 % of rice phytoliths in the zone C, dated to c. 5000 BC, have been recognized as a domesticated variety. See Zhao Zhijun 1998, pp.886-9, also Chen Xingcan 1999 and Zhou Guangming 2000. At Xianrendong, which is

Hunan, another cave site Yuchanyan has presented similar finds of rice remains. The morphological characteristics of these remains vary from *oryza rufipogon*, *oryza sativa indica* to *oryza sativa japonica*, and therefore have evidenced “an early stage of transition from wild to domestic rice”.<sup>139</sup>

Along the lower Yangtze, where the Liangzhu complex dominated in the third millennium BC, early rice cultivation activities are demonstrated at an open village site Shangshan. The site is dated to c. 8000 BC, nearly 5000 years ahead of the appearance of Liangzhu, but has already yielded considerable quantities of rice husks that had been incorporated in pottery. Finds at Shangshan include carbonised rice and a small number of spikelet bases, which have been identified as remains of cultivated rice.<sup>140</sup> Early rice cultivation in this area may have helped to set the foundation for further development of sedentary life.

The links between rice farming and sedentary societies who built and occupied large settlements can firstly be seen in the middle Yangtze valley in the fifth millennium BC. One of the earliest rice paddy fields in China has been revealed at the aforementioned walled site Chengtoushan, dated to as early as c. 4600 BC.<sup>141</sup> Chengtoushan is located on the shores of the Dongting Lake. This area was a large alluvial plain, crisscrossed by a network of river channels in early Holocene,<sup>142</sup> and as observed by Zhang Chi “an ideal place for the developing of agriculture”.<sup>143</sup> Two more open sites in the same area, Pengtoushan and Bashidang, further attest the links between rice farming and large settlements. Remains of habitation structures and of cultivated rice have been found at both sites. Pengtoushan has been dated to c. 6500 – 6000 BC based on more than 20 conventional and AMS radiocarbon dates obtained from charcoal, organic incrustations in pottery, as well as charred rice extracted from pottery.<sup>144</sup> Bashidang has been identified

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located just opposite to Diaotonghuan and was first discovered and excavated in the early 1960s, a similar set of data was found. See Xianrendong 1963 and 1967. Wild rice remains have been found and were associated with ceramic production in phase 1, which has been dated to c. 7000 – 5600 BC, together with chipped pebble tools, perforated stone rings, bone tools and pottery. But in the stratum of phase II at the site, which has been dated to c. 5500 – 5000 BC, the main botanical remains belong to one of the domesticated rice varieties, the *oryza sativa*. See Rispoli 2007, p.247.

<sup>139</sup> Rispoli 2007, p.246, Higham & Lü 1998, and Yuan Jiarong 2000. See also Boaretto, *et al* 2009

<sup>140</sup> For excavation report, see Shangshan 2005. See also Jiang Leping and Liu Li, 2006.

<sup>141</sup> The remaining paddy fields at Chengtoushan measure about 90 m<sup>2</sup> and include an original irrigating system of ditches and ponds. Chengtoushan 2007.

<sup>142</sup> Rispoli, F. 2007, p. 247.

<sup>143</sup> Zhang Chi 2003, p. 246.

<sup>144</sup> See Pei Anping 1998, Hedges *et al.* 1992, and Chen Tiemei & Hedges 1994. For excavation report, see Pengtoushan & Bashidang 2006.

to belong to a later period of the Pengtoushan assemblage, dating to c. 6000 – 5500 BC.<sup>145</sup> Both sites yielded considerable quantities of rice remains.<sup>146</sup> Moreover, Bashidang is the earliest moated village discovered so far in the Yangtze valley. The site covered more than 30,000m<sup>2</sup> in which abundant traces of habitation have been unearthed and was enclosed by a ditch and a low earthen bank. Within the 1000m<sup>2</sup> excavated area, 24 earthen floors, 98 graves, 80 pits and a group of raised-floor constructions were discovered, strongly indicating sedentary life at the site.<sup>147</sup>

Domesticated rice started to be a steady part in the dietary of Yangtze societies from a time no later than 4000 BC. A most recent example, again, comes from the lower Yangtze at Tianluoshan, a Neolithic site dated to 5000 – 3500 BC.<sup>148</sup> Excavation between 2004 and 2007 revealed a large number of organic remains which had been well preserved by a high belowground water table at the site, including wooden posts, boat paddles, wooden and bone tools, and animal and fish remains, as well as well-preserved plant remains. Systematic sorting of sediment samples at the site also revealed large quantities of rice spikelet bases and a range of seeds of wild plants, which may represent the presence of arable weeds. Plant samples from Tianluoshan have been dated by direct accelerator mass spectrometry radiocarbon to between 4900 and 4600 years ago. During this phase, the proportion of domesticated rice spikelet bases increased from 27% to 39%, while rice remains increased from 8% to 24% out of all plant remains. The presence of arable weeds also increased over this period, indicating the development of cultivated fields. “The increase in the proportion of rice supports the hypothesis that people became increasingly reliant on rice cultivation and gradually abandoned wild resources, such as acorns and water chestnuts.”<sup>149</sup>

A great variety of farming tools found at sites within the Liangzhu complex further confirm that rice farming had become an important sector in the Yangtze valley in the third millennium BC. At sites within the Liangzhu complex, such as Qianshanyang, Shuitianfan, and Kunshan, various types of stone farm tools have been unearthed,

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<sup>145</sup> For excavation report, see Pengtoushan & Bashidang 2006.

<sup>146</sup> Rice-chaff temper has been extensively used at the ceramic production at Pengtoushan, see Pei Anping 1998, Rispoli 2007, p.248. At Bashidang, 20,000 rice husks and grains were collected during a small-scale excavation. These have been identified as ancient cultivated rice, but not identical to any of the present-day *indica* or *japonica* varieties, see Zhang Wenxu and Pei Anping 1997, Zhang Chi and Hsiao-chun Hung 2008.

<sup>147</sup> For excavation report, see Pengtoushan & Bashidang 2006. And Zhang Chi and Hsiao-chun Hung 2008.

<sup>148</sup> For excavation report, see Tianluoshan 2004.

<sup>149</sup> See Fuller *et al.* 2009.

including ploughs, weeders, hoes, sickles, and knives (fig. 2-6).<sup>150</sup> These stone tools were both well-made and polished. The plough was used for initial cultivation of soil in preparation for sowing seeds or planting while the weeder was used for removing weeds in the fields. The hoe was generally used for digging or moving soil and sickles and knives were general harvesting tool. Such a tool kit is still characteristic of a Chinese farmer's tool shed nowadays.

It thus becomes clear that the development of rice farming in the Yangtze societies experienced a slow and gradual development in the middle-lower Yangtze valley. The process went on for at least 4000 years, undoubtedly making the Yangtze valley an origin of rice farming, if not the only one. It is strongly suggested by archaeological finds, as will be addressed in below, that the sudden appearance of cultivated rice in the Lingnan-Fujian region in the third millennium BC is the result of interregional contacts with the Yangtze valley via several different routes.

### **iii. Elaborate material culture of the Yangtze societies**

In the third millennium BC, societies in the Yangtze valley also produced a remarkable material culture characterised by elaborate jade artefacts in large number and in specific designs. This is a significant achievement as the jade industries and products from the Yangtze valley seem to have provided the basic technologies and design elements of jade processing, which reached area far beyond the modern Chinese territories, as will be discussed below.

The wide use of jade in various forms in the Yangtze valley appeared no later than 3000 BC (table 2-2). The two major site complexes in the Yangtze valley, Shijiahe and Liangzhu, were both major manufacturers of jade artefacts. As mentioned above, the Shijiahe complex contains a specific jade manufacture area. Indeed, jade manufacture seems to have been an important sector in the Shijiahe society. As a product of complex technologies and intensive labour, jade was also closely related to the representation of social status at Shijiahe.

Jade products, finished or semi-finished, have mainly been found at sites at Luojiabailing and Xiaojiawuji. The major find at Luojiabailing is jade ornaments. 44 pieces of jade have been unearthed here, in the form of human figures, cicadas, dragons or phoenixes, or

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<sup>150</sup> See Liangzhu 2005.

geometrical shapes of tubes, discs, *huan* bracelet and sticks. Besides finished jade products, Luojiabailing has also yielded more than 500 semi-finished products. All the evidence points to Luojiabailing being a jade manufacture area within the Shijiahe complex. A major destination for the jade objects produced at Luojiabailing seems to be a cemetery of the Shijiahe society at Xiaojiawuji, to the south of Luojiabailing and the Shijiahe central site.

Dated to c. 2600 – 2000 BC, the burials at Xiaojiawuji demonstrated a hierarchical society at Shijiahe.<sup>151</sup> Pit tombs dominated the early period, while urn burials started to replace them in the later period. Some tombs contain up to 100 grave goods while others only have one or two. Elaborate jade artefacts, in various shapes similar to those from Luojiabailing, only started to appear in the later phase of the site in urn burials. Excavations at Xiaojiawuji have exposed 77 urn burials, 16 of which contained in total 109 jade objects as grave goods. Urn burial W6 seems to be the richest one as it contained 56 jade items out of a total of 59 grave goods, more than a half of the total 109 jade objects found at Xiaojiawuji (see fig. 2-7). Other objects include 6 figures of human heads, 5 tigers, 1 dragon, 11 cicadas, 1 dragon, 1 *huang*, 10 tubes, 1 pendant, 5 beads and 14 pieces of formless shapes. Thus it can be seen that jade was valued by the occupants of Shijiahe sites and was concentrated in a restricted number of burials, indicating a correlation between social hierarchies and the appearance of jade in the later phase of Shijiahe culture.

The Liangzhu society in the lower Yangtze was another major manufacturer and consumer of jade in the third millennium BC. Numerous jade items have been unearthed from sites within the Liangzhu complex, especially from large-scale tombs located at the artificial mound sites of Fanshan and Yaoshan. Burials at these two sites usually contained several hundred jade and other well-made objects, whose manufacture required developed technology and highly organised manpower. In tomb M20 at the Fanshan site a single skeleton is accompanied with 547 artefacts, including 2 pottery vessels, 24 lithic implements, 9 ivory objects, and 170 sets, or 511 single pieces of jade. The Yaoshan site, which is only about 5 km to the northeast of Fanshan, has been thought to be an earthen altar. It is square in shape and constructed of three layers of earth of different colours. This grand construction may have served another cemetery there, as 13 rich graves have been unearthed in two rows in the north-south direction. A

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<sup>151</sup> See Xiaojiawuji 1999, p.348.

total of 800 funeral goods, 90% of which are jade, have been found in the graves at Yaoshan.

Archaeological excavations have also revealed that the jade industry was an important sector in the Liangzhu society. Jade-working tools and semi-finished products have been found at a number of Liangzhu culture sites around Lake Tai, for instance Lucun, Wenjiashan, and Anxi in Yuhang, Yangdun in Deqing, Dingshadi in Jurong, and Mopandun in Dantu.<sup>152</sup> Large quantities of particular forms of unfinished jade/stone artefacts were also found in several large tombs. For instance, stone drills, which have been thought to be tools of drilling holes on raw jade materials, were found in the elite burial M60 at Fuquanshan.<sup>153</sup> At Wenjiashan, twenty stone cores from making perforated *yue* axes were found, with thirty-four *yue* axes unearthed from one burial M1.<sup>154</sup> Such a situation suggests that jade manufacture and jade products were playing a major role in the society of Liangzhu.

Most of Liangzhu's jade have parallels in the Shijiahe culture, with the dominant types being *cong* tubes with a square outer profile and a circular inner space, and *bi* discs – flat circular jade plates with a drilled perforated hole in the centre. A typical motive, referred to as human-beast motif, reoccurred on different types of jade objects and more often on *cong* tubes. This motif depicts a creature with a half human and half animal body; the upper part is usually human-like, wearing a large feathered headdress and showing human arms and hands, and the lower part often being animal-like, with large round eyes and sharp claws (fig. 2-8).

The meanings of these motifs and the functions of jade objects in Neolithic China are still debated. Some jades, such as jade *yue* penannular rings, *huan* bracelets and *huang* pendants have been said to be body ornaments, for instance earrings or pendants. Jade *cong* and *bi*, however, have usually been viewed as being linked to ritual practices and ideology because of their impractical shapes and the context in which they were found – usually being large burials as seen at the Liangzhu site complex. In general, societies along the middle to lower Yangtze valley seem to have built up a relatively stable repertoire of jade objects which were closely related to certain ritual practices and beliefs of societies along the middle and lower Yangtze valley.

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<sup>152</sup> Jiang Weidong 1999, see also Liu Li and Chen Xingcan, 2007, p.240.

<sup>153</sup> Huang Xuanpei 2000.

<sup>154</sup> Liu Bin 2008, pp. 3-10.

Rice farming activities, large-scale construction, diverse pottery and numerous jade artefacts have together formed the very remarkable material culture of the Yangtze valley societies. Some material remains from Shijiahe and Liangzhu are so distinct that the distribution of these characteristic products and designs, for instance jade items in various shapes, can act as indicators of interregional contacts.

### **III. Interregional contacts over the Nanling Mountains**

Some of the most characterising elements in the Yangtze societies started to appear in the Lingnan-Fujian region in the third millennium BC, leading to dramatic changes in local culture. These changes also suggest that the major geographical barrier in southern China – the Nanling Mountains – was broken through by different routes.

The Nanling Mountains are the place where various rivers in southern China originated. In fact, rivers that originate from these mountain ranges, such as the Beijiang River, Dongjiang River, Xiangjiang River and Ganjiang River, have formed a large part of the Yangtze River and the Pearl River valleys (map 2-7). Furthermore, the Nanling Mountains are not a whole solid rock but a series of mountain ranges with passages in between. A major passage is at the Dayu Mountain, in between the Ganjiang River in the present-day Jiangxi, on the north side of the Nanling, and the Beijiang River in Guangdong, on the south side. People may have used passages like this and river valleys back in prehistoric time to cross the Nanling Mountains.

#### **i. Passages through the Nanling Mountains**

The aforementioned site Shixia in northern Guangdong may have been a result of the exploitation of these passages through the Nanling Mountains and represents one of the earliest arrivals of cultural elements from the Yangtze valley to the Lingnan-Fujian region.

Shixia is located at the southern edge of the Nanling Mountains by the south-flowing Beijiang River, less than 150 km southwest of the Dayuling pass. Such a location would have given the inhabitants of Shixia the possibility of crossing the Nanling Mountains and reaching the Yangtze valley. Indeed, the material remains found at Shixia seem very different to those from sites in the same region before the third millennium BC. Instead, pottery, stone implements, as well as jade from Shixia all demonstrate links with the Liangzhu society in lower Yangtze.

Three different cultural phases have been identified at Shixia and the material remains of the third millennium BC are mainly represented by 108 burials at the site. Not every tomb contains funeral good (a clear sign of social hierarchies which are rarely seen at sites in the Lingnan-Fujian region before this period)<sup>155</sup> but the whole site has yielded more than 2400 objects, including more than a thousand ceramic artefacts and 73 jade.

Besides round bottomed vessels, which as mentioned above had prevailed in the region, pottery from Shixia was much diversified, including stemmed vessels, tripods, vessels with a perforated foot ring, as well as vessels with fitted lids, which could also be used as a vessel when placed upside down (fig. 2-9). Moreover, quite a few vessels demonstrate links with the Yangtze societies. Tripod vessels are absent in the Lingnan-Fujian region before the third millennium BC but appeared in a large number at Shixia. This vessel type may have come from the Yangtze valley, where tripod vessels prevailed. The tile-shaped legs of tripod *ding* vessels at Shixia are the same as those at Liangzhu. The tripod *gui* vessels from Shixia feature bag-shaped legs and tilted sprout just as those commonly seen in lower Yangtze. The two-eared necked jars found at Shixia also have parallels in both the mid and lower Yangtze valley (fig. 2-10).

The appearance of these novel pottery types at Shixia may also suggest changes in food resources and related culinary practice.<sup>156</sup> The *zeng* steamer (fig. 2-11) at Shixia is new to the Lingnan-Fujian region but was much produced in the Yangtze valley, as steaming is a major way of cooking rice. Indeed, the introduction of *zeng* steamers at Shixia, together with other pottery with Yangtze parallels, seem to have come along with the transmission of another major achievement of the Yangtze valley – cultivated rice.

The round-bottomed vessels, which prevailed in the Lingnan-Fujian region as discussed above, are mostly characterised by a deep yet big belly, a narrow neck and a flared mouth. This type of vessel is not the ideal shape for rice cooking and serving, as it would be difficult to retrieve or to serve cooked hot food within these deep and big vessels. Such shapes thus seem more suitable for food storage (in this case root crops and preserved fish in the Lingnan-Fujian region) instead of boiling and steaming. The newly introduced

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<sup>155</sup> Only 41 tombs at Shixia contained funeral goods. Some burials, for instance tomb M42, contained up to 110 grave objects, while the smaller burial had only five to seven artefacts. Only six tombs contained all jade artefacts from the whole site. Shixia 1978.

<sup>156</sup> See Fuller 2005, pp. 761-777. Fuller suggests that cuisine is like a language and can be adopted, adapted or modified through time. Fuller also argues that culinary practice is usually regionally and culturally distinctive and transmitted as a 'food package'.

tripod vessels and steamers, however, seem to be a better option for rice cooking and serving, as they were provided with a space underneath the vessel for heating and a more open shape for serving. Indeed, a large quantity of rice grains and stalks have been unearthed from the lower and middle layers at Shixia and these finds have been claimed to be remains of cultivated rice.<sup>157</sup> Judging from the relatively early date (no later than 2600 BC) of the rice remains (see table 2-3) they may have represented one of the first appearances of rice farming in the Lingnan-Fujian region.

Moreover, burials at Shixia have also contained stone tools that may have been used for agricultural activities (fig. 2-12).<sup>158</sup> The major finds of stone implements at Shixia include pickaxes (with a bow-shaped back), perforated shovels, and many varieties of adzes (shouldered, stepped, long, and trapezoidal), chisels, awls, arrowheads and broad axes. Most of these are well polished and with a sharp cutting edge. Some tools, such as shovels, pickaxes and long adzes, are particularly large and could have been hafted with short handles. These large stone tools have been thought to be potential agricultural tools, which “would have been useful in digging and loosening the soil and chopping wood”.<sup>159</sup> Moreover, stone implements from Shixia show great similarities with those found north of Guangdong. For example, the pickaxes, stepped adzes and axes recall those found at Liangzhu culture sites in Zhejiang.

Jade artefacts in specific shapes are another significant indicator of interregional contacts with the Yangtze societies. Shixia has yielded a major find of jade items in the Lingnan-Fujian region. Among the 2400 grave goods found in 108 burials there are 73 jade objects in various shapes of *cong* tubes, *bi* discs, *huan* bracelets<sup>160</sup> and *jue* penannular rings<sup>161</sup> and hairpins, all showing very similar designs to those of the Liangzhu and Shijiahe societies. At Chuangbanyang, a location near Shixia, another 13 burials of the same period have been excavated and one tomb there also contained one *cong* but made from stone.<sup>162</sup>

The *cong* tubes from Shixia and Chuangbanyang are also characterised as those from Liangzhu by their square outer profile and a circular inner space. The human-beast

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<sup>157</sup> See Yang Shiting 1978.

<sup>158</sup> See Shixia 1978.

<sup>159</sup> See Allard 1995, p. 98.

<sup>160</sup> A disk-like artefact with a larger orifice than that of the *bi*.

<sup>161</sup> *Jue* is ring-shaped artifact with an indentation on the side.

<sup>162</sup> See Yang Shiting 1998, also Li Ziwen & Long Jiayou 1989, p. 227.

combined motif also occurred on jade *cong* from the Lingnan-Fujian region. Though much rougher, the feature of big round eyes of the face-liked motif is well maintained on some *cong* tubes from Shixia (fig. 2-13). The observed similarities of some key features between the *cong* tubes from the Yangtze valley and from the Lingnan-Fujian region indicate interregional contacts between these two southern regions.

Traces of rice cultivation have also been found in northern Guangxi and they suggest another passage suitable for interregional communication crossing the Nanling Mountains. The Xiaojin site in northern Guangxi is one of the representative sites for the appearance of rice farming in this area. The site is located by the Zi River, which originates in northern Guangxi and flows through the present-day Hunan province and finally enters the Dongting Lake (one of the earliest rice cultivating area in China as discussed above). Travelling may have taken place along this river valley, possibly explaining the arrival of cultivated rice at Xiaojin. An archaeological excavation has identified three cultural phases at the site, over the period 4500 – 1000 BC. It is only among remains of the second half of the second phase (2700 – 2000 BC) that a large quantity of rice grains was found.<sup>163</sup> Polished stone implements also increased from late phase II (c. 2700 – 2000 BC) and continued into phase III (c. 2000 – 1000 BC), when a large quantity of rice remains has been found.<sup>164</sup> These changes seem to have happened along with the transition in subsistence strategies from hunting-gathering economy to preliminary farming activities. The material remains at Xiaojin and Shixia, two sites located in northern Lingnan-Fujian region, thus indicate two different passages through the Nanling Mountains. However, there also seems to be other routes that people may have taken, as will be shown in below.

## **ii. Sea routes along the coast**

Judging from the site distribution along the coastlands in present-day Fujian, Guangdong and Guangxi, some interregional contacts may have taken place along the southeast coast of China. Despite the fact that Wuyi Mountains and Mount Huang set a natural boundary between the present-day Zhejiang and Fujian, cultivated rice made its appearance along the coast of Fujian and Guangdong in the third millennium BC (map 2-2), reaching as far as the Taiwan Island. A possible explanation for this is the

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<sup>163</sup> See Xiaojin 2004 and Zhang Chi & Hung Hsiao-chun 2010.

<sup>164</sup> See Xiaojin 2004.

irregularity of the southeastern coastlines of China, which is dotted with more than one thousand offshore islands. This is particularly pronounced on the Fujian and eastern Guangdong coast. There so many good bays and numerous offshore islands are located in close proximity that long distance sailing may not even be necessary for interregional contacts.<sup>165</sup>

Located in northeastern Fujian, the Huangguashan site (c. 2350 – 1550 BC) shows signs of farming by the remains of phytoliths of cultivated rice in every layer of the site.<sup>166</sup> To the south of Huangguashan also at the Fujian coast, the Tanshishan site (c. 3000 – 1500 BC)<sup>167</sup> has yielded the oldest cultivated rice remains in Fujian. Carbonised rice grains have been found at Tanshishan during the excavation in 2004 and have been dated to c. 2870 – 2340 BC.<sup>168</sup>

A contemporary site to Tanshishan, the Zhuangbianshan site, which was just on the other side of the Min River opposite to Tanshishan, has also unearthed a large number of rice phytoliths.<sup>169</sup> Sampling from each layer of the site has revealed the appearance of rice phytoliths at the depth of 25 – 125 cm, and a particularly rich deposit of rice phytoliths at the depth from 100 – 125 cm, corresponding to a period of 2500 – 2300 BC.<sup>170</sup>

In present-day Guangdong, signs of interregional contacts with the Yangtze valley were not only seen in the north next to the Nanling Mountains, but also along the coast, clustered in eastern Guangdong and the Pearl River delta. The Hutoupu kiln factory in eastern Guangdong, for example, demonstrates increasing demand of much diversified pottery vessel in this region in the third millennium BC, which may have been related to the new food resources and culinary practices. Excavated in 1980, Hutoupu has been dated to c. 2000 BC and is, so far, the earliest kiln factory found in the Lingnan Fujian region.<sup>171</sup> At the remains of this kiln factory, 18 kilns of three major types – rectangle kiln with vertical fire tunnel, round kiln with vertical fire tunnel and ‘8’-shaped kiln with

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<sup>165</sup> Jiao Tianlong 2012, p. 600.

<sup>166</sup> See Huangguashan 1993 and Chen Zhaoshan 2006.

<sup>167</sup> Tanshishan is a typical shell midden site with a three metres thick accumulation of shells. It is located in Minhou county near the Min River. The site has a long history of occupation and shows strong evidence of hunting-gathering economy before the third millennium BC, by its rich deposit of aquatic species. See Tanshishan 1970, 2010 and 2004.

<sup>168</sup> See Chen Zhaoshan 2004 and Tanshishan 2010.

<sup>169</sup> Ma Ting *et al.* 2013.

<sup>170</sup> Ma Ting *et al.* 2013.

<sup>171</sup> Hutoupu 1984 records the excavation in 1982 when 15 kilns were unearthed. Excavation in 2003 has revealed another three kilns. However, the 2003 excavation report has not been published yet.

horizontal fire tunnel (fig. 2-14) have been unearthed. It is not exactly clear yet how different structures of these kilns would have affected their function and the products that they made. But the scale of the kiln factory and the differences in kiln structure certainly demonstrate a new level of pottery making in the Lingnan-Fujian region in this period. Compared with the sand-tempered coarse and low-fired pottery from earlier periods, products from Hutoupu were made from much finer clay with little sand. A large number of shards found at the site feature a grey-greenish surface, indicating a reduction atmosphere in a high kiln temperature. The pottery products from Hutoupu also demonstrate an increasing diversity compared with earlier sites, including ring-footed vessels in various shapes, jars in different sizes, stemmed-cups and bowls (fig. 2-15).

A site at the Pearl River delta suggests the arrival of cultivated rice in present-day Guangdong, probably via maritime traffic. Located at the ancient coast (now the modern city Foshan), the Guye site was discovered in 1985 and systematically excavated in 2006. The site has well-preserved thick deposits of a variety of organic remains, including deposits of shells as thick as 55 cm, a normal phenomenon at coastal sites in southern China. However, the site has also yielded numerous rice remains, which is the first find of agricultural products in the Pearl River delta,<sup>172</sup> suggesting the initial use of rice in dietary in the area.

Specific jade products and related designs also reached the coastlands of the Lingnan-Fujian region. One jade *cong* tube has been found at Huangguashan in Fujian, where cultivated rice remains also occurred, showing again the basic shape and design from the Liangzhu society.<sup>173</sup> In Guangdong, two jade *cong* tubes have been collected from disturbed deposit at Haifeng.<sup>174</sup> The design of *jue* penannular rings also seems to have made its way to the Lingnan-Fujian coastlands. Penannular rings in crystal have been found at the forager site Baojingwan in the present-day Zhuhai city in Guangdong.<sup>175</sup>

The warm and humid climate has made the coastlands in the Lingnan-Fujian region home to numerous flora and fauna resources, including wild rice. However, cultivation activities seem to have been absent before the third millennium BC. This region had a

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<sup>172</sup> Guye 2007.

<sup>173</sup> Huangguashan 1993 and Wu Chunming 1998.

<sup>174</sup> Yang Shiting 1998.

<sup>175</sup> Baojingwan 2004.

strong and persistent foraging tradition. The sudden introduction of cultivated rice in this region is, therefore, a strong sign of contacts with the Yangtze societies, who had a long tradition in crop-supported sedentary life. Cultivated rice and related tools and technologies found along the southeastern coast may thus have been acquired by the southern fishermen during their seafaring up to the Yangtze estuary.

### **iii. The Xijiang valley in inland Lingnan-Fujian region**

Having reached Guangdong via either the mountain passages through the Nanling Mountains or sea routes along the coast, new cultural and technological elements seem to have been stretching their reach to the inland of Guangdong and Guangxi via the Xijiang river valley. The Xijiang River is the major western tributary of the Pearl River, flowing east through Guangdong to the Pearl River Delta. Besides linking to the other major tributaries of the Pearl River, for instance the Beijiang River from northern Guangdong, at the Pearl River Delta, the Xijiang River itself has numerous tributaries, which reached many areas in western Guangdong and throughout Guangxi (see also map 2-1 and map 2-7). Along the river valley, some sites also present dramatic changes in material culture.

Located in western Guangdong near the junction of the Xijiang River and Xinghua River, the Wusaoling cemetery presents burial patterns and pottery similar to those found at Shixia in northern Guangdong. Wusaoling has been dated to c. 2300-1900 BC by six <sup>14</sup>C datasets from the site.<sup>176</sup> The site contains 111 secondary burials in a neat layout. Secondary burial is also a major burial pattern at Shixia. All graves at Wusaoling are northeast-southwest orientated, with the two largest and wealthiest burials in the north east corner (fig. 2-16a), indicating different social status in the society. Pottery was the major burial good. While intact vessels have not been found, tripod feet were discovered in a large number. Some tripod feet were buried within the graves, some were found within the filling earth (fig. 2-16b). It seemed that round-bottomed vessels were not the favourite or the most common types any more, but instead tripod vessels, which appeared in a large quantity at Shixia and the Yangtze valley. The Wusaoling site has also yielded the 'Shixia'-type large picks and perforated shovels as grave gods.<sup>177</sup>

Rice remains and agricultural related tools, which are signs of contacts with the Yangtze valley, have been found at several locations along the Xinghua River, a tributary of the

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<sup>176</sup> For an excavation report and dating information, see Wusaoling 1991.

<sup>177</sup> See Wusaoling 1991.

Xijiang River in western Guangdong. The major locations include Kuniangang, Jiuwuhoushan, Beihoushan and Siwen. Rice remains from sites along the Xinghua River have been seen in a variety of contexts, such as rice husk in ceramic tempers, food residue in ceramic vessels and burnt soil filled in burials. Sites in this region have been dated to around 2000 BC.<sup>178</sup> In the area of the Xinghua River, the characteristic *cong* tubes have also made their appearance, at a burial carbon dated to 2200 – 2000 BC in the Lumei County.<sup>179</sup>

Several sites with a history of long occupation in western Guangxi, the upper reach the Xijiang River, also show changes in their subsistence strategies in the later phases of the occupation. Located in northwest Guangxi by the Hongshui River, a major tributary of Xijiang, the Dingsishan site has traces of occupation from 6000 – 2000 BC.<sup>180</sup> In phases I – III, dated to 10000 – 7000 BC,<sup>181</sup> shell deposits are as thick as 150 cm at the site,<sup>182</sup> indicating a heavy dependence on aquatic resources. However, phytoliths of cultivated rice started to appear among the remains of the last phase (phase IV, dated to 2500 – 2000 BC).<sup>183</sup>

In southwest Guangxi, an excavation has revealed a 400 m<sup>2</sup> area which had not been disturbed before and contained traces of long occupation during the third and the second millennium BC at Gantuoyan. Carbonized rice grains appeared in a later phase (c. 2000 – 1290 BC)<sup>184</sup> of the site. The site also yielded well-polished adzes and ploughs (fig. 2-17) in phase II where rice remains have been found, in contrast to larger numbers of chipped stone implements in phase I.<sup>185</sup>

In general, the material culture in the Lingnan-Fujian region in the third millennium BC appears to be more elaborate than in earlier times and the emergence of new technological and cultural elements demonstrate close links with the societies in the Yangtze valley. The distribution of these sites illustrates an interregional network based

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<sup>178</sup> See Xiang Anqiang and Yao Jinhong 2006.

<sup>179</sup> This seems to be an 'isolated' burial near Wusaoling, corresponding to the later stages of the Wusaoling cemetery. Besides the *cong* tube, this burial has also yielded one *yue* axe, one perforated ring-rod vessel and one duo stemmed vessel, which all have parallels at Shixia in northern Guangdong. See Lumei 1985, Xinghuahe 1989 and Allard 1997, p. 45.

<sup>180</sup> See Dingsishan 1998 and Zhao Zhijun *et al* 2005.

<sup>181</sup> Dingsishan 1998.

<sup>182</sup> Dingsishan 1998, p.13.

<sup>183</sup> Dingsishan 1998.

<sup>184</sup> Gantuoyan 2003, Zhang Chi and Hung Hsiao-chun 2010.

<sup>185</sup> Gantuoyan 2003.

upon mountain passages in the north and waterways along the southeast coast of China, as well as river valleys in the inland of the region. There seems to have been active interregional contacts between the Yangtze valley and the Lingnan-Fujian region since the third millennium BC and the technologies and material culture from the Yangtze valley were major stimulation of the changes in the Lingnan-Fujian region.

#### **IV. Tenuous connections between the ‘core’ and ‘margin’**

Though signs of contacts with the Yangtze valley are widely seen in the Lingnan-Fujian region, especially along the coast and major river valleys, the map of transmitted technologies and material culture, as addressed above, shows more details than that. First, the transmission of technologies and material culture from the Yangtze valley to the Lingnan-Fujian region came with very long time lags. Second, while the Yangtze valley was an undoubted source and stimulus, the numbers of sites in the Lingnan-Fujian region with transformative changes were limited. Instead, details in archaeological finds from this area weigh more heavily the local modification of imported products and designs, as well as the retaining of local life style.

As discussed above, social development of societies in the Yangtze valley and those in the Lingnan-Fujian region, as represented by material cultural remains, seem not in the same episode for a long time. In other words, these two regions were not maintained by contemporary communications or flows of products – while the societies in the mid-lower Yangtze valley were having long experiments on rice cultivation and gradually achieved a sedentary life within large-scale settlements, people in the Lingnan-Fujian region seem not aware of all these significant changes on the other side of the Nanling Mountains at all until the third millennium BC. Some sites in the further south even experienced these changes as late as the second millennium BC. For instance, cultivated rice only appeared at Gantuoyan in Guangxi in phase II of the site (dated to 2000 – 1290 BC). Therefore, there may not have always been effective communicative routes or mechanisms between the two regions and not every area in the Lingnan-Fujian region was involved in the network. Local reactions to interregional contacts seem to have been greatly delayed by geographical barriers and the Lingnan-Fujian region (at least part of it) was, for a long time, outside the reach of the possible stimulation from the northern side of the Nanling Mountains.

### **i. Local traits on jade from the Lingnan-Fujian region**

As addressed above, changes started to take place in the third millennium BC, probably as a result of the penetration through the Nanling Mountains and travelling along the southeast coastlines. However, it seems that strong interactions between these two southern regions, which may lead to transformation in an area, are not supported by archaeological finds so far. As mentioned above, three major signs of interregional contacts with the Yangtze valley societies have been discovered - novel pottery types, jade artefacts and cultivated rice remains. However, it seems that Shixia, deep in the southern range of the Nanling Mountains, is so far the only reported site in the whole Lingnan-Fujian region, which show all three changes simultaneously. These three elements, which were also the major characteristics of material culture of the Yangtze societies, have so far not been seen together at other sites in the Lingnan-Fujian region. At the nearby Chuangbanyang site where *cong* tubes made of stone were found, there are no signs of tripod vessels or rice remains. At the well-planned late Neolithic cemetery Wusaoling in western Guangdong, pottery and stone implements that are similar to those from Shixia were found, but jade artefacts are absent at this site. It thus seems that these elements were not transmitted and adopted in the south side of the Nanling Mountains as a whole package, but encountered different local selective adoption at different sites, as well as information drop-out during the process of long distance contacts. Such a situation is unlikely to have happened if there were direct and continuous contacts or even large-scale migration between the two regions.

Furthermore, even Shixia was not a 'faithful' follower of the Yangtze societies. At Shixia the featuring jade objects demonstrate much local modifications. As discussed above, the jade *cong* tube, as in a typical Liangzhu style, was very likely a result of direct contacts with the Liangzhu society, given its specific shape and surface decoration. However, these jade objects from Shixia and nearby sites in present-day Guangdong are much simpler and rougher than those from Liangzhu, with lower and less reliefs.<sup>186</sup> For instance, a jade *cong* (M105:1) from tomb M105 at Shixia is extremely similar in design to jade *cong* tubes M3:1 and M3:22 from Sidun, as well as jade *cong* tube M198:4 from Caoxieshan, but is, at the same time, much rougher and much less polished (fig. 2-18).

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<sup>186</sup> See Zhu Feisu 1981 & 1999. Huang Tsui-mei 2010.

On jade *cong* tubes from Liangzhu, the pattern of a face with two large eyes is a reoccurring major feature, which may have carried important messages or value within the Liangzhu society. However, such an important feature was much simplified (or even mistaken) in the Lingnan-Fujian region. While the face pattern on jade *cong* tubes from Liangzhu are usually characterised by large eyes outlined by double circles, the face-like motifs on jade *cong* of the Shixia culture are usually characterised by eyes represented by very vague single-lined circles, such as those from the Lumeicun tomb M1 (fig. 2-19a). A short line stretched out of the eye corner, which was a major feature of the Liangzhu faces, was also absent on *cong* tubes found in Guangdong. On a sample from Shixia, it seems that the circles were randomly carved on the tube and can hardly form a typical face pattern (fig. 2-19b). Most scholars thus believe the *cong* tubes were made locally in the Lingnan-Fujian region, rather than imported directly from the Liangzhu cultural region.<sup>187</sup> People on the southern side of the Nanling Mountains did not seem to have paid as much attention to the exact ‘face’ features as the Liangzhu people did, while they were adopting the design. The information or value attached to the specific designs of these products may have, therefore, been either reinterpreted or mistaken, if not completely lost. The jade *cong* tubes and *bi* disks found at Shixia also appeared more worn, with chips and scratches especially at the top and bottom corners, than those from Liangzhu, indicating that the jade from Shixia may have been used as body adornments by the tomb occupants instead of being only ritual objects. The jade artefacts from Shixia and from the Liangzhu, though in similar shapes, are therefore likely to have been used in different ways and carried different ideas.

It is also noteworthy that Shixia, as a representative site of interregional contacts with the Yangtze valley, does not show traces of continuous occupation. Instead, there is an evident gap between the Neolithic remains (2700 – 2200 BC) and the next phase of occupation. The phase II of the Shixia site has been dated to 1800 – 1400 BC and contains cultural remains that demonstrate completely different traits compared to phase I: jade artefacts have not been found, and tripod vessels disappeared while round-bottomed and ring-footed vessels prevailed again. It seems that the connections with the Yangtze valley societies did not continue into the later stage of the Shixia site.

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<sup>187</sup> Zhu Feisu 1999.

## ii. The continuous hunting-gathering economies

Many sites in the third millennium BC Lingnan-Fujian region, especially those in the southeast coastlands, still show strong evidence of continuing hunting-gathering economies, instead of taking up rice farming as a major subsistence strategy. At many sites in the Lingnan-Fujian region, marine resources in the third millennium BC still constitute the major food supply, and agriculture was much less important if not completely absent.

Back in its time (c. 2300 - 1500 BC) the Hedang site, located in the present day city of Foshan in Guangdong Province, was located right at the coast. This prehistoric residential site, covering an excavation area of 10,000 m<sup>2</sup>, has revealed remains of houses, ash-pits and burials and tons of shell deposits, particular in the third layer, dated to c. 2300-2000 BC. Aquatic finds within this layer include species of *Lamprotula* sp., *Corbicula* sp. and Oyster.<sup>188</sup> These remains reach a depth of up to 85 cm at the site and weigh more than a ton. Besides shells, more than 3500 bones of various terrestrial and aquatic animals, including *Elephas* sp., *Babulus* sp., *Sus* sp., *Canis* sp., *Cervus* sp., and *Arctonyx* sp.,<sup>189</sup> have been unearthed from ash pits. These finds thus demonstrate the rich and stable food supplies provided by aquatic resources.

Evidence of food residues that demonstrated living based on fishing can also be seen at sites in Hong Kong. Shenwan is a site located at a bay of the Lamma Island of Hong Kong and dated to around 2200 BC. Excavated in 1970s, the Hong Kong archaeological society has discovered more than 1449 head grunt (*Pomadourys basta*), 228 sea catfish (*Arius*) and also shark's teeth and the chins of red stingray.<sup>190</sup> The <sup>13</sup>C research of 13 skeletons found at the Dongwanzaibei 东湾仔北 site (c. 2000 BC), carried out by the University of British Columbia, shows that approximately 85% of the diet here consisted of marine products.<sup>191</sup> Both Shenwan and Dongwanzaibei have therefore demonstrated a continuous and heavy dependence on natural resources instead of cultivated crops or domesticated animals until the end of the third millennium BC.

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<sup>188</sup> Hednag 2006.

<sup>189</sup> Hedang 2006, pp.105-108.

<sup>190</sup> Li Guo 2002, p. 29. See also Meacham 1978.

<sup>191</sup> See Li Guo 2006, p.187 and Chishole, B. 2002.

The toolkits found at coastal settlements in the south have also clearly indicated major economic activities of hunting, fishing and collecting. As mentioned above, Baojingwan in the Pearl River delta lies on the sea route from the lower Yangtze to the South China coast. People here seem to have been aware of a specific product, the penannular jade ring from Liangzhu and have created their own copies in crystal. However, residents here seem to have been unaware or rejected any farming practice. At the site, more than one thousand stone implements related to boats and fishing have been unearthed from the 500 m<sup>2</sup> excavation area, including 1096 net sinkers and 60 stone anchors (fig. 2-20). Other stone implements found at the site are small adzes and axes, which may have been carpentry tools for boat building, and arrowheads probably for hunting (fig. 2-21). Similar traits are common at many other prehistoric sites over the whole Pearl River Delta and the coastlands of Fujian Province. None of the discovered types of stone tools can be securely related to complex farming activities.<sup>192</sup>

Even at sites that contain remains of cultivated rice, the practices of hunting terrestrial animals and foraging marine resources seem to have continued as the primary methods to procure food. At Tanshishan in Fujian, for instance, marine fauna such as shellfish and fish account for the major portion of the animal remains. A recent study of stable isotopes of human and animal bones also indicates the marine resources were primary component of the Tanshishan diet, suggesting marine foraging still an important subsistence pattern.<sup>193</sup>

Therefore, changes in the Lingnan-Fujian region in the third millennium BC, though significant, seem less transformative than what we thought before. While new elements in technologies and material culture were selectively picked up and adopted, there are strong indications that a large part of the local practices and related material culture, which appeared before the third millennium BC, remained and continued in the Lingnan-Fujian societies. Though it represented a major source of stimulus, the Yangtze valley did not seem to have direct, continuous or overall contact with the southern societies at the south side of the Nanling Mountains. Small groups of people may have occasionally travelled through several passages across the Nanling Mountains or sailed between the Yangtze valley and the southern coastland, therefore the transmission of novel technologies and material culture. However, these 'leaked' technologies and

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<sup>192</sup> Baojingwan 2004.

<sup>193</sup> Krigbaum and Jiao Tianlong 2010, unpublished report.

material culture, after having extended for considerable distances, did not seem to have created any inter-dependence between the two regions, or any continuous and strong links as the before mentioned modifications of objects demonstrate.

As addressed in the introduction chapter, the understanding of the development of the Lingnan-Fujian region has been restricted to two camps: autonomists and diffusionists. However, the archaeological evidence presented in the previous paragraphs suggests that neither is correct, and that a new 'label' to describe the situation is needed. An appropriate term would be the idea of 'margin', as brought forward by Jane Schneider and Andrew Sherratt, in their application and modification of the World-system approach in archaeology. Applying the term 'margin' to the Lingnan Fujian region implies that the changes in the third millennium BC were not a result of simple 'indigenous' development or diffusions, but need to be understood within a larger background, including the existence of a major stimulus on the other side of the Nanling Mountains. Meanwhile, it is necessary to consider the potential of the Lingnan-Fujian societies to have developed independently after an initial transmission episode, without depending relations with the Yangtze societies. These two southern regions in the third millennium BC were not functionally differentiated, as the division between a 'core' as a consumer and a 'periphery' as an exploited resource provider. Instead, the interregional relations of southern China in the third millennium BC were maintained by loose flows of technologies and material culture.

## **V. A Far-flung indirect network beyond southern China**

As shown above, archaeological finds in the Lingnan-Fujian region suggest tenuous contacts with the Yangtze valley societies. However, these contacts seem to have created long lasting 'repercussions' following the initial episode of transmission from the Yangtze valley, and led to the formation of an extensive network beyond the modern Chinese territory. This section traces a characteristic material, the nephrite jade objects, as an indicator of interregional contacts, which extended from southern China to Southeastern Asia. Besides exploring the extent of the network, the following discussion also reveals two features of the network: interregional reactions with long time lags and diverse local modification.

### **i. The wide spread of jade artefacts and shared technologies: an initial push from the Yangtze valley**

It has been discussed above that a developed jade industry was a major characteristic of the societies along the mid-lower Yangtze valley. The Shijiahe and Liangzhu complexes in the Yangtze valley were the major jade-yielding locations in the third millennium BC. The abundant finds of elaborate jade items at these well-developed site complexes indicate interest in and the significant role of jade artefacts in these societies. Some designs such as *cong* tubes and *jue* penannular ring were particularly favoured and characteristic products in the Yangtze societies. The appearance of these particular jade products in the Lingnan-Fujian region, therefore, as discussed in the last section, indicates contacts between the two regions. The interest in jade and the relevant jade process technologies, however, seemed to have spread with a much wider scope, reaching even further to present day Taiwan and Southeast Asia.

Jade industries appeared in Taiwan in no later than 2500 BC and jade artefacts have been recorded at more than 100 sites.<sup>194</sup> Some earliest finds include jade adzes from the early Neolithic site of Dabekeng<sup>195</sup> in northern Taiwan, jade spearheads from Nanganli<sup>196</sup> in southern Taiwan, and jade axes from Yuimei II<sup>197</sup> near Hualian in eastern Taiwan. Jade production in Taiwan seemed to have reached a high period between 1500 BC to AD 1. During this period, jade-yielding sites appeared across the whole Island, including Beinan, Taidong-Liyushan, Laofanshe, Doulan, Mazhuling, Zhangguang, Huagangshan and Yanliao on the east coast; Chula, Eluanbi-II and Pujiangshan in the south; Shuiwaku, Qubing, Damalin, Dapingding, Dongjiao, Qigu and Babao in the central-west; Zhishanyan, Yuanshan, Guizishan and Wanshan in the north (map 2-8).<sup>198</sup> Furthermore, jade became extensively used in various types, including items in the shapes of tools or weapons such as axes, adzes spearheads, arrowheads and knives, and ornaments for instance bracelets and earrings.

Jade artefacts first appeared in Southeast Asia in early 2<sup>nd</sup> millennium BC. In the Philippines, a variety of jade artefacts, similar in style to those from southern China, were

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<sup>194</sup> Jade artefacts have been unearthed from more than twelve sites in northern Taiwan, twenty-four in central Taiwan, sixteen in southern Taiwan, forty-eight down the eastern coast, four in the Penghu Archipelago, two on Ludao Island and three on Lanyu. See Hung Hsiao-chun 2004 & 2008.

<sup>195</sup> Zhang Guangzhi 1969, p.164.

<sup>196</sup> Tsang *et al.* 2004, p.144 & 473.

<sup>197</sup> Liu Yichang 1990.

<sup>198</sup> For summary of the development of jade industry in Taiwan, see Hung Hsiao-chun 2008, pp. 229-236.

discovered in the 1930s.<sup>199</sup> In Vietnam, the earliest jade objects, shouldered adzes and a number of ornaments, are from the Ha Long Culture dating to late 3<sup>rd</sup> millennium BC. The Phung Nguyen Culture sites in northern Vietnam contains some later examples from 2000 to 1000 BC, including small jade axes, adzes, chisels, bracelets, earrings, necklaces and pendants. Jade making in Vietnam reached a peak in the Dong Son culture in northern Vietnam in 500 BC, with a focus on jade earrings especially in burials.<sup>200</sup> Meanwhile, the Sa Huynh Culture in central and southern Vietnam developed a characteristic jade artefact – the penannular earrings with three pointed circumferential projections and double-headed animal ear pendants – which, to date, have not been found in northern Vietnam.<sup>201</sup> In Thailand, a similar variety of jade artefacts, such as earring, bracelets, bead and pendants, has also been seen. Major sites include Nong Nor,<sup>202</sup> Ban Don Ta Phet,<sup>203</sup> U-Thong,<sup>204</sup> Khao Sam Kaeo<sup>205</sup> and locations in the Lopburi area.<sup>206</sup> There was evidently heavy interest in jade objects in an extensive region in Southeast East Asia after the third millennium BC.

An intriguing fact is that some jade artefacts unearthed in Taiwan and Southeast Asia seem almost identical to many items excavated in southern China in both types and shapes (fig. 2-22), with axes, adzes, penannular rings and bracelets being the major categories. The extensive production of similar jade artefacts therefore suggests not only a shared interest in the material, but also the adoption of specific technologies in jade processing. *Jue*, a penannular ring, and *huan* bracelets are the two most widely seen jade ornaments from both Taiwan and the Southeast Asia. Both require sophisticated technologies of drilling and cutting on a material with Mohs's hardness from 6 to 7. So far the most sophisticated example of jade processing in Neolithic period, including drilling and cutting, are from the Liangzhu site complex. A jade *cong* of the Liangzhu

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<sup>199</sup> See Beyer 1948, pp.44-71. Another major find of 350 ornaments, including the 'lingling-o' earrings, bracelets, and beads, were discovered by Robert Fox during the 1960s and 1970s from sites on Palawan Island, see Fox 1970, pp.127-135. The so-called 'lingling-o' earrings are penannular earrings similar to the shape of *jue* in Mainland China. The earrings, found in Southeast Asian were similar to the iron earrings found in the northern Luzon Cordillera region, which are called lingling-o. Beyer therefore adapted the term to refer to his finds. Since then, this term has been used by Southeast Asian archaeologists to refer to a wide range of prehistoric earrings with or without projections found all over eastern Asia. See Hung Hsiao-chun 2008, p. 237.

<sup>200</sup> Hung Hsiao-chun 2008, p. 243-244.

<sup>201</sup> For the detailed chronology of jade usage in Vietnam, see Nguyen 1998, in which he has identified four phases of jade use in Vietnam from 1500 BC to AD 100. For a summary and basic chronology of finds of jade artefacts, see Hung Hsiao-chun 2008, pp. 243-245.

<sup>202</sup> See Higham 2002, p. 149.

<sup>203</sup> See Glover 1996, p.74

<sup>204</sup> See Glover 1996, p.74.

<sup>205</sup> See Bellina 2006.

<sup>206</sup> See Frappe 2000, p.91, pp.101-105.

culture, collected in 1958 and now in the National Museum of China, is 49.7 cm long. With a drilled channel through the whole body, this jade tube demonstrates matured techniques of jade processing (fig. 2-23).

Indeed, archaeological finds have indicated the application of tube drilling technology in the lower Yangtze valley no later than 3000 BC. The Wenjiashan site within the Liangzhu Complex has yielded a split jade *cong*. The grooved lines left on the inner surface of this object show traces of a rotating drill (fig. 2-24).<sup>207</sup> At another site of the Liangzhu culture, the Wujiabu site, the drilled-out core of a jade *cong* has been found (fig. 2-25). The cylindrical shape of the core again indicates the use of a rotating hollow tube in jade processing.<sup>208</sup>

On the other side of the Nanling Mountain, the Shixia site has yielded a *cong* tube (M105:1) from the burial M105, with the leftover cylindrical core inside the tube.<sup>209</sup> Finds of *jue* penannular rings and fitting jade cores have also been reported from Baojingwan in southern Guangdong and Heisha from Macao.<sup>210</sup> According to Deng Cong, there have been more than 20 *jue* ring workshops that have been found around the estuary of Pearl River.<sup>211</sup>

Interestingly, similar finds have also been reported from sites off the southern China coast. The Pinglin site, located in central Eastern Taiwan, is the largest jade workshop site so far found in Taiwan. The site was first excavated in 1929 and later reported by Tadao Kano.<sup>212</sup> Available carbon-14 and thermoluminescence dating from Pinglin have revealed occupation at this site from c.1500 BC to AD 150. A large number of grooved and drilled jade debris were found at Pinglin, including drilled-out cores and incomplete or deficient ornaments and tools (fig. 2-26). These finds suggest the application of similar jade processing techniques as those in southern Mainland China, indicating the existence of communication routes between the two regions over a long time.

Excavations of jade workshop in the Philippines suggest that these technologies may have travelled even further. Early in the 1940s, jade manufacturing debris has already been found in the Batangas region in Luzon and similar drilling technologies as those in

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<sup>207</sup> See Wenjiashan 2011, also Sheng Wenjia 2013, pp.66-67

<sup>208</sup> Sheng Wenjia 2013, p.68.

<sup>209</sup> Zhu Feisu 1999.

<sup>210</sup> Baojingwan 2004 and Heisha 1996.

<sup>211</sup> Deng Cong 1998.

<sup>212</sup> Hung Hsiao-chun 2008, p. 264.

Taiwan have been observed.<sup>213</sup> At Anaro on Itbayat, half way between Taiwan and the Philippines, recent excavations revealed a jade workshop dated between 500 BC and 1 AD.<sup>214</sup> The drilled-out jade cores of different sizes and grooved jade debris unearthed here also suggest similar drilling and cutting technologies as those applied in southern China and Taiwan.

The wide spread of similar products and by-products, for instance cores removed from these jade items, seem to suggest a transmission of interest in jade material and of the basic technologies of jade processing in an extensive area. In the development of jade industry off southern China, the technologies and some characteristic designs originally from the Yangtze valley were undoubtedly an important initial stimulus. Indeed, from the 1930s to the 1970s, it was widely believed that the jade ornaments excavated in Taiwan and Southeastern Asia were of materials imported from China, or collected by ancient people from shipwrecks.<sup>215</sup> However, some issues of such a jade network, in which similar technologies and interest were shared, may reveal a more complex situation than a simplified “from Yangtze valley to Southeast Asia” image, as will be discussed in the following section.

## **ii. Time-lags and local variations**

Despite the similarities in technological traits and products, there was at least a 1000-year gap between the flourished Neolithic culture along the Yangtze valley and the high period of jade industry in Taiwan and Southeastern Asia. For instance, jade debris from the aforementioned jade workshop on Itbayat Island of the Philippines has been dated to 500 BC at the earliest,<sup>216</sup> nearly 2000 thousand years later than the Liangzhu societies. Indeed, when jade started to be widely made and used in these further southern regions in the second millennium BC, the Shijiahe and Liangzhu societies had died out long before. Hence it is unlikely that the ideas of certain types of jade artefacts and related technologies were acquired directly from the Yangtze valley by demographic wave. Instead, there seem to be intermittent and indirect waves of technologies and ideas of particular designs reaching the vast southern region after the initial push from the Yangtze societies. The jade industry off the southern China coast may have been the

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<sup>213</sup> Beyer had compared the ‘hole-boring’ technology as seen on bracelets in Batangas with the drilling technology occurred on jade and shell ornaments at Nanguanli (c. 3000 BC) in Taiwan. Beyer, H. O. 1948.

<sup>214</sup> Hung Hsiao-chun 2008, p. 268.

<sup>215</sup> Miyahara 1993, p.112; Miyamoto 1939, p.41.

<sup>216</sup> Hung Hsiao-chun 2008, p. 268.

result of much ‘delayed’ contacts with the Lingnan-Fujian region, and was even younger than those in the mainland and also much more locally modified. What was ‘picked up’ seems to be merely the technologies and some basic design, while the social information and value attached to local jade products were usually ‘left behind’ in the process of transmission over long time lags.

Indeed, finds of jade artefacts away from the Mainland China suggest that the ideas and technologies of jade manufacture from southern China were widely adopted, yet greatly transformed, over a long period, much in the manner of the selective absorption of ‘transferable technologies’ in Taiwan and the present-day Southeastern Asia. Jade items found in Southeast Asia were similar but evidently not restricted to the typical types, such as axes, adzes, *cong* tubes, *bi* discs and *jue* penannular rings from southern China. Different value of jade products, compared to Mainland China, in these widely separated societies is thus suggested.

Jade *cong* tubes in the Yangtze societies appeared in various sizes with elaborate surface decorations, usually in the context of large and rich burials. However, this product had never been seen in Taiwan or the present-day Southeast Asia. Instead, jade beads, bracelets, and a penannular ring termed ‘lingling-o’ were widely seen in archaeological contexts outside of the present-day Mainland China.

The Beinan site, located in eastern Taiwan, is a representative prehistoric site outside of Mainland China. During the excavation in the 1980s,<sup>217</sup> remains of a prosperous Neolithic village, dated to 1500 – 300 BC, were revealed from the second phase of the site. It was also in this phase that most finds of jade artefacts were found. The village, however, demonstrates very different characteristics from settlements found in mainland southern China. High earth mounds and altars as well as large pit tombs as seen at the Liangzhu site complex are absent at Beinan. Instead, stone pillars and slates are the major remains of building materials, and the cemetery of the village is characterised by stone coffins, which are absent at Liangzhu. Jade artefacts was found both in habitation and burial contexts at Beinan but the whole assemblages have very little in common with those found in southern China. Major jade types at Beinan include bracelets, beads in various shapes, adzes and simple round penannular rings. These types were also

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<sup>217</sup> The site was first discovered and excavated by Japanese archaeologist Torii Ryōzō in the late 19<sup>th</sup> century and re-excavated by Taiwan Scholars Lian Zhaomei and Song Wenxun in the 1980s. See Beinan 2004 and 1987.

extensively distributed in a vast area in the present-day Southeast Asia, off the southern China coast.

In the Philippines, jade bracelets of similar dimensions as the Taiwan ones have been unearthed from Nagsabaran and Duyong caves, dated to the end of the first millennium BC.<sup>218</sup> Bell-shaped beads, which are identical to those from Beinan have been found from Kay Daing at Calatagan in Batangas, in the present-day Philippines.<sup>219</sup> The Calatagan and the Tabon Cave complexes, especially in Manunggul, Rito-Fabian, Tadyaw, and Uyaw caves in the Philippines, have also unearthed numerous green jade beads.<sup>220</sup> These finds of jade in a range of locations off the southern China coast demonstrate an interest in jade artefacts which were less popular in southern China and also a variety of contexts, from coastal habitation, burials to cave sites.

In the first millennium BC, the appearance of *lingling-o*, a penannular jade ring, significantly distinguished the jade manufacture system in Taiwan and Southeast Asia from the one of Mainland China (fig. 2-27). Besides the basic form of a penannular jade ring, *lingling-o* usually came with three or four circumferential projections in different shapes on the ring. The three-pointed *lingling-o* is the most widespread form of jade ornament in Southeast Asia, with examples being reported from Jiuxianglan and Lanyu Island in eastern Taiwan, Batangas,<sup>221</sup> El Nido and the Tabon Caves in the Philippines;<sup>222</sup> Niah West Mouth in Sarawak in Malaysia,<sup>223</sup> Go Ma Voi, Binh Yen<sup>224</sup> and Go Mun<sup>225</sup> in central Vietnam; Giong Ca Vo<sup>226</sup> and U-Thong in central Thailand,<sup>227</sup> Khao Sam Kaeo in southern Thailand<sup>228</sup> and Samrong Sen in eastern Cambodia.<sup>229</sup> All of these exquisite ear ornaments share very close similarities in style, size (being about 3.0-3.5 cm in diameter) and manufacturing technology. Indeed, besides the same interest in jade material and the application of a basic form of a penannular ring, these *lingling-o* rings found in Southeast Asia show much local modification. It is, therefore, difficult to attribute these products as part of the jade manufacture system that originated in

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<sup>218</sup> Hung Hsiao-chun 2008, p.252.

<sup>219</sup> Hung Hsiao-chun *et al.* 2004.

<sup>220</sup> Hung Hsiao-chun 2008, p.253.

<sup>221</sup> Beyer 1948.

<sup>222</sup> Fox 1970.

<sup>223</sup> Chin 1980, p.11.

<sup>224</sup> Hung Hsiao-chun 2008, p. 256.

<sup>225</sup> Reinecke *et al.* 2002. p.126.

<sup>226</sup> Hung Hsiao-chun 2008, p. 256.

<sup>227</sup> Hung Hsiao-chun 2008, p. 256.

<sup>228</sup> Bellina 2006, p.95.

<sup>229</sup> Loofs-Wissowa 1982.

southern China. The appearance of the *lingling-o* rings is a result of local development of the use of jade material, which is completely independent from the traditional design system in southern China.

In other words, the designs of and ideas attached to jade products had been ‘melted down and re-carved’<sup>230</sup> at the other end of this extensive southern network during a long time lag, suggesting non-linear development and discontinuous contacts between this region and southern China. Jade *cong* and *bi* from the Shixia, and *jue* from Southeastern Asia, though in the similar shapes as those from the Yangtze valley, have already lost their original messages and incorporated local ideas and values instead. The distribution of jades in the southern regions since the 3<sup>rd</sup> millennium BC, therefore, reveals a far-flung interregional network stimulated by but not dependent on the Yangtze valley, within which the basic technologies and design were widely adopted.

### **iii. A local jade network beyond the southern China coast**

A recent find of jade resource in Taiwan has further revealed the development of a jade network that was, after the initial episode of technology transmission, independent of Mainland China. The discovery of the Fengtian jade deposit in Taiwan provides important evidence.

The Fengtian site in Taiwan has long been forgotten as a nephrite deposit. The site was originally exploited by the Japanese during World War II for its asbestos, which is a common concomitant of nephrite. However, it was not until 1965 that a geological team of the National Cheng Kung University of Taiwan excavated this area and noticed a rich nephrite deposit along the east coast of Taiwan, from the present-day Hualian city to Taidong city (map 2-8). Fengtian, located at the south of Hualian, was a major quarry. Nephrite from this deposit was mainly composed of tremolite-actinolite amphiboles with zinc bearing chromian-spinel inclusions.<sup>231</sup> Following the discoveries of the geological team, the site had been a major hotspot of jade mining until 1983, when the deposit was nearly drained.

From 1999, a number of researchers have applied various techniques to explore the source of jade material used in Southeast Asia. The leading scholars include Hung Hsiao-

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<sup>230</sup> See Sherratt 1995, p.20.

<sup>231</sup> Hung Hsiao-chun 2008, p. 236.

chun, Wang Lee Chih-ming, Yui Tzeng-fu and Yoshiyuki Iizuka and major methods used include X-ray diffraction, oxygen isotope analysis and electron probe micro-analysis. Since 1999, 42 jade artefacts from 17 sites in Taiwan and 12 artefacts from 5 sites on adjacent islands, as well as raw materials from the Fengtian source have been examined and compared.<sup>232</sup> The results show that all samples were within the composition range for Taiwan nephrite. Both the jade artefacts and the Fengtian source rocks are consistent with respect to the chemical compositions of the matrices and the mineral inclusions. These results suggest that east Taiwan was a major source for all of the nephrite artefacts analysed so far from Taiwan. Outside Taiwan, 73 artefacts from 16 sites in Southeast Asia (Batangas Islands, Luzon, Palawan, Sarawak, central Vietnam, and southern Thailand) have also been confirmed as made of Taiwanese nephrite.<sup>233</sup>

This groundbreaking study on the origins of nephrite jade further demonstrates local jade production in Taiwan and Southeast Asia, with a major raw material source at Fengtian, Taiwan. There may have been itinerant jade miners and craftsmen, who travelled and carried with them nephrite raw material and jade processing techniques. These people crossed the modern cultural or political boundaries in the south, including the present-day Taiwan and Southeast Asian countries, and brought jade raw material from Taiwan to workshops on the Philippines Islands, Borneo, eastern Thailand and eastern Vietnam (fig. 2-28), where the raw material was made into artefacts that suit the local need. It suggests that a local jade network had been generated outside of southern China, after the initial episode of transmission. Within this network, except the basic technologies required in jade manufacture and some basic shapes from southern China, the circulation of raw material and the development of local designs for local markets were already independent of southern China.

Following the finds of jade artefacts distributed across the whole southern region, from the Yangtze valley in mainland China to Southeast Asia, a long-term interactive network of transmission of jade making from 3<sup>rd</sup> millennium BC onwards is noticeable. The high levels of jade processing skills and some very specific shapes such as jue, bi and cong are very unlikely to be invented and developed independently more than once in different places. The jade industry and, especially, the use of specific shapes of jade in regions off the southern China coast indicate, therefore, an initiating yet distant stimulus from

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<sup>232</sup> Hung Hsiao-chun 2008, p. 236.

<sup>233</sup> Hung Hsiao-chun 2008, pp. 236-246.

southern China, especially the Yangtze valley. Societies in this region reached their peak in jade industry more than 1000 years ahead of those in the further south and had created a wide range of jade processing technologies and object shapes that were adopted and modified in the following millennia. Finds of jade in the area south of the Yangtze valley, including the Lingnan-Fujian region and the vast area off the southern China coast, did not deviate much from the several basic forms and related technologies. This demonstrates that the Yangtze region acted as distant (both in time and space) yet important stimulus.

However, the long time lag between the development of jade industries in southern China and the further southern region, Taiwan and the Southeast Asia, suggests that there may not have been direct and depending relations between these regions, but intermittent waves and tenuous contacts via many different societies over a long time. The exploitation of raw nephrite material from Taiwan has further suggested the emergence of jade industries in the further south, which were independent of the development of Mainland China.

## **VI. Conclusion**

By tracing three materials that were widely transmitted in the Neolithic southern China, pottery, rice and jade, this chapter has demonstrated an extensive interregional network in the south which was not restricted to the modern political and culture boundaries of China. The details in archaeological finds have also shed more light on the mechanism of this network.

The societies in the mid-lower Yangtze valley reached a peak in the third millennium BC, featuring large-scale settlements and elaborate material culture. Technologies and material culture from these societies then had great impacts on societies in the further south. In the third millennium BC, cultivated rice appeared, as well as diverse pottery and jade objects, which share many similar features with the Yangtze societies. The distribution of similar jade artefacts in Taiwan and Southeast Asia suggests that the technologies and material culture that prevailed in the Yangtze valley had even reached areas beyond the modern Chinese territory. Through the technologies and material culture they created the Yangtze societies acted as a major stimulus of this extensive interregional network. The repercussions created by these interregional contacts reached

much further than the actual boundary of the Yangtze societies and lasted significantly longer than their own existence.

Details in archaeological finds in the vast south further demonstrate how this extensive network functioned. Indeed, such a network was much looser than previously thought. As a major stimulus, societies along the middle-lower Yangtze valley may not have had direct contacts or control with the further south. Interregional relations in this period seem to have been maintained by occasional and loose flows of materials and technologies, in which different elements of information and ideas may have been lost or adapted into local conditions or needs. Tripod vessels which were closely related to the farming societies along the Yangtze valley appeared on the south side of the Nanling Mountains, but never fully took over the place of the prevailing round-bottomed and ring-footed pots. Rice farming sites emerge scattered in the Lingnan-Fujian region but previous subsistence strategies continued at most coastal sites. Jade artefacts were highly popular in the further south but shapes, decoration and use contexts all much differed from their prototypes in the Yangtze valley or even appeared long after their 'prototypes' died out in the Yangtze valley. These details, revealed in archaeological finds, clearly suggest both links and separations in the interregional relationships in the vast south. In other words, the extensive southern network of this period functioned via tenuous contacts between different groups of people, in which elements in material culture and technologies in the initial package may be 'picked up' or 'left behind' in one place, then transmitted to another in intermittent 'waves'. Therefore it appears as a 'patchwork' of cultures in southern China, instead of a wholesale transformation in the third millennium BC. Lacking direct, continuous and instantaneous contacts, this extensive southern network features a core-margin relationship, as termed by Andrew Sherratt, with a stimulus further north.

The extent of the network, which has exceeded the modern territories, is also challenging our understanding of the role of southern China. There have obviously been much more active interregional contacts in the south, crossing the biggest mountain range in Mainland China and extensive sea areas off the southern coast, and various local responses to different material culture can be seen over a long term. Such a situation greatly alters the impression of southern societies as being a passive recipient of material culture and technologies transmitted from the north, as addressed in traditional historiography. Comparing to previous studies that merely pointed out 'arrows' of

material transfer, details in material culture have revealed how these southern regions were related. From then onward, the routes between the two sides of the Nanling Mountains, complemented by the newly developed technologies and material culture, ensured continuing participation in a growing network. The changes that were brought to the southern network in the next millennium by two major novel technologies and their distinctive products, will be the subject of the next chapter.

## Chapter III The negotiated periphery and margin in the second millennium BC

### I. Introduction

This chapter concerns the changes in structure and scale of the southern China interregional network in the mid second millennium BC. In this millennium, two significant achievements in material technologies and related products appeared – bronzes and high-fired ceramics. The introduction, transmission and application of these two technologies in both the north and the south brought in a whole range of new products and designs to participating societies. Examination of the ways in which new technologies and products were adopted and modified in different regions helps to reveal the structure of the interregional network of this period.

Bronze is an alloy of copper, tin and lead. The extensive use of bronze took place in the Yellow River basin and was closely related to the appearance of political power in the north. The Shang society, which rose in the mid second millennium BC in the Yellow River basin (the present-day Henan Province, see map 3-1), was a great manufacturer and consumer of bronzes. Bronze was made into weapons, tools, chariot fittings and vessels, as well as played an important role in many ritual contexts in the Shang society.

Zhengzhou and Anyang are two major Shang sites, which have been excavated and regarded as capital cities, relatively representing an earlier and a later phase of the Shang (map 3-1).<sup>234</sup> Both sites have yielded large-scale construction<sup>235</sup> (fig. 3-1 & 3-2) and a large

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<sup>234</sup> The Zhengzhou site represents the Shang culture in the Erligang period (c.1600 – 1300 BC), which is named after a type-site Erligang excavated in 1952 and 1953 in the present-day Zhengzhou city. The Zhengzhou site has been regarded as an early Shang capital. The site has been divided into two consecutive levels: the Lower Erligang (c. 1600 – 1415 BC) and the Upper Erligang (c. 1450 – 1300 BC). For general surveys of Zhengzhou, see Henan 1994, pp.181-204; and Zhengzhou 1993 & 2001. The Anyang site, which is located in the very north of the present-day Henan province and named after the nearby modern city Anyang, has been regarded as the last capital of the Shang from around 1250 – 1046 BC. See Xia-Shang-Zhou 2000, p.88.

<sup>235</sup> The Zhengzhou site covered an area of around 25 km<sup>2</sup> and was surrounded by massive rammed-earth walls, which were 36 metres wide at its base and nearly 7 km long, enclosing an area of 3.2 km<sup>2</sup>. Inside the city wall massive rammed-earth building foundations were found covering an area of more than 40,000 m<sup>2</sup> in the north-east part of the city, which may have been a palace or ritual complex. The remains of many smaller buildings, workshops and cemeteries were discovered just outside the city walls. See Zhengzhou 1995, 1: 1-8. The Anyang site, contrary to the Erligang site, yielded no remains of any wall surrounding it. However, the whole site still covers an area of 36 km<sup>2</sup> with an area of palaces and ancestral shrines (the Xiaotun building foundation) in the centre of the site. For a detailed layout of Anyang, see Yinxiu 1994.

number of bronzes in different contexts,<sup>236</sup> suggesting a flourishing bronze industry. The Shang dynasty has been generally regarded as a peak of the Bronze Age in China, as they developed a mature bronze industry and bronze played a major part in the material culture of the time.

Bronze objects appeared in the south of the Yangtze only slightly after the mid second millennium BC. Significant finds of bronze assemblage were discovered at several major sites on the south bank of the Yangtze, such as the Wucheng walled city site, the Xin'gan tomb in present-day Jiangxi, and the Ningxiang area in present-day Hunan.<sup>237</sup> Going upstream along the Yangtze, more striking finds of bronze objects have been unearthed from the site of Sanxingdui in the present-day Sichuan province. Here, two pits have yielded more than 1,000 pieces of bronze objects, most of which appear in shapes that have never been seen anywhere else before.<sup>238</sup> More scattered and minor finds were made in the lower reach of the Yangtze in the present-day Zhejiang province (map 3-2). Tracing and examining these finds in the south will allow us to reconstruct an extensive interregional network of bronze technology and culture, as well as the role of southern China in this network.

Another novel technological achievement of this period is the creation of high-fired ceramics. As mentioned in the introduction chapter, the manufacture of high-fired ceramics is the result of a specific range of technologies, which involves knowledge in clay choosing, kiln building and kiln temperature and atmosphere controlling. These technologies were not achieved in Europe until the 16<sup>th</sup> century. However, this technology was already developed and products widely distributed in southern China no later than 1200BC.<sup>239</sup>

Numerous kilns appeared along the Yangtze valley in the second millennium BC, as well as a particular kiln structure – the dragon kiln. This kiln features a tunnel chamber, which is situated on a slope and has more than one intake of firewood along the tunnel. The inclination of the kiln helps to achieve a higher firing temperature, while the tunnel

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<sup>236</sup> Three hoards containing in total 28 bronzes, which weigh more than 500 kg, have been unearthed from Zhengzhou. See Zhengzhou 1999. At Anyang, the only un-looted royal tomb found intact, the tomb of Fu Hao, contained 468 bronze objects weighing 1625 kg, in various types and shapes. See Fu Hao 1980.

<sup>237</sup> For excavation reports, see Wucheng 2005, Xin'gan 1997 and Xiang Taochu 2009. Finds at these three sites/locations will be examined with more details in the following sections.

<sup>238</sup> For excavation report, see Sanxingdui 1987 and 1999. This site will be discussed with more details in the following sections.

<sup>239</sup> For an overview of the development of high-fired stoneware in China, see Kerr and Wood 2004, pp. 122-32, 348-52. More discussion will be given to this subject in the following sections as well.

chamber of the kiln leads to a much larger production capacity. The large output of these southern kilns may not have only served the local need, but also the market in the north (table 3-1 and map 3-3). While the north had the leading bronze technology and culture, it seems that the flourishing ceramic industry in the south reveals another side of the story of the interregional network in this period.

The development of a new technology and the introduction of related products would usually lead to the exploitation of new resources, the appearance of new places of production, new trading routes and new markets. By examining the distribution of bronzes and high-fired ceramics in both the Yangtze valley and in the Lingnan-Fujian region, this chapter argues that the introduction, adaptation and transmission of these new technologies, products, as well as material culture, have put southern China into a more extensive and intensive interacting network. This chapter also examines local variations of the two new products in the second millennium BC southern China, in order to reveal the roles of both regions of southern China and their responses within a larger network. I shall argue that societies along the Yangtze valley were playing a more interactive role in such a network than in the previous period. However, the Lingnan-Fujian region remained in a marginal position, featuring responses with long time lags and local variations.

## **II. Changes in the Yangtze: The negotiated periphery**

The large Neolithic site complexes, such as Liangzhu and Shijiahe, seem to have died out at the end of the third millennium BC. Large settlements, however, appeared again in the second millennium BC in the Yangtze valley, with completely different technological and cultural features. This section introduces the major sites in the Yangtze valley and their material culture – Wucheng, Xin'gan and the Ningxiang region.

The Wucheng site was excavated on the Ganjiang River in the present day Jiangxi province in 1973 (map 3-1) and dated to c. 1500 – 1100 BC.<sup>240</sup> It is located to the south of the Boyang Lake, a major 'impound' lake of the Yangtze. Excavation work in the following years (lasting until 2005) has shown a large-scale walled site with a well-planned layout. The site covers an area of 4 km<sup>2</sup>, including the ruins of kiln districts in the northwest, smelting workshops in the northeast, residential areas in the south, and a

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<sup>240</sup> For an archaeological report, see Wucheng 2005.

sacrificial altar located in the centre of the site (fig. 3-3). A ceremonial precinct has been identified in the centre of the enclosure, consisting of a red-soil platform, well-constructed roads and the foundation of a large building indicated by a group of more than 100 postholes. Graveyards have been found outside of the southwest city wall. One of the most remarkable finds at Wucheng is that it contained the earliest dragon kiln construction discovered to date, and remains of high fired and glazed ceramics which can be dated back to c. 1250 BC. Besides the large quantities of pottery with impressed geometric designs and a small amount of technically sophisticated glazed and high-fired ware, Wucheng had also yielded evidence of bronze casting, in the form of bronze weapons and many clay and stone moulds for casting tools and weapons (fig. 3-4).

Wucheng was not the only find of this kind in this region. Sixteen years after its discovery, a rich tomb was discovered on the bank of the Ganjiang River at Xin'gan, approximately 20 km away from Wucheng.<sup>241</sup> This find again attracted wide attention to this region. The tomb measures roughly 8 x 3 m and contained 356 pieces of ceramics (including 139 intact vessels), 50 bronze vessels, 4 bells, more than 400 bronze tools and weapons, and a total of 1027 pieces or sets of jades. Such a rich deposit has made the Xin'gan tomb the second richest among all found-intact burials in China dated to second millennium BC, with the Fu Hao 婦好 tomb at the Shang capital Anyang being the richest. The tomb occupant of Xin'gan, however, remains a mystery.

The Ningxiang region, located in northern Hunan, was another scene of spectacular discoveries in southern China, with finds of elaborate and large size bronzes dated to the late second millennium BC. This region is located to the south of another drainage lake of the Yangtze, the Dongting Lake. From the 1930s onwards, bronze vessels as well as bronze musical instruments, for instance *nao* bells (fig. 3-5a),<sup>242</sup> have been unearthed from the region of northern Hunan and southern Hubei. Besides, the Ningxiang region has also yielded a number of bronze vessels, which have shown strong regional characteristics (more detailed discussion will be given below). Some of the most famous

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<sup>241</sup> For an archaeological report, see Xin'gan 1997. Some scholars have used the absence of coffins and scarcity of human remains to argue that the Xin'gan find was not a tomb. The issue is difficult to resolve given the state of preservation of the deposit. For discussion see Sun Hua 2006, pp.337-352.

<sup>242</sup> *Nao* is a large clapperless bell with a long bar-handle. *Nao* bells were usually mounted mouth-upward on a hollow stem and struck on the exterior. *Nao* was the most common bell type in the south and they were usually made in massive size and well decorated. Some *nao* have also been found at Shang sites for example from Anyang. But *nao* bells found at Shang sites were minor artefacts comparing to bronze vessels and were usually in much smaller sizes and much less well decorated. See Bagley 2006, p.209 and Falkenhausen 1994.

bronzes from China, including the four-ram *zun* (fig. 3-5b),<sup>243</sup> the *fangding* (fig. 3-5c)<sup>244</sup> with human face pattern and the tiger-human *youn*<sup>245</sup> (fig. 3-5d) were all unearthed in this region. These bronzes are remarkable because they are of large size and have demonstrated elaborate designs, which both require mature casting technologies. The four-ram *zun*, for instance, is 58.3 cm in height and weighs 35 kg. Four ram heads with curly horns were seamlessly attached to the vessel body and various decorative patterns such as bird pattern, leaf pattern and *yunlei* cloud-liked pattern were placed on the whole surface of the vessel. Most finds seem to be deposits instead of burial goods and sometimes appear as a single item deposit.

These southern sites/locations in the Yangtze valley mentioned above have presented not only large-scale constructions, which would have demanded large and well-organised population, but also elaborate material culture, which contained the two highest technological achievements of their time – bronzes and high-fired ceramics. Moreover, none of these sites or their occupants have been recorded or mentioned in traditional written history. These finds in the south are beyond traditional historiographic understanding of southern China and have been challenging our understanding of southern China since the last century. The following examination of these ‘high tech’ products in the south will reveal that the emergence of these large sites and their material culture in the south were not isolated events, but the result of an extensive interregional network, in which the Yangtze valley societies played an interactive role.

### **i. Tracing the bronze network**

This section examines the diverse bronzes in the south, and argues that southern China was an active participant within an extensive multilateral network. The distribution of similar *ding* vessels in south of the Yangtze indicates contacts with the Shang. The southern features demonstrate the local response to this new technology and material, while the distribution of these features suggests that the Yangtze valley was heavily involved in an extensive bronze network outside of the central Shang region.

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<sup>243</sup> A type of vessel in a round or square vase-like form, usually with a flaring lip and angular shoulders. Bronze vessels that are in the shape of an animal are also named as *zun*.

<sup>244</sup> *Fangding* literally means ‘square tripod’ in English. However, it is a cooking vessel or food container with a rectangular box resting on four instead of three legs.

<sup>245</sup> This is a lidded vessel with round or ovoid in horizontal section, usually with handle in the form of a loop.

### a. *Ding* vessels – contacts with the Shang

As mentioned above, the Shang society in the Yellow River basin was a major producer and consumer of bronzes. However, the Shang's power may not have been restricted to the Yellow River basin and they may have taken the initiative to make contact with the south. A Shang-typed walled site just at the north bank of the Yangtze, the Panlongcheng site, suggests such south-reaching power of the Shang.<sup>246</sup>

Panlongcheng can be considered as a Shang site as it has yielded constructions and material remains, which are, to a large degree, identical to the finds of the Zhengzhou site, which has been regarded as the capital city of the Shang from around 1500 to 1300 BC. Two concentric rammed walls at Panlongcheng dated to the upper Erligang period (c. 1300 BC) suggest that the site experienced major and rapid development at this time. The outer walls, which were discovered recently, embrace an area of about 3 km<sup>2</sup>,<sup>247</sup> while the inner walls enclose an area of 0.075 km<sup>2</sup>, which is the centre of the site. Such a concentric, double-ringed structure of the city walls at Panlongcheng is remarkably similar to that seen at Zhengzhou. A large rammed terrace was constructed at the northeast corner within the inner walls at Panlongcheng as the foundation of three buildings. This construction also shows the same orientation – 20 degree of north – as those built at Zhengzhou. Between the inner and outer walls archaeologists have found burials, residential areas, and bronze workshops. The burials here also seem to have resembled those found at Zhengzhou, by adopting the form of rectangular shafts with *yaokeng* and *ercengtai*.<sup>248</sup> Besides the grave forms, bronzes found in tombs and within the city also agree with those found at Zhengzhou. A *yuanding* unearthed from the tomb PLZM2 at Panlongcheng shows an identical appearance as the one from the Xiangyang hoard in Zhengzhou (fig. 3-6). These traits, including the styles and types of bronze artefacts, techniques used in the construction of building foundations and town walls, as well as the layout of palatial structures, have all demonstrated Panlongcheng's close affiliation to the Shang society to the north.<sup>249</sup>

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<sup>246</sup> For an archaeological report, see Panlongcheng 1976 a & b and Panlongcheng 2001. See also Bagley 1977, pp.165 – 219.

<sup>247</sup> Liu Senmiao 2002, pp.12-15.

<sup>248</sup> *Yaokeng* (literally waist pit) is a pit hollowed out in the floor (usually at the centre) of a tomb for the placement of funeral goods or sacrificial animals, for instance dogs. *Ercengtai* (literally the second-staged platform) is a platform built with rammed earth around the tomb shaft walls for funeral offerings or sacrificial human victims. *Yaokeng* and *Ercengtai* are common structure in Shang tombs.

<sup>249</sup> See discussion for Panlongcheng's relations with the Shang in Bagley 2006, see also Panlongcheng 2001,

Regardless of all the possible roles of Panlongcheng and its relations with the Shang,<sup>250</sup> this place was indeed the southernmost reach of the Shang power. The site may have also been a regional hub, given its location by the Yangtze River and in between two major lakes in the Yangtze valley. Both Lake Dongting and Lake Boyang are fed by major southern tributaries of the Yangtze and, therefore, are important junctions to the south of the Yangtze. Panlongcheng was less than 500 km away (and with good waterway connections) from the major bronze-yielding sites in the south – Wucheng and Xin’gan. The establishment of Panlongcheng and its production and use of bronzes may, therefore, have had direct impact on its contemporary southern neighbours, as a source of bronze casting technologies and product designs. Furthermore, Panlongcheng might have acted as a link in the connections between the Yellow river and the wider Yangtze southern region.

Indeed, some bronzes found at Wucheng and Xin’gan have demonstrated striking similarities with many Shang bronzes, suggesting that the societies on the southern bank of the Yangtze were aware of the existence of Panlongcheng and even the further Shang sites in the north, as well as their material culture. The bronze *ding* vessels found at several locations in the Yangtze valley, for example, indicate that these southern societies had acquired the key technologies of bronze casting and some typical designs of the Shang bronzes. Some of these finds will be presented and their relation to Shang bronzes investigated in detail in the following paragraphs.

Featuring a round or square box supported by three to four feet, the *ding* vessels may have been one of the most widely used food vessel in ancient China. When time entered the mid second millennium BC, the Shang society, centred at the Yellow River basin, produced and used numerous bronze *ding* vessels in various contexts,<sup>251</sup> probably as one of the most important ritual vessels. Some finds at major Shang sites, such as Zhengzhou, Anyang and Panlongcheng, have demonstrated some typical characteristics of such Shang *ding* vessels.

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p.493 and Zhang Changping 2014, pp. 51-66.

<sup>250</sup> There has been discussion on Panlongcheng’s roles. Some scholars consider the site a military outpost of the Shang, see Li Feng 2013, p. 63 and Flad and Chen 2013, p. 128, some regard it a colony of the Shang in the south, Thorp 2006, p. 234.

<sup>251</sup> *Ding* vessels appeared in all three hoards in Zhengzhou, in total eleven were found. See Zhengzhou 1999. The only intact Shang Royal tomb, the tomb of Fu Hao, contains thirty-one *ding* vessels. See Fu Hao 1980. *Ding* vessels were also furnishing tombs at Panlongcheng. The largest intact tomb found at Panlongcheng (PLZM2) has contained four *ding* vessels, three with pointed feet and one with flat feet. See Panlongcheng 2001, p.505.

The Shang *ding* vessels mainly occurred in the forms of a round box with three feet (*yuanding*) or a rectangular box with four feet (*fangding*). The shapes of the feet varied from pointed column, or flat sheets, to hollow or solid cylinders. Three *yuanding* have been found at the Xiangyang hoard in Zhengzhou, one with pointed feet and the other two with flat feet (fig. 3-7a). The tomb of Fu Hao, a consort and a capable assistant of the Shang King Wu Ding 武丁, is located in Anyang and has yielded twenty-six *yuanding* with various feet forms (fig. 3-7b). At the far southern reach of the Shang power, Panlongcheng has also yielded thirteen *yuanding* with either pointed feet or flat feet (fig. 3-7c). These *yuanding*, though varying in details in surface decoration and foot forms, possess similar features such as flat folded rims, symmetric upright arched handles, and a box with round bottom.

By comparison to *yuanding* vessels, the *fangding* vessels, which were also very common at Shang sites, often occurred in larger sizes and had more powerful appearances. Eight massive *fangding* as high as 80 cm have been found at Zhengzhou hoards (fig. 3-8a). The Fu Hao tomb has also yielded a pair of 80 cm high *fangding* with four hollow cylinder feet (fig. 3-8b). Part of the walls of these vessels can be as thick as 1 cm and the whole vessel can weigh more than 50 kg. These large *fangding* usually feature flat and folded rims, upright handles with grooves on the outer sides attached to the rims, and cylindrical hollow feet. A circle of decoration featuring unknown animal faces with big eyes is usually placed under the rim. *Yunlei* pattern, string pattern and nail-head pattern are also common ornaments, usually applied on the edges of the vessel body.

Very similar *ding* vessels compared to the Shang ones have been unearthed at Xin'gan and Wucheng. Three *yuanding* vessels with pointed feet from Xin'gan show very similar shapes, sizes and decorative styles to those unearthed at Panlongcheng. They all have flat and folded rims, upright arched handles and a circle of decoration below the rims, featuring unknown faces of an unknown creature with big eyes. *Yunlei* pattern or string lines were applied to the edges of the vessel boxes (fig. 3-9). The basic shape and the surface decoration of a *fangding* from Xin'gan also seem to have come directly from Zhengzhou. The 97cm high large *fangding* unearthed from the Xin'gan tomb, similar to those from the Zhengzhou hoards, is decorated with nail pattern and unknown animal faces featured with large eyes on its vessel body. The similar features between this vessel and the finds at Zhengzhou also include folded flat rims, cylindrical hollow feet and upright arch-shaped handles, as well as the use of nail patterns along the edge of the

vessel box (fig.3-10). At Wucheng, a *yuanding* with cylindrical hollow feet has been found. Though decorative patterns on its surface have already faded and two of the three feet are lost, the vessel still demonstrates typical features that can be seen on a Shang *ding* (fig. 3-11).

These southern counterparts of two major types Shang *ding* vessels indicate that certain Shang bronze types and their values were well recognised in the south. People from Wucheng and Xin'gan clearly knew of the Shang types and used these as a blueprint for their own vessels. These southern societies were, therefore, far from being isolated. Rather the contrary; the manufacture and use of bronzes in the south were very probably stimulated by connections with the north and demonstrate vigorous responses to their northern neighbours in the second millennium BC.

Besides the similar designs, these southern bronzes also show the full repertoire of techniques used by the Shang casters, including the piece-mould casting method. The Shang methods of casting bronzes were very unique. Instead of using the hammering or lost-wax method, as used in metallurgy in many other regions of the world, the Shang people used a piece-mould casting method to make bronzes in various shapes, as well as elaborate decorative details on bronze vessel surfaces. Piece-mould casting requires a set of clay components to form a space, which is the shape of the object, for the molten alloy to flow into and eventually forms an object. If the object to be cast is a vessel, a core has to be placed inside the mould to provide the vessel's cavity (fig. 3-12). Small compartments such as handles and flanges were usually made with separate sets of moulds and then cast and locked onto the vessel body by pours in a sequence.

Therefore, when similar piece moulds for casting bronzes were found at southern sites such as Wucheng and Xin'gan, it suggests that these southern societies applied similar methods and conceived the process of bronze casting in the same way as the Shang people. Wucheng has yielded 57 stone mould pieces for the casting of various objects, including knives, adzes, arrows, spears and daggers (see also fig. 3-4). A *yuanding* (1974QSW: 31) unearthed at Wucheng shows clear marks of a mould and still contains the remains of a clay core mould in its hollow feet. At Xin'gan, rich deposits of various objects also include an intact clay piece mould of an adze (fig. 3-13).

Bronzes from Wucheng and Xin'gan are among the earliest evidence of metallurgy in southern China. These objects appeared in mature shapes and high quality. Together

with piece moulds found at these sites, they clearly suggest the adoption of the Shang ideas and methods of bronze casting in societies to the south of the Yangtze, at least 1000 km away from the Shang central area. The appearance of bronzes in southern China was, therefore, not an isolated event but very probably stimulated by contacts with the Shang society centred in the Yellow River basin. It is also noteworthy that such a bronze industry in the south emerged no more than 100 years after the appearance of some prototypes of the local vessels. Zhengzhou and Anyang, as the two capital sites of the Shang, have been dated to 1600 – 1400 BC and 1250 – 1046 BC respectively.<sup>252</sup> The dates of Wucheng and Xin'gan are later than that of Zhengzhou, but nearly parallel to Anyang, with C14 dates from 1370 – 1070 BC.<sup>253</sup> The finds from these southern sites, therefore, indicate a rather prompt adoption of a whole set of technologies and of precise designs of certain bronze object types. Compared with the distant reactions with long time-lags between the Yangtze valley and the Lingnan-Fujian region, as discussed in the last chapter, the transmission of bronze technologies and culture demonstrates a more efficient and intensive network between the Yangtze valley and the Yellow River basin in the second millennium BC.

The transmission of bronze technologies and culture evidently involved the Yangtze valley into a wider network, in which it was no longer a major and dominant stimulus in terms of bronze manufacture and its use. Instead, the similar designs on bronze vessels and the similar manufacture methods, as indicated by piece moulds, show the southern societies undergoing significant transformations in their material culture as a result of close contacts to an external centre. Therefore, in the case of bronze technology and culture transmission, the Yangtze valley societies acted as a periphery of the Shang society centred in the Yellow River basin.

However, there are some features on these southern bronzes that were never dominant on those unearthed from metropolitan Shang sites, for instance the use of images of animals and human faces. Some vessel types that were not dominant in Shang bronze sets, such as *zun* and *lei*, also appeared widely in the south. These examples indicate that the southern societies were not merely copying technologies and products from the

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<sup>252</sup> The chronological gap between Zhengzhou and Anyang may be filled by a newly excavated location, the Huanbei site, near Anyang. See Thorp 2006, pp.131-3.

<sup>253</sup> Wucheng 2005, pp.409-410 and p.500. Xin'gan 1997, pp.188-192 & pp.238-240. The two major sacrificial pits at Sanxingdui have been dated to c.1300-1200 BC. See Sanxingdui 1987 and 1999.

Shang. Furthermore, these local features also help to understand the role of southern societies when in contact with the Shang.

### **b. Southern features**

The prompt reaction of the southern societies towards the bronze industry in the north is also reflected in the local characteristics on southern bronzes. Their emergence indicates that the south was not a passive recipient within the bronze network. Instead, the societies in the Yangtze valley quickly merged the imported technologies and designs into the local cultural contexts and new designs were made to meet the local need. The following discussion focuses on several characteristics of southern bronzes that do not have parallels at Shang sites and therefore illustrate the local development of bronze working, as well as the ‘negotiating’ position of these societies in the bronze network.

Realistic animal images are widely used on bronzes unearthed from the south of the mid Yangtze valley. Among these are three-dimensional figures of tigers, which are repeated on at least 11 bronzes from the Xin’gan tomb. On the above-mentioned large *fangding* from Xin’gan, which is in most respects identical to the *fangding* from Zhengzhou, two tigers have been added to the top of the handles (fig. 3-10). Similar features are found on the *yuanding* vessels from Xin’gan. While having a round-bottomed body similar to Shang objects, these *yuanding* are also characterised by standing tigers on their handles. Also, the feet of these vessels were in the form of tigers (fig. 3-14). In contrast, the Shang foundries rarely cast bronze tigers or placed them on vessel handles or transformed the images into parts of their vessels. Putting realistic animal images on vessels seems to have been mainly a Xin’gan idea. It seems that the local people, were very well aware of the basic shapes and conventional Shang decoration, but at the same time, they were keen to show their local designs, which belonged to their own ‘ornamental system’.<sup>254</sup>

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<sup>254</sup> Jessica Rawson has, in her paper ‘Ornament and Territory’, discussed the relations between ornament and territory and put forward the idea of ‘ornamental system’. She defines an ‘ornamental system’ as “certain recognisable elements, which craftsmen learn and use and combine following certain rules”. See Rawson 2001. Furthermore, as the learning and using of these elements within an ornamental system can only be processed in specific workshops in the time of craft manufacture, the sustainability of this system may be an effective indicator of a regional culture and tradition, and therefore, to a certain degree, a useful indicator for regional territory as well. “Thus ornament is territorial, as is a language and other aspects of a culture, such as its cooking practices.” Rawson 2001. From this point of view, the local designs as seen on bronzes from the south have evidently indicated a different territory from the Shang as the ‘ornamental systems’ in southern China included very different elements from the Shang. Bronze objects in this region may have played a very different role and been related to distinct local custom from those of the Shang. Rawson 1992.

Ningxiang is another location to the south of the middle Yangtze where numerous bronzes with distinct designs have been found. Two *nao* bells unearthed from Shiguzhai, Ningxiang County, are decorated with images of various animals, one with four elephants, 12 tigers and 12 fish, the other one with two standing elephants (fig. 3-15). A further two *nao* bells, decorated with four tigers were also found at this region.<sup>255</sup>

The most ambitious display of bronze casting technology and design in the south is probably the four-ram *zun*, unearthed in 1938 from Huangcai village in Ningxiang, Hunan. This vessel, based on a conventional square container, is transformed into an organic, life-like form with a ram at each corner. The rams' heads emerge as three-dimensional sculptures, while their chests and front legs appear in relief amid dense spiral and scroll patterns. Incised birds with tall, scrolled crests cover the rams' bodies, while three-dimensional horned dragons project outward from each side of the ram's head. The complex shapes of the four-ram *zun* exemplify the characteristically artful blending of abstract and representational animal motifs used by the Yangtze societies in the second millennium BC, which is impossible to achieve by merely being a faithful 'follower' of the technologies and designs from the north. In fact, there is barely comparable objects to the four-ram *zun* found in the north.

Besides being surface decoration, animal images were sometimes merged into the shape or even the functional part of a bronze. A statue-like bronze tiger with two tails has been unearthed from Xin'gan. On the back of this bronze tiger stands a bird, which is a recurring design on bronzes in this region (fig. 3-16). In the Ningxiang region, bronze vessels in the shapes of different animals, for instance elephant, cattle and pig have been unearthed (fig. 3-17). These are all remarkable finds from the second millennium BC, suggesting distinctive local traditions in the south.

In addition, these southern societies seem to have shown particular interest in the depiction of human faces on their bronze products, instead of the faces of unknown creatures such as *taotie* 饕餮 as seen on many Shang bronzes. The Xin'gan tomb has yielded a double-sided human facemask, which is 53cm height and 22cm wide. This mask is characterised by a pair of horns with a hook-like end decorated with *yunlei* pattern, eyes, nose and ears in large sizes, and exposed teeth (fig. 3-18). The size of this mask

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<sup>255</sup> For a general description and discussion of Ningxiang bronzes, see Xiang Taochu 2006.

suggests that it may not have been used as an actual mask but more likely as a symbolic object, which may have been used in local rituals.

Human faces were also depicted on bronze vessels. A *fangding* from a bronze deposit in the Huangcai County in Hunan is characterised by human faces.<sup>256</sup> This *fangding* is also in a similar shape as the typical Shang *fangding* – upright arch-shaped handles, flat folded rims, a massive body with thick walls and four cylinder feet. However, massive flanges have been added to the four edges of the box. Furthermore, instead of using a moderate band of decoration of unknown creature faces and elaborate *yunlei* patterns as surface decoration, this *fangding* has four human faces on each sides of the box, occupying nearly the whole surface of each side (fig. 3-5). In fact, the interest in realistic human faces seems to have spread widely outside of the central Shang region. This will be discussed with more details in the next section.

Finds of bronzes from the mid Yangtze valley have also revealed local interest on a different bronze repertoire from the typical Shang sets. As mentioned above, finds from the Zhengzhou hoards have demonstrated the Shang's heavy interest in *ding* vessels. The inventory of bronzes of the Fu Hao tomb in Anyang has further impressed people by its sheer quantity, which has made Fu Hao's objects in extraordinary matched sets. Within the tomb 89 *ge* daggers, 31 *ding* vessels, 53 *gu* cups and 40 *jue* cups and 23 bells were discovered. Many of these items appear as pairs or a full set. Among the five *fangding* unearthed, four of them seem to have formed two pairs, as they have the same profile and sizes, as well as the same inscription. The 53 *gu* cups that Fu Hao had also form a compelling set (fig. 3-19), with each *gu* cup in identical profiles and dimensions, though surface decorations vary in details. Bronzes in pairs or sets, therefore, have been suggested as a major feature of the Shang's use of these objects.

Within a typical 'set' of Shang bronzes, food, drinking and water vessels usually appeared to be the major categories, followed by weapons and tools, as seen in the tomb of Fu Hao (chart 3-1). Such 'sets' appeared not only in such large tombs, but also in smaller Shang burials. Tomb M18 in Anyang is of a much smaller size and contains many less funeral goods than the tomb of Fu Hao. It only contains 24 bronze vessels and 18 bronze weapons.<sup>257</sup> However, a typical set of Shang bronze vessels, including drinking

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<sup>256</sup> See Xiang Taochu 2009.

<sup>257</sup> Anyang 1981, pp.491-505.

vessels such as *gu*, *jue* and *jia*, and food vessel *ding*, were still present, though in much smaller sizes. A *jia* cup in the Fu Hao tomb can be as high as 65 cm, while the two *jia* cups from tomb M18 measure only above 25 cm. Other bronzes unearthed from tomb M18 are weapons of only two types, *ge* daggers and arrows, showing the minority of weapons and tools in a typical Shang bronze set.

As a major deposit of bronzes in the south, Xin'gan, however, has revealed very different bronze assemblages compared to Shang sites. The majority of finds at Xin'gan were bronze tools and weapons, while vessels only came second. Also, bronze vessel types at Xin'gan appeared with much less diversity than those from Fu Hao's tomb (ten types of bronze vessels at Xin'gan versus sixteen in Fu Hao's tomb). Drinking vessels like *gu*, *jue* and *jia* cups account for more than half the bronze vessels in Fu Hao's tomb but the Xin'gan deposit contained none of these. However, bronze weapons and tools from Xin'gan far exceeded those from Fu Hao tombs in both numbers and types. At Xin'gan, there were 375 bronze weapons and tools of 29 different types in total. The tomb of Fu Hao, however, only contained 175 bronze weapons and tools in 9 types (chart 3-1 & chart 3-2). The Xin'gan *yue* axe is of high quality and its chevron-bordered jaws give it a definite local flavour, agreeing with the interest in images of human faces as the exposed teeth on the bronze masks were discovered at the same site. This clearly shows that the southern societies treasured very different 'sets' of bronze objects compared to the Shang as Xin'gan demonstrates much more interest in bronze weapons and tools instead of vessels.

Though having adopted some Shang bronze vessel shapes, the 'standard' type or set of the Shang bronzes seems to have been greatly altered in the south. As mentioned above, by adding local designs such as standing tigers or birds on the handle, the southern *ding* vessels have been transformed into local pieces. If a Shang man saw such an object, he would probably not recognise this *ding* vessel as a proper vessel for a Shang ritual ceremony. In a way, the southern societies, though using the same material, have established a different bronze culture from the Shang, by valuing different bronze types differently and by applying local designs. The development of the local interest and designs of bronzes evidently indicate that the southern societies were not simply following the Shang ways of making and using bronzes, or even being parts of the Shang realm. Instead, bronze objects in the Yangtze valley with local designs have played a very

different role and were related to distinct local customs, different from those of the Shang.<sup>258</sup>

The interconnections also worked in the opposite direction. Some of these southern features started to appear in some later Shang bronzes back at the central Shang site of Anyang. Among the *yuanding* with flat feet found at both the Zhengzhou hoards and Anyang, the earlier ones from the Zhengzhou hoard were decorated with stylish images of a dragon, an imagined creature. The slim body and long tail of the dragon were represented on the feet of these *yuanding* vessels (fig. 3-20). Fu Hao's tomb in Anyang in a later period than Zhengzhou, however, has yielded *yuanding* vessels with feet shaped into a much elaborate and realistic image of tiger or bird. 'W'-shaped patterns have been used to represent stripes on the body of tiger, while the end of the flat feet curls up to represent the tiger's tail (fig. 3-21a). Another two *yuanding* (776 & 1150) have shown even more elaborate images of standing birds, with large hook-shaped beaks and curly tail feathers (fig. 3-22). All these features remind us of the strong interest in and similar shapes of animal images used on southern bronzes. A *yuanding* yielded at Xin'gan, in fact, is nearly identical with the tiger-feet *yuanding* from the tomb of Fu Hao, with an additional two tigers squatting on the handles (fig. 3-21b).

Indeed, realistic animal images have appeared on more than one piece of bronze from Fu Hao's tomb. One *zun* and one *you* were cast in the shape of owls (fig. 3-23a), while a bronze *hu* shows the image of rams with large iconic horns (fig. 3-23b). Fu Hao lived in the 13<sup>th</sup> century BC and her time roughly paralleled (or is even slightly later than) the date of the major southern sites such as Wucheng and Xin'gan. The appearance of these distinctive features on bronzes from the tomb of Fu Hao therefore seems to, again, indicate rather quick responses between the Yellow River basin and the Yangtze valley in this period. The Shang people may have even adopted some southern features as late as the last 200 years of the second millennium BC.<sup>259</sup>

It can thus be concluded that the societies in the Yangtze valley in the second millennium BC were playing an active role within a more complex and extensive network, instead of being a passive recipient or imitator within a one-way "the Shang – the South"

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<sup>258</sup> Rawson 1992.

<sup>259</sup> Jessica Rawson has thoroughly examined and discussed the southern features as seen on objects unearthed from the tomb of Fu Hao, as well as the relations between the central Shang region (the present-day Henan province) and the Yangtze valley. See Rawson 1992.

relation. The following section will reveal a vigorous network outside of the central area of the Shang, by examining the distribution of some features as seen on southern bronzes along the Yangtze valley and its tributaries.

### c. The network outside the Shang territory

This section examines the site Sanxingdui in the present day Sichuan province and the finds in the Chenggu-Yangxian region in the present day Shaanxi province, as well as sites in the lower Yangtze (map 3-4). The finds along the Yangtze valley and its tributaries further indicate a bronze network independent in many aspects of the central Shang region.

The bronze *zun* or *lei* vessels<sup>260</sup> were not as favoured as *ding* vessels or drinking vessels such as *gu* and *jue* cups in a typical Shang bronze set. However, the distribution of these vessels maps an interrelated network along the Yangtze. At Xin'gan, while typical drinking vessels in a Shang set, for instance the *jue*, *jia* and *gu* cups, are missing, a bronze *lei* was found. This vessel features a flaring folded rim, wide shoulder and high ring foot with cross-shaped openwork (fig. 3-24). Three strings are placed around the neck and four ram heads on the shoulder. Four flanges on the vessel body have created four decorative panels of face patterns. Vessels of this type have been seen at many sites along the Yangtze Valley and its tributaries.

Going upstream of the Yangtze, there is another bronze-yielding site, Sanxingdui, in the present-day Sichuan province. The bronzes unearthed from there are dramatically different from those from Shang contexts and other southern sites along the Yangtze valley. The site is centred at a walled enclosure built before 1500 BC and abandoned in around 1000 BC and has yielded more than 900 bronze objects from both the walled site and sacrificial pits.<sup>261</sup> Most of the bronze items never appeared anywhere else within the modern territory of China, for instance bronze human figures as tall as 2.6 m and bronze

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<sup>260</sup> Though with different names, both *zun* and *lei* vessels feature a vase profile, usually with wide and angular shoulder and a tapering body just below the shoulder. Flaring lips and high ring foot are also major characteristics of these vessels. *Zun* usually have a more elongated body with a longer neck and higher ring foot. Besides the vase-shaped vessels mentioned here, the same Chinese character *zun* could also refer to vessels in the form of a rhinoceros, a bird or other animals in some contexts. In the next chapter of this thesis on the first millennium BC southern China, *zun* mostly refer to trumpet-like vessels with a flaring mouth, a rounded body and high ring foot. This confusing naming method of bronzes in Chinese archaeology is partly due to the tradition of following antiquity catalogues, which were composed much later than the dates of the objects.

<sup>261</sup> Sanxingdui 1987 & 1999. See also Jay Xu 2001.

trees as tall as 4 m (fig. 3-25). Interest in bronze vessels, however, seems very limited at Sanxingdui. Only thirteen vessels have been unearthed from the two major sacrificial pits and these vessels only occurred in the form of *zun* or *lei*.

These vessels show very similar profiles to those from Xin'gan and the Cheng-Yang region, as well as finds from the lower Yangtze (the Cheng-Yang region and lower Yangtze will be discussed in below), with flaring rims, wide shoulders, tapering bodies and high ring feet (fig. 3-26). Moreover, animal images again appear on these vessels as major surface decorations. All *zun* and *lei* vessels from Sanxingdui have three-dimensional animal figures of bird, ram, tiger or cattle sitting on their wide shoulders. On *lei* K2:159 from pit II, there are four birds sitting on the lower neck of the vessel, while four ram heads were placed at the edge of the vessels' shoulder (fig. 3-26a). On *zun* K1:158, three dragon heads and three tiger heads decorate the shoulder, while the bodies of these creatures were carved on the vessel body with different patterns (fig. 3-26b). The use of these animal images again reminds us of those on southern bronzes from the middle Yangtze valley,<sup>262</sup> while the placement of the figures on the *zun* vessels is similar to those found in the Cheng-Yang region as discussed below.

In the lower Yangtze, finds of bronzes are much more sporadic. Remains of bronze smelting and casting were found at sites such as Beiyinyangying<sup>263</sup> and Dianjiangtai<sup>264</sup> near present day Nanjing city, indicating the existence of local bronze industries. However, the scale of these industries seems to have been much smaller and more "primitive" than those in the middle Yangtze valley.<sup>265</sup> Finds of bronzes mainly consist of small objects, mostly being weapons and tools, such as arrows, fishhooks, spears and knives.<sup>266</sup> Large and elaborate bronze vessels are rare, but *zun* and *lei* vessels dated to the

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<sup>262</sup> For the connections between the Xin'gan bronzes and Sanxingdui bronzes, see also Bagley 1993a, pp. 20-36.

<sup>263</sup> For excavation report, see Beiyinyangying 1993.

<sup>264</sup> For excavation report, see Dianjiangtai 1987.

<sup>265</sup> Bagley 2008, p.174.

<sup>266</sup> Finds of these kinds have mainly been seen in the so-called Hushu and Maqiao cultures around the Lake Tai in eastern China. These two archaeological cultures were both recognised and named in the 1960s but controversy on the naming and definition of both cultures has continued. Such a situation exists to a large degree because Chinese scholars have always been trying to fit these two cultures into a linear sequence of development in the lower Yangtze valley. This began with the earlier Liangzhu culture and continued into the later Wu and Yue states. The lower Yangtze valley was the territory of the prosperous Liangzhu culture back to the 3rd millennium BC in late Neolithic. The Maqiao and Hushu cultures have therefore been expected to show traces of Liangzhu culture remains. However, these two archaeological cultures in the late 2nd millennium BC in fact show very little connection with the Liangzhu culture, which was prosperous nearly 1000 years earlier. They appear to be another metal-using society within the extensive network of metallurgy transmission in 2nd millennium BC China.

late second millennium BC are also present. A bronze *lei* (fig. 3-27) unearthed from Jiangning county in the present day Jiangsu province suggests contacts with the other parts of the Yangtze valley, as it shows a very similar profile to other *lei* vessels found along the Yangtze valley (see also map 3-4). The three ram heads attached to its shoulder again demonstrate the southern interests in animal shape decoration.<sup>267</sup>

This interest is further demonstrated by two bronze *zun*, which have been unearthed from a burial in Funan, Anhui province, just to the north of the lower Yangtze.<sup>268</sup> One *zun* again features ram heads on the wide vessel shoulder, as well as cross-shaped openwork on its high ring foot and string patterns around its neck (fig. 3-28a), just as the *lei* vessel from Xin'gan. The second *zun* vessel has tiger patterns that remind us again of Xin'gan, and dragon heads projecting from the shoulder that resemble the *zun* from Sanxingdui in upper Yangtze (fig. 3-28b).<sup>269</sup>

Some southern features even travelled up to the Yellow River valley, probably via the Hanshui River, the longest and only tributary north of the Yangtze. Spectacular discoveries of bronzes have been made in the region around the upper stream of the Hanshui. The majority of finds of bronzes in the upper Hanshui valley have been from the area between two present-day counties – Chenggu and Yangxian, at the confluence of the Hanshui and Xushui Rivers in southern Shaanxi.<sup>270</sup>

Over 600 bronzes have been found at 14 deposits in the Cheng-Yang region since 1955. Finds include weapons, chariot fittings and a good many vessels. Typological studies have dated these finds from the upper Erligang period to the later Anyang period with a majority being from the early Anyang period.<sup>271</sup> The interest in the use of human faces on bronzes, as seen on bronze masks from Xin'gan and the Ningxiang region, has a parallel here. Among the deposits recovered at the Chenggu-Yangxian region, the Sucun Xiaozhong deposit has yielded 23 bronze human facemasks, which are nearly 1/3 the size of those from Xin'gan (fig. 3-29).<sup>272</sup> These masks carry features very similar to the ones from Xin'gan, by depicting human faces with deep eye sockets, which are emphasised by the surrounding edge lines and big eyes. Ears are in the shape of

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<sup>267</sup> Xiang Taochu 2006.

<sup>268</sup> Ge Jieping 1959.

<sup>269</sup> See also Steinke 2014, p. 163.

<sup>270</sup> For communication along the Hanshui River, see also Rawson 1989, pp. 82-83.

<sup>271</sup> See Zhao Congcang 1996, pp.13-15 & table 2.

<sup>272</sup> Bagley 2006, p. 180, fig. 319, see also Zhao Congcang 1996.

rhomboids with pointed tops. All masks show wide nose wings and exposed teeth. Given that bronze human face-shaped masks were not common objects in Bronze Age China, the similarities of the masks indicate communication between the Cheng-Yang region and the mid Yangtze valley, quite likely via the Hanshui valley.

Bronze vessels from the Cheng-Yang region demonstrate a repertoire fed by different sources, including impacts from the Yangtze valley. Some bronzes found in this region demonstrate connections with the Shang. For instance two *fanglei* vessels found in a deposit at Sucun, the biggest deposit in the region, are nearly identical to the pair found in Fu Hao's tomb in Anyang (fig. 3-30). However, bronzes that have parallels in the Shang repertoire account for no more than 10% in the finds from the Chenggu-Yangxian region.<sup>273</sup> The majority of finds from this area indicate distance from rather than contacts to the Shang tradition.<sup>274</sup> Vessels such as *zun* and *lei* formed a major part of deposits in the Cheng-Yang region and have shown connections with other southern sites along the Yangtze valley.

Eighteen *zun* or *lei* vessels have been unearthed from twelve bronze deposits in the Cheng-Yang region. These *zun* or *lei* vessels appear to have much in common with the one unearthed at Xin'gan – featuring flaring lips, wide and angular shoulders and a high ring foot. The necks are also decorated with string patterns, while the vessel bodies have been divided into four decorative panels by four flanges. On the wide shoulder of a *zun* vessel found at the Sucun deposit, there also sit four animal figures (fig. 3-31), resembling the design of four ram heads placed on the shoulder of the *zun* vessel from Xin'gan. It can, therefore, be suggested that there may have been some interregional contacts along the Hanshui valley, between the Yangtze valley and the Cheng-Yang region.

The data presented above showing the spread of the interest in realistic animals, human images and the particular *zun* or *lei* vessel shapes thus indicate the existence of an interregional network outside of the central Shang region, which the Yangtze valley was heavily involved in it. The distribution of finds further suggests that such a network may have been based on routes along river valleys. The Yangtze River may have acted as a major corridor for people, objects and technologies, connecting different regions from the west to the east, including the Cheng-Yang region, Sichuan basin, middle and lower

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<sup>273</sup> See Zhao Congcang 1996, p.11.

<sup>274</sup> Jessica Rawson has extensively discussed the local variations as seen in the Chenggu bronzes. See Rawson 2011.

Yangtze valley. Similar local interests and designs of bronzes may have developed and spread along these river routes. Furthermore, dating evidence has placed all the above-mentioned sites in the late second millennium BC, thus suggesting, again, rather efficient and prompt responses between societies along these river routes.

Robert Bagley has pointed out that there has been an Anyang-centred view in Chinese archaeology.<sup>275</sup> Under such a view, southern bronzes have long been taken as offshoot of the Shang, and the Shang society has been regarded as a dominating core of both technologies and material culture without doubts. This view, however, has long been criticised as ‘overly simplified or idealised’.<sup>276</sup> Archaeological finds presented here from along the Yangtze valley, instead, suggest that the Yangtze valley was an active part in a multilateral interregional bronze network in the second millennium BC, featuring fast interactions and vigorous local responses.

## **ii. Tracing the ceramic network**

The transmission of metallurgy and the use of bronzes only present one side of the interregional interaction of this period. There is another whole series of interactions that give evidence in the archaeological record, that is, the advanced high-fired ceramic industries in the 2<sup>nd</sup> millennium BC in southern China.

High-fired ceramics in the second millennium BC were made from quartz rich clay, fired at up to 1100°C in a kiln, and, therefore, acquired a hard and nonporous texture. Such an achievement was, to a certain degree, rooted in China’s structural geology. Recent investigations have shown that the land of modern China was essentially fused together from a number of separated tectonic blocks during the Triassic period, some 249 – 210 million years ago (fig. 3-32). The original nature of these ancient landmasses may be a major reason for the regional development and variations in the compositions of Chinese ceramics.<sup>277</sup>

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<sup>275</sup> Bagley has pointed out that the formation of such a view is due to several events in Chinese archaeology: archaeological studies of the Shang started from the excavation of Anyang in 1928; the finds of inscribed oracle bones has provided names of Shang kings which correspond those in written history; also, Anyang has been an archaeological site at which the first few generations of Chinese archaeologists were trained. Bagley has also pointed out the danger of accepting such an Anyang-centred view in archaeology. Strictly speaking, the inscribed oracle bones have only confirmed the names of Shang kings, not the reading of history in textual records. See Bagley 1996.

<sup>276</sup> Kane 1975, pp. 77-107.

<sup>277</sup> Wood 2000, p.15.

The rich deposit of acid (high silica) lava, which were brought to the southern China land block during a series of volcanic eruptions some 140 million years ago, may have been of great help in the achievement of high-fired ceramics.<sup>278</sup> Due to these geological movements, the southern China land block is rich in both exposed low-iron igneous rocks and bedded volcanic ashes – mainly granites and andesitic and rhyolitic lavas and tuffs. These materials are also the main ingredients of most southern high-fired ceramic bodies.<sup>279</sup>

Thanks to these less fusible ingredients, the southern clay materials get denser and harder at high kiln temperature, instead of melting, as most northern pottery based on loess would do.<sup>280</sup> The strength of these clay materials has probably encouraged southern potters to put more effort into raising kiln temperatures. At a certain point (about 1170 °C), natural glazing from fused wood ash would have occurred on the surfaces of southern high-fired wares. Such a process is believed to have happened in the mid 2<sup>nd</sup> millennium BC in southern kilns, particularly at kiln factories in present day Jiangxi and Zhejiang provinces. The earliest high fired and glazed ceramics found here are believed to have been produced in this way. These high-fired and glazed ceramics have been termed as ‘proto porcelain’ in Chinese archaeology.

Contrary to the situation of bronze industries, the developments of ceramic industries in southern China were not a result of responding to outside technological advancements, but an indigenous achievement. In turn this became another strong impetus for extending the interregional networks of the time. From this point of view, the traditional ‘centre-periphery’ framework as addressed in Chinese history narrative is challenged again and I, therefore, argue that there was more than one ‘World-system’ in the late second millennium BC China. Within this ceramic ‘World-system’, the mid-lower Yangtze valley was playing the ‘core’ role, as the major owner of this advanced technology of the time.

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<sup>278</sup> Wood 2000, p. 19.

<sup>279</sup> To the contrary, “In north China ... common surface clays were largely fusible and loessic, and unsuitable bases for stoneware technology. True stoneware clays of the north tended to be more deeply buried... Even when identified and exploited these ancient clays were highly refractory and needed substantial kiln temperatures to mature them. To these problems can be added the high-alumina and low-flux natures of northern clays. Aluminous clays of this type would have given poor-quality glazes when mixed with wood ashes, the standard southern approach to glaze-creation. Thus, a combination of geological and technical factors may have inhibited the development of true glazed stoneware in the north.” See Kerr and Wood 2004, p. 145.

<sup>280</sup> Zhang Fukang 1986, P.40, Wood 2000, p.20.

### a. Production and use in the south

While very few kiln sites have been discovered in the Yellow River valley, a large number of kiln workshops of different scale have been found in southern China dating to the 2<sup>nd</sup> millennium BC (map 3-3). So far, the earliest and best preserved dragon kilns have all been found in the mid-lower Yangtze valley, the present day Jiangxi and Zhejiang provinces, with the sites of Wucheng, Yingtan and Deqing dating to the late second millennium BC. The kiln factories clustering along the Yangtze valley thus demonstrate a strong regional development of ceramic industry.

A large kiln district in the walled site Wucheng indicates the importance of ceramic industry within the society here. A total of fourteen kilns have been excavated, including one of the earliest dragon kilns found in China so far (fig. 3-33). This dragon kiln lies a northwest-southeast orientation with a slight slope of 2 degree. The remaining part of the kiln is 7.5 m long and 1 m wide, and the walls are 0.1-0.22 m high and 0.28-0.6 m thick. Nine holes, as intakes for firewood, were found placed along the north kiln walls. Being relatively short and level (later dragon kilns can be up to 50 m long and were built with a much steeper angle of up to 20 degree), the dragon kiln found at Wucheng may be demonstrating a primitive stage of development. Other kiln structures at Wucheng include two domed kilns, 6 triangle kilns, and 5 square kilns. These kilns may have been responsible for nearly 1000 pieces of ceramics found at Wucheng, of which more than 50% were high-fired ceramics (Chart 3-3). High-fired ceramics at Wucheng also seem to have steadily increased from the early to the later phases, suggesting an advancing ceramic industry at the site. In phase I, high-fired ceramics account for 20.35% of ceramic finds, in phase II for 26.89%, and in phase III for 41.78%. Among all high-fired ceramics, the glazed ones make up 4% in phase I of the site, 5% in phase II, and 19% in phase III.<sup>281</sup>

Furthermore, as shown in chart 3-3, it may not have been a random decision that some ceramics were made into high-fired or even glazed products while others were not. Most high-fired ceramics occurred in shouldered jars, which were also the dominant ceramic product found at Wucheng. Up to 80% of these jars were made into high-fired ceramics of which nearly 1/3 were glazed. However, tripod vessels, such as *li* and *ding*, which were popular in the north at major Shang sites, were produced in much smaller numbers. Most of the tripods at Wucheng were made from coarser clay and fired at much lower

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<sup>281</sup> Li Boqian 1981b, see also Li Keyou & Peng Shifan 1975, p.7.

temperature (chart 3-3). The differences in both numbers and qualities of ceramics found at Wucheng demonstrate a clear local preference and interest in certain vessels, comparable to bronzes, as discussed above. Indeed, the hard texture and shiny and smooth surface distinguished the high-fired ceramics from other products. In addition, the high quality of these ceramics may have made them superior to bronzes in certain ritual contexts.

As a major bronze-yielding site in southern China, bronzes unearthed from Xin'gan have received numerous attentions and discussions. However, what has been greatly neglected are the large numbers of ceramics of high quality also found in the tomb. Besides the elaborate bronzes and jades, Xin'gan is also furnished by 356 ceramics, including 139 intact vessels in various shapes ranging from tripods, pots, shouldered jars, basins, *gui*, *dou* and vessel lids in different sizes. The high-fired ceramics dominate at Xin'gan just like bronzes at the tomb of Fu Hao. Furthermore, ceramics at Xin'gan are not ordinary kitchenware but very sophisticated products. Up to 20% of these ceramics are high fired and glazed wares, referred to by the excavators as 'proto-porcelain'. Again, the most popular high-fired ceramics appear to be shouldered jars (chart 3-4). The ceramic industry in the south of this period, therefore, seems to not only have achieved a peak in technology, but has also developed very specific local taste in their products.

Besides the kiln districts within certain settlements like Wucheng, archaeological finds also reveal large-scale 'industrial areas' for ceramic manufacture along the Yangtze valley. To the east of Wucheng, another kiln factory equipped with dragon kilns has been found, the Jiaoshan kiln factory located in Yingtan, Jiangxi province.<sup>282</sup> Two excavations during the 1980s at Jiaoshan have revealed so far the largest kiln site in 2<sup>nd</sup> millennium BC China. The whole site covered 10,000 m<sup>2</sup> in total and so far excavations have only revealed an area of 500 m<sup>2</sup>. One dragon kiln and 10 dome kilns have been unearthed at the site. In these kilns, a large number of waste impressed high-fired wares and glazed wares have been found. Finds of ceramics cover a wide repertoire, including tripod vessels, *xeng* steamers, round-bottomed jars and spinning wheels (fig. 3-34). At Jiaoshan, one of the most interesting finds may have been a large number of pottery paddles. These paddles have different impressed patterns on both sides so that one paddle can produce two patterns as ceramic surface decoration. This large find of pottery paddles

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<sup>282</sup> For brief archaeological reports, see Jiaoshan 1987 and Jiaoshan 2001. A full report was said to be published in late 2009 (information acquired during fieldwork in April 2009) but seems not have come out yet.

demonstrates how impressed pottery was made in southern China and suggests mass production of such products.<sup>283</sup>

Recent finds of kiln factories in present-day northern Zhejiang, at the lower Yangtze, have revealed another important origin high-fired ceramics. In 2001, more than 30 high-fired ceramic kilns, dated to the second half of the second millennium BC, were found along the lower valley of the Dongtiao River, which feeds into Lake Tai. These kiln sites, each of which contained a least three kilns, centre respectively in the Longshan and Qingshan counties (map 3-3).<sup>284</sup>

The Longshan kiln area covers about 5 km<sup>2</sup> in which more than 10 kilns have been found. Ceramic remains at these kilns mainly demonstrate production of high-fired ceramics. Shouldered jars, characterised by high flaring necks, wider shoulders, deep and tapering bellies and long ring foot, were the major type. At another kiln area, Qingshan, which is no more than 10 km away from the Longshan site, more than 20 kilns were unearthed. It was also mainly high-fired and glazed ceramics that were produced here. The Nanshan kiln factory is a major find in the Qingshan kiln area. Three dragon kilns have been excavated in an area of 800 m<sup>2</sup>. The best-preserved kiln, Y3, has a remaining length of 7 m and a width of 2 m. This kiln lies on a slope of around 20 degree, which is steeper than those found at Wucheng. However, there are no intakes for fuel along the kiln body, indicating that the dragon kilns here may have been still at an early stage of development, in which their construction designs were not completely settled and unified yet. Remains found here suggest that the major products were high-fired ceramics, mainly in the shapes of *dou* vessels and shouldered jars (fig. 3-35). It should be noted, the Dongtiao River valley continued to be a major area of high-fired ceramic production during the following millennia. This will be discussed with more details, in relation with the development of southern China in the first millennium BC, in the next chapter.<sup>285</sup>

Given the scale of the high-fired ceramic industry in the Yangtze valley, production may not have been exclusively for the local market. A major product of the Nanshan kilns in Zhejiang, the *Dou* vessels seems to have quite a few parallels at the major Shang site of Anyang, which is more than 1000 km away from the kilns at Nanshan. A glazed *dou* vessel unearthed from tomb M149 at Xin'an Zhuang in Anyang features a shallow basin

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<sup>283</sup> See Jiaoshan 2001 and Yingtan 1987.

<sup>284</sup> For a brief excavation report, see Dongtiaoqi 2011.

<sup>285</sup> For a brief excavation report, see Dongtiaoqi 2011.

with a contracted mouth and round bottom. The ring foot is flaring like a short trumpet. Three string patterns decorate the rim and the whole vessel is covered by greenish glaze (fig. 3-36). These features, from vessel profile to glaze colour, all resemble the *dou* vessels fired at the Nanshan kilns (fig. 3-35). It seems, therefore, that the Nanshan kiln factories were not only firing ceramics for the southern markets. In contrast, some customers and orders may have come from the north. Did this novel technology and its products spread to the north and, thereby generating an interregional network in another direction?

### **b. High-fired ceramics found in the north**

This section examines the distribution of high-fired ceramics northern China and explores the scope of a ceramic network, which was stimulated by a technology developed in the south. Finds of high-fired ceramics in the north, presented below, indicate that the ceramic industries in the Yangtze valley greatly contributed to the material culture in the Yellow River basin.

While a large number of high-fired ceramics were found and became a representative archaeological material in southern China, there are also a number of finds from the north (map 3-3). It is, however, important to note that no kiln site, as large or well equipped as the southern ones, was found in the Yellow River basin so far. The northern finds of ceramics have, therefore, brought about discussions on the origins of these ceramics and the role of them in northern sites.<sup>286</sup> Research on the composition of ceramic products from both the south and the north has, indeed, favoured the proposal that southern China was the major origin of high-fired ceramics for a long time, not only in the second, but also in most of the first millennium BC. In this case, these high-fired ceramics indicate another interregional network at the time, a network defined by northward links.

Indeed, most finds of high-fired ceramics at Zhengzhou and Anyang seem to fall into the major ceramic types in the south, rather than coinciding with other vessel shapes at these Shang sites. So far all high-fired ceramics found at Zhengzhou were shouldered jars,

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<sup>286</sup> The Shang also had their own high-fired products. Fine white-bodied ceramics were produced at Anyang from local kaolinitic clays. Firing estimates of samples have suggested temperatures as high as 1175 °C, which is in the range used for southern stoneware but still well below the temperature required for the extremely refractory northern clays to reach full ceramic strength. Kerr and Wood 2004, p.124. Furthermore, it seems that these products did not reach the south, and therefore cannot be taken as an indicator of interregional contacts.

which show similar profiles to the shouldered jars prevailing in the south.<sup>287</sup> At Anyang, high-fired and glazed ceramics occur in shouldered jars, pots, *dou* vessels and vessel lids, which also parallel with the major ceramic products in the south (table 3-1).<sup>288</sup> The similarity in vessel shapes, plus the lack of kiln sites in the north, therefore suggests that these high-fired products may have been made in and imported from the south, instead of being locally produced in these Shang sites.

These typological observations, which indicate an interregional trading network between the Yangtze and the Yellow River valley, are supported by results of scientific examinations. In the 1960s Zhou Ren and Li Jiazhi were among the first researchers who examined the compositions of ceramics found in the north. Their first sample site was a residential area in the present day Shaanxi province, the Zhangjiapo site, which can be dated back to the early first millennium BC. The studies of Zhou and Li have indicated that, in terms of chemical compositions, the ceramic products from Zhangjiapo were very likely to have a southern origin.<sup>289</sup> Following the same method, Cheng Zhuhai has pointed out that ceramics found at Luoyang and again dated to the early first millennium BC also had a southern origin.<sup>290</sup> A more recent study based on a new method, the instrumental neutron activation analysis (NAA), by Chen Tiemei, has examined ceramic products from a number of sites, including Erligang, Panlongcheng and Wucheng. Chen's research found that the compositions of high-fired ceramics from all her sample sites were not matching the compositions of local pottery, but were showing similarities to the high-fired ceramics and pottery from Wucheng. Chen, therefore, suggests that the high-fired ceramics found in the north were made in Wucheng, and that Wucheng may have been one of the major manufacturers of high-fired ceramics in the second millennium BC.<sup>291</sup>

Applying the same NAA method, Chen Tiemei has, in 2003, further examined ceramics from the sites of Xiaoshuangqiao and Anyang in Henan, Zhouyuan and Zhangjiapo in Shaanxi, and Liulihe in Beijing.<sup>292</sup> These sites were dated between 1300 BC and 800 BC. Chen's studies have suggested that most of the northern samples have shown the characteristic low aluminium and high silica content that matches the composition of

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<sup>287</sup> See Lü Qichang 1997 and Tang Yuyun 2012.

<sup>288</sup> See Lü Quchang 1997 and Tang Yuyun 2012.

<sup>289</sup> See Zhou Ren *et al.* 1960, pp.48-52, and 1961, pp.44-45.

<sup>290</sup> Cheng Zhuhai, Sheng Houxing, 1987, pp.35-40.

<sup>291</sup> Chen Tiemei *et al* 1997, pp.39-52.

<sup>292</sup> Chen Tiemei *et al* 2003, pp.69-78.

southern clays. Chen Tiemei's conclusion was further confirmed by two other research approaches, the inductively coupled plasma-atomic emission spectrometry (ICP-AES) and inductively coupled plasma-mass spectrometry (ICP-MS). These studies were carried out by Gu Libing and her colleagues. Their analysis of rare earths also indicated that these ceramics were made from southern clays.<sup>293</sup>

However, both Chen's and Gu's projects also revealed some samples that show differences from the southern clay. These samples are mainly from the latest period of Anyang and from Western Zhou sites, such as Zhangjiapo and Zhouyuan. It has, therefore, been suggested that there may have been attempts to produce high-fired ceramics in the north in a later period. In this context it should be noted that there are scholars who have different opinions. An Jinhui, for instance, has insisted on the existence of an indigenous impressed ceramic industry in northern China, with the finds of substandard products and pottery paddles.<sup>294</sup> Xia Ji, Wang Changsui and Zhu Jian have also applied the ICP-AES and NAA approaches to ceramic finds from Shang sites in present day Shandong, and they have claimed that their experimental results have pointed to the local manufacture of high-fired ceramics in the north.<sup>295</sup> However, the appearance of substandard products is not against the "further weight" which has been put onto the south-to-north trend, "when the compositions of the northern finds were shown to be extremely similar to contemporary glazed ceramics from southern China."<sup>296</sup> It is possible that, just as the case of bronze technology transmission to the south, local northern workshops may have started to produce their own high-fired ceramics in a later period, though further conclusions can only be made when kiln sites, which are well equipped enough to produce high-fired ceramics, are found in the Yellow River valley.

Though in a much smaller number, high-fired ceramics seem to have, from mid second millennium BC onwards, won a place as precious items in northern societies. Most high-fired ceramics unearthed in the Yellow River basin are from large cities and burials. At these sites elaborate ritual bronzes and jades were also found, for example at the Shang tomb M701 in Yinxu 殷墟 Anyang,<sup>297</sup> the five Western Zhou tombs at Pangjiagou 龐家

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<sup>293</sup> Gu and Shao 2000, pp.70-73.

<sup>294</sup> See An Jinhui 安金槐 1960, p.28.

<sup>295</sup> Xia Ji *et al.* 2009.

<sup>296</sup> See Kerr and Wood 2004, p. 126.

<sup>297</sup> This tomb was in the "甲" shape with a 5 metres long tomb tunnel. It was heavily robbed but there were still remains of 12 sacrificial humans, jade figures in varying animal shapes and an intact proto-porcelain jar. See Yinxu 1961, pp.55-57.

溝 in Luoyang,<sup>298</sup> and the early Warring States period tomb M1 in Gushi 固始 County in Henan (fig. 3-37).<sup>299</sup> Finds from large-scale city sites include Anyang and Zhengzhou in Henan Province and Yuanqu<sup>300</sup> in Shanxi Province.

At Anyang, high-fired ceramics were unearthed from two house sites, F10 and F11.<sup>301</sup> These two houses seemed to be among the best-furnished ones in Anyang, with rammed grounds, plastered walls and charcoal distributed along the foot of walls, probably to avoid dampness. The larger house between the two, F11, had a sacrificial pit in the centre, within which a human skeleton has been found. A painted wall with black and red patterns has also been discovered in F11. Furthermore, these two houses were no more than 100 m to the west of the tomb of Fu Hao and 50 m to the east of the Anyang palace area, suggesting a special role of these buildings, probably as one of the locations where Shang royals made offerings to their ancestors. Within these two houses, high-fired ceramics, in the shapes of jars, bowls and *dou*, were found together with jade, turquoise, bronze knives, bronze arrows and shells. The high-fired ceramics found at these two houses may, therefore, have been more than mere commodities, possibly being part of the Shang offerings.

At another Shang site, Xiaoshuangqiao at Zhengzhou, high-fired ceramics were found in two large sacrificial pits, H6 and H29, accompanied by pierced stone knives and some animal bones.<sup>302</sup> Though they may have been for sacrificial purpose, the high-fired ceramic vessels here appeared in the shape of *zun*, with a widely flared mouth, a narrow neck and a tapering body, which is common in the south (fig. 3-38). Table 3-1 has given a list of finds of high-fired ceramics from the north, showing that they, though in small number, were a major product in the Shang ritual context from the late second to the first millennium BC.

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<sup>298</sup> These five tombs were located in a Western Zhou cemetery near Luoyang. All yielded glazed ceramics as funeral objects. See Pangjiagou 1972, p.20 and p.27.

<sup>299</sup> Three delicate proto-porcelain cups, wearing greenish glaze, were found here. Other ceramic products found include high-fired pottery in the shapes of a jar and a cup. Other accompanying objects included large numbers of ritual bronzes, bronze weapons, lacquers, and jades. The inscription on a bronze *fu* 簋 food container indicated that the tomb occupant was Madam Gouwu, the younger sister of King Jing of Song 宋景公. This tomb therefore was an elite one. See Gushi 1981, pp.1-8, and Gushi 2004.

<sup>300</sup> Yuanqu is another walled town site of the Shang dynasty. Discovered in 1984, the Yuanqu Shang city site has an area of 130,000 m<sup>2</sup> and city walls of 1470m length. Some scholars believed that the Yuanqu Shang city site was one of the early capitals of the Shang dynasty. However, glazed wares were actually rare and only seen in the upper cultural layer of the site. See Yuanqu 2008, Deng and Li 1992, pp.43-49.

<sup>301</sup> For excavation report, see Anyang 1976.

<sup>302</sup> Xiaoshuangqiao 1996.

It thus appears that high-fired ceramics were products that were increasingly accepted and treasured by both the south and the north in the late second millennium BC. An active ceramic network, which operated on the opposite way of the bronze one, can therefore be suggested.

### **iii. Discussion: Yangtze valley's role in the network of the 2<sup>nd</sup> millennium BC**

The two new technologies and products discussed above greatly altered the material culture of the Yangtze valley. How the Yangtze societies responded to these changes defined their position in the interregional networks. Indeed, archaeological finds illustrate two networks in two different directions, giving the Yangtze valley an interactive role within the relationships with its northern neighbour.

As discussed above, the Shang had been a major consumer and producer of bronzes in the second millennium BC. The Shang people had built up a developed bronze industry and culture, featuring the piece-mould casting methods and the use of bronzes in sets; it is like a language spoken out by material culture.<sup>303</sup> The finds of piece moulds and the adoption of some major Shang types of bronzes in the south suggest that the development of bronze industry in southern China was evidently dependent on its participation in a network in relation to the Shang. Indeed, some elements in the Shang 'language' of material culture were borrowed by the Yangtze valley and formed the basic repertoire of local bronzes, for instance the basic shape of *ding* vessels and decorative layout centred on a face of an unknown creature with large eyes. These features demonstrate extensive adoption of the Shang 'language' of bronze culture and related technologies, which can only be made possible by sustained contacts. However, very quickly these elements were much altered and merged into the formation of the own 'language' of bronze culture of the Yangtze societies, characterised by the use of animal images, the interest in human faces, and different 'sets' of bronze objects. The distribution of these features along the tributaries of the Yangtze river further suggest a network outside of the central Shang region, in which the societies of the Yangtze valley were heavily involved.

The distribution of high-fired ceramics, however, indicates another aspect of the

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<sup>303</sup> As Stuart Hall suggested, any sound, word, image or object which functions as a sign, and is organized with other signs into a system capable of carrying and expressing meaning is, essentially, a language. See Hall 1997, pp. 1, 6 and 19. Jessica Rawson has also suggested that an ornament system can be regarded as a language, which marks territories of different groups of people. See Rawson 2001.

interregional relationships. As the initiator of high-fired ceramic industry, the societies in the mid-lower Yangtze valley had the chance to decide ‘language’ spoken by ceramic products. Indeed, all finds of high-fired ceramics in the northern contexts share many design features with those found in the south, instead of adopting the widely accepted bronze types.

The image of an interactive network with a dominating core may have only existed in traditional historiography. Archaeological evidence suggests that societies in the Yangtze valley were part of a multilateral network, in which different technologies and cultural elements were quickly transmitted, adopted and transformed due to local conditions. Generally speaking, a core area can be defined by advantages in technologies and this area usually proves to be the initiative impetus of a network. But, with respect to southern China in the second millennium BC, the situation is more complex. The fast reaction to imported technologies and designs and various local adaptations between different regions in the network, as well as the ‘counterflow’ of high-fired products from the south make it difficult to determine a dominating core in this period. Indeed, there may not have been a dominating or absolute core of either material culture or technology. The concept of ‘negotiated peripherality’ brought forward by Kardulias is, therefore, a useful way to understand the position of the Yangtze valley within the interregional network in the 2nd millennium BC. The term ‘peripherality’ usually indicates an automatic and passive status. However, while encountering or even confronting neighbours with technological, economic or even military superiority, the ‘periphery’ always has to find ways to make sense of imported technologies and material culture. Attempts to do so usually involve negotiation between imported technologies, products and ideas and the local interest and local need. In the Yangtze valley, such an active negotiation process can be seen on tigers attached to Shang style *ding* vessels, the generation of local ‘sets’ based on imported casting technologies, as well as the export of high-fired products and technologies to the north.

### **III. Changes in the Lingnan-Fujian region: The continuous marginality**

As discussed in the last chapter, interregional links between the Yangtze valley and the Lingnan-Fujian region were established in the third millennium BC, featuring the transmission of rice cultivation, pottery types and jade technologies and artefacts. In the second millennium BC, the Yangtze valley was closely related to and making intensive

interaction with the Yellow River basin. This raises the question that, was the Lingnan-Fujian region also “in contact with” or “part of” the aforementioned network?

It has to be said that, by comparison with the Yangtze valley in the second millennium BC, the Lingnan-Fujian region in the same period has revealed considerably fewer major finds relating to the two novel technologies – bronzes and high-fired ceramics. On the southern side of the Nanling Mountains, especially along the coastal areas, small sites built on sand dunes and characterised with thick shell deposits persisted, while remains of large-scale construction have been absent so far. Does this situation mean that the region was completely isolated from the north side of the Nanling Mountains during this period? Was it still playing a part in an interregional network as in the earlier time? If so, how was this region related to the technological development and material culture changes in the north? By examining some major archaeological finds in the Lingnan-Fujian region of this period, I shall argue that this region cannot be excluded from the network built upon knowledge of bronze and high-fired ceramics. However, it remained in the role of ‘margin’ and responded to external stimulation with a similar reaction pattern as in the earlier period – with loose and discontinuous connections, transmissions in technologies and material culture and transformative changes were absent in this region.

### **i. The limited finds of bronzes in the Lingnan-Fujian region**

Large-scale sites that have yielded both novel technologies of the time have so far been absent in the Lingnan-Fujian region. In 1974 two bronze-yielding sites were found in present-day Fujian and in eastern Guangdong. This year therefore marks the beginning of research on bronzes found in the Lingnan-Fujian region based on scientific archaeological excavation.

The bronze finds at almost all sites discussed are small and limited in number. A good example for this is the Daying bronze deposit, which was uncovered in Daying County in southern Fujian in 1974.<sup>304</sup> The site is located on the eastern bank of the Daying River in the present-day southern Fujian, less than 8 km away from the estuary of the river (map 3-2). Three bronze *ge* daggers were found lying in a row. Following excavations revealed more bronze items and a few jade artefacts scattered in an approximately 1x2 m area.

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<sup>304</sup> For a report on this find, see Daying 1977.

The whole deposit includes five *ge* daggers, two *qi* battle-axe, one *mao* spear, two knives, two adzes and eight bronze bells (fig. 3-39). Jade artefacts unearthed from the same deposit include one *ge* dagger and four *huang*. Vessels are absent in this deposit.

In eastern Guangdong, a bronze *ge* dagger was found in the same year during the excavation of a site which contained 21 burials. Tazijin and Dingdapu are two small hills located in the present-day Raoping County no more than 2 km away from each other. In the 1974 excavation, 16 burials have been found on Tazijin and 5 on Dingdapu.<sup>305</sup> All are vertical pit tombs. Funeral goods mainly consisted of pottery and stone implements, among which stone tools/weapons were the majority. The bronze *ge* dagger was not found within any burials but revealed during excavation together with a stone adze. However, there are no other archaeological remains at this location besides the tombs excavated in 1974. This bronze *ge* dagger has, therefore, been regarded as belonging to the tomb remains.

Another site was excavated in Minhou County in southern Fujian. This site yielded no bronze objects but objects that suggest the knowledge of some typical designs of metal object.<sup>306</sup> Excavated from 1974 to 1977, the site Huangtulun covers an area of 5,000 square metres and has revealed nine vertical pit tombs. Further excavation of a 700 square metres area in 1978 has unearthed ten more burials. Charcoal samples from layer three of the site, where all the burials were found, dated the site to c. 1300 BC. Most burial goods are ceramics. Placements of funeral goods in tombs do not show careful layout but demonstrate a typical assemblage of *dou*, cups and jars, as well as social hierarchies. Tomb M12 has yielded 21 objects, while smaller tombs such as M2 and M6 have only contained 4 objects, and tomb M19 did not contain any funeral goods. No bronzes have been found at Huangtulun but all ceramics unearthed at the site are high-fired products (the appearance and distribution of high-fired ceramics in the Lingnan-Fujian region will be discussed later) and come with distinct features, which were usually present on metal objects.

The impressed patterns and vessel shapes of ceramics unearthed at Huangtulun show distinct features by comparison with most of the other finds of ceramics in the south. Much larger geometric patterns, instead of smaller and more compact ones, were applied

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<sup>305</sup> For a report on this find, see Raoping 1991.

<sup>306</sup> For an excavation report, see Huangtulun 1984, pp.23-44.

on the surfaces of the vessels. Most ceramics found at Huangtulun are characterised by side handles, ears, ridges and carinated shoulders, which were not usually seen on pottery but are known features of metal vessels from this time period (fig. 3-40). A cup from tomb M13 has a flat side handle (fig. 3-40: 9), which seems particularly compressed to imitate a piece of hammered metal sheet. Two *dou* vessels respectively from tomb M2 and M3 have ridges surrounding their high ring foot (fig. 3-40: 13&14). The ridges have sharp and thin edges, which are also not common for hand-built or thrown pottery. Some handles placed on the shoulders of ceramic jars at Huangtulun were formed with several thin clay stripes, demonstrating a molding structure, which is also uncommon on pottery. Some vessels are even decorated with three-dimensional animal figures, for instance a double handle cup found in tomb M1 at the site, reminds us of the three dimensional animal figures which stand on or function as handles on bronzes from Xin'gan (fig. 3-40: 11).

Among these three sites, discovered and excavated in the 1970s in the Lingnan-Fujian region, only Huangtulun has been scientifically dated to c.1300 BC. The dating of both Daying and Raoping is debated but both are generally placed between the end of the second millennium and early first millennium BC.<sup>307</sup> These sites have, therefore, been regarded as among the earliest bronze related finds in the Lingnan-Fujian region and have triggered heated discussion of the introduction of bronze objects and technologies into the Lingnan-Fujian region.

This discussion of the bronze-yielding sites in the Lingnan-Fujian region has, however, long been confined to questions such as 'when did the Lingnan-Fujian region enter the Bronze Age' or to the comparison of the development of the Lingnan-Fujian region with the Yellow River basin and the Yangtze valley, with the latter as a 'standard' scale of linear development.<sup>308</sup> However, these questions shed very little light to the

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<sup>307</sup> For debates on the dating of Daying and Raoping, see Li Boqian 2008. These two sites have been generally dated to late second millennium BC as bronze objects from these two sites show great similarities with those from Hulinshan, another bronze-yielding site in the present-day Fujian. Hulinshan has been C-14 dated to c.1100 – 1000 BC. For an excavation report of Hulinshan, see Hulinshan 2003. This site will be discussed with more details in below. Also, pottery from Daying and Raoping lack features of later ceramic products, which are mostly high-fired and decorated with elaborate impressed patterns. The later products were concentrated at kiln sites, such as Meihuadun and Yin'gan, in eastern Guangdong. These kiln sites have been C-14 dated to c. 800 BC. Daying and Raoping are, therefore, dated to an earlier date in late second millennium BC. The later kiln sites mentioned here will be discussed in the next chapter with more details.

<sup>308</sup> For debates on 'when the Lingnan-Fujian region entered the Bronze Age', see Li Boqian 2008, Li Longzhang 2006. For comparison of development in the Lingnan-Fujian region and the Yellow River basin and the Yangtze valley, see Wu Chunming 1999. The focal points of previous discussions are to a

understanding of the Lingnan-Fujian region itself. Indeed, the bronze objects found in the Lingnan-Fujian region, though in a small number, bring more information of how this area was connected to the bronze network to its north.

Piece moulds and bronze workshops, as discussed above, have been found at sites along the Yangtze valley, indicating the adoption and development of bronze manufacture in this region, as well as the intensive connections between the Yangtze valley and the Yellow River basin, in which complex technologies could be effectively transmitted and adopted. However, signs of local bronze industry are scarce in the Lingnan-Fujian region in the second millennium BC. So far there is only a site with highly controversial evidence of local bronze manufacture. Excavation of the site Tangxiahuan 棠下环 in 1994 and 1996, in the present-day coastal city Zhuhai in Guangdong,<sup>309</sup> has revealed so far the only two stone piece moulds in the area which can be related to bronze casting.

Tangxiahuan is a sand dune site located on an ancient bay. In stratum 4a and 4b of the site, which are dated to the late second millennium BC, two stone piece moulds have been uncovered (fig. 3-41). One piece mould, probably part of a pair, was used for the casting of a bronze axe with a length of 11.2 cm, and a blade width of 3.7 cm. The other piece mould seems to have belonged to another pair but it is unclear what object this piece was for. However, no remains of related working sites/furnaces or bronze products have been seen at Tangxiahuan. The find of these two individual pieces of moulds for bronze casting seem to be completely isolated. It cannot be concluded that these piece moulds were used for local bronze casting in the southern coastland. Neither can these limited finds point to a bronze industry in the Lingnan-Fujian region, which had adopted the manufacture methods from the other side of the Nanling Mountains.

The lack of evidence of local bronze manufacture in the Lingnan-Fujian region indicates weak connections with societies on the other side of the Nanling Mountains. It seems that the critical bronze technologies did not reach this region. The small number of bronze objects and piece moulds found at these southern sites may have been brought in

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large degree based upon a linear view of historic development, which is a variation of the 'cultural evolution' stance. See Shennan 2008. Such a view suggests progressive schemes in the development of ancient China – each region experienced a similar sequence of development, from Neolithic Age to Bronze Age to Iron Age on different time scales. However, the criticisms of the 'cultural evolution' are many. For example, many of the archaeological sequences in different parts of the world failed to show much evidence of following the same path of development. See also Shennan 2008.

<sup>309</sup> For an excavation report see Tangxiahuan 1998.

from the other site of the Nanling Mountains, imported either as exotic goods or practical items.

Also, people in the Lingnan-Fujian region may either have had very limited access to the full repertoire of bronze sets in the north, or they had exclusive interest in bronze weapons and tools, when they brought bronze products into this region. For example, the burial at Raoping, Guangdong, only contained one bronze dagger, which was accompanied by a stone adze. At the Daying deposit, where both types and numbers of bronze objects were limited, tools, weapons and music instruments form the majority, and bronze vessels were completely absent. A more recent excavation at Hulinshan has revealed a larger and better-preserved site with more dating evidence. However, bronzes unearthed from this site do not show more diversity than finds at other smaller sites.

Excavated in 2001,<sup>310</sup> twenty tombs have been uncovered at Hulinshan and C-14 dating of charcoal samples from tomb M13 and M18 has dated the site to c.1100 to 1000 BC. Three bronze objects from the site are all from tomb M19, which is also the richest tomb at the site, containing in total 29 objects. These three bronze items are one *ge* dagger, one *mao* spear and one bell (fig. 3-42). Even at Tangxiahuan, the only piece moulds are for the casting of an axe. At all sites in the Lingnan-Fujian region during this period, bronze vessels are absent. The limited repertoire of bronze objects in this region suggests that the societies here may only have had tenuous contacts with the Yangtze valley, where there was a stronger interest in bronze tools and weapons than in vessels.

Bronze tools and weapons may have been particularly favoured and were, therefore, brought in by local people of the Lingnan-Fujian region through occasional contacts, because of the practical functions of these objects. Bronze vessels, however, may not have been as popular or accessible, as most of them were in much larger sizes than small daggers and knives and thus more difficult to carry or transport. In other words, ritual practices and ideas that based on the use of sets of bronze vessels were not acquired or formed in the Lingnan-Fujian societies in the second millennium BC. At Hulinshan, all three bronze objects were from the richest burial at the site, suggesting that these imported goods were regarded as valuable objects and to a certain degree a symbol of status. However, so far there are no signs that bronze objects were extensively embedded in local ritual practices as they were in the Yangtze valley.

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<sup>310</sup> For excavation report, see Hulinshan 2003.

In a way, societies in the Lingnan-Fujian region were not completely excluded from the active bronze network on the northern side of the Nanling Mountains. Both products (a small number of bronze tools and weapons found at Raoping, Daying and Hulinshan) and ideas (forms and decorations of metal items as seen on pottery found at Huangtulun) of bronzes reached this region, though on a very small scale. However, the limited finds of bronzes in this region suggest that this region was at a very distant end of the bronze network. The spread of bronze products was not accompanied by the transmission and adoption of related technologies. Archaeological finds so far have not revealed any variations or modifications on bronze objects that were developed to meet any local interest or tastes in this region either. From this aspect, interregional contacts between the two sides of the Nanling Mountains in this period were rather tenuous. It is, therefore, difficult to regard societies on the southern side of the Nanling Mountains as an active participant of the second millennium bronze network. Within such a remote reach of the bronze network, most information and ideas from the other side of the Nanling Mountains, such as knowledge of technologies or the use of sets and decorative patterns, seem to have all been lost.

## **ii. The Lingnan-Fujian region in the ceramic network**

As discussed above, the Yangtze valley was a significant part of the interregional networks in the second millennium BC. While adopting a novel technology, societies here also developed and exported another technology and related products. However, it seems that the Lingnan-Fujian region also appeared less interactive in the network of ceramic technologies and products. The following section examines the production and use of ceramics in the Lingnan-Fujian region, and explores the position of this region in the ceramic network.

A large-scale kiln factory, the Mao'ernong kilns, has recently been uncovered in northern Fujian, during the construction of a highway in this area in 2005. The structures of kilns and products found at the site suggest that high-fired ceramics production was being carried out in the Lingnan-Fujian region in the late second millennium BC.<sup>311</sup>

Nine kilns have been excavated at the site, which covers an area of 275 m<sup>2</sup>, on both the

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<sup>311</sup> Excavation report on this ceramic production site has not been published yet. However, this site has been rated as one of the top ten archaeological discoveries in 2005 in China, and therefore been extensively reported and introduced. See Mao'ernong 2006 and 2007.

east and the west slopes of the Mao'ernong hill. Kiln structures found at Mao'ernong parallel those at Wucheng, Yingtan and in the lower Yangtze, including channelled dragon kilns and dome kilns. Five strata with cultural remains have been identified at the site, with the third and the fourth strata representing a period in the late second millennium BC. All kilns were found within these two layers. The positions of kilns across cultural layers suggest that the site was in continuous use for a long period, which is a sign of continuous local development.

Within layer four, dome kiln Y1, which was broken in by the later construction of dome kiln Y2, was found on top of part of dome kiln Y6. Dragon kiln Y4 was found on the west slope within the layer three and on top of a dome kiln Y5. Another dragon kiln (Y8) was found on the east slope, together with two dome kilns (Y7 and Y9), within layer three. The positions of dragon kilns in the upper layers of the site may have indicated that this kiln structure was introduced in a later period of the site. The remaining parts of two dragon kilns (Y4 and Y8) at Mao'ernong measure 5.38 and 5.56 metres on slopes from 4 to 10 degree. Both the relatively short length and small inclination of these kilns suggest that they were still at an early stage during the development of the dragon kiln structure, just as their parallels in the Yangtze valley.

High-fired ceramics seem to have been the major products of the Mao'ernong kilns. Most of these ceramics were also wearing a brownish or greyish glaze. Ceramic products at Mao'ernong are also, to a large degree, paralleling those in the Yangtze valley, including shouldered jars, *dou* vessels and *pan* basins (fig. 3-43). The find of the Mao'ernong kilns thus suggests the introduction of high-fired technologies, as well as the possibility of large-scale production of high-fired ceramics, in the Lingnan-Fujian region. Both the structures and products of the Mao'ernong kilns point towards links between the Yangtze valley and northern Fujian. Contacts between this area and the Yangtze valley may have taken the narrow path along the southeastern edge of the Mount Huang, which leads into the southern side of the Wuyi Mountains in northern Fujian.

Three sites in the present-day Fujian – Guangze, Hulinshan, and Huangtulun – further indicate the demand and use of high-fired ceramics in the Lingnan-Fujian region in the second millennium BC and the reach of these products in the south. The site located in the Guangze County, northern Fujian, is less than 200 km away from the Mao'ernong

kilns. Excavation in 1995 revealed a cemetery here.<sup>312</sup> This site was very likely to be in the reach of the products from the Mao'ernong kilns. Ten burials were found and dated to c. 1000 BC at Guangze, among which tombs M1 (7 x 4 m) and M9 (6 x 4 m) are so far the largest burials of this period in Fujian. While tomb M1 has 93 items and M9 has 80, other tombs at the same location contain only two to seven objects. High-fired ceramics have made up the majority of funeral goods in M1 and M9, indicating that these products were much valued here (fig. 3-44).

This repertoire of high-fired products at Guangze suggests similar preferences compared to the Yangtze valley. Appearing at a large number and the best quality, shouldered jars again seem to have been the most favoured objects at Guangze. Among 36 shouldered jars found, 22 were high-fired, including two glazed ones. Jars in other shapes, with double or single handles, are the largest category at Guangze. Tripod vessels, again, appeared as a minority, with only five in total found at the site (chart 3-5). One tripod bowl found at Guangze, however, parallels the products of the Yingtan kilns in Jiangxi (fig. 3-45), featuring a steep bowl on top of three feet pointing outwards. There is, therefore, little doubt that the production and use of high-fired ceramics in northern Fujian were part of the ceramic network of the Yangtze valley.

In the coastal area of Fujian, Hulinshan and Huangtulun contain much smaller tombs with less funeral goods than Guangze. However, high-fired ceramics have also been major finds at these two sites. At Hulinshan, they appeared in the shapes of shouldered jars, pots and *dou* vessels (chart 3-6). At Huangtulun, while showing distinct features of metal objects, up to 90% of the ceramics were high-fired, covering all vessel types found at the site (chart 3-7). Also, at both Hulinshan and Huangtulun, shouldered jars again appeared in the largest number, while tripod vessels were absent. Both types and quality of pottery finds, therefore, indicate close relations between the ceramic industries in the Lingnan-Fujian region and the Yangtze valley.

In present-day Guangdong, the so far largest cemetery in the Lingnan-Fujian region has been found at Wubeiling in the modern city of Shenzhen (map 3-3) in 2001. The Wubeiling cemetery contains 81 vertical pit burials dated to c. 1300 – 1000 BC.<sup>313</sup> Numbers of funeral goods in tombs ranged from one to five, demonstrating rather vague

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<sup>312</sup> For excavation report, see Guangze Chihu 2003.

<sup>313</sup> For excavation report, see Wubeiling 2009.

signs of hierarchies. While pottery vessels represent the majority of finds at Wubeiling, high-fired products take up to 20% of pottery finds and appear in four out of six types of vessels found at the site (chart 3-8). Vessel types at Wubeiling also parallel most other finds in the Yangtze region, including shouldered jars, *dou* vessels and bowls and cups being the majority, while tripod vessels are again absent.

It is, therefore, evident that high-fired ceramics had already reached the southern-most coastland of Mainland China in the second millennium BC, with the advanced ceramic industry in the Yangtze valley being the major source of technologies and designs. It seems that high-fired ceramics had a more extensive distribution and use than bronzes in the Lingnan-Fujian region, and the Lingnan-Fujian region was playing a more responsive role in the ceramic network than in the bronze network.

### **iii. Lingnan-Fujian region's role in the second millennium BC**

While intensive interregional contacts and local responses to new technologies and products were revealed in material remains on the northern side of the Nanling Mountains, societies on the southern side seemed to have developed fewer reactions towards the network on the other side of the mountains. Some products of the new technologies were brought to the Lingnan-Fujian region; however, there seem to be no widespread transformative changes in both technologies and material culture in this area. Indeed, even the few novel products that reached this region were limited to small numbers and scale, in comparison to the numerous finds in the Yangtze valley. In contrast to the 'negotiated periphery' status of the Yangtze valley societies within the networks of bronze and ceramics, the Lingnan-Fujian region appears to have remained as a 'margin'. The two novel technologies of the period made unbalanced appearance in the region, illustrating a similar picture as in the last millennium – imported technologies and material culture were adopted sporadically and dispersedly in the Lingnan-Fujian region, suggesting rather tenuous contacts with societies to the north.

Geographical conditions may have still been a major barrier of interregional contacts. In the previous period, narrow passes through the Nanling Mountains seem to have been used, leading to the appearance of cultivated rice and jade artefacts at sites such as Shixia and Xiaojin in the hilly area (see chapter 2 for details). However, these mountain paths seem to have been abandoned in the second millennium BC. Instead, the distribution of sites in the Lingnan-Fujian region suggests that a great part of the interregional contacts

in this period were achieved via sea routes along the coast. Most sites in which new products were yielded were located in coastal areas, instead of the hilly or valley area in the north of the region. The bronze yielding sites in the present-day Fujian province are all located on riverbanks and were less than 20 km from the rivers' estuary. The Tangxiahuan site, where two halves of bronze piece moulds were found, was a sand dune site located in the present-day coastal city Zhuhai (map 3-2). It appears that technologies and products from the Yangtze valley arrived in the Lingnan-Fujian region along the southeastern coast, and then moved inland along the rivers.

Indeed, compared to traversing thick jungles and crossing over mountain ranges at an average height of 1000 m, travelling along the coast with the help of seasonal sea currents along the southeast coast of China appears to be much easier. In winter, the northeast monsoon brings north-south currents along the Mainland China coast, from eastern China to the south coast through the Taiwan Strait. In summer, the southwest monsoon prevails and inverts the current. These sea currents may have been playing significant roles in the connections between the Yangtze valley and the Lingnan-Fujian region. It thus seems that the societies in the Lingnan-Fujian region during the second millennium BC were mainly linked to the extensive and active network to its north via the Yangtze valley and were largely based upon sea route communications, instead of river valleys and mountain paths. But the dependence of these sea routes may also mean that the contacts and travelling were probably seasonal instead of being routine, corresponding to the absence of signs of continuous and wide-scale communication between the Lingnan-Fujian region and area to its north.

#### **IV. Conclusion**

The circulation of new technologies and material culture radically changed the structure of the interregional network in the second millennium BC, as a whole range of new products and ideas were brought in to exchange and consume in the expanding interregional network and triggered different local responses. In this period, societies in the Yangtze valley seem to have been in an intensive process of exchanging or trading, demonstrated by the immediate adoption of bronze technologies and designs from the north and the export of high-fired ceramics. As a freely innovating region, where numerous local variations were made to the bronze objects and sets, the Yangtze valley was in an equally negotiating position to the Shang societies in the Yellow River basin.

The Lingnan-Fujian region remained a margin and was still drifting around the system, via tenuous contacts with the area to the north of the Nanling Mountains.

However, it was now the margin to a core/periphery system, rather than to an agricultural nucleus, as in the last millennium. The introduction of bronze technologies and designs from the north to the south, as well as the northward export of high-fired ceramics involved the Yangtze valley in a more extensive and intensive network. The Yangtze valley was, therefore, no longer a dominating 'core', as it has lost its leading position in the transmission of rice farming and related crafts. Both technologies and products were much diversified in the second millennium BC. This led to interregional relationships on different levels and directions. The concept of a 'margin' is, however, still a crucial one. The characteristic of the margin is that it is dominated by the absorption of 'escaped' or 'leaked' technologies and material culture, rather than being structurally interdependent with the core or periphery. This makes it still a useful term to apply on the Lingnan-Fujian region in the second millennium BC.

The networks of this period still greatly relied on the basic structure of the physical environment, that is, river systems and sea routes along the coast.<sup>314</sup> It was across such networks that human beings moved, carrying with them technological or cultural innovations, ideas and practices. Such networks of interactions were certainly already important in the late Neolithic period, but some routes seem to have become unused, for instance the mountain paths through the Nanling Mountains, while other routes were developed or intensified, such as the Yangtze valley and its tributaries, as well as the seaways along the coast.

Furthermore, it needs to be pointed out that, a 'liquidity'<sup>315</sup> started to be formed within the network between the three regions discussed here, through the convertibility of certain materials or designs, in this case bronzes and high-fired ceramics. These two new materials, and the technologies behind, became generally desirable over the three regions in the second millennium BC, because of the high quality products they brought. Moreover, these two materials could be made into different forms of local expression, from which they gained different value. The 'liquidity' of the network of this period was,

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<sup>314</sup> McNeal 2014, p. 186. For discussion on the role of existing river system in interregional networks, see also Sherratt 1996, pp. 211-32.

<sup>315</sup> In Sherratt's term, an element of 'liquidity' can be referred to materials, objects or designs, which are widely accepted, recognised and convertible between societies with different cultures and value system. Sherratt regarded such 'liquidity' as 'proto-currency'. See Sherratt 1993c, p.17.

therefore, manifested in the adoption of these two materials and the circulation of certain basic designs, such as the *ding* and *zun* vessel shapes. These basic designs were then converted locally to suit different forms of local expression. For instance, the basic bronze shapes and decorative patterns from the Shang were greatly altered in the Yangtze valley societies. In the Lingnan-Fujian region, the first and most important elements which were injected into here in episodes of catalytic contacts were the use of bronze for a range of weapons and tools and the production of high-fired ceramics.

The liquidity provided by the widespread use of bronzes and high-fired ceramics allowed a much greater degree of articulation between regions than it had been possible in Neolithic era. In the next millennium – the technologies of bronzes and high-fired ceramics firmly reached further in the Lingnan-Fujian region and experienced substantial local development across all three regions. As will be discussed in next chapter, the cumulative effect of these changes in material culture and technology would further alter the nature of the networks through the diversification of products.

## Chapter IV Further interaction in the first millennium BC

### I. Introduction

The traditional historiographical narrative has given an image of various states with changing territories and without an absolute political centre in the first millennium BC, though the royal Zhou household was still taken as a nominal ruler. Despite the chaotic situation given in written history, archaeological evidence shows that bronzes and high-fired ceramics were still two major materials circulating between southern and northern China and, therefore, are still important indicators of the interregional relationships of this period.

Examining the ‘liquidity’ of materials and designs in the network would reveal increasing articulation between regions, based upon the extensive use of bronze and high-fired ceramic. In the first millennium BC, bronze continued to play a major role in the Yellow River basin and its southward reach was no longer restricted to the Yangtze valley. The appearance of bronze vessels at the southern side of the Nanling Mountains has been manifested archaeologically by a dozen or so large tombs that have been found since the 1960s, such as the Yangjia tomb in Guangxi (early 5th century BC) and the Henglingshan cemetery in Guangdong (c. 1000 – 500 BC) (map 4-1).<sup>316</sup> Furthermore, high-fired ceramics now frequently appeared in the metropolitan area of the Zhou in northern Central China (map 4-2).<sup>317</sup> However, product designs and use contexts still varied in different areas. As will be addressed in below, this millennium witnesses various local adaptations and inventions in material culture, on the base of widely shared technologies. This chapter focuses on the local development of technologies, the transfer of designs between different materials, and the hybrid use of objects from different traditions in southern China, with the aim to demonstrate the interregional interactions of this period, as well as southern China’s position in the network.

The following discussion centres on the lower Yangtze valley and the Lingnan-Fujian region, where bronzes and high-fired ceramics presented a distinct regional culture. According to textual records, major states that appeared to the south of the Yangtze

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<sup>316</sup> For excavation reports, see Yangjia 1973 and Henglingshan 2005.

<sup>317</sup> For references to high-fired ceramics found in northern Central China during the Zhou period, see table 3-1 and map 4-2.

valley in the first millennium BC were Chu, Wu and Yue. The Chu (7<sup>th</sup> century – 223 BC) state was founded during the Western Zhou period in an area north of the middle reaches of the Yangtze River. It is believed that the capital of Chu changed locations several times but its main territory remained in Hubei province north of the Yangtze.<sup>318</sup> Most scholars follow the historiographical tradition in assuming that Chu continued to expand in the second half of the first millennium BC and its power reached as far as the Lingnan area.<sup>319</sup> However, Ou Jiafa has pointed out that the notion of Chu's power reaching the Lingnan area only appeared after the Jin 晉 dynasty (AD 265-419) and even later historical writings.<sup>320</sup> According to Ou, this early precedent of Chu's control of a vast area of the south is spurious and may have been motivated by wishful thinking on the part of migrants from the north, who hoped to imbue their presence in the south with some time-depth. Falkenhausen further pointed out that "Chu was insignificant (and remains archaeologically unidentifiable) until the late seventh century when the state started to expand from a home base, the location of which is still in dispute, to conquer most of what is now west-central Hubei and southwestern Henan."<sup>321</sup> Falkenhausen also suggests that Chu was part of the Zhou state system, and that its material culture – at least that of the aristocracy – is in all essential respects indistinguishable from that of its northern neighbours.<sup>322</sup> This chapter, therefore, will not discuss Chu as part of the south.

In the area along the lower Yangtze valley, Wu and Yue were two major powers in the first millennium BC, described in textual records. Their territories include present-day southern Jiangsu, northern Zhejiang, southern Anhui and parts of northeastern Jiangxi. These two states came to power at about the same time and had control of similar areas at different times, along with the rise and fall of their power. The *Chunqiu* chronicle records the first of Wu's diplomatic overtures to the Zhou league in the year 576 BC. One hundred years later, in 473 BC, Wu was defeated by the more southerly Yue. Yue, by contrast, is an almost unknown entity during the Spring and Autumn period (770 – 476 BC). Its name, which means "The Beyond," is used in two distinct meanings: as a collective designation for a variety of groups spread over a wide terrain, and as the name

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<sup>318</sup> Li Xueqin 1985, p.163. However, Falkenhausen argued that the Chu political core may have been located more closely to the northern Central China, rather than to the Yangtze valley. Falkenhausen 2001, p.197.

<sup>319</sup> Li Xuqin 1985, pp.201-205, Xu Hengbin 1982 and Jiang Tingyu 1982, see also Falkenhausen 2001, p. 196.

<sup>320</sup> Ou Jiafa 1991, pp.131-142.

<sup>321</sup> Yu Weichao 1985, pp.211-269, see also Falkenhausen 2001, p.197.

<sup>322</sup> Li Ling 1991, Falkenhausen 1991 and 2006, pp.514-525, see also Falkenhausen 2001, p.197.

of a polity centred upon the Shaoxing area in central Zhejiang<sup>323</sup> from no earlier than 6<sup>th</sup> century BC to 306 BC, when it was conquered by Chu.

The major archaeological finds in the area that roughly corresponds to the territories of Wu and Yue in the lower Yangtze area are represented by a large number of mounded toms. This specific burial patterns stands out saliently among other burial patterns used in most other areas in the first millennium BC. Instead of having tomb pits and coffins underground, mounded tombs are characterised by high and large earthen mounds above ground. Despite differences in periods and regions, there are three principal types of mounded burials: simple earthen mounds with no burial pits or chambers, mounds containing chambers and burial pits, and mounds containing not only chambers but also tomb passages and niches. Coffins, which are usually seen in vertical-pit tombs, are absent in mound burials. Material items unearthed from mounded burials, as will be discussed in below, demonstrate links with and differences from the northern Central China.<sup>324</sup>

Though the region where mounded burials clustered has been traditionally regarded as the territories of the Wu and Yue polities, the spatial and time span of this burial pattern, in fact, greatly exceeds the territory and the era of the Wu and Yue.<sup>325</sup> The earliest known instances of mounded burials seem to date to the second half of the second millennium BC.<sup>326</sup> A recent excavation in 2005 has revealed a number of mounded burials in northern Fujian,<sup>327</sup> suggesting a southward spread of this burial form from the south of the lower Yangtze to the further south, the Lingnan-Fujian region. This newly discovered mounded tomb site in northern Fujian will be discussed in below with more details.

There are very few textual records from the Lingnan-Fujian region in the first millennium BC. In early textual sources (all written in the north), people on the other side of the Nanling Mountains are lumped with all non-Zhou populations south of the Yangtze, under the term “Baiyue” (百越, Hundred Yue), a name that indicates not only their perceived remoteness, but also their political fragmentation. No cities or states in this region have been recorded, and it is believed that the population was organized at

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<sup>323</sup> Falkenhausen 2006, p. 526.

<sup>324</sup> For comprehensive discussions and important studies on mounded burials in lower Yangtze, see Zou Heng 1981, pp.46-51, Li Boqian 1981, pp. 133-43, and Yangnan 2013.

<sup>325</sup> Yang Nan 2013, pp. 34-41.

<sup>326</sup> Mou Yongkang and Mao Zhaoting 1981, p.57-84. Falkenhouse 2006, p.527.

<sup>327</sup> Guanjiucun 2007, pp. 28-37.

what anthropologists would call the chiefdom level.<sup>328</sup> The texts make frequent reference to “barbarian” customs present in these southern areas, such as cutting one’s hair short and tattooing one’s body, wearing clothes made from rough plant-fibres, and living in pile-dwellings.<sup>329</sup> As reviewed in the first chapter, this traditional notion should not be accepted uncritically. Several large tombs and cemeteries, such as Nanmentong and Henglingshan, datable to the first millennium BC, demonstrate much more elaborate material culture than in the preceding period, suggesting a more active role of this region within the network.

In this chapter, three major sites in the Yangtze valley and the Lingnan-Fujian region will be examined to demonstrate further interregional interactions in the first millennium BC. At the north shore of the Lake Tai, the clustered mounded burials at Hongshan present a large assemblage of high-fired ceramics, which must have been supported by prosperous local ceramic industry. The high-fired ceramics from Hongshan and the few bronzes from other mounded tombs in the same region, however, demonstrate designs transferred between bronzes and ceramics, suggesting both regional features and contacts with the north. In northern Fujian, the mounded burials group at Guanjiucun indicates links between northern Fujian and Zhejiang, as well as indirect and ‘delayed’ contacts with the Yellow River basin. In Guangdong, the Henglingshan cemetery demonstrates distinct regional characteristics by the haphazard use of bronzes and high-fired ceramics, suggesting the influx of material culture from different sources. The negotiation of material culture as demonstrated at these sites together show the changing pattern of interregional interaction of this period.

## II. The lower Yangtze valley: ongoing negotiations of material culture

The bronze manufacture in the lower Yangtze enjoyed legendary fame in the first millennium BC, especially for its weapons. Swords and spears of exceptional quality, razor-sharp even today, and with dazzlingly patterned surfaces, appear from the late sixth century BC onward, for instance the sword of the Wu King Gufa 姑馜 and the sword of the Yue King Fuchai 夫差, both dated to the first quarter of the fifth century BC.<sup>330</sup> There are also some exceptional bronze objects with specific designs which have no

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<sup>328</sup> Service 1971, Allard 1994.

<sup>329</sup> For more discussion on the use of the term ‘Yue’, see Peters 1990 and 2001. See also table 1-2.

<sup>330</sup> See Gufa 1990 and Fuchai 1966.

equivalent in the Zhou repertoire, for instance a three-wheeled pan from Yancheng,<sup>331</sup> and a bird-topped house model with musician figures inside from tomb 306 at Potang,<sup>332</sup> demonstrating an unusual interest in narrative representation (fig. 4-1). Such idiosyncratic objects were apparently produced locally for local consumption, suggesting a highly developed bronze industry in the lower Yangtze in this period.

However, bronzes never appeared to be the majority of items found in burials in this area. Instead, the funeral goods from mounded burials, which were a major burial pattern in the area, are mostly high-fired ceramics. This may have been closely related to the highly developed ceramic industry in this area, which was still a strong stimulus of interregional contacts in the first millennium BC. Also, numerous high-fired ceramics found at mounded tombs in the lower Yangtze present distinctive local sets of material items, as well as designs transferred between bronzes and ceramics. The high-fired ceramic products in the region can, therefore, be an indicator of both local economy and the interregional contacts of between the north and the south in this period. The Hongshan necropolis, which is so far the largest find of high-fired products, is a good example.

### **i. High-fired ceramics from the Hongshan necropolis**

As discussed in the preceding chapter, bronzes have always had an important place in ritual contexts in the Yellow River basin. The Zhou took over the rule of the Central Plains in the late 11<sup>th</sup> century BC and a transformation of the ritual system was launched in the first half of the 9<sup>th</sup> century.<sup>333</sup> However, just as the Shang, the Zhou ritual practices and performances still greatly relied on the use of bronze vessels. The Hongshan necropolis in lower Yangtze, the biggest mounded tombs cluster so far reported, has on the contrary yielded nearly 5000 pieces of high-fired ceramics in various types, while bronzes are completely absent. The material culture in this area is, therefore, in stark contrast to that in the northern Central China. With the ability of casting high quality and

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<sup>331</sup> Yancheng 1959.

<sup>332</sup> Potang 1984.

<sup>333</sup> Several major finds of bronze hoards and tombs in present-day Shaanxi from early to late Western Zhou, such as the Gaojiabao tomb (early Western Zhou) excavated in Jingyang, Shaanxi, the Zhuangbai bronze hoard (early to late Western Zhou) and the Zhaochen bronze hoard (late Western Zhou) at Fufeng, Shaanxi, have evidently demonstrated shifting interest from wine vessels (for instance *jue* and *gu* cups) to sets of food vessels (such as *ding* and *gui*). Vessels in much larger sizes, such as *hu*, *dou*, and *ju*, have also been introduced (figs. 4-2, 4-3, 4-4 and 4-5). For site information, see Gaojiabao 1972, pp. 5-8, Zhuangbai 1978, pp. 1-18, and Zhaochen 1972, pp. 30-35. For the ritual reform, see Rawson 1989, pp.71-95, also Rawson 1986, pp. 228-238.

novel bronzes as mentioned above, it is unlikely that such a contrast is due to gaps in bronze technologies between the two societies, but rather the result of local preferences.

*a. The ceramic 'set' at Hongshan*

Excavated from 2001 to 2005, the Hongshan necropolis is located by the Lake Tai in southeastern China, at the border of the two modern cities Wuxi and Suzhou (see map 4-1). The whole site covers an area of 24 km<sup>2</sup>, containing nearly fifty mounded tombs dating from 500 to 300 BC according to five carbon-14 datasets.<sup>334</sup> Among the seven tombs excavated by 2005,<sup>335</sup> tomb DVII Qiuchengdun is the second largest mounded tomb found in China (fig. 4-6) as of yet, measuring 78.6 x 50.8 m<sup>2</sup> with a height of 5.4 m.<sup>336</sup>

Qiuchengdun contains the largest set of ceramics of this region so far (also of the highest quality with more than half (581 out of 1098) glazed, fig. 4-7 and fig. 4-8) including food vessels (nineteen *ding*, 23 *dou* stemmed cups, 162 bowls and seven *bo* bowls), drinking vessels (a set of wine warmer, a set of wine cooler, one *lei*, three *he*, 96 cups), water vessels (nine *hu* pots, four *yi*, two *jian*, nine *pen*, 41 *pan* basin, two sets of drainers), and musical instruments (140 pieces in ten types) (fig. 4-9 & fig. 4-10). In comparison to the common ritual vessel sets in northern China, the Qiuchengdun set is not centred on tripod *ding* or *gui* vessels. Instead, it is bowls and cups that appear in largest numbers at Qiuchengdun. These simple and small vessels never appeared in the north in such large numbers. The cups are no higher than 8 cm with a bottom diameter of no more than 6 cm (fig. 4-11, bottom). They perfectly fit into a wine warmer and cooler unearthed at the same tomb, an object are also never seen in Zhou contexts. Other vessels at Qiuchengdun, though forming a large set, seem to appear in random numbers.

The nineteen *ding* vessels in the Qiuchengdun set demonstrate completely different characteristics from those in the Zhou sets. These *ding* vessels are the so-called “Yue-style *ding*”, which are usually flat-bottomed vessels with slender, outward-bent legs and small, rim-attached handles (fig. 4-12). Chinese scholars have used the label of “Yue-style *ding*”

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<sup>334</sup> See Hongshan 2007, p. 352-353.

<sup>335</sup> The seven excavated tombs at Hongshan are tomb DI Laohudun, tomb DII Laofendun, tomb DIII Caojiafen, tomb DIV Zoujiadun, tomb DV Dujiafen, tomb DVI Wanjiafen, and tomb DVII Qiuchengdun. For a full excavation report, see Hongshan 2007.

<sup>336</sup> The largest mounded tomb so far excavated is the Yinshan tomb, which measures 72 x 36 m<sup>2</sup>, with a height of 10m. See Yinshan 2002. However, the Yinshan tomb was looted before excavation, therefore little was found and few clues are available about the occupant and funeral goods of this tomb.

loosely in the archaeological literature to designate a variety of tripod-types widespread from around 800 to 200 BC throughout southern China.<sup>337</sup> The vessel bodies are usually unornamented and thin-walled. On some ornamented *ding* vessels, stamped 'S'-shaped or 'C'-shaped patterns were used, instead of the coiled dragons, bird motifs and scale patterns, which were typical on Zhou vessels. With such distinctive local features, this ceramic set at Qiuchengdun is unlikely to be just a cheap copy or substitute of the bronze sets used in the north. Instead, the use of high-fired ceramics at Hongshan and other mounded burials in the same area appear to be rooted in the local ceramic industry.

*b. The local ceramic industry*

Indeed, the absence of bronzes and the predominant high-fired ceramic products in this area should not be a surprise. After all, the tradition of making high-fired and glazed ware was of very long standing in this part of China. The development of local interests in and the tradition of using ceramics must thus be understood in relation to an important local economic factor – the ceramic production.

As discussed in the last chapter, the high-temperature firing and glazing processes were already achieved in the mid-2nd millennium BC in southern kilns, particularly at kiln factories in the present-day Jiangxi and Zhejiang provinces. The flourishing Bronze Age ceramic industry of the Lower Yangtze region is the fountainhead of the outstanding porcelain-manufacturing traditions in this part of China, which continue to the present day. The kiln area along the Dongtial River south of the Lake Tai, which was already in use in the second millennium BC, seems to have been in continue use and was even further developed during the first millennium BC.<sup>338</sup>

Another kiln factory site, the Tingziqiao kiln, was unearthed in 2008 and dated to the time of the Hongshan site.<sup>339</sup> At Tingziqiao, remains of seven kilns for high-fired and glazed wares were found and deposits of ceramic remains are as thick as 50 cm, suggesting massive production at the site. Furthermore, the ceramic products here seem to have covered the whole range of objects seen at Hongshan (fig. 4-13). Besides vessels such as *ding*, *pan*, bowls and cups, all distinct local types of ceramic musical instruments found at Hongshan are also seen at Tingziqiao, including *chunyu*, *goudiao* bells and drum bases.

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<sup>337</sup> Peng Hao 1984, Yu Weichao 1985.

<sup>338</sup> See Dongtiaoqi 2011.

<sup>339</sup> For a brief excavation report, see Tingziqiao 2009.

These finds thus point towards a concentrated kiln area around the Lake Tai at the time of the Hongshan site.<sup>340</sup> The strong interest in ceramic products in mounded tombs was, therefore, rooted in and supported by the flourishing ceramic industry of this area. High-fired ceramics represented the highest technological achievement of this area. They must have had a high market value, as well as a cultural one to the local people. Indeed, southern societies in the last millennia, as discussed in the last chapter, already demonstrated much higher interest in using high-fired ceramics in ritual contexts than the societies in northern Central China, as indicated by the Xin'gan tombs to the south of the Yangtze, and a number of cemeteries in the Lingnan-Fujian region. Both the larger kiln factories and the large number of ceramics found at various southern sites suggest further development of both the manufacture and the use of high-fired ceramics in the first millennium BC, as well as increasing demands for these products. High-fired ceramics remained a valuable product regardless of its ubiquitousness in the south, as it was still much more superior to the contemporary low-fired earthenware, in terms of appearance, hardness, and porosity, which could be produced by village artisans or even at the household level.

Furthermore, these high-fired products were still acting as a major driving force of the interregional network between the south and the north in the first millennium BC. While the mass production sites of high-fired ceramics in this period were still greatly restricted to the area south of the Yangtze, glazed stoneware vessels appear to have been continually exported as luxury items into northern China. From tomb M1 at the Gushi County in Henan, three delicate high-fired cups, covered in greenish glaze have been unearthed, which are almost identical to those from Qiuchengdun (fig. 4-11, above).<sup>341</sup> The inscription on a bronze *fu* unearthed from the same tomb indicate that the tomb occupant was Madam Gouwu 勾馭, the younger sister of the King Jing of Song, who was a descendant of the Shang royal family but surrendered to the Zhou and was then conferred a title of king and land in present-day Henan. The time of Madam Gouwu roughly parallels with that of the Hongshan cemetery, indicating a contemporary ceramic market in the north, which was still greatly dependent on the ceramic industry in the south as a production centre. Table 3-1 lists finds of high-fired ceramics at major Zhou sites and elite burials. Their appearance (usually in the southern types) suggests that the

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<sup>340</sup> For an introduction of numerous kiln factories dated to c. 500 – 300 BC along the Dongtiao River, south of the Lake Tai, see Zhu Jianming 2009.

<sup>341</sup> Gushi 1981.

ceramic network, which had its chief impetus in the south, was still a principal aspect of interregional contacts in the first millennium BC. Indeed, high-fired ceramics may have been a widely desired product with great marketable value in the first millennium BC, instead of a material inferior to metal. The use of high-fired ceramics in mounded burials in the lower Yangtze was, therefore, not a ‘compromise’ due to the weakness in metallurgy but rather an indicator of local preferences in material culture stemming from the superiority in local ceramic production.

*c. Transferrable designs*

Though high-fired ceramics were the dominating object found at Hongshan and almost all other mounded burials in lower Yangtze, many of these objects have bronze parallels, some of which were often seen in Zhou contexts in northern Central China, for instance the tripod *ding* vessels, *pan* basins and *he* pots. Indeed, a large part of high-fired ceramics from Hongshan must have had a bronze counterpart in daily life. Otherwise these vessels, such as the food vessel *ding*, wine warmer and cooler, and a stove (fig. 4-14), would not have been practically useful, because of the athermancy of ceramics. The high-fired ceramic musical instruments in set are probably the most eye-catching objects at Hongshan. However, they could not have been ‘played’ as real musical instruments, as they cannot bare any strike to produce specific tunes. These objects must have metal prototypes.

However, instead of taking these objects as mere copies of the actual bronzes, I shall argue that they demonstrate an interesting phenomenon of interregional contacts between the south and the north: some designs were being transferred between or incorporated into different materials. In other words, product designs (regardless of the material used) were an important element of ‘liquidity’ within the interregional networks of this period – some of them were widely adopted and recognized and, therefore, a value carrier themselves within the network. The ceramic bells from Qiuchengdun at Hongshan, though have lost their practical music function, still show some specific designs of bronze bells from the north, as well as the incorporation of local and imported ideas of music.

A large set of ceramic musical instruments has been unearthed from Qiuchengdun at Hongshan, including 26 *yongzhong*, eleven *bozhong*, sixteen chimestones (*qing*), 29 *goudiao*, ten *chunyu*, three *dingning*, four *zhenduo*, three *fou*, four drum bases and 34 *xuanling* (fig. 4-

10). Southern China may have been a birthplace of several major instruments, which were widely used in Zhou contexts, for instance *yongzhong* and *bozhong*.<sup>342</sup> However, the idea of manufacturing them in chimed sets does not seem to have occurred to the southern bronze casters, nor to musicians. All *nao* bells found in south China are single specimens; even when several are found together, they never constitute a chimed set.<sup>343</sup> *Yongzhong* were only first manufactured as chimed sets in Shaanxi from mid-Western Zhou.<sup>344</sup>

Ritual music was an important part of Zhou court culture and bronze bells seems to have been increasingly important in the standard Zhou set after the ritual reform around 850 BC. The Zhuangbai hoard, for example, contained bronzes belonging to several successive generations of a family from early to late Western Zhou, therefore demonstrating the transition of preference in the use of bronze items before and after the ritual reform. Interests in music instruments seem to have grown stronger among the later generations. For example, twenty-one *yongzhong* in different sizes were introduced to a group of bronzes, which belonged to Wei Bo Xing 微伯癘, who was in the fourth generation of the family (fig. 4-15).<sup>345</sup>

Another example of bronze bells in Zhou context is from the Guo State necropolis where two sets of bronze bells have been recovered from tombs M2001 and M2009.<sup>346</sup> Tomb M2001 contained eight *yongzhong* bells, which can be divided into two groups, the high-pitched group and the low-pitched group (fig. 4-16, bottom two rows). Each group contains four bells, which have similar shapes and surface decorations but are descending in size. All *yongzhong* bells found in M2001 are carrying inscriptions, which state that these bells were made to order by the Guo King Guoji 虢季, the tomb occupant. Tomb

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<sup>342</sup> Falkenhausen has convincingly argued that *yongzhong* bells were developed from *nao* bells which appeared to the south of the Yangtze early in the third millennium BC. For the transition from *nao* bells to *yongzhong*, see Falkenhausen 1993, pp. 151-7. Like the *yongzhong*, *bozhong* also originated in the area south of the Yangtze in the time corresponding to the late Shang and early Western Zhou. *Bozhong* were locally produced as chimed sets soon after they were introduced into the metropolitan Zhou area. Falkenhausen 1993, p. 158.

<sup>343</sup> Falkenhausen 1993, p. 139. To assemble bells into chimed sets seems to have been an idea from the north. The tomb of Fu Hao at Anyang contains an early example, in which *nao* bells and chimestones (*qing*) were assembled together. See Fu Hao 1980.

<sup>344</sup> Falkenhausen, p. 157.

<sup>345</sup> Zhuangbai 1978, pp.1-18. See also Rawson 1986 and 1989.

<sup>346</sup> The Guo State (dated c. 877-771 BC) is said to have been granted to the family of the Zhou King Wu's uncle and it was located very close to the Zhou capital. The burial patterns of the Guo state necropolis should, therefore, be expected to follow the Zhou style. The site is located at Sanmenxia (map 4-1), Henan, where two Guo Kings, two princes, and one King's consort were buried. For an excavation report, see Sanmenxia 1999.

M2009, dated slightly earlier than M2001, contains an even larger collection of bronze bells, including one set of eight *yongzhong* bells and another set of eight *niu zhong* bells. Inscriptions on these bells have stated that another Guo King, Guozhong 虢仲, who was a highly valued assistant of the Zhou kings, ordered them.

As put by Falkenhausen, “Chimed sets in the Zhou contexts were, therefore, luxury ritual objects, which were linked to the definition of social rank and to the control over human and material resources, and they embodied an intimate linkage with the ideological superstructure and its performative enactment through ritual.”<sup>347</sup> In the Zhou realm, “bell-owners probably regarded the music performed on these instruments not merely as aesthetically pleasing but as empowering in a very concrete sense.”<sup>348</sup> Furthermore, as a large number of bell sets were buried in Zhou deposits or in Zhou tombs, it seems these musical instruments were also functioning as symbols of wealth and status of their owners; even when they were not being played for music. In other words, these bells may have had extramusical functions, which were implemented when they were displayed. In this case, it is the designs of individual bells and the powerful images of a whole chimed set, that evoke people’s feelings at a certain ritual circumstance. Therefore, when the idea of chimed sets was borrowed by the southerners, the designs of bells may have been the first element that was noticed and acquired.

As mentioned above, bells were rarely made into sets in southern China before the first millennium BC and the function of these bells may not have been a musical one. Instead, they may have been used as “signal-giving implements, whose main function was to produce a noise.”<sup>349</sup> In comparison to these early bells, the large sets of *yongzhong* and *bozhong* appearing at Hongshan suggest the idea of using them as musical instruments in a ritual orchestra, which may have derived from the Zhou court in the north.

Indeed, *yongzhong* from Hongshan seem to have demonstrated the major designs from both the mid and late Western Zhou. Some *yongzhong* bells from Qiuchengdun feature *zhuan* ridges (fig. 4-17) in the form of rows of small studs, which is a major characteristic of Middle Western Zhou bells (fig. 4-18). During the late Western Zhou period, the *zhuan* section on *yongzhong* was often executed as raised ridges, as seen on finds from

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<sup>347</sup> Falkenhausen 1993, p. 66.

<sup>348</sup> Falkenhausen 1993, p. 66.

<sup>349</sup> Falkenhausen 1993, p. 67.

Qijiacun<sup>350</sup> and the third Xing-*yongzhong* from Zhuangbai in Shaanxi, as well as on samples from Qiuchengdun at Hongshan (fig. 4-19). *Bozhong* found at Hongshan, however, mostly shows features from after the seventh century, when lateral flanges were no longer present on their bronze parallels.<sup>351</sup>

Another evidence of the adoption of designs of chimed sets from the Zhou is the appearance of *qing* chimestones<sup>352</sup> in the Qiuchengdun set. Unlike *yongzhong* and *bozhong*, the tuned slab *qing* has a north origin<sup>353</sup> and has been used to accompany *yongzhong* and *bozhong* in chimed sets in the Yellow River basin. A set of *qing* (fig. 4-10, top row) has been unearthed from Qiuchengdun together with the ceramic *yongzhong* and *bozhong*, suggesting that the ritual orchestra of the Zhou court may have been known in the south, as bells were associated with *qing* chimestones. Indeed, the idea of displaying bells in sets and the adoption of the basic designs of different bells suggest that the owners of these ceramic bells at Hongshan were in contact with their northern neighbours, probably over a long period from mid-Western Zhou to early Eastern Zhou.

However, inscriptions are absent on all bells from Qiuchengdun,<sup>354</sup> and the figurative decoration in *zhuanyan* panels has been greatly simplified on the ceramic *yongzhong* at Hongshan. This simplification in design suggests that, while adopting the shapes of *yongzhong* from the Zhou court, people from the south may not have completely understood or adopted the functions and contexts in which these bells were used in the north. Cast in bronze, carefully arranged and inscribed, bells used in the north were not only musical instruments but could also be a demonstration of social status or a record of important events. However, people in the south seem not to have been interested in or paid very little attention to the original cultural context of these musical instruments but just took up the basic designs. This suggests that the lower Yangtze and the Zhou court may not have been in a close enough relationship, in which the latter could have imposed a whole package of designs and ideas on the former, or the former could have faithfully followed the latter, passively or on its own initiative. Rather, the Hongshan case seems to have indicated just a distant ‘inspiration’.

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<sup>350</sup> Qijiacun 1979.

<sup>351</sup> Falkenhausen 1994, p. 174.

<sup>352</sup> A tuned slab of stone used with a musical function. Single large chimestones, which go back to the late third millennium BC, are among the earliest known Chinese musical instruments. Most later chimestones function as components of lithophones. Falkenhausen 1993, p. 139, 402.

<sup>353</sup> Falkenhausen 1994, p. 132.

<sup>354</sup> Almost all of these Zhou bells are inscribed and hence of interest as historical documents. Falkenhausen 1993, p. 165.

Furthermore, besides *yongzhong*, *bozhong* and *qing* which were commonly used in the north, Qiuchengdun contained another eight types of musical instruments, most of which have never been seen in northern Central China. These include *goudiao*, *xuanling* and *chunyu*.<sup>355</sup> A single piece of the ceramic bell such as *yongzhong* or *bozhong* from Hongshan may look similar to those found in the north. But if we look at the whole set of musical instruments found at Hongshan, it can be seen that such a ‘band’ would have produced completely different music from that of the Zhou court. The ritual ideas and practices behind the music would have been different in the south as well.

Though having applied the designs of some most commonly used bronze bells from the north, the Qiuchengdun bells are unlikely to be copies or substitutes of bronze ones, as these bells were found in association with locally developed objects and sets. Instead, the ceramic sets at Hongshan demonstrate incorporations of both imported and local designs. In the course of interregional communication of this period, there seems to have been further separation of designs, materials and meaning carried by objects. The designs of individual *yongzhong* and *bozhong* bells in the south thus demonstrate a major element of ‘liquidity’ within the network. However, while the material was converted, contextual information of these bells in the north were also largely missed or overlooked during the transfer to the south.

## ii. Bronzes from lower Yangtze

Though never a majority, bronzes have been unearthed from some mounded tombs such as Muzidun in Jiangsu and Tunxi in Anhui.<sup>356</sup> However, these bronzes from mounded burials in the lower Yangtze valley seem to suggest increasingly detaching relationships in material culture between the north and south. While the application of ceramic chimed-sets at Hongshan suggests contacts with the Zhou, the use of bronze vessels in other mounded tombs shows selective adoption. On one hand, standard bronze sets were still

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<sup>355</sup> *Goudiao* bells are absent in the Central Plains context and textual records. However, there have been bronze *goudiao* bells found in southeastern China, with inscriptions naming themselves *goudiao*, for instance the “Pei’er” 配兒 *goudiao* unearthed in Shaoxing, Zhejiang, and the “Gufeng” 姑馮 *goudiao* found in Changshu, Jiangsu. See Shaoxing 1983 and Dong Chuping 1992. *Xuanling* bells are also absent in textual records. Previous finds of single *xuanling* were mainly from southeastern China and had been thought to be a type of weight. See Shaoxing 2000. *Xuanling* bells appeared in groups with other musical instruments for the first time at Hongshan, indicating them a type of musical instrument. *Chunyu* bells also appear exclusively in southeastern China. See Hongshan 2007, p. 344.

<sup>356</sup> Muzidun and Tunxi are among the few mounded burials in lower Yangtze in which bronzes form the majority of funeral goods. The mounded tomb at Muzidun contained nine bronze vessels and the two mounds at Tunxi have yielded sixteen vessels. Both sites were dated to mid-late Western Zhou. See Muzidun 1984 and Tunxi 1959.

absent in the south in the first millennium BC. On the other hand, people in the lower Yangtze area seem to have had an exclusive interest in bronze vessels from the north prior to the 8<sup>th</sup> century BC. The ritual reform, which took place in the Zhou realm around 850 BC and brought significant changes to the Zhou bronze set, seems to have had very little if any effect on the furnishing mounded tombs datable to late Western Zhou or even Eastern Zhou.

As mentioned in the previous section, the ritual reform brought significant changes to the Zhou bronze sets after the mid 9<sup>th</sup> century BC. As demonstrated by the Zhuangbai hoard, wine vessels were replaced by food vessels in sets and bells became increasingly important (fig. 4-5). Some items, for instance the *zun* vessels, which feature a flaring mouth, elongated neck, round body and high ring foot, also came out of use.

The aforementioned Guo State necropolis shows another example of bronze sets after the ritual reform. Excavations at this site in 1956, 1957, 1990 and 1991 have revealed 252 tombs in total, including the already mentioned tombs of two Guo Kings (M2001 and M2009).<sup>357</sup> Both tombs were vertical pit tombs, accompanied by large-scale chariot pits and sacrificial pits. Tomb M2009 has yielded 29 *ding* vessels while tomb M2001 contained seven *ding* tripods and six *gui* (fig. 4-16, top two rows). These bronze vessels share the same shapes and surface decoration but appear in descending sizes to form a complete set.<sup>358</sup>

Another post-ritual reform example is the Zhaochen hoard at Fufeng Shaanxi, dated to late Western Zhou. The hoard is comprised of five *ding*, eight *gui*, two *hu* pots, one *yi*, one *pan* basin and two wine ladles (fig. 4-4). The *ding* and *gui* vessels here are identical in design.<sup>359</sup> These two sites have demonstrated the typical bronze sets of Zhou after the ritual revolution in mid-9<sup>th</sup> century BC, in which *ding* and *gui* vessel sets form the majority.

However, such sets constituted of food vessels (mostly *ding* and *gui*) with similar designs but in different sizes seem to have always been absent in the south. Instead, the bronze furnishing of most mounded tombs demonstrate much stronger interest in weapons and tools than in vessels, which seems to have been a tradition in the south. In the areas near

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<sup>357</sup> The excavation report of M2009 has not been published yet. Information of this tomb, however, can be found in an essay collection *Guoguo mudi de faxian yu yanjiu* 虢國墓地的發現與研究. See Guoguo 2000.

<sup>358</sup> One of the principal features of changes in ritual bronze vessel sets is, as pointed out by Jessica Rawson, the use of identical *ding* and *gui* in sets to indicate rank. See Rawson 1986, p.230.

<sup>359</sup> Zhaochen 1972, pp. 30-35.

Dantu in the present-day Jiangsu province, mounded tombs extend over approximately 8 km on the hilly south bank of the Yangtze. High-fired ceramics were, again, the major finds here, while bronzes usually occurred in weapons, such as *mao* spears, *ge* daggers and swords.<sup>360</sup>

In the case of bronze vessels, finds from mounded burials mainly show contacts with the Zhou before mid 9<sup>th</sup> century BC. For instance, the Muzidun tomb (dated to the late Western Zhou) at Dantu, Jiangsu,<sup>361</sup> has unearthed a *gui* vessels, which can be compared with an almost identical *gui* vessel from tomb M17 (early to mid Western Zhou) at Huayuancun, Chang'an County in Shaanxi (fig. 4-20).<sup>362</sup> Another good example is the use of *zun* vessels, which had fallen out of the Zhou bronze sets after the ritual reform in northern Central China. These vessels were, however, still seen at later mounded tombs in the lower Yangtze. A high-fired ceramic *zun* from tomb M1 at Tunxi, dated to mid-late Western Zhou, was accompanied by a bronze *zun*. The latter is in nearly the same profile as the ceramic one (fig. 4-21).<sup>363</sup> It thus seems that, in comparison to the long-term interest in bell sets as demonstrated above, people in the lower Yangtze only had interest in the Zhou bronze vessels from a relatively confined period of time.

Furthermore, people from the lower Yangtze seem to have little interest in making bronze vessels in sets. On contrary, the use of bronze vessels in mounded tombs seems rather haphazard, as demonstrated by the *ding* vessels from mounded burials. Bronze *ding* in the “Yue-style” and of the northern types were both used in a few mounded tombs. The two bronze *ding* tripods from Muzidun are in a typical Zhou type. Both have cylindrical legs and upright ears and wear a band of decoration just under the rim, featuring *yunlei* pattern and bird motif, which were typical on Zhou bronzes (fig. 4-22). These two *ding* vessels can be compared with those unearthed from the mid Western Zhou tomb 19 at Qijiacun, Fufeng, in present-day Shaanxi (fig. 4-3: a & b).<sup>364</sup>

The Tunxi mounded tombs in southern Anhui, however, have yielded one bronze *ding* vessels in the “Yue-style” and three less typical “Yue-style” *ding*, with legs pointing less outward (fig. 4-23).<sup>365</sup> There did not seem to exist as strict rules in the use of *ding* vessels

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<sup>360</sup> See Dantu 1993 and 2007.

<sup>361</sup> Muzidun 1984.

<sup>362</sup> For an account of the *gui* from Huayuancun, see Haojing 1986, pp.1-36.

<sup>363</sup> Tunxi 1959.

<sup>364</sup> Muzidun 1984.

<sup>365</sup> Tunxi 1959.

in the south as in northern Central China. Moreover, it is very common to see traces of soot at the bottom of these bronze *ding* vessels found in the south. The six vessels mentioned above from Muzidun and Tunxi all have traces of soot. Such traces indicate that these vessels may not have been valuable ritual vessels in sets, as they usually were in the north, but rather utilitarian cooking vessels.

As mentioned at the beginning of this section, the societies in the lower Yangtze valley had a well-developed bronze industry, which did not show significant technological gaps comparing to the societies in the Yellow River basin. This area also had a prosperous ceramic industry that may have served markets both in the north and in the south. However, it seems that the development in local industries and contacts with the north did not lead to increasing homogeneity in material culture with the north. Instead, the diversification of products, which demonstrates both local interests and external contacts, have increased compared to the second millennium BC.

### iii. Discussion

Many scholars have focused on distinguishing local products and imported goods when studying southern sites in relation to their connections with the north. The same method has also been applied to the study of the Hongshan necropolis and other mounded burials. Both the excavation report and the later discussions on the Hongshan ceramics have been based upon a division between musical instruments that were derived from the Central Plains types and those developed within the local societies. It has been suggested that the *yongzhong*, *bozhong* and *qing* found at Hongshan were derived from Central Plains models, while the other instruments such as *xuanling*, *goudiao* and *dingning* belonged to a local type.<sup>366</sup> It is, indeed, important to investigate the local products and designs, so as to dispel the out and biased myth that the material culture in the south was transplanted ready-made from the northern Central China, as well as to identify interregional connections. However, assuming a static boundary between northern and southern styles is of little help to achieve further understanding of the interregional relationships between southern China and its northern neighbours.

Here I would like to draw an analogy to the Bronze Age Mediterranean, like southern China an area that has been regarded as the periphery of long-established and highly

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<sup>366</sup> See discussion in the excavation report, Hongshan 2007. See also Fei Lingya 2009 and Wang Zichu 2009.

developed state-level societies in Western Asia. In his World-system study, Andrew Sherratt has pointed out that “it is unhelpful to an outside reader to be told that Cycladic or Etruscan culture was ‘autonomous’...clearly both were made possible by a conjunction of circumstances that included the existence of urban trade networks in the east Mediterranean, as well as flourishing local economies and contacts with an adjacent hinterland.”<sup>367</sup>

Similarly, mounded tombs and their material remains, as a distinctive feature of southern societies in the lower Yangtze, have actually demonstrated the merging of a variety of technologies and designs, which originated in different areas within the network. The designs of bronze objects were merged with local ceramics to serve the local interests. Bronzes of typical Zhou types and those with southern features were used together. In other words, though the object sets as seen at Hongshan do not evince the conventional sets, which governed the composition of Zhou ritual assemblages, the imported technologies and products were firmly embedded in local cultural contexts, and they were commingled with the local designs and objects. The material culture of these southern societies was, therefore, made possible by a conjunction of circumstances, including the existence of an interregional network between the south and the north, as well as the flourishing local ceramic industry. In the first millennium BC, these societies to the south of the Yangtze remained an active part within the interregional network with the northern Central China. The diversification of products here suggests that this area remained far beyond the reach of any direct political impact or control from the north. People were aware of a large range of bronzes in different styles, which were available to them, and they seem to have been able to take the initiative in selective adoption.

### **III. Lingnan-Fujian region: The ‘catching up’ margin**

In the last chapter it has been discussed that the Lingnan-Fujian region was by no means a ‘close’ neighbour of the Shang in the Yellow River basin. While the Yangtze valley was making strong responses to imported technologies and goods from the northern Central China by presenting a variety of local bronzes and exporting its high-fired ceramic products, the Lingnan-Fujian region, much further to the south, was only very indirectly affected by changes in technologies and material culture in the north. Finds of bronzes, which can be dated to the second millennium BC, have been anything but plentiful,

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<sup>367</sup> Sherratt 1993c, p.2.

making it reluctant to apply the label “Bronze Age” to this region in the second millennium BC. But how did this area react to the political and cultural changes as well as the technological advance of the first millennium BC?

A more active local response to the imported bronze technologies and designs from areas further north seems to be manifested archaeologically by a dozen or so large bronze-yielding tombs dated to the mid first millennium BC, located at several localities in northern Fujian, western Guangdong and northeastern Guangxi. The following discussion will further reveal that this region was part of a long and multi-stranded chain of transmission. Diverse material culture was recognized and material remains of this period indicate that the Lingnan-Fujian region was extensively visited and inhabited by different groups of people, making it a more active part in the interregional network.

### **i. Guanjiucun in northern Fujian**

Mounded burials were once thought to be restricted to the south of the Yangtze. However, the Guanjiucun Mounded tombs in northern Fujian, excavated in 2005 and 2006, suggest that this burial form may have been adopted in parts of the Lingnan-Fujian region, indicating contacts with the lower Yangtze. The excavations revealed 33 mounds containing 47 tombs (some mounds contained more than one tombs), dated to c. 900 – 500 BC by carbon-14 data.<sup>368</sup>

The society, who built the tombs at Guanjiucun, seems to have copied the construction methods used for mounded tombs in the lower Yangtze valley. Rammed earthen mounds up to 2 meter high were built above ground, containing at least one burial inside. Some tombs were just simple earthen mounds, while some tombs had a pebbled floor and show remains of charring wooden pillars, indicating the construction of wooden chambers within the tomb. Similar structure of tomb chambers formed by stone and wooden pillars can be seen at Yinshan, the largest mounded tomb so far reported from lower Yangtze. Some tombs at Guanjiucun also had a tomb passage, paralleling with the construction of some large tombs at Hongshan. It appears that the major forms of mounded burials developed in the lower Yangtze, also occurred at Guanjiucun. High-fired ceramics were also dominant among funeral goods at Guanjiucun, again demonstrating strong similarities to many southern tombs. These products were seen in

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<sup>368</sup> For an excavation report and carbon-14 dating information, see Guanjiucun 2007, pp. 28-37.

every single tomb at Guanjiucun and in total 213 high-fired ceramics were found, among which 67 were glazed.

Indeed, the area of Guanjiucun is also where the earliest large-scale high-fired ceramic kiln factory in the Lingnan-Fujian region was found. The Mao'ernong kiln factory, as discussed in the last chapter, is less than 10 km to the south of Guanjiucun. The Mao'ernong kiln factory was continuously used till early first millennium BC<sup>369</sup> and some high-fired ceramics covered by brownish or grayish glaze from Guanjiucun do accord with the products of Mao'ernong.

The appearances of early high-fired ceramic kilns and of the counterparts of mounded tombs in northern Fujian seem to strongly suggest the existence of route for travel and communication between the lower Yangtze and the northern Fujian, which was used from the late second to early first millennium BC. Such a path may have gone from the lower Yangtze plain around the Lake Tai to northern Fujian, via a narrow route along the southeastern edge of the Mount Huang, which leads to the southern side of the Wuyi Mountains (map 4-3). Finds in northern Fujian indicate that lower Yangtze may have played a crucial role in the technological development and changes in material culture in this part of the Lingnan-Fujian region.

The bronze vessels from Guanjiucun further indicate interregional contacts between northern Fujian and the lower Yangtze.<sup>370</sup> A bronze *zun* shows very similar profile to the one from the mid-Zhou mounded tomb Muzidun at Dantu, Jiangsu, by presenting a flaring mouth, an 'S'-shaped body with a big round belly, as well as a high ring foot. Both *zun* vessels from Guanjiucun and Muzidun have double-lined string patterns above and below their big belly (fig. 4-24, top row).

Indeed, bronze *zun* vessels, which feature a trumpet-like flaring mouth, round belly and high ring foot, had already fallen into disuse after the ritual revolution around 850 BC in the Zhou realm in the Yellow River basin, just like most wine vessels (e.g. as *jue* and *gu* cups). However, *zun* vessels seem to have continued to be produced and used in the

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<sup>369</sup> Mao'ernong has 10 carbon-14 dating data, which place the site from the mid second millennium BC to early first millennium BC. See Guanjiucun 2007, pp. 36-37.

<sup>370</sup> Seven tombs at Guanjiucun contained in total 55 bronzes, most of which are tools and weapons, such as daggers, *ge* daggers, *mao* spears, adzes and arrow heads. So far only three vessels (one *zun*, one *pan* basin and one cup with large handles, all from one tomb PYD11M1) have been reported from Guanjiucun. It seems the interest in bronze tools and weapons in the south continued from the second millennia to the first millennium BC. See Guanjiucun 2007.

south. Two more similar specimens were found at a tomb in the Yangjia County in present-day Guangxi (fig. 4-25), which time wise parallels the later phase of Guanjiucun or might be even slightly later.<sup>371</sup> These *zun* vessels unearthed in the Lingnan-Fujian region must have been a result of contacts with the lower Yangtze valley. If not brought in from the Yangtze valley, the *zun* vessels found in the Lingnan-Fujian region would have been locally produced with a prototype from the former. The latter assumption is more likely, given the variations in surface decorations and the bronze casting which was more developed in the Lingnan-Fujian region during the first millennium BC, as will be discussed in below.

The surface decorations of the *zun* vessels found in the further south demonstrate notable variations between different regions. The *zun* from the mid-Zhou tomb M19 at Qijiacun, Shaanxi only has a decoration band just above its belly (fig. 4-3: g). The specimen from Muzidun, Jiangsu, however, has rows of string patterns above and below the central decoration band. The two *zun* from Yangjia in Guangxi are even more heavily decorated. It is worth taking a closer look at the exact designs used. The first *zun* features a decoration of paired snakes framing single frogs and salamanders (fig. 4-25: left), while the belly part of the second one is covered by cruciform ribbon-like belt of circlets, with rhombus-shaped fields in between filled abstract decoration units (fig. 4-25: right). It seems that this old-fashioned vessel type did have a longer life and reached a more extensive area in the south, while receiving local modifications on surface designs. Significant time lags and regional variations between the northern Central China, the lower Yangtze and the Lingnan-Fujian region are, therefore, suggested.

The bronze *pan* basin from Guanjiucun (fig. 4-24, bottom) also has counterparts outside of the Lingnan-Fujian region. Indeed, this shallow vessel with low ring foot and small handles attached on the wall occurred often in Zhou contexts in northern Central China, for instance the Gaojiabao tomb in early Western Zhou, the tomb M19 at Qijiacun in mid Western Zhou, and the Zhaochen hoard in late Western Zhou (fig. 4-2: h, 4-3: k and 4-4: o). Also, the dense pattern of interlaced snakes on the Guanjiucun bronze *pan* basin is one of the commonest patterns in Eastern Zhou (770 – 255 BC) bronze vessels. This specimen from Guanjiucun, therefore, represented another interesting local combination of a long used vessel type and more updated surface decorations. The archaeological observations presented above therefore show that this part of the Lingnan-Fujian region

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<sup>371</sup> Li Longzheng 1995, p. 279, see also Yangjia 1973 for an excavation report.

was evidently interacting with the area to its north more actively compared to the previous millennium.

## ii. The Henglinghan cemetery in Guangdong

A number of bronze-yielding sites have been excavated in present-day Guangdong and Guangxi since the 1960s, for instance Beifushan (early 5<sup>th</sup> century BC)<sup>372</sup> and Nanmentong (mid-5<sup>th</sup> century BC)<sup>373</sup> in Luoding, western Guangdong, and Yangjia (early 5<sup>th</sup> century BC) in eastern Guangxi. However, many of these sites lack contextual information and solid dating evidence. The abovementioned Yangjia tomb in Guangxi is a good example for this. Though it yielded an important assemblage of bronzes, all objects had already been taken out from the location by local people when the find was reported and archaeologists arrived. It means that the finds could never be properly recorded in situ anymore. Nothing about the tomb structure or the layout of funeral goods is known.<sup>374</sup> Dating is another problematic issue. Many bronzes unearthed from the Lingnan-Fujian region show earlier designs in typological sequences, which are mainly based on finds from northern Central China. Some sites have, therefore, been assigned to a much earlier but unreliable date. For instance, the Yinshanling cemetery with 110 tombs in eastern Guangxi was once dated by the excavation report to c. 500 – 400 BC based on the styles of bronzes unearthed at the site.<sup>375</sup> However, later research, which examined more contextual information of the site, has replaced the cemetery to the Western Han period (206 BC – 9 AD).<sup>376</sup>

The following discussion, therefore, focuses on one of the most recently excavated sites in Guangdong, the Henglingshan cemetery, supplemented by material with more recent and solid dating results.<sup>377</sup> This site contained 302 vertical-pit tombs, which has been carefully carbon-14 dated to the early first millennium BC till the fifth century BC, providing us with a large set of precise data.<sup>378</sup>

The Henglingshan cemetery presents a stratified society, with funeral goods being the major indicator. More than one third of the tombs (224 out of 302) at Henglingshan

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<sup>372</sup> For excavation report, see Beifushan 1986.

<sup>373</sup> Nanmentong 1983.

<sup>374</sup> Yangjia 1973.

<sup>375</sup> Yinshanling 1978.

<sup>376</sup> Jiang Tingyu and Lan Riyong 1985.

<sup>377</sup> Li Longzhang, in his monograph work on the Bronze Age of the Lingnan region, he re-dated many sites. This thesis follows most of his dating conclusion. See Li Longzhang 2006.

<sup>378</sup> Henglingshan 2005.

contained funeral goods, among which are 122 bronzes from 41 tombs. This shows that the numbers of bronzes buried in tombs in the southern Lingnan-Fujian region dramatically increased in the first millennium BC, demonstrating a very different situation in material culture from the earlier period. Besides the finds at Henglingshan, tomb M1 at Nanmentong also contained 136 bronzes and the above-mentioned Yangjia tomb has unearthed an additional 29 pieces of bronzes. Another tomb in the same region as Nanmentong, the Beifushan tomb, has yielded 93 bronzes and only two high-fired ceramics. The use of bronze significantly increased in this period, indicating significant changes in perception in material culture. Bronzes evidently started to be more accessible and much favoured by the local social elite.

Among these bronzes, quantitatively most numerous are, however, still weapons and tools, in accordance with the strong interest in bronze weapons/tools in the south since last millennia. At Henglingshan, besides one bronze *ding* and two bronze *yongzhong*, the rest of bronze objects are all in the categories of weapons and tools (chart 4-1). Such a situation also occurred to other bronze-yielding sites in the present-day Guangdong and Guangxi. The Nanmentong tomb is so far the largest bronze assemblage in the Lingnan-Fujian region.<sup>379</sup> However, among 136 bronzes from Nanmentong, there are 53 arrowheads, 43 adzes and sixteen *mao* spears (fig. 4-26). Only seven bronze vessels were found at Nanmentong.

The much heavier interest in bronze weapons and tools than in vessels seems to have suggested links with the lower Yangtze. Henglingshan and other burials in the same area of this period also demonstrate a haphazard use of bronze vessels and musical instruments instead of established 'sets'. This suggests few influences from northern Central China but probably, again, contacts with the Yangtze valley.

Bronze vessel sets were absent at Henglingshan, as they were at sites in the Yangtze valley. In fact, only one bronze *ding* has been found in tomb M201 at the site (fig. 4-27, top). This vessel, with less outward-bent legs, is not a typical *Yue*-style *ding*, but demonstrates connections between the Lingnan region and the south of the Yangtze. The decoration band on the Henglingshan *ding* vessel shows alternating whorl patterns and the profile of an unidentified animal, on top of a ground filled with *yunlei* pattern. Such a design also occurred to a bronze *ding* vessel found at the mounded tomb M1 at

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<sup>379</sup> Nanmentong 1983.

Tunxi, Anhui, which has been dated to mid-late Western Zhou, roughly paralleling the Henglingshan cemetery (fig. 4-23, top right).<sup>380</sup> Another similar specimen is from the late Western Zhou bronze deposit at Jiushi, Hunan (fig. 4-27, bottom).<sup>381</sup>

However, the bronze *ding* from the Yangjia tomb in eastern Guangxi demonstrates different sources of contacts. This tomb contained four Yue-style *ding* and another tripod, which was probably imported from bronze-manufacturing centres within the Zhou cultural sphere on account of its shape and style (fig. 4-28). This vessel is a round-bottomed tripod with squat, muscular legs and, laterally attached, vertical handles. The walls of the vessel are covered with ornamentation bands, executed in the pattern-block technique that was pioneered at the great bronze workshops of southern Shanxi in mid-Easter Zhou times.<sup>382</sup> In other words, this *ding* vessel from Yangjia represents a ritual vessel type that was popular in the central states of the Zhou alliance during the second half of the sixth century, but it was accompanied by four other *ding* vessels in the Yue-style from lower Yangtze. These vessels may not have come from the same place, but were rather likely brought here at different times.

A slightly later tomb, the Nanmentong tomb in western Guangdong also contained a *ding* vessel with squat and muscular legs, which could not be more different from the Yue-style *ding* (fig. 4-29, top).<sup>383</sup> The nearby Beifushan tomb (early fifth century BC) in western Guangdong, however, contained only two Yue-style *ding* (fig. 4-29 bottom).<sup>384</sup> Furthermore, all *ding* vessels from the above-mentioned site have traces of soot at their bottom, indicating that these vessels may have been used as utilitarian cooking vessels in daily life before they were buried, instead of exclusively purpose made ritual objects.

While musical instruments have so far not been reported in Fujian, almost all large tombs in Guangdong and Guangxi contained bronze bells. Two *yongzhong* bells have been unearthed from tomb M182 at Henglingshan (fig. 4-30). A 'set' of six *yongzhong* bells has been found from Nanmentong, two from Yangjia and one *zhenduo* from Beifushan. It seems that the importance of musical instruments in a ritual set was well recognized by the local elite in the Lingnan societies. However, there seem to be significant differences

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<sup>380</sup> Tunxi 1959.

<sup>381</sup> Fu Juliang 2007.

<sup>382</sup> Bagley 1993b and 1995.

<sup>383</sup> Nanmentong, 1983.

<sup>384</sup> Beifushan 1986.

between the Lingnan bronze bells to those manufactured and used in the heartland of the Zhou.

One major contrast is that the Lingnan bells usually feature more abstract and relatively simple decoration, while the Zhou bells are usually ornamented with dragon-derived decoration motifs. On both the Nanmentong and Yangjia bells, simple geometric patterns (mainly in triangle shape) were placed in the central panel of the bell-face (traditionally called *zheng*, see fig. 4-17), while sparse and thin *yunlei* patterns fill the side panel of the bell-face, between the rows of bosses (traditionally called the *zhuan* part, see also fig. 4-17). The bells from tomb M182 at Henglingshan are better decorated than those from Nanmentong and Yangjia. A cicada pattern of fine lines was placed at the *zheng* section, while elaborate cloud and bird motifs decorate both the front and back of the struck area (traditionally called the *gu* part).

However, the surface decorations presented by these southern bells also reveal that they were probably not serving as a proper musical instrument or used in sets. In contrast to the stylistically homogenous northern bells, 'sets' of bells from the Lingnan region sometimes comprise bells with diverse kinds of ornamentation. The six bells from Nanmentong had different numbers of bosses on their side panels and they appeared in different sizes. It seems that bronze bells used in these Lingnan-Fujian contexts were collected from different places or cast at different batches. It remains a question if these bells can produce music like a band in a matching set. Moreover, their back faces are consistently ornamented in a more simple fashion than the front faces, even being devoid of any decoration, while on northern specimens, both faces usually have identical decoration. Such features suggest that these bells were, unlike their northern counterparts, meant primarily for display facing a certain direction with only one side of the bell. Their musical function seems to have been, at best, secondary.

The choice of bronze bells from present-day Guangdong and Guangxi, as well as the accompanying vessels seems quite haphazard. It seems that the Lingnan-Fujian societies were not strongly committed to a single particular source of imports. Bronze objects in the Lingnan-Fujian region appear to have been taken into this area via piecemeal adaptation, which does not particularly adhere to Zhou or southern Yangtze ritual practices.

As a long used and large cemetery, which contained tombs in different hierarchies, the Henglingshan cemetery may indicate a more general condition of burials in the first millennium BC in the Lingnan-Fujian region. Just as other southern sites in Fujian and south of the Yangtze, it also demonstrates much interest in using high-fired ceramics in ritual contexts, together with bronzes mainly in the form of weapons and tools. At Henglingshan, one fourth of burials (59 out of 230) were furnished with high-fired ceramics and in total 111 high-fired objects were found at the site, with 89 being intact. 12 Tombs contained both high-fired ceramics and bronzes. The major ceramic vessel types were glazed high-fired *dou* vessels and big round belly jars. As mentioned above, the Guanjiucun mounded tombs in Fujian also had a large amount of high-fired ceramics from each tomb. It, therefore, seems that high-fired ceramics were also an important part of the sets of funeral goods used in the Lingnan-Fujian region.

Furthermore, scientific examinations of ceramic samples from Henglingshan have suggested local manufacture in the same region. High-fired ceramics were very likely produced in a nearby kiln – the Meihuadun kiln, less than 50 km to the southwest of Henglingshan. Meihuadun was excavated in 1975 when one 15-meter long dragon kiln with a slope of 20 degree was revealed.<sup>385</sup> High-fired ceramics, part of which were glazed, were the major products of this kiln. It has been testified that the high-fired products at Meihuadun were fired at 1200 degree Celsius at least and with a water absorption rate of less than 2%, which is a texture very close to celadon that were produced another 500 years later.<sup>386</sup> Pottery types produced at Meihuadun have much in common with those from Henglingshan. *Dou* vessels were produced in a large number and demonstrate similar profile to those found at Henglingshan, with flaring mouth, slightly angular shoulder and trumpet liked ring foot. Also paddles for producing stamped patterns on ceramic surfaces was found at Meihuadun. Some paddles show the so-called ‘double F’ patterns, which occurred extensively on ceramics unearthed at Henglingshan.

Scientific examinations have also demonstrated very similar chemical composition of clay and glaze between the high-fired ceramics from Henglingshan and the products at Meihuadun. High-fired ceramics from both sites all present a high content of aluminum ( $\text{Al}_2\text{O}_3$ ), which can reach up to 40% in some samples, while the same content in high-

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<sup>385</sup> Meihuadun 1998.

<sup>386</sup> Meihuadun 1998, p.42

fired ceramics from the lower Yangtze is usually below 15%.<sup>387</sup> However, the content of silica in ceramic products at Henglingshan and Meihuadun both appear much lower (below 70%) than high-fired ceramics from the lower Yangtze (usually between 70% - 80%). These evident regional traits suggest, on the one hand, close relations between ceramic products from Meihuadun and Henglingshan, and, on the other hand, differences in clay material between the Lingnan region and the Yangtze valley. The texture of ceramic products from Henglingshan and Meihuadun may be related a local resource of aluminum-rich clay. The local production of these high-fired ceramics is evident.

Bronzes from Henglingshan also present a distinct composition, which is helpful for identifying their provenance. Eight bronze items from Henglingshan (two *yongzhong* bells, two axes, one *ge* dagger, and three arrowheads) have been examined and present an unusually high content of tin and arsenic, especially in the arrowheads. Such a trait suggests the exploitation of rich tin mines in Guangdong and Guangxi.<sup>388</sup>

Indeed, traces of local bronze manufacture significantly increased in the first millennium BC Lingnan-Fujian region. According to surveys and excavations around the Pearl River estuary, a large number of stone/clay piece moulds and cores for bronze making have been unearthed from many localities around Pearl River delta, including Yapowan, Nanmangwan and Nanshawan in Zhuhai,<sup>389</sup> Nanlang in Zhongshan,<sup>390</sup> and five more locations in Hong Kong (map 4-4).<sup>391</sup> All piece moulds found around the Pearl River delta so far are not for the cast of vessels, but weapons and tools such as adzes, axes, chisels and shovels, corresponding the rare appearance of bronze vessels in the region. Some piece moulds, for instance those from Yapowan and Manmangwan in Zhuhai, even retain dark marks from pouring liquid bronze.<sup>392</sup> At Shenwan, Hongkong, there has also been found traces of 'drops' of liquid bronze, suggesting practice of bronze casting at the site.<sup>393</sup> It therefore seems that a large part of the high-fired ceramics and bronzes from the Lingnan-Fujian region in the first millennium BC were locally manufactured, instead of being imported from the other side of the Nanling Mountains.

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<sup>387</sup> Henglingshan 2005, pp. 441-9.

<sup>388</sup> Henglingshan 2005, pp. 457-461.

<sup>389</sup> Tang Zhenxiong and Li Ziwen 1991.

<sup>390</sup> Yang Yaolin 1997.

<sup>391</sup> Yang Yaolin 1997.

<sup>392</sup> Tang Zhenwen & Li Ziwen 1991.

<sup>393</sup> Meacham 1978, see also Yang Yaolin 1997.

Material remains of locally manufactured products at Henglingshan have suggested a self-sufficient situation in both manufacture and consumption in the first millennium BC Lingnan-Fujian region. Both bronze and ceramic technologies, though firstly imported from the north, seem to have greatly developed in the Lingnan-Fujian region in the first millennium BC, while imported and local product designs were combined. This situation is similar to that of Southeast Asia as discussed in the second chapter – after having the first episode of transmission of technologies and product designs, the local societies developed their own production and consumption network, which would meet the local needs, with local resources and technologies.

#### **IV. Conclusion**

Despite all the ambiguous (and sometimes even contradicting) account on ethnic differences and interregional relations in written history, archaeological finds have evidently shown that many technologies and cultural features of the time were widespread over large parts of southern China, indicating a more extensive integration of different technologies and material cultures in this period. Certain types of objects based on bronze prototypes, such as *ding* vessels and musical instruments, were widely adopted in both the Yangtze valley and the Lingnan-Fujian region. Mounded tombs in the area south of the Yangtze extensively combined the local ceramic technologies and imported bronze designs, as demonstrated by the large sets of ceramic musical instruments at Hongshan, as well as the combined use of bronzes and ceramics in many mounded tombs. Further developed local bronze and high-fired ceramic industries in the Lingnan-Fujian region, as well as diverse cultural traditions (the use of high-fired ceramics, locally manufactured or imported bronzes in different styles), also shows that societies in the Lingnan-Fujian region were more deeply involved in an interregional network than in the previous millennia.

However, some southern traits in material culture remained fundamentally distinctive and cannot easily be explained by gaps in technologies between different regions. The widely shared technologies and materials between all three regions discussed here do not seem to have led to increasing homogeneity in material culture. While bronze object types and surface decorations were extensively ‘borrowed’ by the southern societies, the conventional ideas of bronze vessel sets governing the Shang and the Zhou bronze assemblages never occurred in the south. Instead, there appears to be always stronger

interest in bronze weapons and tools than in vessels. Furthermore, the flourishing and highly developed high-fired ceramic industry in the Yangtze valley was still playing a significant role in establishing a local material culture in the south as well as driving the interregional network between the south and the north. The south continued to lead in this economic sector and created a distinctive material culture based on numerous high quality ceramic products.

Considerable varieties in material remains in the south demonstrate a fragmentary picture of material culture while technologies were widely shared. It seems that there was no single driving force in the process of transmissions of technologies and material culture, as the use of bronzes and ceramics seems rather haphazard in the south. Shared technologies did not lead to increasing similarities in material culture. Instead, technologies were firmly embedded in local contexts of different regions, leading to diversification of products.

It is thus demonstrated that before further intervention of political and armed power in the late 1<sup>st</sup> millennium BC, a network shape had been gradually established during long term interregional interactions. Various technologies, products, as well as material culture were widely shared between the north and the south, with local responses, which brought a variety of local modifications. The interregional relationships between the north and the south were rather based on extensive transmissions of technologies and transformations of material culture in different local contexts beyond political territories. Within such networks, southern China was playing an active role in the expanding the interregional network, instead of being passive recipients or barbarians as presented in traditional historiography.

## Chapter V Conclusion

### I. Introduction

In this thesis I have investigated the changing roles of southern China societies in interregional interactions from the third to the first millennium BC. Particular emphasis has been placed on the local responses of southern societies in the course of interregional contacts and the nature and structure of interregional links. The scale and complexity of interregional contacts in southern China has been much simplified and underestimated in many early studies. This might be due to the fact that the whole area now lies within the territory of the modern China, where there is a deeply rooted historiographic tradition. As addressed in the introduction chapter, the narrative of traditional Chinese historiography has always been centralised around the northern central China, where most dynastic capitals were located. In line with the agenda of the Communist Party, the traditional narrative also stresses on unification of culture and a linear development of China. Within such narrative, southern China has been greatly neglected, being generally regarded as a passive and backward periphery of China. However, some figures may help to understand the scale of interregional contacts as discussed in this thesis.

The distance between the mid-lower Yangtze valley and the Pearl River estuary is more than 1000 km, either via overland routes through the vast hilly areas stretched from the Nanling Mountains, or via sea routes along the southeast coast, one of the most typhoon-struck areas in the world. Furthermore, from present-day Henan (where the Shang capitals sat) to Jiangxi, the south of Yangtze, there is also more than 1000 km to go, even when using one of the best built and nearly straight highways in present-day China. Between this two locations also lay the two largest rivers of China, the Yellow River and the Yangtze River. Therefore, it is more than 2000 km from the Yellow River basin to the southern China coast, comparable to travelling from Anatolia to the Alpine Area. Even in today no one would argue for these two regions to belong to the same cultural circle. This of course then raises questions about the relationship of Southern China and the Yellow River societies. Though the Nanling Mountains are significantly smaller than the Alps, the dense tropic jungle covering them would not have made them much easier to cross. It should also be borne in mind that there was no country called 'China' on this land (at least not yet) in the period discussed in this thesis. The contacts

between groups or individuals during this period therefore must have crossed the boundaries of numerous local cultures. Imitation and local variations could take place in any part of the links, leading to changing patterns of communications and network structure.

This thesis has, therefore, provided an alternative narrative to that stemmed from Chinese historiography but based upon examination of archaeological material. By stressing on local responses toward different technologies and material culture in different period, this thesis has considered southern China as parts of dynamic interregional networks, instead of parts of the linear historical development of China. It should be borne in mind that the changes in the south were not simply stages or parts in the development of the statehood of China. People in the south had their own motivation and dynamic. As discussed in the major chapters, many of the mechanism of transmission and circulation in the south are characterised by ‘leaked’ technologies and designs, as well as ‘selective adoption’.

## **II. Summary: Southern China in interregional contacts**

In this thesis I traced four materials as indicators of routes and structure of interregional networks from the third to the first millennium BC. Cultivated rice, jade, high-fired ceramics and bronzes are all products of complex technologies and, therefore, evident indicators of contacts between different groups from the Yellow River basin to the southern coastlands.

### **i. Interregional routes and ‘marginality’ in the third millennium BC**

Human activities in southern China can be traced back to 10000 years ago and interregional travelling may have taken place long before the third millennium BC. However, it is the transmission of two specific products, cultivated rice and jade in particular shapes, that clearly suggests external input of technologies and material culture in the Lingnan-Fujian region. Rice cultivation and jade processing had long been developed in the Yangtze valley and came with ranges of specific technologies and designs. The appearance of these two products into the Lingnan-Fujian region, therefore, outlines the scale and several routes of interregional contacts over the Nanling Mountains.

The emergence of cultivated rice and jade *cong* tubes at Shixia in northern Guangdong and Xiaojin in northern Guangxi indicates two nodal points through which interregional contacts crossing the Nanling Mountains were possible. In addition, finds along the coast point to the potential importance of maritime routes from the lower Yangtze to the Lingnan-Fujian region, which was extensively used in later phases as well. Within the present-day Guangdong and Guangxi, sites of cultivated rice and novel pottery types point to an axis of contacts along the Xijiang River. Moreover, the interest on jade in particular shapes (mainly penannular rings) and related processing technologies in Taiwan and Southeast Asia indicates strong repercussions stimulated by technologies and designs from the Yangtze valley, reaching far beyond the modern Chinese borders. Southern China was, therefore, always part of a macrosystem, in which the Lingnan-Fujian region was not a finishing point or the border of the 'World-system' of jade.

However, this far-flung southern network features long time-lags between regions, piecemeal instead of wholesale adoption of technologies and products, as well as various local modifications of the original designs. Thus, the position of a location in a wide network of contacts should be a necessary part of the explanation, in conjunction with local reasons for the adoption. There may not have been direct contacts or large-scale demographic waves in a short time. Instead, there probably was intermittent travelling of small groups of people over a long period of time, which allowed transmission of technologies over an extensive area and transformation of the basic packages of products by indigenous groups in the further south.

A 'marginal' status, as manifested in the changes in technologies and material culture, can therefore be used to describe the position of the Lingnan-Fujian region and regions off the southern China coast, in relation to the initial stimulus from the Yangtze valley. Indeed, marginality presents interregional relations which are non-functionally differentiated or interdependent. Societies in a core-margin network are not maintained by contemporary flows, but are likely to involve spatial processes with long time lags. The marginal regions often have the potential to develop independently after an initial transmission episode of technologies and designs, for instance the development of jade industry in the Lingnan-Fujian region and the vast southern regions off the southern China coast. As technologies spread and local manufacturing of certain items began, the societies in a 'marginal' position may even start to form a local 'World-system'. An example for this is the far-flung jade network off southern China, with a local nephrite

mine at Fengtian in Taiwan and eventually the production of local objects such as *lingling*-*o* penannular rings widespread in the present-day Southeast Asia.

The conception of marginality, as put forward by Andrew Sherratt, is thus useful for us to describe and to conceive the characteristic of large parts of southern China over a long period than the traditional narrative, especially before the appearance of a politically unified country. While the latter has stressed hierarchical or even opposing regional relationships, which are more likely to be constructed and heavily value-laden, a 'marginal' status fits the observation of sporadic archaeological evidence of interregional contacts over a long period.

## **ii. Negotiating peripherality and marginality in the second millennium BC**

From the second millennium BC onwards, a further episode of interregional contacts appeared. The dispersion of two specialized new products, bronzes and high-fired ceramics, indicates interregional networks of more complex and advanced technologies and associated material culture. In comparison to rice cultivation, which is much restricted to certain climate and soil condition, and jade crafts, which involve only physical processing, the manufacture of bronze and high-fired ceramics has greater dependence of specific raw materials and needs more specialized labour with a wide range of knowledge including smelting, ingredient mixing, moulding and firing. The transmission of related technologies and products during this period suggests that part of southern China, the Yangtze valley, was in more intensive and simultaneous interregional contacts with some of its neighbouring regions, while the Lingnan-Fujian region, to a large degree, maintained its 'marginality'.

It was, perhaps, the motivation to create and to use these new kinds of products that was the critical stimulus of the expanding interregional networks in the second millennium BC. As a result of the transmissions of these novel products, there appeared mutual interest in the materials of bronze and high-fired ceramics and certain designs over the south and the north. Bronzes and high-fired ceramics, therefore, formed the main sources of liquidity within the network. The transmission of these two products, as well as various local development, were important indicators of interregional contacts during this millennium, from the Yellow River basin to the southern coasts.

In this period, the manufacture and use of bronzes flourished and reached a peak in the Shang society in the Yellow River basin. The use of bronzes along the Yangtze valley may have begun as a result of contacts with the Shang society, whose power once reached the north bank of the Yangtze, as manifested at Panlongcheng in present-day Hubei. Bronzes from Xin'gan and Wucheng, less than 500 km to the southwest of Panlongcheng, demonstrate piece-mould casting methods and vessel shapes which were typical of the Shang, indicating that the societies to the south of the Yangtze were aware of existence of the Shang society, as well as their technologies and major products. During the same period (more specifically within the last three hundred years of the second millennium BC), bronze industries also promptly emerged in other regions along the Yangtze valley, for instance in the present-day Sichuan, Hunan and Zhejiang. However, besides similar piece-mould casting methods and some basic designs of vessels from the Shang, these vast southern regions developed some characteristic designs that are rarely seen in Shang contexts, such as animal images in Jiangxi and Hunan, and the interest in designs of human faces from middle Yangtze to the upper reach of the Hanshui River. The interest in bronze products in the Yangtze valley is also distinct from the Shang. For example, the bronze vessels sets, which were essential in Shang ritual contexts, were absent in the Yangtze valley. Instead, archaeological finds in this region suggest heavy interest in bronze weapons and tools. The swift response in the Yangtze valley to the new material bronze (including the application of related technologies and the development and transmission of various local designs) therefore indicates the formation of an active interregional network, in which bronze technologies and products were a major medium. Undoubtedly, societies along the Yangtze valley were active participants within this network and demonstrate negotiating peripherality in the course interregional contacts.

Furthermore, the Yangtze societies seem to have participated the interregional communications with the other novel products of the time – the high-fired ceramics. In the second millennium BC, the Yangtze valley was the dominant production centre of high-fired ceramics. So far no comparable production sites of high-fired ceramics outside of this area have been found. High-fired ceramics abound at sites in the south such as Xin'gan and Wucheng. Major Shang sites, such as Zhengzhou and Anyang, have also unearthed high-fired ceramics, which parallel the products from kiln factories to the south of the Yangtze. Scientific examinations support the view that these products were manufactured in the south and exported to the northern central China.

Therefore, besides the bronze network, a similarly active ceramic network is archaeologically evident in the second millennium BC. The appearances of high-fired ceramics at large sites and ritual contexts in both the south and the north suggest that they were valuable products in interregional exchange besides bronzes in the second millennium BC. It seems that the high-fired industry in the Yangtze valley was not only producing to satisfy local needs, but developed on a larger scale in response to ‘international’ demand. The large quantities of high-fired ceramics circulation in both the north and the south seem to have, to a certain degree, tip the scales against the use of bronze during the second millennium BC.

However, the Lingnan-Fujian region stayed at a distance to the networks of the two novel products. Bronze objects first occur in the Lingnan-Fujian region in late second millennium BC but only in very small quantities, mainly in the forms of weapons and tools, suggesting limited contacts with the lower Yangtze. Specific evidence of high-fired ceramic production and clusters of use in northern Fujian are, however, indicating interregional contacts via narrow routes between the lower Yangtze and this region through the Wuyi Mountains in northern Fujian. Other sites with high-fired ceramics are scattered along the southeast coast, suggesting that maritime links were still important traffic routes during this period.

However, none of these finds in the Lingnan-Fujian region would qualify as the formation of a periphery. The links were too distant and the quantities of finds too minor. Societies in the Lingnan-Fujian region were still loose members of the interregional networks of this period, with limited links to the lower Yangtze. Most likely, there was no regular transfer of technologies and products between the south and the north of the Nanling Mountains and the injection of small quantities of highly desirable exotic items may have been merely catalytic.

The importance of these catalytic contacts, however, should by no means be neglected. As new goods started to enter the Lingnan-Fujian region, they demonstrate that some routes which were already in use at earlier times were still the major ‘highways’ of interregional contacts and that the region became a distant part of the interregional networks of the second millennium BC. Though the Lingnan-Fujian region remained in a marginal status in the second millennium BC, the material culture in the Lingnan-Fujian region were greatly transformed as a result of contacts with societies to the north of the

Nanling Mountains, with the value of new technologies and goods being recognized and more widely spread in a later phase,

### **iii. Diversification of products and material culture in the first millennium BC**

Technologies of bronze and high-fired ceramics further spread in the first millennium BC and evidence of local production can be found abundant in both the Yangtze valley and the Lingnan-Fujian region. However, the wide adoption of technologies of these materials does not seem to have led to the unification of product designs or similar regional interest. Instead, archaeological materials demonstrate further negotiation of material culture in southern China, presented by the transferable designs on different materials and the haphazard use of objects with hybrid designs.

In the lower Yangtze area, developed bronze casting technologies were manifested on weapons and a variety of objects which were rarely seen in northern central China, while the designs of some bronze objects, such as bells and *zun* vessels appeared in a large scale as high-fired ceramics. This may be related to the prosperous ceramic industry in the Yangtze valley, which was still a major supplier of high-fired ceramics to the north. Indeed, the flourishing local production of ceramics in high quality may have profoundly affected the valuation of materials in this area. As a widely desired product with high quality and great marketable value of the time, high-fired ceramics have evidently become an (for societies in the Yangtze valley) ideal material for the making of ritual objects for societies in the Yangtze valley.

More importantly, the significant changes in the use of bronze sets in northern central China in the first quarter of the first millennium BC, due to ritual reform of the Zhou court, were not reflected in material culture of societies in the lower Yangtze. Such a situation again suggests that, though the same materials were being used, societies in the lower Yangtze differed greatly from the north in ritual ideas and practices and the customs of northern central China were not followed in the south.

Signs of interregional contacts in the Lingnan-Fujian region in the first millennium BC were, as before, manifested in northern Fujian and the southeast coastlands, reflected both in the production and use of high-fired ceramics and bronzes. Northern Fujian seems to have maintained close contacts with the lower Yangtze valley, the appearance of Guanjiucun mounded burials (a characteristic burial pattern in lower Yangtze) being a

major indicator. However, the use of bronzes and high-fired ceramics were still rather haphazard at Guanjiucun and other locations in the Lingnan-Fujian region. Bronze vessel sets, before or after the ritual reform in northern central China, were still absent in this region, while the heavy interest in bronze weapons and tools continued. The assemblage of bronze vessels and musical instruments in the Lingnan-Fujian region appeared haphazard, in comparison with the sets used in northern central China. Vessels in traditional shapes sometimes carried much more up-to-date surface decoration, for instance the bronze *pan* from Guanjiucun in northern Fujian. Local designs also appeared on imported object types, such as the bronze *yongzhong* bells from Yangjia in Guangxi.

It is, therefore, the diversification of products which dominated the archaeological record of the period of the first millennium BC. While material technologies were widely spread and adopted, each region had developed their own cultures and traditions. It seems that technologies, product designs and associated value were separated in the course of interregional contacts. The negotiation and selective adoption of material culture, as seen in archaeological materials, show few signs of political or economic dependence. Instead, different languages of consumption based upon a similar range of materials and designs have been generated in different regions within the network. Had the people in the south been politically or economically dependent on societies in northern central China, they would have had a greater exposure to the ideas of bronze sets, as well as to changes in material culture which came along with the ritual reform. In that situation, we might imagine or even expect to see more northern models that the societies in southern China would choose to follow when making their own bronzes, or more faithful copies of sets of bronze vessels and musical instruments in ceramics. However, what archaeological evidence so far suggests is a co-occurrence of diversified material culture in the south for a long period, at least before further intervention of political and armed force from the north in the late first millennium BC, when the Qin people conquered a large part of the modern Chinese territory including the south.

### **III. Conclusion: An alternative image of southern China**

A traditional image of southern China is vividly presented by a painting hung in a major gallery hall in the recently refurbished and re-opened (in 2010) Provincial Museum of Guangdong, which illustrates the “encounter of people from the south and the Central Plains” (fig. 5-1). In the painting, people from the north are placed on the upper left side.

These people are well dressed in robes or armours. Flags behind them indicate that it is a well-organised group of officials. The figures in the front of the group seem to be civil officials, while those at the back appear to be armed officers carrying bows and arrows. There are also horses and chariots in this team from the north.

The southerners, however, are presented in a very different way. They are placed in the bottom right of the painting, with a background of southern plants such as plantain and palm trees. On the contrary to the well-dressed northerners, the southerners in the painting appear much more poorly dressed. Very few of them wear tall hats or elaborate headwear as the northerners do. Some carry baskets and farming tools, as if they just returned from work in the fields. Some of them even appear half naked. The two senior persons in the front seem to be giving a salute to the northerners with respects and some people seem to be offering local products such as fruits and bamboo.

This painting is reminiscent of the defeated Darius family addressing their pleas to Alexander the Great and his companions, as depicted by the 17<sup>th</sup> century artist Antonio Bellucci (1654 – 1726) (fig. 5-2). Both paintings depict groups of people in contrasting status in a similar composition - while the northerners appear to be dominating the painting, as Alexander the Great and his companions do, the southerners are presented as the underdog, just as the defeated Persians. However, while the Darius family in front of Alexander the Great depicts a single historical scene, the painting in the Guangdong Museum brings complex interregional interactions over a long period of time down to a simple picture of binary opposition – the civilized and powerful northern societies and the backward southern groups.

This image conforms to the narrative in traditional Chinese historiography, in which southern China has been depicted as a periphery of and being inferior to a united Chinese civilisation, which was based in northern Central China. However, this simplified narrative, which features one-way binary relationships between the south and north, as discussed in the introduction chapter, offers little help to the study of ancient southern China. The explanative framework addressed in traditional historiography has also led to restriction in interpretation of archaeological material.

The work presented in this thesis argues that many distinctive regional cultural traditions in southern China coexisted simultaneously with the early dynasties in the north known to traditional history. Their co-occurrence in archaeological records can be interpreted as

manifesting a multi-directional interchange of technologies, products and ideas. Also, the long distance and consequent time lags made dropout and local variations of the initial packages of technologies and material culture possible. While long-term interregional contacts gradually made some materials technologies, such as bronze and high-fired ceramics, widely accepted media between regions, many object designs associated values were melt down and remade or reinterpreted in different parts of the networks and, therefore, led to diversification instead of unification of material culture.

The diversification of the material culture in southern China challenges the understanding of Chinese culture – to the extent that there was any one such thing – as a unified entity with a dominating ‘core’ in the Central Plains. In recent years, the studies of interregional interaction over the steppe area to the north of China have already greatly altered the conception of ‘the Central Plains’, where the early dynasties known to traditional Chinese history were located. It has been convincingly argued that interactions between the ‘Northern Zone’<sup>394</sup> and the northern Central China had profound impacts on the formation of the material culture of early dynasties such as the Shang and Zhou, as people who travelled between these regions brought important technologies and products such as metallurgy and chariots.<sup>395</sup> These northern regions are, therefore, no longer regarded as ‘peripheries’ in the traditional sense, but an important source of technologies and products. The study of interaction sphere to the north of the Central Plains brings a completely different view of China and its past.

Further research on the interaction sphere in the south may also bring a new view of this region. The perspective presented in this thesis and the examinations of multiple materials will be helpful as these methods free the south from the old connotation of ‘periphery of China’. In future studies, more attention should be paid to the mechanism and structure of interregional networks of this region, including the medium, the routes and the local responses evoked. So far the materials from scientific archaeological excavations in the south, especially in the Lingnan-Fujian region, are still relatively limited compared to many other regions in China. More excavations and research are expected to be carried out in the hilly area on both sides of the Nanling Mountains and along the coast to shed more light on the interregional routes, especially the latter which

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<sup>394</sup> The ‘Northern Zone’ includes the present-day Inner Mongolia, northern Hebei, northern Shanxi, northern Ningxia, Gansu and Qinghai. This area is often occupied by nomad people, who have been considered as another group of ‘Barbarians’ in traditional historiography. Lin Yun 1986 and 2003.

<sup>395</sup> Piggot 1992, Rawson 2010 and Wu Hsiao-yun 2013.

may have linked southern China to areas beyond today's Chinese territory. More attention should also be paid to how transmitted technologies and products were integrated and presented in local tradition and, eventually, formed and transformed the interregional network structure.

## **GLOSSARY**

### **Dynasties/States**

|      |   |   |       |   |                                       |
|------|---|---|-------|---|---------------------------------------|
| Xia  | 夏 | (c. 21 <sup>st</sup> – 17 <sup>th</sup> century BC) | Shang | 商 | (c. 1600 – 1046 BC)                   |
| Zhou | 周 | (1046 – 256 BC)                                     | Qin   | 秦 | (221 – 206 BC)                        |
| Han  | 漢 | (202 – 220 BC)                                      | Chu   | 楚 | (7 <sup>th</sup> century BC – 223 BC) |
| Wu   | 吳 | (c. 11 <sup>th</sup> century BC – 473 BC)           | Yue   | 越 | (6 <sup>th</sup> century BC – 306 BC) |

### **Regions, locations and sites**

#### **A**

Anyang                      安陽

#### **B**

|             |     |                |      |
|-------------|-----|----------------|------|
| Babao       | 八堡  | Bashidang      | 八十墘  |
| Baojingwan  | 寶鏡灣 | Beifushan      | 背夫山  |
| Beijiang    | 北江  | Beinan         | 卑南   |
| Beihoushan  | 背後山 | Beiyinyangying | 北陰陽營 |
| Boyang Lake | 鄱陽湖 |                |      |

#### **C**

|                   |               |               |     |
|-------------------|---------------|---------------|-----|
| Caojiafen         | 曹家墳           | Caoxieshan    | 草鞋山 |
| Changfen          | 長墳            | Chao'an       | 潮安  |
| Chengbeixi        | 城背溪           | Chengtoushan  | 城頭山 |
| Cheng-Yang region | 城(固) - 洋(縣)地區 | Chihu         | 池湖  |
| Chuangbanyang     | 牀板樣           | Chuanxingshan | 船形山 |

#### **D**

|            |     |            |     |
|------------|-----|------------|-----|
| Dabengkeng | 大盆坑 | Dapingding | 大坪頂 |
| Dalongtan  | 大龍潭 | Dayan      | 大岩  |

|               |     |               |      |
|---------------|-----|---------------|------|
| Daying        | 大盈  | Dayu Pass     | 大庾嶺  |
| Deqing        | 德清  | Damalin       | 大馬璘  |
| Dengjiawan    | 鄧家灣 | Dongjiang     | 東江   |
| Dongjiao      | 洞角  | Dongshaoxi    | 東茗溪  |
| Dongting Lake | 洞庭湖 | Dongwanzaibei | 東灣仔北 |
| Doumenxian    | 斗門縣 | Diaotonghuan  | 吊桶環  |
| Dingsishan    | 頂嵯山 | Doulan        | 都蘭   |
| Dujiafen      | 杜家墳 | Duliao        | 獨料   |
| <b>E</b>      |     |               |      |
| Eluanbi       | 鵝鑾鼻 | Erligang      | 二里崗  |
| <b>F</b>      |     |               |      |
| Fanshan       | 反山  | Feiyun River  | 飛雲江  |
| Fengbitou     | 鳳鼻頭 | Fengtian      | 豐田   |
| Foshan        | 佛山  | Fubin         | 浮濱   |
| Fufeng        | 扶風  | Funan         | 阜南   |
| Fuquanshan    | 福泉山 |               |      |
| <b>G</b>      |     |               |      |
| Ganjiang      | 贛江  | Gantuoyan     | 感馱巖  |
| Gaojiabao     | 高家堡 | Gushi         | 固始   |
| Guye          | 古椰  | Guanjiucun    | 管九村  |
| Guangdong     | 廣東  | Guangxi       | 廣西   |
| Guangze       | 光澤  | Guizishan     | 龜子山  |
| Guo State     | 虢國  | Guoluwan      | 過路灣  |
| <b>H</b>      |     |               |      |
| Haifeng       | 海豐  | Hainan        | 海南   |
| Hanshui       | 漢水  | Hedang        | 河宕   |
| Henan         | 河南  | Heisha        | 黑沙   |
| Henglingshan  | 橫嶺山 | Hengxuli      | 橫圩里  |
| Hongshan      | 鴻山  | Hubei         | 湖北   |
| Hunan         | 湖南  | Hulinshan     | 虎林山  |

|             |     |               |      |
|-------------|-----|---------------|------|
| Hushu       | 湖熟  | Hutoupu       | 虎頭埔  |
| Huagangshan | 花崗山 | Hualian       | 花蓮   |
| Huayuancun  | 花園村 | Huangguashan  | 黃瓜山  |
| Huangtulun  | 黃土侖 | Huiguanshan   | 匯觀山  |
| Huochaoshan | 火燒山 |               |      |
| <b>J</b>    |     |               |      |
| Jijiaocheng | 雞叫城 | Jiyang        | 濟陽   |
| Jiangning   | 江寧  | Jiangsu       | 江蘇   |
| Jiangxi     | 江西  | Jiaoshan      | 角山   |
| Jiushi      | 舊市  | Jiuwuhoushan  | 舊屋後山 |
| <b>K</b>    |     |               |      |
| Kuniangang  | 苦捻崗 | Kuahuqiao     | 跨湖橋  |
| Kunshan     | 昆山  |               |      |
| <b>L</b>    |     |               |      |
| Lanyu       | 蘭嶼  | Laohudun      | 老虎墩  |
| Laofanshe   | 老番社 | Laofendun     | 老墳墩  |
| Liyushan    | 鯉魚山 | Liangzhu      | 良渚   |
| Liulihe     | 琉璃河 | Lucun         | 盧村   |
| Lumeicun    | 祿美村 | Luyi          | 鹿邑   |
| Luoding     | 羅定  | Luojiabailing | 羅家柏嶺 |
| Luoyang     | 洛陽  |               |      |
| <b>M</b>    |     |               |      |
| Maqiao      | 馬橋  | Mazhuling     | 麻竹嶺  |
| Mao'ernong  | 貓兒弄 | Meihuadun     | 梅花墩  |
| Minhou      | 閩侯  | Mojiashan     | 莫家山  |
| Muzidun     | 母子墩 |               |      |
| <b>N</b>    |     |               |      |
| Nanjing     | 南京  | Nanlang       | 南塋   |
| Nanling     | 南嶺  | Nanguanli     | 南關里  |
| Nanmangwan  | 南芒灣 | Nanmentong    | 南門垌  |

|              |     |             |     |
|--------------|-----|-------------|-----|
| Ningxiang    | 寧鄉  |             |     |
| <b>P</b>     |     |             |     |
| Panlongcheng | 盤龍城 | Pengtoushan | 彭頭山 |
| Pinglin      | 坪林  | Potang      | 坡塘  |
| Puducun      | 普度村 |             |     |
| <b>Q</b>     |     |             |     |
| Qijiacun     | 齊家村 | Qigu        | 七股  |
| Qianshanyang | 錢山漾 | Qiuchengdun | 邱承墩 |
| Qubing       | 曲冰  | Qujiang     | 曲江  |
| Quwo         | 曲沃  |             |     |
| <b>R</b>     |     |             |     |
| Raoping      | 饒平  | Rongshuwan  | 榕樹灣 |
| <b>S</b>     |     |             |     |
| Sanxingdui   | 三星堆 | Shaluowan   | 沙螺灣 |
| Shapucun     | 沙浦村 | Shaanxi     | 陝西  |
| Shangshan    | 上山  | Shanxi      | 山西  |
| Shenwan      | 深灣  | Shijiahe    | 石家河 |
| Shixia       | 石峽  | Shixingshan | 獅形山 |
| Shuitianfan  | 水田畝 | Shuiwaku    | 水蛙窟 |
| Sichuan      | 四川  | Sidun       | 寺墩  |
| Siwen        | 斯文  | Sucun       | 蘇村  |
| <b>T</b>     |     |             |     |
| Tazijin      | 塔子金 | Taidong     | 臺東  |
| Lake Tai     | 太湖  | Taiwan      | 台灣  |
| Taixi        | 臺西  | Tanjialing  | 譚家嶺 |
| Tanshishan   | 曇石山 | Tangxiahuan | 棠下環 |
| Tingziqiao   | 亭子橋 | Tunxi       | 屯溪  |
| <b>W</b>     |     |             |     |
| Wanjiafen    | 萬家墳 | Wanshan     | 萬山  |
| Wenjiashan   | 文家山 | Wubeiling   | 屋背嶺 |

|                |      |            |     |
|----------------|------|------------|-----|
| Wucheng        | 吳城   | Wujiabu    | 吳家埠 |
| Wusaoling      | 烏騷嶺  | Wuyi       | 武夷  |
| <b>X</b>       |      |            |     |
| Xi'an          | 西安   | Xijiang    | 西江  |
| Xianrendong    | 仙人洞  | Xiangjiang | 湘江  |
| Xiaojiawuji    | 肖家屋脊 | Xiaojin    | 曉錦  |
| Xiaoshuangqiao | 小雙橋  | Xiaozhong  | 小冢  |
| Xin'an Zhuang  | 新安莊  | Xin'gan    | 新幹  |
| Xinghuahe      | 杏花河  |            |     |
| <b>Y</b>       |      |            |     |
| Yapowan        | 亞婆灣  | Yancheng   | 淹城  |
| Yanliao        | 鹽寮   | Yangjia    | 秧家  |
| Yaoshan        | 瑤山   | Yinxu      | 殷墟  |
| Yinshan        | 印山   | Yingtang   | 鷹潭  |
| Yuchanyan      | 玉蟾巖  | Yuanjiang  | 沅江  |
| Yuanshan       | 圓山   | Yuanqu     | 垣曲  |
| Yuimei         | 月眉   | Yunmengze  | 雲夢澤 |
| <b>Z</b>       |      |            |     |
| Zaoshi         | 皂市   | Zhangguang | 長光  |
| Zhaochen       | 召陳   | Zhejiang   | 浙江  |
| Zhengzhou      | 鄭州   | Zhishanyan | 芝山巖 |
| Zhuangbai      | 莊白   | Zijiang    | 資江  |
| Zoujiadun      | 鄒家墩  |            |     |

### Object names with diagrams



*Bi*

壁



*Bozhong*

搏鐘



*Cong tube* 琮



*Dou* 豆



*Fangding* 方鼎



*Ge* 戈



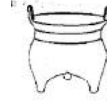
*Gu* 觚



*Jue* 玦



*Lei* 罍



*Li* 鬲



*Nao* 饒



*Niuzhong* 鈕鐘



*Yongzhong* 甬鐘



*Yuanding* 圓鼎



*Zun* 尊

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|          |   |                |
|----------|---|----------------|
| CASS     | <i>Chinese Academy of Social Science</i>                                    | 中國社會科學院        |
| CPAM     | <i>Committee for the Protection of Antiquities and Monuments</i>            | 文物管理委員會        |
| DNWH     | <i>Dongnan Wenhua</i>   | 東南文化           |
| FJWB     | <i>Fujian Wenbo</i>   | 福建文博           |
| GDWB     | <i>Guangdong Wenbo</i>  | 廣東文博           |
| HDSFDXXB | <i>Huadong Shifan Daxue Xuebao</i>  | 華東師範大學學報       |
| HNKGJK   | <i>Hunan Kaogu Jikan</i>  | 湖南考古輯刊         |
| HXKG     | <i>Hua Xia Kaogu</i>  | 华夏考古           |
| LAAS     | <i>Institute of Archaeology of Academy of Science</i>                       | 中國科學院考古研究所     |
| JXLSWW   | <i>Jiangxi Lishi Wenwu</i>  | 江西歷史文物         |
| KG       | <i>Kaogu</i>  | 考古             |
| KGXB     | <i>Kaogu Xuebao</i>   | 考古學報           |
| KGTX     | <i>Kaogu Tongxun</i>  | 考古通訊           |
| KGXJK    | <i>Kaoguxue Jikan</i>   | 考古學集刊          |
| KGYYW    | <i>Kaogu yu Wenwu</i>   | 考古與文物          |
| NFMZKG   | <i>Nanfang Minzu Kaogu</i>  | 南方民族考古         |
| NFWW     | <i>Nanfang Wenwu</i>  | 南方文物           |
| NYKG     | <i>Nanyang Kaogu</i>  | 農業考古           |
| NYXB     | <i>Nanyi Xuebao</i>   | 南藝學報           |
| RDCA     | <i>Radiocarbon Dates in Chinese Archaeology</i>                             | 中國考古學中碳十四年代數據集 |
| SSHGWY   | <i>The Society for the Study of the History and Geography of Wu and Yue</i> | 吳越史地研究會        |
| SQYJ     | <i>Shiqian Yanjiu</i>   | 史前研究           |
| WHWB     | <i>Wuhan Wenbo</i>  | 武漢文博           |
| WW       | <i>Wenwu</i>  | 文物             |
| WWCKZL   | <i>Wenwu Cankao Ziliao</i>  | 文物參考資料         |
| WWJK     | <i>Wenwu Jikan</i>  | 文物集刊           |
| WWSJ     | <i>Wensu Shijie</i>   | 文物世界           |
| WWZLCK   | <i>Wenwu Ziliao Congkan</i>   | 文物資料叢刊         |
| XMDXXB   | <i>Ximen Daxue Xuebao</i>   | 廈門大學學報         |
| YSXB     | <i>Yishu Xuebao</i>   | 藝術學報           |
| ZGKGXNJ  | <i>Zhongguo Kaogu Nianjian</i>  | 中國考古學年鑒        |
| ZGWWB    | <i>Zhongguo Wenwubao</i>  | 中國文物報          |
| ZYWW     | <i>Zhongyuan Wenwu</i>  | 中原文物           |

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# TABLES

Table 1-1. Major researchers and their work before 1949

| Excavators   | Dates         | Sites  | Finds   | References   |
|--|---------------|--|---|--|
| Wei Juxian<br>衛聚賢  | 1930          | Qixia 棲霞 Mt., Nanjing 南京   | Stone shouldered axes, impressed wares  | Wei Juxian 1937<br>a & b                                 |
| Wei Juxian<br>Chen<br>Zhiliang<br>陳志良<br>Jin Zutong<br>金祖同                             | 1935          | Yancheng 淹城, Changzhou 常州  | Potsherds with geometric impressed designs  | Wuyue 1937   |
|  |               | Qiajiadun 戚家墩, Jinshan 金山 County   |   |  |
| The Society<br>for the<br>Study of the<br>History and<br>Geography<br>of Wu and<br>Yue | 1936-<br>1937 | Suzhou 蘇州, Shangyu 上虞, Pinghu 平湖, Zhapu 乍<br>浦, Nanguanhai'an 南關海岸, Haiyan 海鹽, Jiaying 嘉<br>興, Gudang 古蕩, Kunshan 昆山 | Potsherds with geometric impressed<br>designs, similar as those found at<br>Yancheng and Qiajiadun. | Wuyue 1937   |
| Dr. Heanley  | 1926-<br>1928 | New Territories 新界, Hong Kong 香港   | Polished stone implements, incised and<br>plain pottery.  | Heanley &<br>Shellshear 1932<br>and Shang<br>Zhitan 2000 |
| Fr. D. Finn  | 1932-<br>1936 | Lamma 南丫 Island, Hong Kong   | Bronzes, impressed wares with double F<br>pattern, and bronze casting moulds                        | Finn 1958  |
| Schofield  | 1935-<br>1937 | Shek Pik 石壁, Hong Kong   | 6 Neolithic burials, impressed ware, human<br>bones, stone implements, jade ge, bronze<br>moulds.   | Shang Zhitan<br>2000                                     |
|  | 1938          | Longguzhou 龍鼓洲, Hong Kong  | Impressed wares and stonewares  | Shang Zhitan<br>2000                                     |

|                        |               |                                    |  |                           |
|------------------------|---------------|------------------------------------|--|---------------------------|
| Chen<br>Gongzhe<br>陳公哲 | 1938-<br>1939 | Shek Pik and Lamma Island          | Jade objects, stonewares, impressed wares                          | Shang Zhitan<br>2000      |
| Fr. Maglioni<br>麥兆良    | 1934-<br>1946 | East Guangdong and southern Fujian | Potsherds weight up to 820 kg and over<br>400 pieces of stonewares | Maglioni 1938<br>and 1975 |
| Lin<br>Huixiang<br>林惠祥 | 1935          | Wuping 武平, Fujian 福建               | Over 900 pieces of impressed potsherds.                            | Lin 1956                  |

Table 1-2. Most frequently cited ancient texts mentioning the Wu and Yue.

| Text  | Content  | Probable compilation date                                       | Reference              |
|---|--|---|------------------------|
| <p><i>Zuo Zhuan</i> 左傳<br/>(the Chronicle of Zuo)</p>                         | <p>吳，周之胄裔也，而棄在海濱，不與姬通，今而始大，比于諸華 (Wu, the descent group of Zhou, was abandoned in coastlands and connection with the Ji 姬 family was therefore broken. It only started to be powerful recently and comparable to other states in Central Plain).</p>  | <p>During the Warring States period, no later than 389 B.C.</p> | <p>Beijing 1998</p>    |
| <p><i>Ma tiansi shuan</i> 穆天子傳 (An Biographical work of the Zhou King Mu)</p> | <p>大王亶父……封其元子太伯於東吳……(The great king Danfu of Zhou...conferred east Wu upon his eldest son Tai'bo).</p>   | <p>During the Warring States period, c.320 B.C.</p>             | <p>Shanghai 1990</p>   |
| <p><i>Lishi Chunqiu</i> 呂氏春秋 (Mister Lü's Spring and Autumn [Annals])</p>     | <p>揚漢之南，百越之際 (Areas to the south of Yangtze and Han River are the territories of Hundred Yue tribes).</p>  | <p>c.239 B.C.</p>   | <p>Shanghai 1986</p>   |
| <p><i>Shiji</i> 史記 (Records of the Historian)</p>                             | <p>吳太伯……周太王之子……於是太伯仲雍二人乃奔荊蠻，文身斷髮示不可用……自號句吳 (Tai bo (The Grand Eldest Brother) of Wu, and Tai bo's younger brother Zhong yong (Yung the Younger), were both sons of Tai Wang (Supreme King) of Zhou...At this, the two men Tai bo and Zhong yong then fled to the Man of Jing, tattooed their bodies and cut short their hair, to show that they could not be used [as rulers]... Tai bo, having fled to the Man of Jing, called himself Gou Wu).<br/>越王勾踐其先禹之苗裔而夏后少康之庶子也……文身斷髮…… (The Yue King Gou jian was of Xia descent and the son of Concubine of the Xia King Shaokang...he tattooed his body and cut short his hair...)</p> | <p>c. 90 B.C.</p>   | <p>Nienhauser 2006</p> |
| <p><i>Wuyue chunqiu</i> 吳越春秋 (The Spring and Autumn of Wu and Yue)</p>        | <p>少康……乃封其庶子於越…… (The Xia King Shaokang...then conferred the Yue area upon his son of concubine).</p>  | <p>c.50 A.D.</p>  | <p>Nanjing 1999</p>    |

|   |  |   |                          |
|---|--|---|--------------------------|
| <p><i>Yuejieshu</i> 越絕書<br/>(The End of the Kingdom of Yue)</p> | <p>昔者越王勾踐，有寶劍五，聞于天下 (Formerly the Yue King Goujian had five treasured swords which were famous around the country)<br/>越……以船為車，以楫為馬 (The Yue... used boats as their vehicle and oars as their horses).</p>   | <p>During Eastern Han period, c. 100 A.D.</p> | <p>Shanghai<br/>1985</p> |
| <p><i>Hanshu</i> 漢書<br/>(The Book of Han)</p>                   | <p>自交趾至會稽七八千里，百越雜處，各有種姓，不盡少康之後也<br/>(Hundreds of Yue groups were living in the thousands of miles of land from Jiaozhi to Huiji; they all had their own names and not all were descendants of the Xia King Shaokang).<br/>越習於水鬥，便於用舟 (Yue is good at water-fight and using boats).</p> | <p>c.70 – 111 A.D.</p>                        | <p>Hanshu<br/>1998</p>   |

Table 2-1: Early rice growing sites along the Yangtze valley (10000 – 5000 BC)

| Sites              | Dates                | Major finds   | Excavation reports and references  |
|--------------------|----------------------|---|--|
| Yuchanyan<br>玉蟾巖   | c. 10000<br>BC       | Rice husks, caryopses and phytoliths, evidencing an early stage of transition from wild to domestic rice  | Higham & Lu 1998; Yuan Jiarong 2000  |
| Xianrendong<br>仙人洞 | c. 8000 –<br>5600 BC | Xianrendong: wild rice remains have been found associated with ceramic production<br>Diaotonghuan: reliable associations of pottery and rice phytoliths of which 55% has been recognised as a domesticated variety. | Chen Xingcan 1999, Zhao Zhijun 1998; Chen Xingcan 1999; Zhou Guangming 2000. |
| Shangshan<br>上山    | 8000 –<br>7000 BC    | Sedentary village with evidence of domestic rice  | Jiang Leping & Liu Li 2006.  |
| Pengtoushan<br>彭頭山 | 7000 –<br>4000 BC    | Remains of domestic rice and extensive use of rice-chaff temper in ceramic production   | Rispoli 2007 and Zhang Chi and Hung Hsiao-chun 2008                          |
| Zaoshi<br>皂市       | 6000 –<br>5000 BC    | Remains of domestic rice  | Rispoli 2007 and Zhang and Hung 2008   |
| Chengbeixi<br>城背溪  | 6000 –<br>4000 BC    | Rice in its domesticated variety  | Rispoli 2007   |
| Kuahucqiao<br>跨湖橋  | c. 6000 –<br>5000 BC | light remains of a sedentary village with evidence of domesticated rice   | Kuahucqiao 2004; Jiang Leping & Liu Li 2005                                  |

Table 2-2 Major finds of jade, crystal and stone ornaments/ritual objects in late prehistoric southern China (3000 – 500 BC)

| Sites or archaeological cultures | Date              | Types  | References          |
|----------------------------------|-------------------|--|---------------------|
| Daxi<br>大溪                       | c. 4400 – 3000 BC | Jade <i>huang, jue</i>   | Deng Cong 1998      |
| Beiyinyangying<br>北陰陽營           | c. 4000 – 3000 BC | Jade <i>huang</i> , beads, <i>jue</i>  | Beiyinyangying 1993 |
| Songze<br>崧澤                     | c. 3800 – 3000 BC | Jade <i>Huang, ban</i> , beads   | Fang Xiangming 2010 |
| Lingjiatan<br>凌家灘                | c. 3500 – 3000 BC | Jade human and animal figures, <i>huang, bi huan</i> , bracelets, tubes, beads | Lingjiatan 2006     |
| Liangzhu<br>良渚                   | c. 3000 – 1700 BC | Jade <i>cong, bi</i> , discs   | Liangzhu 1989       |
| Shijiahe<br>石家河                  | c. 2300 – 2000 BC | Jade human and animal figures, <i>huan, jue, huang</i>                         | Shijiahe 1992       |
| Northern Jiangxi sites<br>江西北部遺址 | c. 2000 BC        | Jade <i>cong</i> , axes, adzes, <i>huang</i>                                   | Deng Cong 1998      |
| Shixia<br>石峽                     | c. 2300 – 2000 BC | Jade <i>cong, bi, heng, yuan, jue, huang, jue</i>                              | Shixia 1978         |
| Huangguashan<br>黃瓜山              | c. 2300 – 1500 BC | Stone <i>cong, huan, huang</i>   | Huangguashan 1994   |
| Yuanshan<br>圓山                   | c. 2300 – 1000 BC | Jade <i>jue, huan</i> , beads, bracelets, adzes                                | Deng Cong 1998      |
| Chuangbanyang<br>床板樣             | c. 2000 BC        | Stone <i>jue</i> , jade <i>cong</i> , bracelet                                 | Yang Shiting 1998   |
| Lumeicun<br>祿美村                  | c. 2000 BC        | Stone <i>jue</i> , jade <i>cong</i> , bracelet                                 | Allard, F. 1997     |

|                         |                  |  |                   |
|-------------------------|------------------|--|-------------------|
| Sanshui Yinzhou<br>三水銀州 | c. 2000 BC       | Jade axes and <i>huan</i>  | Yang Shiting 1998 |
| Baojingwan<br>寶鏡灣       | c. 2000 BC       | Stone and crystal <i>jue</i> , <i>huan</i> , ear pendants and semi-finished products | Baojingwan 2004   |
| Heisha<br>黑沙            | c. 2000 BC       | Jade or stone <i>jue</i> and <i>huan</i> and manufacture tools                       | Deng Cong 1998    |
| Shenzhen sites<br>深圳遺址  | c. 2000 – 500BC  | Crystal or stone <i>jue</i> , <i>huan</i> , <i>huang</i>                             | Deng Cong 1991    |
| Hong Kong sites<br>香港遺址 | c. 2000 – 500 BC | Jade, stone or crystal <i>jue</i> , <i>huan</i> and <i>huang</i>                     | Deng Cong 1991    |
| Beinan<br>卑南            | c. 2000 – 500 BC | Jade material, <i>jue</i> , <i>huan</i> , bracelets, beads, <i>tubes</i> , adzes     | Deng Cong 1998    |
| Haifeng<br>海豐           | collected        | Jade <i>cong</i> and <i>huan</i>   | Yang Shiting 1998 |

Table 2-3 Early rice remains from the Lingnan-Fujian region. Based on data revealed in Zhang Chi and Hung Hsiao-chun 2010.

| Sites                           | Specimens recovered    | Cultural phases & suggested dates             | 14C determinations   | Oxcal, 2 sigma dates             |
|---------------------------------|------------------------|---|--|----------------------------------|
| Shixia, Guangdong<br>northern   | Rice grains            | Pre-Shixia phase, c.3000 BC                   | None   |                                  |
|                                 | Rice grains and stalks | Shixia Culture phase<br>c.2700-2200 BC        | Phase 1: 4220±110bp<br>(Bk76024, charcoal)                       | 3100 – 2450 BC                   |
|                                 |                        |   | Phase 3: 4330±90 bp<br>(Bk75046, charcoal)                       | 3350 – 2650 BC                   |
|                                 |                        |   | Phase 3: 4020±100 bp<br>(Bk75050, charcoal)                      | 2900 – 2250 BC                   |
| Guye, Guangdong<br>central-west | Rice grains            | c. 2500 BC                                    | None   | None                             |
| Xinghuahe, Guangdong<br>west    | Rice grains            | c. 2600 – 2300 BC                             | 4030±120 bp<br>4030±220 bp                                       | 2900 – 2600 BC<br>3100 – 1900 BC |
| Tanshishan                      | Rice grains            | Tanshishan Culture phase<br>c. 2870 – 2340 BC | 3090±60 bp (ZK-0098, shell)<br>3600±70 bp (ZK-0099, animal bone) | 1500 – 1190 BC<br>2140 – 1750 BC |
| Xiaojin, northern Guangxi       | Rice grains            | Xiaojin phase II<br>c. 2500 – 2000 BC         | 3850±140 bp  | 2750 – 1900 BC                   |
|                                 |                        |   | 3420±140 bp  | 2150 – 1400 BC                   |
|                                 |                        |   | 4030±110 bp  | 2900 – 2200 BC                   |
|                                 |                        |   | 4700±800 bp  | 5300 – 1400 BC                   |
|                                 |                        |   | 4700±200 bp  | 4000 – 2900 BC                   |
| Dingsishan, Guangxi<br>western  | Rice phytoliths        | Dingsishan phase 4<br>c. 2500 – 2000 BC       | None   | None                             |
| Gantuoyan, Guangxi<br>western   | Rice grains            | Gantuoyan phase 2<br>c. 1800 – 800 BC         | 3463±50 bp (DY-1014)   | 1920 – 1600 BC                   |
|                                 |                        |   | 2883±50 bp (DY-1013)   | 1220 – 920 BC                    |
|                                 |                        |   | 3131± 50 bp (DY-D1015)   | 1510 – 1290 BC                   |

|                      |          |             |   |                             |            |                |
|----------------------|----------|-------------|---|-----------------------------|------------|----------------|
| Nanguanli,<br>Taiwan | southern | Rice grains | Late Dabenkeng phase<br>c. 2700 – 2200 BC | 4470±60 bp<br>marine shell) | (GX-27327, | 2670 – 2470 BC |
|                      |          |             |   | 4450±40 bp<br>marine shell) | (NTU-3493, | 2670 – 2460 BC |
|                      |          |             |   | 4080±50 bp<br>charcoal)     | (NUT3489,  | 2500 – 2300 BC |
|                      |          |             |   | 4040±40 bp<br>charcoal)     | (GX-27788, | 2700 – 1950 BC |
|                      |          |             |   | 3950±40 bp<br>charcoal)     | (NTU-3452, | 2500 – 1850 BC |

Table 3-1 Finds of high-fired ceramics from northern China (1500 – 221 BC). Based on Lü Qichang 1997 and Tang Yuyun 2010.

| Provenance            | Date                        | Site                                   | Context   | Major finds  | Excavation Report   |                          |
|-----------------------|-----------------------------|--|---|--|---|--------------------------|
| Henan Province<br>河南省 | Shang<br>(c.1600 – 1046 BC) | Xiaoshuangqiao, Zhengzhou<br>鄭州小雙橋商代遺址 | Sacrificial pits  | High-fired glazed sherds and zun vessels.  | Sun Xinmin & Sun Jin 2008   |                          |
|                       |                             | Erligang, Zhengzhou<br>鄭州二里崗           | Palace site   | Glazed sherds which can be restored to <i>zun</i> vessels – no more than 0.005% of the whole ceramic find. | Erligang 1959.  |                          |
|                       |                             | Minggonglu, Zhengzhou<br>鄭州銘功路商墓       | Burials   | 2 intact impressed wares. Yunlei pattern and checkers.   | Erligang 1959.  |                          |
|                       |                             |  | People's Park Shang tomb, Zhengzhou<br>鄭州人民公園商墓           | Burials  | 1 intact high-fired <i>zun</i> vessel, glazed   | Erligang 1959            |
|                       |                             |  | Liulige Shang Tombs, Huixian County<br>輝縣琉璃閣商墓            | Burials  | 14 pieces of impressed potsherds, grey glazed surface unearthed from 2 large burials  | Huixian 1959.            |
|                       |                             |  | Yinxu, Anyang<br>安陽殷墟                                     | Residential sites  | High-fired and glazed sherds and vessels. A high-fired jar from tomb M701. 1 high-fired lid from house F10. 3 high-fired jars from house F11. | Yinxu 1961, 1994 & 2001. |
|                       |                             |  | Zhangzikou western Zhou tombs, Luyi County<br>鹿邑太清宮長子口西周墓 | Burials  | 10 dou, 1 zun and 1 jar, all high-fired and glazed.   | Luyi 2000                |
|                       |                             | Zhou (1045 – 221 BC)                   | Pangjiagou western Zhou tombs, Luoyang<br>洛陽龐家溝西周墓        | Burials  | Protoporcelain wares as funeral goods. Restorable pieces 10.  | Pangjiagou 1972.         |

|                          |  |   |  |  |                            |
|--------------------------|--|---|--|--|----------------------------|
| Shandong province<br>山東省 | Shang (c.1600 – 1046 BC)<br>Zhou (1045 – 221 BC) | Beiyao western Zhou tombs, Luoyang<br>洛陽北窯西周墓           | Burials  | 224 restored high-fired glazed vessels, mainly in the shapes of zun, dou, lids, lei, jar, have been found from 348 burials.  | Sun Xinmin & Sun Jin 2008  |
|                          |  | Gushi eastern Zhou tombs, Gushi County<br>固始縣東周墓        | Burials  | Three delicate protoporcelain cups. Other ceramic products found here included high-fired impressed pottery in the shapes of jar and cup                               | Gushi 1981 and Gushi 2004. |
|                          |  | Daxinzhuang Shang site,<br>Jinan<br>濟南大辛莊商代遺址           | Residential site                                 | High-fired and glazed sherds.  | Daxinzhuang 1959           |
|                          |  | Subu Shang tombs, Yidu<br>益都蘇埠商代墓地                      | Burials  | High-fired and glazed dou vessels from tomb M2.  | Liang 2003                 |
|                          |  | Qianzhangda Shang tombs, Tengxian County<br>滕縣前掌大墓地     | Burials  | More than 40 high-fired glazed vessels, mainly in the shapes of dou, zun, lei and jars.  | Liang 2003                 |
|                          |  | Liutaizi Zhou tombs,<br>Jiyang<br>濟陽劉臺子墓地               | Burials  | High-fired and glazed ceramic vessels, mainly in the shapes of jars, lids and dou.   | Liang 2003                 |
|                          |  | Zhuanglixi Zhou tombs,<br>Tengzhou<br>滕州莊里西墓地           | Burials  | 1 high-fired and glazed <i>lei</i> vessel.   | Liang 2003                 |
|                          |  | Yuanqu Shang site<br>垣曲商城                               | Residential sites                                | The rim of a ceramic zun vessel, high-fired and glazed   | Yuanqu 2008                |
|                          |  | Necropolis of the Marquis Jin family,<br>Quwo<br>曲沃晉侯墓地 | Burials  | High-fired glazed ceramic vessels in the shapes of jars, dou and zun. This is the site where so far the largest number of high-fired ceramics found in northern China. | Meng Yaohu & Ren Zhi 2002  |
|                          |  | Shanxi province<br>山西省                                  | Shang (c.1600 – 1046 BC)<br>Zhou (1045 – 221 BC) |  |                            |

|                         |                             |   |                   |   |                   |
|-------------------------|-----------------------------|---|-------------------|---|-------------------|
| Shaanxi province<br>陝西省 | Shang<br>(c.1600 – 1046 BC) | Beicun Shang site,<br>Yaoxian County<br>耀縣北村商代遺址          | Residential sites | 1 high-fired glazed zun.  | Yaoxian 1988      |
|                         | Zhou (1045 – 221 BC)        | Zhaochen western Zhou site, Fufeng<br>扶風召陳西周建築群基址         | Palace site       | 2 high-fired glazed vessels.  | Fufeng 1981       |
|                         |                             | Pudu western Zhou tomb, Chang'an<br>長安普度村西周墓(一座)          | Burial            | 1 high-fired glazed <i>dou</i> .  | Pudu 1959         |
|                         |                             | Dayuan western Zhou tomb, Fengxi<br>長安灃西大原村西周墓            | Burial            | High-fired glazed ceramic vessels were found in tomb M304.  | Fengxi 1986       |
|                         |                             | Cemetery of the Jing Shu family, Zhangjiapo<br>長安張家坡西周井叔墓 | Burial            | High-fired and glazed <i>dou</i> vessels  | Jingshu 1986      |
|                         |                             | Hejia western Zhou tombs, Qishan<br>岐山賀家西周墓               | Burial            | 1 high-fired and glazed <i>dou</i> vessel from tomb M6.   | Qishan 1976       |
|                         |                             | Huangdui western Zhou tombs, Fufeng<br>扶風黃堆老堡西周墓          | Burial            | 11 high-fired glazed ceramic vessels from tomb M25, including 8 <i>dou</i> vessels, 2 <i>lei</i> vessel and 1 bowl. | Huangdui 1994     |
|                         |                             | Western Zhou cemetery, Zhongongmiao<br>周公廟遺址西周墓地          | Burial            | High-fired and glazed sherds and more than 10 intact vessels from tomb M18 and M32.                                 | Zhongongmiao 2006 |

|                       |                             |   |                  |  |               |
|-----------------------|-----------------------------|---|------------------|--|---------------|
| Hebei province<br>河北省 | Shang<br>(c.1600 – 1046 BC) | Taixi Gaocheng<br>藁城台西商代遺址                  | Residential site | High-fired and glazed sherds 2             | Liulihe 1996  |
|                       | Zhou (1045 – 221 BC)        | Western Zhou cemetery,<br>Liulihe<br>琉璃河西周墓 | Burial           | High-fired glazed dou vessels from tomb M2 | Gaocheng 1974 |

# CHARTS

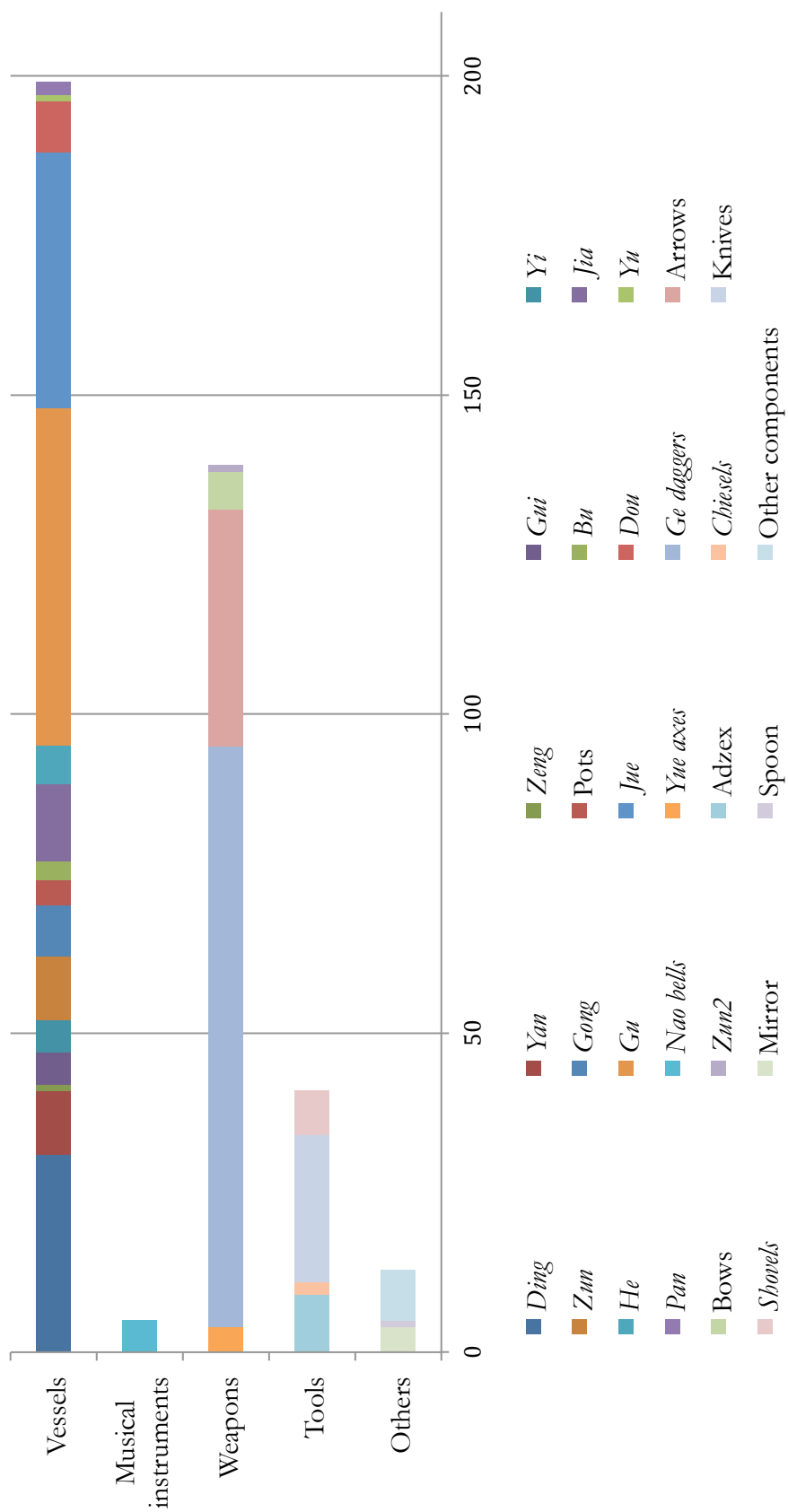


Chart 3-1 Bronzes unearthed from Fu Hao's tomb. Data calculated from excavation report. See Fu Hao 1997.

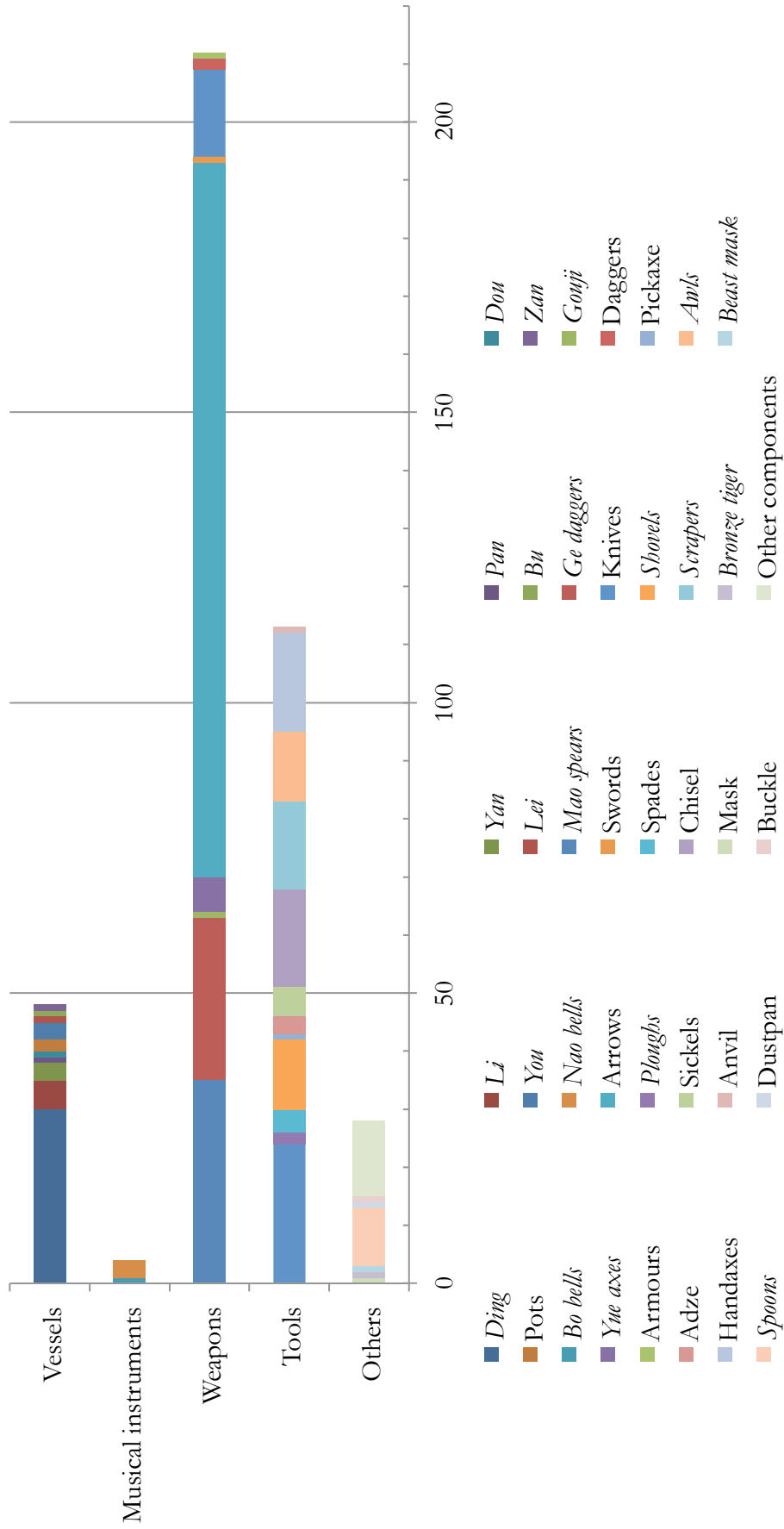


Chart 3-2 Bronzes unearthed at Xin'gan. Data calculated from excavation report. See Xin'gan 1997.

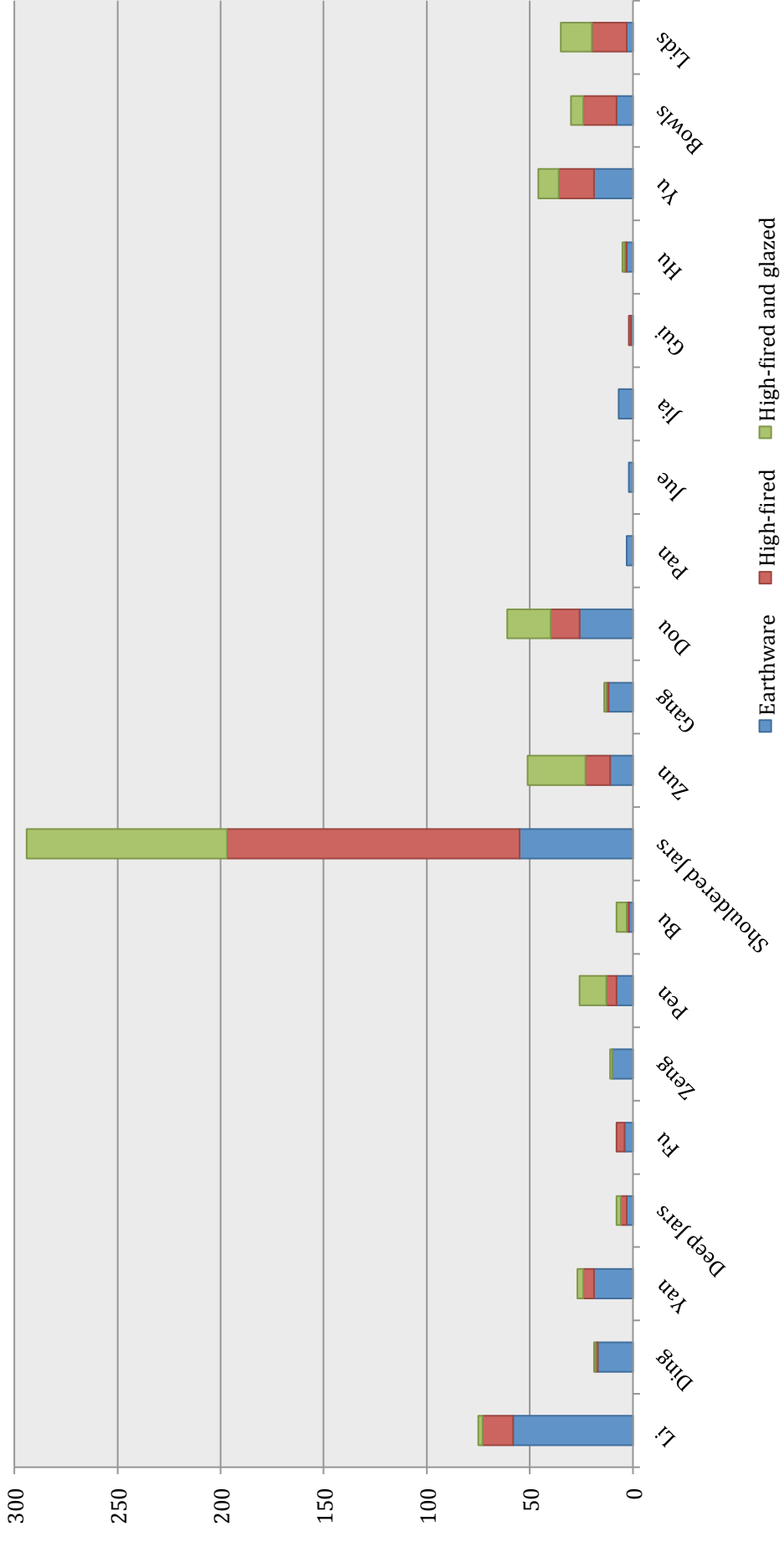


Chart 3-3 Pottery finds at Wucheng. Data based on excavation report. See Wucheng 2005.

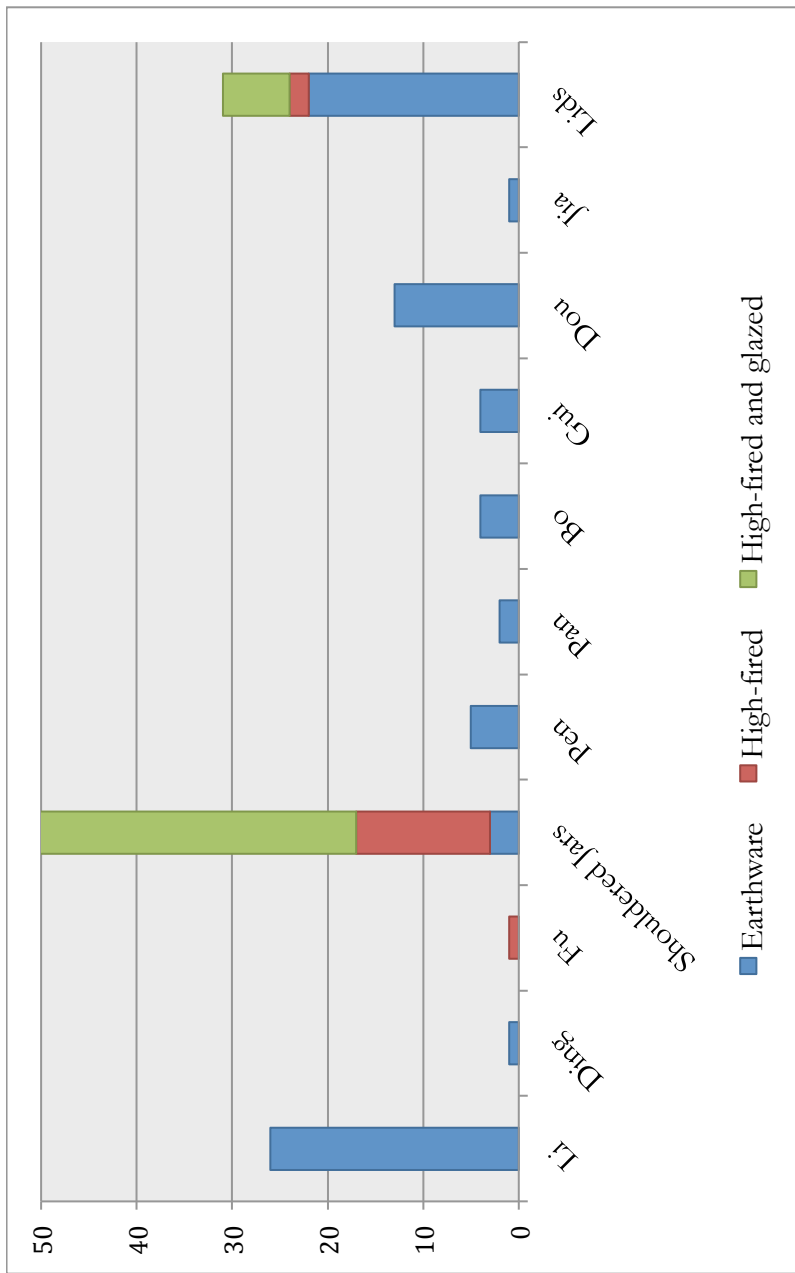


Chart 3-4 Pottery finds at Xin'gan. Data based on excavation report. See Xin'gan 1997.

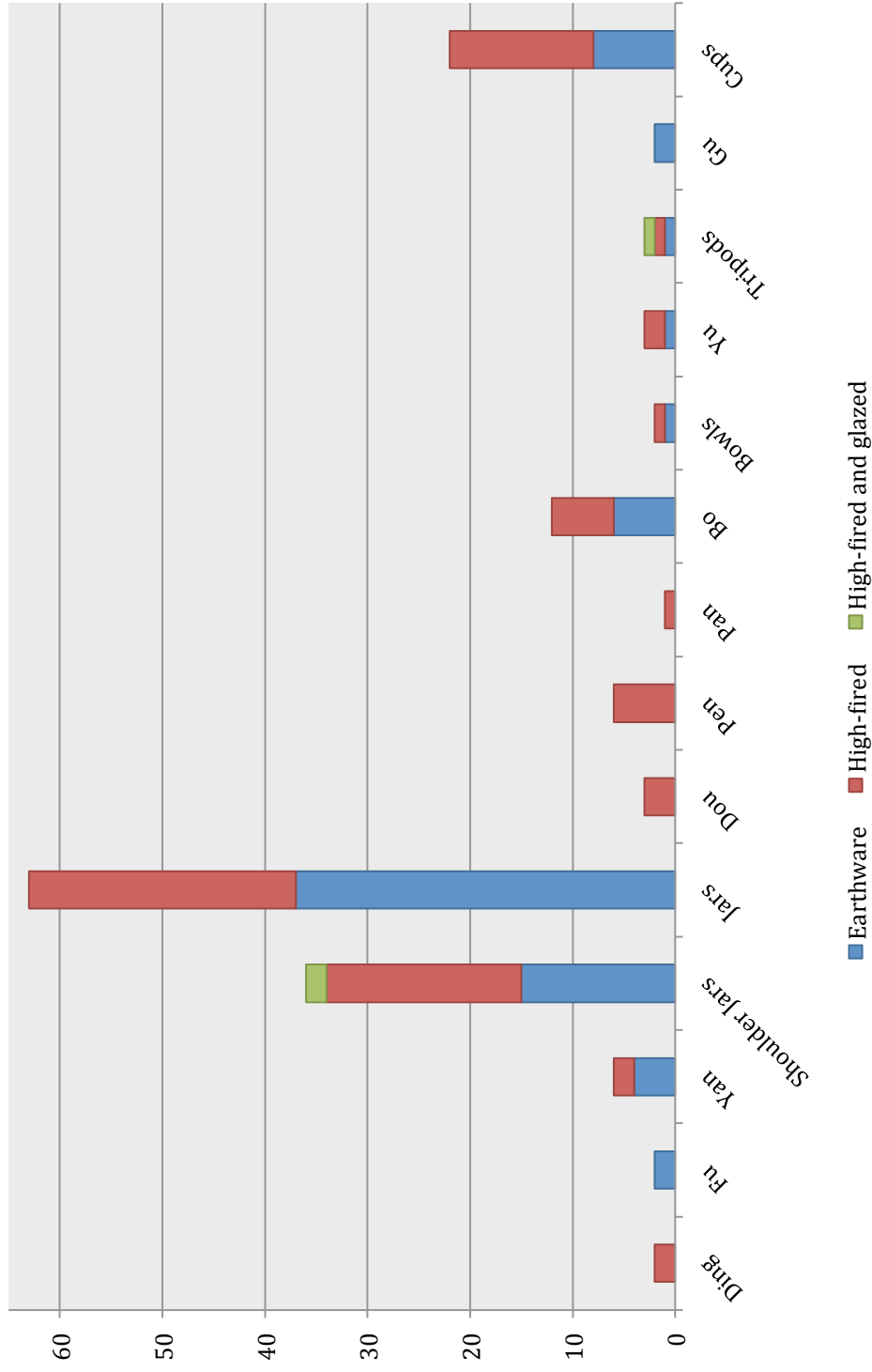


Chart 3-5 Pottery finds at Guangze, northern Fujian. Data calculated from excavation report. See Gaungze Chihu 2003.

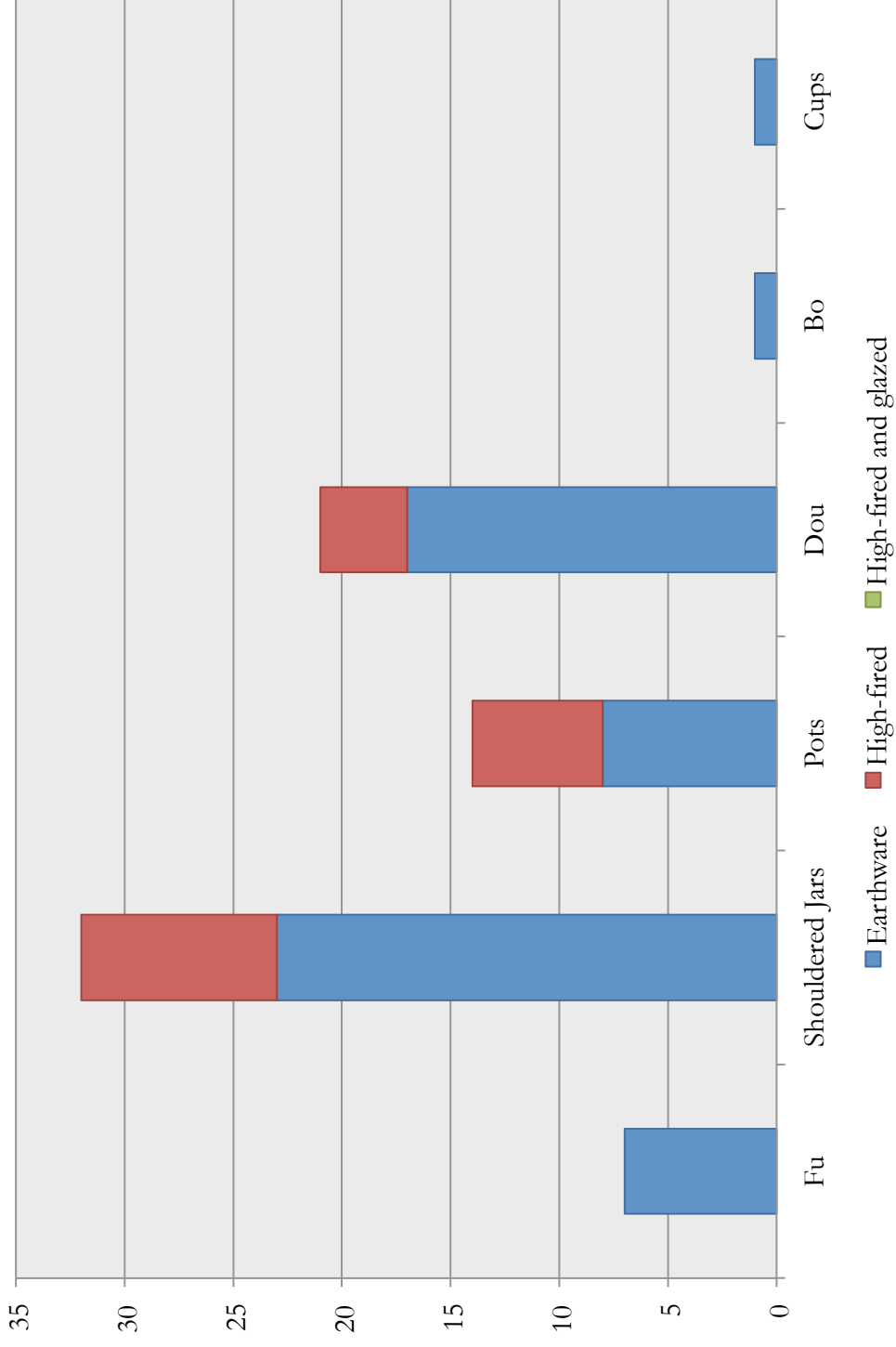


Chart 3-6 Pottery finds at Hulinshan. Data calculated from excavation report. See Hulinshan 2003.

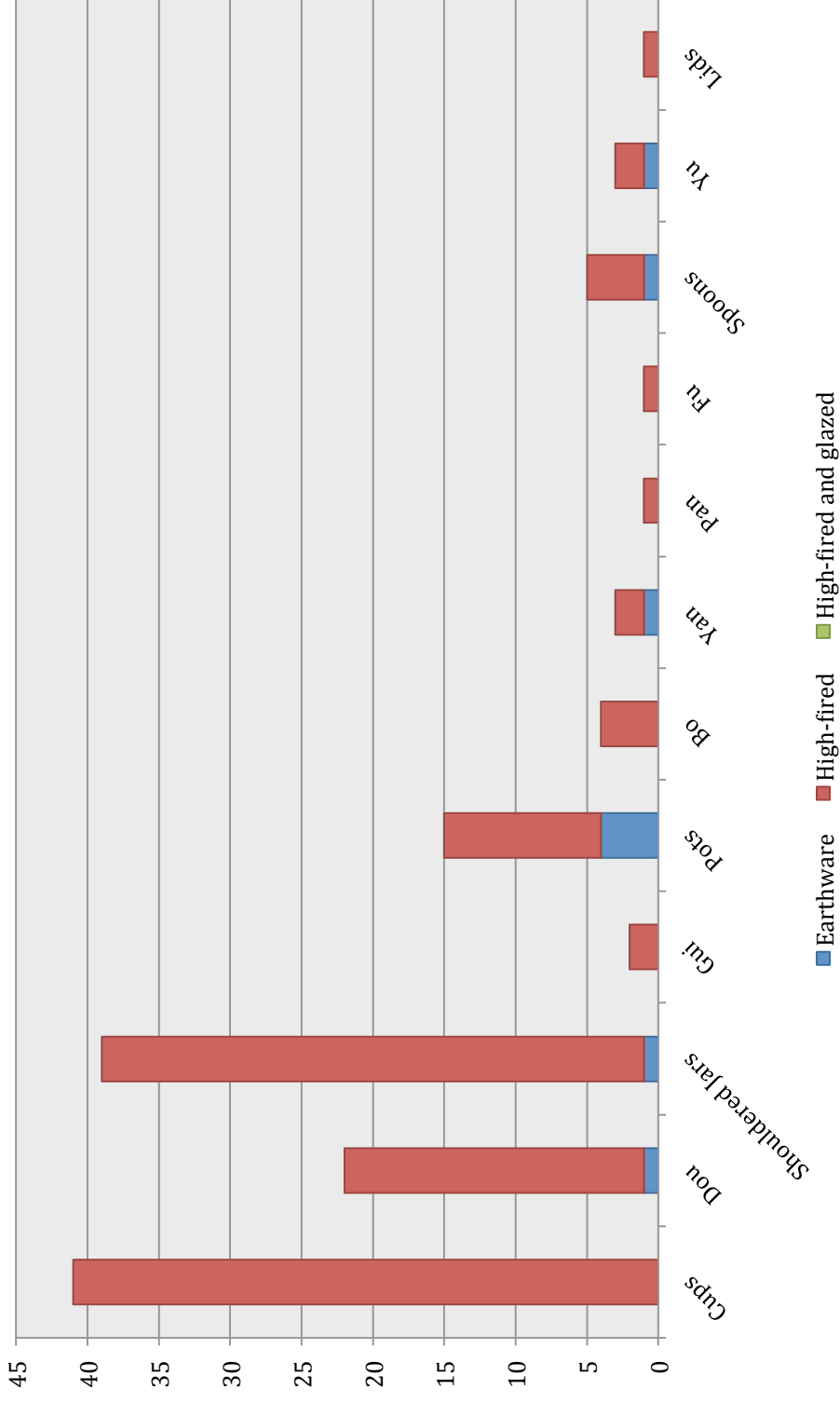


Chart 3-7 Pottery finds from Huangtulun. Data calculated from excavation report. See Huangtulun 1984.

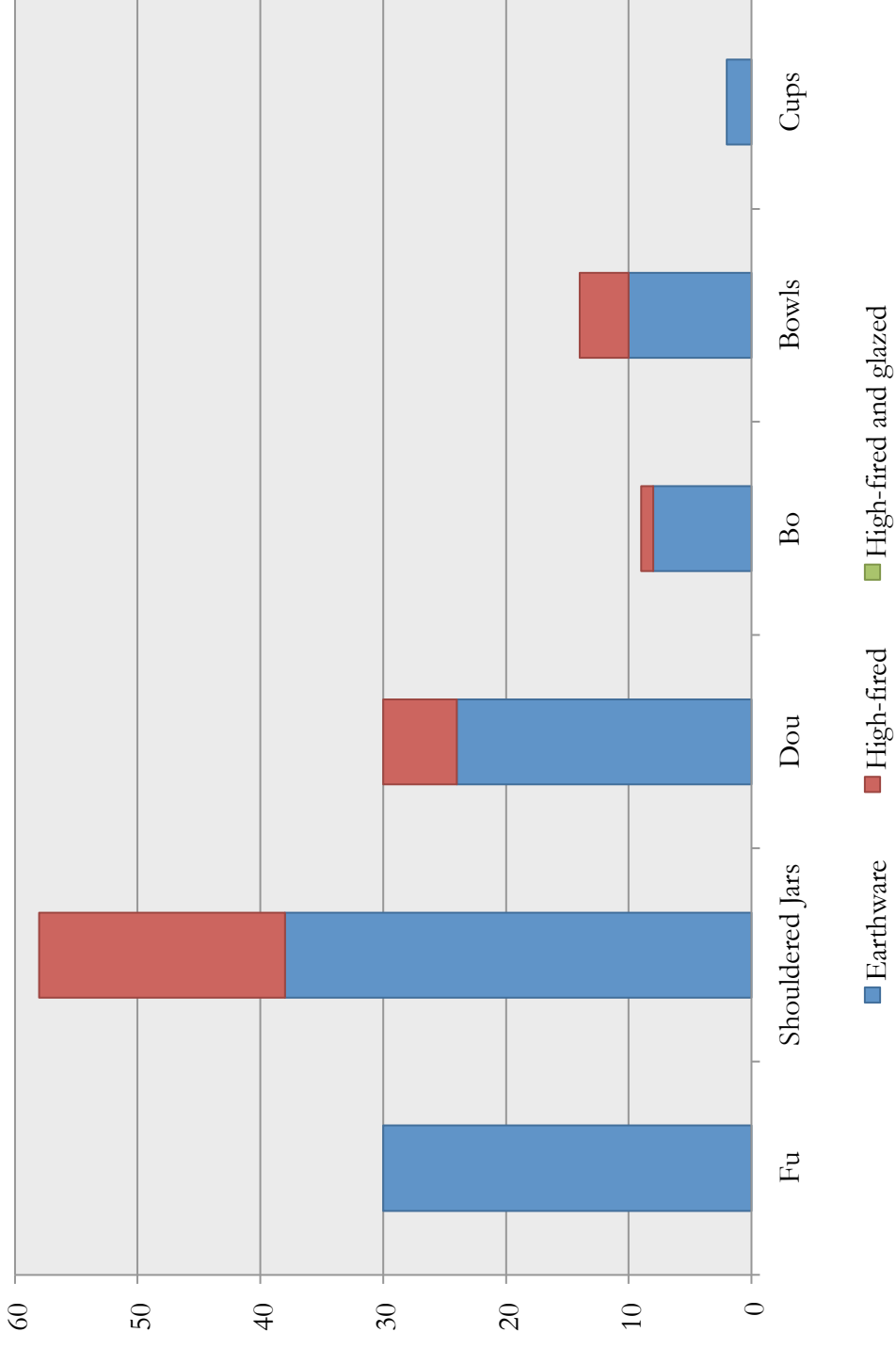


Chart 3-8 Pottery finds at Wubeiling, Guangdong. Data calculated from excavation report. See Wubeiling 2004.

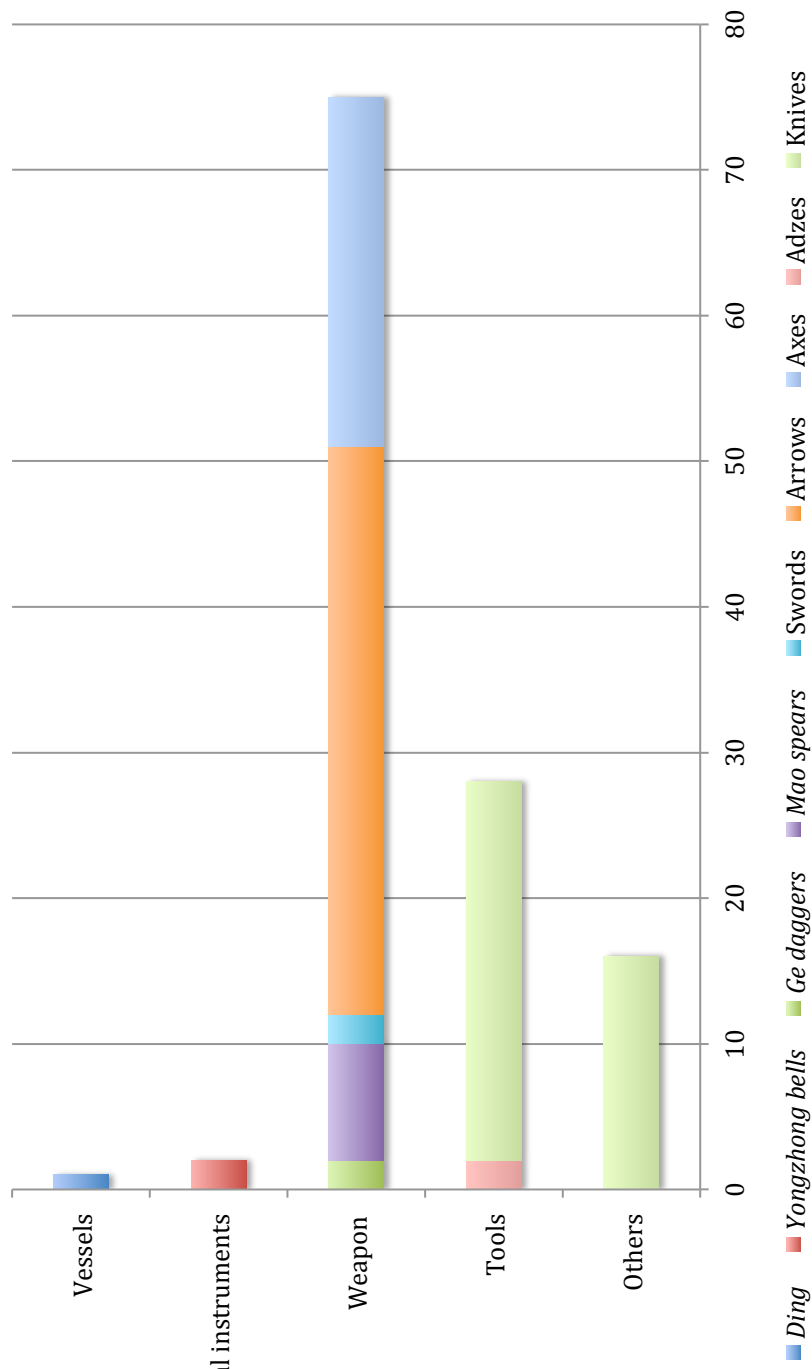
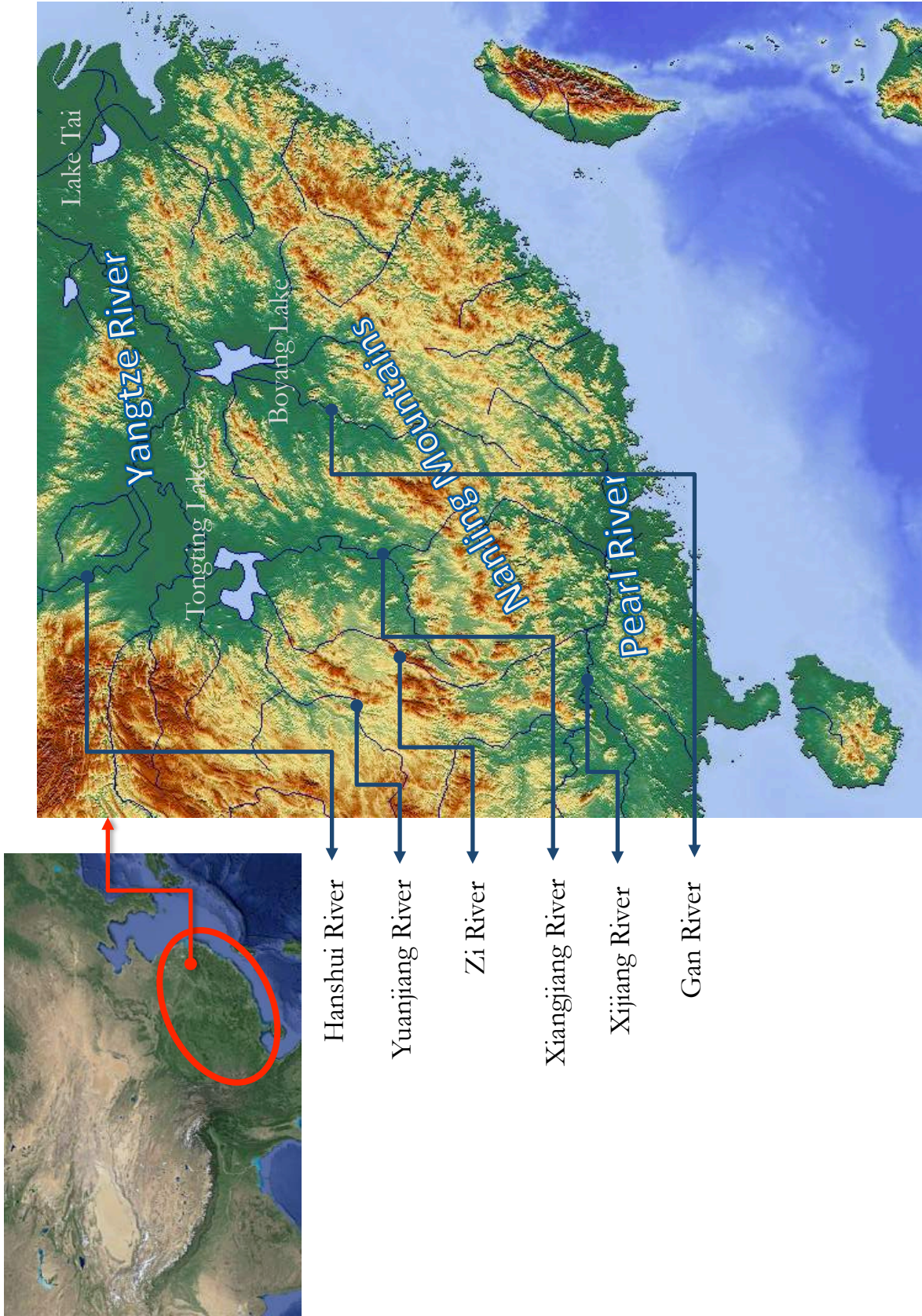
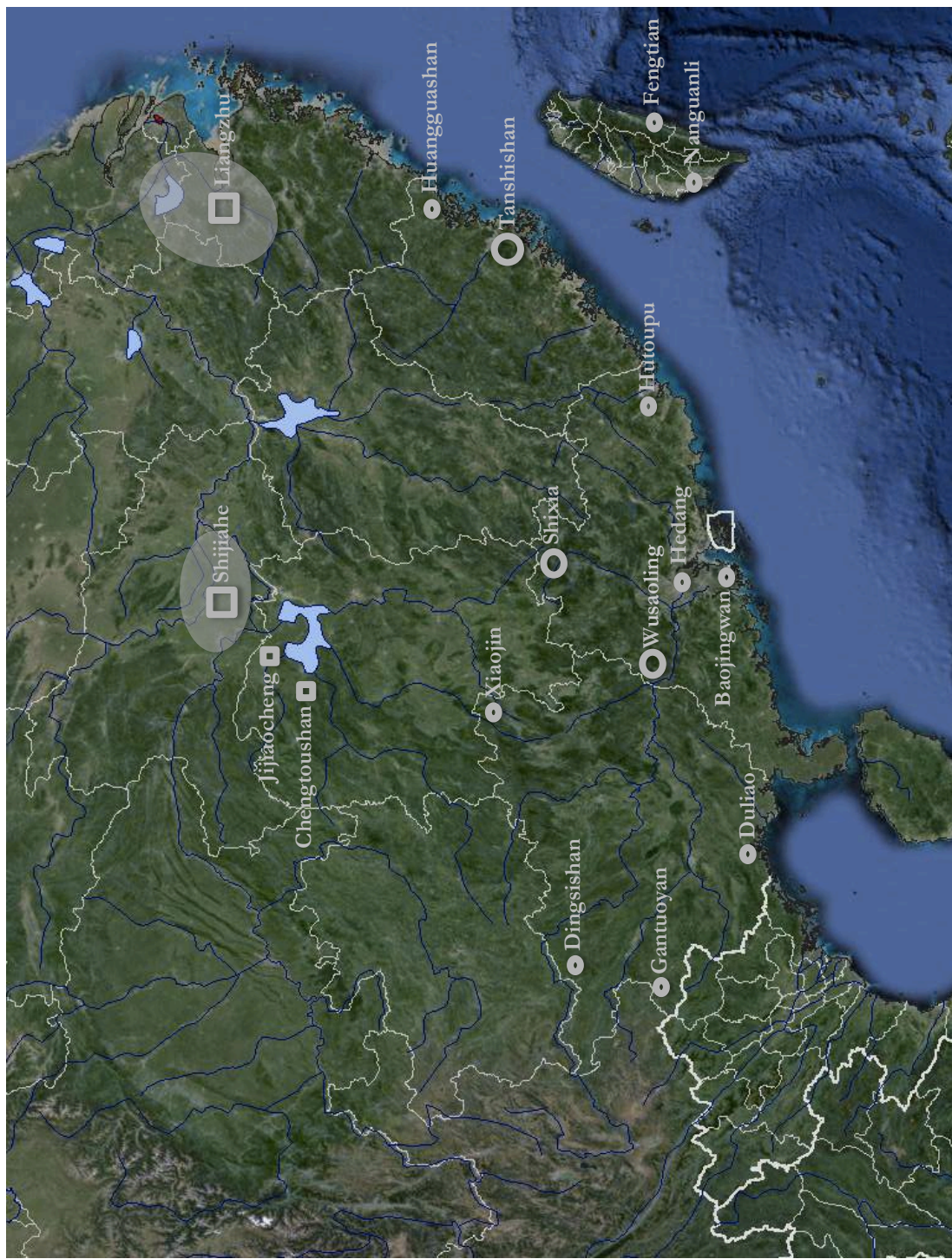


Chart 4-1 Bronze finds at Henglingshan, Guangdong. Data calculated from excavation report. See Henglingshan 2005.

# MAPS

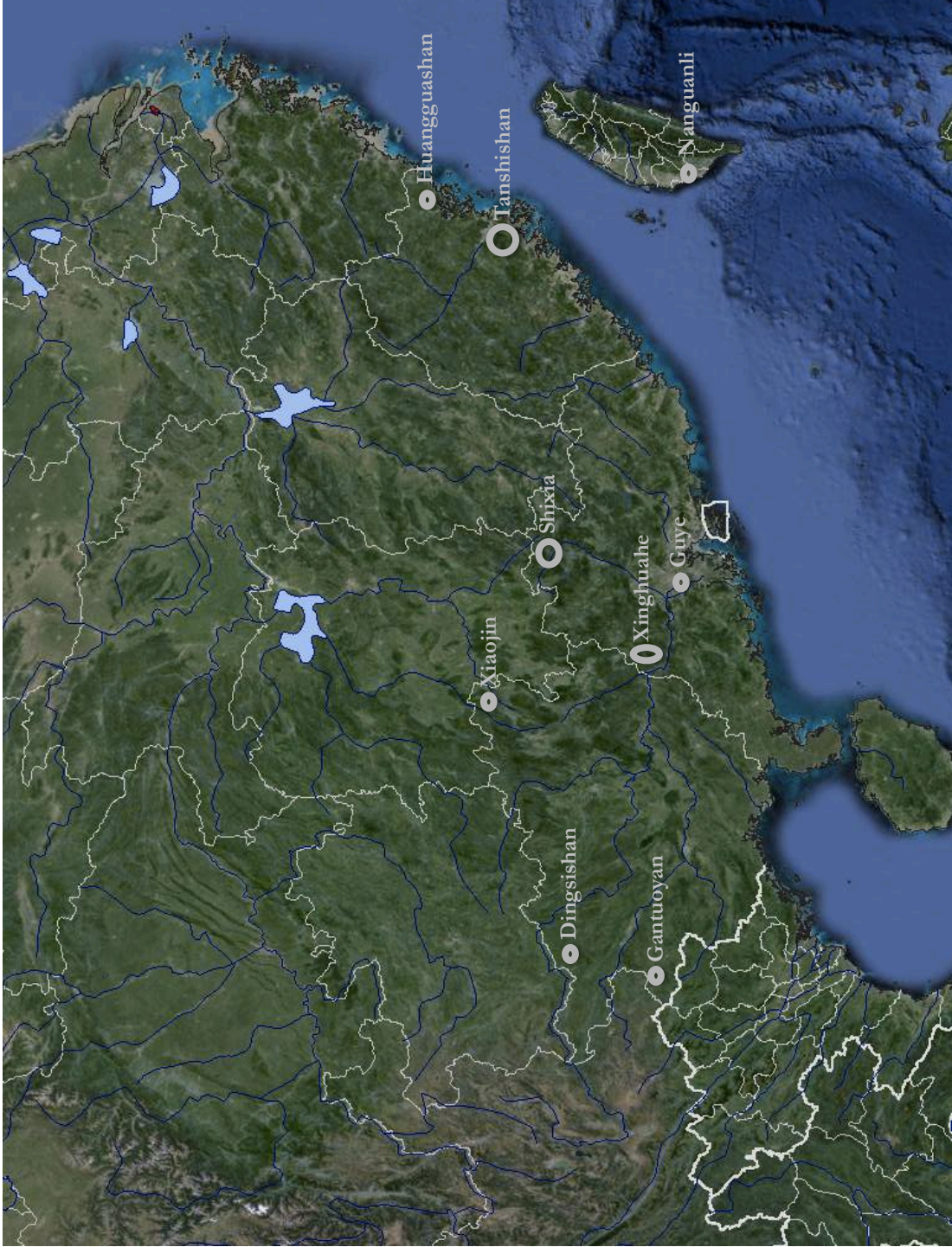


Map 1-1 Southern China – The geographical scope of the thesis

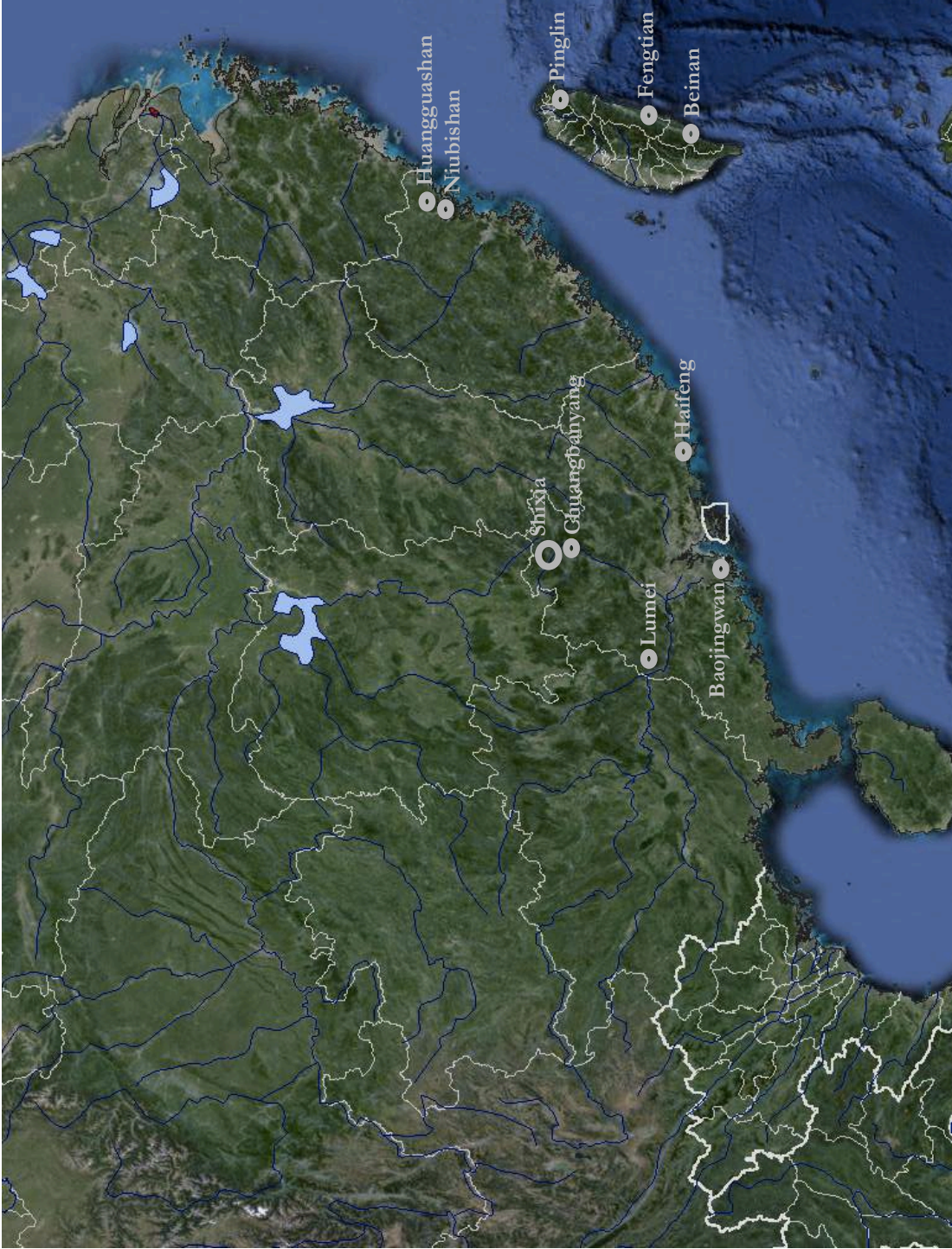


Walled sites in the Yangtze valley
  Area of similar archaeological finds
  Sites in the Lingnan-Fujian region

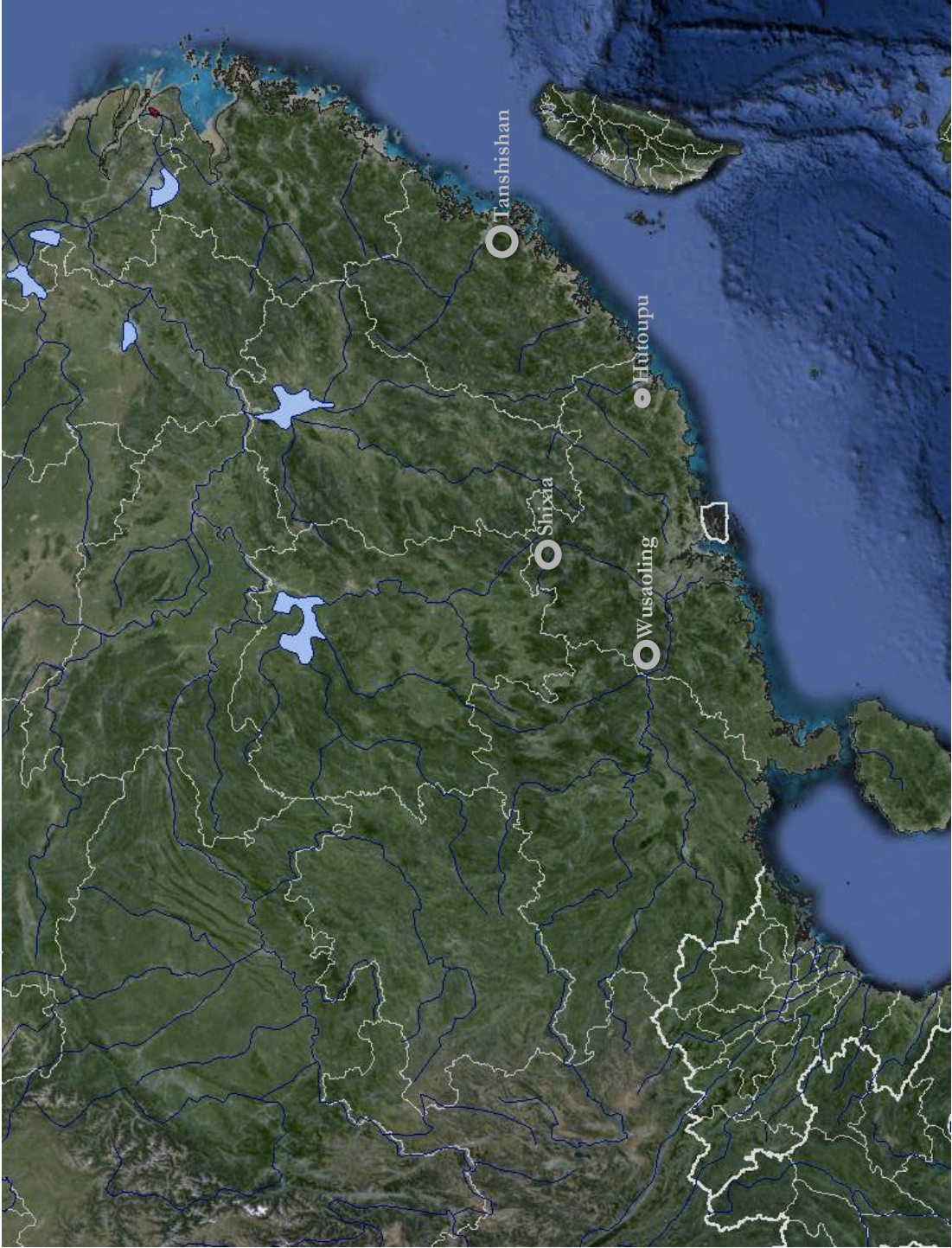
Map 2-1 Major sites mentioned in chapter II (3000 – 2000 BC)



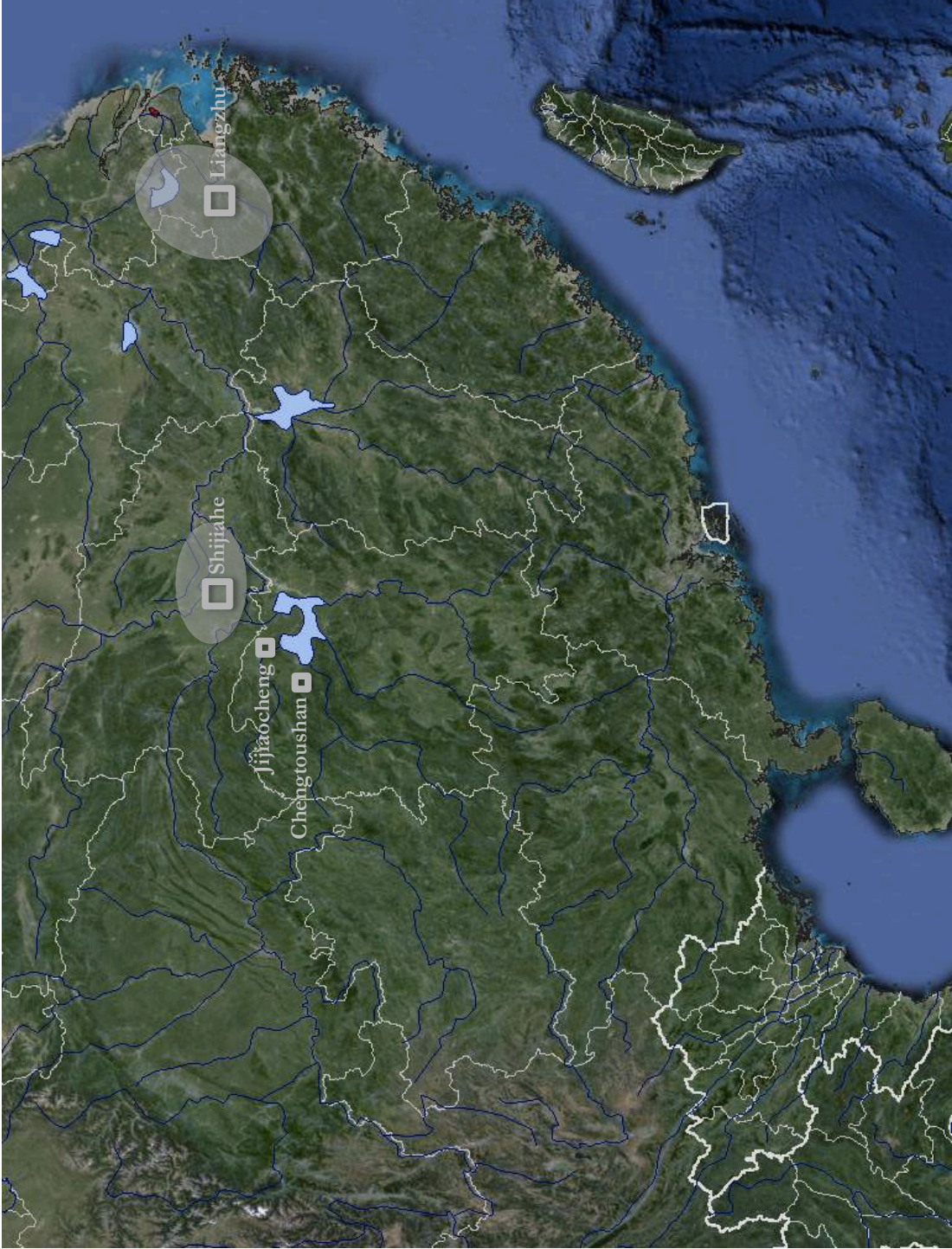
● Sites in the Lingnan-Fujian region    ○ Rice yielding sites along the north-south Xinghuahe valley  
 Map 2-2 Major rice yielding sites in the Lingnan-Fujian region (after 3000 BC)



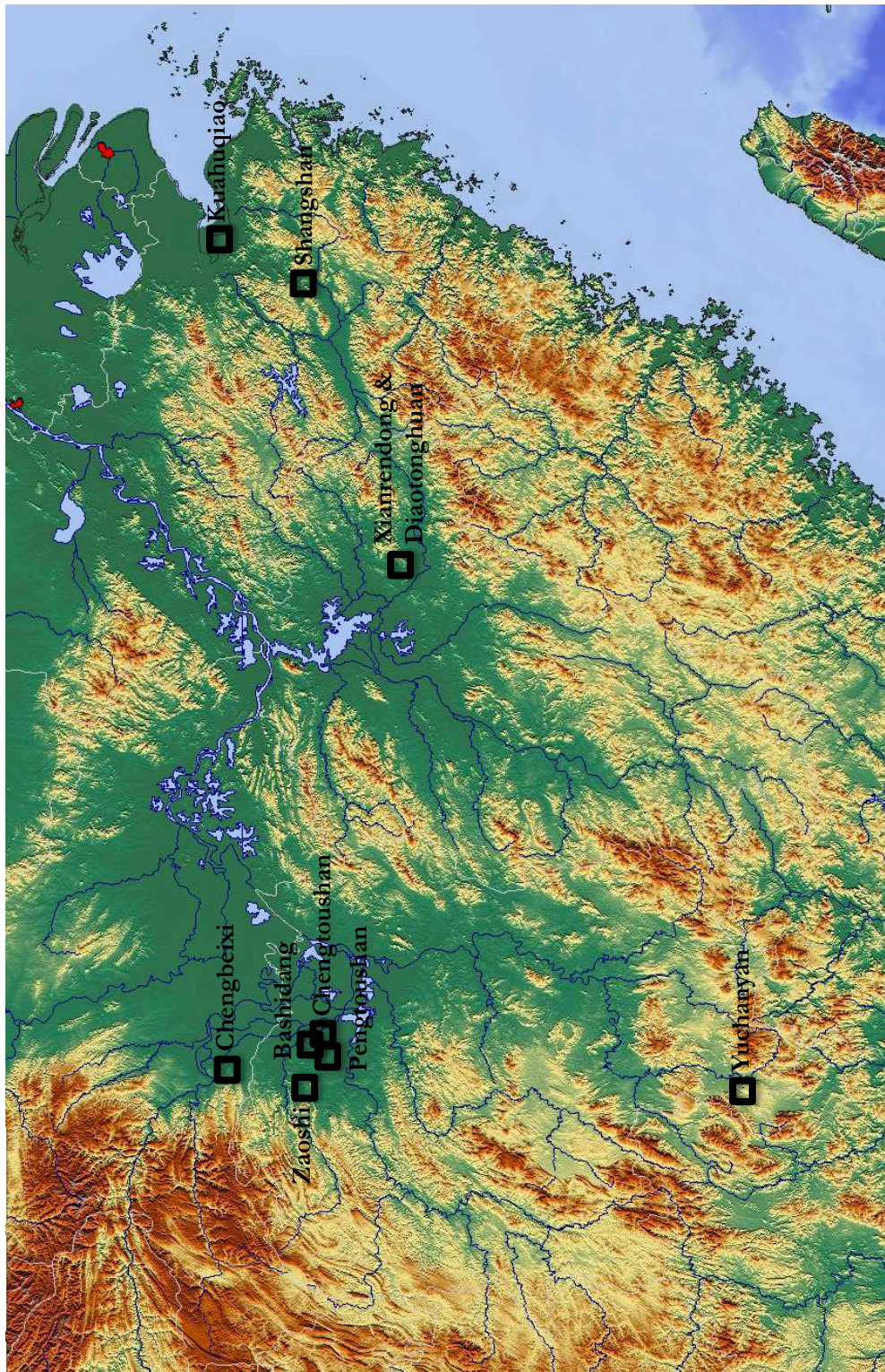
Map 2-3 Major jade yielding sites in the Lingnan-Fujian region (after 3000 BC)



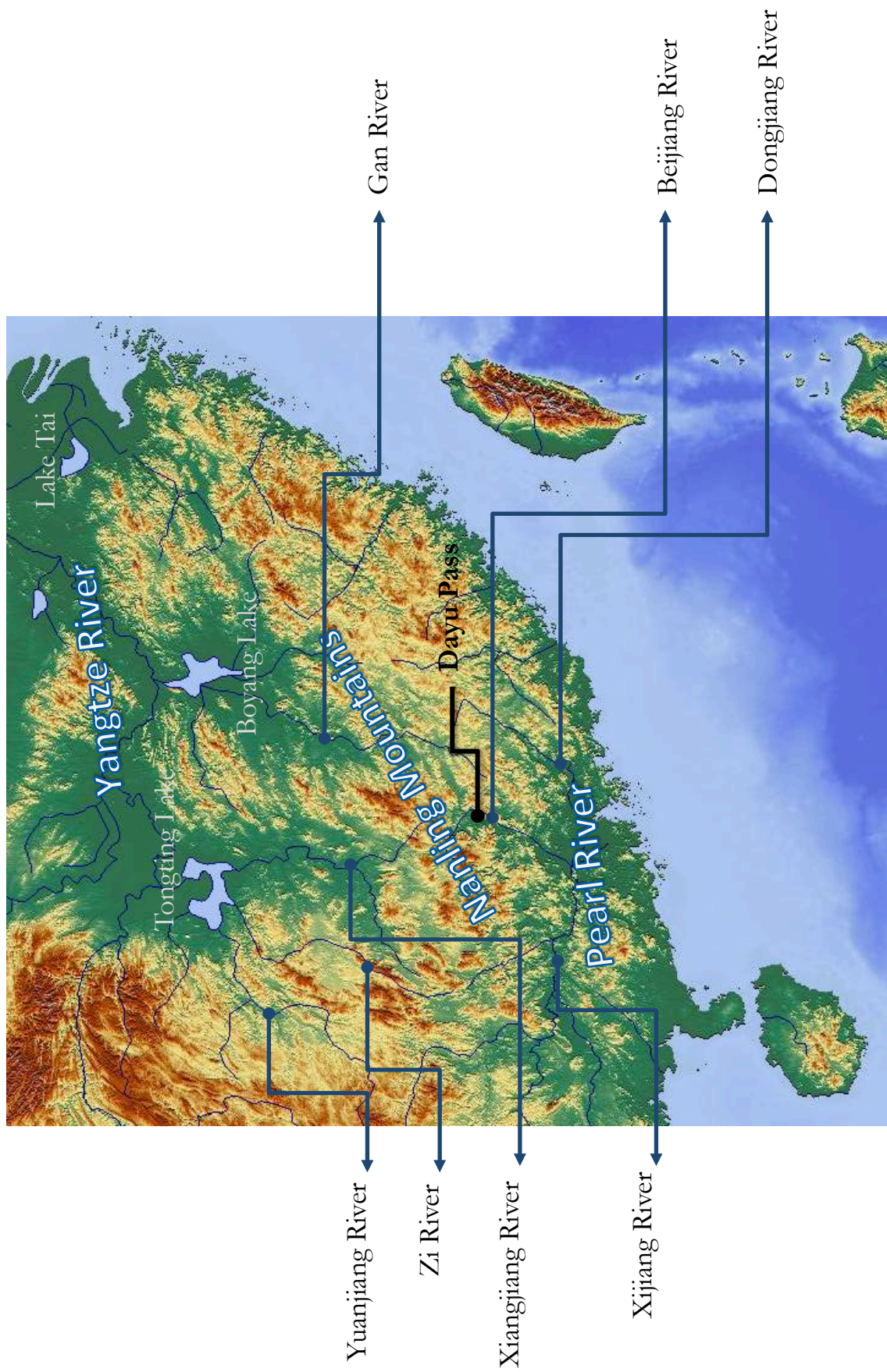
Map 2-4 Sites with novel pottery types in the Lingnan-Fujian region (3000 – 2000 BC)



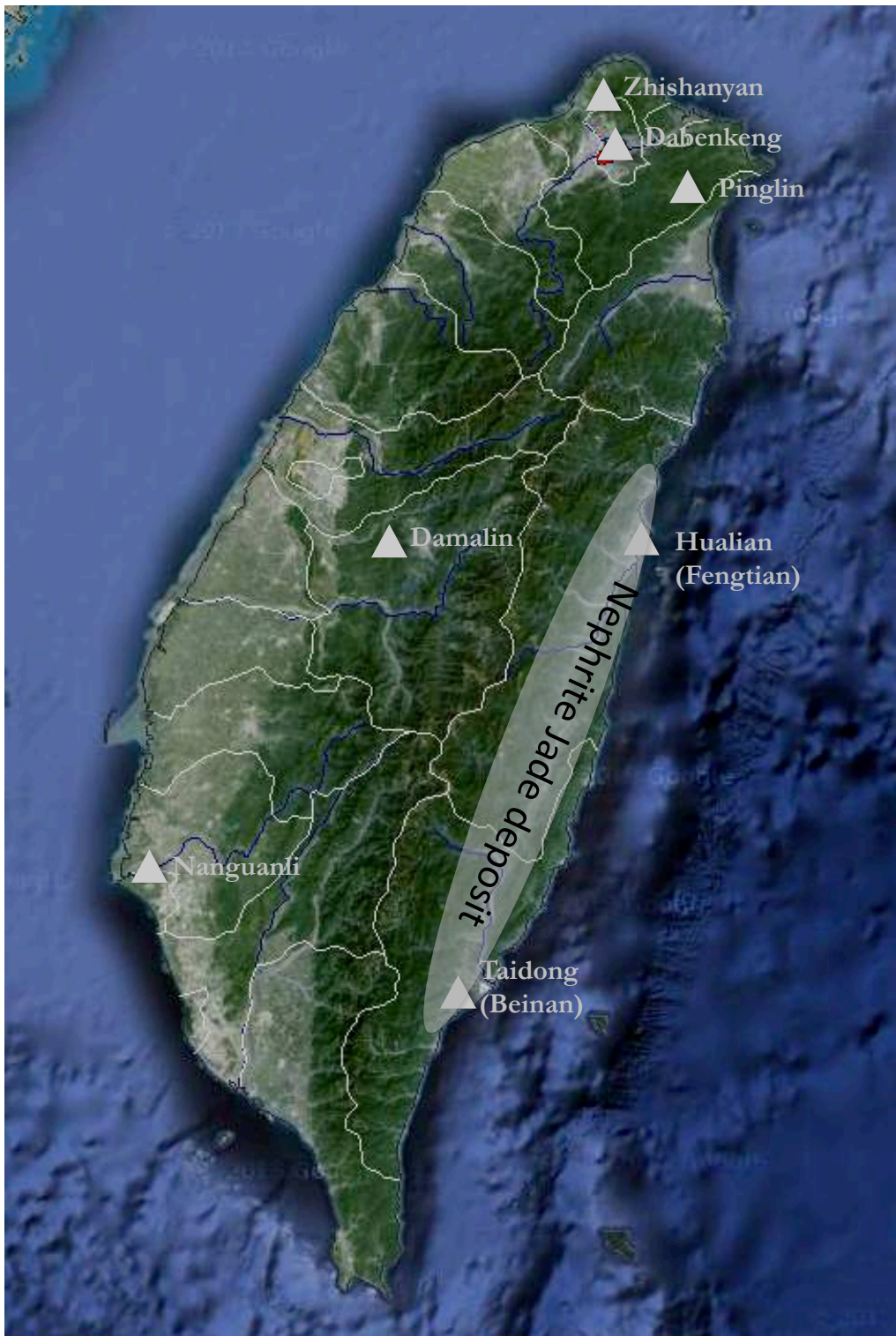
Map 2-5 Large-scale settlements along the Yangtze valley (6000 – 1500 BC)



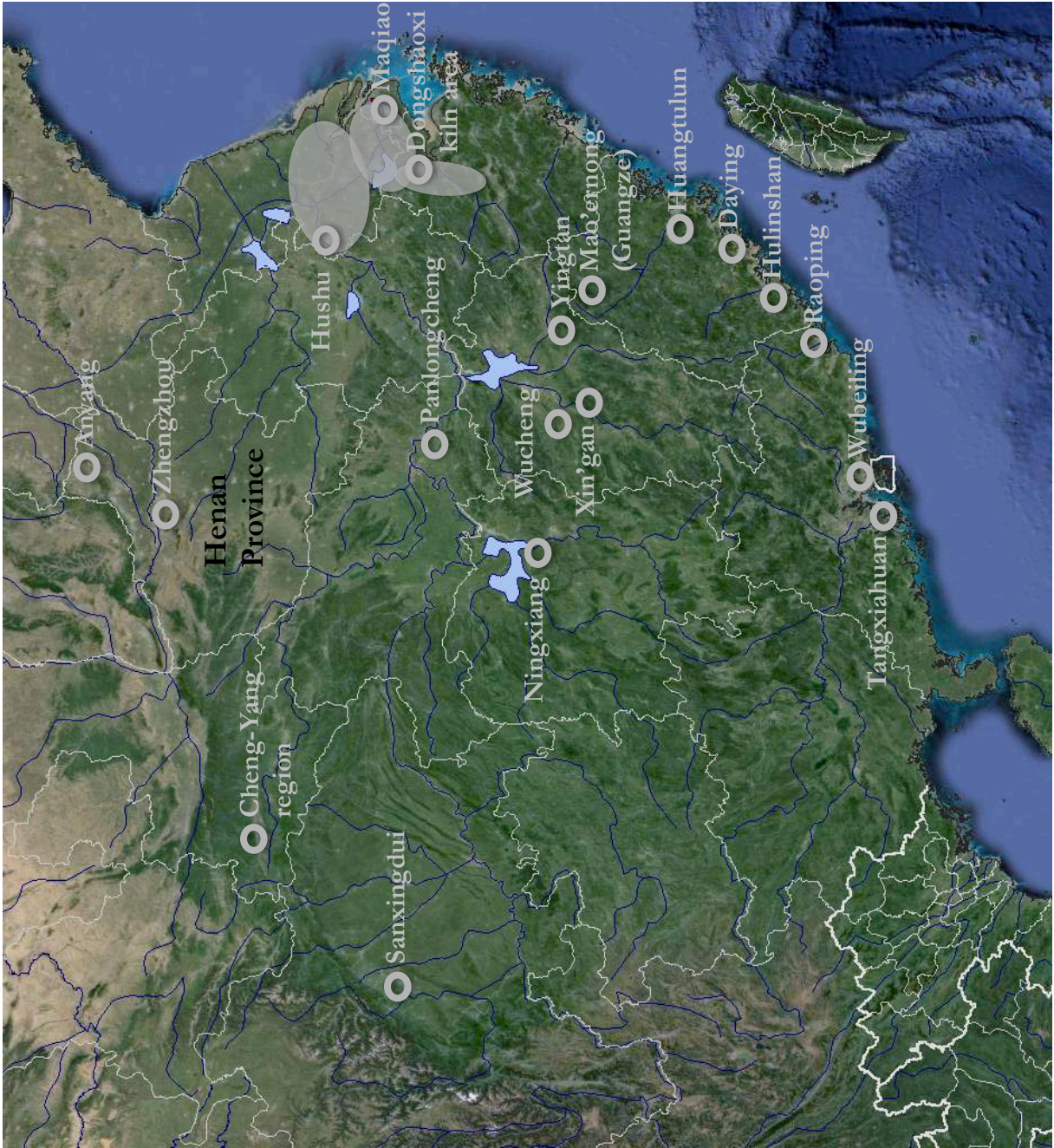
Map 2-6 Major rice-yielding sites along the Yangtze valley (c. 10000 – 5000 BC)



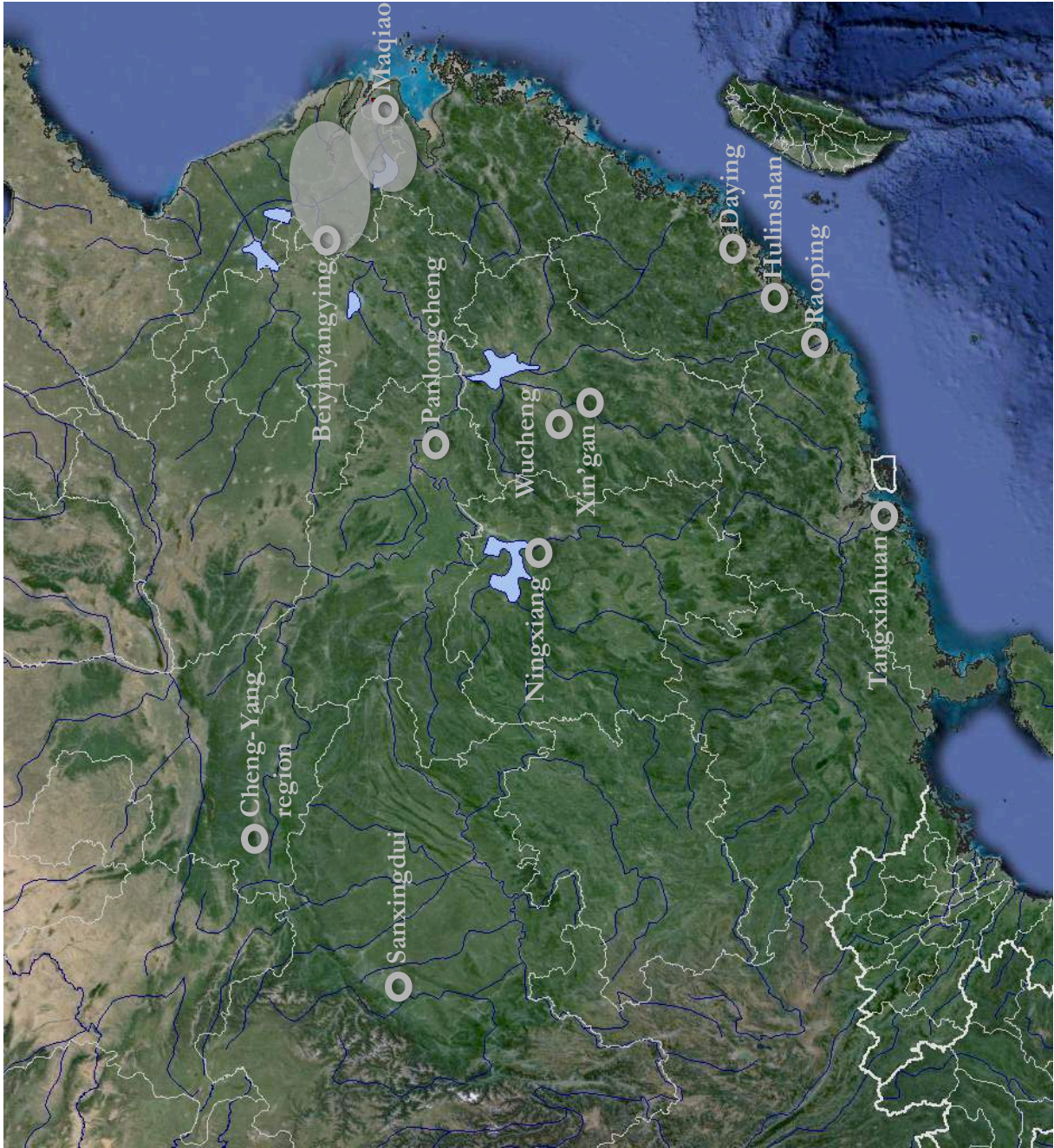
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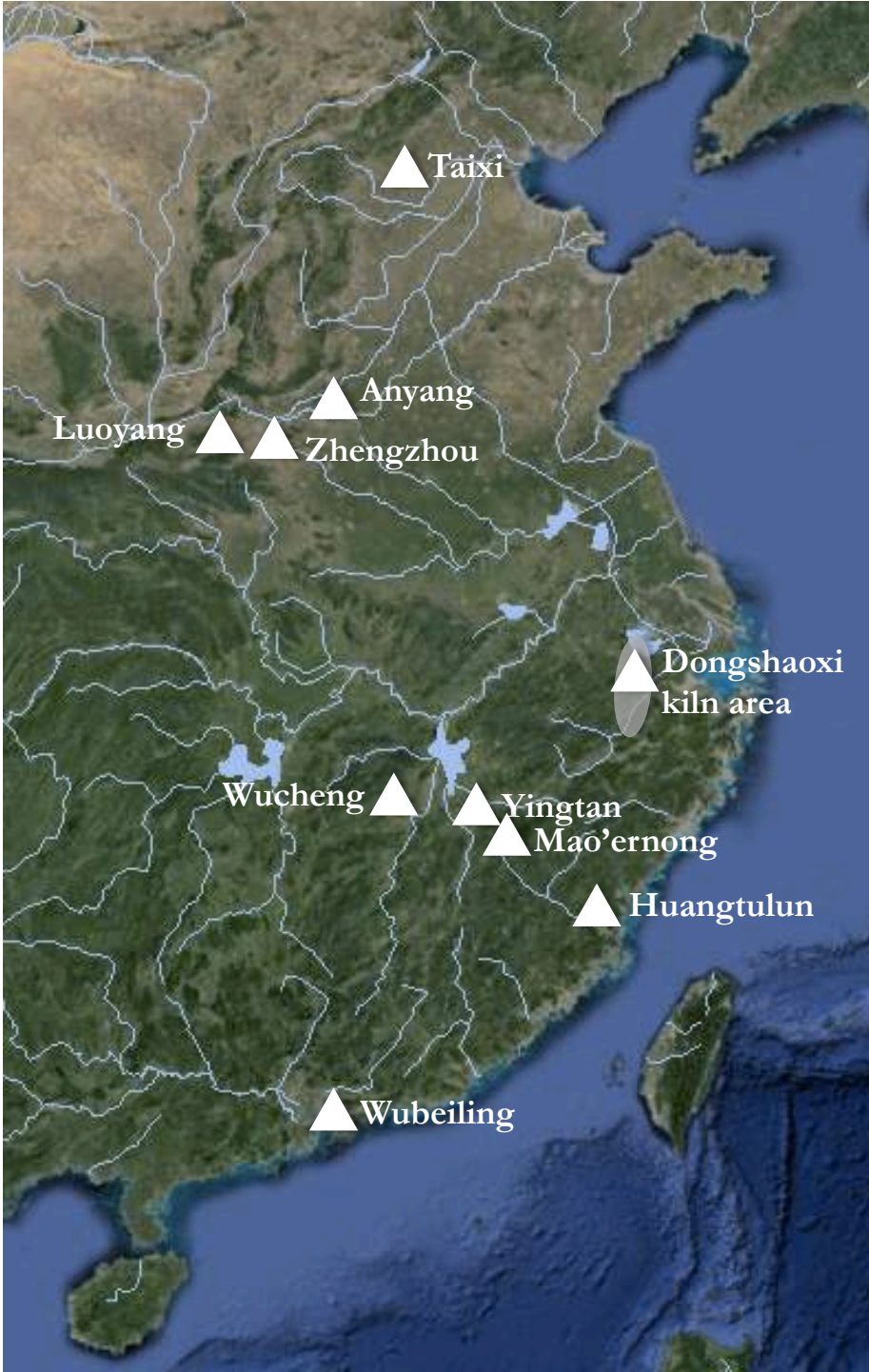
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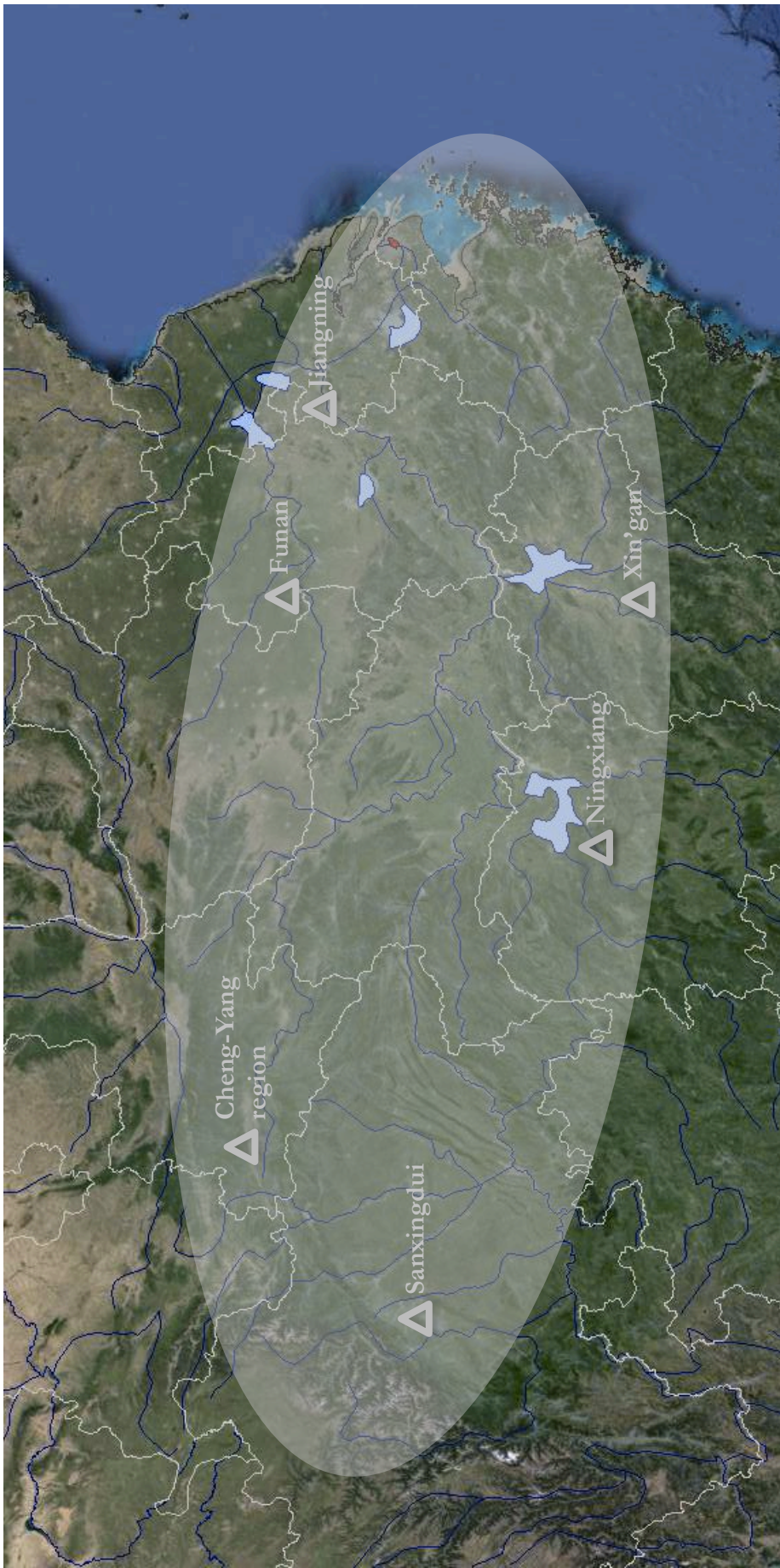
Map 3-1 Major sites discussed in this chapter (2000 – 1000 BC)



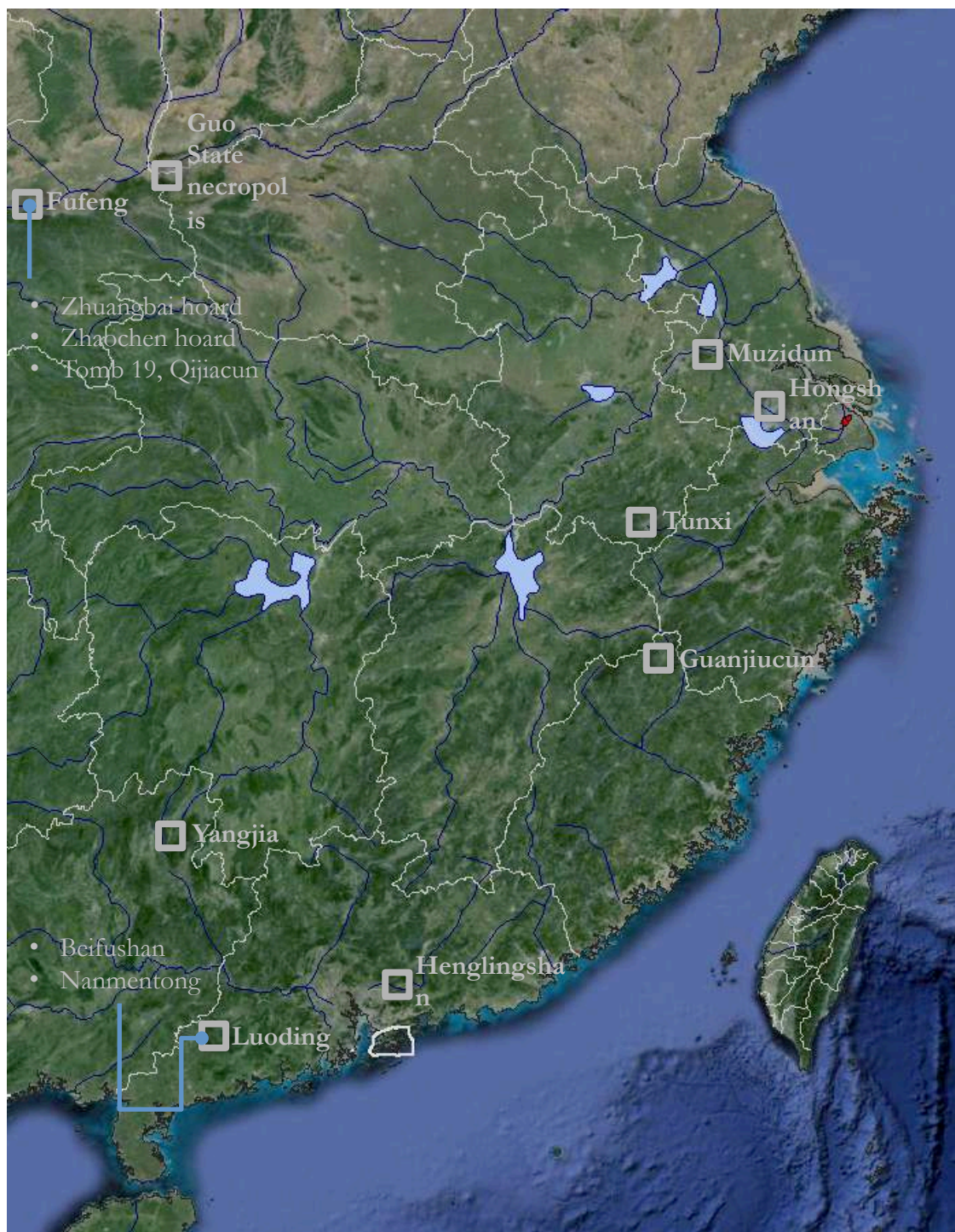
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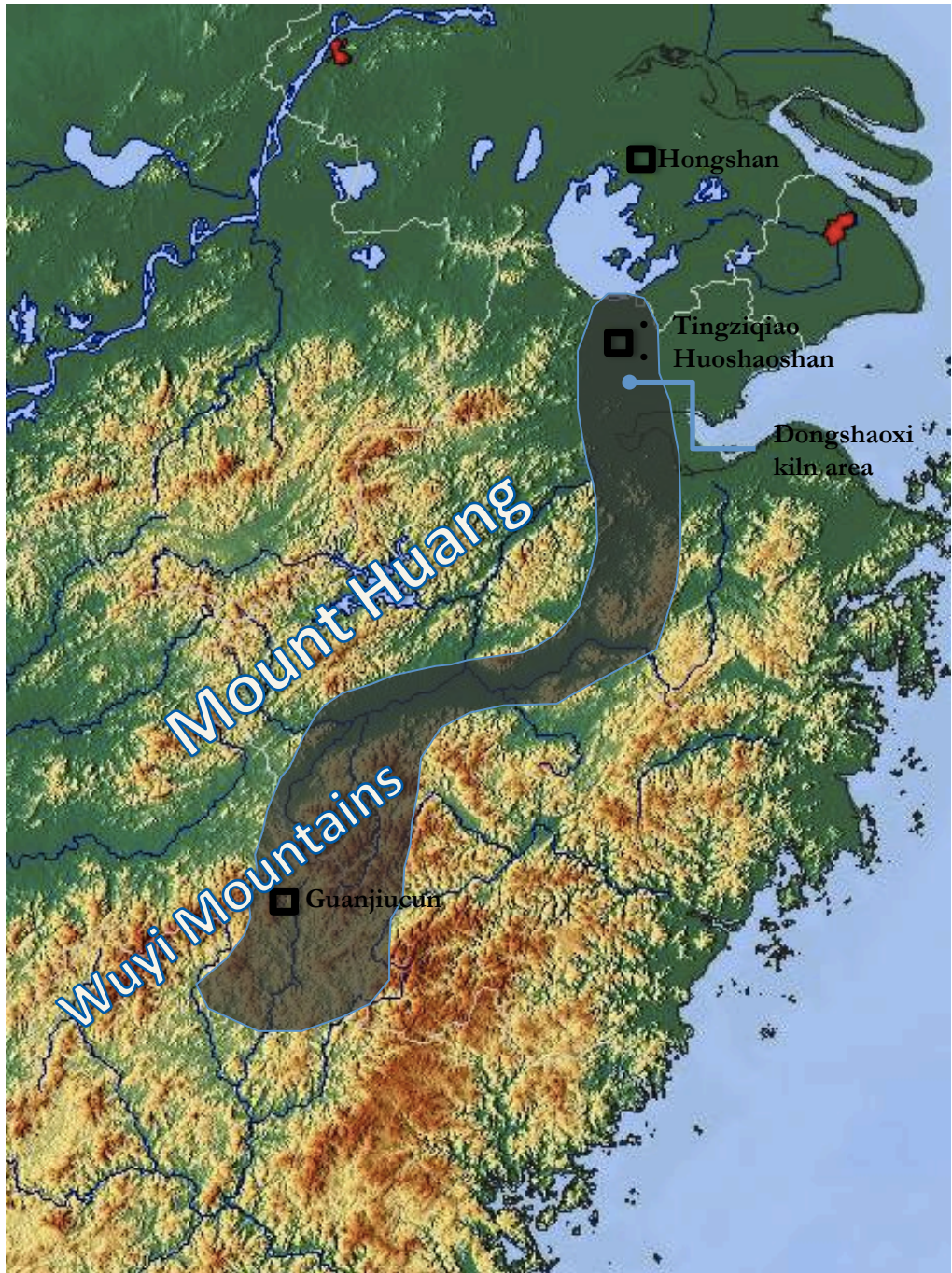
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# Figures

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Below: Impressed sherds from Wuping, Fujian Province (left) and BuKie ChinTamina in the Malay Peninsula.

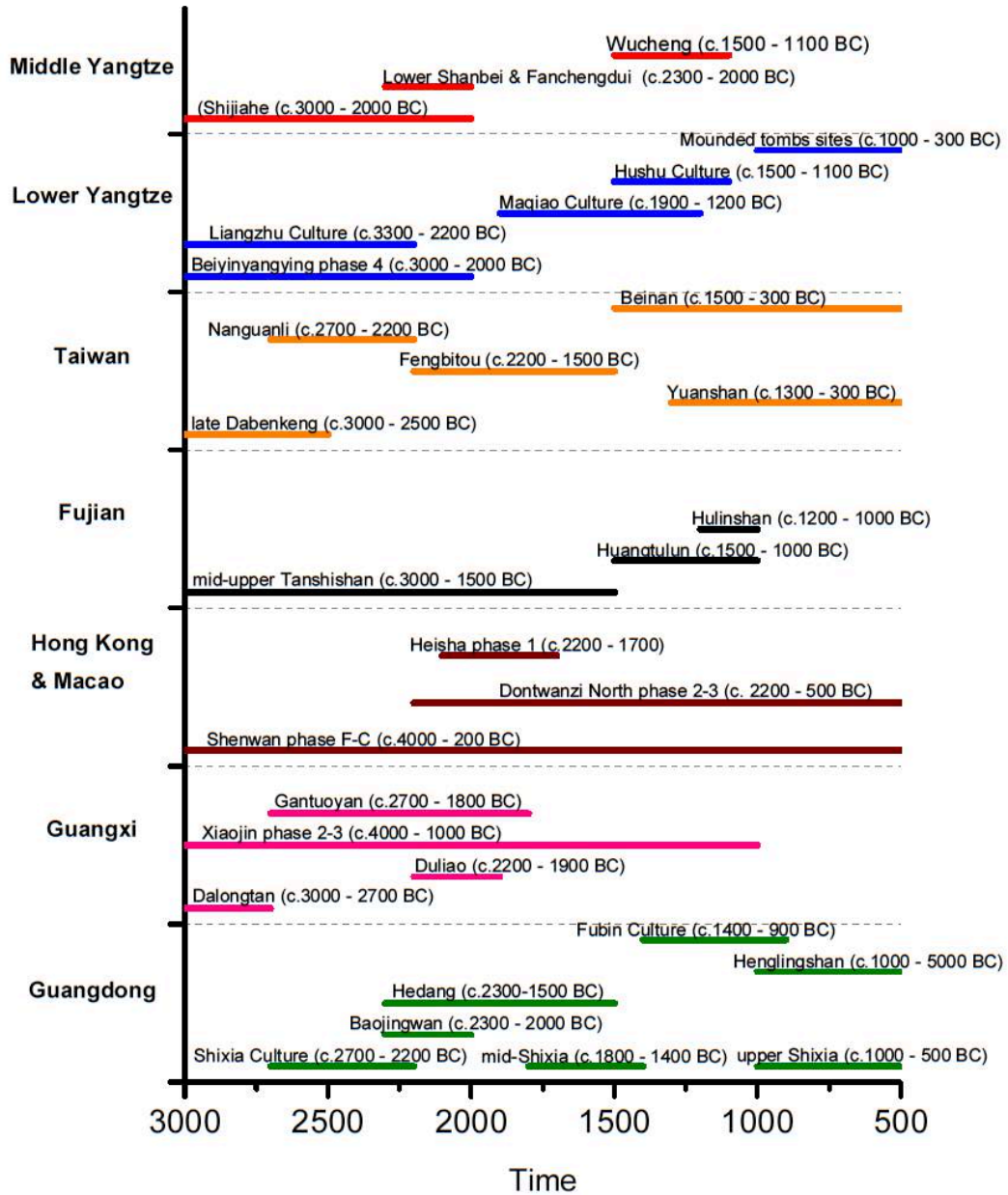


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|                        |   |  |   |  |
|------------------------|---|--|---|--|
| <i>Jue:</i>            | Liangzhu culture,<br>Zhejiang, China<br>(Yuqi 2005, vol.8, p.48)  | Shixia culture,<br>Guangdong, China<br>(Yuqi 2005, vol.11, p.15) | Beinan<br>Taiwan<br>(Hung Hsiao-chun 2008,<br>fig.9.13-9) | Arku cave,<br>Philippines<br>(Hung Hsiao-chun 2008, fig.<br>9.13-10) |
| <i>Cong:</i>           | Liangzhu culture,<br>Zhejiang, China<br>(Yuqi 2005, vol.8, p.76)  | Shixia culture,<br>Guangdong, China<br>Yuqi 2005, vol.11, p.1    |   |  |
| <i>Axe:</i>            | Liangzhu culture,<br>Zhejiang, China<br>(Yuqi 2005, vol.8, p.46)  | Shixia culture,<br>Guangdong, China<br>(Yuqi 2005, vol.11, p.8)  | Pinglin, Taiwan<br>(Hung 2008, fig.9.13-11)               | Sunget,<br>Philippines<br>(Hung 2008, fig.9.13-12)                   |
| <i>Beads:</i>          | Liangzhu culture,<br>Zhejiang, China<br>(Yuqi 2005, vol.8, p.127) | Beinan, Taiwan<br>(Hung 2008, fig.9.12-5)                        | Manunggul, Philippines<br>(Hung 2008, fig.9.12-6)         |  |
| <i>Pananular ring:</i> | Lanyu,<br>Taiwan<br>(Hung 2008, fig.9.13-13)                      | .Uyaw cave,<br>Philippines<br>(Hung 2008, fig.9.13-14)           |   |  |

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- a. *Nao* bell, collection of the Hunan Musuem.
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- a. Bronze *fangding* from Zhengzhou. After Zhengzhou 1999, colour plate 9.
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- a. The sword of Yue King Fuchai. After Qingtongqi 1998, vol. 11: 100.
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Fig. 4-5 Bronze sets cast for four generations of a single clan.

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Second row: The Feng 豐 vessels, middle Western Zhou.

Third row: The Shi Qiang 史牆 vessels, second half of middle Western Zhou.

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Fig. 4-13 High-fired ceramic products from Tingziqiao kiln factory. Images from Tingziqiao 2009 colour plates 23, 21, 13 & 21.

- a. Drum base
- b. *Fou* drum
- c. *Goudiao* bell
- d. *Guan* jar

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Fig. 4-14 Ceramic wine warmer (top), wine cooler and stove (bottom) from Hongshan. After Hongshan 2003, colour plates 95, 96 & 47.

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Fig. 4-16 Bronze sets from the Guo State necropolis

Top two rows: seven *ding* and six *gui* tripods from tomb M2001, the tomb of Guo King GuoJi.

Two bottom rows: eight *yongzhong* bells from tomb M2001. After Sanmenxia 1999, colour plates 3-1, 5-1, and 7-1 & 2.

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- a. Bronze *yongzhong* bell dated to Early part of late Western Zhou (mid-ninth century BC). Unearthed at Qiangjiacun, Shaanxi. After Falkenhausen 1994, fig. 73.
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Fig. 4- 21 High-fired ceramic *zun* (left) and bronze *zun* (right) from Tunxi mounded tomb. After Tunxi 1959,colour plate 1 and plate 5: 2.

Fig. 4-22 Two bronze *ding* tripods from Muzidun mounded tomb. After Muzidun 1984 plate 2: 2 and fig. 21. Compare with fig. 4-3 : a & b.

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Fig. 4-23 The haphazard use of *ding* vessels at Tunxi. The top right one is in the typical 'Yue-style'. After Qingtongqi 1998, vol. 11: 81-84.

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Fig. 4- 24 Top: Bronze *zun* vessels from Guanjiucun (left) and Muzidun (right). Bottom: *pan* basin from Guanjiucun. After Guanjiucun 2007, colour plate 8: 2 & 5, Muzidun 1984, plate 1: 2.

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Fig. 4- 25 Two bronze *zun* vessels from Yangjia. After Qingtongqi 1998, vol. 11: 115 & 116.

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Fig. 4-26 Top: The bronze weapons from Nanmentong, Guangdong. After Nanmentong1983, fig. 5. Bottom: The bronze assemblage from Beifushan, Guangdong. After Beifushan1986, fig. 7.

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Fig. 4-27 Bronze *ding* from Henglingshan (top) and bronze *ding* (bottom) unearthed from Jiushi, Hunan. After Henglingshan 2005, colour plate 9 and Qingtongqi 1998, vol. 11: 112. Also compare with the top right in fig. 4-23.

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Fig. 4-28 The haphazard use of bronze *ding* vessels at Yangjia, Guangxi. Both are unearthed from Yangjia. The bottom one is in 'Yue-style'. After Qingtongqi 1998, vol. 11: 113 and Yangjia 1973, plate 11: 2.

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Fig. 4-29 Bronze *ding* vessels from Nanmentong (top) and Beifushan (bottom).  
After Nanmenton 1983, fig. 2: 4 and Beifushan 1986, fig. 7: 24.

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Fig. 4-30 Two bronze *yongzhan* bells from tomb M182 at Henglingshan. After Henglingshan 2005, figs 161 & 162.

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Fig.5-1 The painting 'North meets South' displayed in the Provincial Museum of Guangdong.

Fig.5-2 Antonio Bellucci (1654-1726). The Family of Darius before Alexander the Great. Oil on canvas, 213 x 564 cm. Collection of the Ashmolean museum of Art and Archaeology.