

The background of the cover features a collection of bronze artifacts from the Chinese Bronze Age. In the upper half, there are several ritual vessels: a large bronze cauldron (hu) with a handle and three legs, a bronze wine vessel (yu) with a wide rim and three legs, a bronze wine vessel (zun) with a long neck and a flared rim, and a bronze wine vessel (ding) with a wide rim and a flared base. Below these, there are more vessels, including a bronze basin (pan) and a bronze bowl (wan). In the lower half, there is a large, detailed bronze bull (niushou) with a lid, featuring intricate carvings and a patina of green and red. The title "Archaeology of the Chinese Bronze Age" is written in a large, white, serif font across the middle of the image. Below the title, the subtitle "From Erlitou to Anyang" is written in a smaller, white, serif font.

Archaeology of the Chinese Bronze Age

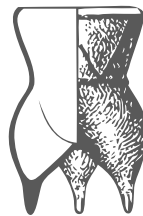
From Erlitou to Anyang



Roderick B. Campbell

Archaeology of the Chinese Bronze Age

From Erlitou to
Anyang

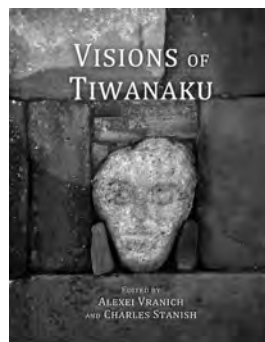


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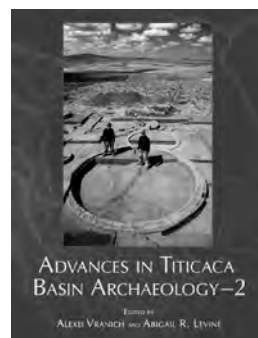
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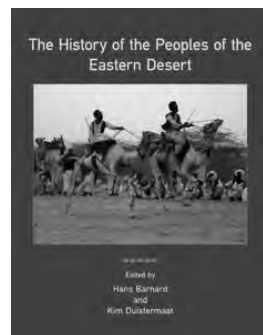
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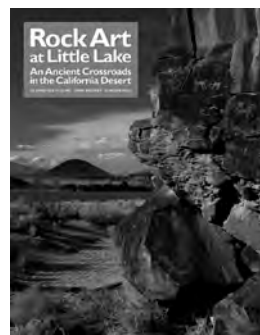
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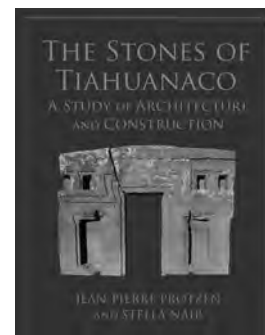
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To Jaline, Rui, and Kai

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Author Biography

Roderick Campbell is Assistant Professor of East Asian Archaeology and History at the Institute for the Study of the Ancient World, NYU. He obtained his MA in East Asian Studies at the University of British Columbia (2001) and a dual PhD in Anthropology and East Asian Languages and Civilizations from Harvard University (2007). He was a Harvard-Yenching Fellowship visiting student at Peking University (2004–2006) and visiting student at the Chinese Academy of Social Sciences, Institute of Archaeology (2006–2007). Campbell has held postdoctoral appointments at the Institute for the Study of the Ancient World (NYU), the Joukowsky Institute for Archaeology and the Ancient World (Brown University), and Merton College, Oxford University. He is currently assistant professor of East Asian Archaeology and History at the Institute for the Study of the Ancient World. His specialty is East Asian Archaeology with a focus on Shang archaeology and epigraphy; his research interests span the rise and development of complex polities, violence, history, and production. Campbell's published work includes an edited volume, *Violence and Civilization: Interdisciplinary Sketches of a Deep History* (Joukowsky Institute Publications, 2011), a paper outlining a “networks and boundaries” approach to complex polities published in *Current Anthropology* (2009), and a coauthored *Antiquity* (December 2011) article on his collaborative analysis of a gigantic bone workshop at Anyang, China. He is currently codirector of the Sino-American Research Project on the Tiesanlu, Anyang Bone-Working Site in collaboration with the Chinese Academy of Social Sciences, Institute of Archaeology, and has received Luce East Asian Ar-

chaeological Initiative and Wenner-Gren Foundation funding for this project. During his time in China, Campbell had the opportunity to participate in a wide variety of field projects and visit many of the important sites mentioned in this book. The present work is a synthesis of seven years of research, interviews, and site visits.

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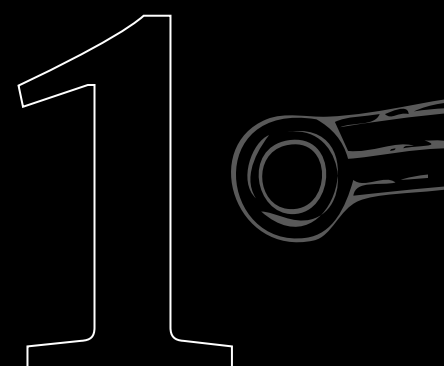
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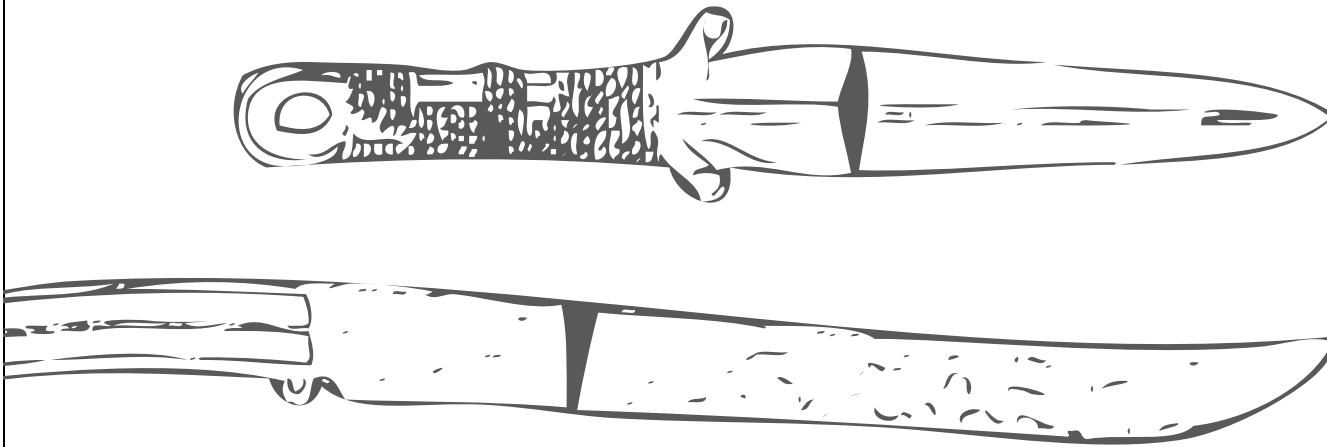
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Roderick B. Campbell



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Introduction



What is the “Chinese Bronze Age”? For many, “Chinese” or “China” refers to the people and culture of the world’s longest continuous civilization. Yet looked at historically, there are many “Chinas” despite the unifying and profoundly ahistoric myths of the modern nation state that attempt to project its boundaries and hard-won political self-consciousness back through the mists of time. In the second millennium BCE, the period covered in this book, there was no China. The people whose material culture is studied here did not yet, as far as we know, use the Eastern Zhou term *Zhong-guo*, or “middle kingdoms,” nor is there any evidence that they considered themselves to have a common collective identity. In-

deed, it is likely that many if not most, of those within the area of what is now the People’s Republic of China did not speak any language ancestral to modern Chinese. In addition to archaic Chinese, there would have been speakers of other Sino-Tibetan languages, as well as Altaic, Austroasiatic, Hmong-Mien, Tai-Kadai, Austronesian, and perhaps even Indo-European languages. The geographic referent of this work is also not that of the PRC (more or less the nationalized boundaries of the Manchu conquests) but, rather, focuses on the Central Plains region of mainland East Asia and surrounding regions. The Chinese Bronze Age, then, is “Chinese” only in the weak and heuristic sense that what happened in the

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second millennium BCE Central Plains has been considered to be in the main current of dynastic history by subsequent regimes and, thus, central to later elite historiographical self-identifications (which were, in turn, foundational for both the Western construction of “China” and China’s self-construction as a nation state).

The “Bronze Age,” like “China,” is both ubiquitous and, because of its superficial familiarity, treacherously problematic. Ever since Thompson periodized his Danish antiquities into Stone, Bronze, and Iron ages in 1819, the advent of bronze has been seen as indicative of a certain level of social-technological development. Moreover, Childe’s (Childe 1963[1930]) association of the Bronze Age with the first “states,” “cities,” and the rise of “civilization” is still part of the conceptual baggage accompanying the term. Thus, despite recent work challenging the idea that “cities” and “states” are necessarily developmentally connected (Blanton 1998; Smith 2003) (not to mention the difficulty in defining either term), there is still a pernicious idea that the beginnings of this one particular technology (bronze) caused the dawning of a new age. In fact, it has been abundantly shown that the use of bronze has different socio-political entailments around the world, meaning that it would be better to speak of “Bronze Ages” than “The Bronze Age.” Moreover, in an area of the world where silk, lacquer, and sophisticated, fast-wheel ceramics industries, as well as some of the largest urban centers of their time, all predate metallurgy, we should, perhaps, reconsider our chronological divisions and their evolutionary assumptions. The “Bronze Age” of the title, then, is *not* a socio-political evolutionary epoch. Beyond the practical ne-

cessity of using familiar terms to allow potential readers to identify the sort of book this is, “Bronze Age” is justified insofar as it indexes a Central Plains technological and cultural complex that was fundamental to contemporaneous political and religious life and continued to be so despite huge socio-political changes over the course of the second and much of the first millennia BCE as well. This work is thus not about the “Chinese Bronze Age” in either the sense of the entirety of the area covered by the PRC or of the entirety of the period for which bronze vessels were central to the political economy. Rather, this work is about the second millennium BCE Central Plains and surrounding regions. Rather than trying to archaeologically tell the story of a chimerical proto-China or monolithic Bronze Age civilization, this work focuses on a series of major urban centers, their macroregional contexts, and the changing forms of their linked traditions.

The rationale for writing this book is chiefly that the English-speaking (or, more accurately, -reading) world has fallen rather far behind the pace of archaeology in China since K. C. Chang published his last edition of *The Archaeology of Ancient China* in 1986 (Chang 1986). That is not to say that there have been no English-language works on the Chinese Bronze Age since then but that either they too are now out of date, were intended as introductory textbooks, or were narrowly focused on some specific thesis or category of material.

My own account, it should be noted, is largely based upon the Chinese Academy of Social Sciences, Institute of Archaeology’s recent Chinese-language synthesis, *Chinese Archaeology: The Xia and Shang* (Zhongguo

Chapter 1

Shehuikexueyuan Kaogu Yanjiusuo hereafter ZSKY; ZSKY 2003), and would have not been possible without it (or at least a vastly more difficult endeavor). While not without its limitations, *The Xia and Shang* is easily the most comprehensive and up-to-date archaeological account of second-millennium BCE China published in any language. It is also important as a more or less representative Chinese archaeological state-of-the-field circa 2003.

What I am presenting here, however, is not a translation of *The Xia and Shang*, but rather an often-critical re-presentation of material found in that work supplemented with more recent publications; site reports; conversations with Chinese archaeologists; observations based on fieldwork; and visits to museums, sites, and archaeological stations. Although the scale of syntheses generally necessitates their being works at a distance, the *Archaeology of the Chinese Bronze Age* is even more so for its being an attempt to reinterpret a large and uneven body of work based on more or less problematic premises.

As I see it, there are three main problems with *The Xia and Shang*: its culture-historical approach and assumptions, its traditional historiographic orientation, and its Central Plains-centric format. These are issues inherited from the larger traditions of Chinese archaeology (Falkenhausen 1993; Liu Li 2004) and largely shared with the primary work that *The Xia and Shang* synthesis was based on.

While material cultural classification, distribution, and chronology are basic to archaeological practice everywhere, Chinese archaeology frequently does not get much

beyond these fundamentals. Even more problematically, archaeological cultures are derived largely from formal ceramic typologies, which are then assumed to correspond with ethnic or political groups (Cohen 2001). While it is possible to avoid following these problematic ethno-political interpretations, the remaining narrative of ceramic or bronze typologies in time and space is often less informative than one might hope, especially when these culture-histories were constructed without consideration of issues of production, distribution, or consumption. Likewise, the assumption that political and cultural history could be derived from material cultural typology has meant that more nuanced approaches to social and political archaeology, even basic work on settlement distribution, site structure, activity areas, or artifact use, are still largely lacking, although work in the last decade has begun to address some of these issues.

The traditional historiographic orientation of Chinese archaeology (Falkenhausen 1993) is evident in the very title of *The Xia and Shang*. Focused on the archaeology of China's traditional first two dynasties, *The Xia and Shang* devotes entire chapters to debates concerning the origins of the Xia, Shang, and Zhou peoples, assuming not only the veracity of later chronicles concerning these "dynasties," but also that they corresponded to ethnic groups identifiable through their ceramics. While it is easy enough to avoid these debates and their problematic assumptions, the focus of *The Xia and Shang* (symptomatic of Chinese archaeology in general) on the putative centers of Central Plains dynasties, both derives from, and contributes to, a relatively weak coverage of "the periphery" and a sense that

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historical and cultural agency was the sole possession of the Central Plains polities. This Central Plains bias is also on display in the placement of the non-Xia or Shang traditions into a section at the end of *The Xia and Shang* and in their absence on the volume's site distribution maps, making the Central Plains traditions look curiously isolated. While I have attempted to work against this bias by discussing contemporaneous regional traditions together and placing them all on a single map for each period, the present work is nevertheless unavoidably Central Plains-centric, where, indeed, most of the archaeological work in China has been done.

While the culture-historical, traditional historiographic, and Central-Plains-centric biases are problematic enough from the perspective of achieving a balanced understanding of the peoples of the second-millennium BCE Central Plains, their societies, and their lifeways, there is yet another more subtle and pernicious problem: namely, the way in which culture-historical identifications of ethnic groups wedded to the traditional historiographic tradition tend to produce a narrative of national ancestors, even while the crypto-Marxist evolutionary perspective and Central Plains-centric bias supply both a direction and location for History. In this view, the stage of Chinese history was its Yellow River cradle, where groups archaeologically identified with the dynastic and predynastic ancestors of the Chinese nation created civilization. This centrally created Chinese culture then magnetically drew in and sinified surrounding, but backward, "ethnic minorities," establishing the teleology that would lead to the modern Chinese nation. Lost in this narrative is both the cultural diver-

sity of ancient Mainland East Asia and any sense of history as authored by social actors (as opposed to faceless ethnic groups and their pseudo-historic leaders) embedded in diverse economies, societies, and technological complexes. Lacking is any sense of social, cultural, or economic processes, transformations, or eventful changes. One goal of this work then, is to recover what traces can be found of social change in the archaeological record of the second millennium BCE.

My use of the phrase "ceramic tradition," instead of the more standard "archaeological culture," to translate the Chinese term *kaogu wenhua*, is intentional and based on the fact that archaeological cultures in Chinese archaeological practice are fundamentally based on formal ceramic typologies. As has been repeatedly shown, however, the distribution of any single type of material culture does not necessarily correspond to ethnic, linguistic, or political boundaries, much less all three. My use of the term "ceramic tradition" instead of "culture," then, aims to de-link material cultural production and consumption from ethnicity and social-political boundaries while foregrounding the fact that ceramics are only one (if especially chronologically and geographically mutable) aspect of material culture. In Willey and Phillips's (1958:37) classic formulation, "*An archaeological tradition is a (primarily) temporal continuity represented by persistent configurations in single technologies or other systems of related forms*" (italics in original). By this definition, it would seem that what Chinese archaeologists call "cultures" are, in fact, closer to pottery traditions.

Layout of the Book

Like *The Xia and Shang*, this work is essentially a culture history of the Central Plains Bronze Age from Erlitou to Anyang. It is divided into four chronological chapters and a summary. While I have chosen to follow the Chinese archaeological practice of naming periods for the major center of that period, as well as *The Xia and Shang*'s well-motivated chronological divisions, I have not followed its terminological practices. Thus, instead of "Xia," "Early Shang," "Middle Shang," and "Late Shang," I use the less historiographically tendentious periodization of "Erlitou," "Erligang," "Xiaoshuangqiao-Huanbei," and "Anyang." I have attempted to place the nonmetropolitan traditions into the appropriate chronological chapters, as opposed to being in their own section at the end of *The Xia and Shang*. This integrated culture history, however, has the caveat that most of the peripheral traditions are less firmly dated than the metropolitan traditions, and the former are largely dated through comparison with the latter. The utility of this comparative dating method, moreover, drops off the farther one gets from the metropolitan centers, not to mention the potential issues of time lag in transmission as well. In the future, it is hoped that more absolute dates will become available for corroboration or correction.

Given all these issues, what is the utility of a history of ceramic and other material cultural traditions? Material cultural traditions are the remains of human practices, which are in a complicated relationship with group affiliations and political and economic networks. Although ceramic traditions are not sufficient sources of infor-

mation for most of the questions to which they are normally put, they are nonetheless information. Culture histories form starting points from which more nuanced studies might begin. Moreover, changes in ceramic traditions over time, in addition to changes in other traditions, the distribution of sites, and other lines of evidence, can all contribute to a better understanding of the period in question. At minimum, this material, for all its limitations (and especially if we are cognizant of these limitations), contributes a piece to a larger and more complex puzzle than has hitherto been adequately recognized in the Chinese archaeological literature.

One final note on bibliographic practice: given that this book is aimed at an audience that does not necessarily read Chinese, I will attempt to be as comprehensive as possible in citing English-language works, as well as in citing Chinese-language works that are not included in *The Xia and Shang* (which is itself a massive Chinese-language bibliographic resource).

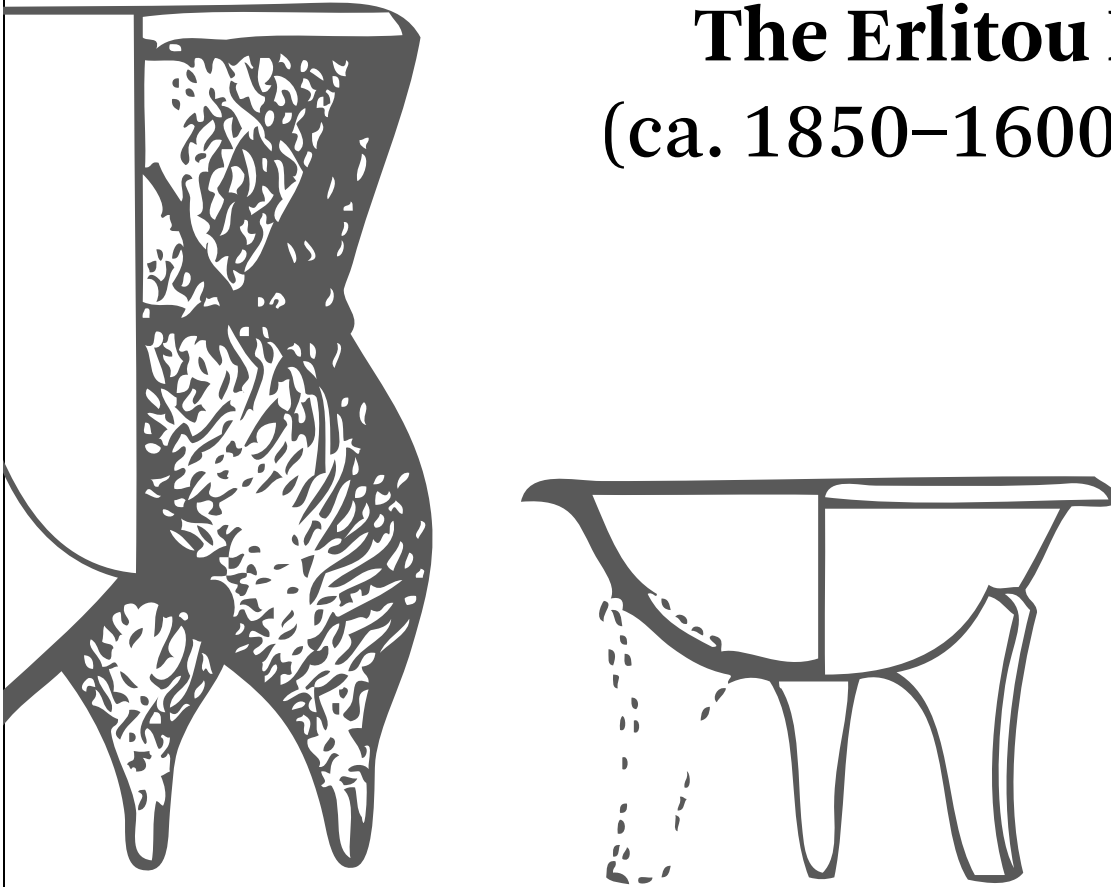


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Roderick B. Campbell

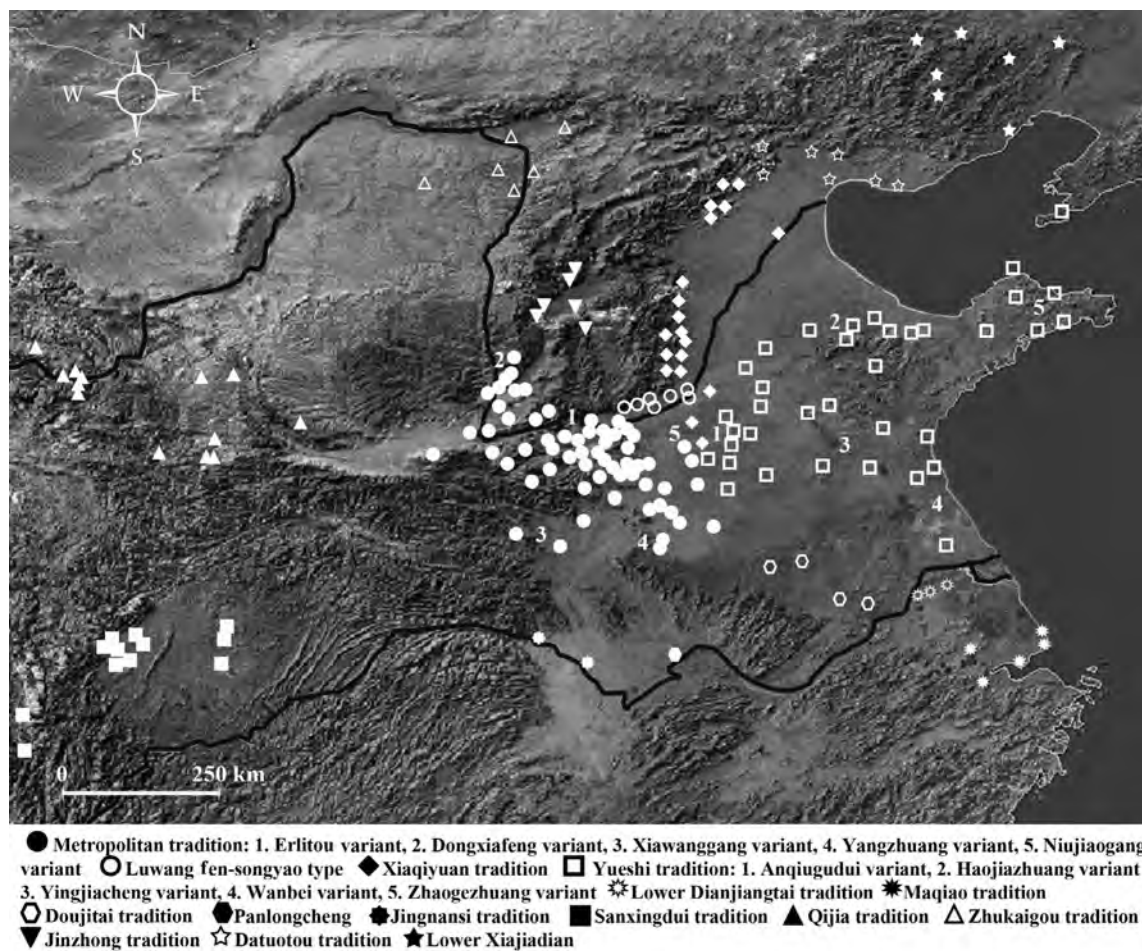
The Erlitou Period (ca. 1850–1600 BCE)¹



Erlitou marks the beginning of the Central Plains bronze tradition. This time and place have conventionally been understood to usher in the Chinese Bronze Age, but this is so only in a teleological sense, and then only if one believes that the mainstream of later Chinese traditions have their wellspring in the Central Plains. Erlitou is generally associated with China's first dynasty (the Xia) in Chinese-language literature and, perhaps unsurprisingly, with the first states (Liu and Chen 2001, 2003; Liu 2004, etc.) as well. Erlitou appears to be the largest East Asian center of its time and shows evidence of long-distance contacts. Erlitou ceramics are

widely distributed across the Central Plains and beyond, prompting some to speak of an “Erlitou expansion” analogous to the “Uruk” expansion (Liu and Chen 2003; Allan 2007). Marked differences in wealth are apparent from both residences and burials at Erlitou, and there is evidence for bronze, semiprecious stone, bone, and ceramics industries. The agricultural economy was built upon the advances of the previous millennium, with millets, rice, wheat, soybeans, cattle, sheep, goats, pigs, and dogs providing both agricultural diversity and the potential for intensification. In terms of social, political, and economic life, however,

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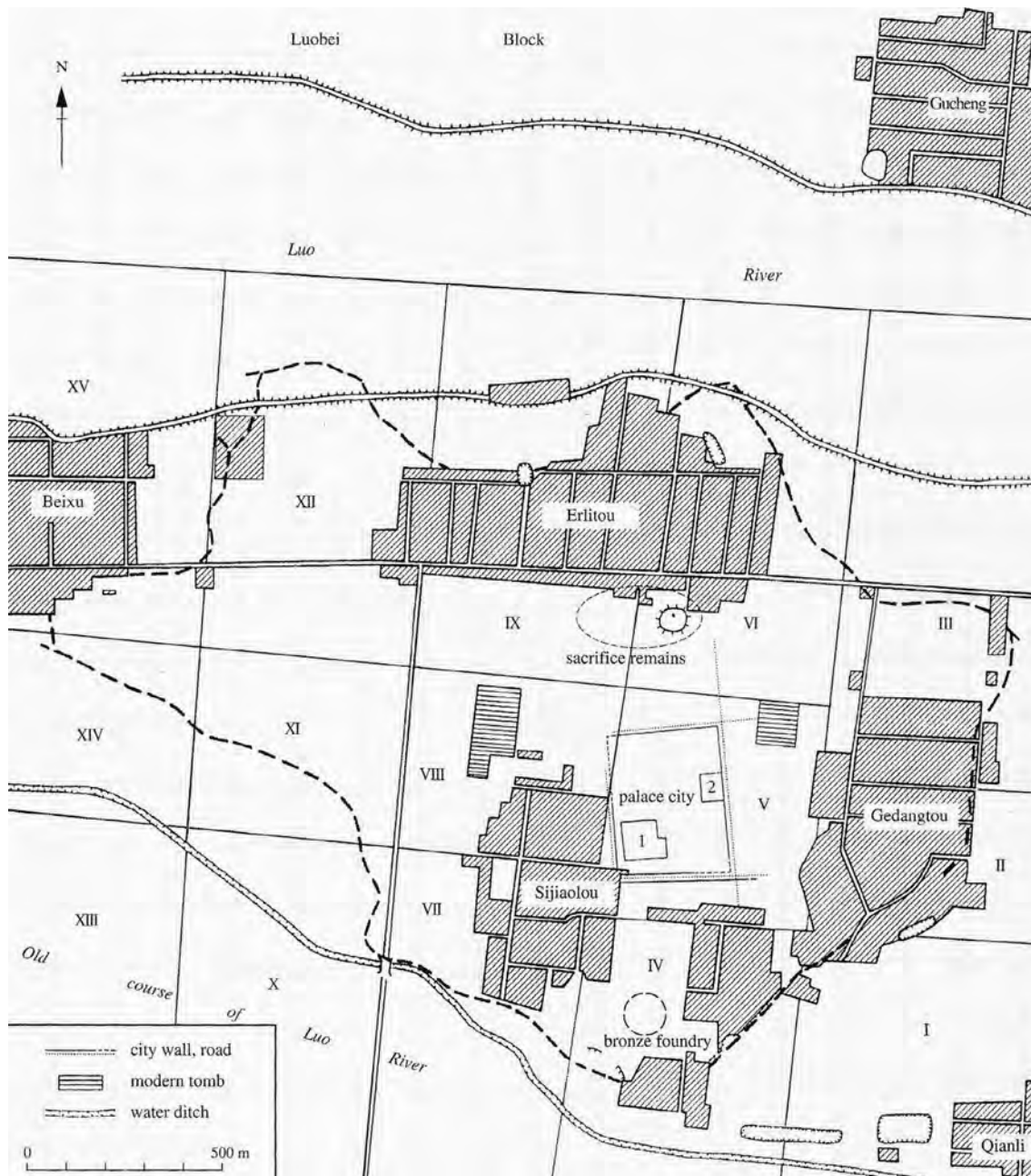


2.1. Erlitou-period ceramic traditions (base map from Harvard Geospatial Library).

beyond the broadest characterizations, relatively little of substance is known.

The Erlitou period is named for the site of Yanshi Erlitou (Figure 2.2), a site of some 300 ha. Though originally thought to be an early Shang-dynasty site (Xu 1959), it has since become associated with the capital of the Xia dynasty in much of the Chinese-language literature (e.g., Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Erlitou Gongzuodui [hereafter, ZSKYEG] 1974; ZSKY 2003). The Xia was the first of Chinese historiography's Three Dynasties, a sort of political watershed in the textual

tradition. Not surprisingly, the Western anthropology-derived evolutionary metanarratives of “state formation,” “Bronze Age,” and “the rise of civilization” have become intertwined with the traditional dynastic narrative at Erlitou (see Liu and Chen 2003 for a prominent English-language example). Although Erlitou marks the beginning of the Central Plains bronze-casting tradition and, thus, “The Chinese Bronze Age,” there are, in fact, earlier bronze-using cultures in the territory of the People's Republic of China. What makes Erlitou distinct is that it marks the beginning of the compound

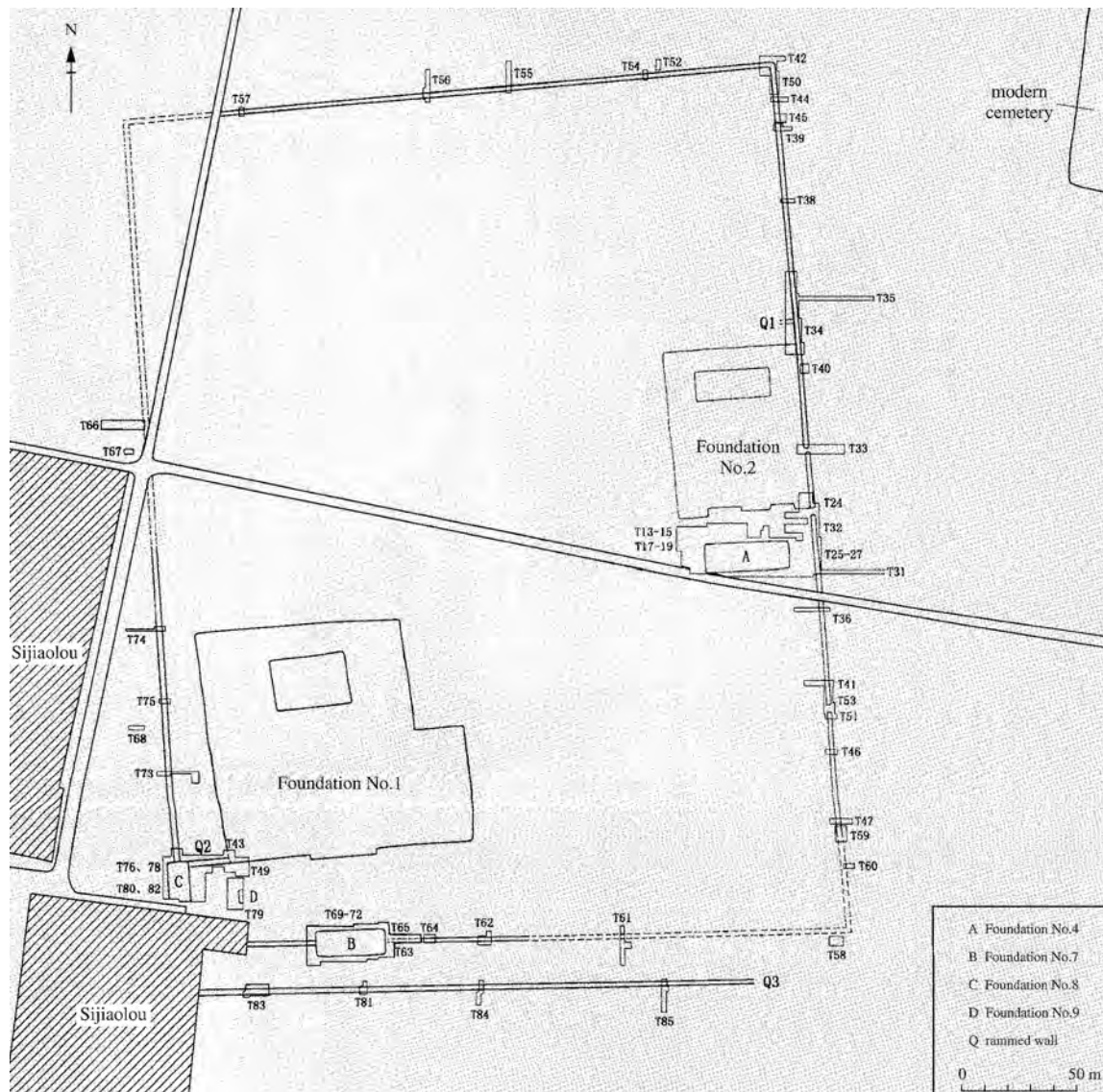


2.2. Erlitou site map (after Xu et al. 2004:24, fig.1).

mold casting of ritual bronze vessels—artifacts that were to remain culturally, politically, and ritually central to Central Plains dynasts into the late first millennium BCE.

Although Erlitou was long thought to mark a socio-political watershed, as befitted its “first dynasty” status in the Chinese-language literature, the archaeology of the last fifteen years has brought to light a growing flood of

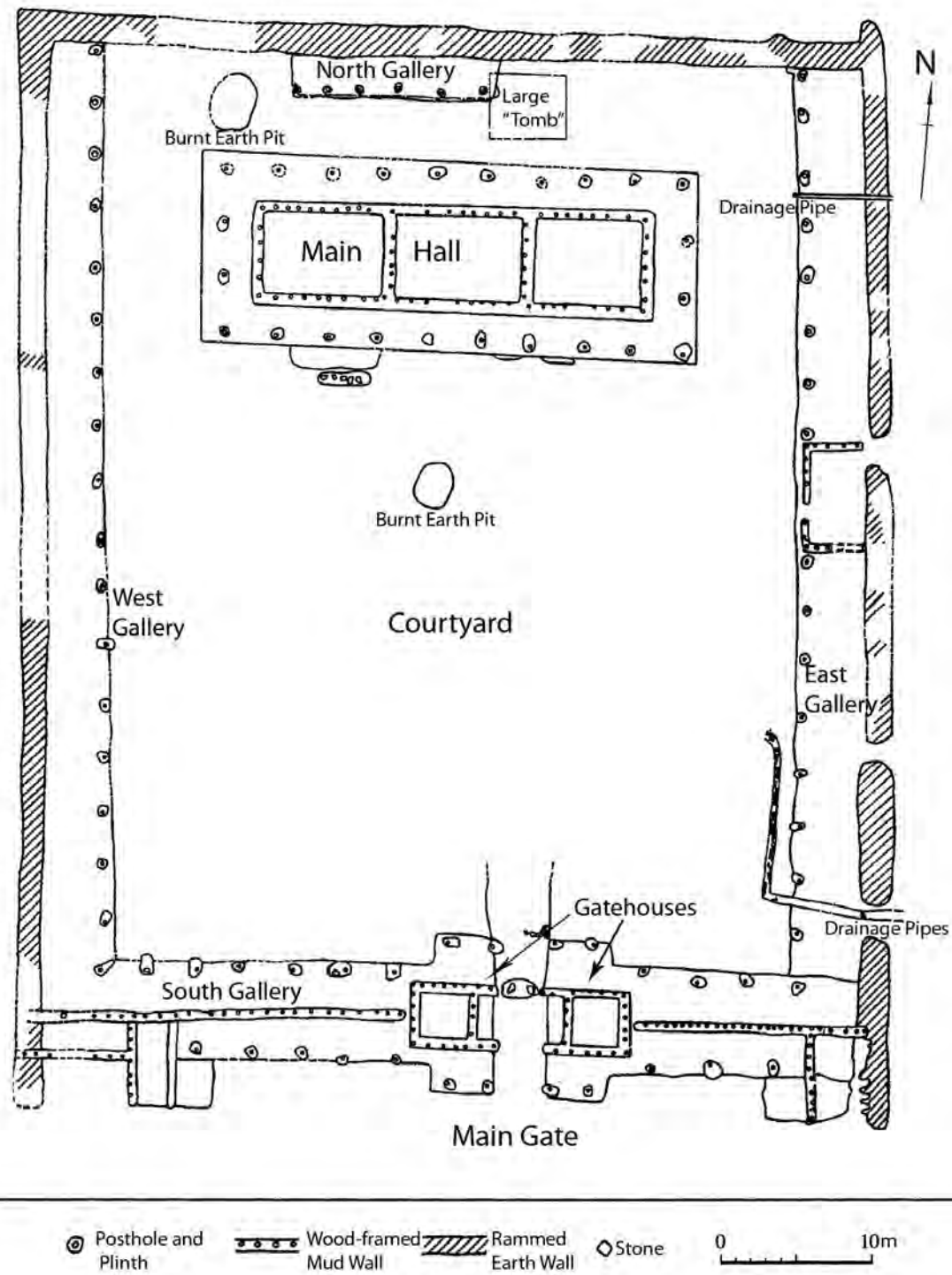
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2.3. Erlitou palace-temple area (Xu et al. 2005:14, fig. 1).

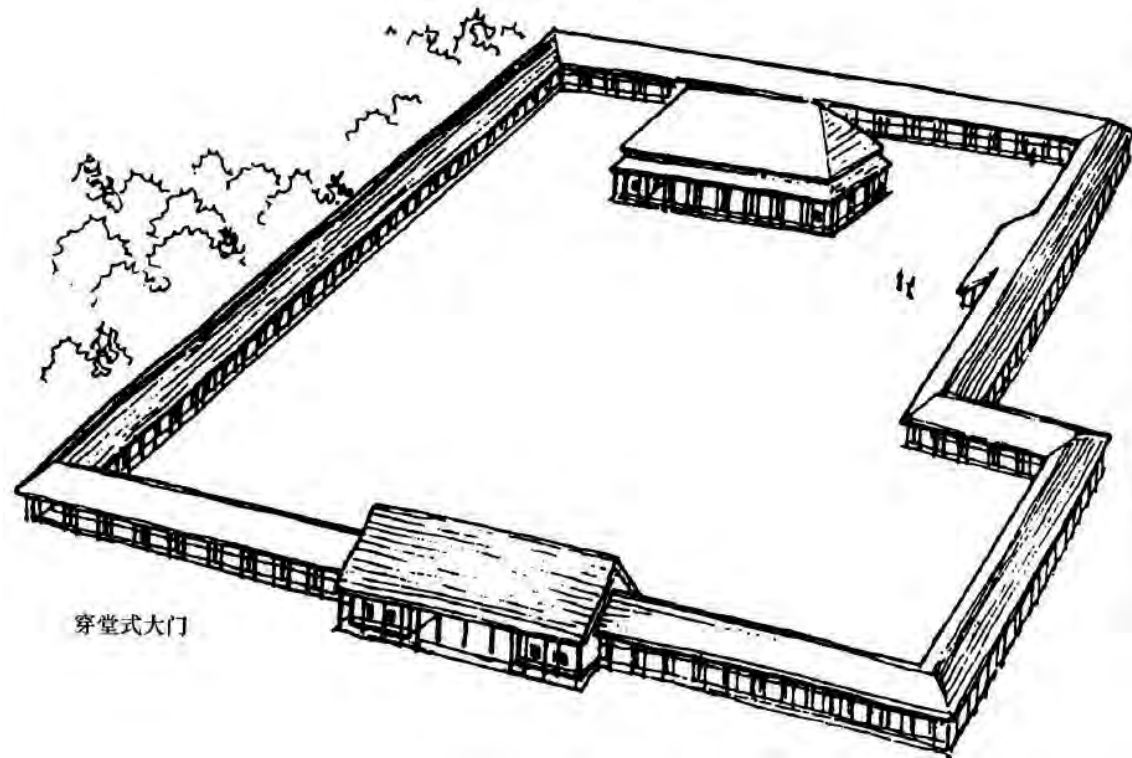
large third-millennium centers, in the Central Plains and beyond, that rival or surpass Erlitou in size². Erlitou, rather than being a departure, continued the third-millennium pattern of megasites, centering an expansive sphere of material cultural influence (Figure 2.1). At the same time, a number of features that were to become central to Central Plains Bronze Age elite traditions, such as a rectangular, walled “palace-temple”

district; rammed earth monumental courtyard structures; and bronze ritual vessels, apparently made their first appearance at Erlitou (Figures 2.2–2.6). The Erlitou tradition, however, was not alone on the Mainland East Asian stage. The land between the Yellow and Yangtze rivers was home to a variety of local and regional ceramic and other material cultural traditions beyond those of Erlitou.



2.4. Palace-temple 2 at Erlitou (after ZSKY 2003:67, fig. 2-4).

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2.5. Reconstruction of palace-temple 1 (from Yang 2005:236, fig. 5).

Erlitou

Discovered in 1959 by archaeologists, the site of Erlitou (Figure 2.2) has been divided into eight phases, only four of them belonging to the Erlitou period (ZSKY 1999). The individual duration of each of the phases is unclear, although they are conventionally assumed to be of equal length. According to recent work, during phase I of the Erlitou occupation, Erlitou remains covered about 100 ha, although it is unclear whether this was a single large settlement or a cluster of several smaller sites (Xu et al. 2004). Xu Hong and his collaborators also note, however, that given its size and the bronze, turquoise, and ivory artifacts dating from this period, phase I Erlitou

was probably already a “central place.” During phase II Erlitou grew into a site of 300 ha with “palace-temples”; a grid of four roads surrounding the “palace” area; bronze-casting remains; and elite tombs³ containing bronze, jade, lacquer, turquoise, shell, proto-porcelain, and white ceramics artifacts. In phase III a rammed earth wall was built enclosing the 10.8 ha “palace” area. New large-scale rammed earth platforms were built in the enclosed area, while the rammed earth foundations of the previous phase were leveled, and the area emptied of daily use features (such as wells, storage pits, etc.; Erlitou Fieldwork Team, Institute of Archaeology, Chinese Academy of Social Sciences [hereafter, EFT, IA,

CASS] 2005a; Xu et al. 2004, 2005). The piece-mold cast bronze vessels found at Erlitou also begin to appear in phase III.⁴ In phase IV, although the site center remained densely occupied, occupation on the site periphery declined. Nevertheless, construction continued within the walls of the “palace” area, bronze casting went on as before, and the tombs of this phase on average exceeded those of phase III in quantity of jade and bronze artifacts (Xu et al. 2004). Erlitou continued to be a place of importance into at least the beginning of the Erligang period, after which it shrank to about 30 ha concentrated in the former “palace” area. By this time, where large-rammed earth platform buildings once stood, only small house foundations, middens, and tombs remained: Erlitou had become a village (see also Liu and Xu 2007).

Interpreting Erlitou

Since at least Childe (1950), cities have figured prominently in discussions of ancient polities. More recently, Yoffee (2005) has argued that the cities acted as crucibles for new social and political relations, reconfiguring (indeed, creating as such) the countryside, and serving as centers of the first states. Smith (2003), on the other hand, cogently writes that cities should be studied in their own right, de-linked from issues of complexity or state-formation. In China, Chang (1985) argued that pre-Eastern Zhou cities were “king’s cities,” while Wheatley (1971) proposed that they were ceremonial centers. Liu and Chen (2003) more recently portrayed Early Bronze Age centers like Erlitou

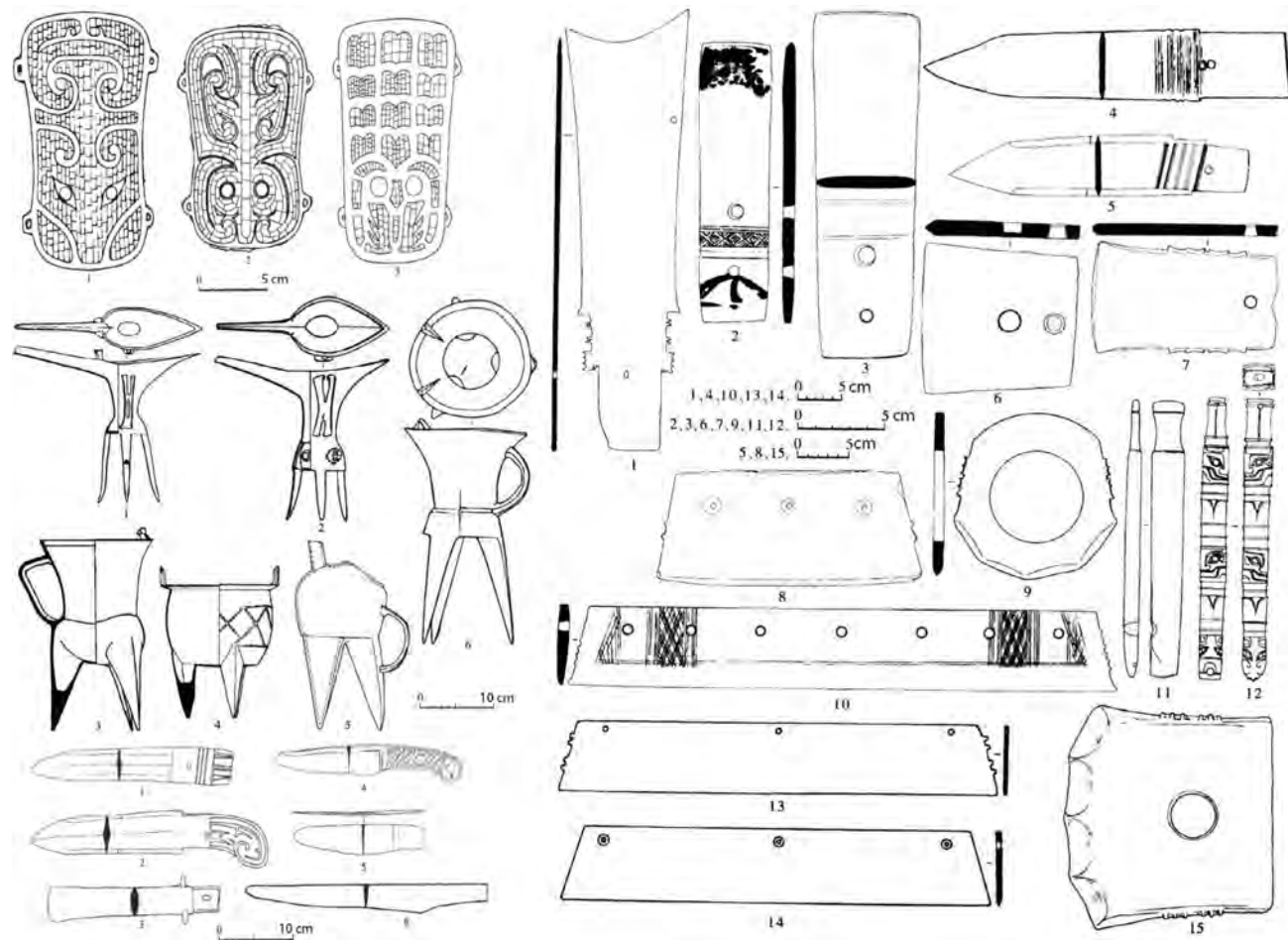
as loci of elite crafts production and hubs of resource extraction networks. These, however, are not necessarily contradictory positions: large centers like Erlitou were certainly connected to larger political networks that extended beyond the boundaries of the site, even while the mutual constitution of built environment and human practice are crucial for understanding the nature of Central Plains centers. Likewise, Erlitou may very well have been at once a political capital, a ceremonial center, and a nexus of elite production. Unfortunately, information concerning spatial practices at Erlitou and other Bronze Age Chinese sites is fragmentary at best, and characterizations are necessarily somewhat crude and speculative on current evidence.

Palace-Temples

The large rammed-earth features near the center of the site, the so-called “palace-temples” (Keightley 1973; Thorp 1991), are perhaps the earliest examples of what is later unambiguously the standard form of Chinese palatial architecture (Figures 2.3–2.5). Indeed, wall-enclosed areas of large, platform-built courtyard structures characterize later, imperial Chinese “forbidden cities.”

As noted above and described in more detail in Xu et al. (2004; 2005) and Liu and Xu (2007), the “palace-temple” area appears to have undergone change throughout its use. These changes include, repeated leveling and rebuilding of courtyard structures; the apparent reduction of domestic

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2.6. Erlitou elite artifacts (after ZSKY 2003:104–106, figs. 2-9, 2-10, 2-11, 2-12).

features, such as wells and middens, in phase III; and the construction of a surrounding wall in the same phase. These developments have been linked to narratives of wider (especially political) change (see Liu Xu 2001), but given the limitations of the research that has been done thus far, caution is advisable (Liu and Xu 2007). Nevertheless, the relative ephemerality of Central Plains Bronze Age “palace-temple” structures appears to be a feature that outlived Erlitou. In part, this might be explained in terms of the building material: rammed-earth foundations with superstructures of

wood, thatch, and mud are eminently perishable. The continual reordering of palace-temple space and if the received tradition is to be believed, the movement of capitals as well, moreover, suggest a cultural logic of ceremonial space that privileged a process of constant reordering over rootedness or monumental permanence.

The changes in the “palace-temple” area that took place in period III, from the building of a rammed-earth wall around the area, to the abandonment of “palaces” 3 and 5; the building of

“palaces” 1 (Figure 2.5), 2 (Figure 2.4), 4, 7, 8, and 9 in a “regulated pattern” (Xu et al. 2004, 2005); and the reduction of “domestic features” such as wells and middens, may signal a change in the nature of the “palace-temple” area. They suggest, perhaps, a more ceremonial, less residential function beginning in phase III (Xu et al. 2004, 2005). This, in turn, may signal a change in the nature of the site or of elite spatial-political or religious practices. Unfortunately, in the absence of fine-grained archaeological research aimed at recovering the activities that may have taken place in the palace-temple areas before or after phase III, nothing specific can be said about the wider significance of those changes at present.

In terms of later developments, the walled, rectangular “palace-temple” area (Figure 2.3) is certainly the predecessor for elite building practices that continued in the Central Plains through the second and first millennia BCE and on to later Imperial times (Thorp 1988). The shift of elite architectural orientation, moreover, from a few degrees west of north at Erlitou, to a few degrees east of north in Erligang sites, such as Yanshi Shangcheng and Zhengzhou, is cited by some authors (e.g., Sun 2009) as evidence of dynastic change. Indeed, similar changes in the orientation of major architecture occurred again with the Zhou conquest of the Shang.

It is important to note, however, that despite their characterization as *gongdian* “palaces” in Chinese or “palace-temples” in the English

Artifact Type	Quantity
Knives	36
Arrowheads	16
Jue-vessels	13
Chisels	7
Bells	5
Awls	5
Animal mask plaques	3
Round plaques	3
Jia-vessels	3
Fish hooks	3
Dagger axes	2
Adzes	2
Saws	1
Ding-cauldron	1
He-vessel	1
Yue-axe	1
Spindle whorl	1
Bead	1

Table 2.1. Bronze artifacts discovered at Erlitou

literature, there is very little evidence other than later traditions to suggest their function (Thorp 1988), and indeed, as Xu et al. (2004, 2005) suggests, that function may have changed over the life of the site, never mind the course of the second millennium BCE. Do their large courtyards suggest the open spaces of public architecture and collective ritual, or does their limited access through a single entrance suggest more restricted use (see Figures 2.3–2.5)? Erlitou courtyard structures also appear to differ from their descendants at nearby Yanshi Shangcheng, later Huanbei and Anyang, in the relative paucity of sacrificial remains associated with them. Indeed, of the 57 irregular burials noted in the site report (ZSKY 1999) and cited in Huang (2004) as evidence of

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sacrifice, only two were associated with a large courtyard structure and only nine were located in the central area (Figure 2.2: V). Instead, and also unlike later “palace-temples,” they share with smaller Erlitou structures a custom of mortuary ritual within their precincts during or after their use (ZSKYEG 1992; Liu and Xu 2007). One of the “ash-pit” burials (VM62) noted above, for instance, appears to have grave goods, but the clearest examples of this practice are the “several rows of middle-size burials” discovered in the central and southern courtyards of “palace” 3 and dating from phase II that yielded bronze, jade, lacquer, white pottery, stoneware, turquoise, and shell artifacts, including the famous turquoise “dragon” (ZSKYEG 2005; ET, IA, CASS 2005b). By Erlitou standards, and despite their designation as “medium-sized”, these are clearly high elite burials.

Sacrificial Remains

Recent Erlitou site maps show a sacrificial area north of the palace-temple zone stretching between areas VI and IX, giving the impression that Erlitou was neatly divided into different precincts and that ritual was mostly conducted there (Figure 2.2). However, the designation “sacrificial area” is based on unpublished excavations done in 1995, when “ash trenches,” burials, and a variety of structures were found. Because the structures apparently had no superstructures and no easily identifiable function they were labeled “ritual.” As with many other structures at Erlitou, however, these were associated with burials,

some of them yielding bronze and jade grave goods. One of the ash pits, dating from phase IV, apparently had many irregular burials though no further information is presently available (Zheng 2005). Irregular burials, however, are not necessarily sacrificial victims, and deposition of human remains in middens is a burial practice that occurs at later sites as well, distinct from more obviously sacrificial pits. Indeed, looking back over the 57 “irregular burials” cited by Huang (2004) as evidence for human sacrifice at Erlitou, only nine of them show clear evidence of even a nonstandard mortuary arrangement of the body, let alone perimortem violence. Moreover, some of the “irregular burials” are irregular only in not having a proper burial pit: they are otherwise laid out in accordance with normal Erlitou death ritual including grave goods. Like ordinary Erlitou tombs, these irregular burials seem to be scattered around the site, occurring in areas II, IV, V, and VIII, in addition to the unknown number in the “sacrificial area.” In other words, the spatial organization of ritual activities, including death ritual, at Erlitou is not entirely clear on present published evidence.

Burials

The layout of burials, their grave goods, and the comparative wealth of tombs within sites or regions have long been staples of Chinese archaeology and, indeed, archaeology beyond China as well. Based on the current state of excavation and publication, Erlitou burials display some apparent

similarities and dissimilarities with later sites. On the one hand, the tradition of burying drinking vessel sets that may have begun with the Dawenkou culture (ca. 4500–3000 BCE) in Shandong (Underhill 2002) and peaked at Late Shang Anyang is in evidence at Erlitou with the significant appearance of vessels cast in bronze. At the same time, the apparent lack of distinct cemeteries set apart from residential areas supposedly distinguishes Erlitou from earlier sites, such as Taosi (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Shanxi Dui [hereafter ZSKYSD] 1980, 1983), or later sites, such as Anyang (see chapter 5). Indeed, it has recently been proposed that this lack of distinct burial areas indicates the absence of extended kin groups as a socio-political organizing principle (Liu and Xu 2007). Instead, the site is said to have drawn together unrelated people in a process of urban ethnogenesis. While the centripetal demographic draw of a large site like Erlitou and the forging of new identities in the resulting urban crucible (Yoffee 2005) are surely part of the story, as will be argued below, the distinction between burial and residential areas at such Late Shang sites as Anyang is more apparent than real. In fact, the spatial and temporal contiguity between structures and burials and the ordered clusters of the latter might more readily suggest the opposite conclusion: that living and dead were closely connected through continuity of place and, perhaps, kinship.

A second, although not so obvious, distinction of Erlitou burial practice

is the relative insensitivity of grave size to tomb wealth, giving rise to the appellation “middle-sized tombs” for the largest and richest tombs found at the site (including the elite burials found within “palace” 3). The assumption behind this terminology is that the tombs of the high elites or royalty have not been found, with the one large, looted “burial” in “palace 1” (Figure 2.5) now thought to have been a sacrificial pit (ZSKY 2003:129). An alternative hypothesis might be that mortuary distinction was not as marked at Erlitou as at later Central Plains sites (or at earlier Taosi) and that what distinctions were on display were more in the nature of the grave goods than the size of the tomb. Indeed, this hypothesis seems to be borne out in a recent statistical study of Central Plains mortuary distinction over time (Campbell 2007), albeit with the important caveat that the publication of Erlitou tombs has been fragmentary and heavily biased toward elites.

Workshops / Craft Production Areas

Bronze-Casting

Approximately 300 meters south of the palace-temple enclosure is a 1-ha area that has been dubbed a bronze foundry (Figure 2.2; ZSKY 2003; Xu et al. 2005). Bronze casting remains, such as slag, pieces of copper, tin, and lead, as well as mold and crucible fragments, have been excavated within the area (ZSKY 1999). Moreover, several structures associated with bronze casting were also excavated between 1982 and 1984 (ZSKY 2003), although these remain

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to be fully published. The main part of the bronze-working area consisted of a north-south line of rectangular structures that were oriented east-west. Three of these buildings were relatively well preserved. The first, F9, was a semisubterranean structure constructed in phase II, renovated several times, and open on at least one side. The phase III floor shows evidence of such casting activities as burned areas, slag, and crucible fragments. South of F9 were two long shallow semisubterranean structures, Z1 (18 x 4 m) and Z2 (9 x 5 m), with postholes suggesting a roof of some kind and a burned surface embedded with slag, crucible fragments, and small lumps of bronze. Z2 was superimposed on the western half of Z1, indicating that Z2 was later. All three structures had child and adult burials under them as appears to be typical of Erlitou in general. A kiln was also found in the bronze workshop area, but whether or not it was used for firing molds is unknown (ZSKY 2003).

More work aimed at reconstructing production processes and workshop layout is needed before much can be said concerning bronze production at Erlitou. How was the production process divided up? What was the scale of production, and how much of the foundry area was actually occupied by workshops as opposed to debris scatter? Indeed, crucible fragments and other casting debris have been found in areas III, V, and VI, in addition to the foundry in area IV (Figure 2.2). Does this mean bronze casting took place all over Erlitou, or simply that debris scatter is an unreliable indicator of

workshop location or scale? Hopefully future work and the publication of previous research will help advance our knowledge of these issues.

In terms of the products of the bronze workshops at Erlitou, the many ceramic mold fragments appear to be mostly vessel molds, while only one stone mold has been discovered at the site (ZSKY 2003). The majority of the published bronze artifacts discovered at Erlitou, however, are weapons and tools (17 percent vessels, 18 percent weapons, 55 percent tools, respectively). There is also a clear increase in bronze artifacts over time, with the vast majority dating to phases III and IV (2 percent phase I, 6 percent phase II, 42 percent phase III, 50 percent phase IV; ZSKY 2003). Evidence for compound mold-cast bronzes also date from phase III onward. While the full publication of more recent excavations (such as the phase II elite tombs found in the courtyard of “palace” 3) might change these figures somewhat, it nevertheless seems that in terms of both the organization of the palace-temple area and the expansion of the bronze industry, phase III was a watershed for Erlitou.

Jade and Turquoise Working

South of the palace-temple area, turquoise-working debris were found scattered over an area of about 1,000 m² beginning in phase III (Figure 2.2). A pit containing over 1,000 pieces of turquoise, showing signs of drilling, sawing, and grinding, was found in the area as well and dates to phase IV (Liu and Xu 2007). Since turquoise artifacts (such as the famous “dragon” found

in tomb 02VM3 [ET, IA, CASS 2005b]), dating from phase II, have been found at Erlitou, it seems likely that turquoise working was occurring at some part of the site during phase II, if not earlier.

Although no jade working sites have been published for Erlitou, many jade artifacts have been excavated from tombs at the site. These prominently include large jade blades, such as axes and dagger-axes, but also shovels, arrowheads, bracelets, and “handle-shaped objects”(Cao 2008), among other forms (ZSKY 2003) (Figure 2.6). Jade artifacts are found only in burials at Erlitou, continuing Neolithic traditions of jade use in mortuary ritual. Nevertheless, later tradition suggests the use of jade in ritual, or as ornament, among the living. Systematic use-wear and residue analyses might shed light on the social life (Appadurai 1986) of jades before terminal deposition. Thus far, such work is only just beginning (Jing et al., 2007).

Other Production

Ceramic kilns and bone production debris have been found throughout the site, and no specific areas of pottery or bone tool production have been identified, although a midden containing a large quantity of worked bone was excavated in area VI (ZSKY 2003). Ceramic production techniques at Erlitou are said to include hand-building, wheel-throwing, and mold use, sometimes used in combination on a single vessel (ZSKY 2003).⁵ Bone tools, which included spades, decorative pins, needles, awls, spoons, and arrowheads, were generally made in a process that

included sawing, grinding (and in some cases carving), and, finally, polishing. Technical studies of Erlitou bone-working are currently underway.

Although no evidence for the production of either lacquer objects or textiles has been found at Erlitou, there is mortuary evidence for both categories of object. The remains or imprint of textiles is most often found on jade blades, bronze plaques, or bronze bells in tombs at Erlitou. Based on the number of strands per square centimeter (ranging from 8 x 8 to 50 x 50 strands), the textiles are hypothesized to include both hemp cloth and silk (ZSKY 2003). Although receiving far less attention in the literature on the Chinese Bronze Age, ceramic, stone, bone, wood, and textiles would have figured much larger in the lives of people living at the time than bronze or jade and, it is to be hoped, will form a focus of future research.

Dozens of lacquer objects or their remains have been found in Erlitou tombs. The majority are vessels, the most numerous of which are *gu*-drinking beakers. Interestingly, in tombs, lacquer *gu*-beakers are sometimes accompanied by bronze *jue*-tripods and ceramic *he*-pots (ZSKY 2003). In other words, drinking and feasting sets that would become made entirely of bronze in future Central Plains elite assemblages were composed of a variety materials at Erlitou. In addition to vessels, boxes, spoons, ladles, and even drums and coffins made of lacquer have been found in Erlitou tombs (ZSKY 2003:117).

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Stone Tool Production at Huizui

Huizui was an Erlitou-tradition, Erlitou-variant village roughly 10 km southeast of Erlitou (Ford 2004; Liu et al. 2007; Zhongguo shehuikexueyuan kaogu yanjiusuo Henan diyi gongzuodui [hereafter, ZSKYHDG] 2010a, 2010b). It was a center for stone tool production, taking advantage of local lithic resources (Webb et al. 2007). There were four other stone tool production sites within 10 km (ZSKYHDG 2010a), suggesting the entire region was specialized in stone tool production. Huizui had been producing stone tools for nonlocal consumption since Longshan times and continued to produce the same artifacts in the same ways through Erlitou times, albeit on a larger scale (ZSKYHDG 2010b). This suggests that the rise of nearby Erlitou did not qualitatively affect the stone tool production at Huizui or its organization. Given the general population increase in the Yiluo valley during Erlitou times, the increase in the scale of production or number of producers at Huizui could be explained by increased demand, increased population at the site, or, most likely, both. Sites like Huizui and Guandimiao (see chapter 6) suggest that certain forms of Central Plains Bronze Age craft production occurred in economically specialized villages, and that regional trade networks for a variety of goods were not necessarily controlled by elites in the metropolitan centers, nor were centers like Erlitou necessarily the only nodes of production for exchange.

Agriculture

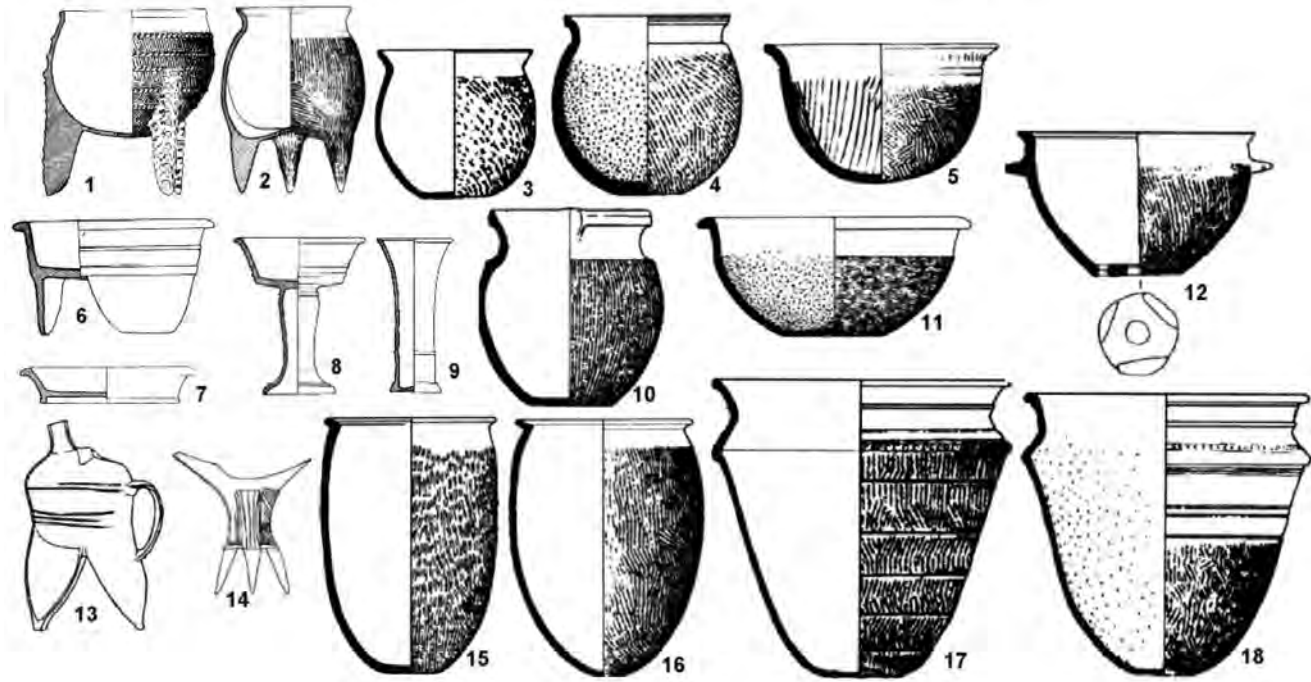
The study of paleobotanical and zooarchaeological remains at Erlitou, as in Chinese archaeology in general, is in its infancy. Knowledge of the agricultural practices that supported the presumably large population at Erlitou is, thus, minimal. Nevertheless, under the auspices of the Chinese government-sponsored “Origins of Chinese Civilization Project,” some preliminary paleobotanical, zooarchaeological, and stable-isotope research have been done at Erlitou (Yuan and Campbell 2009). Zhao (2007) noted that in the centuries preceding Erlitou, rice and soybeans were added to the earlier millet-based crop assemblage. During Erlitou times small amounts of wheat began to appear as well. Moreover, between the Erlitou and the Erligang period, wheat dramatically increased in quantity (see also Lee et al. 2007). With Erlitou civilization then, the elite crafts and architecture that has so preoccupied archaeologists and art historians of China, was built upon a developing multicrop assemblage that included millets, rice, wheat, and soybeans. The breadth of this assemblage would have not only insured against the failure of any one crop, but perhaps also presented the opportunity for multicropping and agricultural intensification.

Recent faunal analysis at Erlitou and previous Longshan sites such as Taosi, Wangchenggang, and Xinzhai (Yuan et al. 2007; Yuan and Campbell 2009) have shown that from the Longshan times to Erlitou, while pig continued to

Chapter 2

predominate, new domesticates, such as cattle (*Bos sp.*) and sheep (*Ovis sp.*), began to form ever-greater percentages of the faunal assemblage. At the same

(Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Xinzhai Dui, Zhengzhoushi Wenwu Kaogu Yanjiuyuan [hereafter ZSKYXD, ZWKY] 2009; ZSKY 2003).⁶



2.7. Erlitou-variant ceramics (after ZSKY 1999:208, fig. 131; 211, fig. 133; 224, fig. 141; 133, fig. 79; ZSKY 2003:72–75, fig. 2-5).

time, cattle and sheep played an increasingly important role in ritual as sacrificial victims and in marking status differences from Erlitou through Zhou times (Yuan and Flad 2005).

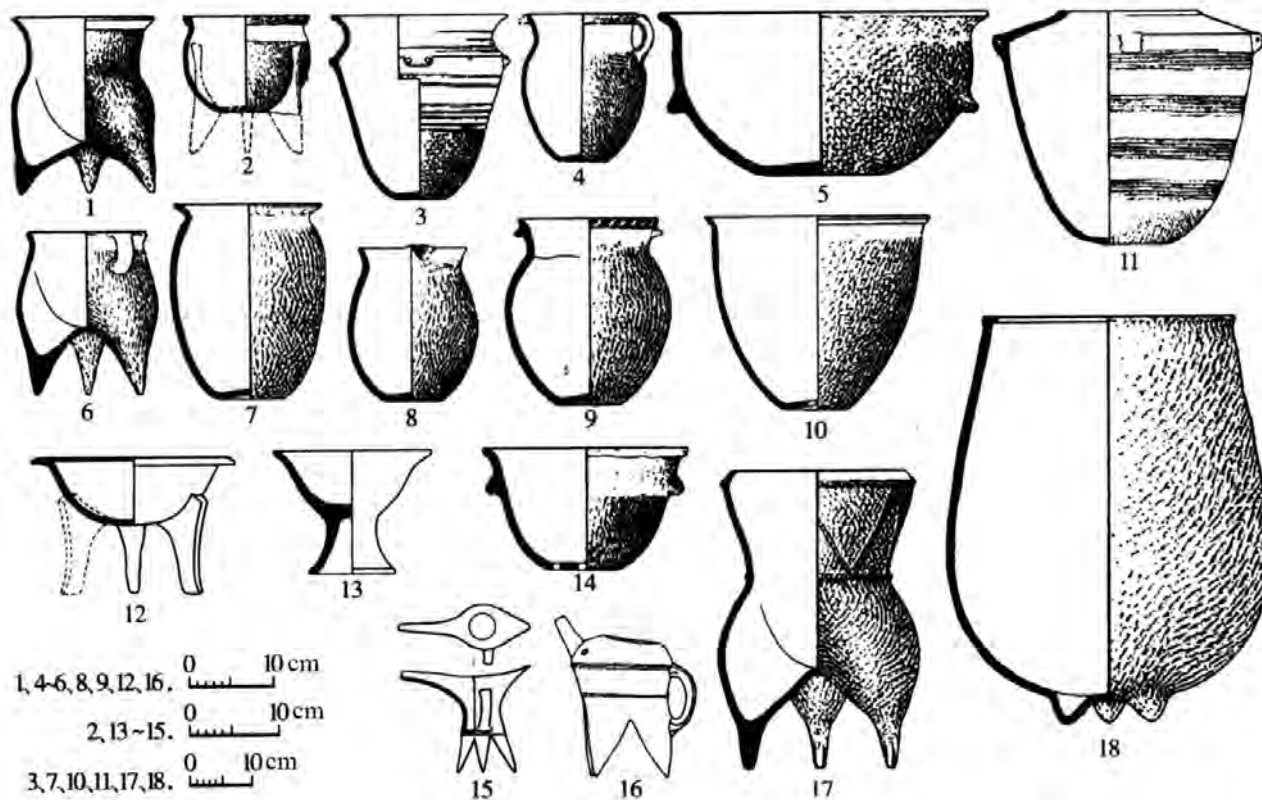
The Erlitou Ceramic Tradition

The site of Erlitou formed the center of ceramic tradition known as the Erlitou tradition and sat within the further subcategorization of the Erlitou variant, which is said to have evolved out of local Henan Longshan ceramic traditions, such as Wangwan III and Xinzhai

At the same time, and beginning from phase II, Erlitou ceramic influences and vessels began to show up in places as far away as modern Liaoning Province in the north, Hubei in the south, Shandong in the east, and Gansu in the west.⁷

The ZSKY (2003) lists five different regional variants of the Erlitou “culture,” or as I have termed it, the Erlitou period Central Plains Metropolitan Tradition: Erlitou (Figure 2.7); Dongxiafeng (Figure 2.8); Niujiaogang (Figure 2.9); Yangzhuang (Figure 2.10); and Xiawanggang (Figure 2.11). All of the variants, with the exception of Erlitou,

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2.8. Dongxiafeng-variant ceramics (after ZSKY 2003:92, fig. 2-7, part A).

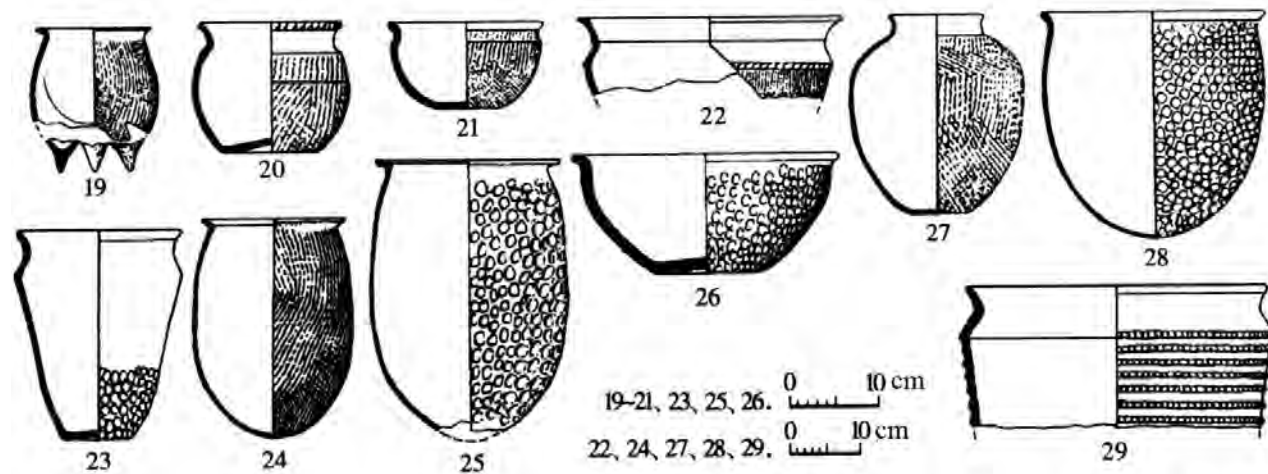
date from Erlitou II or later, and some do not seem to be derived from previous, local, ceramic traditions.⁸ This suggests an expansion of the Erlitou ceramic tradition out from the Erlitou variant core where it had indigenously developed. This was coupled with an expansion in the size of the site and social stratification evident at Erlitou. In terms of networks of ceramic production, distribution, and consumption, however, unfortunately very little can be said on present evidence. That is, it is unclear whether the expansion of the Erlitou ceramic tradition was the spread of styles, the spread of production techniques, the movement of ceramic producers, the result of distribution networks of ceramics produced in the Erlitou core,

or measures of some or all of these. What this ceramic tradition expansion says about political organization is even less clear. Nevertheless, we will attempt to piece together what evidence currently exists concerning ceramic production, distribution, and consumption for the Erlitou tradition and one of the better known variants: Dongxiafeng.

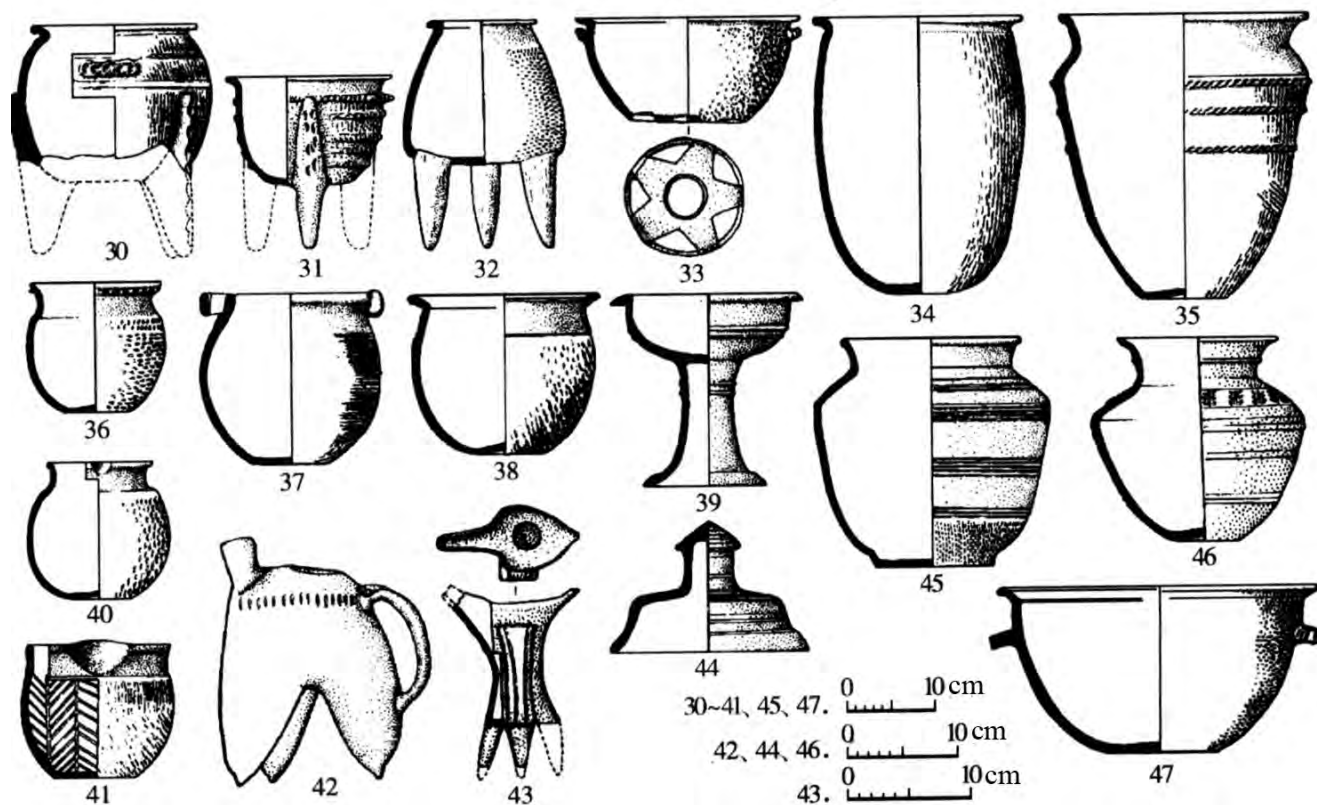
Erlitou and Dongxiafeng Variants: Ceramics and Society

The best-known site of the Dongxiafeng variant (Figure 2.8) is the Dongxiafeng site (Figure 2.12) in southeast Shanxi Province. This site has four phases dated to the Erlitou period, and two to the Erligang period (Zhongguo

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2.9. Niujiagang-variant ceramics (after ZSKY 2003: 92, fig. 2-7, part B).

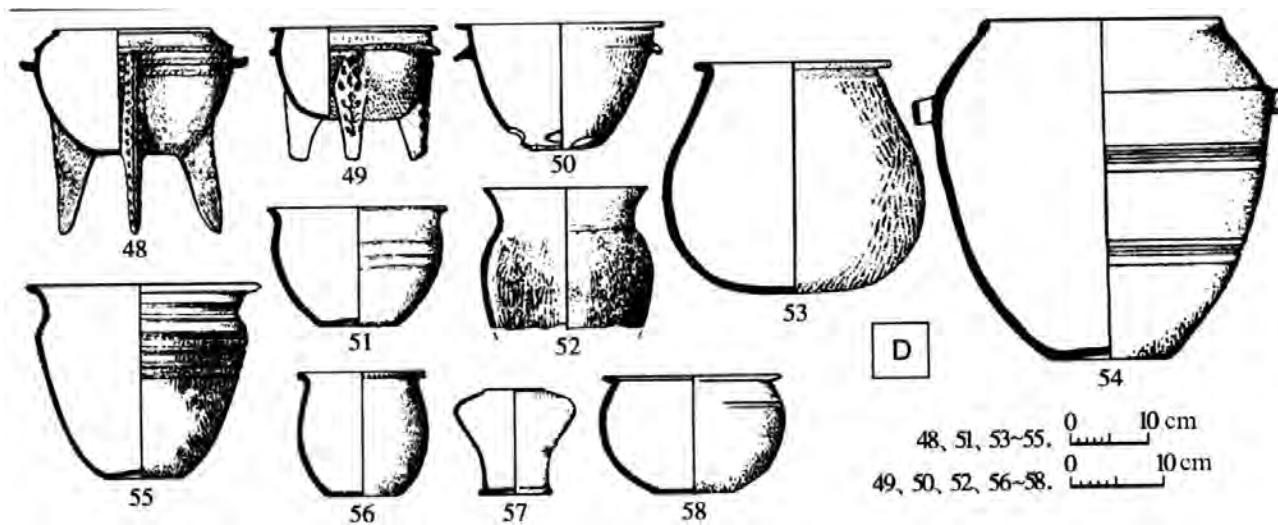


2.10. Yangzhuang-variant ceramics (after ZSKY 2003: 92, fig. 2-7, part C).

Shehuikexueyuan Kaogu Yanjiusuo,
Zhongguo Lishi Bowuguan,
Shanxisheng Kaogu Yanjiusuo [ZSKY,

ZLB, SKY 1988; ZSKY 2003). The actual
size of the Dongxiafeng site during the
Erlitou period is not known, although

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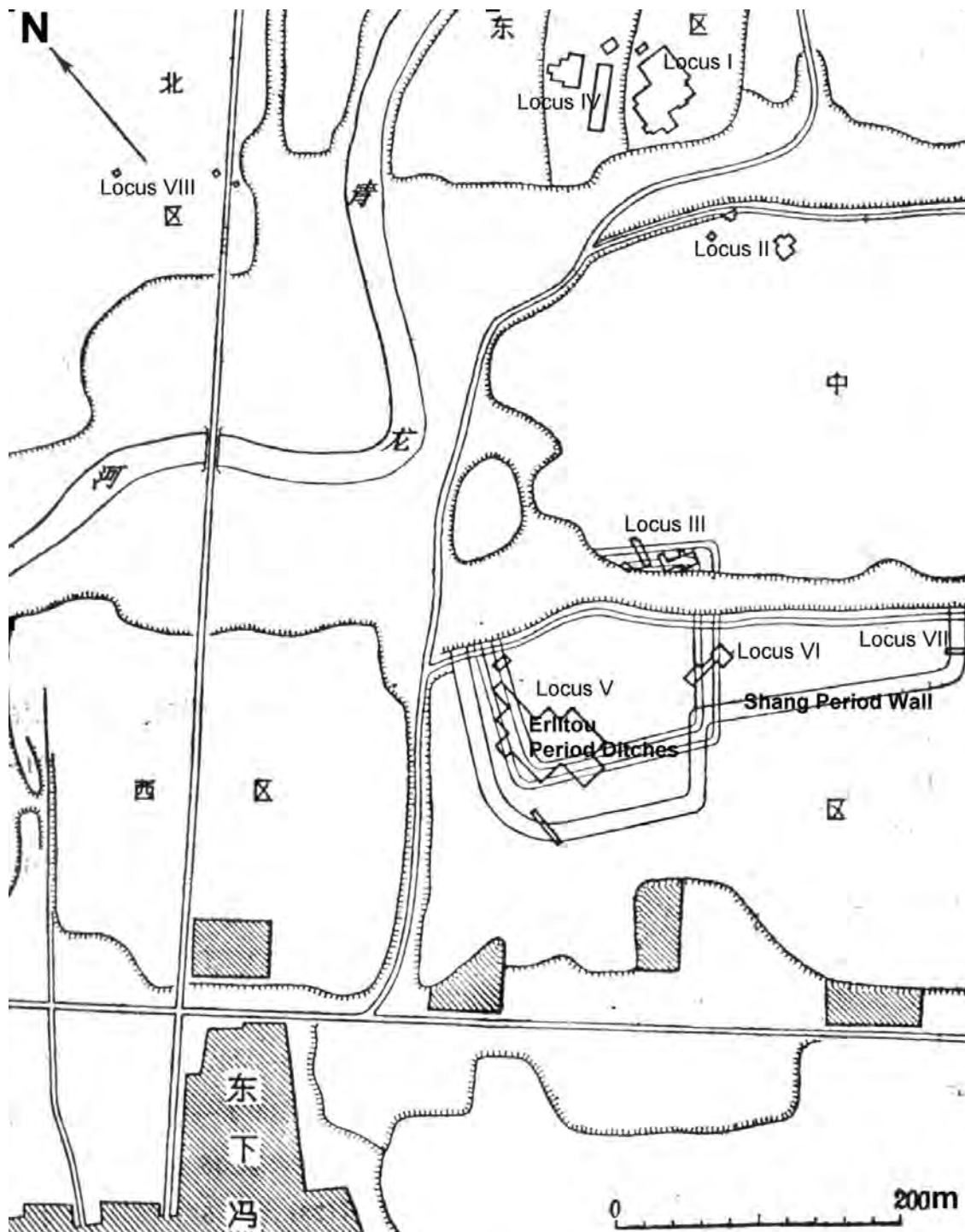
2.11. *Xiawanggang-variant ceramics (after ZSKY 2003:92, fig. 2-7, part D).*

there is a roughly 3 ha area surrounded by double ditches that appears to be the focus of phase III activities.⁹ Unfortunately, a systematic coring or sampling of the site was never done beyond attempting to delimit the surrounding ditches and excavating the west corner of the enclosed area and a few other locations. The nature of the site as a whole is still not adequately understood.¹⁰

The Dongxiafeng site has some unusual characteristics in comparison with other Central Plains sites of this period. The surrounding ditches were used for the construction of cave-houses. Cave-houses are a type of residence that do not appear at Erlitou, where houses are either semisubterranean or built on the surface.¹¹ Cave houses, are, however, found at the southern Shanxi site of Yuanqu and are typical of late Neolithic settlements in southern Shanxi (ZSKY 2003). Dongxiafeng also has “cave” burials where abandoned cave-houses

were used to inter the dead, although, interestingly, there is only evidence of this from period IV.

Other than some “ash pits,” two burials, and some artifacts from phase I and II, the majority of the evidence concerning Erlitou-period site occupation and use comes from phase III. It was in phase III (Erlitou phase III) that the double ditches were built in the center of the site and most of the houses discovered were dug. As noted above, a large area of the western corner of the double-ditched area (locality 5) was excavated (approximately 3,600 m² of the total 6,723 m²). Most of the remains found in this area also date to phase III, except the cave-house burials, which date to phase IV, suggesting that at least this portion of the double-ditch was partially depopulated during or before phase IV.¹² Dating from phase III, however, there are 37 cave-houses, four pottery kilns, two wells, five tombs, 13 “storage” caves, 20 small pieces of slag, 6 stone molds, and 21 ash pits in locality 5 alone, suggest-



2.12. Map of Dongxiafeng site (after ZSKY et al. 1988:3, fig. 3).

ing to some that this area was “a working and residential area of craftsmen” (Liu and Chen 2001:17). Although interpretations of this craft-working area and its wider context have motivated influ-

ential understandings of the site as an elite-managed, specialized, and intensive craft and resource transshipment center within the larger framework of an expansionist Erlitou state (Liu and

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Chen 2003), the evidence is thin. Four small kilns (average firing chamber size of 1.6 m³), 20 “small pieces” of slag, and 6 stone molds for casting small bronze artifacts do not necessarily suggest large-scale or intensive production. Furthermore, the “elite burial” in locality 4 is not elite by Erlitou standards,¹³ nor does a contrast between this burial and the five found in locality 5 (not a very large sample to begin with) show a great disparity in wealth.¹⁴ Moreover, the claim that locality 4 is a segregated elite residential area is predicated on a single burial. A single large cave-house (F2: 10 m²) dating from period III was also found in locality 4, although it was not as large as some of the cave-houses in locality 5 (the “low-status craft production area”) and does not show any obvious signs of being an “elite residence.” In short, a more systematic investigation of the structure of the site is required for phase III before the nature of the area encircled by the ditches and its relationship to other parts of the site can be determined with any certainty (not to mention we would gain a better understanding of the other three Erlitou period phases). As it stands, there appears to have been a large Erlitou period site at Dongxiafeng with intensive occupation during at least phase III, along with ceramic production and some casting of simple bronze artifacts. Evidence for social stratification at the site, whether in mortuary treatment or architecture, is slight, and there is no evidence of large-scale or intensive bronze casting or smelting.¹⁵

In terms of ceramics, Dongxiafeng is considered by most to be an Erlitou-

tradition variant (Jiang 2008, however, considers it a separate archaeological culture altogether), as we have mentioned above. This categorization is based on stylistic (color, vessel form, vessel decoration, and the presence of diagnostic vessel types) rather than functional or production criteria. If we compare the manner of production, Dongxiafeng (Figure 2.7) and Erlitou (Figure 2.8) show some interesting differences. The great majority of Dongxiafeng phases I and II ceramics are hand-coiled (ZSKY, ZLB, SKY 1988). At Erlitou, on the other hand, most of the ceramics are supposedly wheel-made during this and later periods (Erlitou phases II–IV; ZSKY 1999, but see Zhang 2012). During Dongxiafeng phases III and IV, the occurrence of wheel-made ceramics increases but hand-coiled pottery is still common. This suggests that the similarities between the Erlitou and Dongxiafeng variants are not the result of the movement of ceramic specialists from Erlitou to Dongxiafeng (or at least cannot be explained entirely in these terms).

Another interesting point of comparison is the relative percentages of ceramic types in the assemblages as a whole. According to the published figures of cooking vessel types found in the site reports for Erlitou (ZSKY 1999) and Dongxiafeng (ZSKY, ZLB, SKY 1988) tabulated below (Table 2.2), there are significant differences in their relative frequency, despite overlap in vessel forms. Looking at Table 2.2 we can see that unlike Erlitou, but similar to the contemporary Jinzhong tradition (see below), *yan*-steamers are an important

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cooking vessel type accounting for an average of 25 percent of cooking vessels during Dongxiafeng phases I through IV. Another difference is that *ding*-cauldrons, although a fairly common cooking vessel at Erlitou, all but disappear from Dongxiafeng after phase I. While it could be said that both sites share the major cooking vessel form of *guan*-pots, in fact, despite the common Chinese name, the deep *guan* and round-bellied *guan*-pots (Figure 2.7: 15, 16; 3, 4) that predominate at Erlitou are quite dissimilar to the single-eared *guan*-pots (or perhaps pitchers) of Dongxiafeng (Figure 2.8: 4).

While it is well beyond the scope of this study to perform an exhaustive re-analysis of the Dongxiafeng variant of the Erlitou ceramic tradition, the differences in house type and major cooking vessel forms argue against the hypothesis that this ceramic tradition variant was the product of a population

that originated at Erlitou. The kilns discovered at the site suggest that much or all of the pottery found (for at least phase III) could have been produced at the site. The distribution of vessels produced at Dongxiafeng is simply unknown. The ceramic vessels types used at Dongxiafeng appear to follow a somewhat different pattern than at Erlitou, while vessel decoration and shapes show similarities with Erlitou ceramics. In sum, the site structure, nature, and extent of activities of the Dongxiafeng site are still not entirely clear during its Erlitou period occupation, as are the political, cultural, and economic relationships between this site and Erlitou, or even this site and other sites of the Dongxiafeng variant. Given this, it is very difficult to say more than that there is some similarity in the ceramics, and thus evidence of interaction—the nature of which is unknowable on present

Phase	Ding	Yan	SE guan	RB guan	DB guan	Jia	Zeng	Li	Total
Dongxiafeng I	4	7	8	3	0	0	2	2	26
	15.4%	26.9%	30.8%	11.5%	0%	0%	7.7%	7.7%	100%
Dongxiafeng II	4	15	35	2	2	2	2	10	72
	5.6%	20.8%	48.6%	2.8%	2.8%	2.8%	2.8%	13.9%	100.1%
Erlitou II	15	2	4	19	9	0	8	2	59
	25.4%	3.4%	6.8%	32.2%	15.3%	0%	13.6%	3.4%	100.1%
Dongxiafeng III	1	24	57	6	9	4	1	2	104
	1%	23.1%	54.8%	5.8%	8.7%	3.8%	1%	2%	100.25
Erlitou III	13	1	0	17	29	1	7	9	77
	16.9%	1.3%	0%	22.1%	37.7%	1.3%	9.1%	11.7%	100.1%
Dongxiafeng IV	3	52	37	13	18	6	0	45	174
	1.7%	30.0%	21.3%	7.5%	10.3%	3.4%	0%	25.9%	100.1%
Erlitou IV	12	1	0	29	16	1	8	18	85
	14.1%	1.2%	0%	34.1%	18.8%	1.2%	9.4%	21.2%	100%

Table 2.2. Comparison of Erlitou and Dongxiafeng cooking vessels

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evidence—apparently did not involve either wholesale population movement or large-scale importation of Erlitou ceramics.

Niujiaogang Erlitou Variant

Located in eastern Henan (Figure 2.1), the best-known site of this variant is the Niujiaogang site located in Qi county, eastern Henan. Its Erlitou-period ceramic variant (Figure 2.9) is said to show obvious differences from that of the Erlitou variant (ZSKY 2003) and dates from the end of Erlitou II to Erlitou IV. Although its ceramic types are basically the same as those of Erlitou, its ceramic tradition is said to also show influences from the adjacent Yueshi and Xiaqiyan traditions. The houses at the Niujiaogang site take the form either of rectangular semisubterranean dwellings with a single room and a fire pit or stove or of small surface structures. Beyond this, however, very little can be said about this variant on present evidence.

Yangzhuang Erlitou Variant

Named for the Zhumadian Yangzhuang site in southern Henan, the distribution of this variant is not entirely clear at present (see Figure 2.1). The Yangzhuang-site Erlitou remains date from Erlitou periods II and III only. This ceramic tradition (Figure 2.10) shows many continuities with preceding upper- and middle-Huai River Longshan traditions (ZSKY 2003). A “ritual” area and remains were reported found at this site, as well as a

surrounding ditch (ZSKY 2003), but no additional details are available as the site remains unpublished. Rice paddy agriculture was practiced at this site.

Xiawanggang Erlitou Variant

This variant gets its name from the Xiawanggang site in Xichuan county, southwest Henan Province. This site dates from Erlitou I to III, but because the remains dating to Erlitou I show relatively little Erlitou influence, only the Erlitou II and III period remains are considered to be a variant of the Erlitou tradition (Figure 2.11). The distribution of this variant is also not completely clear at present (see Figure 2.1). The houses of this site are all round and semisubterranean. Both urn burials and pit burials are known from this site, with urn burials generally used for children.¹⁶ Although in most of the adult burials the bodies were extended and supine, there were also cases of crouching posture. Also notable were the burials, which, though poor in grave goods, occasionally had bovine skulls in them.¹⁷ Scapulomancy was also practiced at the site with deer, pig, and sheep scapula (ZSKY 2003).

While the polity centered at the site of Erlitou may very well have sought to secure the resources of southern Shanxi and other areas (Liu and Chen 2001, 2003), the mechanisms by which they may have done so and the political relationship between Erlitou and the settlements of the Dongxiafeng and other variants can neither be understood in terms of equations of ceramic styles with political boundaries

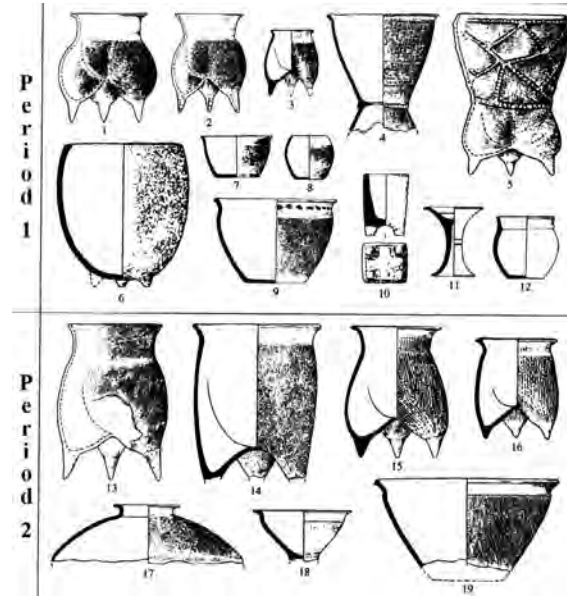
nor derived from general models of “early state” political economic evolution.¹⁸ To be sure, the late Erlitou bronze industry had to acquire its raw materials from somewhere, but the nature of this acquisition (trade, tribute, direct extraction, etc.) will only be understood when we have more robust evidence. Likewise, even if the extent of political control from the Erlitou center *could* be deduced simply from the ceramic tradition, the issues of the nature and mechanisms of political control would still need to be addressed (and on a regional basis).¹⁹ Much more archaeological work on regional centers and regional surveys needs to be done for the Erlitou period before these issues can begin to be adequately addressed.

Beyond the Erlitou Ceramic Tradition

The North

The Jinzhong Tradition

The Jinzhong²⁰ tradition is distributed to the north of the Dongxiafeng Erlitou variant in central Shanxi, traditionally known as the Jinzhong area (Figure 2.1; ZSKY 2003). Developing out of local Longshan ceramic traditions, this ceramic tradition (Figure 2.13) has been called Guangshe culture, Baiyan culture, Dongtaibao culture, Yicun type, as well as Erlitou culture (Jinzhong type, Dongxiafeng type, Dongtaibao type, etc.). The major sites for the Erlitou period include Taigu Baiyan phase four and Taiqu layer three. This tradition is said to show influence from the Erlitou metropolitan tradition, as well as interaction with the Zhukaigou



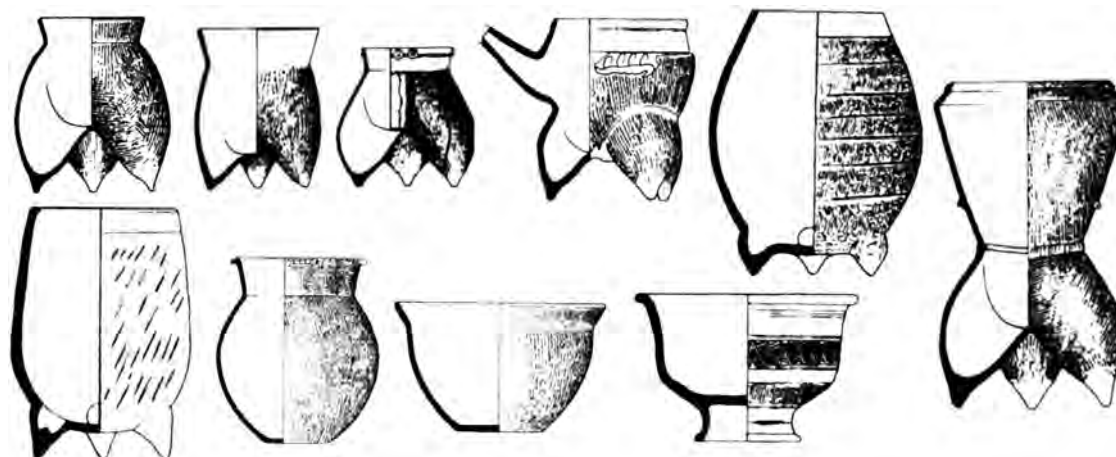
2.13. Jinzhong-tradition ceramics (Taigu Baiyan) (after ZSKY 2003:571, fig. 8-35).

and the Lower Xiajiadian traditions (ZSKY 2003)—in other words, the archaeological traditions immediately adjacent to it. Of the burials known from this period, very few have grave goods and, to my knowledge, nothing has been published on settlements.

The Zhukaigou Tradition

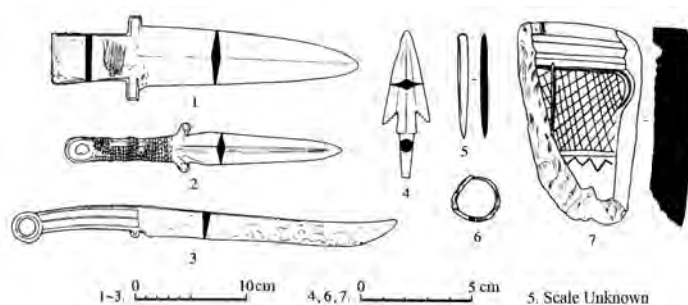
Distributed in the Ordos region of Inner Mongolia, the best-known site of this tradition is Zhukaigou (see Figure 2.1; Neimenggu Zizhiqu Wenwu Kaogu Yanjiusuo, Erduosi Bowuguan [hereafter NZWKY, EB] 2000; ZSKY 2003). Houses have been excavated from many sites of this tradition and fall into semisubterranean and surface types with the majority semisubterranean. Most of the semisubterranean houses are rectangular or square, and most are comprised of a single room, although some have two or even three rooms. The Zhukaigou tradition (Figure

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2.14. Zhukaigou-tradition ceramics (after ZSKY 2003: 580-81, fig. 8-39).

2.14) is said to have developed out of local Longshan traditions while also showing influences from the Erlitou, Jinzhong, and Qijia traditions (ZSKY 2003). Its burial practices are very similar to those of the Qijia tradition (NZWKY, EB 2000; ZSKY 2003), and in the Erlitou period, its bronze artifacts also show similarities with Qijia (Figure 2.15). There is evidence of mortuary differentiation both in terms of tomb size and contents, suggesting at least some degree of social hierarchy.²¹

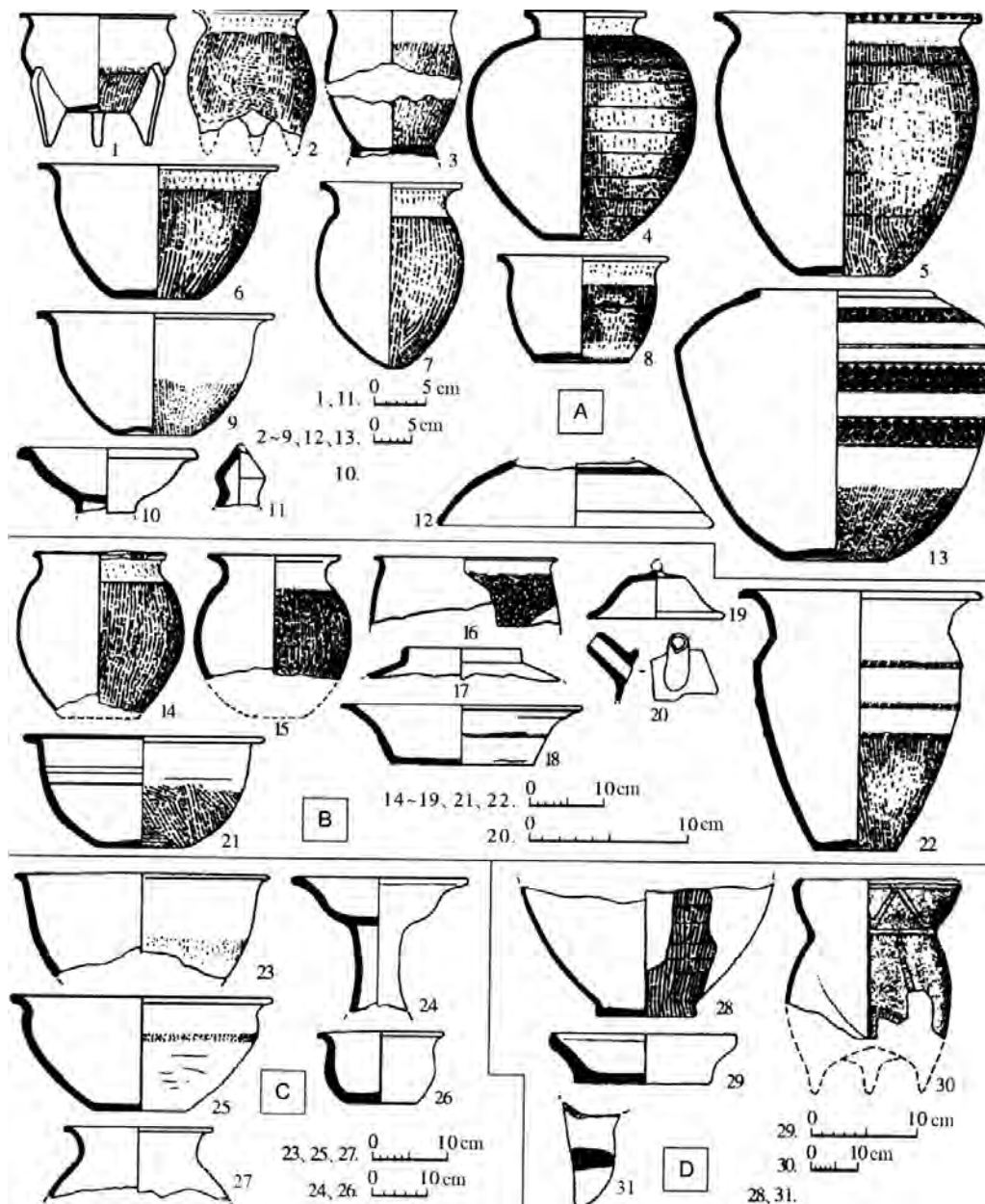


2.15. Zhukaigou bronze artifacts (after ZSKY 2003: 578, fig. 8-38).

Northeast

The Luwangfen-Songyao Tradition

To the northeast of the Erlitou variant and contiguous with it, is the Luwangfen-Songyao tradition²² (see Figure 2.1; hereafter LWF-SY). With the Erlitou tradition, Erlitou variant to the southwest, Dongxiafeng variant to the west, Xiaqiuyan tradition to the north, and Yueshi traditions to the east, the Luwangfen-Songyao tradition (Figure 2.16), not surprisingly, shows influences from all of these traditions, although it is said to have its unique characteristics as well (ZSKY 2003). Deep *guan*-pots are the main cooking vessels, while *li*-tripods are the second most common vessel type. Unlike at Erlitou or Xiaqiuyan, stone knives are more common than stone sickles. No detailed site or settlement data is available, and there is no information on craft production. Only one bronze artifact has been found associated with remains of this tradition: that is, a “rectangular” knife similar to those found



2.16. The Luwangfen-Songyao tradition and “influences” (ZSKY 2003:163, fig. 3-6).

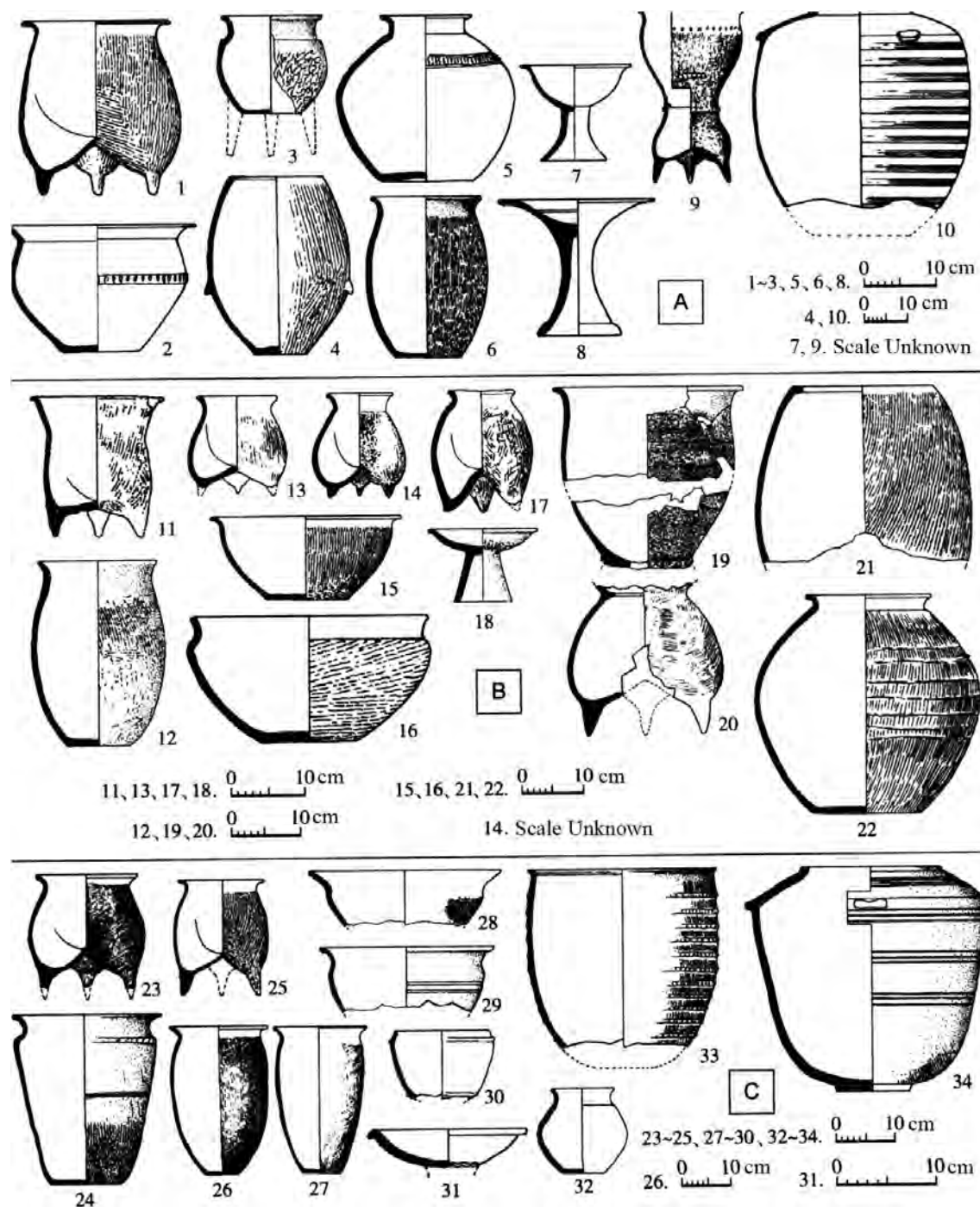
in other areas of northern Henan and southern Shanxi (ZSKY 2003:161). In short, there is not much evidence available about this tradition apart from formal ceramic typology.

The Xiaqiuyan Tradition

Distributed along a strip running from eastern Henan to northern

Hebei (Figure 2.1), the Xiaqiuyan tradition (Figure 2.17) is divided into three variants: the Zhanghe variant, the Yuegezhuang variant, and the Lutaigang variant (ZSKY 2003:152–156). Although the origins of this tradition are debated, most scholars believe its most important influences are the local Longshan Hougang II tradition and the

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2.17. Xiaqiyuan-tradition variants (after ZSKY 2003:153, fig. 3-4).

Central Shanxi Longshan and Erlitou period traditions. This tradition is divided into four periods corresponding roughly to Erlitou I-IV or slightly later.²³

The Zhanghe variant is located in northern Henan and southern Hebei, and is said to be the center of the Xiaqiyuan tradition in terms of geography, as well as in unique features

(ZSKY 2003). Houses of this variant take the form of either subterranean (“cave”-houses or “kiln”-houses) or semisubterranean²⁴ dwellings. In early periods, the main cooking vessels were deep *guan*-pots, which in later periods were replaced by *li*-tripods. Egg-shaped *weng*-urns are also found in Zhanghe-variant assemblages—a vessel type shared with traditions to its west (such as the Zhukaigou and Jinzhong traditions, as well as the Dongxiafeng Erlitou variant). The only bronze artifacts discovered thus far are arrowheads and knives, while the most common form of bone artifact is the *bi*-ladle, a trait shared with the Luwangfen-Songyao tradition to the south.

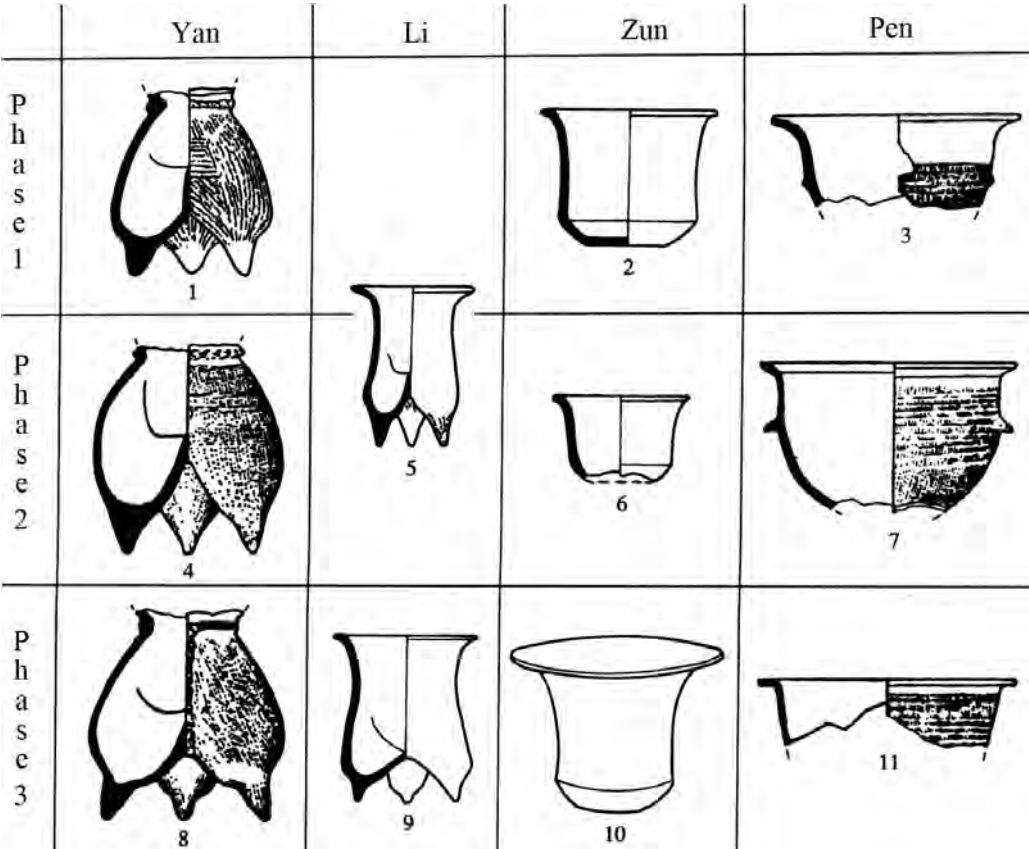
The Yuegezhuang variant is located in Northern Hebei Province. No houses or burials have been found. *Li*-tripods and *yan*-steamers are the most common cooking vessels, and some of the vessel forms are said to show obvious similarities with northern ceramic tradition types, such as Datuotou (which is immediately to the north). Bronze artifacts include knives, earrings, arrowheads, and hairpins. Of these, the knives, earrings, and arrowheads all show northern complex affiliations (ZSKY 2003).

The Lutaigang variant is located in eastern Henan and, so far, has only one verified site.²⁵ The one house that was found at the site dating to this period was a round surface dwelling with “mud” walls. The main cooking vessels were deep *guan*-pots and *li*-tripods, with the former being far more common. Lutaigang is said to have several ceramic

types (such as plain bowl-shaped *dou* and *zun*-shaped vessels), which derive from Yueshi influence. Considering that there are contemporaneous Yueshi sites in the immediate area (see Figure 2.1), this is perhaps not surprising.

In summary, with almost no information concerning anything but formal ceramic typology and a few other aspects of material culture, it is very difficult to say what the Xiaqiyuan tradition represents socially, culturally, politically, or economically. Its variants (like most of the “cultures” described in ZSKY 2003) tend to show influences of traditions nearest them, and although the Xiaqiyuan tradition is said to have more salient common traits than differences between variants, some of this may be due to the presuppositions behind the practice of ceramic typology in China, including the tendency to see ceramic traditions in rigid, bounded terms, and to identify these with different ethnic groups (see Cohen 2001 for a critique). In the case of the Xiaqiyuan tradition, this is particularly acute, as this tradition is generally thought to belong to the predynastic Shang (Zhou 1980). Since the Xiaqiyuan tradition is said to have Erlitou influences, and since Erligang is said to combine both Xiaqiyuan and Erlitou traditions (not to mention the controversies surrounding the fuzzy boundary between early Erligang and late Erlitou traditions), the appellation of “pre-dynastic Shang” to the Xiaqiyuan tradition seems to be based only on rather subtle ceramic typological distinctions and semihistorical geography. Moreover, there is no reason to suppose that this

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2.18. Lower Xiajiadian ceramics (after ZSKY 2003:601, fig. 8-47).

formal ceramic typology delimits a common ethnic or political group even if the pre-Shang dynasts did originate in an area where this ceramic tradition predominated.

The Lower Xiajiadian Tradition
Located in present-day Liaoning Province and Inner Mongolia, the Lower Xiajiadian is best known from sites, such as Chifeng Xiajiadian (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Neimenggu Gongzuodui [hereafter ZSKYNG] 1961, 1974) and Aohan banner Dadianzi (ZSKY 1996) (see Figure 2.1). Lower Xiajiadian-tradition sites feature some unique characteristics, such as densely clustered,²⁶ stonewalled

settlements on hilltops and ridges overlooking rivers (ZSKY 2003).²⁷ These settlements frequently made use of natural defenses in addition to walls, suggesting, perhaps, a prevalence of inter-community conflict in this area. While the authors of ZSKY (2003) feel that the Lower Xiajiadian-tradition societies arose through a mixing of Central Plains and Xiaoheyuan cultures, others believe the Xiajiadian tradition (Figure 2.18) directly developed out of the indigenous Xiaoheyuan culture (which in turn evolved out of a branch of Hongshan culture). Settlements are said to show three levels of hierarchy, and Xiajiadian social structure is hierarchical (ZSKY 2003; Shelach

1994, 1996, 1999). Grave goods include ceramics, jade, bone, stone, and bronze artifacts, as well as cowrie shells (ZSKY 1996; Flad 2002). At the Dadianzi cemetery, 13 of the approximately 600 adult graves contained ceramic *jue*, *he*, or *gui* wine vessels similar to types found at Erlitou (Figure 2.19). This has been interpreted (ZSKY 2003; Thorp 2006) as evidence for direct and powerful influence from Erlitou. However, while the presence of vessels typical of elite Erlitou mortuary ritual in 2 percent of the burials is interesting, the overall picture of mortuary practice, bronze industry, ceramic tradition, and built environment is radically different from that of Erlitou, suggesting instead an independent center of social complexity with relatively minor and indirect interaction with Erlitou traditions (Shelach 1999).²⁸

The Datuotou Tradition/Variant

Located across northern Henan and southwest Liaoning Province (see Figure 2.1), this tradition (Figure 2.20) shows many similarities with Lower Xiajiadian such that many scholars feel it is a regional variant of the Xiajiadian tradition. The authors of ZSKY (2003), while noting a close relationship with the Lower Xiajiadian tradition, feel there are also significant differences and that Datuotou should be treated as a different “culture.” Nevertheless, it shares a tradition of polychrome painted pottery, the location of sites on ridges and hilltops, and similar assemblages of burial ceramics. Datuotou sites have also produced bronze artifacts of northern complex type, including ring-pommel knives,



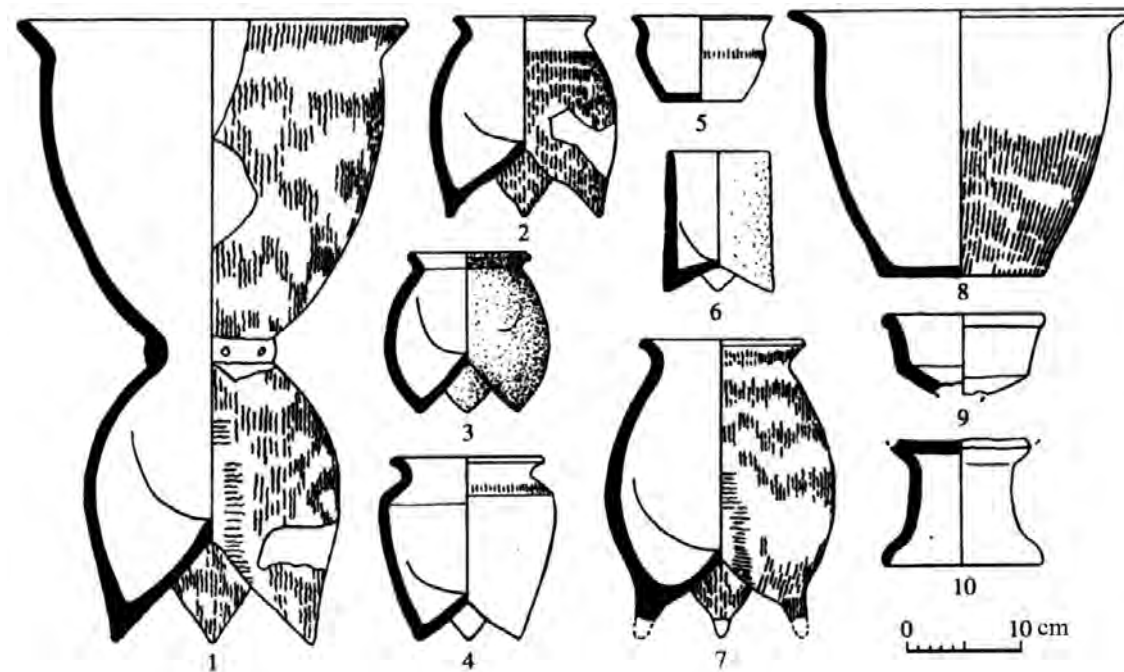
2.19. Ceramics from Dadianzi Tomb 726 (after ZSKY 2003:599, fig. 8-46).

trumpet-shaped earrings, and bronze rings.

The East

The Yueshi Tradition

To the east of the Erlitou and Xiaqiyan traditions and located in Shandong, eastern Henan, and in northern Jiangsu Province is the Yueshi tradition. The Yueshi tradition is divided into five regional variants (ZSKY 2003):²⁹ Zhaogezhuang (Figure 2.21a), Haojiazhuang (Figure 2.21b), Yinjiacheng, Anqiugudui (Figure 2.22c), and Wanbei (Figure 2.22d) and



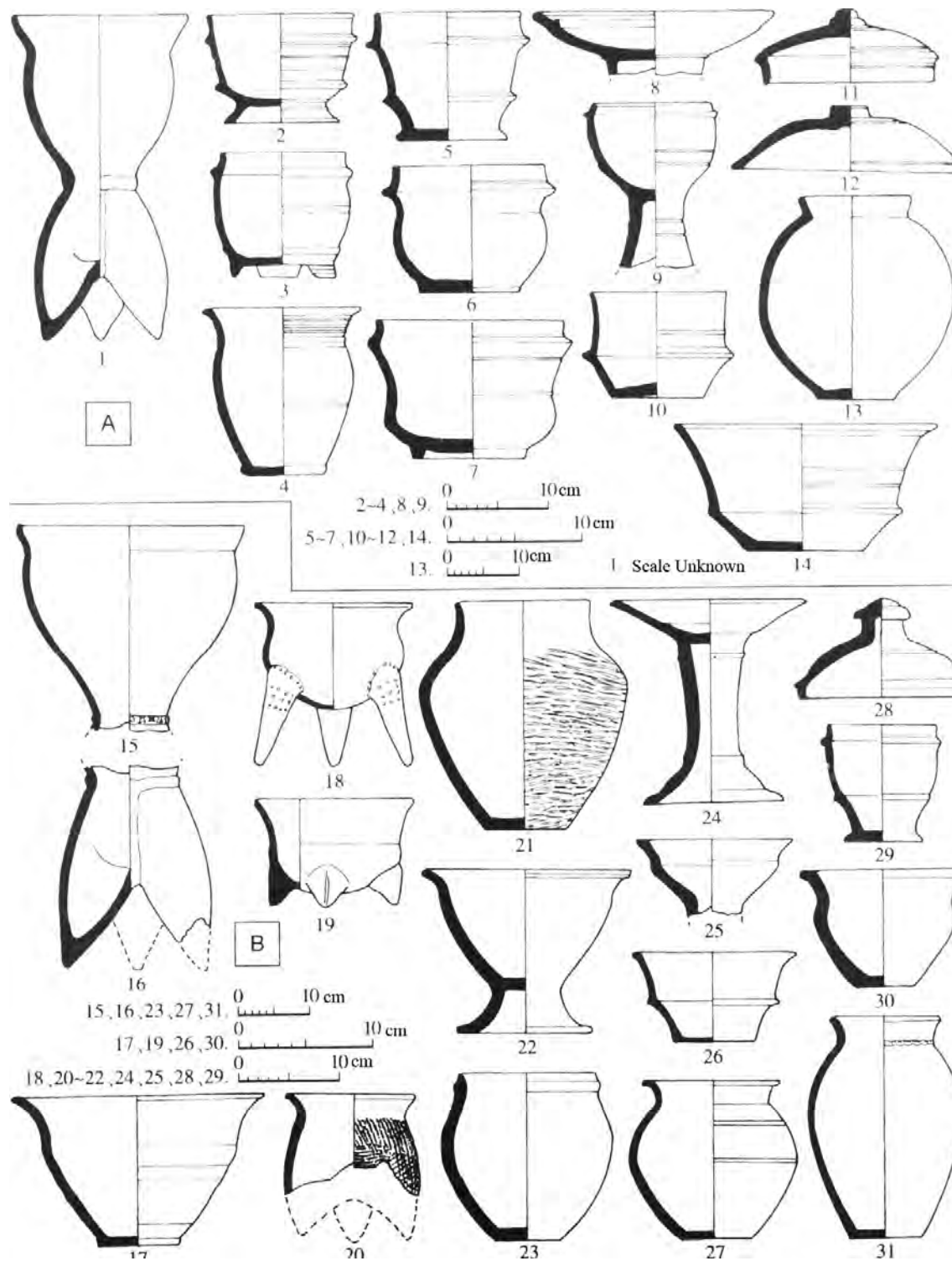
2.20. *Datuotou-tradition ceramics (after ZSKY 2003:607, 8-48).*

is generally thought to have developed out of Shandong Longshan traditions in interaction with neighboring traditions.³⁰ Yueshi-tradition material culture is said to show very obvious and unique characteristics, such as using planks and bundled rods in making rammed-earth structures, a prevalence of plain or polished ceramics, *jue*-hoes, and half-moon-shaped stone knives (ZSKY 2003).

The Zhaogezhuang variant is distributed across the east end of the Shandong peninsula, on islands off the coast, and in the southern part of the Liaodong peninsula (see Figure 2.1). Very little data on tombs or houses is available for this tradition, with almost all such information coming from the Dakou site on Tuoji island, off the north coast of Shandong (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo,

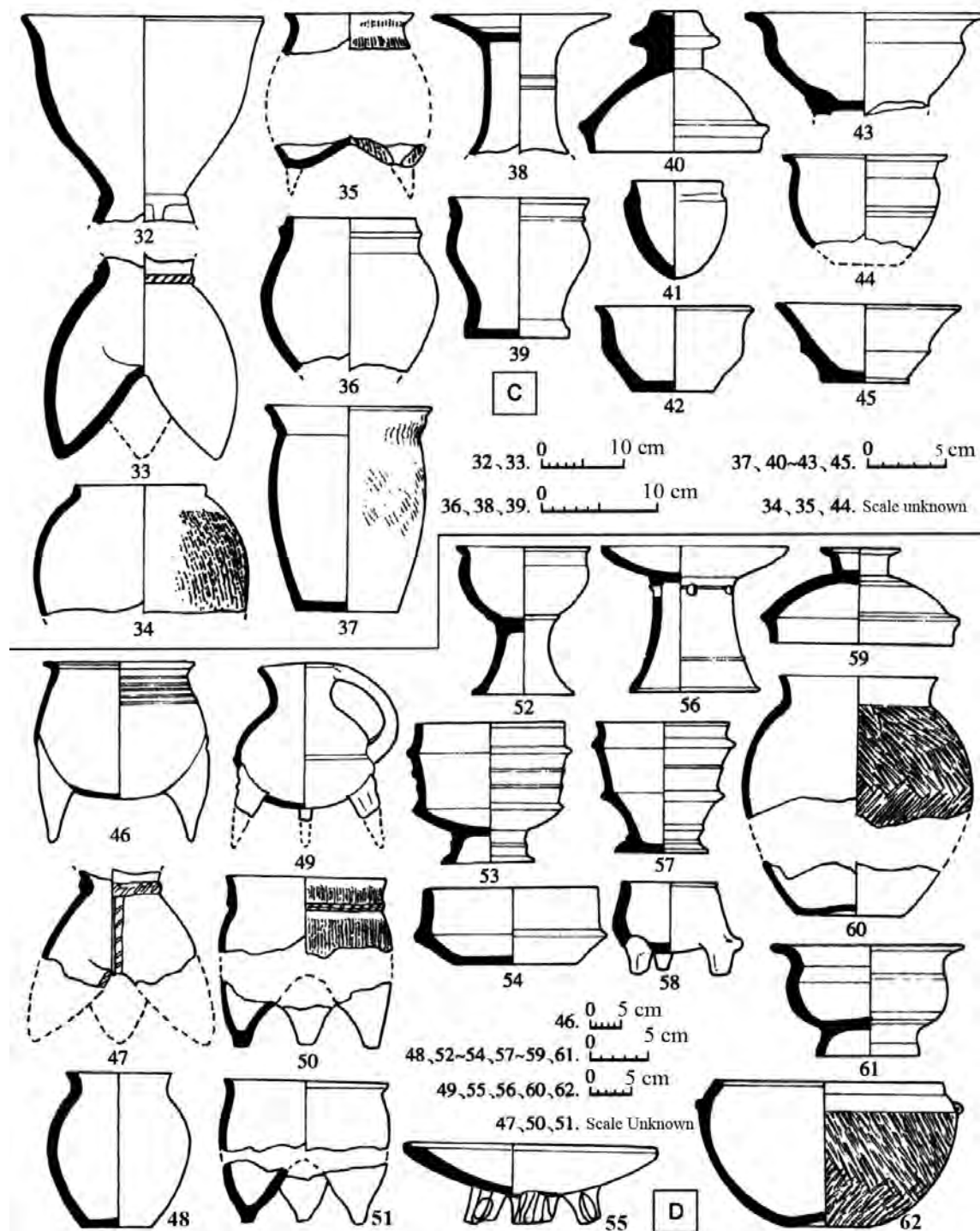
Shandong Gongzuodui [hereafter ZSKY, SG] 1985). The houses at Dakou were semisubterranean and rectangular with rounded corners and white ash spread over the floor. Most tools and weapons were made of stone and bone, and few artifacts of bronze have been found. The graves found at Dakou were small, rectangular, and uniformly lacking in grave furniture or goods. The main cooking vessels were *yan*-steamers and deep *guan*-pots. The use of mica or talc for temper is a feature of this variant.

The Haojiazhuang variant is distributed north of the Taiyi Mountains. The houses are mainly rectangular surfacedwellingswithfiredfloors. Several sites of this variant are surrounded by rammed-earth walls,³¹ and some, such as Chengziya, are fairly large (17 ha; ZSKY 2003). A few of the rough-temperedvesselsaretemperedwithmica



2.21. Yueshi-tradition variant ceramics (after ZSKY 2003:450, fig. 8-2, A-B).

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2.22. Yueshi-tradition variant ceramics (after ZSKY 2003:451, fig. 8-2, C-D).

or talc, and black ceramics are relatively frequent. Most vessels are undecorated, and *yan*-steamers and deep *guan*-pots

are common. Multiedged stone hoes are common, as are half-moon-shaped stone knives and single-edged adzes

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(ZSKY 2003).

The Yinjiacheng variant is distributed from the southern flanks of the Taiyi Mountains to the northern edge of Jiangsu Province (Figure 2.1). The houses discovered thus far are rectangular, above ground, and generally have rammed-earth floors. Some houses were built on rammed-earth foundations. Bronze arrowheads, knives, chisels, and awls occur relatively frequently, although the majority of tools are made of stone, and the most common weapon types are stone axes and bone arrowheads. The most common stone tools are half-moon-shaped knives, rectangular single-edged spades, and hoes. A high frequency of shell tools is a feature of this variant. Most of the ceramics are undecorated. *Ding*-cauldrons, *yan*-steamers, and deep *guan*-pots are common.

The Anqiugudui variant is distributed across western Shandong and northeastern Henan. The houses of this variant are mostly surface dwellings, sometimes with fragments of fired clay used to strengthen their foundations. Only a few small bronze weapons and tools have been found, and most tools are made of shell. The most common tools of this variant are single-edged stone shovels, half-moon-shaped stone knives, shell shovels, and shell knives. Fine-paste ceramics are said to be more common than rough-paste ceramics. Most pottery is undecorated, but rope-marked pottery becomes increasingly common, eventually accounting for around one-quarter of all ceramics by the end of the Erlitou period (ZSKY 2003). *Yan*-steamers, *ding*-cauldrons, and deep *guan* are common vessel types of this

variant. This Yueshi variant is said to show Erlitou-, Xiaqiyuan-, and Doujitai-tradition influences, perhaps not surprisingly, given that these traditions are contiguous.

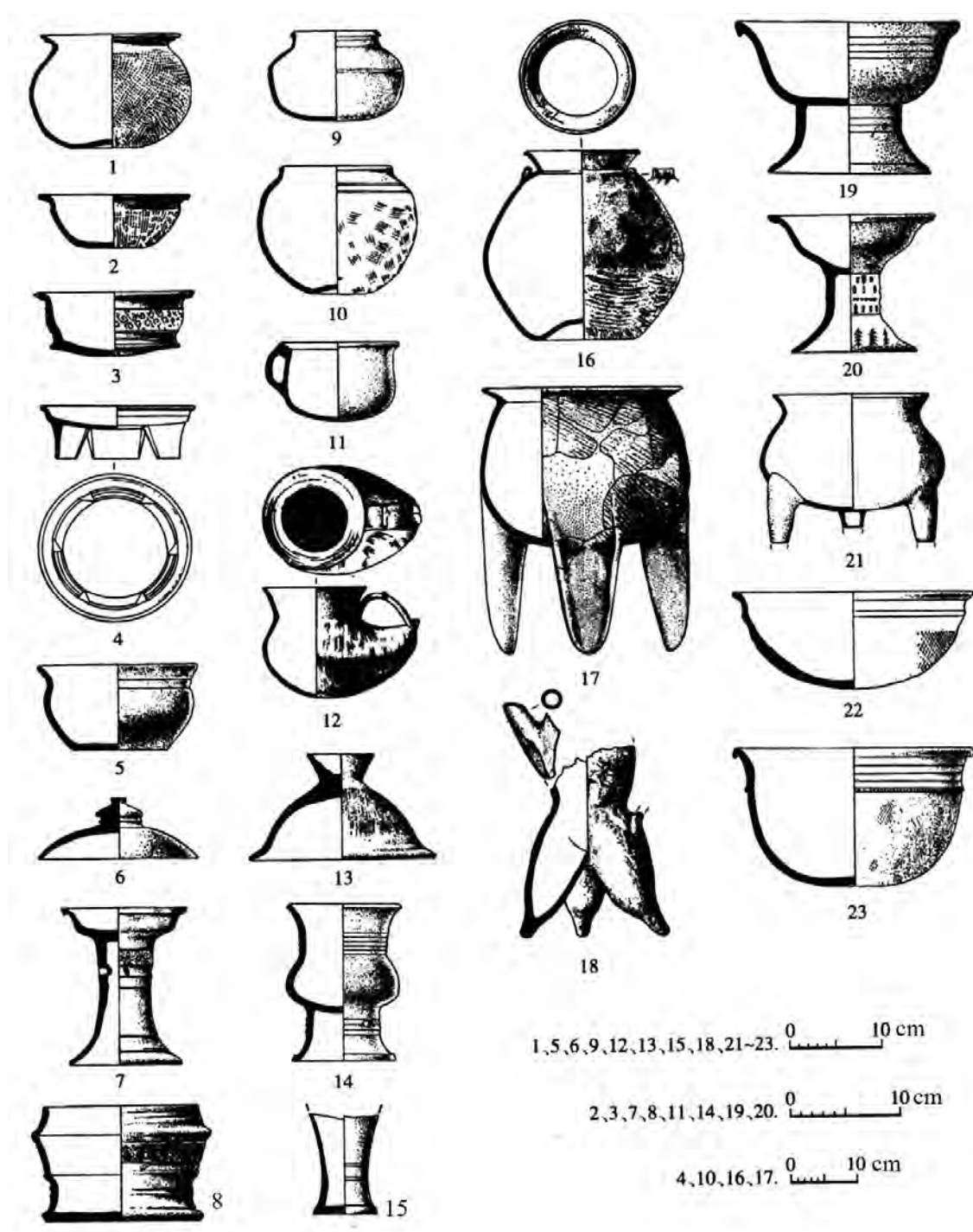
The Wanbei variant is distributed in Jiangsu Province north of the Yangzi (Figure 2.1). The site with the most abundant material is the Gaoyou Zhoubei site (southernmost on map). Stone tools include axes, knives, adzes, arrowheads, and pendant-shaped artifacts. Coarse-tempered ceramics are more common than fine tempered, and some stamped stoneware occurs. The majority of the ceramics are undecorated gray ware. The most common cooking vessel types are *ding*-cauldrons, *yan*-steamers, and *li*-tripods. Beyond ceramics and tool types, however, very little information is available for this variant.

The Southeast

The Doujitai Tradition

This tradition is located between the Huai and Yangzi rivers in Anhui Province (Figure 2.1). Most of the ceramics of this tradition are coarse-tempered black-gray ware or coarse-tempered brown ware. Most vessels are plain, but basket-marked and cord-marked decoration is also relatively common. The main cooking vessels of this tradition are *ding*-cauldrons and deep *guan*-pots. Although this tradition is said to show mostly indigenous ceramic-tradition influences, Doujitai also shows influences from all of its contemporary neighbors, including Erlitou, Yueshi, and lower Dianjiangtai (ZSKY 2003).

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2.23. Maqiao-tradition ceramics (after ZSKY 2003:465, fig. 8-5).

The Lower Dianjiangtai Tradition

Located in the Nanjing and Zhenjiang regions of Jiangsu and Anhui Provinces respectively (Figure 2.1), this tradition

predates the Hushu tradition in the area, and probably does not last until the end of the Erlitou period.³² No bronze artifacts have been found in the few sites of this tradition that have been

excavated. The ceramics are said to show both Liangzhu- and Longshan-tradition-derived characteristics. According to the ZSKY (2003), 38 percent of the ceramics are coarse-tempered red ware, 24 percent coarse-tempered gray ware, and 23 percent fine-tempered black ware. *Ding*-shaped *yan*-steamers are the main cooking vessels, with *ding*-cauldrons also appearing. However, unlike the following Hushu tradition, there are no *li*-tripods. There is also no stamped stonewear or protoporcelain, although there are some thin-walled black polished ceramics. No information concerning settlement structure or hierarchy, mortuary customs, or residences is available for this tradition.

The Maqiao Tradition

The Maqiao tradition (Figure 2.23) is located in the general area around Lake Tai (see Figure 2.1) and is said to have evolved out of Liangzhu culture under early Hushu, Yueshi, and Erlitou cultural influences (ZSKY 2003). The type site of Maqiao is a relatively large (10 ha) residential site, but it and all other known sites of this tradition have been badly disturbed by later activities, and little can be said about settlement layout or architecture.

Relatively few burials are known, and these are generally pit burials. There are some cases in which remains show evidence of having been bound hand and foot before interment, as well as some secondary burial of children's remains. Three-quarters of the ceramics are fine-tempered vessels with colors ranging from orange-red to black, while the remainder are coarse-pasted,

orange-red or red-brown and are mainly cooking vessels, such as *ding*-cauldrons and *yan*-steamers. The main cooking vessels for this tradition are *ding*-cauldrons, *yan*-steamers, and *fu*-pots. Fine-tempered black *dou* and *gui*³³ are among the most finely made ceramics in the Maqiao repertoire. Stone artifacts include *fu*-axes, adzes, chisels, knives, *yue*-axes, dagger-axes, spears, and arrowheads. Bronze artifacts generally seem to consist of small tools, such as chisels and knives, but larger bronze weapons resembling Maqiao stone weapon types have also been found in the general Maqiao tradition area, though not securely associated with archaeological deposits (ZSKY 2003).

The South

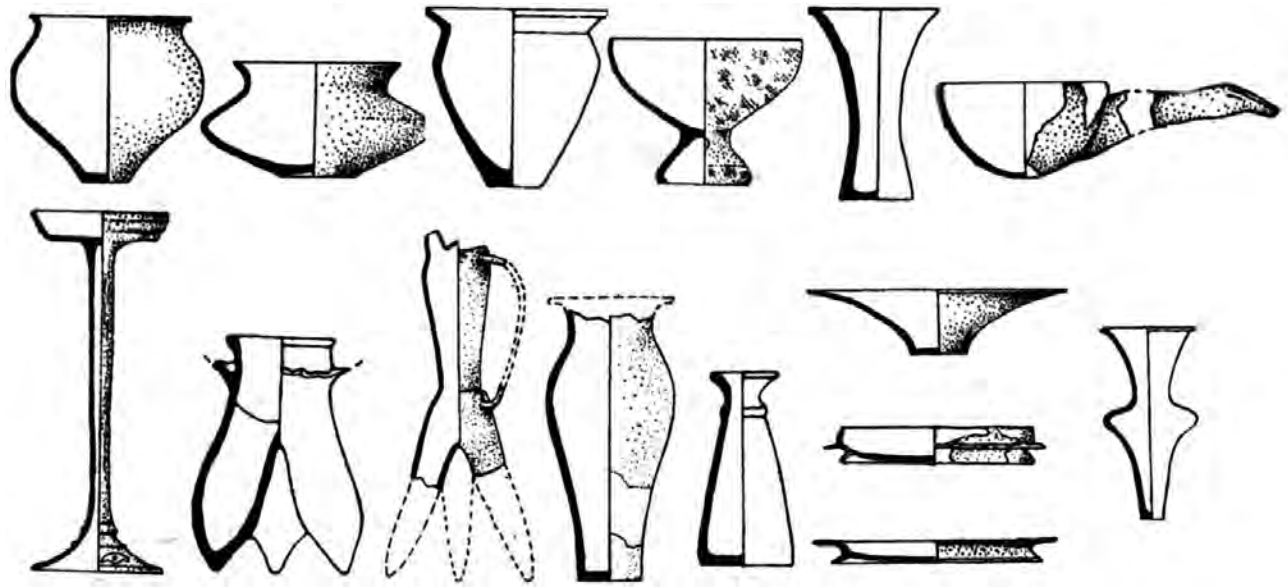
The Middle Reaches of the Yangzi
In present-day Hubei Province, sites such as Panlongcheng, Jingnansi, and Baimiaozhu (Figure 2.1) are all said to have Erlitou or Late Erlitou–Early Erligang-type ceramics (ZSKY 2003). Nevertheless, important Erlitou vessel types, such as deep or round-bellied *guan*-pots, are missing from the assemblages, and other types show marked local characteristics. Thus, although there seems to be some kind of interaction between the Middle Yangzi and Central Plains regions during this time, it is far from clear what social, political, and cultural practices might lie behind these ceramic “influences.”³⁴

The Southwest

The Sanxingdui Tradition

The Sanxingdui tradition was widely

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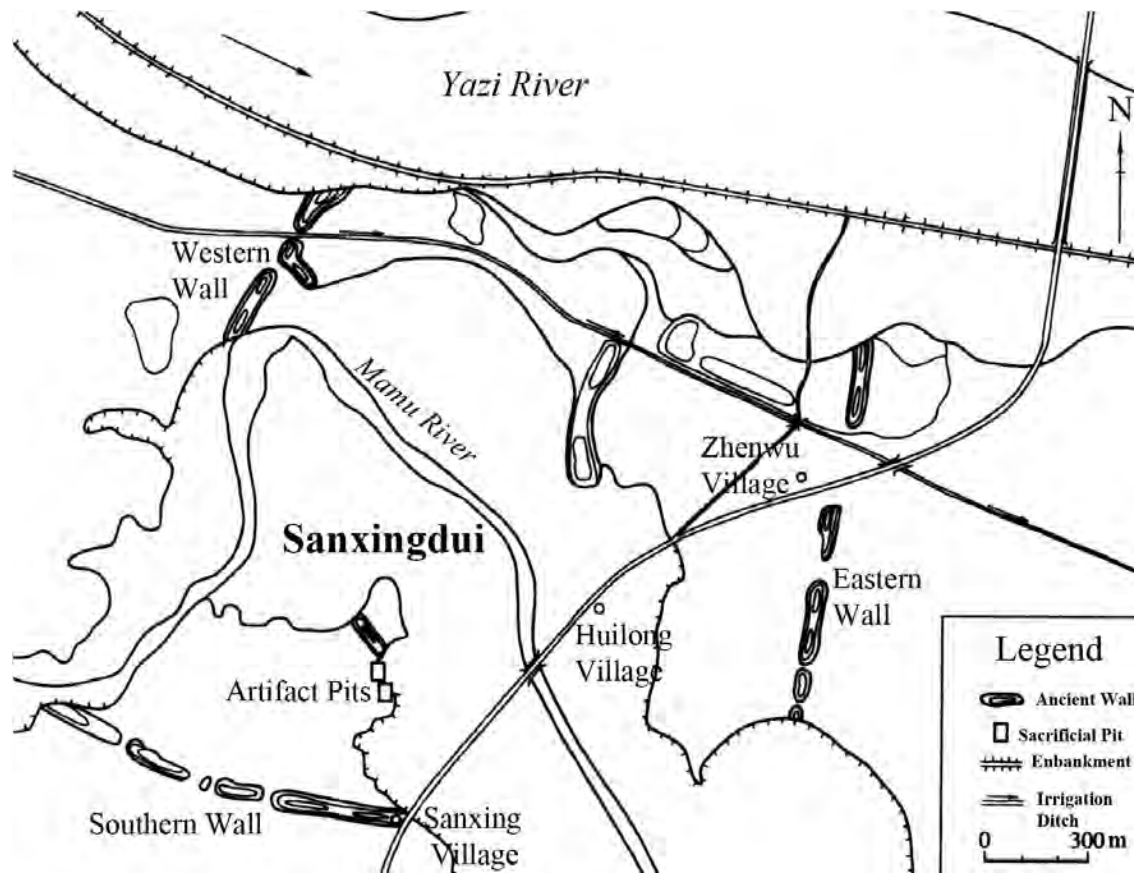


2.24. Sanxingdui Erlitou-period ceramics (after ZSKY 2003:502, 503, fig. 8-17).

distributed in the Sichuan basin (Figure 2.1), developing out of the earlier Baodun tradition (Flad and Chen 2013; Xu 2008; ZSKY 2003). The Sanxingdui tradition (Figure 2.24) is divided into six phases by the ZSKY (2003) and into four by Sun (2000) and Xu (2008). According to *The Xia and Shang*, phase I, and possibly part of phase II of the Sanxingdui site, date to the “Late Erlitou” period (ZSKY 2003:506). On the other hand, it is currently believed (Flad and Chen 2013; Xu 2008; Sun 2000) that the first phase of the Sanxingdui site belongs to the Baodun period. Flad and Chen (2013) provide dates of 2700–1700 BCE for the Baodun culture and 1700–1150 BCE for the Sanxingdui culture, while Xu (2008) estimates Sanxingdui phase I to be from the early third millennium to 2000 BCE and the Sanxingdui tradition to extend over the entire second millennium BCE. Interestingly, both estimates are based on published radiocarbon dates and demonstrate the uncertainties

that continue to surround the absolute dating of Sanxingdui. At present, it appears that the Sanxingdui tradition and the huge walled site of Sanxingdui at least partially overlap with Erlitou. Moreover, during the late Baodun period (the first centuries of the second millennium BCE), either predating or contemporaneous with the early Erlitou period, the Chengdu plain was dotted with a number of walled sites, some of them, like Baodun, of prodigious size (220 ha; Flad and Chen 2013). Thus, the rise of complex societies and urban centers in the Sichuan basin seems to be yet another example of local process within larger webs of interaction (see below) and to be rooted in local third millennium BCE developments, not, as some have argued (see ZSKY 2003), merely the result of early Central Plains Bronze Age migrations or conquest.

For the early part of the Sanxingdui tradition, the major site appears to be



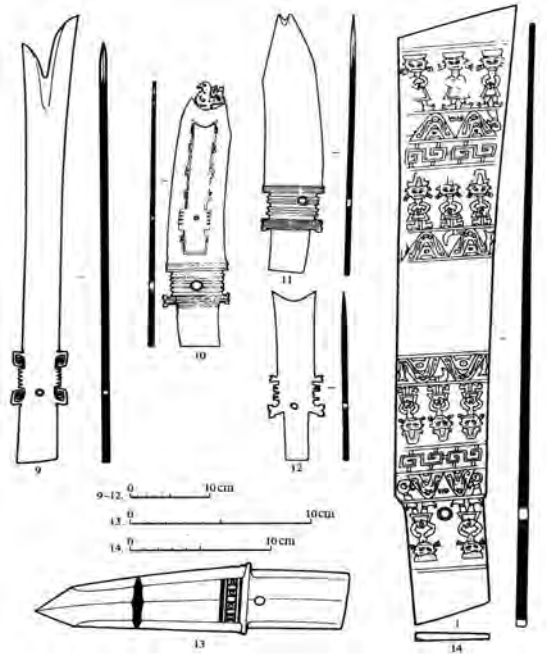
2.25. Sanxingdui site (after ZSKY 2003:494, fig. 8-15).

Sanxingdui. Surveys have suggested that the Sanxingdui covers 12 km², with walls surrounding an area of 3.6 km² (ZSKY 2003:494; Xu 2008). It is unclear at present, however, what part of the Sanxingdui site (Figure 2.25) dates to which phase, and no precise chronology of most of the other sites of this tradition currently exists³⁵ (see Xu 2008). While some of the walls are said to date from the early period of this site (phase II), others apparently date from the Anyang/Early Western Zhou period.³⁶ At present, the size of Sanxingdui during the various phases of this tradition is unknown. The houses of the Sanxingdui tradition are generally rectangular or square, wood-

framed surface dwellings, 10–25 m² in surface area (ZSKY 2003; Xu 2001a), continuing Baodun building traditions (Flad and Chen 2013). Sanxingdui's walls appear to continue a tradition of building begun in the preceding Baodun period, one that was, perhaps, borrowed from, or influenced by, the Middle Yangzi Shijiahe tradition (Xu 2001a; Faulkenhausen 2006).

Sanxingdui is famous for its “artifact pits,” widely thought to be ritual remains (Xu 2001a; So 2001). The most famous are the Anyang or Xiaoshuangqiao-Huanbei-period artifact pits 1 and 2, with their giant bronze masks, statues, and other artifact types unseen in the

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2.26. Jade blades from Sanxingdui (after ZSKY 2003:500, fig. 8-16).

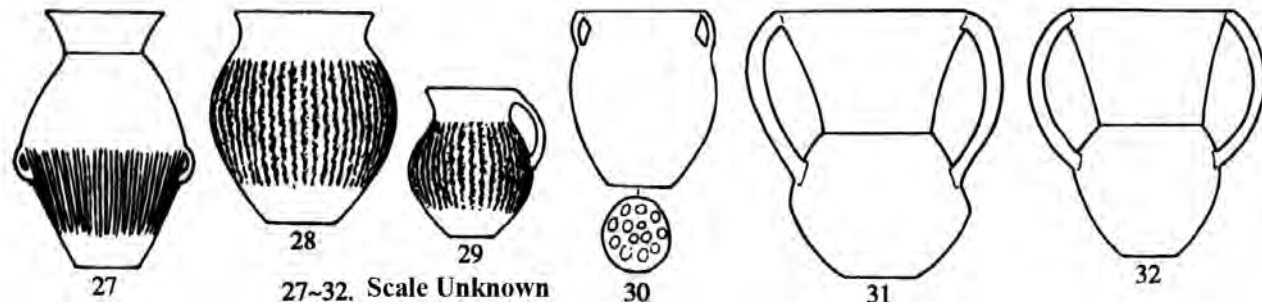
Central Plains (Xu 2001b, 2006, 2008; Ge and Linduff 1990; Bagley 1999; Rawson 1996; Falkenhausen 2006; etc.). Five other artifact pits have been found at Sanxingdui, and three more at other sites, all apparently dating to the late phases of this tradition.³⁷ Other than the two famous Anyang-period pits, which contained a large variety of artifacts, including stone, bone, bronze, ivory, and ceramics, the other pits appear to have contained mostly jade or stone artifacts (So 2001; ZSKY 2003). If these are, in fact, ritual remains, they appear to be of a type different from the sacrificial pits found in the Central Plains, suggesting different practices (Bagley 1999; Xu 2001b; So 2001; Falkenhausen 2003).

Sanxingdui-tradition ceramics (Figure 2.24) are said to show Erlitou-ceramic-tradition (Figure 2.7) influences, such

as the presence and form of *he*- and *gu*-vessels (ZSKY 2003). Nevertheless, the Sanxingdui tradition favors a tall, slender *he*-type unlike the short, squat Erlitou *he*.³⁸ Interestingly, these are both vessel types associated with drinking and associated with higher-status burial contexts at Erlitou.³⁹ Indeed, throughout the period of the Sanxingdui tradition, Central Plains influences generally take the form of ritual or status artifacts rather than those of daily use. Sanxingdui ceramics also show similarities to the late third-, early second - millennium BCE Shijiahe tradition of the Middle-Yangzi (Xu 2008). And it is possible that the Sanxingdui *he*- and *gu*-prototypes came from this direction.

Sanxingdui ceramics were generally handmade in the early periods with wheel-made ceramics becoming more common in later periods. Most of the early ceramics are undecorated and coarse-tempered. Characteristic vessel types of this tradition include the above-mentioned slender *he*, tall-stemmed *dou*, *yan*-shaped vessels, *ping*-vases, and bird-headed ladles. Flat-bottomed *guan*-pots and flat-bottomed *pan*-dishes are also common vessel types.⁴⁰

Although there is not much information concerning stone, bone, or other artifact types in the early period, two turquoise inlaid bronze plaques were found in a late-phase artifact pit in 1988 (Sichuansheng Wenwu Kaogu Yanjiusuo [hereafter SWKY]1999) that are similar to those found at Erlitou and some Qijia sites. Jade and stone *zhang*-blades (Figure 2.26) are also prevalent



2.27. Qilidun-variant ceramics (after ZSKY 2003:542, fig. 8-27).

in Anyang-period Sanxingdui artifact pits despite their relative scarcity in the Central Plains after the Erlitou period. Given these facts, it seems likely that Erlitou-period Sanxingdui had similar artifacts. Indeed, the forked *zhang*-blades that appear so prominently at Sanxingdui were also found in numbers in the late third-, early second-millennium BCE site of Shimao, Shenmu, in northern Shaanxi (So 2001; Wang and Sun 2011)—a site that recent survey has revealed to be enormous (400+ ha) and enclosed by a stone wall (Xinhua 2012). Lithic manufacture techniques and the styles of some jade and stone artifacts suggest possible Qijia (see below) influences as well (So 2001). At the same time, some authors (Falkenhausen 2003; Xu 2008) argue on stylistic grounds that Sanxingdui jade and bronze designs share many similarities with those found on Shijiahe artifacts. Not surprisingly, the directions of interaction accord well with the routes into the Sichuan basin: from the northwest of the Chengdu plain, the Hanzhong region, and along the Yangzi through the Three Gorges (Xu 2008; Falkenhausen 2003).

In summary, while the early stages of the Sanxingdui tradition are somewhat murky, the emerging picture seems to be one of a local development of social complexity resulting in an urban site that rivaled Erlitou in size by perhaps the eighteenth century BCE. Nevertheless, the Shijiahe, Qijia, and Erlitou (and perhaps Shimao) influences suggested by the material culture discovered at Sanxingdui testify to its (and earlier Baodun centers) inclusion in, as yet unclear, webs of interaction between large centers and culture areas.

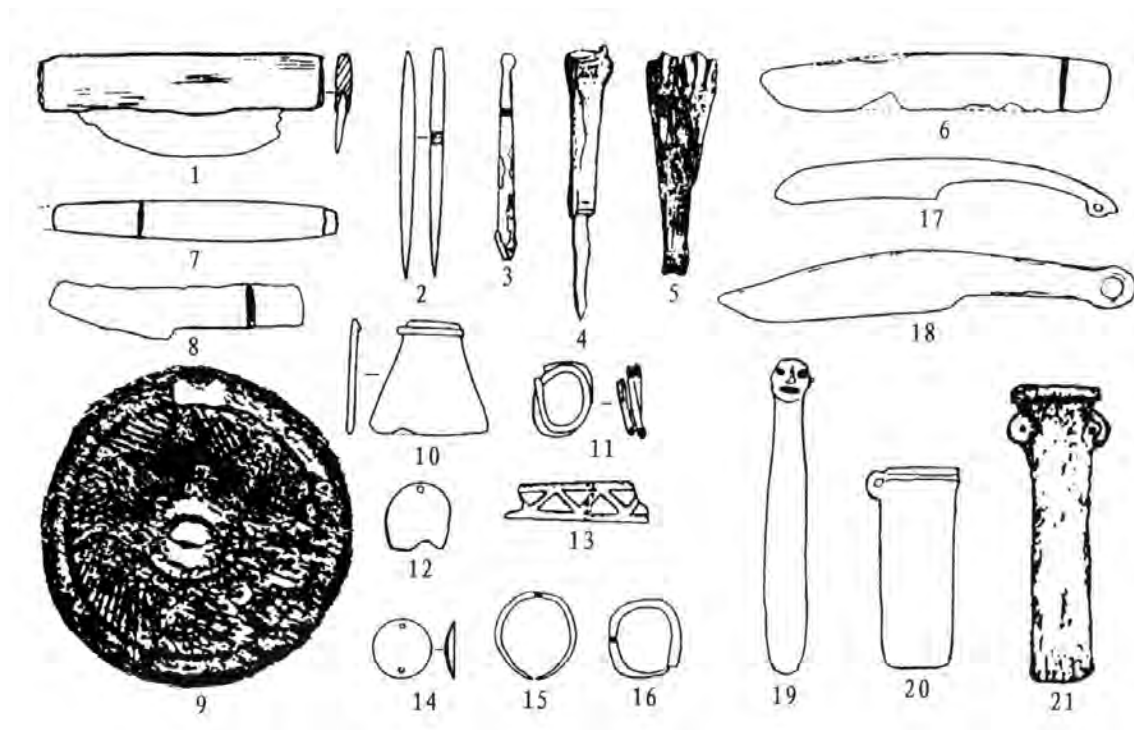
The West

Although there are Erlitou tradition-, Erlitou-variant sites on the eastern edge of Shaanxi Province (Figure 2.1), the situation in the rest of Shaanxi is unclear for this period (ZSKY 2003).

The Qijia Tradition

The Qijia tradition is distributed to the west of Erlitou, extending from western Shaanxi Province through Gansu Province to eastern Qinghai (Figure 2.1). This tradition is divided into several regional variants, and sites of this tradition are located in a great variety

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2.28. Qijia bronze artifacts (after Li 2005:241, fig. 1).

of environments (ZSKY 2003). The Qijia tradition lasted from ca. 2200 to 1500 BCE. This means that only the latter part of the Qijia tradition overlapped with the Erlitou period. The ZSKY (2003) divides the tradition into five variants, only two of which are shown in the western edge of Figure 2.1,⁴¹ namely the Shizhaocun and Qilidun variants. However, of the two, only Qilidun (Figure 2.27), being later, may have dated to Erlitou times. Settlements of this tradition are usually found on river terraces close to the water. Settlement size varies from 12.5 ha to less than 1 ha, with an average of 5–7 ha. The structure of Qijia settlements is also highly variable. Most houses are semisubterranean or surface dwellings and have a hard and smooth white ash layer on the living surface.⁴² Subsistence appears to have been based

on agriculture, although assessment has been determined largely on the analysis of tool types (sickles, mortars and pestles, etc.). Animal husbandry was also part of the subsistence economy, and pig, sheep, horse, donkey, cattle, and dog remains have all been found, though pig remains are the most common. Qijia pottery was mostly hand-built, although molds were used in some cases, as well as the slow wheel. Characteristic vessel forms of the Qilidun variant include high-necked, double-eared *guan*-pots and double large-eared *guan*-pots. The jade- and stone-artifact industry was also well developed, and unadorned, smooth, polished disks and tubes of various sizes are characteristic. Scapulamancy was widespread, usually using sheep scapulae, although less commonly cattle and deer were also

used. Burials are generally grouped and ordered in rows, and Qijia tombs vary in size and richness. Most tombs consist of rectangular shafts, and coffins made of a single log are common, although coffins built of planks appear as well. Grave goods are most commonly ceramics. There are both single and paired burials, although the sex combinations vary, and some of these are secondary burials. Nevertheless, some of the multiple burials are interpreted as evidence of death attendants.

One of the most interesting aspects of the Qijia tradition is its relatively advanced bronze metallurgy and its possible role in cultural and technological exchange between the Central Plains and the bronze traditions of southern Siberia and Central Asia (Fitzgerald-Huber 1995, 2003; Bagley 1999; Li 2005).⁴³ The Qijia bronze artifact assemblage (Figure 2.28) consists of weapons, tools, and ornaments, including ring-pommel knives, bronze mirrors, rings, and earrings showing affinity with Central Asian and southern Siberian traditions. In terms of affinities and influences, the Zhukaigou tradition is said to share some common features with the Qijia in terms of ceramics, metallurgy, and burial traditions (ZSKY 2003). In addition, Erlitou-type artifacts, such as a turquoise-inlaid animal face plaque and closed-mouth *he*-vessels (Li 2005) have been found in Qijia sites, although given the earlier date of the Qijia tradition, we should take seriously the possibility that turquoise inlaying was originally a Qijia tradition (see also Zhang 2012).

Conclusion

The Erlitou period is generally considered to be the beginning of the Chinese Bronze Age. For some scholars it is also the period of the first Chinese state, centered at the large (300 ha) Erlitou site, and, perhaps not unrelated, for many (especially Chinese) scholars, Erlitou can unambiguously be equated with the first dynasty of traditional Chinese records: the Xia. Archaeologically, the Erlitou period is characterized by numerous overlapping regional ceramic, stone, metallurgical, and other traditions.

The Erlitou period might be called the beginning of a horizon insofar as it marks the beginning of the expansion of an interconnected complex of traditions, practices, and styles of widespread dispersal (Willey and Phillips 1958). The problem, however, with dividing up Chinese prehistory into horizons and intermediate periods (modeled on Peruvian archaeology) is the fact that in broad material cultural terms, the trend from the Longshan to at least the Qin is one of increasingly intensified interaction over larger and larger areas, with much evidence of change but none of collapse. Upon making finer culture-historical divisions into particular traditions, the Erlitou period, though evidence is still quite fragmentary, reveals a landscape of multiple overlapping networks of material cultural interaction.

The elite crafts of this period can be divided into some traditions that seem to have been innovated at a number

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of sites and others, such as the jade industry, which were inherited from earlier times and further developed (You 2002). In general, elite traditions that appear to have been innovated at Erlitou, such as bronze-vessel casting and monumental courtyard-style architecture show a distribution limited to the site of Erlitou itself until the end of the period, when they spread to other elite centers like Yanshi and Zhengzhou. On the other hand, either bronze plaques were exchanged, or the tradition of their manufacture was shared, between Qijia sites in Gansu (Li 2005) and Sanxingdui in Sichuan. The Erlitou jade tradition, moreover, emerged from preceding Longshan traditions, and Erlitou jades correspondingly show more affinities to jades found in other places (especially such jade blades as those found at earlier Shimao and in even greater numbers later in Sichuan).⁴⁴ Ceramic drinking vessels associated with higher-stratum Erlitou burials also have a relatively wide distribution yet also have fairly widespread Neolithic antecedents (Underhill 2002). The presence of Erlitou-type drinking vessels in Gansu, Liaoning, and Sichuan suggests a wide-ranging elite material cultural horizon (and perhaps elite interaction), but not, despite some claims in the literature, a monocentered one and, even less, a politically centralized one. Indeed, given the widespread third-millennium distribution of drinking vessels and their varied assemblages at different sites, a more obvious conclusion might be that Erlitou was one (major) player in a broad complex of more or less interrelated drinking and ritual

practices that developed out of earlier antecedents.

The present state of archaeological information makes it extremely difficult to do more than speculate about the social practices, attitudes, and networks of exchange that produced the everyday ceramics which are the basis for defining ceramic traditions. Nevertheless, on present evidence, it appears that kilns were common features of residential sites, kiln sizes were small, and much of the everyday ceramics were probably locally made. If this is indeed the case, then large-scale distribution networks can be discounted as a major factor in producing similarities in everyday ceramics over large areas, except, perhaps, in the case of elite ceramics such as protoporcelains. In other words, the Erlitou expansion (considered in ceramic terms) ought to have had something to do with the movement of people. At the same time, variants of the Erlitou tradition retain local characteristics, and similarity to Erlitou tends to fall away with distance from the center. To the extent this is correct, it suggests, rather than population replacement, an increased interaction within a sphere centered on Erlitou decreasing in intensity with distance. The social processes that produced these effects may have included marriages, economic exchange, military alliance, conquest, colonization, or combinations of the above. At the same time, ceramic traditions and their variants tend to show associations with their neighbors in all directions, and, in general, ceramic tradition boundaries appear to be soft,⁴⁵ suggesting that the

Chapter 2

social interaction mirrored in ceramic traditions was probably local in scale and multidirectional. Although data from burials, houses, and lithic industries are fragmentary at best, regional traditions appear to hold sway⁴⁶—not always coextensive with ceramic traditions—and seem to have even less to do with putative political entities. An even larger material cultural distribution sphere can be seen with the Northern Complex bronze tradition, its mirrors, knives, axes, and earrings showing up from Liaoning to Gansu, and from Zhukaigou to Erlitou. This phenomenon bespeaks even wider-ranging contacts than any other material cultural tradition, but its extensive diffusion in a variety of cultural contexts is even less likely to be explained by a single political master-narrative, suggesting rather a myriad of interactions over centuries.

From the perspective of social and economic exchange networks and their relationship to political organizations and the circulation of social power, the data presently available for Erlitou is far from sufficient to do much more than speculate. Although small-scale bronze metallurgy was likely taking place in many places in northern and western China, including the Central Plains area, and all of these sites would have had to procure copper, lead, and tin from somewhere, we have neither data on contemporaneous mining sites nor evidence for the routes by which metals reached the various large- and small-scale workshops.⁴⁷ Much less do we have the social mechanisms of exchange or how they were politically structured. Indeed, given the relatively small

scale of bronze production at Erlitou in comparison with that in evidence at Anyang at the end of the second millennium, it seems likely that even Erlitou's bronze industry could have been supplied through low-intensity, noncentralized exchange, from elite gifting or tribute, to trade or booty. The same could probably be said of cinnabar, lacquer, turquoise, and cowrie shells, although the former two are difficult to quantify. As for other materials for elite material cultural production that have not been preserved, such as silks, rare woods, costly foods, and so on, we have little to go on either way. Even less is known about the nonelite economy, although based on work on stone tool production at Huizui, Chen (2005) suggests that the production and distribution of subsistence goods were "more likely to have been organized in decentralized patterns" (p. 9) than as part of "centralized state economy."

The political organization of the polity centered at Erlitou is unclear. Erlitou sat atop a settlement hierarchy of unknown size,⁴⁸ and for perhaps a century, maybe less (1700–1600 BCE), it was the largest urban center in East Asia for which we have evidence (Shimao may overlap with the early phases of Erlitou; Sanxingui, with at least the late phases; and Yanshi and Zhengzhou were probably both major centers by the Erlitou phase IV). While the Erlitou ceramic tradition was widespread, the mechanisms of this expansion are probably only indirectly related to political activity (if pots don't equal people, they are even less representative of conquering armies or "state" administrators). The degree of

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centralization, mechanisms of political control, and social organization can only be guessed at or extrapolated through comparison with Zhengzhou and Anyang. This comparison can justifiably be made insofar (and only insofar) as many of Erlitou's elite cultural forms appear to be ancestral to those found at Zhengzhou and Anyang, from architecture, to symbols of status and implements of ritual.⁴⁹ Nevertheless, as will be discussed in more detail later on, there are considerable qualitative and quantitative differences between Erlitou, Zhengzhou, and Anyang, making their comparison—and especially the derivation of the lesser known from the better known—a more complex problem than most have credited.

Seen in regional context, if Erlitou has its civilizational sphere (Baines and Yoffee 1998; Allan 2007), it was not alone. In Sichuan near the end of this period, constellations of walled sites were undergoing a still poorly understood process of consolidation that culminated in the huge walled center at Sanxingdui, with its distinctive material culture and architectural styles. In the west and northwest quite different societies with material cultural assemblages showing steppe and southern Siberian influences existed in the Qijia- and Zhukaigou-tradition areas of Gansu and Inner Mongolia. To the northeast, the still poorly understood traditions of Luwangfen-songyao and Xiaqiyuan were located in what would later be core areas of the polity at Anyang, while in the east, the Yueshi traditions continued to display material

culture different from that at Erlitou⁵⁰ even while apparently in interaction. Inner Mongolia and Liaoning in the far northwest likewise were home to very different societies from that found at Erlitou, displaying different architectural techniques, settlement structures, cultural practices, and elite assemblages. North Central China in the Erlitou period, then, far from being monocentric and culturally homogeneous, was a diverse landscape of peoples organized in a multitude of ways, with a variety of economies, producing and using different material cultures and technologies, and if historical China is any guide, likely speaking a multiplicity of languages, all within multiple, overlapping, spheres of influence, innovation and exchange.

Endnotes

1 These dates are based on both the radiocarbon dates published in Xia Shang Zhou Duandai Gongcheng Zhuanjiazu [hereafter XSZDGZ] (2000) and ZSKY (2003). Previous work had suggested that Erlitou dated from 1900–1500 BCE for a total of 400 years with each phase being about 100 years long (Qiu, Cai, Xian, and Bo 1983; ZSKY 1999). Recent radiocarbon work using “wiggle-matching” techniques have dated the site between 1750 and 1520 BCE, reducing Erlitou site occupation to a mere 200 years, the last 50 or so years claimed to be under Shang occupation (Qiu, Cai and Zhang 2006). If this is really the case then the “Erlitou expansion” during Erlitou II and III was both rapid and short-lived (see discussion below).

2 In southern Shanxi province, Taosi and Zhoujiazhuang; in northern Shaanxi, the newly discovered Shimao; in southern Shandong, Liangchengzhen and Yaowangcheng; in Zhejiang, the Mojiaoshan Liangzhu site: all range between 200 and 500 ha. Given that most of these sites have been discovered only in the last ten years—the product of intensive, systematic survey—it is unlikely that these discoveries will be the last.

3 These are Erlitou’s “medium-sized” (ZSKY 1999; ZSKY 2003; Liu and Chen 2003; etc.) tombs. Their “medium-size” appellation is based on a comparison with large third-millennium BCE tombs, such as the largest found at the Taosi site, as well as the royal tombs found at Anyang. This expectation, however, assumes a homogeneity in North Chinese burial practice (see also Cao 2004; Campbell 2007). The “medium-sized” tombs are, moreover, the largest and richest tombs yet found at Erlitou.

4 Xu et al. (2004, 2005) cite these and other changes as evidence that the structure and nature of the “palace” area and the large-scale structures themselves changed in this period, although they do not venture an opinion concerning the nature of the change. A perception of difference between

phase II and III at Erlitou has long been at the center of controversy. While most Chinese scholars now seem to be of the opinion that the Erlitou tradition is a ceramic manifestation of the Xia dynasty with Erlitou as its capital (ZSKY 2003), there are still holdouts claiming that phases III and IV should be considered Shang (Yin 1986). Given that this issue is framed by traditional historical concerns and based almost completely on ceramic typological arguments, I will not attempt to deal with it here except to note that elite cultural remains from Erlitou and Erligang can basically be considered as developments of a single metropolitan tradition, and it is surely significant that “Xia” and “Shang” material remains are so similar that debate still swirls around the question of which “dynasty” or “culture” a particular artifact or stratigraphic level belongs to.

5 However, according to Zhang (2012) none of the supposedly wheel-thrown ceramics at the Erlitou station appeared to have been made on a wheel.

6 In fact, Xinzhai is supposed to be later than Wangwan III and is seen as an intermediate step between Wangwan III and Erlitou. In a recent dissertation, Zhang (2012) argues that, in fact, Xinzhai and Erlitou are contemporaneous and belong to different traditions.

7 Nevertheless, as we will see below, there is a great range in both the intensity of influence and variety of interpretations concerning what these influences or material culture intrusions indicate.

8 This is not to say that Erlitou variants, such as Dongxiafeng, show no continuity with the ceramic traditions previously dominant in the region (Taosi and Sanliqiao), but rather that they are said to show more similarity with the Erlitou tradition, Erlitou variant. The replacement of one ceramic tradition with another is widely understood in China in terms of population movement, but as we have argued above, and will further argue below, this is not necessarily the case. Moreover, as it is often easier to see similarities

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with well-known Erlitou or Erligang ceramics than with poorly understood local ceramic traditions in a situation where multiple influences are present, there may well be a bias toward identifying Erlitou or Erligang influences.

9 The report delimits a roughly 1 km² area for the site, but not all of it dates to the Erlitou period and it is not clear how its various localities relate. ZSKY (2003) states that it is a 20 ha+ site. Site development during the four phases of Erlitou period occupation is also unclear, except that phase III seems to show intensified occupation, with most of the houses and kilns dating from this period, although more of the site should be sampled before there can be any certainty.

10 One possibility, argued in Liu and Chen (2001, 2003) and based on the occurrence of copper deposits and a salt lake in the region, is that Dongxiafeng was a regional craft-production and resource transshipment center in a larger Erlitou “state” network, and that the enclosed area was a craft-production area.

11 Phase I: no houses found; phase II: no houses found; phase III: 100 percent (41/41) cave-houses; phase IV: 25 percent (3/12) cave-house, 17 percent (2/12) surface dwellings, 58 percent (7/12) semisubterranean; phase V (Erligang period): no houses found; phase VI (Erligang period): no houses found. This apparent shift in dwelling type between phases III and IV of the site merits further investigation.

12 Of the 12 houses found in phase IV levels, 6 were found in the eastern localities 1 and 4 (3 cave-houses and 3 semisubterranean houses) and 6 in the central localities 5 and 6 (4 semisubterranean houses and 2 surface houses). If the double ditches were originally dug for cave-houses, they were apparently not used for this after phase III, at least in the areas that have been excavated.

13 The grave goods for this tomb were two ceramic wine vessels, a cooking pot, and eight small pieces of turquoise, making it the richest burial of the six burials found for this

period at Dongxiafeng. According to the ZSKY (2003) categorization schema for Erlitou burials (including Erlitou tradition burials beyond the site of Erlitou), the “elite” burial at Dongxiafeng phase III (M401) would be of middling rank.

14 The contrast is between three ceramic vessels and eight small pieces of turquoise with no grave furniture or cinnabar as compared to burials with one or no ceramic vessels. Erlitou “medium” burials, such as 87VIM57, on the other hand, have wooden grave furniture; cinnabar, bronze vessels, weapons, and ornaments; jade weapons and ornaments; lacquer vessels; ceramic drinking sets; strings of turquoise beads; turquoise pieces; and cowrie shells.

15 Compare the 20 small pieces of slag found in a single 8 x 8 m unit for Dongxiafeng phase III with the 1 ha of bronze casting and smelting remains at Erlitou (Xu et al. 2004).

16 The use of urn burials for infants and children had wide distribution in China and was already being practiced in Neolithic times.

17 Both the squatting burials postures and bovine-head grave offerings are interesting for their suggestion of burial practices different from those at Erlitou, although with the present state of published information we are a long way from being able to do a comparative study of burial practices.

18 Shelach (1999:208), for instance, argues that the scarcity of cowrie shells, turquoise, jade, and lacquer artifacts points to a “lack of intensity” in the interactions that brought them to Erlitou, indicating, perhaps, down-the-line trading.

19 Operating within a culture-historical paradigm wedded to a traditional account of Chinese history, ZSKY (2003) notes that the dating of the non-Erlitou variants to the Erlitou II period suggests an Erlitou expansion that is the archaeological reflection of the Xia kingdom. Nonetheless, the authors state that on present evidence it is impossible to say what exactly the political relationship was between the Erlitou

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tradition and its regional variants (making the assumption that ceramic boundaries coincide with cultural/ethnic boundaries, which, in turn, coincide with political boundaries) and cannot rule out the possibility that they were satellite polities of the Erlitou “kingdom.”

20 The use of the name Jinzhong, or “Central Shanxi” tradition (ZSKY 2003), implies something of the ill-defined nature of this tradition and highlights the unevenness of the understanding of different regions, even in purely ceramic terms.

21 Social hierarchy cannot, of course, be simply read off of burial practice, but difference in mortuary investment minimally represents difference in the resources that the deceased’s kin were able or willing to muster. The fact that roughly 25 percent of the tombs were relatively large and equipped with tomb furniture, rich burial goods, and “death attendants,” minimally suggests a differential status in death and/or differential access to wealth.

22 The nature of this tradition and its affiliation has been a matter of controversy with some scholars claiming it was an Erlitou variant (Zhao Zhiquan 1986), while others argued that it was Proto-Shang (along with Dongxiafeng; Zheng Jiexiang 1988). The debate over whether Luwangfen-Songyao should be considered “Xia” culture or predynastic Shang and the connections between this tradition and others, such as Xiaqiyan and Dongxiafeng, show both the tendency of Chinese archaeologists to equate ceramic traditions with historical or semihistorical political entities and the arbitrary nature of ceramic tradition “boundaries.” That Luwangfen-Songyao is now considered its own tradition is also representative of the formal logic of typology in standard Chinese archaeological practice, in which “typology is being created formulaically for the sake of typology” (Cohen 2001:101) without the guidance of any higher-level theoretical concerns or bridging arguments linking ceramics to people other than the dubious influence of later-

transmitted texts.

23 Xiaqiyan IV is said to belong to the Early Shang period, and period III corresponds to Erlitou Late phase III or Early phase IV (ZSKY 2003:147–152).

24 The Chinese term for cave-house is “kiln-pit type” house. As noted above, this house type is found in Shanxi in Dongxiafeng variant sites, but not in Erlitou variant sites.

25 The Lutaigang variant type-site is located at Qi county, Lutaigang 杞县鹿台岗 (Zhengzhou Daxue Wenboyuan, Kaifengshi Wenwu Gongzuodui [hereafter ZDW, KWG] 2000).

26 These sites are located as closely as 300 m from one another and form several clusters separated by 5 or more kilometers (ZSKY 2003) in the Chifeng area.

27 The size of these walled settlements is variable, but they do not exceed 10 ha.

28 Shelach (1999) cogently argues that since the socio-political system(s) of the Lower Xiajiadian tradition were already fully developed by Erlitou III, it is impossible to derive the genesis of Lower Xiajiadian social developments from Central Plains influences. Shelach also contends that Erlitou and Lower Xiajiadian polities were at a similar level of socio-political complexity, but if we wish to jettison neoevolutionary categories and to compare populations, urban spaces, craft production, social differentiation, and political practices and institutions, the evidence upon which to form this comparison does not presently exist. Minimally, however, from Erlitou II onward, Lower Xiajiadian has nothing to compare with Erlitou in terms of settlement size and nucleation, internal differentiation of sites, large-scale architecture, or complexity of craft production.

29 The Yueshi “culture” was officially recognized in 1982 and has been divided into as few as three to as many as seven regional variants. For instance, Ren (1996) divides Yueshi “culture” into three regional variants, Wang (1994) divides it into five variants, and Luan (1997a), into seven.

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30 According to the ZSKY (2003), while most Chinese archaeologists see it as an indigenous development (e.g., Yan 1986; Luan 1997b), Zhang (1989) believes that this tradition is the result of wholesale population movements from the north.

31 The Chengziya, Dinggong, and Shijia sites all have rammed-earth walls encircling the sites that were built in Longshan times but continued in use through the Yueshi occupation (see Cohen 2001 for a more in-depth discussion of Yueshi walled settlements). In addition, a large well-like pit containing over 350 artifacts was found at the Shijia site. According to the report (Ziboshi Wenwuju, Zhiboshi Bowuguan, Huantaixian Wenwuguanlisuo [hereafter ZW, ZB, HW] 1997), most of the artifacts were pottery (most of these, various types of guan-pots), although there were stone, bone, and shell tools, as well as two sheep scapulae with some burn marks and some undeciphered symbols. Despite the fact that it is widely interpreted as a “sacrificial pit,” it may also have served as a storage pit or something else.

32 ZSKY (2003) claims that there was a brief Yueshi tradition interlude between the lower Dianjiangtai and Hushu periods, and the Hushu tradition may have begun as early as Erlitou IV.

33 Dou and gui are generally presumed to be for food or beverage presentation/consumption, although these assumptions have not been backed with use-wear or residue analyses.

34 Liu and Chen (2003) make the suggestive argument that since Panlongcheng lies along possible transportation routes to the north and there are major copper sources in Hubei, “Erlitou cultural assemblages in this region indicates the earliest attempt by the Erlitou polity to gain access to copper resources in the Yangtze River valley”(p.78). While Liu and Chen may well be correct about political intervention in the region from the north, this needs to be confirmed by more than hypothetical transportation routes, modern resource distribution, and ceramic assemblages showing northern influences. Increased contact

may have occurred in a number of ways, and ceramic traditions need to be understood in terms of production and distribution practices, which, in turn, articulate with other social, economic, and political networks.

35 This means that the Sanxingdui tradition sites on Figure 2.1 may not have all been contemporary.

36 The current head of the Sanxingdui work team, Lei Yu (personal communication July 2006) suggested a late Erligang date for the encompassing wall, but noted that as the wall and the moat around it contained ceramics from phase I, the site must have been at least as large as the area contained by the walls. If this is correct, it would have rivaled or surpassed Erlitou in size. Substantiation of this claim, however, awaits further excavation and the publication of the site report.

37 ZSKY (2003) tabulates these pits, their contents, and where they were reported in Table 8-1 on page 497. See also Xu 2008.

38 In fact, tall, slender vessel forms seem to be a marked characteristic of this tradition.

39 This assessment is based on the division of Erlitou tombs into grades, only the lowest of which do not contain drinking vessels (ZSKY 2003). Moreover, drinking vessels are the most frequent vessel forms cast in bronze or made with white ceramics or lacquer, again suggesting a relationship between status and drinking (see Underhill 2002 for an argument about drinking and status from the fourth through the second millennia BCE).

40 Unfortunately, the Sanxingdui site report has yet to be published and thus many specifics await future publication.

41 The other variants are Qinweijia in central Gansu, Huangniangniangtai in western Gansu, and Liuwan in eastern Qinghai.

42 At Shizhaocun, 22 of the 26 houses were surface dwellings 5 to 6 m² in surface area, with the largest no more than 10 m² (ZSKY 2003).

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43 Indeed these authors have argued that early Erlitou received important technological impetus from the West, upon which foundations the Central Plains bronze-casting industry developed its characteristic ceramic piece-mold casting techniques.

44 Although it is frequently assumed, as in the Sanxingdui case, that Erlitou-type jades found in other places must have come from Erlitou, it may be more a case of shared tradition than exchange or direct emulation given that all known Erlitou jade forms have Longshan or earlier antecedents.

45 This again complicates the simple model of an expansionist state, coextensive with the distribution of reified ceramic boundaries seen in Liu and Chen (2003) and many other Chinese-language treatments of the subject (e.g., ZSKY 2003).

46 Witness the “kiln-cave” houses at Dongxiafeng, absent from Erlitou, but common to Shanxi and Shaanxi from Neolithic times to the present.

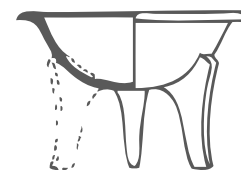
47 Liu and Chen’s (2003) hypothesis concerning Erlitou’s control of mining sites in the Zhongtiao Mountains remains an intriguing possibility, but essentially without any direct evidence.

48 Only limited areas around Erlitou and adjacent drainages have undergone systematic survey. The settlement pattern beyond these areas can only be constructed from unsystematic surveys at present.

49 As will be discussed below and in later chapters, however, the form and especially the scale of these elite practices undergo great changes over this period.

50 In fact, many Chinese scholars associate the Yueshi with the Dong Yi of Zhou and Han texts, supposedly implacable enemies of the Xia polity (assumed to be Erlitou). While Cohen (2001) has deconstructed this traditional historical equation of the Yueshi with Erlitou, neither material cultural nor received textual evidence suggests that

societies in modern Shandong province, Eastern Henan, or Northern Jiangsu and Anhui were within a Central Plains cultural orbit during the Erlitou period.





3

Roderick B. Campbell

The Erligang Period

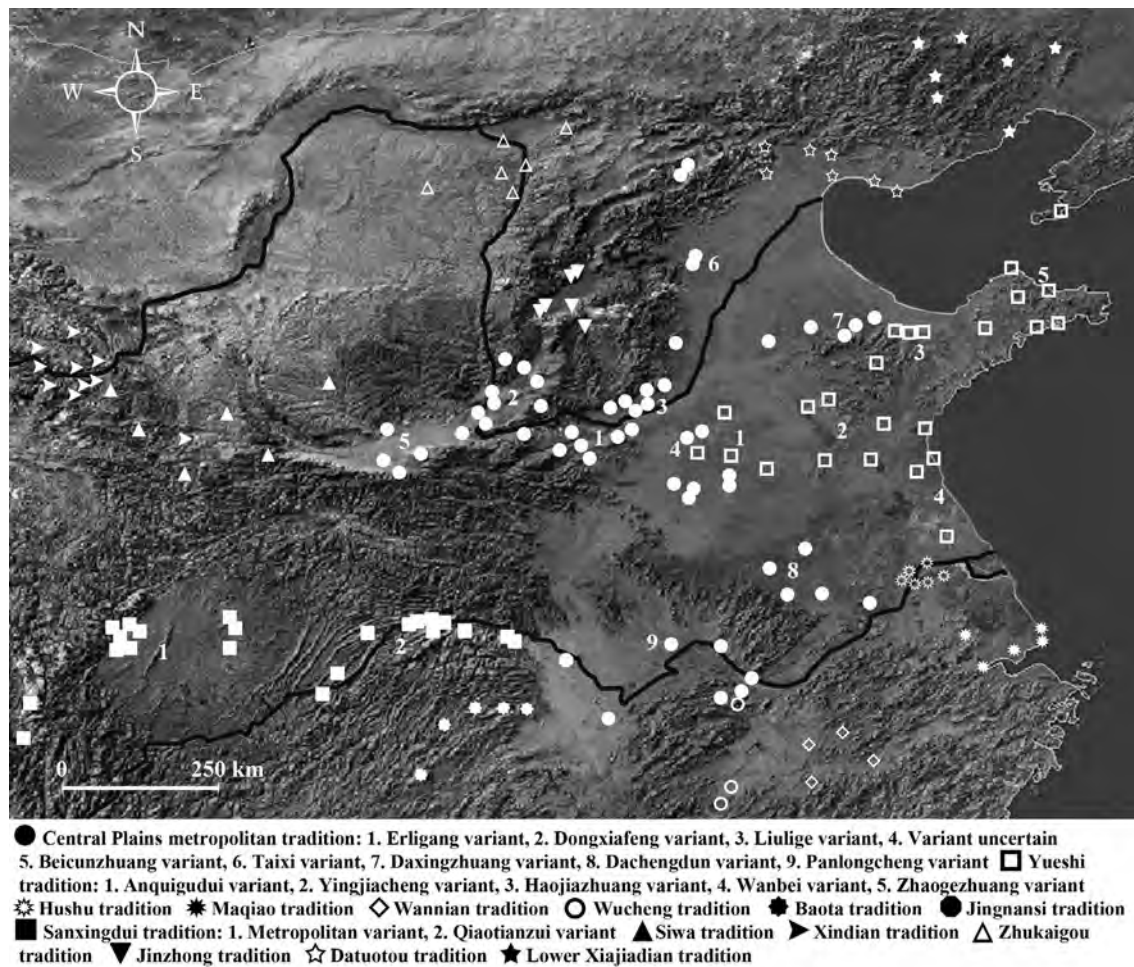
Zhengzhou and the Metropolitan Tradition



The Erligang period, also termed the “Early Shang” period in the Chinese literature, gets its name from the site of Erligang, Zhengzhou. The Erligang site was discovered in 1950, and excavations have continued in the area ever since. Associated from the beginning with the material culture of Anyang and, thus, the Shang dynasty, the Erligang tradition is conventionally divided into upper and lower Erligang periods, each with two phases. In the intervening years other sites have been discovered in the Zhengzhou area, including inner and outer walls delimiting areas of about 290 ha and roughly 13 km² (Yuan and Zeng 2004) respectively,¹ dwarfing

all other known sites for this or any earlier period of Chinese prehistory (figure 3.2). Its unprecedented size, combined with the 37-ha “palace-temple” area, with its rammed-earth foundations, some in excess of 2,000 m² (ZSKY 2003), bronze-casting remains, and elite burials, have led to the consensus view in the Chinese literature that the Zhengzhou site was an early “capital” site of the Shang dynasty. Unfortunately, the site is buried under the modern city of Zhengzhou, which has severely limited the scope of excavations, and, in many ways, the site is still not well understood.

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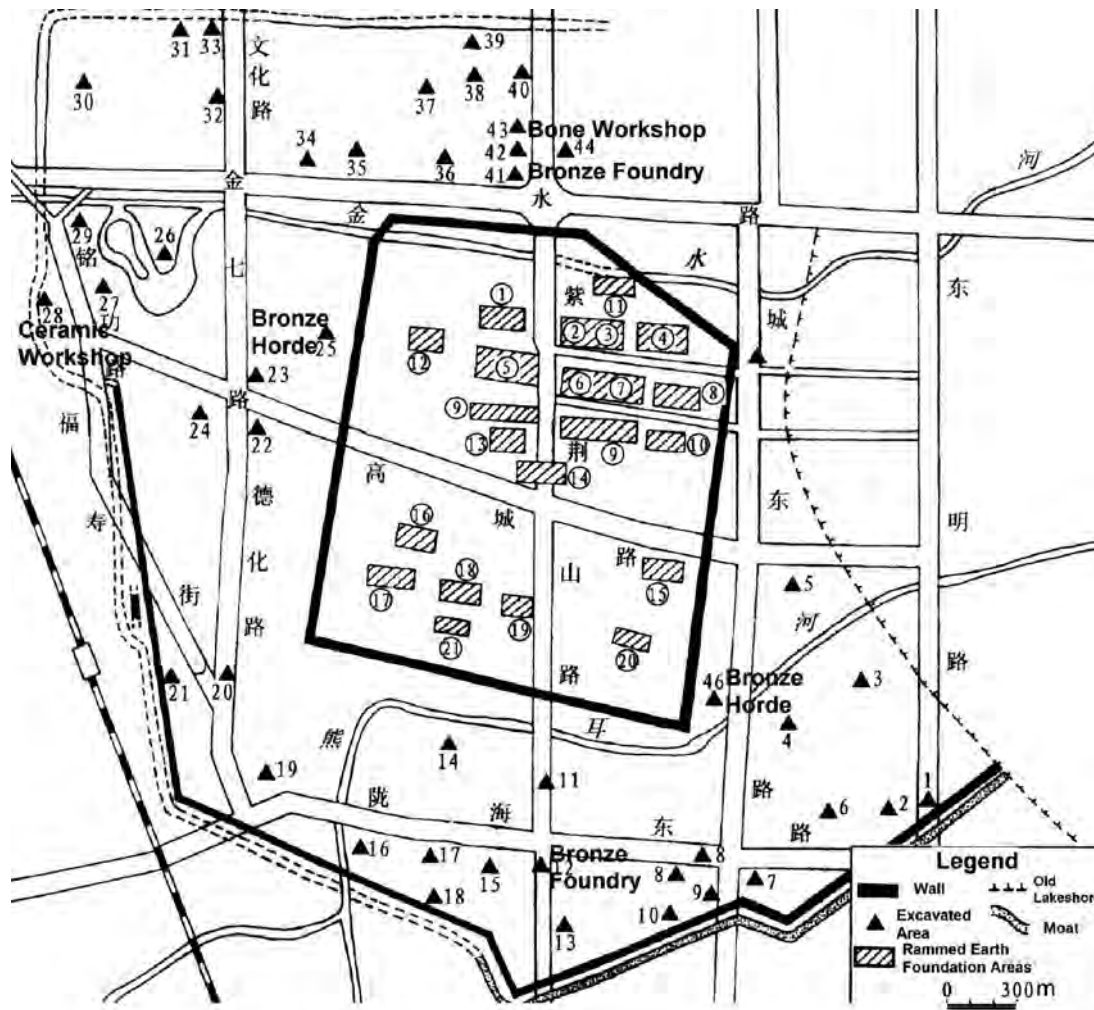
3.1. Erligang-period ceramic traditions (base map from Harvard geospatial library).

The elite Metropolitan traditions of the Erligang period, from bronze-casting to the form of palace-temple structures, developed directly out of Erhitou traditions, even while the ceramic assemblage, despite showing some differences from that of Erhitou, has many obvious points of similarity (compare Figures 2.7 and 3.6).

During Erligang phase I the ceramics show the influences of multiple traditions² with many different styles of the diagnostic *li*-tripods (ZSKY 2003:171). Few bronze vessels either in terms of

type or quantity can be dated to this period (currently only some *jue* and few of those). The vessels, moreover, tend to have thin walls, suggesting, perhaps, that there was not much metal in circulation. Nevertheless, some of the “palace-temple” structures and city walls were constructed in this phase,³ while the bronze foundry at Nanguanwai began production as well.

During phase II the ceramic assemblage still shows the multiple influences of the previous period, but bronze artifacts increase in type and quantity,



3.2. Zhengzhou (after Yuan and Zeng 2004:60, fig. 1).

as well as in thickness. Both bronze *jue* and *jia* are known from this period. Phase II is considered to be a period of growth and development for the site.

Phase III (the first phase of the upper Erligang period) is Zhengzhou's apogee. Bronzes from this period increase in both numbers and type, and the foundry at Zijingshan North went into production. The foundry site at Nanguangwai continued to produce as well, meaning that in phase III, Zhengzhou had at least two major bronze workshops in simultaneous operation.

During Erligang phase IV (Xiaoshuangqiao-Huanbei phase I), most of the large structures in the palace-temple area were built over with nonelite structures, and the bronze foundries went out of service by the end. Nevertheless, two bronze hoards, as well as several bronze-vessel-yielding tombs, have all been found at Zhengzhou dating to phase IV. If Zhengzhou was indeed in decline, the tombs suggest it had not yet been completely abandoned by its elites, at least as a burial ground. The hoards, on the other hand, might suggest a scenario of rapid abandonment

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Erligang Phase	Zhengzhou	Yanshi	Yuanqu	Dongxiafeng	Panlongcheng	Wangchenggang	Beicun
I	I (Lower Erligang I)	I(sub-phase 1-2)	I	I		I	
II	II (Lower Erligang II)	II (3-4)	II	II	I	II	
III	III (Upper Erligang I)	III (5-6)	III	III	II	III	I
Xiaoshuangqiao-Huanbei	IV (Upper Erligang II)	III (7)	IV	IV	III	IV	II

Table 3.1. Erligang relative chronology (adapted from ZSKY 2003:187).

similar to the case of the late Western Zhou bronze hoards.

In addition to foundry sites, a ceramic workshop was discovered 1,300 m west of the inner city. The site contained kilns, foundations, tombs, middens, and white ash surfaces. Many daily use ceramics were discovered, as well as some unfired cups, misfired ceramic waste, and numerous ceramic production tools (ZSKY 2003; HWKY 2001). At Zijingshan, roughly half a kilometer north of the inner city, a pit was discovered containing over 1,000 finished and half-finished bone artifacts, raw materials, production waste, and more than 10 bone-grinding tools and small bronze knives, indicating that there was a bone-working site in the area. Interestingly, all of the production sites discovered so far at Zhengzhou (including the bronze foundries) are outside of the inner city but within the outer wall or natural barriers, such as the lake to the east of the site (Yuan and Zeng 2004).⁴ Considering what is currently known about the site structure, it seems that all the large and medium structures are located in the

inner city, while the important workshops were placed between the inner and outer walls, and very few cultural remains occur outside the outer walls.

Zhengzhou’s walls themselves were constructed on a massive scale, especially the outer walls, which were approximately 6 km long, up to an estimated 40 meters wide at the base, and 20 meters tall (Yuan and Zeng 2004; HWKY 2001). The inner walls surrounded an area of about 289 ha, while some parts, if not all, of the inner and outer walls were apparently surrounded by a moat up to 20 m wide. Comparing the inner and outer walls, the inner walls are built on a more or less rectangular plan aligned roughly 20 degrees east of north⁵ and were built directly upon the ground surface. The outer wall, on the other hand, was built according to the contours of the land, with a foundation trench to strengthen it, and is currently 12–17 m thick at the base. These facts suggest to Yuan and Zeng (2004) that the walls served different defensive functions, the inner wall protecting the “palaces,” and the outer wall, moat, and

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Wucheng Variant Phase (Peng 2004)	Wucheng Site (Peng 2004)	Shang phase (Peng 2004)	Wucheng Tradition Phases (ZSKY 2003)	Panlongcheng Phase (ZSKY 2003)
I	Longwangling I	ELG II		Panlongcheng IV ELG II
II	Wucheng I	ELG III, XSQ-HB I	ELG III	Panlongcheng V ELG III
III	Wucheng II	AY I, II	XSQ-HB I AY I	Panlongcheng VI, VII XSQ-HB I
IV	Wucheng III	AY III, IV	AY II, III, IV	

*Table 3.2. Periodization of the Wucheng Tradition
(a comparison of Peng (2004: 71), JBKY et al. [2005] and ZSKY [2003])*

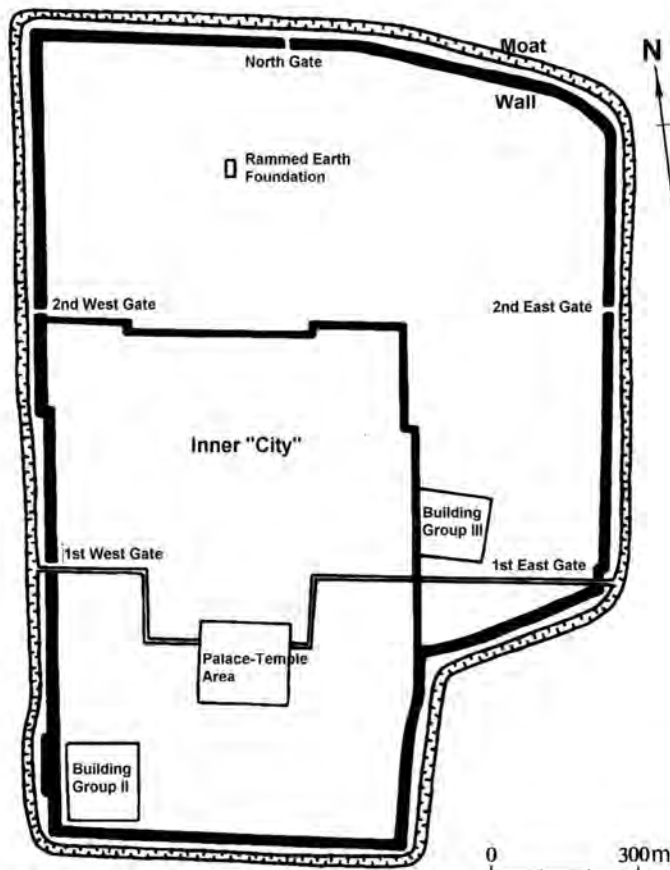
lake defending the site as a whole. Another, additional possibility, is that the outer wall served as flood protection.

Little work has been done on residential areas, and there are only 11 houses published that have been completely excavated. In general, the greatest number of houses is in the palace-temple area in the northeastern part of the inner city and they become less frequent as one proceeds to the south and west, while the entire southern half of the walled site was said to be almost devoid of Erligang cultural deposits (ZSKY 2003).⁶ More recent work, however, has shown that the southern portion of the inner city also contained large-scale structures (Yuan and Zeng 2004). As for the distribution and structure of residential areas, nothing can be said on present evidence, nor is the development of the site over time entirely clear. Most of the small houses that have been discovered are to the sides of the inner city or in the area between the inner and outer walls; on present evidence, little can be said regarding the spatial relationships of common and elite residences (an issue that we will return to in the discussion of Anyang) other than the fact that the

large rammed-earth foundations tend to be distributed within the inner walls (Figure 3.2).

No special burial areas are known for the Erligang occupation at Zhengzhou, and no “large” tombs have been found (ZSKY 2003; HWKY 2001). Burials are scattered among buildings and frequently intrude on earlier cultural deposits or are intruded on by later ones. Where in some areas tombs are found in small clusters, these tend to have been used only for short periods of time. All currently known burial areas are inside the inner walls or between the inner and outer walls of the site, with the latter being more numerous. In addition, there are also cases of remains deposited in middens and sacrificial pits. The lack of discrete burial areas and the absence of any “large” burials mirror the situation at Erlitou, but given the state of research at Zhengzhou and the limitations imposed on archaeological work there, it is difficult to say whether there might, in fact, be discrete burial areas which have not been found or whether the practice of scattering burials throughout the settlement or on its outskirts was simply the dominant practice of the time.

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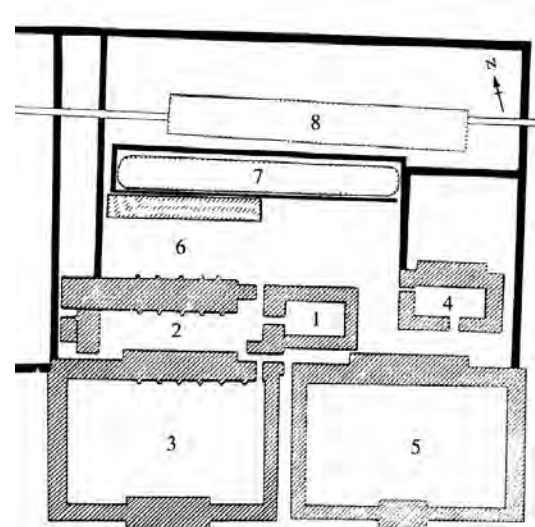
3.3. *Yanshi Shangcheng* (redrawn from ZSKY 2003:206, fig. 4-5).

Yanshi Shangcheng

The Erligang site of Yanshi Shangcheng or Shixianggou (Figure 3.3) was founded roughly contemporaneously with Zhengzhou Shangcheng, and its building and early occupation seem to have overlapped with the latter part of Erlitou phase IV (given the circa 1550 BCE radiocarbon date for the latter). Yanshi Shangcheng was located some 6 km northeast of the Erlitou site and on the location of previous large Yangshao and Longshan sites, as well as a small Erlitou village. It was discovered in 1986 and divided into seven phases (see Ta-

ble 3.1). At its height, it was about 200 ha in size and surrounded by a rammed-earth wall. While Yanshi has been at the center of controversies regarding its status as a possible early capital of the Shang dynasty, it seems likely, based on date (contemporary with Zhengzhou), size (200 ha versus 1,300 ha for Zhengzhou), and location (6 km from Erlitou), that it was a secondary center, the early function of which may have been related to control of the Erlitou site.⁷

Yanshi was constructed during Erligang phase I (Yanshi phases 1-2), and “palace-temples” 1, 4, 7, 9, and 10 date from this period. The inner wall was also built during phase I, as were the buildings of group II. To the northeast and outside the wall was the bronze foundry that began operation in this period. At this time the site was over 81 ha in size. The first part of this phase likely overlaps with Erlitou IV, during which (as noted above) construction continued in Erlitou’s palace-temple area, and the



3.4. *Palace-temple complex at Yanshi* (after Du 2005:198, fig. 4).

center of the site remained densely occupied (ZSKY 2003).⁸

Erligang phase II (Yanshi phases 3–4) was a period of expansion, during which the outer wall was built and “palaces” 4 and 7 continued to be used, while 10 and 1 were abandoned. North of palace-temple 9 a new “palace,” number 8, was built, and upon the foundation of palace-temple 9 itself, the greatly expanded palace-temple 2 was built. The western wall of the palace-temple area had to be moved tens of meters to the west to accommodate the construction of palace-temple 2. Palace-temple 6 was also built during this period. The buildings of group II were completely rebuilt on the site of the previous buildings. At this point the walls enclosed an area of roughly 200 ha, surrounded by a moat and accessed through five gates (two on the west wall, two on the east, and one on the north).

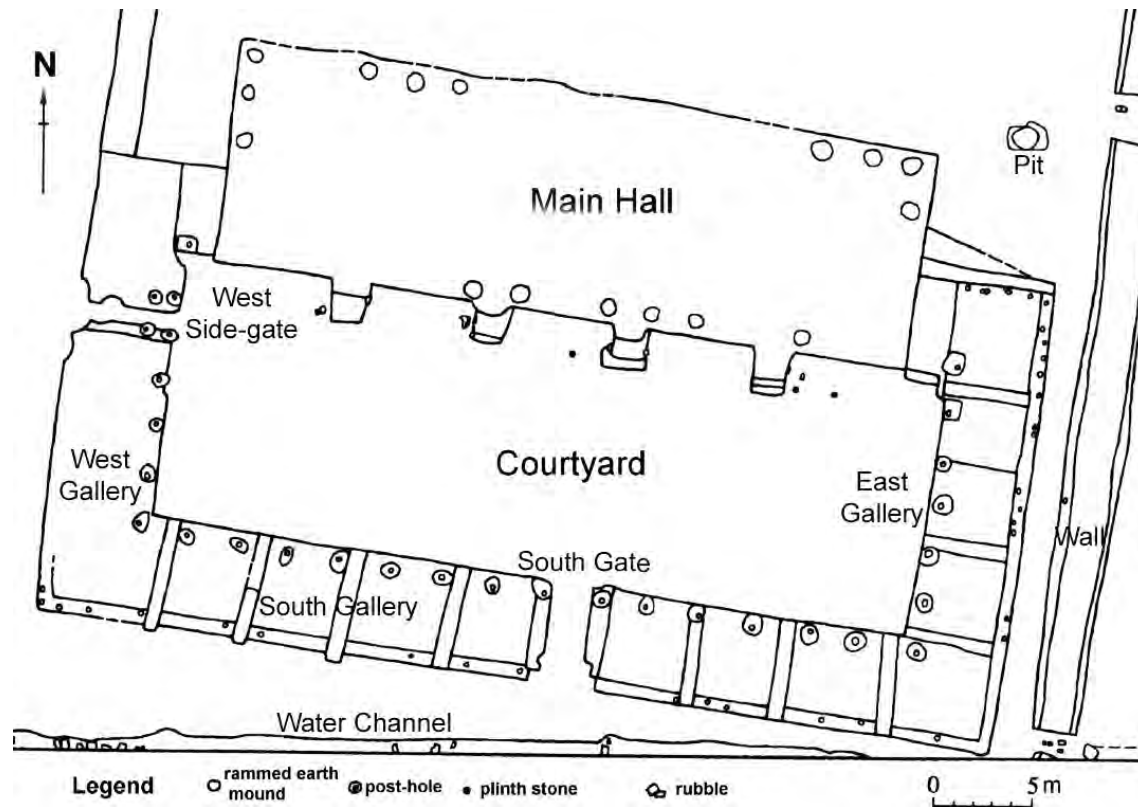
The early and middle part of Erligang period III was another period of florescence, but one that was short-lived. No major changes occurred in the site in terms of site structure, but the “storage area” (group II) underwent extensive renovation and rebuilding. The northern and eastern sections of Yanshi’s inner wall were leveled. “Palaces” 2, 4, and 8 were abandoned. On the foundations of “palace” 6 was built the largest palace-temple, number 5, while palace-temple 7 was abandoned and palace-temple 3 was built on top of it (Figure 3.4). The southern and western sections of the phase II palace-temple area walls were leveled to allow for the building of palace-temples 3 and 5, leaving the

palace-temple compound without a wall in the south and the palace-temple area open to the rest of the site. Then, abruptly, at the end of the middle part of Erligang phase III (Xiaoshuangqiao-Huanbei I), the site was largely abandoned, becoming a village by the end of Erligang phase III (Wang 1999; ZSKY 2003).

As with Erлитou and later Anyang, it appears that the palace-temple area underwent continual renovation and renewal with multiple episodes of razing and building. Unlike in the Mayan case, where pyramids were built atop earlier pyramids (preserving them inside), it seems that in the Central Plains Bronze Age traditions the continuity of structures and their location was not put at a premium. This suggests a different orientation toward the built environment of elite ritual/administrative space, perhaps not unrelated to the constraints and potentials of building in rammed earth, wood, thatch, and tile, as opposed to stone.⁹ This phenomenon of the constant rebuilding of ritual/administrative space within sites may also be related to the frequent movement of capitals recorded in later transmitted texts, something that will be discussed in more detail below.¹⁰

The Yanshi Shangcheng palace-temple area was about 4.5 ha in size and surrounded by a wall about 2 m thick (compared to the inner wall’s base thickness of about 6–7 m (ZSKY 2003) and the large wall’s thickness of 16–18 m at the base [ZSKY 2003]). As with Zhengzhou, the palace-temple area contained a pond. Many of the palace-temple

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3.5. Palace-Temple 4 at Yanshi (after ZSKY 2003:212, fig. 4-6).

structures were built in the “siheyuan” four-sided courtyard style and number among them the largest contemporaneous buildings so far discovered in China (Figure 3.4).¹¹ The scale of the palace-temples and the existence of the palace-temple district from the very beginning of the site suggest that Yanshi Shangcheng was planned and built as an elite religious/political structure from the start.

Aside from the palace-temple area, there was a group of buildings in the southwest of the site surrounded by a wall occupying an area of about 4 ha. Inside the wall were more than 100 large structures arranged in six rows running

east-west. Moreover, despite renovations and rebuilding, this area retained its basic layout through the occupation of the site (ZSKY 2003). Because there are no remains of living activities in the area (neither hearths nor middens) and because of the enclosed nature and orderly structure of the area and its location near the palace-temple compound, most Chinese archaeologist interpret it as a storage area of some sort (Du et al. 1999; Wang Xuerong 2000; Liu and Chen 2003; Wang Wei 2005; etc.).¹² A similar enclosed area (group III) was built in phase III to the northeast of the palace-temple area (Figure 3.3). While the function of these buildings remains a matter of speculation, they do attest to

the careful planning and scale of construction at the Yanshi site, along with the palace-temple area.

Unfortunately, with interest focused on elite activities and on finding ever-earlier dates for the site, relatively little work has been done on common residences and workshops at Yanshi. Based on current understanding, houses come in four types: 1) single-room surface dwellings (averaging 10 m²); 2) multiroom surface dwellings (20–30 m²) oriented east of north, like the large rammed-earth structures; 3) semisubterranean houses (generally about 10 m²); and 4) houses built at the bottoms of pits that tend to be small: <10m² and are often associated with workshops (i.e., may not actually be residences; ZSKY 2003).¹³ No information is available concerning the distribution of residences in the site, and it is thus impossible to say anything about the general residential pattern.¹⁴

Evidence for craft-working areas have also been found at the site, including a bronze-casting area in the northeast section of the larger site, where molds, charcoal, and slag have been found. These remains date to period I, and the workshop was destroyed when the outer wall was built. Some bronze-casting remains were also found near the middle of the eastern wall, suggesting that this, too, may have been a bronze-working area, and that Yanshi may, like Zhengzhou and Anyang, have had more than a single bronze-casting area (Zhongguo shehuikexueyuan kagu yanjiusuo, Henan dier gongzuodui [ZSKY, HEG] 1998).

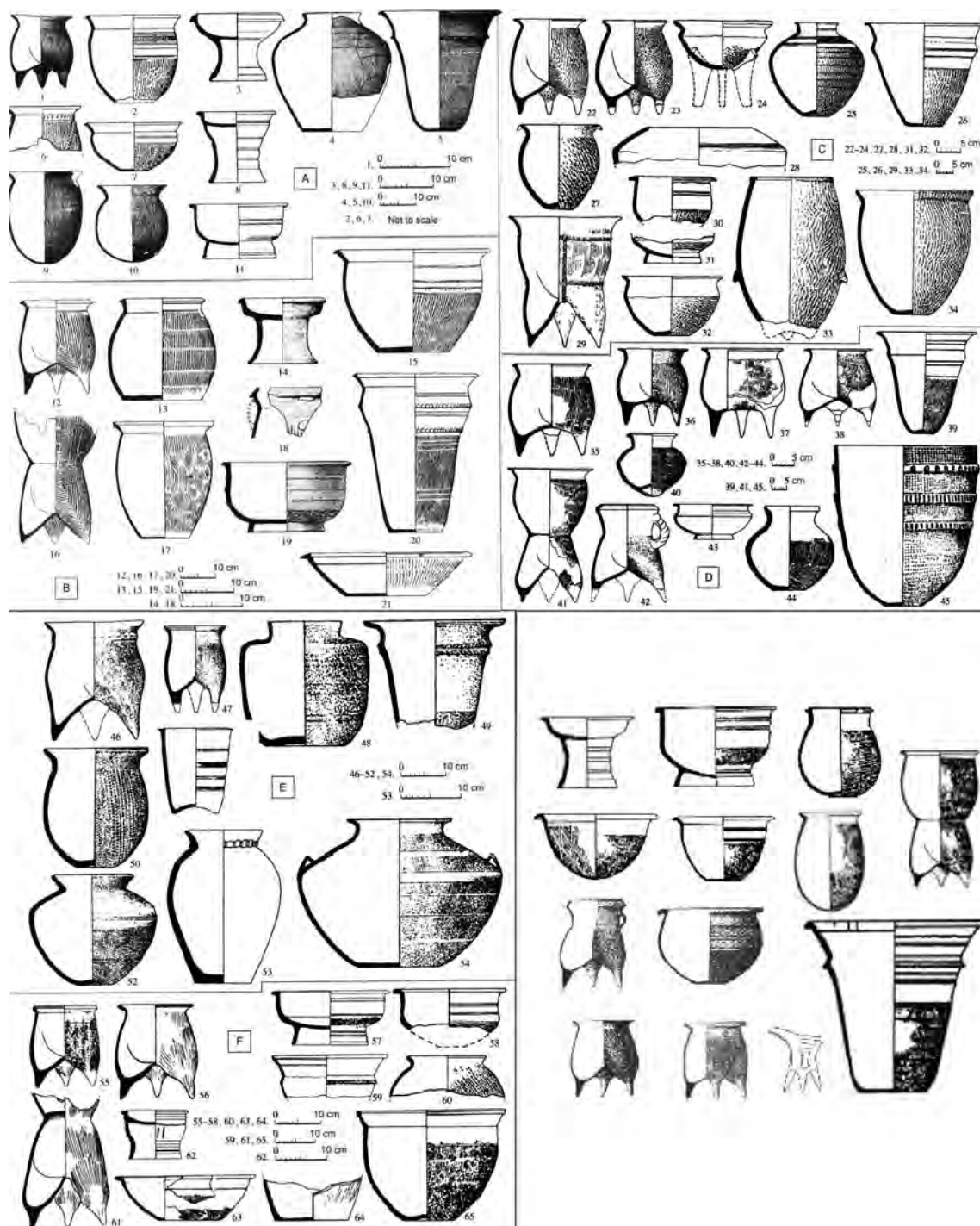
In addition to bronze workshops, pottery production sites have also been found, most located in the northern part of the site and dating from Erligang period phase II. Of those found, eight are relatively clustered and suggest at least one area of more concentrated ceramic production. In addition, some bone artifacts were discovered to the west of the phase I palace-temple compound wall—mostly consisting of arrowheads, spatulas, or pins, with some production waste and semifinished bone artifacts as well—suggesting a bone workshop in the area (ZSKY 2003).

As at Zhengzhou, no large tombs have been found at Yanshi. Most of those discovered to date are small tombs with a few medium-sized ones as well. All are rectangular pits. Few of the burials have *yaokeng* (waist pits),¹⁵ and fewer, inner or outer coffins. Almost half have no grave goods, and those with grave goods usually have daily-use ceramics, with jade or bronze artifacts occurring rarely. A unique characteristic of the distribution of mortuary remains at Yanshi is that they tend to be placed near or contiguous to the city walls. Again similar to Zhengzhou and Erlitou, no special cemetery areas are known for the site (ZSKY 2003). Whether this fact reflects a real pattern of burial, or simply the bias of excavation focused on the walls and palace-temple area, is impossible to say on present evidence.

Erligang-Tradition Variants and the Erligang Expansion

During Erligang-period phase I, Erligang ceramic traditions were concentrated

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3.6. Erligang ceramic-tradition variants (after ZSKY 2003:172, 176–183, 193–195; figs. 4-1, 4-2, 4-4).

in central Henan, especially the area between and around Luoyang and Zhengzhou, as well as southern Shanxi, more or less replacing Erlitou traditions in the

areas in which they were formerly found (ZSKY 2003). In Erligang period II, metropolitan ceramic variants were found in northern Henan and southern Hebei,

while in the south, Panlongcheng, in Hubei, formed another variant. In eastern Henan, another metropolitan-tradition variant began to replace Yueshi traditions. In Erligang-period phase III, the distribution of metropolitan ceramic tradition variants became even more widespread, stretching from Xi'an in the west, to Jinan in the east, reaching the Yangzi River from Anhui to northern Hunan in the south, and extending in the north to Beijing. Generally speaking, the northern and western Erligang-period variants resemble the metropolitan tradition more than the southern or eastern ones, which show more local characteristics (ZSKY 2003), suggesting, perhaps, different mechanisms of the ceramic-tradition spread, different levels of local incorporation, or both.

In summary, not only was Zhengzhou a site of unprecedented size, but by the end of the Erligang period it sat at the center of a web of ceramic influence, distribution, and exchange that dwarfed the geographic spread of any previous ceramic tradition within the area of modern China. Just as with Erlitou, however, this was not a single uniform tradition but rather took the form of a metropolitan tradition based on Zhengzhou and Yanshi and several regional variants. These are the Erligang metropolitan variant (Figure 3.6 bottom right), the Erligang tradition (ELG) Liulige variant (Figure 3.6A), the ELG tradition Taixi variant (Figure 3.6B), the ELG tradition Dongxiafeng variant (Figure 3.6C), the ELG tradition Panlongcheng variant (Figure 3.6D), the ELG tradition Beicun variant, the ELG tradition Dachengdun variant (Figure 3.6E), and the ELG tradition Daxinzhuang variant (Figure 3.6F) (ZSKY 2003).

The Erligang Tradition Metropolitan Variant

Located in central Henan and most densely concentrated in the Zhengzhou area, with the Yellow River forming a northern boundary and the Tongbai Mountains a southern limit, this variant includes Zhengzhou and Yanshi. It formed the metropolitan tradition from which the regional variants were derived (Figures 3.1, 3.6). The houses of this tradition were mostly small semisubterranean or surface constructions; only medium or large structures were built on rammed-earth platforms (ZSKY 2003). Bronze artifacts have been found at several sites in this area (ZSKY 2003) in addition to Yanshi and Zhengzhou. In general, the bronze industry of this tradition was based on that of Erlitou but continued to develop with new types and styles of bronze vessels—some derived from ceramic prototypes associated with Erligang assemblages (e.g., *li*-tripods). Oracle-bone divination was widely practiced, with sheep, pig, and cattle scapulae, as well as turtle plastrons as the media (Flad 2008).

In the culture-historical idiom in which Chinese ceramic traditions are defined, the interaction with neighboring traditions is understood in terms of influences, essentially indexing a similarity of style or form deriving from some sort of interaction, the nature of which is unknown (though usually assumed to be migration). The most important influence on the Erligang-tradition metropolitan variant is that of the Xiaqiyuan tradition, with the Erlitou tradition a close second (Zou 1980; ZSKY 2003).

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Yueshi-tradition influences can also be seen, and given the association of Erligang with the Shang dynasty and the later tradition of the Shang's eastern origins, some scholars speculate about a formative role for the Yueshi tradition in Erligang culture (for a critique see Cohen 2001). The Erlitou-period Luwangfen-Songyao tradition, perhaps not surprisingly, given its neighboring location, is said to be another source of influence. Stamped stoneware and protoporcelain from the south are also present in Erligang metropolitan-variant assemblages and were, perhaps, emulated as well as imported (ZSKY 2003). As noted above, the early phases of the Erligang tradition appear to combine the forms, styles, and decorations of a number of neighboring traditions. This cosmopolitanism and the enormous size of the Zhengzhou site, with its inherent nucleation of population, suggest that, whatever the geographical origins of its rulers, the population they ruled over at Zhengzhou and beyond was likely drawn from a variety of sources. Considering the distribution of the strongest influences, however, the impression is given of a melding of the previous metropolitan tradition (Erlitou) with traditions from the northeast (Xiaqiyan, Luwangfen-Songyao) and east (Yueshi). Whether the pattern really signifies population movements from the northeast and east into the Zhengzhou-Louyang area or something more complex will have to await further research based on more than just formal ceramic typology.

The Erligang Tradition Liulige Variant

Located in Henan south of the Huan River, in the foothills of the Taihang Mountains and north of the Yellow River, this variant occupies much of the same area as the Luwangfen-Songyao tradition of the Erlitou period and appears to develop out of it under Erligang influences (Figure 3.6A).¹⁶ During Erligang period I the tradition in this area was still that of Luwangfen-Songyao, the Liulige variant forming only in Erligang period II (ZSKY 2003). Two of the better-known sites of this variant are Mengzhuang and Fucheng, only the latter of which has been published (Yuan and Qin 2000). Erligang-type bronze vessels have been found at sites of this variant, and aside from ceramics, which come to look more like Erligang-tradition assemblages over time, other forms of material culture appear to be more or less the same as those found at Zhengzhou. Nevertheless, it should be noted that the entire Central Plains area had seen increasingly intense interaction over the preceding millennium, and the previous Luwangfen-Songyao tradition was originally thought to be an Erlitou tradition variant. All this is to say that there were broad similarities between Central Plains ceramic traditions even before the Erligang period, and the “Erligang expansion” was really a strengthening of existing similarities indicating more intense interactions centered on Zhengzhou, rather than simply the replacement of previously unrelated local traditions by the migrating colonists of an expansionist “state.”

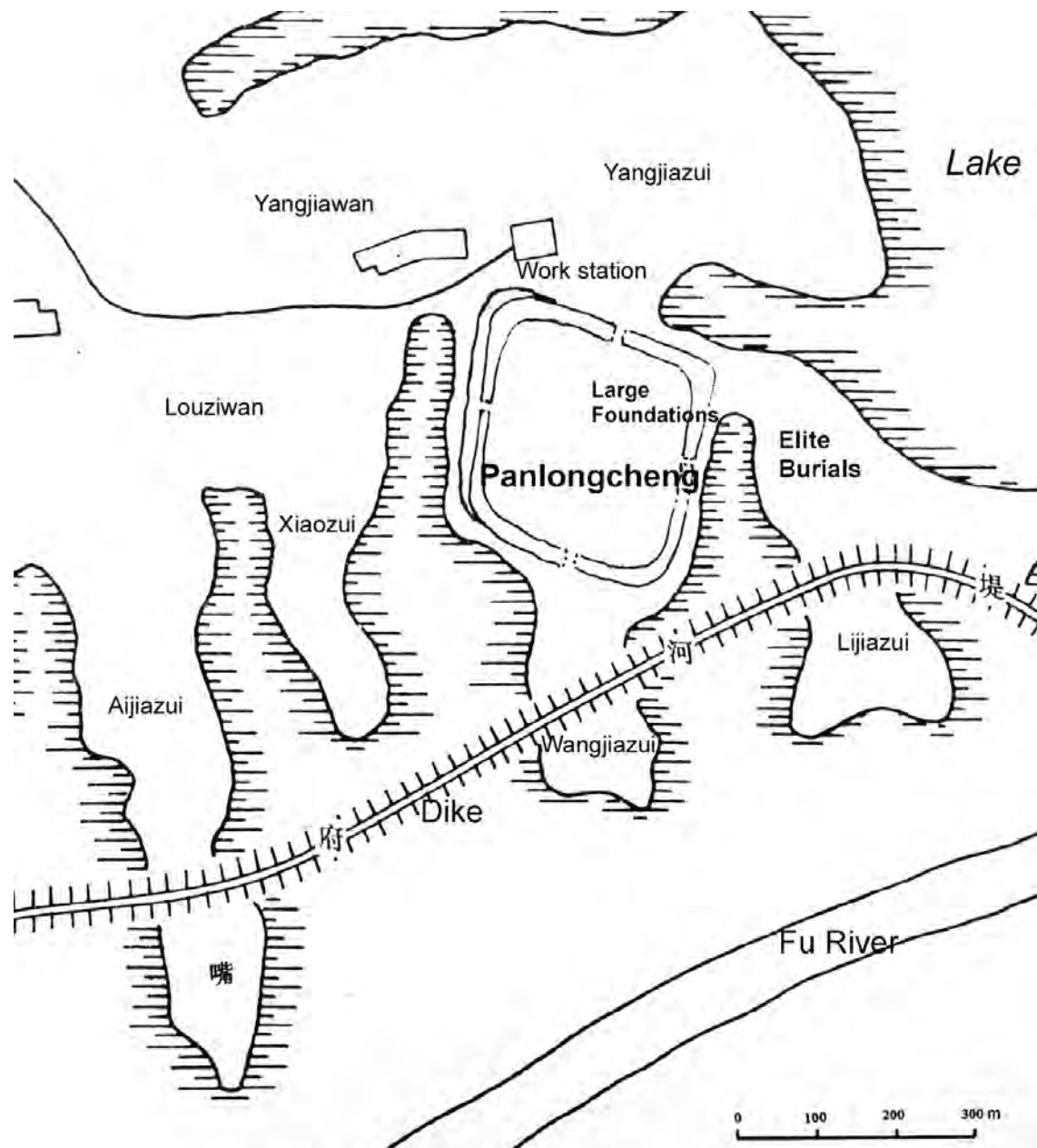
Fucheng, located in Jiaozuo City's southwest suburbs, 15 km from the Taihang Mountains, is a small (9 ha) walled site showing Erligang characteristics, including walls and rammed-earth building foundations oriented roughly 20 degrees east of north. There are four areas of rammed-earth foundations in the site, and the largest of the foundations is almost 4,000 m², ranking it among the larger Erligang-period structures presently known. The site itself dates from sometime during the lower Erligang period (Erligang periods I–II), to the early part of the Xiaoshuangqiao-Huanbei period, after which it was abandoned. From what is known about the structure and orientation of the site, not to mention its ceramic tradition affiliation, it appears that the builders of this site were at least participants in Erligang-period elite culture, even if the exact nature of the political relationship between this site and the Zhengzhou-Yanshi core remains unclear.

The Erligang Tradition Taixi Variant

Beginning in Erligang period III and represented by the early layers of Gaocheng Taixi in Hebei Province (Hebeisheng wenwu yanjiusuo [HWY] 1985), this variant is located north of the Huan River (and the Liulige variant) and south of the Yishui, bounded on the west by the Taihang Mountains and by the old course of the Yellow River in the east (ZSKY 2003). Published sites for this variant are few, and since none but Taixi have full site reports, this variant is still not well understood. It occu-

pies the area formerly occupied by the Xiaqiyuan tradition, which probably lasted until at least Erligang period I if not later (ZSKY 2003). While Taixi-variant ceramics show some Xiaqiyuan-tradition characteristics, there are also some obvious differences (Figure 3.6B). However, since neither Xiaqiyuan tradition nor the Taixi variant of the Erligang tradition are well understood, more work in these areas may give a clearer picture. Nevertheless, since the Xiaqiyuan-tradition area is widely believed to be the Shang homeland in Chinese archaeological circles, it is interesting that there are nonetheless obvious differences between the Xiaqiyuan tradition and the Erligang metropolitan variant on the one hand, and between both the former and the latter and the Taixi variant on the other. Minimally it suggests that potsherds, politics, and ethnic groups are not as easily associated as Chinese archaeologists have traditionally assumed.

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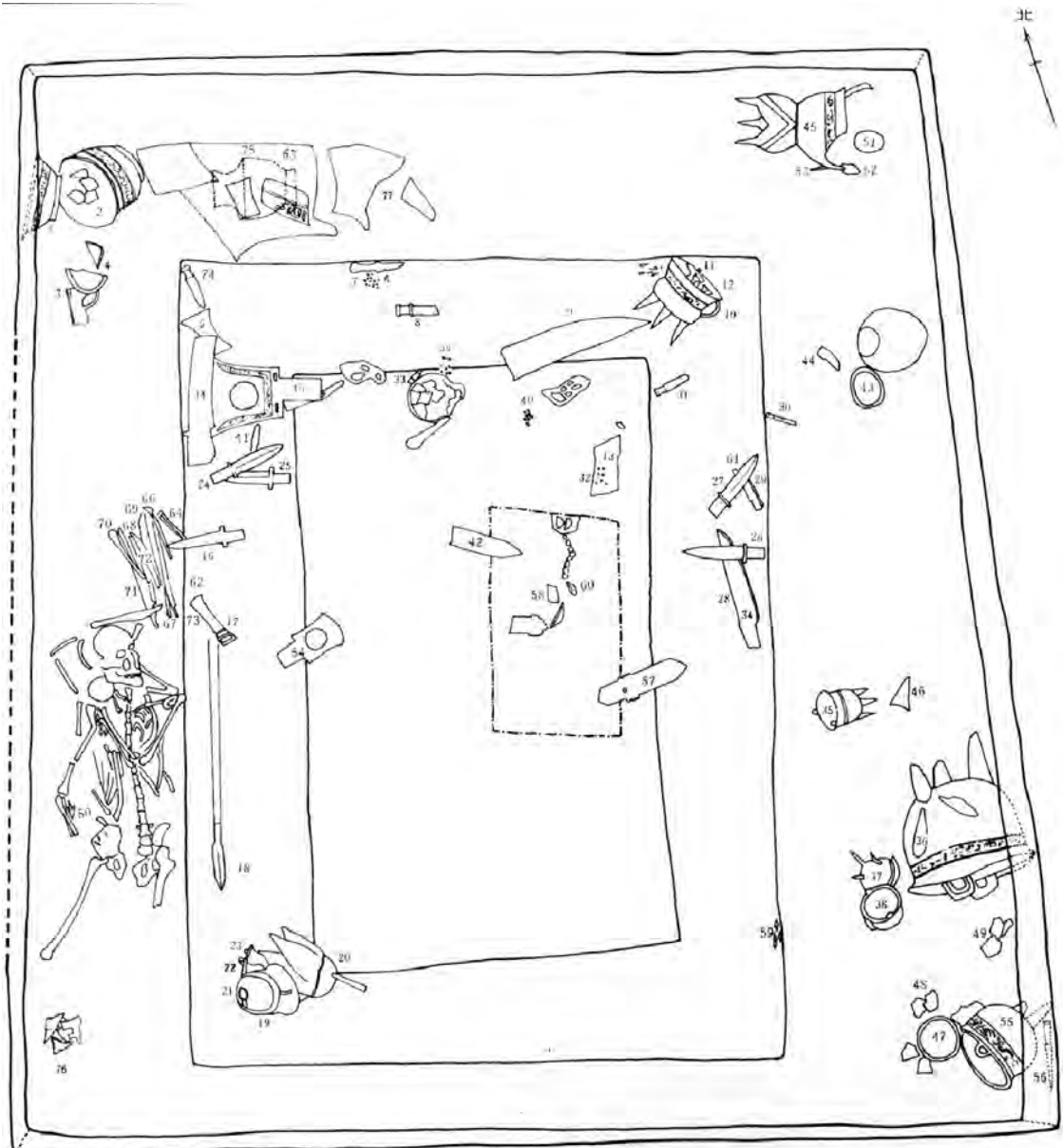


3.7. Panlongcheng (after HWKY 2001: 4, fig. 3).

The Erligang Tradition Dongxiafeng Variant

Located in the same area as the Dongxiafeng variant of the Erlitou tradition, this Erligang-period variant is said to be a mixture of Erlitou Dongxiafeng and Erligang influences (Figure 3.6D; ZSKY

2003), or in other words, local tradition continuing to develop under the influence of the new metropole. Interestingly, however, none of the tombs found in this area have waist pits, suggesting that this aspect of Erligang mortuary practice was not followed. Basic tools and artifacts in the Dongxiafeng variant



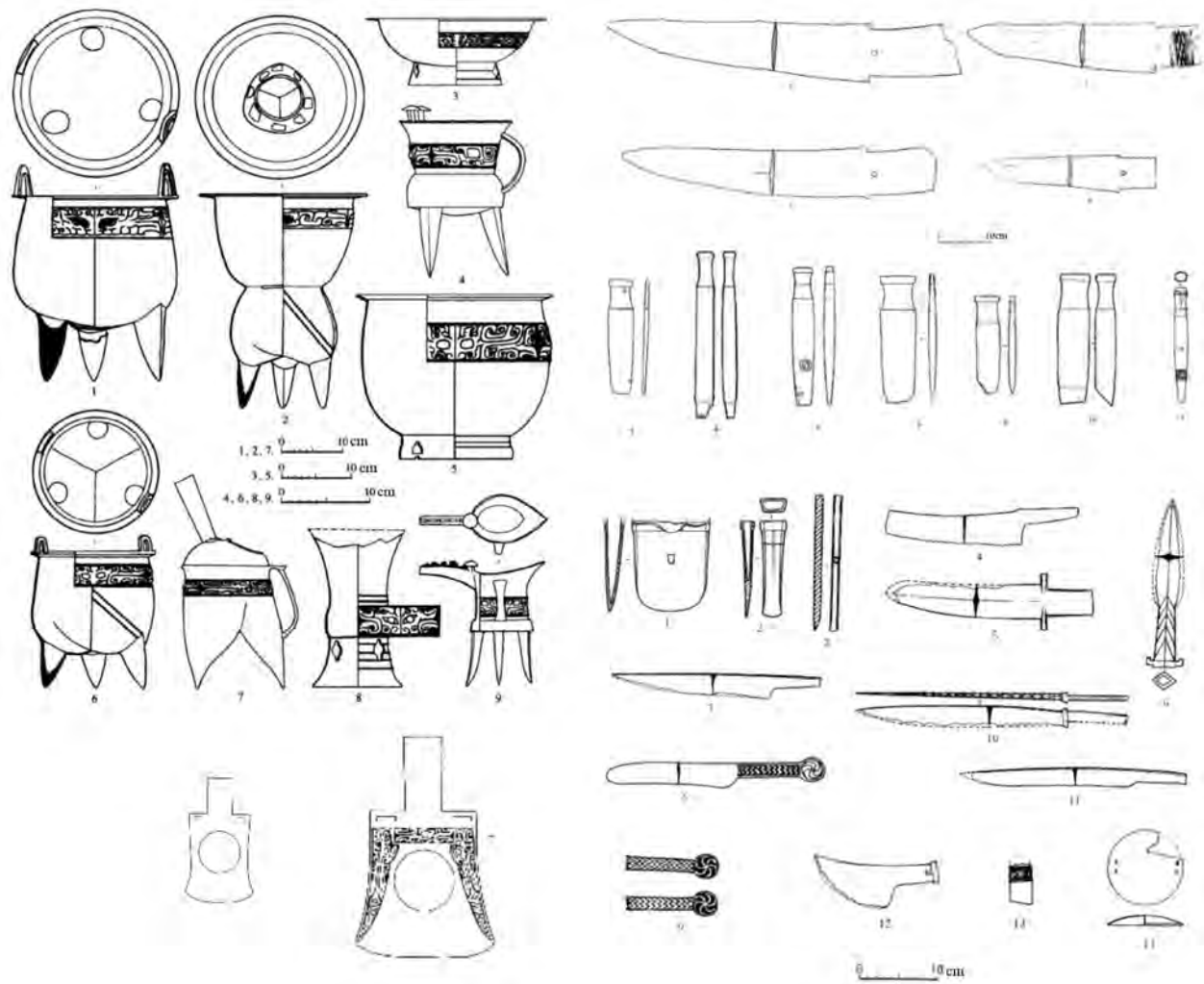
3.8. Panlongcheng Lijiazui M2 (after HWKY 2001:154, fig. 100).

area are more or less similar to those of the metropolitan variant, although given the connection between the two regions in the preceding Erlitou period, this is not especially remarkable. Nonetheless, the Dongxiafeng variant still retains some features common to traditions to its west and north, such as “egg-

shaped” urn vessels, and a relative predominance of stone knives over sickles in the stone tool assemblage—similar to the Beicun variant to the west but different from the Erligang variant.

The Dongxiafeng site itself (ZSKY, ZLB, SKY 1988) has only undergone limited

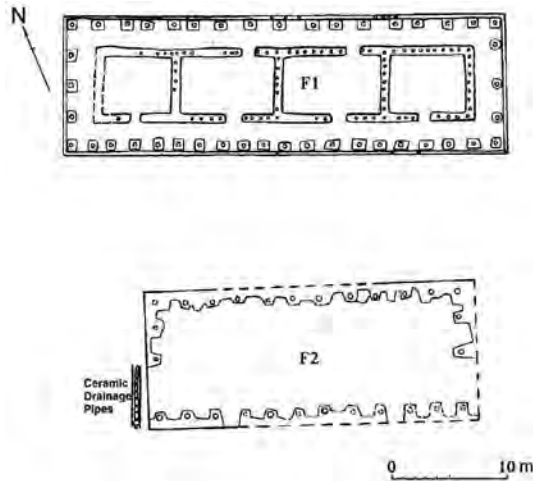
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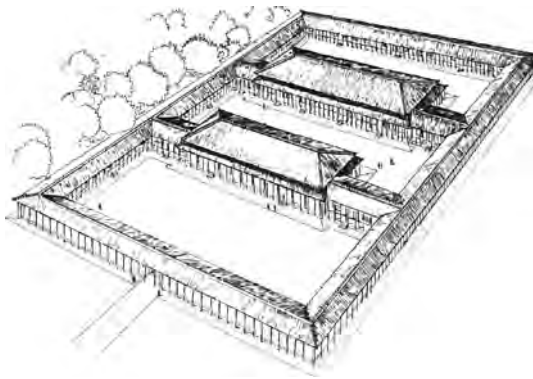
3.9. Bronze and jade artifacts from Lijiazui M2 (after HWKY 2001:176, 178, 180; figs. 117–119; *Institute of Archaeology* 2003:244, fig. 4-15).

excavations (ZSKY 2003), and it is difficult to estimate the site size in Erligang-period times. It had a wall and defensive ditch in Erligang period I, although only the southwestern side has survived. At the site an area of round building foundations has been discovered forming at least seven rows, with six or seven buildings per row, totaling between 40 and 50 structures. These structures have a diameter of about nine meters and were about 30–50 cm above the contemporaneous surface. They have cross-

shaped depressions on the floor surface and no doors. Many Chinese archaeologists speculated that these buildings were granaries, but recent soil chemical analysis has suggested they were used for salt storage (Chen et al. 2010). Some small bronze artifacts have been discovered at the site, and there is some evidence of bronze-casting in the northeast section, where slag and stone molds for producing arrowheads were excavated from Erligang-period contexts.



3.10. Panlongcheng Buildings 1 and 2 (after ZSKY 2003:233, fig. 4-11).



3.11. Reconstruction of Buildings 1 and 2 (after HWKY 2001:644, fig. 13).

The Erligang Tradition Beicun Variant

Distributed in eastern central Shaanxi, the Beicun variant is represented by Yaoxian Beicun (Beijing Daxue Kaoguxi Shang Zhou Zu, Shaanxisheng Kaogu Yanjiusuo [BDKSZZ, SKY]1994) and Xi'an Laoniupo (Liu Shi'e 2001). This variant is distributed no farther west than Xi'an in the Erligang pe-

riod. It dates from Erligang phase III through to the Anyang period. Despite some local characteristics, such as the prevalence of round-bodied *guan*-pots (an important cooking vessel in both Late Neolithic and Erlitou sites in eastern Shaanxi), and the absence of *jue*-vessels, the ceramic assemblage of this variant basically resembles that of Erligang (ZSKY 2003). However, like Dongxiafeng, stone knives appear more commonly than stone sickles—apparently a tradition common to southeastern Shanxi and east central Shaanxi during this period.

The Erligang Tradition Panlongcheng Variant

This Erligang-period variant is mostly based north of the Yangzi and south of the Tongbai Mountains, centered on the Panlongcheng site (Figure 3.7), although there are some scattered sites outside this area. This variant (Figure 3.6D) dates from Erligang period II and continues into the Xiaoshuang-qiao-Huanbei period. Due to the large tombs found at Lijiazui cemetery, many bronze vessels and weapons have been found (Figures 3.8, 3.9). Indeed, the Panlongcheng Lijiazui cemetery has the largest and richest tombs known for the Erligang period. Although no molds have been discovered at the site, it has been claimed that these bronzes have local characteristics (ZSKY 2003), suggesting local casting, though this is still a matter of debate. Weapons include *ge*-dagger-axes, *yue*-axes, and spears (something not seen in the Central

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Plains during the Erligang period), as well as arrowheads. Panlongcheng also has a kind of spade that has been found at Zhengzhou, suggesting the continued use of local weapon and tool types. The ceramics include both vessel forms and styles that resemble Erligang ceramics and vessels that are obviously local in origin. Erligang-type ceramics account for about 60 percent of the vessels that can be reconstructed. The ceramics are mostly hand-built, and red ceramics occupy over half the assemblage (Erligang ceramics are dominated by gray-ware).¹⁷ Some Erligang types do not occur at Panlongcheng, other Erligang types have local peculiarities, and red, thick-walled, rough-paste *gang*-urns are particularly common. This is a vessel type inherited from the late third–early second millennium BCE Shijiahe tradition and is one of the most common vessel types in this area during Erlitou times. The conclusion seems to be that the Panlongcheng variant's ceramic tradition is mostly based on the metropolitan variant but influenced by local traditions, as well as the Wucheng tradition to the southeast and the Hushu tradition of the east.

The Panlongcheng site, at over 75 ha,¹⁸ is the third-largest Erligang-tradition site after Zhengzhou and Yanshi (Hubeisheng wenwu kaogu yanjiusuo [HbWKY 2001]). It is walled and oriented to the northeast like other Erligang centers, elite buildings, and tombs. Unlike Wucheng, and previous Neolithic southern walled sites, Panlongcheng's walls were built with rammed earth (as opposed to simply heaped earth). There was also a moat around the site. Most of the important architecture was in

the northeast part of the site, including three large buildings atop a 6,000 m² rammed-earth platform (Figures 3.10, 3.11), which show obvious affinities with palace-temple structures of the Central Plains metropolitan tradition.

Mid- and small-sized houses were found at Panlongcheng as well, the middle-sized ones often built on rammed-earth platforms, while the small ones are semisubterranean. Craft production-related remains have been discovered both north and south of the walled site, although their nature is not entirely clear.¹⁹ Panlongcheng's architectural, ritual, and mortuary remains show unambiguous affiliation with Central Plains elite traditions, and, yet, the ceramic assemblage shows strong local characteristics. The consensus view among Chinese scholars is that the Erligang intrusion into the middle Yangzi was related to the control of rich copper deposits in the south. While this argument seems plausible, the nature of the intrusion and the political relationship between Panlongcheng and Zhengzhou both in the beginning, and over time, are by no means clear. Indeed, as will be argued in chapter 5, if the Erligang-period polity is anything like the Anyang polity in its political practices and networks of discursive, practical, and material resources, Erligang royal control over Panlongcheng, if ever actually direct, may have been fluctuating and contingent on regional politics and shifting alliances among high elites.

The Erligang Tradition Dachengdun Variant

The Dachengdun variant of the Erligang tradition (Figure 3.6E) begins in Erligang period III and is distributed in modern Anhui between the Yangzi and Huai Rivers and north of Chaohu. The type site is the Hanshan Dachengshou site. Erligang-type bronze vessels have been found at Dachengshou sites. Li-tripods are the most important cooking vessel in the ceramic assemblage (as in all Erligang-tradition variants), and though most of the assemblage resembles Erligang ceramics, there are also vessel types and styles that appear to be continuations of earlier local traditions. Ceramic-tradition influences include the previous Doujitai tradition (the prior tradition in the area), as well as possible Yueshi influences. Beyond formal ceramic and bronze typology, however, very little information is available. On present evidence then, all that can be said is that there seems to have been an intensification of Central Plains contact with this area in Erligang times, while the Erligang-style bronze vessels suggest the presence of metropolitan-style elites.²⁰

The Erligang Tradition Daxinzhuang Variant

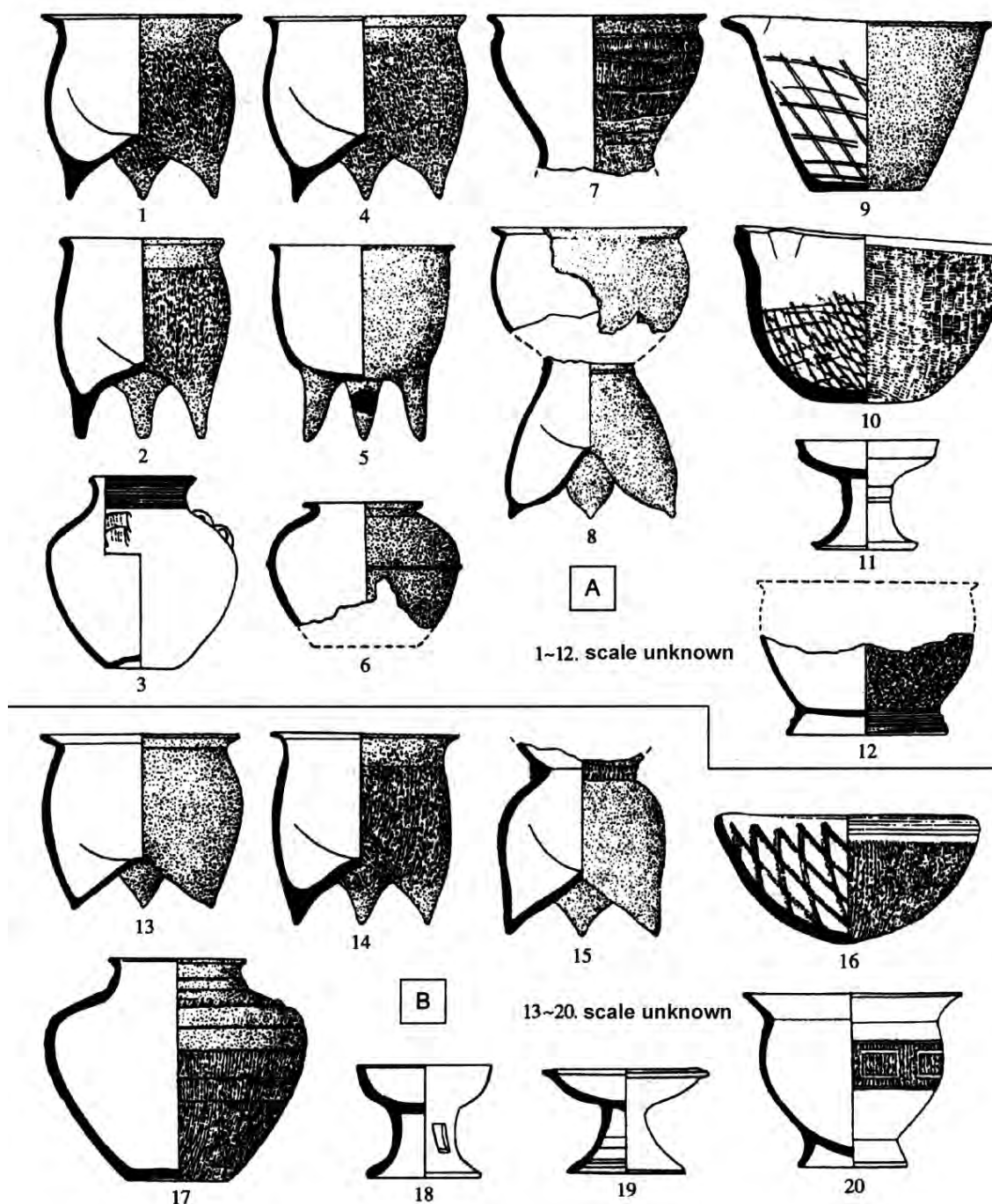
Jinan Daxinzhuang is the type-site for this variant (Figure 3.6G), which is distributed south of the present course of the Yellow River and west of the Taiyi mountain range. However, the only site of this variant in this period that has actually been excavated is Daxinzhuang, so this distribution is to some extent

conjectural. The Daxinzhuang variant dates from Erligang period III and is characterized by a ceramic assemblage that is mostly Erligang style or Erligang-derived, but also contains Yueshi or Yueshi-derived ceramics. Despite *li*-tripods being the most important cooking vessel, *yan*-steamers, which are one of the most important Yueshi cooking vessels, are far more frequent at Daxinzhuang than they are at Erligang. In terms of stone tools, half-moon-shaped two-holed knives carry on the Yueshi tradition, but most other tools and artifacts look similar to Erligang types. As with other variants, Daxinzhuang shows a mixture of traditions rather than the total replacement of one material culture tradition by another. Whether this mixture is due to overlapping distribution networks of different ceramic-production traditions, the coexistence of potters of different traditions at a single site, the incorporation of different styles and forms by ceramic producers, or some combination is uncertain with the present state of research. The predominance of Erligang-type ceramics, however, does indicate intensive contacts between this area of Shandong and Erligang sites to the west.

Traditions Beyond the Erligang Ceramic Horizon

The North

During the Erligang period, the Jinzhong tradition was distributed in Shanxi north of the Dongxiafeng variant. Sharing features with both Dongxiafeng- and Erligang-tradition ceramics, this tradition is nonetheless considered



3.12. Hushu-tradition ceramics (after ZSKY 2003:469; fig. 8-6).

to be an indigenous development with a close relationship to Zhukaigou in the northwest and Lower Xiajiadian in the northeast, sharing with them egg-shaped urns and deep-bellied basins.

Houses took the form of semisubterranean and subterranean cave houses, a phenomenon also seen in southern Shanxi and Hebei.

To the northwest, as in the Erlitou period, the Zhukaigou tradition occupied the northern bend of the Yellow River through Inner Mongolia. Toward the end of the Erligang period, Central Plains influences become more pronounced in Zhukaigou assemblages corresponding with the advent of the Erligang period III Beicun variant in central Shaanxi and perhaps the beginning of the Xiaoshuangqiao-Huanbei period expansion.

The Datuotou tradition, described above in the Erlitou section, continued through the Erligang period, distributed to the northeast of the Taixi variant of the Erligang tradition in the region of modern Beijing and Tianjing. The Datuotou metallurgical tradition belongs to the northern complex and shares many common features with the other traditions spread across the northern periphery of the Central Plains. As in the Erlitou period, the Lower Xiajiadian tradition was distributed to the northeast of the Datuotou tradition, occupying parts of eastern Inner Mongolia and western Liaoning (see Erlitou period section above).

Generally speaking, there seems to be a degree of cultural interaction and exchange over a broad band stretching from western Shaanxi and Gansu, through Inner Mongolia, middle and northern Shanxi, and the northern half of Hubei and Liaoning. Evidence for this interaction includes elements of ceramic traditions, mortuary practices (stone coffins), and metallurgical traditions. This interaction zone was already present from at least Erlitou times, and

although the cultural, political and economic nature of this zone and its relationship to Central Plains cultures probably changed over time, it was a zone of contact of lasting importance throughout the Central Plains Bronze Age and beyond.

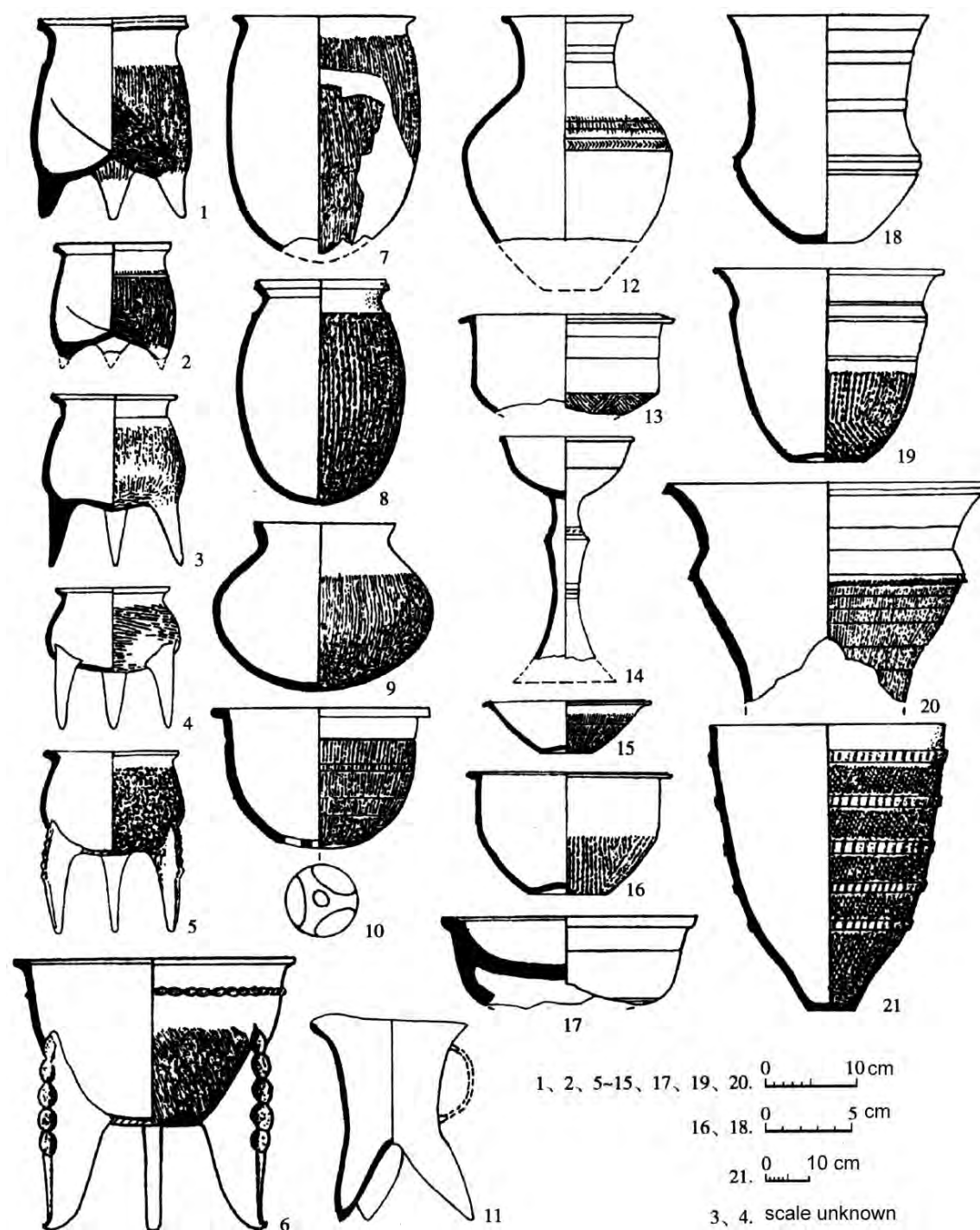
The East

During the Erligang period, the principal non-Central Plains Bronze Age ceramic tradition in the east was still the Yueshi-tradition variants in Shandong. As noted above, the Erligang-tradition variant of Daxinzhuang takes form at the end of this period, and the Erligang tradition is said to extend into eastern Henan (ZSKY 2003). Nevertheless, the extent to which the Erligang tradition displaces the Anqiugudui Yueshi variant or the Yueshi Zhaogezhuang variant, is unclear at present. Even if the Erligang variants in former Yueshi areas represent metropolitan colonial intrusions as opposed to increased contact and emulation of the Central Plains megacenters in areas that had long been interacting, it would still not be clear whether such intrusions should be seen in terms of conquest, economic activity, or some other possibility. In short, on present evidence, we can only say that Erligang material cultural influences spread eastward near the end of the Erligang period, replacing Yueshi traditions in some areas. However, the ethnic, political, social, and economic details of this “influence” are anything but clear.

The Southeast

As mentioned above, the area that was formerly occupied by the Doujitai ce-

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3.13. *Jingnansi-tradition ceramics (after ZSKY 2003:475; fig. 8-7).*

ramic tradition during Erlitou times came to be occupied by the Erligang-tradition variant Dachengdun at the end of the Erligang period. The socio-

political details of this transition are unclear, and no major Erligang centers have been discovered in this area. Minimally, the evidence suggests a marked

increase in northern material cultural elements in an area that had already seen interaction with the Central Plains in Erlitou times.

The Hushu Tradition

The Hushu tradition (Figure 3.12) was distributed to the east of the Erligang Dachengdun variant in the Erlitou-period Dianjiangtai-tradition area. The Hushu tradition continued down to Anyang times. After the Anyang period, under strong Western Zhou influence, “Wu culture”²¹ is said to emerge in this area (ZSKY 2003:467). The small bronze artifacts, such as knives and arrowheads, so far discovered in Hushu strata bear close resemblance to Erligang types and are probably copies or imports. In terms of ceramics, the assemblages are said to show both Erligang and Maqiao influences on a tradition that mostly derives from the Dianjiangtai tradition (ZSKY 2003). Nevertheless, being entirely an analysis of formal features of a tradition seen as an organic whole, these culture-historical conclusions may in fact mask a variety of social processes and contacts between this and adjacent areas (e.g., exchange, intermarriage, emulation, population movements, warfare, etc.).

The Maqiao Tradition

South and east of the Hushu tradition, in the area around Taihu, the Maqiao tradition was distributed as in Erlitou times. This tradition is poorly understood, although, as noted above, there is some evidence for contact between this tradition and the Hushu tradition of Jiangsu Province.

Recently, a survey and excavation of protoporcelain production sites was conducted in the Maqiao-tradition area (Zhejiangsheng Wenwu Kaogu Yanjiusuo [ZWKY] et al. 2011). The fruits of this investigation included the earliest evidence of protoporcelain production dating to the Erligang period and perhaps earlier and an early form of the “dragon kiln.” The site of Nanshan contained protoporcelain-production remains ranging from Erligang (or perhaps Erlitou) to Anyang times (ZWKY et al. 2011).

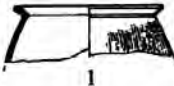
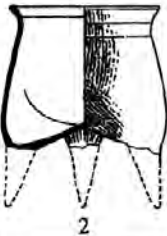
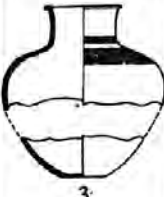

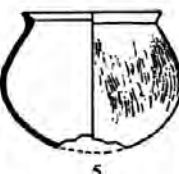


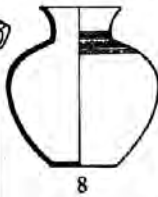


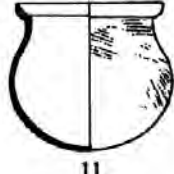




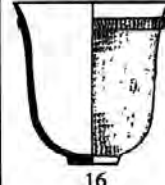
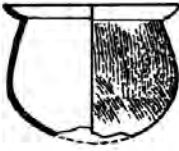


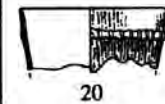
The South

As mentioned above, the Erligang-tradition site of Panlongcheng was built in Hubei Province by at least Erligang period II, seemingly the culmination of several centuries of interactions between northern Hubei and the Central Plains. While there is evidence of Panlongcheng-variant Erligang-tradition sites from as far south as Hunan Yueyang and possibly Jiangxi Ruichang (both with early mining sites nearby), Erligang ceramic traditions are not the only ceramic traditions in Hubei, Hunan, and Jiangxi during this period.

The Jingnansi Tradition

Distributed near the modern city of Jingzhou in southern Hubei, and known mainly from the type-site of Jingnansi and the adjacent Zhangjiashan site, this tradition (Figure 3.13) shows strong Panlongcheng influences. Nevertheless, the tradition mainly evolved from prior local traditions, with some influences evident from the Chaotianzui variant of the Sanxingdui tradition located up the

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	Fu	Li	Gui	High-necked Guan	Dou	Large-Mouthed Gang
P h a s e 1	 1	 2		 3	 4	
P h a s e 2	 5	 6	 7	 8	 9	 10
P h a s e 3	 11	 12	 13	 14	 15	 16
P h a s e 4	 17			 18	 19	 20

3.14. Baota-tradition ceramics seriation (after ZSKY 2003:481; fig. 8-10).

Yangzi (ZSKY 2003). The Jingnansi tradition lasted from the Erligang period to the beginning of the Anyang period. At present the distribution of Erligang-period sites in this area is unclear. Much more work needs to be done before we understand the relationships between Panlongcheng and areas farther up the Yangzi beyond the observations that the ceramic assemblage indicates extensive contact of some kind and that western Hubei may have been a zone of contact between the eastern extension of the

Sanxingdui tradition and the southern extension of the Erligang tradition.

The Baota Tradition
Distributed north and east of Lake Dongting in Hunan Province, the Baota tradition (Figure 3.14) shows Central Plains influences in its ceramic tradition as well as that of Jingnansi. Central Plains-style bronzes have been discovered in this area. While this area is also poorly understood archaeologically, we know minimally that there seems to

have been extensive and intensive contact between people living in Hubei and Hunan along the Yangzi and its tributaries.

The Wucheng Tradition

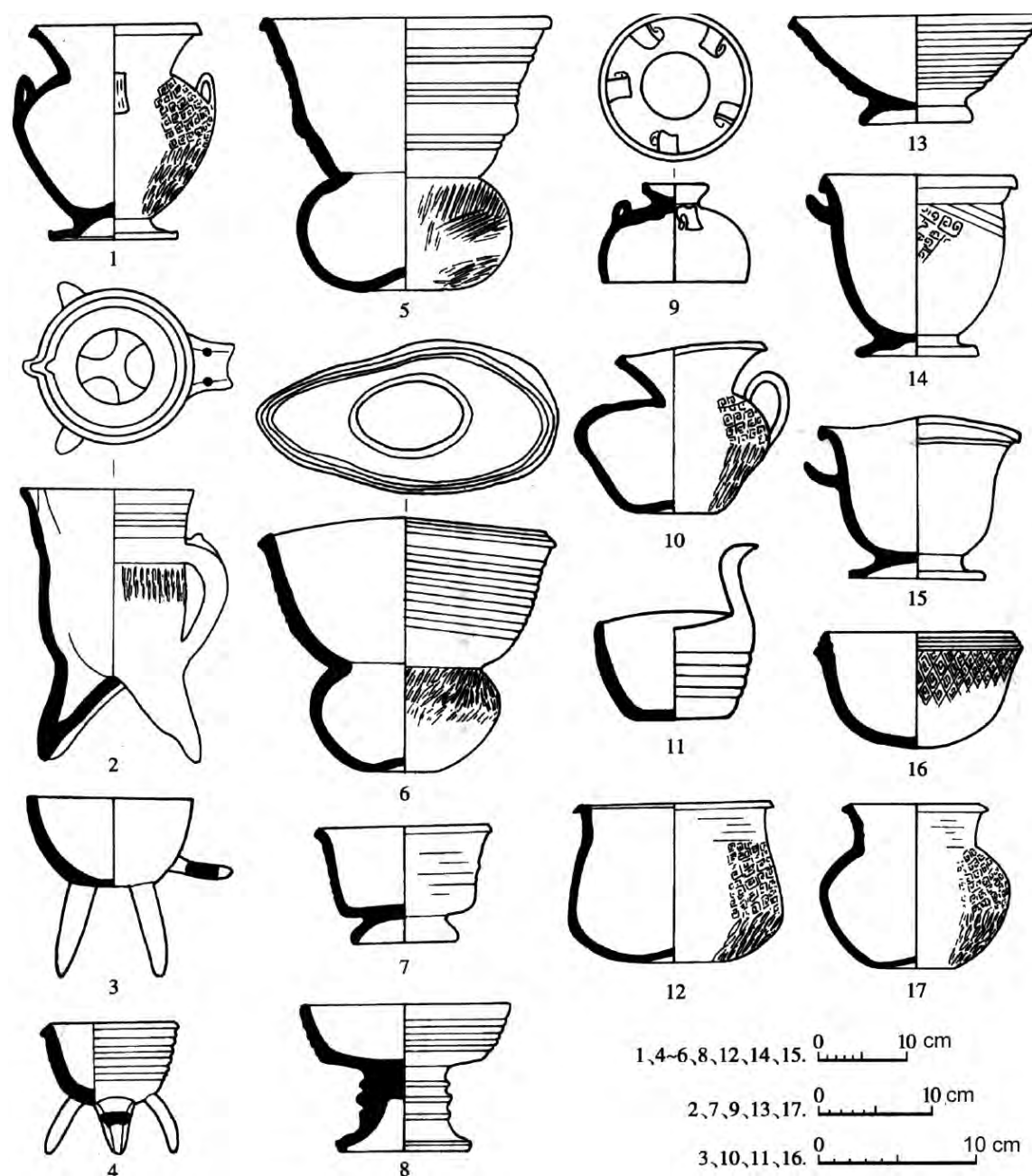
The Wucheng tradition gets its name from the site of Wucheng in Jiangxi Province. Approximately 60 ha in size and surrounded by an earthen wall, Wucheng was also the site of bronze-casting and the production of stonewares and protoporcelains, as well as having what may be an undeciphered script.²² Wucheng sites were distributed mostly in the eastern half of Jiangxi Province (ZSKY 2003; Peng 2004; Jiangxisheng bowuguan kaogu yanjiusuo, zhangshushi bowuguan [JBKY, ZB] 2005), and over 200 sites of this type have been discovered (Peng 2004).²³ The Wucheng site is divided into three periods, only the first of which probably dates to the Erligang period (Table 3.2).²⁴ The wall of the site was begun during Erligang period phase III (Wucheng I), but the extent of the site during this period is unclear. The Wucheng tradition (Figure 3.15) shows Erligang influences most strongly in period I, and according to JBKY, ZB (2005), Central Plains-type vessels form the core of the assemblage (although this assertion is not supported with any quantitative data). Also uncertain is the origin of Wucheng’s Central Plains “influences,” since the vessel types are similar to, yet differ from, known Erligang variants.²⁵ The authors of the *Xia and Shang* (ZSKY 2003), on the other hand, are of the opinion that during phase I the main tradition is local but under strong Erligang influence. There is general agree-

	Phase I	Phase II	Phase III
Li			
Dou			
Pen			
Guan			
Zun			
Guan II			
Lid			

3.15. Wucheng-tradition ceramics (after ZSKY 2003:485; fig. 8-11).

ment, however, that Wucheng shows evidence, in terms of both ceramics and bronze artifacts, of contact with the Central Plains metropolitan sphere and that this contact was strongest in phase I. It is also widely believed that Wucheng may have been one of the sources of the stamped and glazed stoneware and “protoporcelain” found in such central plains sites as Zhengzhou and Yuanqu.

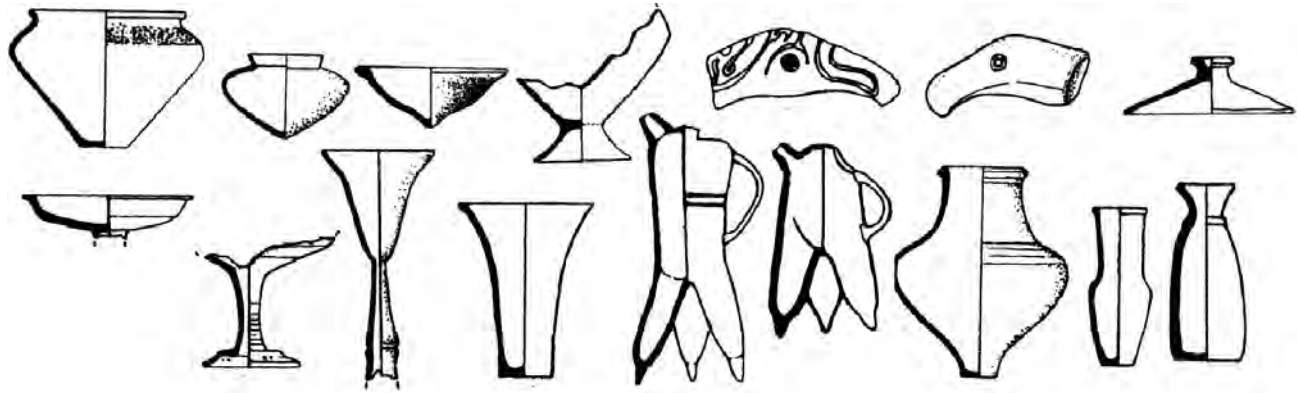
On present evidence then, it would seem that during the formative stages of the Wucheng tradition, there was a considerable amount of contact with Panlongcheng-variant areas and perhaps other Erligang variant areas as well. The



3.16. Wannian-tradition ceramics (after ZSKY 2003:490, fig 8-14).

specifics of this interaction remain unclear, but it is probably no coincidence that it corresponds with the Central Plains intrusion into Hubei. From the mixed assemblage at the Tongling mining site and the presence of Wucheng-type hard ceramics in the north, this in-

teraction would seem to have involved at least forms of exchange. However, since most of the remains of the Wucheng site date to Xiaoshuangqiao-Huanbei phase I (Wucheng II), I will save further discussion of the site to a later section.



3.17. *Sanxingdui-tradition phases III-IV ceramics (after ZSKY 2003:502, 503; fig. 8-17).*

The Wannian Tradition²⁶

Distributed in the western half of Jiangxi Province and showing ties with the ceramic traditions of western Fujian, this tradition (Figure 3.16) is notable for its high proportion of stamped hard ceramics and protoporcelain (ZSKY 2003). According to recent work, this tradition can be divided into two phases, the first dating to roughly the Erligang and Xiaoshuangqiao-Huanbei periods, and the second, to the Anyang period (Peng 2004). Over 40 sites of this type have been found to date, but they are widely scattered, and the largest are only 1 ha in size.

With a *yan*-shaped vessel as its chief cooking vessel instead of a *li*-tripod, the ceramic assemblage of this tradition is very different from the Wucheng tradition. Dividing up the assemblage into four types, Peng (2004) notes that while local ceramics are said to make up 80 percent of the assemblage, Hushu-type ceramics are the most abundant non-Wannian element. This would suggest that Wannian-tradition communities had more interaction (at least of the

kind that left a trace in the ceramic assemblage) with communities in Jiangsu than with their Wucheng-tradition neighbors.

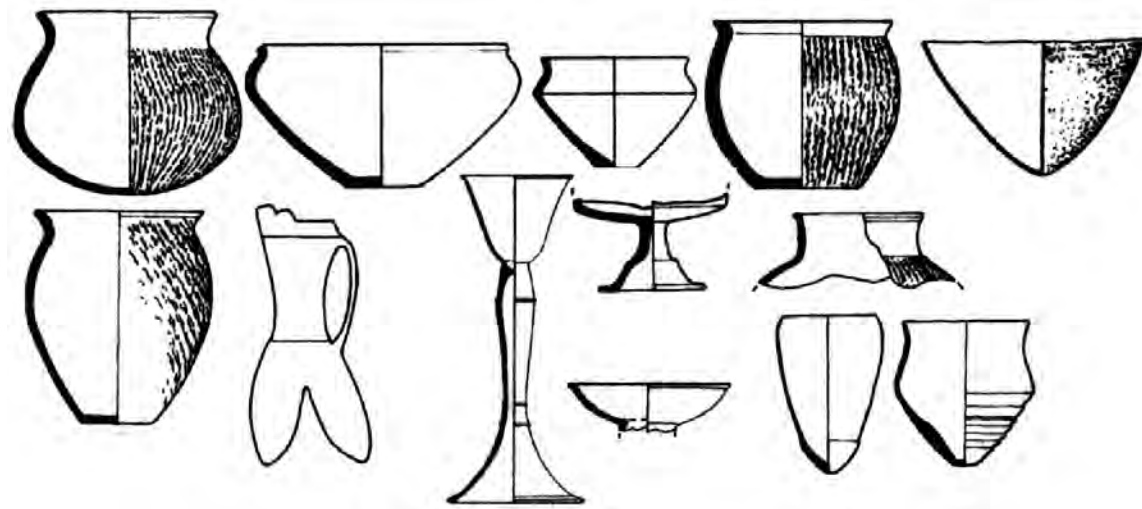
The Southwest

In the Sichuan basin, the Sanxingdui tradition that arose in late Erlitou times continued to flourish, and, if all of the Sanxingdui site was in use at this point, its size at 12 km² (360 ha within the walls) would have approached that of Zhengzhou and been the second largest site known from this period. Its walls were massive in size (over 40 m in width at the base and covered with adobe brick finish at the top (ZSKY 2003)). Sanxingdui material culture influences expanded in this period reaching the three gorges where the Chaotianzui variant formed.

The Sanxingdui Tradition

Since a site report for Sanxingdui has yet to be published, there are numerous questions that remain, not least, the chronology of the site. While based on comparison with Erlitou ceramic types,

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3.18. *Sanxingdui-tradition Chaotianzui variant* (after ZSKY 2003:510, 511; fig. 5-18).

Sanxingdui I and II have been dated to the Erlitou period, Sanxingdui III (which includes artifact pit I) has been dated to phase I or II of the Anyang period (Figure 3.17). This obviously creates the problem of accounting for the 300 plus years between the end of Erlitou and the beginning of the Anyang period (ZSKY 2003). A more coherent solution is that of Xu (2006, 2008), which, as noted in Chapter 2, places Sanxingdui I in the Baodun period and dates Sanxingdui II to ca. 2000–1500 BCE. Sanxingdui III is dated to 1500–1200 BCE, and Sanxingdui IV, to 1200–1000 BCE. Under this chronological schema, late Sanxingdui II and early Sanxingdui III would date to the Erligang period.

Although according to ZSKY (2003) there is increased contact between Sichuan and the Central Plains in the Erligang period, the evidence for this comes from some bronze vessels and jades supposedly dating to the Erligang and Xiaoshuangqiao periods found

in the artifact pits (ZSKY 2003). Bagley (1999), however, claims that the bronzes at Sanxingdui show no Erligang influences, noting instead their similarity to vessels from the Middle Yangzi that date to the Xiaoshuangqiao-Huanbei period (or “transitional period” in Bagley’s terminology; see also Falkenhausen 2006).

If this is correct, then, as suggested for the Erlitou period, the Central Plains influence on the Sichuan basin is actually an indirect influence via Panlongcheng and the bronze traditions that arose on the edges of its influence and after its fall. In political terms, there is even less reason to postulate direct linkages between the elites of Sanxingdui and those of Zhengzhou.

The Sanxingdui-Tradition Chaotianzui Variant

The Chaotianzui variant of the Sanxingdui tradition is distributed all along the Yangzi gorges area. Despite a fair amount of excavation on sites of this

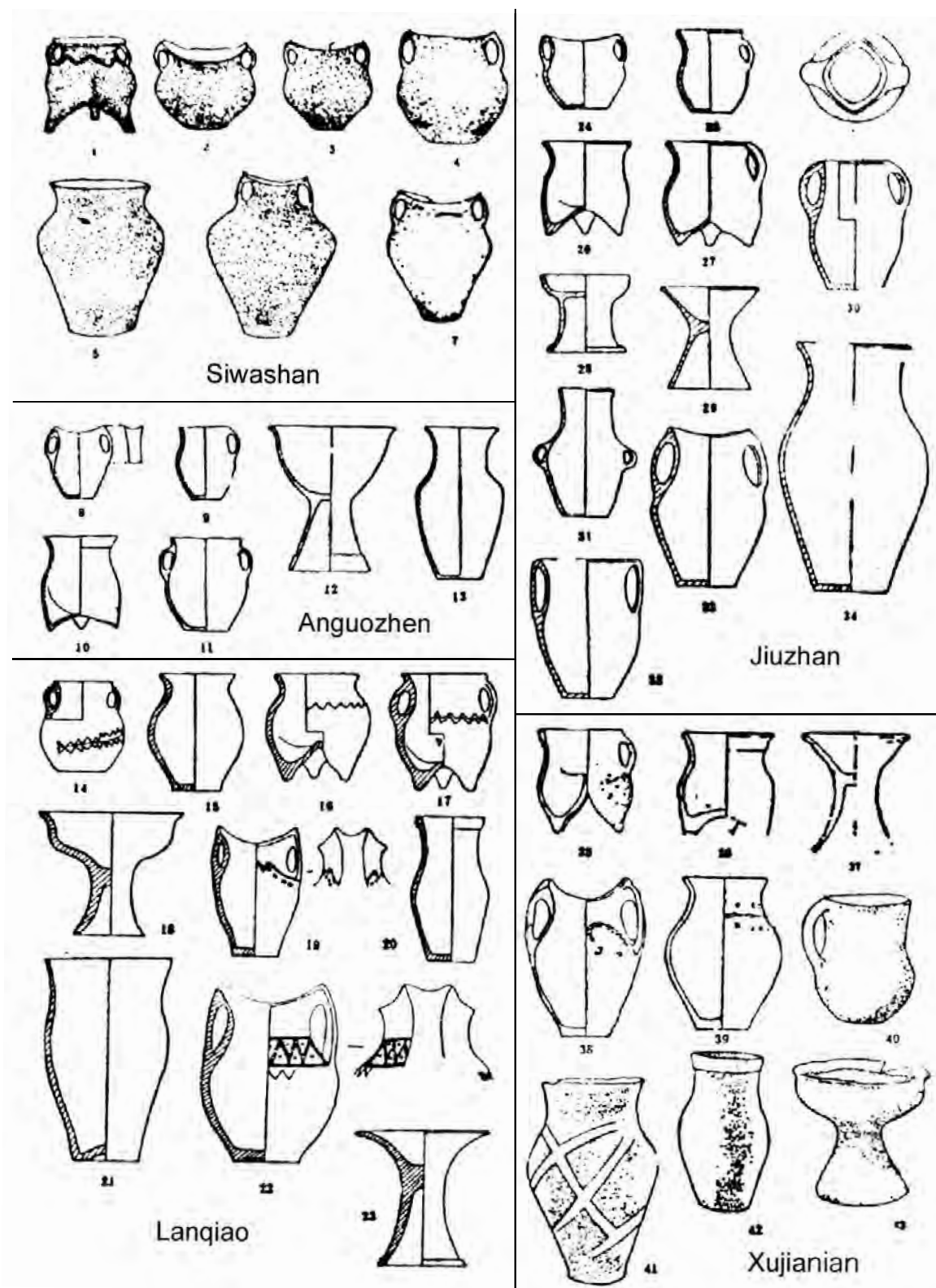


Figure 3.19. Siwa-tradition variant ceramics (after Zhao 1989:149; fig. 2).

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variant, reports have not been systematic, and it is difficult to fix the date of this culture. It is said to roughly correspond to the middle period of the Sanxingdui tradition, suggesting, perhaps, dates between the Erligang and Xiaoshuangqiao-Huanbei periods. This variant (Figure 3.18) can be divided into three phases, but, because there have been few comprehensive reports, the periodization is still not settled. The ceramic assemblages of this tradition include vessel types commonly seen in Sanxingdui sites, some types rarely seen in Sanxingdui sites, and types that are purely local. The Sanxingdui types are the most common, but by phase III, the proportion of Sanxingdui ceramics decrease in relation to local forms. Some Central Plains-type bronze vessels have been discovered in the area in addition to local style bronze arrowheads, knives, axes, and small tools. Most tools and weapons excavated from Chaotianzui sites, however, were made of stone or bone.

The West

Aside from the Beicun Erligang-period variant, which dates from Erligang period phase III, the archaeology of Shaanxi is poorly understood for the Erligang period. On present evidence, all that can be said is that Central Plains material cultural elements were spread farther into Shanxi during Erligang period III and continued to spread during the Xiaoshuangqiao-Huanbei period.

The Siwa Tradition

The Siwa tradition was distributed in eastern Gansu and on the edges of west-

ern Shaanxi from Erligang to Western Zhou times (Nan 1989). It is known almost exclusively from burials, and virtually nothing is known about the societies that produced the material culture of this tradition. The Siwa was located mostly to the east and south of the Xindian tradition, and though they are said to be clearly distinct traditions, Xindian and Siwa show some similarities, such as saddle-mouthed *guan*-jars and double-eared, bag-footed *li*-tripods (Nan 1989).

Generally speaking, most Siwa tombs are rectangular pits, and treatment of the body includes: intact straight-limb burial, partial dismemberment, and secondary burial (Zhao 1989). Burial goods generally take the form of ceramic vessels (anywhere from several to several dozen), with saddle-mouthed *guan*-jars being the most common vessel type. Small bronze artifacts, such as weapons, tools, and ornaments, are occasionally also found in Siwa tombs. Many Siwa burials have niches used for placing burial goods and, sometimes, sacrificial victims or death attendants. At one Siwa cemetery, some of the burials had coffins and, more rarely, even outer coffins (Zhao 1989). The Siwa tradition, following the historiographic assumptions of Chinese archaeological practice, has been assigned a number of ethnic labels derived from traditional historical texts, including Di Qiang (Xia 1949), Rong Di (Hu 1979), and even Proto-Zhou (Li 1981). As Wang (1992) has argued however, the appellations that Zhou texts gave to their non-Zhou neighbors were not so much stable entities as discursive reflections of shifting

political and ethnic boundaries. From a material culture perspective, with the current state of evidence, all that can be said is that the Siwa tradition shares some features with some of the traditions found in Shaanxi during the Anyang period.

The Xindian Tradition

(The Xindian tradition was distributed to the west of the Siwa tradition, around the confluence of the Yellow and Tao Rivers at the eastern end of the Gansu corridor and eastern Qinghai. This tradition (Figure 3.20) is generally believed to have developed out of the Qijia tradition (Zhang et al. 1993; Nan 1989) and dated from the end of the Erlitou period to the Western Zhou. During its later phases the Xindian tradition expanded westward into Qinghai. Very little information exists concerning the Xindian tradition aside from formal typological material and brief tomb descriptions. Tombs take the form of rectangular pits, irregular pit burials, or “niche”-burials. Ceramics include divided-crotch, bag-footed *li* vessels, but the most common vessel type appears to be saddle-mouthed *guan*-pots. Xindian ceramics are also frequently painted (unlike Siwa ceramics). Compared to Qijia bronze-working, the Xindian tradition seems relatively impoverished. What bronze artifacts are found in Xindian sites mostly take the form of small weapons, tools, and ornaments (Li Shuicheng 2005).

Conclusion

If many of the material cultural aspects of Shang elite culture had their anteced-



3.20. Xindian-tradition ceramics (after Nan 1989:76; fig. 2).

ents at Erlitou, the Erligang period saw their development. From settlement size to distribution of sites and in terms of the quantity, quality, and distribution of elite craft production, as well as evidence of long-distance exchange, the Erligang horizon was unprecedented. The transition between the Erlitou and Erligang periods, moreover, appears to have been culturally seamless. Already, in Erlitou IV and increasingly toward the end of the phase, Erligang-type ceramics were found in the Erlitou assemblage. Six kilometers away and roughly contemporary with the second half of Erlitou IV, the large Shang walled site of Yanshi was built, and, in the Zhengzhou area, an even larger walled site was being constructed. The “Erlitou expansion” was not followed by a retraction of Central Plains material culture, but

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rather it was incorporated into an even larger “Erligang expansion.” The bronze vessel-casting tradition, likely invented at Erlitou, was taken up and expanded on in Zhengzhou and Yanshi and likely such other sites as Panlongcheng. The bronze and stone weapon types found at Erlitou continued to form the core of the Central Plains arsenal. The use of bronze and jade weapons or artifacts derived from weapons as symbols of status or tools of ritual continued to be elaborated on. The Erlitou jade assemblage in general (with the exception of zhang-blades) remained the core of the Erligang-period jade assemblage, with some types, such as the “handle-shaped” artifact, increasing in quantity and variety through to the eighth century BCE (Cao 2008). Architecturally, the Erlitou enclosed courtyard style rammed-earth platform palace-temple, and circumscribed palace-temple area at the center of the settlement formed the basis of Erligang and, indeed, later imperial Chinese architecture (Thorp 1991).

The Erligang period is also characterized by some new developments, however, such as the appearance of a series of Central Plains metropolitan ceramic tradition sites surrounded by rectangular rammed-earth walls oriented to 10–20 degrees east of north. These sites are distributed from Hubei to southern Shanxi.²⁷ In fact, the change in the orientation of major architecture from about 5 degrees west of north at Erlitou, to the 10–20 degrees east of north in the Erligang period, is viewed by many scholars as evidence confirming the received textual record of dynastic change.²⁸ Some

scholars (e.g., Sun 2009; Liu and Chen 2003) have noted that the presence of walled Erligang sites on the periphery tend to correspond to areas of strategic resources (such as copper and tin: Panlongcheng, Dongxiafeng; salt: Yuanqu), but military and political objectives may have been just as important (Tong 2003). These scholars also see the presence of these walled sites and the Erligang expansion in general as evidence for the direct control of a huge territory by a centralized state (Bagley 1999). While the presence of walled Erligang-type sites over a large area suggests a common elite cultural sphere, even while the unparalleled scale of Zhengzhou suggests a cultural and political core, the actual relationships between sites and the mechanisms of putative political control remain unknown. If the analogy to the Anyang period can be made, lacking the infrastructure of later Qin-Han-type imperial control, political relationships even within the Central Plains cultural sphere were likely indirect, mutable, and based on ritually reinforced kinship hierarchy, alliance, and sporadic, rather than routine, mechanisms of coercion. It is also likely that—as with the Zhou dynasts, who set up statelets in strategic areas after the conquest of the Shang—the political, economic, and cultural relationships between sites changed over the course of their occupation, each site and each region having its own local historical trajectory related to, but not necessarily determined by, the fate of the cultural and political core.

Looking at the Erligang expansion from the point of view of the ceramic

traditions on which it is largely based, several issues immediately present themselves. The first is the relationship between ceramic production and distribution. If, as we tentatively proposed for Erlitou times,²⁹ production is mostly small-scale and distribution limited, then ceramic tradition changes can be more closely linked with the movement of people. However, given that the Erligang-period ceramic tradition and variant boundaries tend to be soft, whatever social or demographic changes were reflected in the Erligang expansion, they generally do not appear to have involved wholesale population movements and certainly not replacements. Rather, as in the case of Panlongcheng, where there is a mixing of Erligang and local ceramic traditions, both Erligang and local populations may have coexisted,³⁰ despite it apparently being a northern colony. The second issue is the nature and developmental history of the Erligang-period ceramic traditions and the issue of ethnogenesis. If Zhengzhou ceramics show evidence of multiple traditions whose variety gradually and synthetically changed into uniformity over the generations of the site's occupation, it seems more likely that political identity and culture continued to evolve within and in interaction with the great settlement at Zhengzhou (Wang 2009) than that they were the unchanging property of a "Shang" ethnic group who occupied the Xiaqiyan-tradition area during Erlitou times. Rather, as the great center brought together people in hitherto unprecedented numbers and densities, new identities, social forms, and ways of life (Yoffee 2005) were forged.³¹

The civilizational sphere of influence centered on the Zhengzhou polity, though expansive, was neither homogeneous nor unique within the area currently occupied by the PRC. In Sichuan, the Sanxingdui tradition flourished, while lower down the Yangzi, local societies responded to Central Plains cultural and perhaps political intrusion with a variety of responses, exporting northward their characteristic stoneware and protoporcelains even as they absorbed bronze-casting techniques and perhaps other cultural forms. To the west, north, and northwest in western Shaanxi and Gansu, Inner Mongolia, and northern Shanxi provinces, local traditions, though showing increasing interaction with the Erligang period cultural world, nevertheless preserved material cultural traditions (including bronze-casting) and likely social organization and lifeways different from those of the Zhengzhou core. In Liaoning and Inner Mongolia in the northeast, the Lower Xiajiadian-tradition area was still home to societies living in networks of stone fortified sites, who shared certain cultural forms with other sites across a broad expanse of the north and northwest, while in the east the Yueshi areas, while showing increased contact with the Erligang-period cultural sphere, was nonetheless distinct. Although in its time, the Erligang-period urban site at Zhengzhou may have stood at the center of the largest and most influential sphere of civilization in contemporary East Asia, the elites at Zhengzhou nevertheless inhabited a complex cultural landscape, with multiple and multidirectional networks of resources, culture, and knowledge.

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Endnotes

1 Henansheng wenwu kaogu yanjiusu [HWKY] (2001) states that the Erligang-period site was 25 km². This estimate takes into account the distribution of Erligang-period cultural deposits outside of the walls.

2 These are Xiaqiyuan, Erlitou, Yueshi, and Luwangfen-Songyao. Indeed, at least according to ZSKY (2003:164–168), the early occupation of the site included at least three separate but overlapping ceramic traditions: Erligang, Nanguanwai, and Luodamiao. Erligang is said to be “Shang” (i.e., mostly Xiaqiyuan in origin), Nanguanwai is said to have heavy Yueshi influences, and Luodamiao is apparently a development of Erlitou ceramic traditions. With this the authors of the *Xia Shang Juan* stress the cosmopolitan origins of the Zhengzhou center and, by implication, the “Shang” polity in general.

3 Recent work at the site has indicated that there were rammed-earth structures being built in the “palace-temple” area and that the inner walls were built in the Luodamiao period before Erligang I (i.e., during the end of the Erlitou period). As for the absolute date of Lower Erligang, radiocarbon dating puts Zhengzhou’s Luodamiao site at 1670–1640 (BCE) and Lower Erligang phase I at 1600 (B.C.). “Now we have discovered that construction on the Shang center began before Lower Erligang and thus the Zhengzhou Shang center was constructed between 1640 and 1600 B.C.” (Yuan and Zeng 2004:66; Yuan and Zeng 2005 [an English version of the same article]). Liu Xu, however, notes that there is some conflation of “Luodamiao” and “Erligang I” stratigraphic levels involved in this assessment (lecture notes Nov. 2005, Peking University), while the C-14 dates, some with error margins as small as ± 17 years were apparently derived through “wiggle-matching,” which brought assumptions about stratigraphic relationships of units from different parts of the site into calculations of absolute dating. Moreover, without the uncalibrated C-14 dates, it is hard to reconstruct

the steps through which the authors arrived at their absolute dating and thus difficult to assess its rigor. Moreover, it should be noted that there has been a long-standing rivalry between the Yanshi Shangcheng and Zhengzhou Shangcheng archaeological teams revolving around which site is earlier, and there remains some controversy concerning the dating of both these sites, which, on present evidence, appear to be roughly contemporaneous at around 1600 BCE or perhaps a bit earlier

4 Whether or not the wall actually surrounded the entire site is in doubt, and it may have been only an outer defense-works and/or levee on the most vulnerable side of the site. The possible defensive nature of the wall is further suggested by the discovery of a pit just inside the outer wall with a cache of over 30 stone *ge*-dagger-axes (ZSKY 2003).

5 This is generally true of all important architecture (large foundations, tombs, and most of the walls in the Erligang to Anyang periods, unlike Erlitou, where buildings are oriented slightly west of north. In the Erligang period this generalization is true of Zhengzhou, Yanshi, Panlongcheng, Dongxiafeng, and Fufeng (see below).

6 This may in part be due to the fact that the southern half of the site was intensely occupied in Han and Tang periods destroying any earlier cultural deposits there. (ZSKY 2003).

7 This, of course, does not rule out the possibility that it was also a royal center and, indeed, the large palace-temple structures suggest that it was an important ritual, administrative, and/or economic site. Unfortunately, without clearer understanding of what sorts of activities went on in which types of buildings and who had access to them and who did not, it is difficult to say much for certain about the precise nature of the site except that it has the same type and scale of elite structures seen at Anyang, which can be unambiguously associated with the Shang kings. It may be that in the Erligang period, as in the Western Zhou case, there was more than one capital. There is a volumi-

Chapter 3

nous Chinese-language literature on the subject, the bibliography for some of which can be found in ZSKY (2003).

8 At the beginning of this phase, it is likely that Erlitou was larger than the Erligang site at Yanshi, a situation that reversed by the end of Erligang phase II.

9 Earth and wood architecture would, on the one hand, require constant maintenance and, on the other, require less effort to build in the first place than architecture of stone.

10 Or, in other words, the intrasite constant refashioning of the ritual/administrative/economic built environment may be related to the frequent intersite rebuilding of the same.

11 Palace-temple number 5 was almost 1 ha in size, the largest Erligang-period building and the second largest Central Plains Bronze Age building discovered thus far (the Xiaoshuangqiao-Huanbei period Huanbei F1 is around 1.6 ha in size).

12 Nevertheless, there is no direct positive evidence concerning the use of these buildings, and to my knowledge, neither flotation nor soil-chemical analyses were performed (nor, given Chinese excavation practices during the 90's, even sieving). Interpretations of the function of these buildings range from royal treasuries/storehouses (Wang 2000), to armories (Underhill 2006).

13 This (ZSKY 2003) account is apparently based on firsthand, unpublished information, as no citations are given, and a search through the various preliminary reports on Yanshi have failed to turn up any mention of ordinary residences.

14 This makes it difficult to agree with Liu and Chen's (2003) claim that residences were stratified and spatially discrete, with the elites living in the "palaces," and the commoners living outside the palace zone. In fact, based on the current state of evidence, we know that there are large structures that may have functioned as "palaces" but lack any direct evidence concerning where different economic classes lived. If social organization at Yanshi was anything like Anyang, we might expect to

find discrete, kin-based living areas with a mixture of elite and nonelite residences. Unfortunately, this, too, remains an untested hypothesis.

15 These are pits dug below the waist of the principal interree, usually containing a dog, or in the royal tombs at Anyang, an armed person. The "waist pit" is widely believed to be a particular characteristic of "Shang" tombs. The absence of waist pits in the Dongxiafeng variant perhaps suggests different mortuary practices in this area.

16 It is named for the Liulige site, Hui County, Henan (ZSKY 1956).

17 This might simply be due to a difference in local clays. While color is frequently used as a factor in the determination of archaeological culture in China, no attempt is made to understand the practices behind the difference. The problem with this approach is that it potentially lumps together different practices producing similar artifacts and separates different superficial effects that may have been produced by similar practices.

18 Panlongcheng would be considerably larger if the locations outside the walls were taken into account. Liu and Chen 2012, citing an obscure study claiming to have found outer walls (Liu Senmiao(?) 2002), suggest the real site size is 290 ha. This is probably a high estimate.

19 Hubeisheng wenwu kaogu yanjiusuo [HWKY](2001:84–87, 97–100) describes 50-m-long "kilns" dating from late Erlitou and Erligang period I and II south of the walls. ZSKY (2003) notes more cautiously that it was a site related to ceramic production (based on charcoal deposits and high densities of sherds). If these were single kilns, they resemble no other kilns known from the period, north or south. Trenches with charcoal, large-mouthed gang-urns (缸), labeled "crucibles" by some authors (e.g. Liu and Chen 2003) and slag were also discovered at the site, indicating that some sort of metallurgy occurred at the site, but whether this included casting vessels or simply refining is presently unknown.

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20 Whether these elites originated in Zhengzhou or were local leaders to some degree incorporated into the Central Plains Bronze Age cultural orbit is unknown.

21 So named for the Eastern Zhou polity known from transmitted texts and believed to be located in that area.

22 Inscriptions are all found on stone or ceramic artifacts and are short (the longest is 12 characters). Despite being undeciphered, it is often claimed that they are the same system as the Shang oracle-bones. Some characters do indeed look like oracle-bone graphs, but there are not enough long strings of graphs to provide context for decipherment, or determination of affiliation, if, indeed, it is a script.

23 Including the Ruichang Tongling mining site. Both ZSKY (2003) and JBKY, ZB (2005) give somewhat conflicted accounts of the “cultural identity” of the deposits at Tongling. On the one hand, ZSKY (2003) in its section on the Panlongcheng variant lists Tongling as a “Middle Shang” Panlongcheng-variant site even while in its Wucheng section it lists it as a Wucheng-tradition site. Jiangxi Institute et al.[JBKY, ZB] (2005), while claiming that Tongling is a Wucheng site, notes that the northern Wucheng sites actually should “belong to the Panlongcheng Shang culture variant”(419). Part of the confusion seems to stem from the practice of trying to construct organic cultural wholes out of mixed assemblages of potentially varied origin.

24 There is actually some discrepancy between ZSKY (2003) on the one hand and Peng (2004) and JBKY, ZB (2005) on the other. The latter include an earlier phase than Wucheng I, based on limited excavations at Longwangling and do not take into consideration the now widely accepted Middle Shang period (Xiaoshuangqiao-Huanbei period) in their comparative ceramic dating.

25 Following the pottery-equals-people assumptions of most Chinese archaeological practice, the authors of the Wucheng report suggest

that the mixed assemblage of Wucheng I had its origin in “a branch of Central Plains Shang culture” and that when these people arrived in Wucheng, their culture came into contact with local cultures, and in the mixture of traditions Wucheng culture was born (JBKY, ZB 2005:413).

26 The Wannian tradition has also been called the Xiaojiashan-Jiaoshan type (ZSKY 2003).

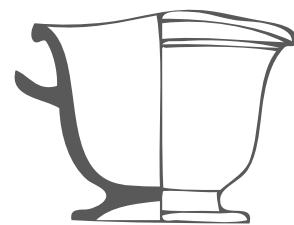
27 There were, of course, walled Longshanoid and Erlitou-tradition sites prior to the Erligang period, but never before adhering to a common architectural program over such a large region.

28 The orientation of major architecture again changes with the Zhou.

29 While there is some evidence for more specialized ceramic production and possibly greater distribution, the general picture (albeit based on scant evidence) seems to be that of local production and consumption.

30 This might have taken the form of a Zhengzhou elite ruling over a local population (Bagley 1999) and/or close economic, social, and political ties to sites in the north that saw a variety of forms of interaction from marriage to trade and possibly war.

Chapter 3

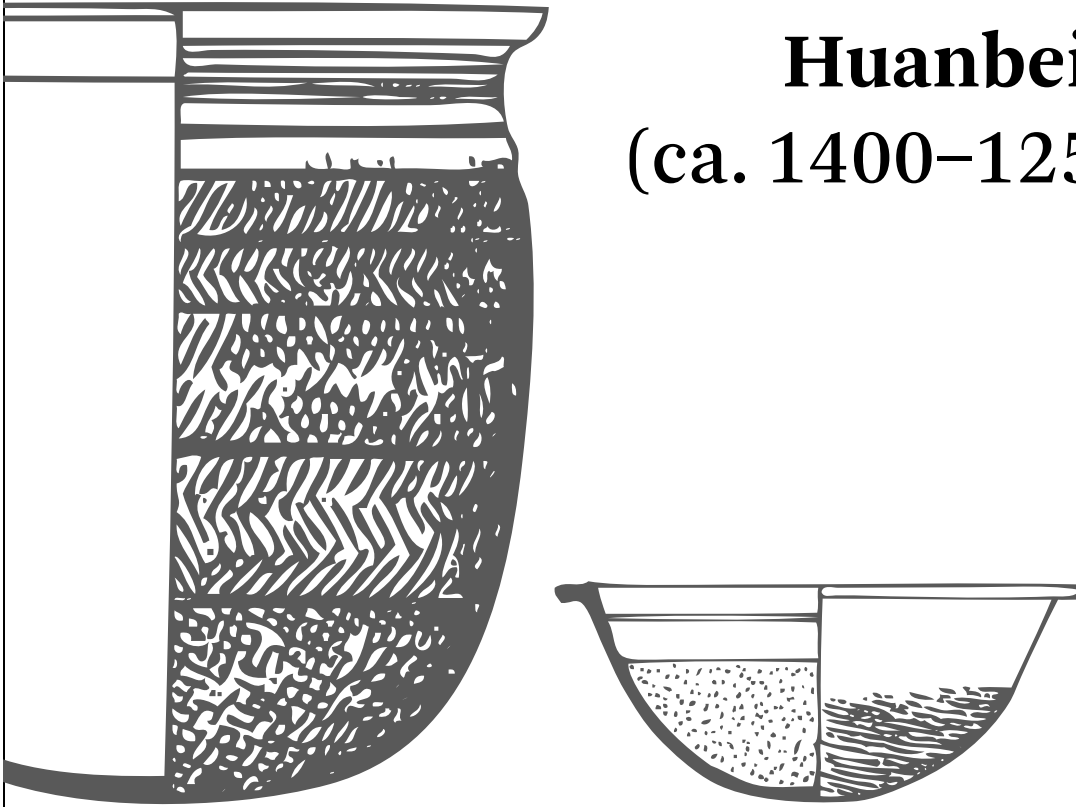




4

Roderick B. Campbell

Xiaoshuangqiao- Huanbei Period (ca. 1400–1250 BCE)

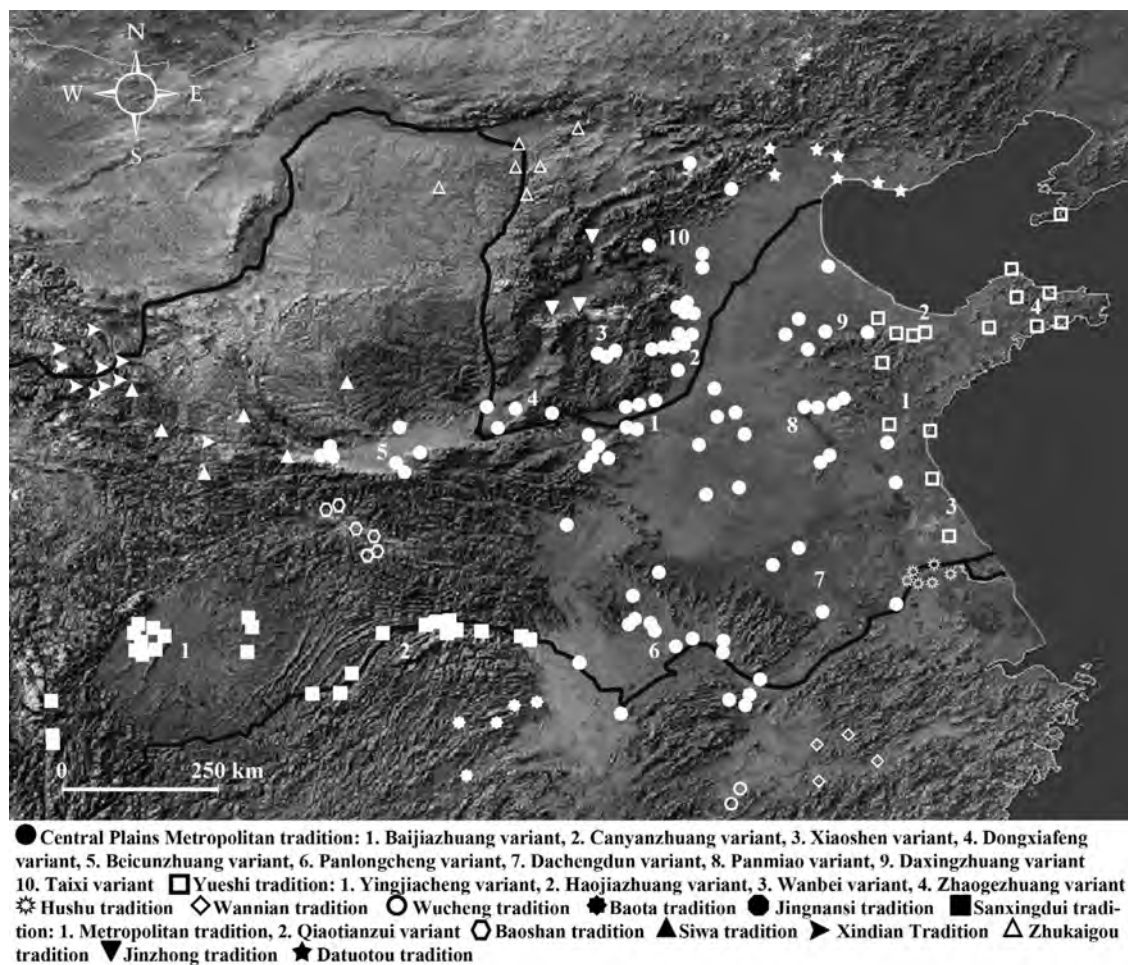


Xiaoshuangqiao-Huanbei Period Metropolitan Traditions

The Xiaoshuangqiao-Huanbei period is usually referred to as the “Middle Shang” period in the Chinese literature (ZSKY 2003). The term “Middle Shang,” however, originally referred to the Erligang period in older periodization schemes.¹ The use of “Middle Shang” for the period between Erligang (and including upper Erligang II) and Anyang was first put forward by Tang Jigen (Yang and Tang 1999)² and has only received wide recognition in Chinese archaeological circles in the last ten years, in large measure due to the

work done in the 1990s on the Xiaoshuangqiao site near Zhengzhou (Henansheng kaogu yanjiusuo [HKY] 1993; Henansheng wenwu kaogu yanjiusuo [HWKY] 1996) and the discovery of the walled center at Huanbei in 1999.³ As such, it is less well understood than the preceding Erligang or following Anyang periods. Important Central Plains metropolitan sites of this period in addition to the above-mentioned Huanbei and Xiaoshuangqiao sites are Gaocheng Taixi, Xingtai Caoyanzhuang, Anyang Sanjiazhuang, Xiaotun, and Jinan Daxinzhuang (ZSKY 2003). Perhaps the two most striking features of this period are an apparent “shift” of the metropolitan

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4.1. Xiaoshuangqiao-Huanbei-period ceramic traditions (base map from Harvard Geospatial Library).

center from the Zhengzhou-Luoyang region to the Anyang area in phase II and the maximum distribution of metropolitan-variant ceramic traditions and metropolitan-style bronze vessels (see Figure 4.1). This period can be divided into three phases: Xiaoshuangqiao-Huanbei I, represented by Zhengzhou Baijiazhuang and Xiaoshuangqiao; Xiaoshuangqiao-Huanbei II, represented by the early phases of Huanbei Shangcheng and Gaocheng Taixi; and Xiaoshuangqiao-Huanbei III, represented by the later phases of Huanbei Shangcheng and Gaocheng Taixi (ZSKY 2003).

Xiaoshuangqiao-Huanbei Phase I

During this period, which also corresponds to Erligang IV, the bronze foundries at Nanguanwai and Zijingshan were still in operation, and Zhengzhou was not yet abandoned, although the palace-temple area was no longer in use. The Baijiazhuang site, however, just outside the northeast corner of Zhengzhou's inner walls, has yielded houses, tombs, and kilns all dating to this period. Despite the apparent decline in the Zhengzhou site as a whole,

Period	Zhengzhou	Yanshi	Huanbei	Panlongcheng	Wucheng	Panlongcheng Variant Distribution
ES I	X	X		X		
ES II	X	X		X		x
ES III	X	X		X	x	x
MS I	X			X	X	X
MS II			X	X	X	X
MS III			X		X	x
LS I					X	x
LS II-IV					x	

X = period of flourishing; x = period of development or decline

Table 4.1. Comparative chronology of important northern and southern sites.

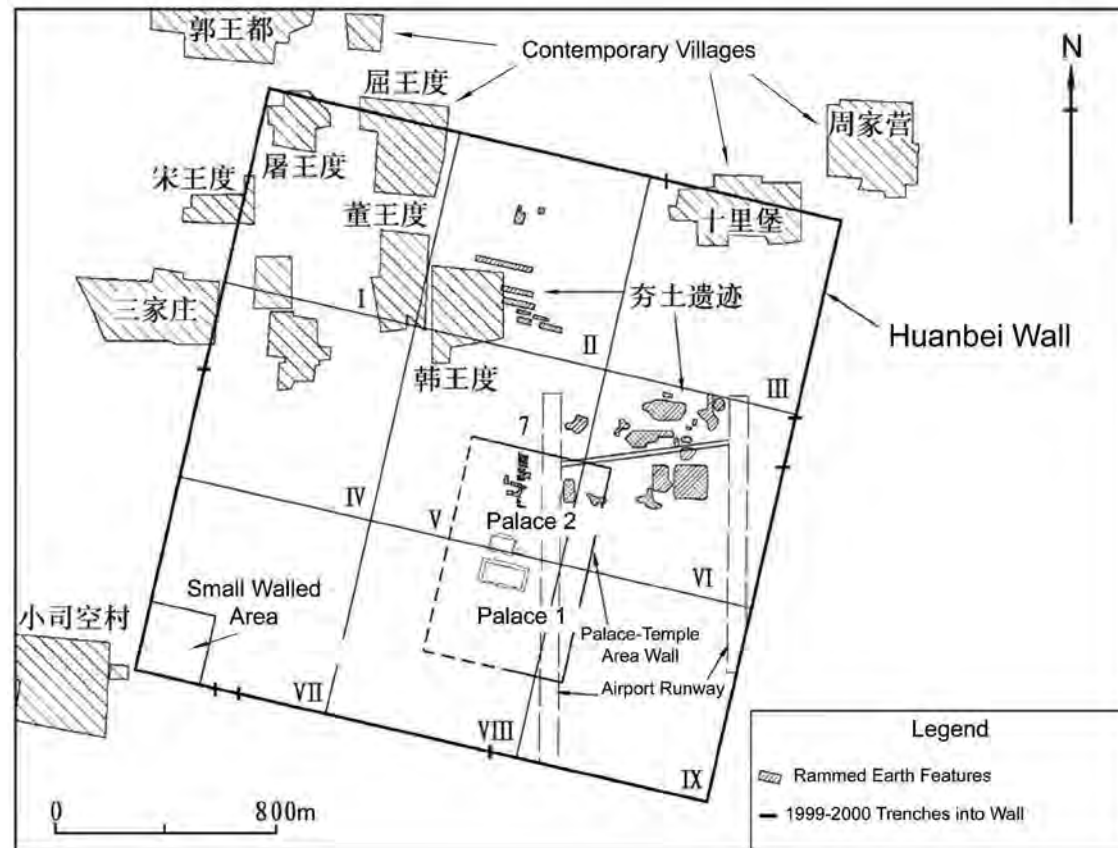
there are more large, bronze-vessel-bearing tombs from this period than previous ones (ZSKY 2003), and two of the famous bronze “hoards” date to this period.⁴ The contents of these “hoards” were assemblages of such unprecedentedly large vessels that they are widely believed to have belonged to kings (Henansheng wenwu kaogu yanjiusuo; Zhengzhoushi wenwu kaogu yanjiusuo 1999). Perhaps related to the decline of Zhengzhou, Yanshi was largely abandoned during this period. Nevertheless, whatever the cause of the rapid demise of Yanshi Shangcheng at the beginning of Xiaoshuangqiao-Huanbei I, as well as the decline of Zhengzhou throughout this period, the Zhengzhou area remained the densest concentration of metropolitan tradition sites and was still apparently the locus of high elite activities during Xiaoshuangqiao-Huanbei I.

Xiaoshuangqiao

Located 20 km northeast of Zhengzhou, the Xiaoshuangqiao site is the largest known Central Plains site of this phase at 150 ha. It was discovered in 1989 and

has seen large-scale excavations since 1995 (HWKY 1996; ZSKY 2003). The site contains large rammed-earth structures (up to 500 m²),⁵ a bronze-casting site, many sacrificial pits, storage pits, and a moat. In addition to bronze weapons, tools, and vessels, a bronze artifact described as an “architectural component” was discovered during excavations (ZSKY 2003:275). This object may have been used to cap a beam and it had a *taotie* animal-face design. The discovery of the putative beam fitting is the first time bronze architectural components have been discovered at a Central Plains Bronze Age site and may indicate the high status of at least some of the occupants. Another interesting feature of the Xiaoshuangqiao site is the presence of Yueshi-type axes among the stone artifact assemblage, prompting some scholars to speculate about Yueshi influences (ZSKY 2003); while this usually implies “ethnic” presence in Chinese archaeological discourse, the axes could just have easily been obtained through trade.

Speculations concerning the nature of this site range from capital, to second-

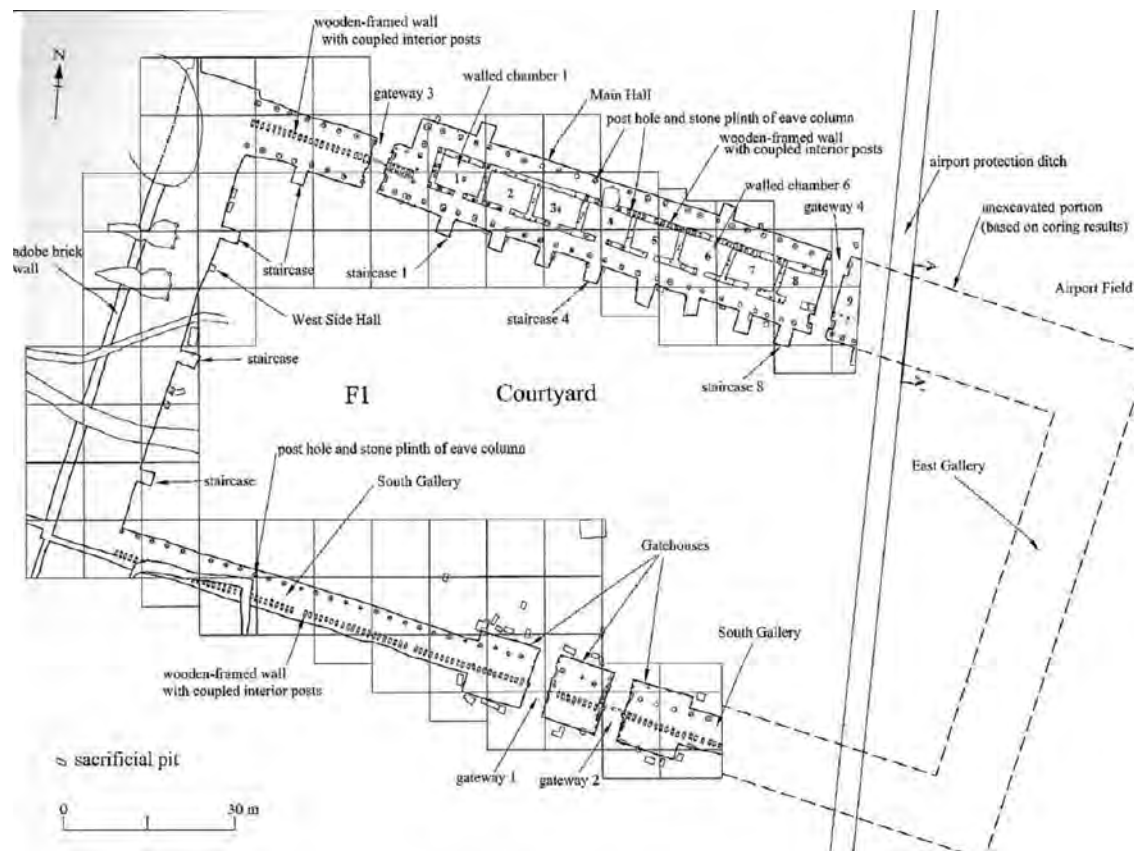


4.2. Huanbei walled center (after ZSKYAG, ZJHQDK 2010:10, fig. 1).

ary palace area, to royal ritual precinct, but given the preliminary state of excavations at the site, it is probably too early to be sure. Whatever the nature of the site and whatever its relationship to metropolitan elites still in the Zhengzhou area, this site was abandoned, along with much of the Zhengzhou core, at the end of Xiaoshuangqiao-Huanbei I, when the center of metropolitan culture apparently shifted north to the Anyang area (HWKY1996).

Xiaoshuangqiao-Huanbei Phases II and III Huanbei Shangcheng

During this period the partial abandonment of sites, such as Zhengzhou⁶ and Yanshi Shangcheng, was accompanied by the building of the large walled site at Huanbei (470 ha)⁷ just across the Huan River from the later metropolitan center of Yinxiu at Anyang (Figure 4.2). Discovered only in 1999, this site lies buried under sediments up to 3 m deep. The wall that surrounds the site appears to have a foundation trench approximately 9 m in width.⁸ While relatively little of the site has been excavated to date, a well-ordered area of



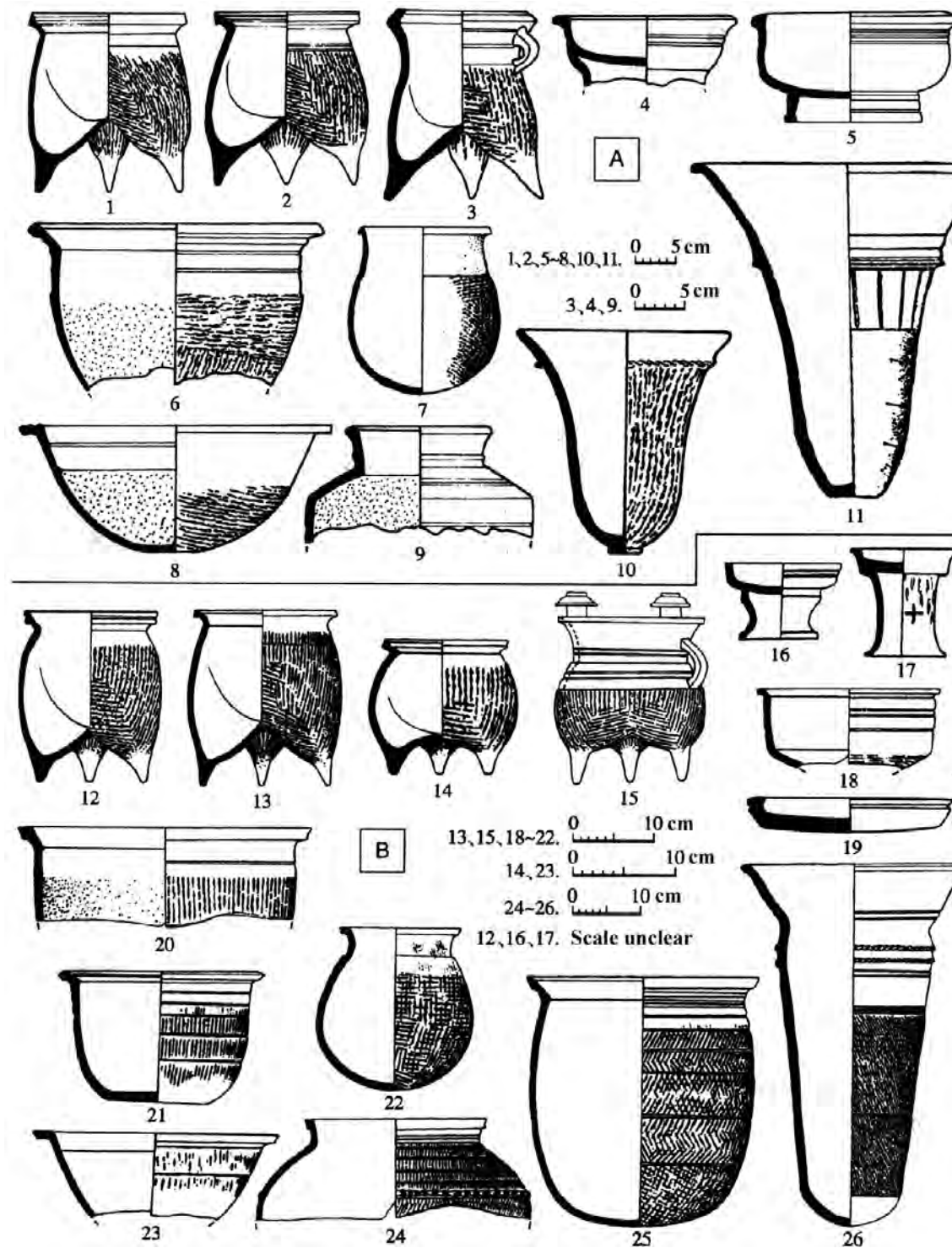
4.3. Huanbei palace-temple Foundation 1 (AT, IA, CASS 2004b:22, fig. 1).

large-scale rammed-earth structures was discovered, including the largest Central Plains Bronze Age building (F1) yet known at 1.6 ha in area (AWT, IA, CASS 2004b; Figure 4.3). Although work at Huanbei is in a relatively early stage compared with other major Central Plains Bronze Age centers, the results of what work has been done so far are extremely interesting. The large-scale rammed-earth structures, like those at other metropolitan centers since Erligang, are oriented approximately 13 degrees east of north. They occur in a walled 41-ha palace-temple precinct like those found at Erlitou, Zhengzhou, and Yanshi (Zhongguo shehuikexueyuan kaogu yanjiusuo Anyang gongzuo-

dui, Zhong Jia Huanheliuyu quyue kaogu diaocha ketizu [ZSKYAG, ZJHQBKD] 2010). Recent work on another building, Foundation 2, south of Foundation 1, has revealed some interesting contrasts. Foundation 1 has a number of sacrificial deposits and is thought to be a royal lineage temple (AWT, IA, CASS 2004b; Figure 4.3). Foundation 2 lacks sacrificial remains, uses layers of different-colored earth, and is thought to be residential rather than ritual in nature (Tang et al. 2010).

In contrast to the “palace-temple” precinct, an intensively cored 32-ha area in the east of the site appeared to be mostly habitation and living-activity

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4.4. A) Baijiazhuang variant; B) Caoyanzhuang variant (after ZSKY 2003:256; fig. 5-3).

areas. According to the excavators, “habitation areas, dominated with the cultural deposits of buildings, are usually surrounded by zones rich in refuse deposits,” and “each habitation area is separated from another by zones with little or no cultural deposit”(AT, IA, CASS 2004a:12). If this is correct, then it suggests that Huanbei may have had a clustered residential pattern, a feature that, as we will see below, it shares with Anyang. Rammed-earth foundations of relatively large-scale buildings were also occasionally discovered both within and between habitation clusters, although their function can only be speculated at present. Sacrificial remains have also been discovered associated with both Huanbei’s walls (AT, IA, CASS 2004a) and palace-temple Foundation 1 (Du 2005). Buildings at the site generally have an upper layer of burned debris, and flood deposits across the site suggest it may have been flooded before it was abandoned (AT, IA, CASS 2004a).

Xiaoshuangqiao-Huanbei Period Metropolitan Tradition Variants

Xiaoshuangqiao-Huanbei Tradition, Baijiazhuang Variant

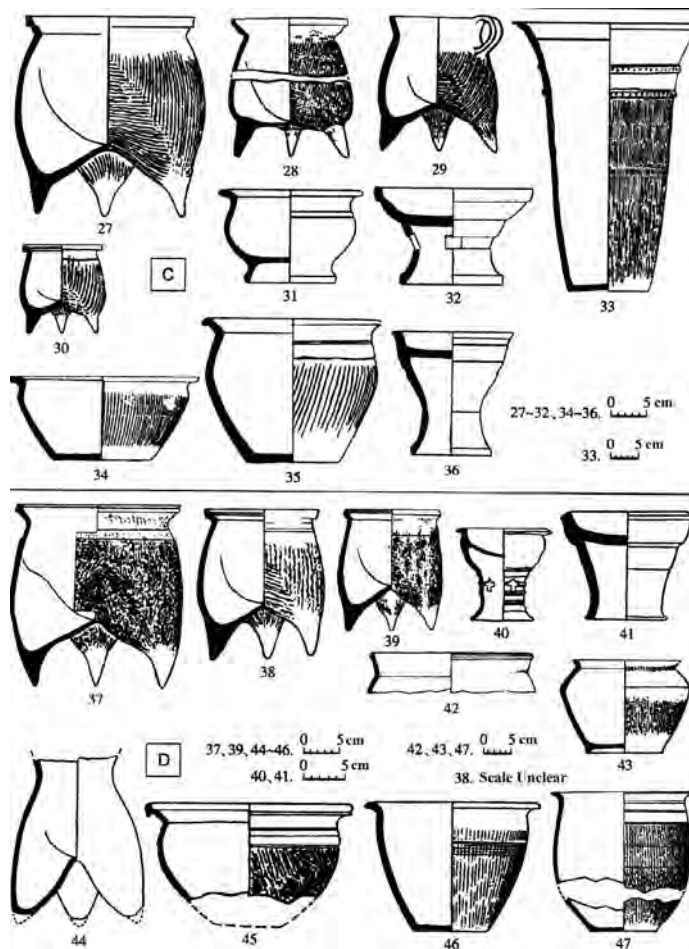
The type-site of this variant is Baijiazhuang. The Baijiazhuang variant is primarily distributed in the Luoyang-Zhengzhou area, particularly the Zhengzhou area. This variant develops directly from Erligang ceramic traditions, and sites of this type are most plentiful during Xiaoshuangqiao-Huanbei I (Figure 4.4A). As mentioned above, this area appears to still have been the center of the Central Plains cultural and political

world during Xiaoshuangqiao-Huanbei I, even while Yanshi and Zhengzhou went into terminal decline. Nevertheless, according to ZSKY (2003:255), “Middle Shang phase two and three [i.e., Xiaoshuangqiao-Huanbei II–III] remains for this area are still few and their characteristics not easy to generalize.”

Xiaoshuangqiao-Huanbei Tradition, Caoyanzhuang Variant

Developing out of the Liulige variant of the Erligang tradition, and taking Xingtai Caoyanzhuang as its type-site, the core area of this variant is in northern Henan and southern Hebei. It is distributed in the area formerly occupied by the Liulige variant, as well as the southern part of the Erligang Taixi variant (Figure 4.4B). As mentioned above, in Xiaoshuangqiao-Huanbei II and III, in tandem with the building of Huanbei, this area appears to become the core of the Central Plains metropolitan tradition (ZSKY 2003). It is generally argued that the Caoyanzhuang variant kept essentially the same assemblage as that found at Baijiazhuang during Xiaoshuangqiao-Huanbei I and, thus, shows continuity (ZSKY 2003), even while certain ceramic types show local characteristics (ZSKY 2003; Figure 4.4). More recent, unpublished work, however, has found that Huanbei Shangcheng shows marked local characteristics, and the supposed continuity with Baijiazhuang is problematic (Tang Jigen, personal communication). It is to be hoped that future work, based on more than formal ceramic typology, will resolve the issue

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4.5. C) Taixi variant; D) Daxinzhuang variant (after ZSKY 2003:256; fig. 5-3).

of continuity and change between Xiaoshuangqiao and Huanbei.

Xiaoshuangqiao-Huanbei Tradition, Taixi Variant

This variant is a development of the Erligang tradition Taixi variant (Figure 4.5C). The Gaocheng Taixi site that is the type-site of this variant was occupied from Erligang III to Xiaoshuangqiao-Huanbei III (ZSKY 2003). Both houses and tombs were excavated at this site, although no large-scale structures have been found to date. Some of the tombs

have “waist-pits” with dogs in them, and 10 percent of the tombs have death attendants. Taixi-variant sites are most plentiful in Xiaoshuangqiao-Huanbei periods II and III, and the ceramics of at least one site is said to show “northern cultural influences” (ZSKY 2003:263).

Xiaoshuangqiao-Huanbei Tradition, Daxinzhuang Variant

The Xiaoshuangqiao-Huanbei period Daxinzhuang variant is a development of the Erligang tradition Daxinzhuang variant (Figure 4.5D). This variant is distributed in Shandong Province north of the Taiyi mountains. In this period, the Daxinzhuang site was 30 ha in size, and houses, tombs, and middens have been found. The tombs all have waist-pits, and some have bronze vessels and jades. This variant still shows Yueshi-tradition influences in some of its ceramic assemblage (ZSKY 2003).

Xiaoshuangqiao-Huanbei Tradition, Panmiao Variant

Distributed in southeast Shandong Province, this variant developed out of Xiaoshuangqiao-Huanbei I and is an expression of the continual eastward expansion of Central Plains metropolitan ceramic traditions from the Erligang period onward (Figure 4.6E). Like other regional variants, Panmiao-variant sites show differing degrees of “local flavor” in their ceramic assemblages, perhaps indicating interaction with non-Central Plains traditions or the retention of some aspects of older indigenous forms and styles. In addition to the Panmiao site, Anqigucheng is another site of

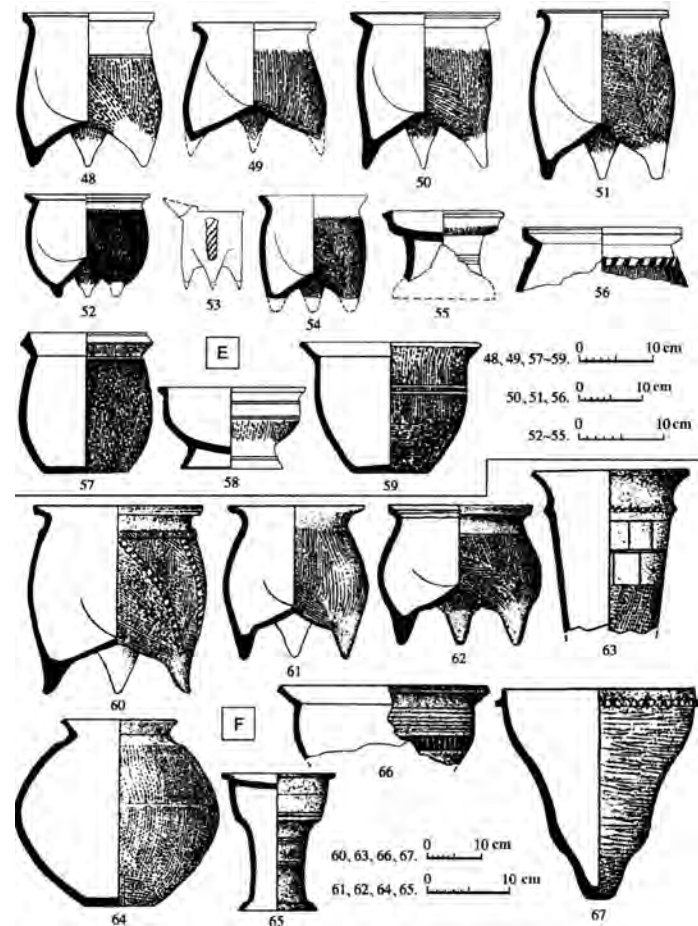
this variant, with strata spanning Xiaoshuangqiao-Huanbei to Anyang periods.

Xiaoshuangqiao-Huanbei Tradition, Dachengdun Variant

This Xiaoshuangqiao-Huanbei tradition Dachengdun variant developed out of the Erligang-tradition variant of the same name and is distributed in the same area (Figure 4.6F). Although the ceramics during this period are said to show strong local characteristics (while still having enough common Central Plains metropolitan characteristics to qualify as a variant), the bronze artifacts found in this area dating to this period are identical to those of the metropolitan centers (ZSKY 2003).⁹ No contemporaneous large sites have been found, and, at present, relatively little archaeological work has been done in this area.

Xiaoshuangqiao-Huanbei Tradition, Panlongcheng Variant

The Panlongcheng site remained the center of the Central Plains metropolitan tradition Panlongcheng variant. The distribution of this variant greatly expanded during the Xiaoshuangqiao-Huanbei period, and new Panlongcheng-variant sites appeared (Figure 4.7). Nevertheless, Panlongcheng itself was apparently not occupied beyond Xiaoshuangqiao-Huanbei II (ZSKY 2003), while bronze hoards at Yingcheng Wuci and Qunlicun date to Xiaoshuangqiao-Huanbei II and, perhaps, Anyang I, respectively. Xianglushan in Xinzhouxian, near Wu-

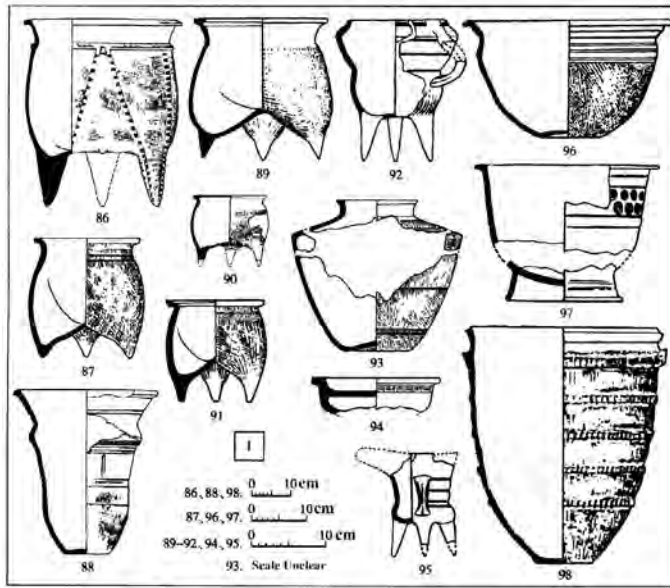


4.6. E) Panmiao variant; F) Dachengdun variant (after ZSKY 2003:258; fig. 5-3).

han, has deposits that date from Xiaoshuangqiao-Huanbei II to perhaps Anyang I (ZSKY 2003) as well.

South of the Yangzi, Panlongcheng-variant sites take the form of scattered outposts (ZSKY 2003). These sites include the copper mine site of Ruichang, which dates from late Erligang or early Xiaoshuangqiao-Huanbei, and the nearby Jiujiang Shendun, which has strata dating between Xiaoshuangqiao-Huanbei II and III.

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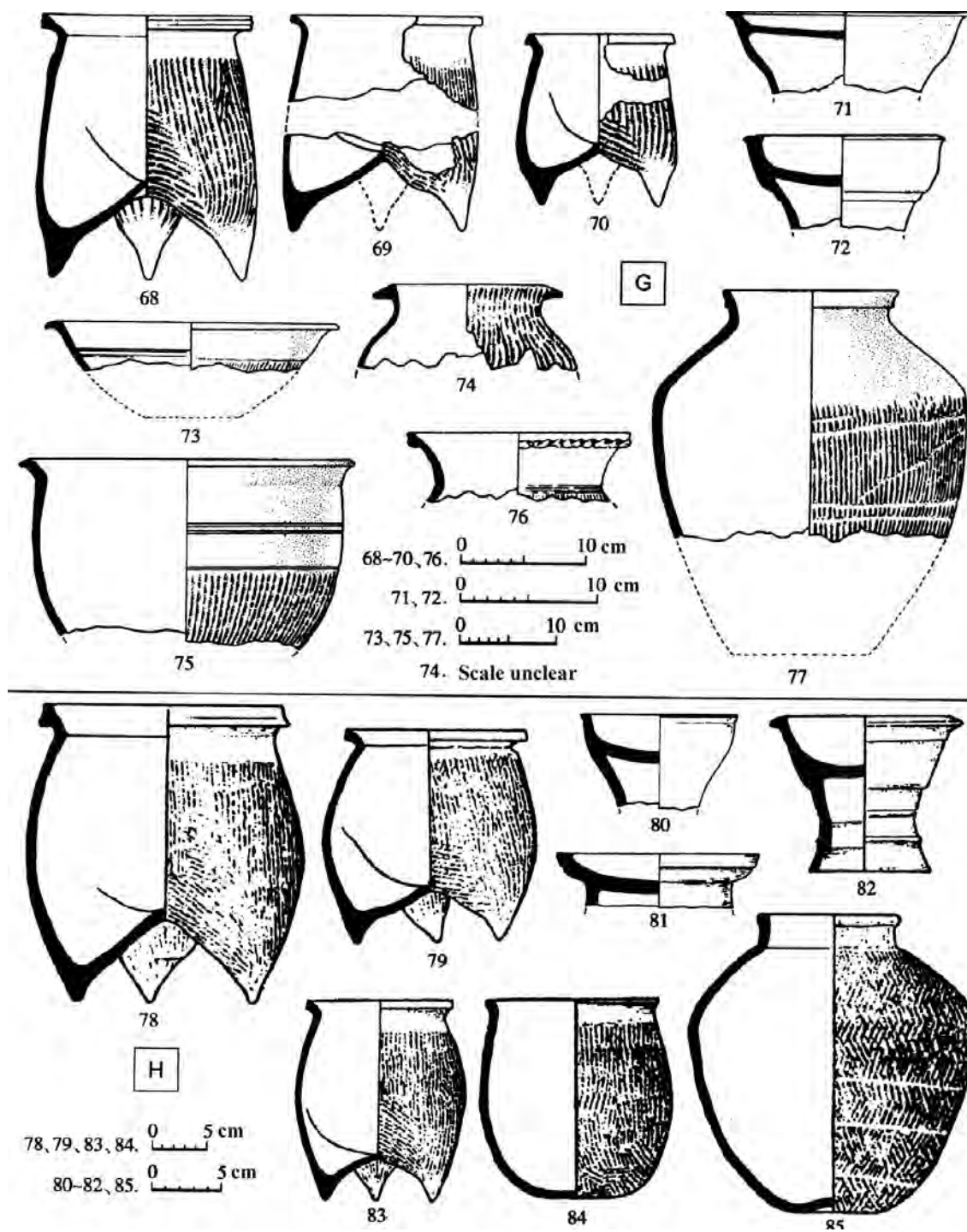
4.7. *Panlongcheng variant* (after ZSKY 2003:260; fig. 5-3).

The Tonggushan site near Yueyang, occupied since Erligang II, has non-Central Plains-tradition strata overlaying Xiaoshuangqiao-Huanbei II strata. Indeed, even the Panlongcheng-variant strata of the site are “relatively complicated” with Central Plains-dominated assemblages showing “obvious local influences” (ZSKY 2003:268). These “influences” are said to include Jingnansi, and possibly Wucheng and Baota traditions—doubly significant in light of Bagley’s contention that large bronze bells found in the Wucheng-tradition tomb at Xin’gan “connect Wucheng with a broad cultural province that seems to have embraced the lower Yangzi region and, perhaps somewhat later, the middle Yangzi as well” (1999:173). It would seem that even in Erligang and Xiaoshuangqiao-Huanbei times, there was intense interaction in the middle and lower Yangzi regions and that Panlongcheng and its putative cultural, eco-

nomie, and political networks may have played an important role in facilitating this exchange. Moreover, the ceramic assemblages at Panlongcheng and other sites of this variant continued to display local characteristics right through to the end of their occupations (ZSKY 2003). In addition, it would seem that rather than being completely bound to the fate of the Zhengzhou metropolitan center, the Panlongcheng site, especially its ceramic-tradition variant, reached its maximum distribution and influence during and after the period that Zhengzhou was being largely abandoned (Table 4.1). Nor, as lead isotope studies (Jin et al. 1990, 1994, 1995, 1998) and a protoporcelain sourcing study (Chen et al. 1999) have suggested, did extensive contacts within the Yangzi area cease after the retreat of Central Plains ceramic traditions in the Anyang period.

Xiaoshuangqiao-Huanbei Tradition, Beicun Variant

Originating in Erligang III, this Shaanxi Province-variant of Central Plains metropolitan tradition ceramics spread west during the Xiaoshuangqiao-Huanbei period, reaching the Fufeng-Qishan area (Figure 4.8G). In addition to the Beicun site, Xiaoshuangqiao-Huanbei II or III ceramics were found at Fufeng Baijiayao, while Fufeng Yijiabu has Xiaoshuangqiao-Huanbei III strata overlain by three strata of Zhengjiapo- and Liujia-tradition ceramics—traditions frequently associated with “Proto-Zhou culture” (see chapter 5). Xiaoshuangqiao-Huanbei-period Central Plains-style bronze vessels have also been



4.8. G) Beicun variant; H) Xiaoshen variant (after ZSKY 2003:259; fig. 5-3).

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found in this area. At the same time, at the Qishan Wangjiazui site Beicun variant, Xiaoshuangqiao-Huanbei I–III strata are overlain by non-Central Plains traditions in the Anyang period (ZSKY 2003). Like other Central Plains metropolitan tradition variants, the Beicun variant had “many vessels with substantial local flavor” (ZSKY 2003:270), coexisting with more typical Central-Plains vessels, indicating some form of interaction with, or continuation of, non-Central Plains traditions of ceramic production or use.

Xiaoshuangqiao-Huanbei Tradition, Xiaoshen Variant

The Xiaoshen variant is mostly distributed in southeast and middle Shanxi. The type-site of Zhangzhi Xiaoshen is 18 ha in size and has fourth-to-late-first-millennium BCE occupations (Figure 4.8H). The Central Plains metropolitan tradition remains from this site date to either Xiaoshuangqiao-Huanbei II or III (ZSKY 2003). Xiaoshuangqiao-Huanbei II and III bronze vessels have been discovered in this area (Wang 1982). Although at present the Xiaoshuangqiao-Huanbei-period culture history of this area is poorly understood, minimally, it would appear that metropolitan-style elites were active in the region, along with some form of intensive interaction with the metropolitan core region centered on Huanbei.

Xiaoshuangqiao-Huanbei Tradition, Dongxiafeng Variant

During the Xiaoshuangqiao-Huanbei period, especially after phase I and the

shift of the metropolis to the Anyang area, south and southwestern Shanxi underwent a dramatic reduction in sites (ZSKY 2003). This claim, however, is with the important caveat that when the survey upon which this assessment rests was made (ZSKYSD 1989), the Xiaoshuangqiao-Huanbei period had not been put forward, and it is possible that some of the sites said to be of either late Erligang or Early Anyang date “may include Xiaoshuangqiao-Huanbei cultural remains that at that time were not distinguished” (ZSKY 2003:270). At the least, recent research has suggested that the Dongxiafeng site has Xiaoshuangqiao-Huanbei I remains (Wang 1998), and Yuanqu IV is also said to be within the Xiaoshuangqiao-Huanbei period. Thus, while information is still somewhat sketchy, it would seem that based on present (and admittedly unsystematic) evidence, the major Erligang sites in the Dongxiafeng-variant area were abandoned during Zhengzhou and Yanshi’s decline, and in general there appears to have been a depopulation of the area.

Beyond the Xiaoshuangqiao-Huanbei –Tradition Areas

The North

During the Xiaoshuangqiao-Huanbei period, the Jinzhong tradition displayed increasing Central Plains influences in its ceramic tradition over time (ZSKY 2003). The shift of the metropolitan center to Northern Henan may have been related to this phenomenon, not to mention the appearance of the Xiaoshuangqiao-Huanbei Xiaoshen vari-

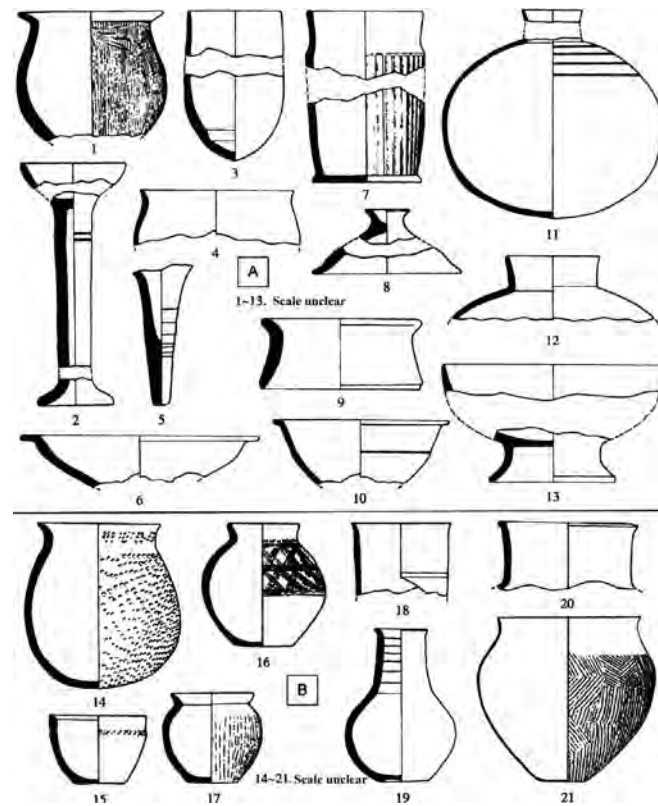
ant in southeastern and central Shanxi, contiguous with the distribution of the Jinzhong tradition.

The Xiaoshuangqiao-Huanbei period corresponds with phase IV of the Zhukaigou tradition and shows strong Central Plains influence. Indeed, one tomb from this phase (M1052) had an entirely Central Plains metropolitan burial assemblage (ZSKY 2003). Zhukaigou IV is said to span the Xiaoshuangqiao-Huanbei period and perhaps even include some early Anyang period remains. In general, it appears that the Xiaoshuangqiao-Huanbei period saw an increased interaction with the Zhukaigou-Jinzhong tradition area, perhaps related to the northward movement of the metropolitan center and the processes and events that resulted in the northward and westward spread of Central Plains metropolitan ceramic variants at the time.

In the northeast, the Datuotou tradition may still have been distributed north and east of the Xiaoshuangqiao-Huanbei Taixi variant, but the chronology of this tradition is uncertain. The Datuotou tradition may already have been replaced by the Weifang III tradition.¹⁰ It is not entirely clear what tradition was distributed in the former area of the Xiajiadian tradition during this period.

The East

The Xiaoshuangqiao-Huanbei period saw the continual eastward creep of Central Plains ceramic traditions south of the Taiyi Mountains, as well as in the north. Based on ZSKY (2003), a clear



4.9. Baoshan-tradition ceramics (after ZSKY 2003:522; fig. 8-21).

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judgment cannot be made as to which Yueshi variants remain during this period or whether their distribution goes beyond a scenario of gradual replacement. As noted in Cohen (2001), the Yueshi tradition and its many variants are still not well understood, nor was the eastward spread of Central Plains metropolitan ceramic tradition variants a blanket replacement of previous Yueshi traditions (Cohen 2001; Fang Hui, personal communication Oct. 19, 2005).

The South

As in the Erligang period, Anhui was occupied by the Dachengdun variant of the Xiaoshuangqiao-Huanbei tradition, while the neighboring Nanjing area was occupied by the Hushu tradition. The Lake Tai and Shanghai region is unclear at present beyond the observation that the Maqiao tradition apparently dates only to the Erlitou and Erligang periods (ZSKY 2003).

In Jiangxi province the Wucheng tradition flourished as the Panlongcheng variant of Xiaoshuangqiao-Huanbei tradition reached its apogee, and the Hubei, northern Hunan, and western Jiangxi regions became linked in networks of interaction. Indeed, with the heterogeneous assemblages, number of traditions involved, and the variety of interactions implied, this entire area might tentatively be termed the “Panlongcheng interaction sphere.”

The Wucheng Tradition

The Xiaoshuangqiao-Huanbei period

was the period of Wucheng’s zenith. During this period (Wucheng II), the wall around the site was finished, and the site had reached 60 ha in size, making it comparable to the only other known contemporary site of its size in the area, Panlongcheng. However, despite ten seasons of excavations beginning in 1973, the overall structure of the site is still not well understood.¹¹ Kilns, bronze-casting-related middens, houses, and tombs have all been discovered at the site, which also includes what the excavators have called a “ritual area” (JBKY, ZB 2005).¹²

As mentioned earlier, there is some controversy over the “cultural” affiliation of Wucheng, with the writers of the Wucheng report (JBKY, ZB 2005) taking up the idea that survivors of the Panlongcheng collapse fled to Wucheng, which, according to this story, had been originally founded by an intrepid group of adventurers from the Central Plains. Although at Wucheng there are definitely artifacts of Central Plains influence or origin, the Wucheng site, unlike Panlongcheng, does not have any northern architectural features. The site’s walls are not made of rammed earth, they are not rectangular and oriented 10 to 20 degrees east of north, no rammed-earth structures have been found at the site at all, and none of the 23 burials excavated at the site have waist-pits or other of the Central Plains features of this period.¹³ The molds found at the site so far are all stone-molds for casting weapons and tools, and the kilns are of a type that is not found in the north.¹⁴ Moreover, it seems that the hypothesis that Wucheng’s zenith came only after



4.10. Baoshan-tradition bronze artifacts (after ZSKY 2003:518, 519; fig. 8-20).

Panlongcheng's eclipse is predicated on a comparative chronology that does not recognize the Xiaoshuangqiao-Huanbei¹⁵ period. If the ZSKY (2003) synthesis is correct, then Wucheng and Panlongcheng flourished together for over a hundred years before Panlongcheng declined and was abandoned (Table 4.1). Moreover, the first half of Wucheng's phase II corresponds to the period of the Panlongcheng variant's maximum distribution, a time when the middle and lower Yangzi were connected in a web of intense contact and interaction. Nevertheless, much more work needs to be done in Jiangxi and the Yangzi area and a greater use of absolute dating methods might help clear up some of the uncertainties concerning chronology.

The Southwest

On the Chengdu plain, Sanxingdui sat at the center of a web of connections and interactions the nature and extent of which are still unclear. Minimally

it can be said that Sanxingdui material culture and influences can be seen in both the Yangzi gorges area and in southern Shaanxi (Baoshan tradition). If the Xiaoshuangqiao-Huanbei was the period of the maximum distribution of Central Plains metropolitan tradition material culture, it also seems to be the apogee of Sanxingdui influence.¹⁶

In the Hanzhong region of southern Shaanxi, the Baoshan tradition appears at this time (Figure 4.9). Named for the Chenggu Baoshan site (Xibeidaxue wenbo xueyuan [XWX] 2002), the Hanzhong area has seen multiple discoveries of the artifacts of a striking local bronze industry¹⁷ since the fifties (ZSKY 2003; Luo 2010). These finds generally took the form of hoards buried in mounds, often overlooking rivers. These mounds have no burials associated with them (ZSKY 2003). According to ZSKY (2003) the bronze artifacts of this area can be divided into three groups, ranging from a relatively few Central Plains metropol-

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itan vessels,¹⁸ to more frequent copies of metropolitan bronze types with local characteristics,¹⁹ and to artifact types that are particular to the Hanzhong area (Figure 4.10). Among the latter artifact types are supposedly bronze masks that also occur in the Anyang period Central Plains metropolitan variant site of Lao-niupo near Xi'an and the Xin'gan tomb in Jiangxi, suggesting contacts between these areas (see chapter 5). A triangular-shaped *ge* dagger-axe, or *kui* 戣, typical of this area is also found in Sanxingdui tradition sites and later in sites as far away as Anyang. Scepter and sickle like artifacts, on the other hand, are only found in Hanzhong and are most likely to be local products (Luo 2010), a conclusion backed by metallurgical studies (Mei et al. 2009; Chen et al. 2009). In fact, rather than seeing the Hanzhong bronzes in terms of a metropolitan versus local dichotomy on stylistic (Luo 2010) and metallurgical grounds (Chen et al. 2009; Mei et al. 2009), it would be more accurate to characterize them as having a variety of origins, including central Shaanxi (perhaps the masks), Sichuan, the middle Yangzi area, the Hanzhong area, and the Central Plains (Luo 2010).

Stone coffin burials have been found at some sites, and most burials appear to be secondary, multiple burials. According to XWX (2002), there are strong similarities between the Baoshan tradition, Sanxingdui, the Three Gorges Area, and western Hubei traditions, while Central Plains and western Shaanxi elements can also be seen.

The West

Although there were certainly non-Central Plains traditions in central Shaanxi and farther west during the Xiaoshuangqiao-Huanbei period, the culture history and chronology of this area is unclear aside from the western expansion of the Beicun variant. This westward expansion was then followed by replacement with non-Central Plains traditions west of Xi'an toward the end of the Xiaoshuangqiao-Huanbei period, or perhaps a little later.

Further west, the eastern Gansu area was still occupied by Siwa and Xindian traditions in the Xiaoshuangqiao-Huanbei period. What interaction, if any, existed between societies in these areas and societies further east in Shaanxi is unclear on present evidence.

Conclusion

The Xiaoshuangqiao-Huanbei period is the least well-known period of the Central Plains Bronze Age. Understood by some scholars as a transitional or intermediary period, it saw the demise of the Zhengzhou center and the rise of a new central site at Anyang (Huanbei). In the sense that there was a shift in the Central Plains metropolitan area, the Xiaoshuangqiao-Huanbei period is indeed a period of transition. From the perspective of material cultural distribution and continuity from the Erligang period, however, it cannot be considered an intermediate period in the sense of a collapse or disintegration of the Central Plains metropolitan horizon.²⁰ Rather, the Xiaoshuangqiao-Huanbei is the pe-

riod in which Central Plains metropolitan material culture reached its greatest distribution. It is unclear exactly where the expected mega-center was in Xiaoshuangqiao-Huanbei I (or indeed if there was one). In Xiaoshuangqiao-Huanbei II, however, the site of Huanbei appears to be, in both its size and its monumental architecture, a center of royal proportions.²¹ Nor do such elite traditions as bronze-casting seem to have declined during this period, instead showing a wider distribution than ever before. While evidence for diverging Central Plains metropolitan-originated local bronze-casting traditions appears in a number of regions during this period (such as the Sichuan basin, the upper Han River Valley, and the middle reaches of the Yangzi), they are associated with societies whose material culture and practices had never been part the Central Plains cultural sphere. Rather than evidence for the collapse of a centralized system of bronze vessel production and distribution (as per Liu and Chen 2003; Bagley 1999), the trajectory of bronze vessel casting from Erlitou through to the Xiaoshuangqiao-Huanbei might instead be seen as an expanding horizon of specialized metallurgical knowledge and elite artifacts.²²

If the exact nature of the political landscape is unclear for the Erligang period, it is doubly unclear for Xiaoshuangqiao-Huanbei times. The southern Shanxi area seems to have suffered depopulation along with the Zhengzhou-Luoyang region. Panlongcheng flourished a few generations beyond the demise of Zhengzhou, and then it, too, was largely abandoned, although its ceramic tradi-

tion continued to expand and flourish through the Xiaoshuangqiao-Huanbei period. The Middle Yangzi area in general seems to have experienced increasingly intense interactions during this period, and the Wucheng site in Jiangxi was at its apogee. Sanxingdui was also at the height of its material cultural influence, and there seems to have been interaction between the Upper and Middle Yangzi regions during this period. In the north and west, from the Zhouyuan in Shaanxi Province, to central Shanxi and Hebei, Central Plains metropolitan material culture continued to expand its distribution, although the mechanisms through which this took place are far from clear and likely varied from region to region.²³ The east also shows expanded influence as Central Plains metropolitan ceramics and evidence for metropolitan-style elites increasingly appear in Shandong. Rather than understanding the Erligang political landscape in terms of a well-integrated, centralized “state,” the collapse of which precipitated the fall of all of its secondary centers, the continued prosperity of most parts of the Central Plains cultural world in the Xiaoshuangqiao-Huanbei bespeaks their relative independence of the fate of Zhengzhou. Moreover, given the paucity of systematic regional survey, the ongoing destruction of exposed sites, and the difficulty of finding those buried under the Yellow River flood plain, we should remind ourselves that we actually know very little about regional settlement structure for any part of the second millennium BCE. It may well be that important Xiaoshuangqiao-Huanbei sites await discovery.

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Endnotes

1 See Chang (1980) for an English discussion of the early attempts to fit Erligang and Erlitou into a chronology that included Anyang.

2 Bagley's (1999) transitional period, based on bronze vessel analysis, corresponds to the post-Erligang parts of the Middle Shang period (MS II–III).

3 The discovery of the site was first reported in the *Guangming Daily*, January 8, 2001, in a story titled, “Henan Anyang xin faxian Shangdai chengzhi” (Newly Discovered Shang Period Walled Site at Anyang, Henan).

4 These are the hoards at Zhangzhai nanjie and Chengdonglu huimin shipinchang. The interpretation of the these pits is controversial, with some scholars claiming that they are sacrificial pits (e.g., An 1993, 1997), while most believe that they were stashes buried during political turmoil by owners who could not take them with them in analogy to Western Zhou bronze hoards (ZSKY 2003).

5 Although these foundations are relatively small by comparison with the largest rammed-earth structures at Zhengzhou, Yanshi, and Huanbei during their apogees, one of the foundations had a higher-preserved height than any other second millennium BCE foundation found to date.

6 Despite this picture of site abandonment at Zhengzhou, the bronze hoard at Nanshunchengjie might date to as late as Middle Shang II or III (based on stylistic indicators) indicating possible elite activity at the site after Middle Shang I (ZSKY 2003).

7 It is, in fact, the largest site completely enclosed within a wall known to that point from China. While the Zhengzhou site is larger, the outer wall did not entirely encircle the site. The Huanbei occupation, moreover, may have exceeded the area surrounded by the wall as well, so the true site size may well have been larger (Anyang Team, Institute of Archaeology, Chinese Academy of Social Sciences [AT, IA, CASS] 2004a).

8 The excavators note that the site may

not have been complete when abandoned (AT, IA, CASS 2004a)

9 Bagley (1999:175–176) remarks on the large size and fine quality of “transition-period” bronzes found in this area, stating that the “assemblages have the composition of standard northern burial sets, and bronzes of this size and quality can only have belonged to a very high stratum of society.”

10 ZSKY (2003) is somewhat contradictory on this score. In the section on Datuotou, it notes that the Datuotou strata at the Yuxian site are overlain by Erligang III remains, while at other sites Datuotou remains are overlain by Weifang III remains. Nevertheless C-14 dates taken from several Datuotou sites (including Yuxian) put Datuotou between 1530 and 1300 BCE, straddling the Erligang and Xiaoshuangqiao-Huanbei periods. Despite this, based essentially on the determination of the Yuxian site as having Erligang III remains (Zhangjiakou Archaeological Team 1984), Datuotou is claimed to date from Erlitou to Erligang times. Five pages later, however, in a discussion of the dates of Weifang III, which directly overlays Datuotou at a number of sites, the earliest Weifang III remains are said to date from Anyang I (ZSKY 2003). Provided that the judgment of Yuxian's ceramic tradition affiliations are correct, one explanation might be that the Datuotou tradition did not disappear in a blanket fashion, as is apparently assumed, and the intrusion of Erligang elements in the area did not spell the end of the tradition.

11 As it stands, 5,189 m² have been excavated of the 62-ha site (less than 1 percent). The site, moreover, has never been systematically surveyed or cored, suggesting that claims about the site's division into production areas, ritual areas, living areas, and so on (JBKY, ZB 2005), are premature.

12 The mound, building on top of it, road, and area of postholes seem to have been given the label “ritual” based on their not having any obvious function and on the presumed necessity of the large sites of early civilizations to have ritual cent-

Chapter 4

ers. Moreover, whatever the nature of the so-called “ritual area,” it does not resemble anything found in the Central Plains. If these features are, indeed, related to ceremonies of some kind, they do not seem to be of the same sort conducted in the north.

13 The burials include a few that the excavators feel are secondary burials and at least one urn-burial. While urn-burials occur in the Central Plains, secondary burial is not a Central Plains Bronze Age mortuary practice.

14 Including one example the excavators termed a “dragon kiln.” It was roughly 8 m long and 1 m wide with five vents. It was associated with both earthenware and stoneware. Other types of kilns at the site had stoneware and protoporcelain sherds as well, however, so it does not seem to be the case that “dragon kilns” were necessary to fire protoporcelain ceramics.

15 The speculative nature of this narrative can be seen in the fact that the increase of Panlongcheng-related ceramic traits in the Wucheng assemblage during Wucheng II is said to be the result of the abandonment of Panlongcheng and the collapse of Shang power in northern Hubei, whereas the spread of Erligang ceramic features in the Erligang period is associated with the putative expansion of Shang power. If increasing material cultural influence can be the result of either the expansion or collapse of political entities, then reading such “influences” in terms of particular political scenarios without strong supporting evidence seems very arbitrary indeed.

16 ZSKY (2003) claims that the most of the Shang-type bronzes from artifact pit 1 date to the Middle Shang, corresponding with the maximum expansion of the Panlongcheng variant.

17 Between 1955 and 1990, 14 locations in Yang and Chenggu Counties, Shaanxi, have produced 26 groups of artifacts totaling 654 bronze artifacts (ZSKY 2003).

18 Apparently, only “10 percent of the artifacts” fall into this category (ZSKY 2003:520).

19 This category includes bronze *zhang-*

blades, an artifact type common at Erlitou and Sanxingdui, but always manufactured of jade or stone in the Central Plains.

20 In Willey and Phillip’s (1958:33) classic formulation, a horizon is “*a primarily spatial continuity represented by cultural traits and assemblages whose nature and mode of occurrence permit the assumption of a broad and rapid spread*” (italics in original). While Bagley (1999) apparently has this or a similar definition in mind when he talks of an Erligang horizon but claims there was none for Anyang, his assertion is based on bronze vessels alone and an overly narrow interpretation of the term. As Willey and Phillips go on to clarify, “it is recognized that horizons based on cultural criteria unsupported by independent dating may have considerable temporal depth” (33). Indeed, horizons may last centuries, as in the Middle Horizon of Peruvian archaeology (Mosely 2001).

21 While Huanbei’s wall only encloses an area of 4.6 km², compared to the 13 km² of Zhengzhou and the over 30 km² of the Anyang site at its apogee, the actual size of the Huanbei site is still unknown and quite possibly exceeded the walled area (Jing Zichun, personal communication June 2006). Being a buried site, it will take an extensive program of coring before the extent of the occupation beyond the site walls becomes known. Huanbei also boasts the largest building known from the Central Plains Bronze Age (“Palace” 1) and the longest wall of any Central Plains site up to that point.

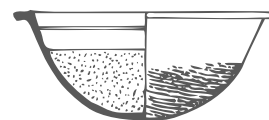
22 Indeed, history is littered with examples of strategic technologies (whether economic or military) spreading beyond their original centers of invention despite the best efforts at secrecy and control by their inventors (Hittite iron, Chinese silk, and atomic weapons are just a few examples that spring to mind).

23 If analogy to the Anyang period can be made, it may be that new polities were set up by metropolitan elites in some of these areas or by elites in adjacent areas that shared common tra-

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ditions with the metropolitan area. Or it may be that local elites adopted elements of Central Plains elite culture, even while trade, marriage, alliance, and conflict provided opportunities for individuals and artifacts to travel between regions. While it is obvious that there is intensive contact throughout an ever-wider area in this period, the political implications of this fact are much less clear.

Chapter 4

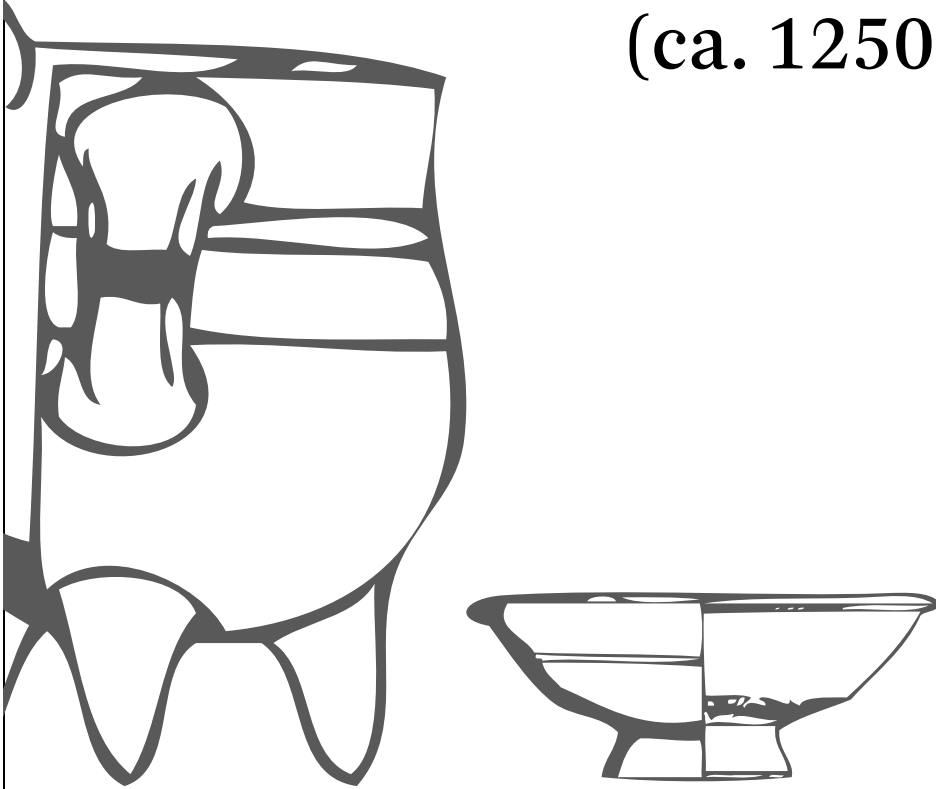


5



Roderick B. Campbell

The Anyang Period (ca. 1250–1050 BCE)

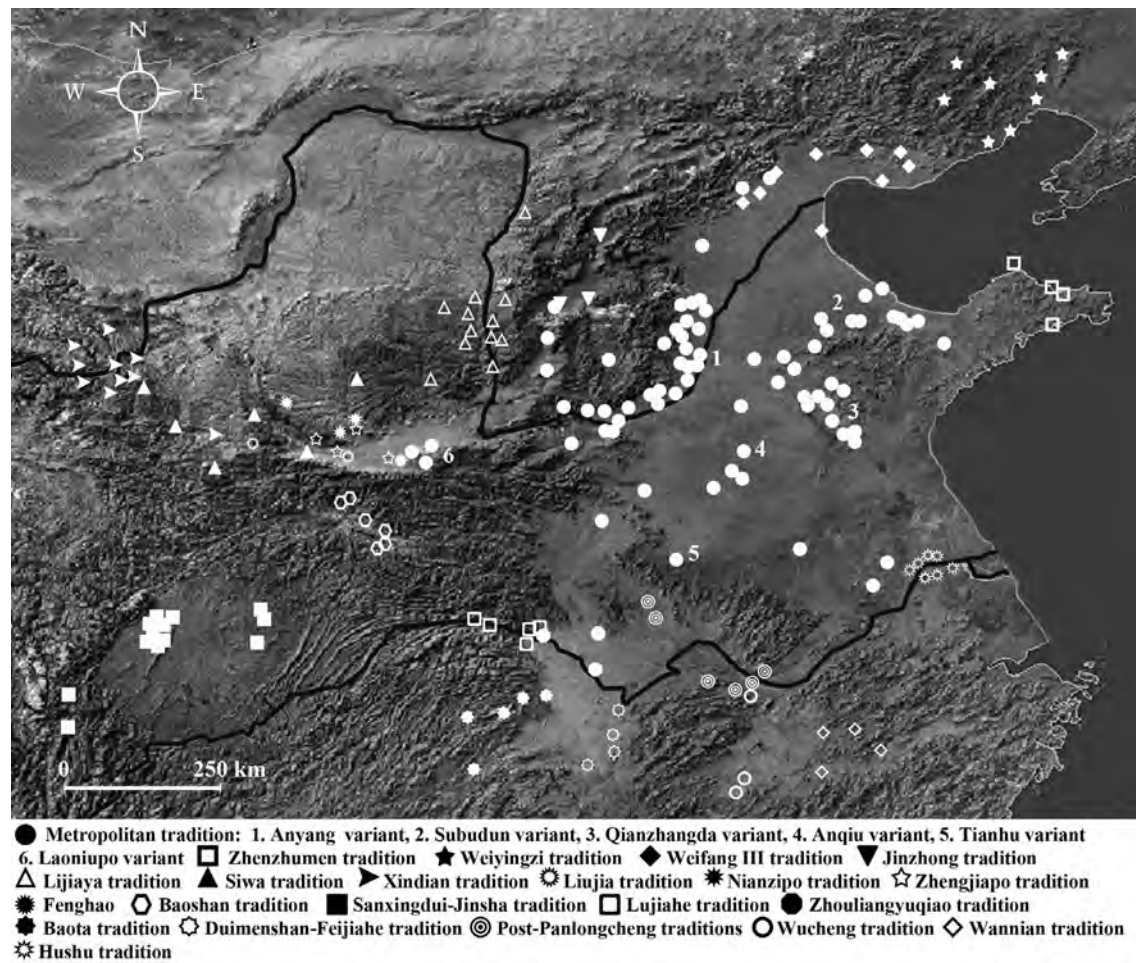


Anyang (Yinxu)

The best-known site of the Anyang, or Yinxu, period, is the type-site, Anyang. Though long mined by tomb looters, this site was first excavated in 1928 by archaeologists from the newly formed Academia Sinica. Archaeological work was stopped in 1937 for the Japanese invasion of North China, but excavations resumed in 1950 and continued sporadically until 1958, when the Anyang Work Team was set up by the Chinese Academy of Social Science's Institute of Archaeology (ZSKY 2003). Since then, excavations have continued unabated to this day in the Anyang area, making Anyang the longest and most

intensively excavated site in China.¹ The site of Anyang was apparently the capital, or central place, of the last Shang kings.² Anyang reached a size of over 30 km² at its zenith (ZSKY 2003) with a “palace-temple” precinct nearly 70 ha in area (Figure 5.2). The royal tombs at Xibeigang, north of the palace-temple complex across the Huan River, are orders of magnitude larger than any previously known, while the richest unlooted tomb found at Anyang, that of King Wu Ding's consort Fu Hao, surpasses, in number and quality, the tomb furnishings of any other tomb found in China of this or any earlier period. Thus, despite the currently widespread notion

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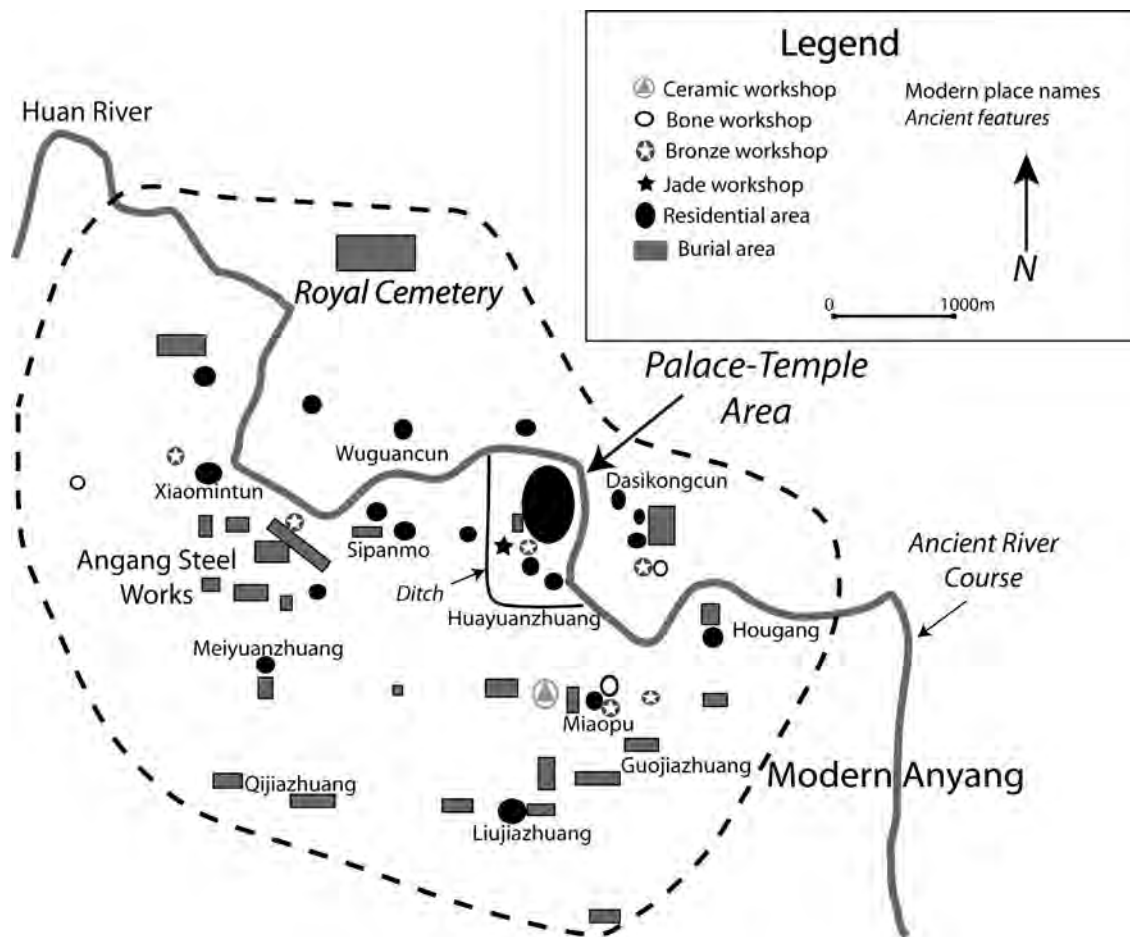


5.1. Anyang - period ceramic traditions (base map from Harvard Geospatial Library).

that Anyang and the polity of which it formed the center were pale shadows of the Zhengzhou zenith (e.g., Bagley 1999; Liu and Chen 2003, 2012; Yoffee 2005),³ by nearly any measure Anyang was unsurpassed to that point in East Asia and perhaps the world.

Much of the material culture and many of practices in evidence at Anyang had direct antecedents in the Erligang- and Xiaoshuangqiao-Huanbei-period metropolitan centers, including the bronze, ceramic, and stone industries, large-scale rammed-earth courtyard ar-

chitecture, burial practices, and sacrifice. Nevertheless, the Anyang period is notable for two important new developments: writing and the introduction of the chariot. The first of these, although possibly having unpreserved antecedents (Keightley 2006; Bagley 2004 but see Smith 2008 for the argument that the script could have developed rapidly), appeared in two forms in the Anyang period: oracle-bone inscriptions and, starting in Anyang phase II, short inscriptions on bronze vessels usually taking the form of ancestral dedications. By the end of the Anyang peri-



5.2. Anyang site map (redrawn from Campbell 2007).

od, bronze inscriptions that recorded events (usually the receipt of a reward from the king or other elite patrons) began to appear even as oracle-bone inscriptions became pithier and narrower in subject matter (Keightley 1999).

Unlike writing, chariots were of nonindigenous origin⁴ and indicate intensive contacts with peoples to the north and west (Piggott 1974; Shaughnessy 1988; Bagley 1999; see Anthony 2007 for the Eurasian significance of the chariot). Moreover, whatever their origins, chariots soon became a major, and endur-

ing, form of elite social and symbolic capital, forming a feature of high-elite burial, and playing a prominent role in practices of both hunting and war.⁵

With the large corpus of oracle-bone inscriptions from Anyang, the chronology of the Anyang period proceeds from two sources: the internal periodization of the oracle-bone inscriptions, and ceramic seriation in conjunction with stratigraphy and absolute dating methods (XSZDGZ 2000; ZSKY 2003). Correlated with transmitted text-based genealogies of the last Shang kings, the

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Phase	Oracle-bone Period	Kings	Dates (BCE)
I	I	Early Wu Ding	ca. 1250-1220
II	I and II	Late Wu Ding, Zu Geng, Zu Jia	ca. 1220-1160
III	III and IV	Lin Xin, Kang Ding, Wu Yi, Wen Ding	ca. 1160-1102
IV	V	Di Yi, Di Xin	ca. 1101-1046

Table 5.1. Anyang periodization (based on ZSKY 2003:294; Keightley 1997:18; and Duandai 2000: 88).

Anyang period can be divided as seen in Table 5.1.⁶

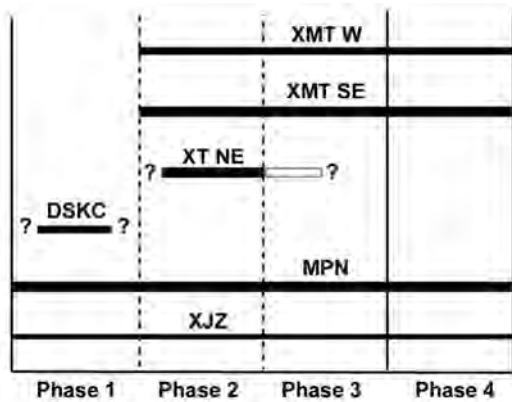
The Development of Anyang

Several large buildings in the palace-temple area date from the first phase (buildings *yi* -5, *yi*-7, and B-11), and residential structures in Xiaotun locus northeast and Xiaotun locus south were in use during this period. Outside the palace-temple area, phase one residential areas can be found in Huayuanzhuang, Miaopu, Sipanmo, Hougang, Dasikongcun, Wuguangcun, and beyond (Figure 5.2). The area of the Yinxu site is estimated to have been approximately 12 km² in this period, and bronze workshops in Miaopu North, Dasikongcun, and Xuejiazhuang were already in operation (see Figure 5.3). Burial areas were generally located near or interspersed with settlements and mostly concentrated in Miaopu north, Wuguancun, and Dasikongcun during this phase (ZSKY 2003).

By the beginning of phase II, what was once described as a moat (claimed to be 7–21 m wide and 3–10 m deep) had been dug around the palace-temple area (ZSKY 1987). It is now believed that the “moat” was, in fact, a series of

ponds such as have been found separating different residential districts at Anyang and was not a continuous barrier around the palace-temple area (Tang and Jing 2009). Anyang’s other bronze foundries commenced operation in this phase, as did bone workshops at Dasikongcun (ZSKY 2003) and Tiesanlu (Li et al. 2011). At the same time, the distribution of the residential areas greatly expanded. The royal cemetery at Xibeigang was in use in this phase and, in general, residential areas expanded. The western “lineage cemeteries” (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Anyang Gongzuodui [hereafter ZSKY, AG] 1979) began to see heavy use in this period (ZSKY 2003).

During phases III and IV, Anyang reached its zenith. The Miaopu foundry expanded to the west and south, doubling in size. The Xiaomintun and Xuejiazhuang foundries, as well as the bone workshops at Dasikongcun and Tiesanlu, all expanded in this period (ZSKY 2003). A new bone workshop commenced operation near Beixinzhuang during phase III, and during phase IV, a new jade and stone workshop began operation in Xiaotun northwest, in the palace-temple area. Residential sites increased in density and distribution, and



5.3. Duration of Anyang foundries (redrawn from Li 2003:311; fig. 7.9).

the site reached its maximum size of over 30 km² in this period (ZSKY 1994; ZSKY 2003).

The Palace-Temple Area

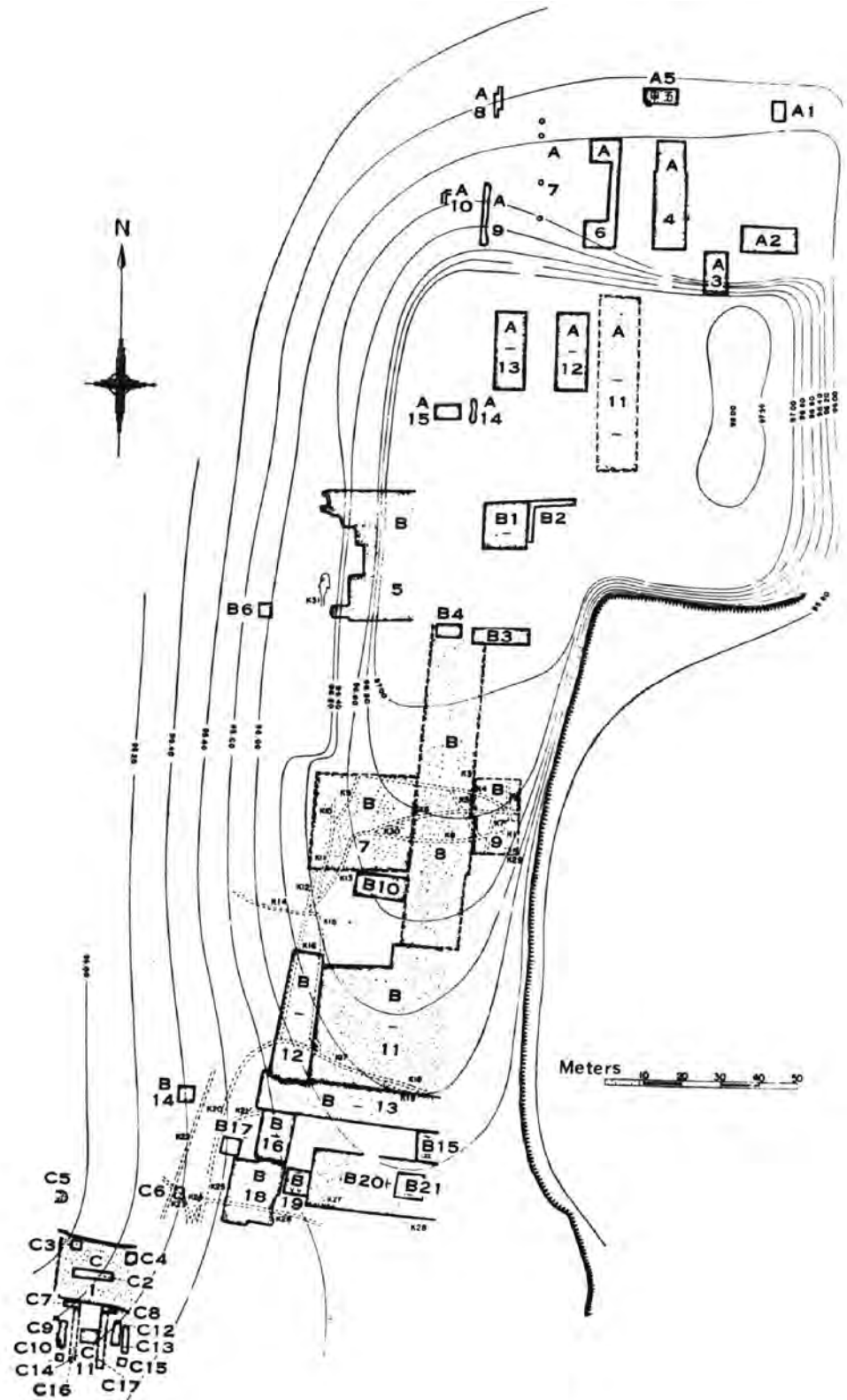
Most of the palace-temple area was excavated in the 1930s under difficult conditions by archaeologists of the fledgling Academia Sinica, who had little experience with the nuances of excavating soft features. Added to the limitations of the times was the interruption of work caused by the Japanese invasion and the loss of material during World War II, followed by the civil war (Shih 1933, 1951, 1955, 1959, 1961, 1976; Creel 1937; Chang 1980; Thorp 2006). As a result, the relative dates of the large-scale rammed-earth platforms, their original structures, and the overall layout of the palace-temple area are only crudely understood despite several attempts at reconstruction (Shih 1954, 1970, 1976a; Du 2009; Figure 5.4). In terms of scale, however, the B group of buildings near the center of the palace-temple area is the largest (5,000 m²). It contains numerous structures that probably served

a variety of functions. The northernmost structures of the B group are associated with rows of sacrificial pits representing separate sacrificial events and may have been an ancestral temple complex with a courtyard structure (Shih 1976b; ZSKY 2003; Du 2009). The southern structures of the B group (B11, B12, B13) appear to have been three sides of another courtyard structure (the eastern side was eroded by the Huan River), with a series of two-story watchtowers to the south (B14, B17, B21; Du 2009), which possibly served an administrative function. If this is so, then this arrangement seems to mirror that of foundations 1 and 2 at Huanbei, where the northern complex had sacrificial pits and is thought to be a royal lineage temple, while the southern courtyard structure lacked these features (ZSKYAG, ZJHQBKD 2010).

The C group of foundations to the southeast of the B group were generally small (around 10 m²) and show no signs of having ever had superstructures. They were also associated with sacrificial victims, and it has been suggested that they may have been sacrificial altars (Shih 1961; Chang 1980).

To the north of the B group were a number of rammed-earth structures (A group), which may have had a residential function based on middens associated with them (Tang Jigen personal communication). At the southern end of the palace temple area are a number of smaller structures hypothesized to be houses of lower-ranking officials or servants associated with the palace-temple complex (Shih 1959; ZSKY, AG 1995).

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5.4. Anyang palace-temple area (after Chang 1980:94, fig.23).

Residential Areas

Despite over eighty years of work at Anyang and numerous excavations of domestic structures, there has been no attempt, until very recently, to excavate large exposures or to investigate the internal structures of residential areas (ZSKY 2003). What work has been done is just being published, but a preliminary account of residential patterns can be made, based on excavations at Baijiafen (ZSKY 2003), Liujiazhuang (ZSKYAG 2009) and Xiaomintun (Yinxu Xiaomintun Kaogudui [YXK] 2007). The structures at Baijiafen formed three discrete clusters with two or three hundred meters between them. As noted in chapter 4, the only other major Central Plains metropolitan site where residential structures have been systematically (albeit preliminarily) analyzed is Huanbei, which also shows a clustered settlement pattern. These residential clusters are associated with burials as well and are interpreted as lineage cemeteries. The pattern of burial and residential clusters is repeated all over the site of Anyang (Tang and Jing 2009). The composite impression of archaeology, inscriptions, and received texts, is that these residential and mortuary clusters are lineage settlements with associated burials (Zhu 1991; Keightley 2000; ZSKY 2003; Tang 2004; Campbell 2007, 2009; Tang and Jing 2009).

With areas of Anyang being studied holistically for the first time, surprising new perspectives are emerging (ZSKYAG 2009). Salvage excavations in the Liujiazhuang area have discovered not only residences and tombs, but also

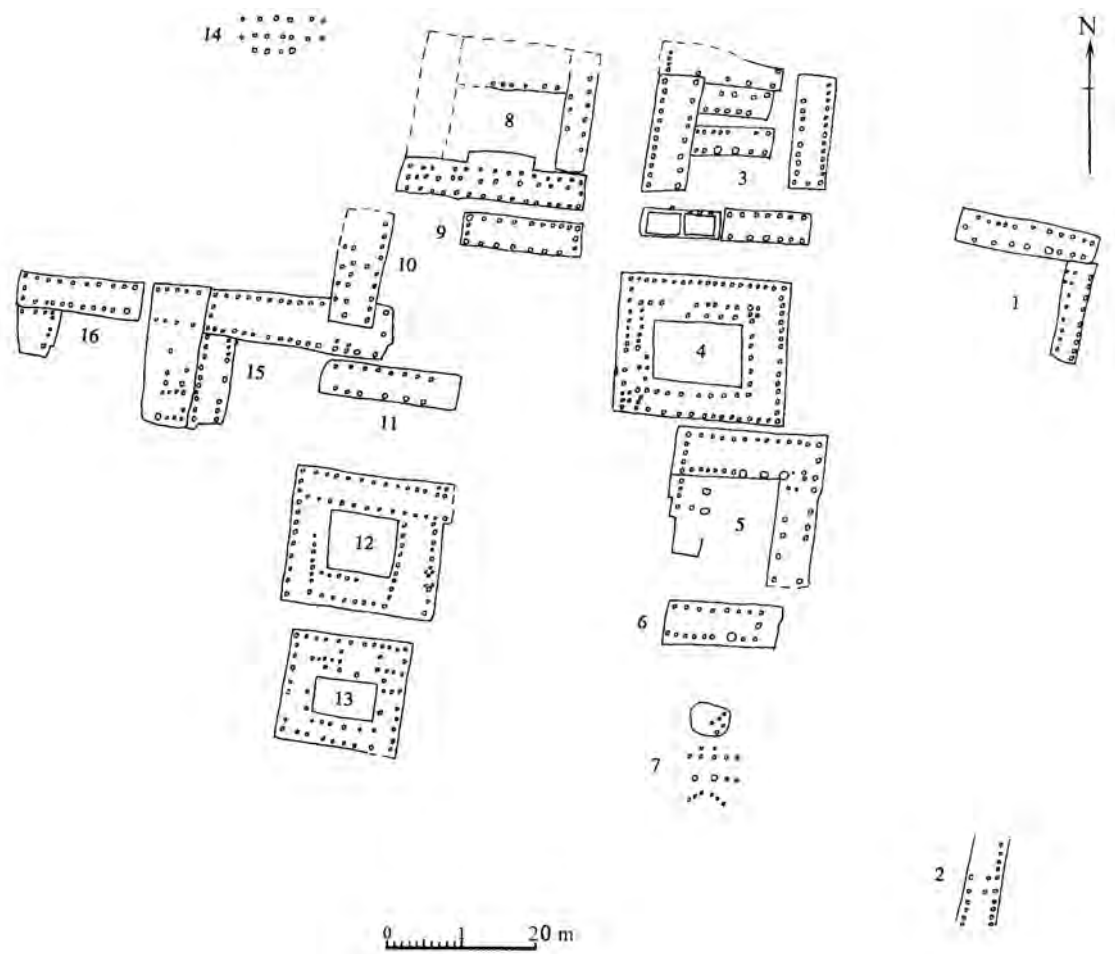
roads with narrow-gauge cart tracks and large, irregular pits, hypothesized to have been quarried for foundation earth, then used as ponds/cesspools. These ponds tend to be found around the edge of residential clusters and may, in part, have served to demarcate them from other settlements (ZSKYAG 2009). The roads, by contrast, linked settlements together in a large network centered on the palace-temple precinct (Tang and Jing 2009). Wells and large ritual deposits associated with residential clusters, on the other hand, suggest mundane, as well as ritual, shared, intracommunity practices and spaces (ZSKYAG 2009; Tang and Jing 2009).

Large structures are also found outside the palace-temple area, some over 50 m² in area; they are frequently associated with foundation sacrifices. While most houses at Anyang are rectangular surface dwellings (ZSKY 2003; Tang and Jing 2009), some semisubterranean and subterranean houses have also been found (such as at Xiaomintun [YXK 2007]). Most houses are about 10 m² in size and generally have one or two rooms (ZSKY 2003), but some, like the Beixujiaqiaocun cluster of courtyard structures,⁷ are much larger (Figure 5.5).

Workshops

Workshops—their internal organizations and their relationship to the wider urban center and polity—are currently one of the foci of research interest at Anyang. While much empirical work remains to be done, a recent article based largely on inscriptional evidence argues

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5.5. Beixujiaocun courtyard structure cluster (after Meng 2003:68, fig. 2).

for a two-tiered production organization model, with a highly centralized royal production and then a more decentralized lineage production (He 2011). In some industries, such as bone working, there is evidence for small-scale domestic production as well (ZSKY 1994; Li et al. 2011).

Bronze Workshops

There were as many as six foundries in operation at Anyang at one time or another, and at least four in operation at any given phase (Li 2003). Whereas a certain degree of division of labor or

specialization existed between foundries, with some foundries producing a full range of artifacts, while others seemed to specialize in just a few types (Table 5.2), none of the foundries has been completely (or even systematically) excavated, and overall, the bronze workshops show a striking redundancy.

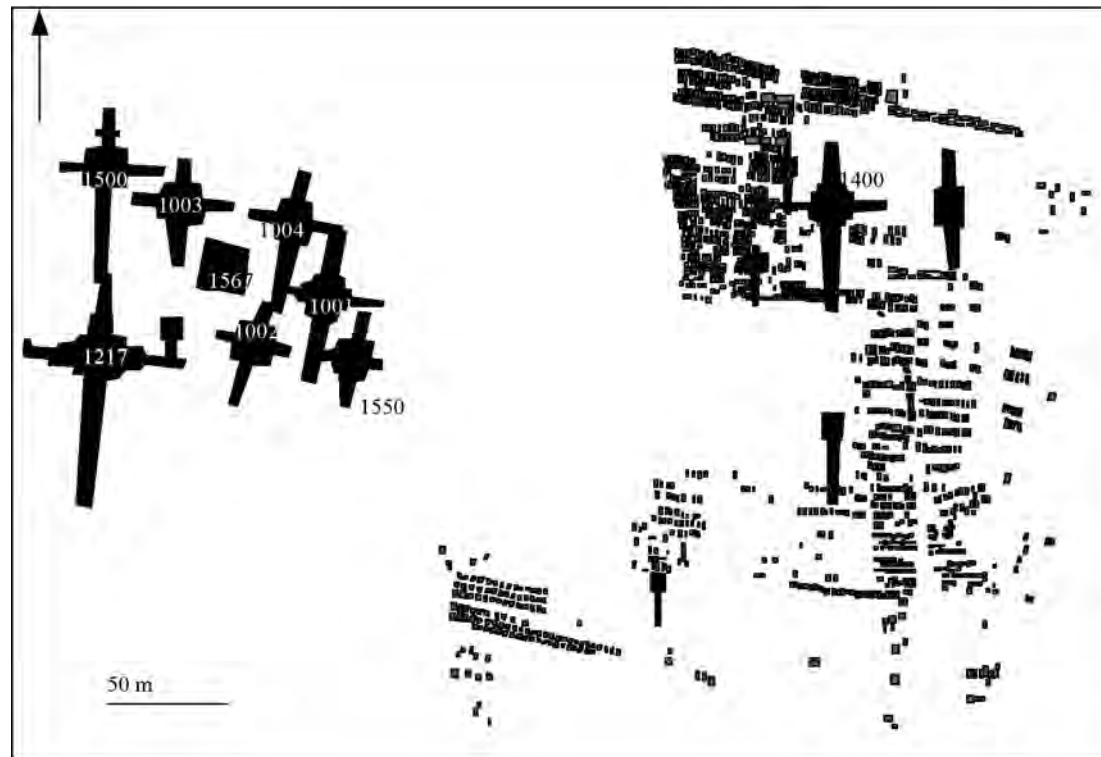
Interestingly, despite the frequently held belief that bronze vessels were strategic forms of symbolic capital whose monopoly was closely protected by the king (Underhill 2002; Li 2003; Liu and Chen 2003; Liu 2005; Li 2005,

	Ritual Vessels	Horse and Chariot Fittings	Weapons	Tools
Dasikongcun	x			
Xiaotun NE	X	x	x	x
Miaopu N	X	x	x	
Xuejiazhuang	X		x	
Xiaomintun SE	X		?	?
Xiaomintun W	x	x	X	X

Table 5.2. Anyang foundries and their mold fragments (after Li 2003:304, table 7.2).

etc.), there were at least four foundries at Anyang producing bronze vessels at any one time, only one of which was within the palace-temple area. While it is possible that all of the foundries at Anyang were under strict royal supervision, their number and scattered distribution across the site at a minimum would have worked against ease of supervision. Moreover, the redundancy of production also suggests a lack of centralized administration. Li Yung-ti (2005) hypothesizes that this pattern indicates that the king was not directly involved in supervising casting, but that the Shang court nonetheless “controlled the procurement and distribution of raw materials for craft production,” as well as having “direct and perhaps total control over the finished products” (10). While the first part of Li’s hypothesis (that the king was not directly involved in casting) is based on the actual distribution of craft production sites, the second, concerning control of resources and finished products, is entirely based on the assumptions that large-scale resource use⁸ implies centralized supply, that the court could not have permitted large or finely cast bronze vessels to be used except by the

court, and that weapon production was too strategic not to supervise. I would argue, however, that the first assumption is not well-founded;⁹ the second, largely untestable, given that the vast majority of large Anyang tombs have been looted;¹⁰ and the third, unlikely, given the wide distribution of bronze weapons in tombs both at Anyang and beyond (Campbell 2007). Moreover, while Anyang-period bronze inscriptions themselves frequently commemorate gifts from the king or other high elites, bronze itself is never given, nor is permission to cast the bronze ever mentioned. In fact, it is the granting of cowries or other benefices that provides the occasion for having a bronze vessel cast; the access to foundries is never presented as an issue. Thus, while both the acquisition of ores and finished bronzes certainly depended on social networks structured in gradients of power and restricted prestige (Campbell 2007, 2009), the actual mechanisms by which metal was procured, casting patronized, and its products distributed remain unknown.



5.6. Xibeigang royal cemetery and sacrificial pits (after Tang 2004, fig. 7.5).

Bone Workshops

The only other relatively well-known industry from Anyang is bone-working. Major workshop areas are recognized from Beixinzhuang, Dasikongcun, and Tiesanlu (near Miaopu).¹¹ While Beixinzhuang and Dasikongcun have seen numerous excavations since the 1950s, their assemblages have never been systematically analyzed, quantified, or studied by zooarchaeologists. Tiesanlu, on the other hand, excavated in 2002, 2006, and 2008, is currently the focus of an international collaborative project and provides a much better basis for understanding bone-working at Anyang (Li et al. 2010; Campbell et al. 2011; Li et al. 2011). Anyang bone-working was largely based on cattle limb bones, deer antler, and pig tusk (Campbell et al. 2011). The cattle likely derived in part

from the enormous royal sacrificial rites that consumed thousands of head per year. Production at the bone workshops was massive, and it is estimated that Tiesanlu produced on the order of four million bone artifacts over the course of its operation (Campbell et al. 2011). If one considers that the Tiesanlu worksite is estimated to be nearly 2 ha in size, Dasikongcun 1 ha, and Beixinzhuang as large as 4 ha, then the total bone tool production for the workshops might have been close to 15 million artifacts (Li et al. 2011). The majority of these artifacts (80–90 percent) were “points” such as pins, awls, and arrowheads—quotidian artifacts that were widely distributed at Anyang and likely beyond (Campbell et al. 2011). Taken together, these things suggest that, in addition to large workshops that large-

ly catered to elite patrons, Anyang also had large industries that produced for a wide range of consumers and likely supplied trade networks beyond the center.

While Dasikongcun and Tiesanlu were in operation from at least phase II to phase IV, at Beixinzhuang bone-working seems to date from phases III to IV, based on the small amount excavated (Li et al. 2011). It appears that, like bronze production (Li 2003), bone-working expanded in the second half of Anyang's existence.

Other Workshops

Other workshops found at Anyang include a small jade and stone workshop inside the palace-temple compound. Until very recently almost nothing was known about ceramic production at Anyang (but see Haapanen 2005), and relatively few kilns had been reported. In 2008, what appears to be a large pottery production area with 10 kilns dating to the Anyang period was discovered to the south of Huayuanzhuang (Yue Zhanwei personal communication). It is anticipated that the study of this site will yield important new information about ceramic production at Anyang.

Production Zones

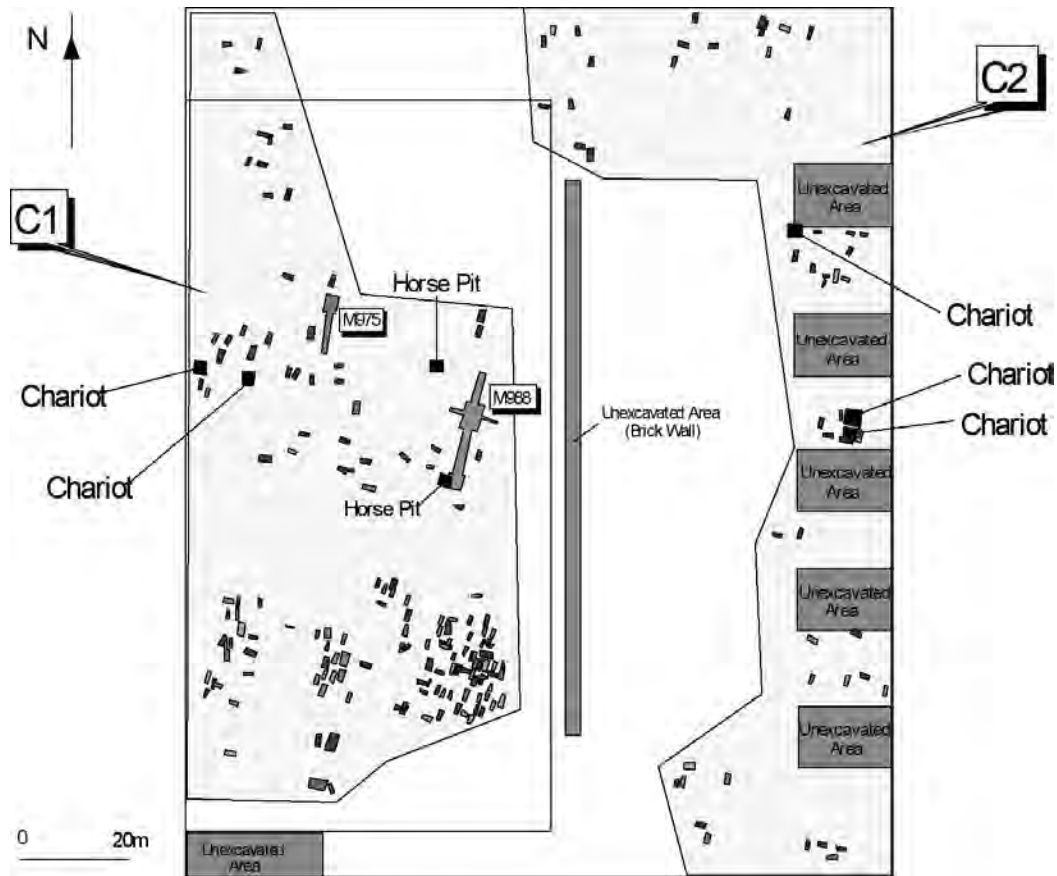
The distribution of large workshop areas at Anyang appears to form at least three clusters outside of the palace-temple area. That bone and bronze industries tend to be clustered together may partially have to do with their polluting nature, but there may have been other factors (Li 2007), on which future research will hopefully shed light.

Comparing residential and production site data, it would seem that production at Anyang was also segmented into multiple, discrete, and functionally redundant areas (i.e., producing the same things). Combined with the transmitted textual evidence that Shang craft was organized on a lineage basis (Chang 1980; Haapanen 2005; He 2011), the most parsimonious explanation of multiple, redundant industries might be that lineage settlements were specialized in occupation and that different workshops were under the control of different lineages. Specialization by lineage or settlement at Anyang would, at least superficially, mirror the phenomenon of economically specialized villages seen in Erlitou times at Huizui (chapter 2), and in Anyang times at Guandimiao and Liwu (see below). If this is correct, then, Anyang as a cluster of villages centered on the palace-temple area (Tang and Jing 2010), was also a cluster of occupationally specialized villages.

The Royal Cemetery and Clan Cemeteries

The royal cemetery at Xibeigang is located 2.5 km northwest across the Huan River from the palace-temple complex (Figure 5.6). Mostly excavated between 1934 and 1935, this 11 ha area contains the largest tombs found in China of this or any earlier period. The nine largest tombs (eight with four ramps, one empty and presumably unfinished, without ramps¹²) correspond to the number of kings that ruled at Anyang from the time of Wuding to Di Xin (Table 5.1). In addition to the royal tombs, there are a number of large double- and single-

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5.7. Lineage cemeteries at Liujiashuang (after Tang 2004, fig. 4.10).

ramped tombs in the cemetery, including 50WGM1, some “death attendant” burials, such as M259, and several thousand human and animal sacrificial pits (ZSKY 1994, 2003). On present evidence it would seem that the royal cemetery was both the burial site of the last Shang kings, their nearer relatives, and perhaps loyal servants, as well as a vast sacrificial ground dedicated to the cult of the royal ancestors, where the living continued to sacrifice to the royal dead.

In addition to the royal cemetery, there are numerous cemeteries scattered throughout the Anyang site, frequently termed “lineage cemeteries” by Chi-

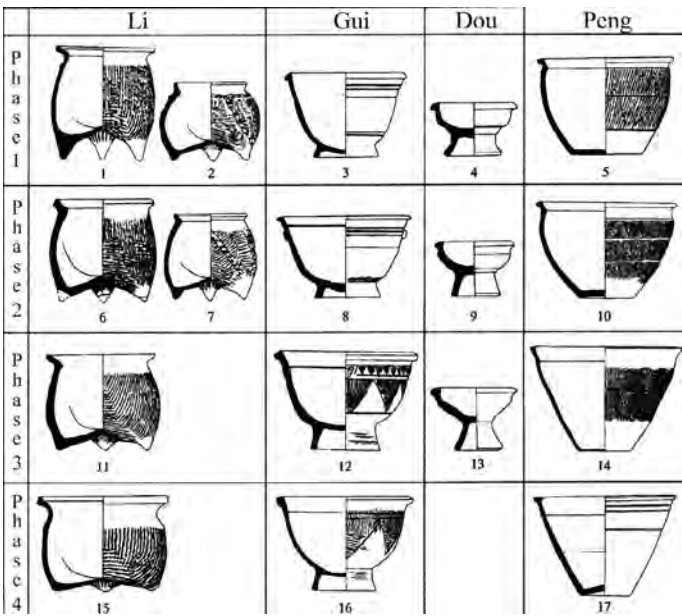
nese archaeologists. It is estimated that over 15,000 tombs of this type have been excavated at Anyang (Tang Jigen 2009 personal communication; see also Tang 2004) in over 10 major burial areas. While the vast majority of the tombs in the “lineage cemeteries” were small rectangular pit burials, these cemeteries also included larger tombs with one or even two ramps, sometimes associated with chariot burials (Figure 5.7). The distribution of Anyang burials fits with the general tendency of workshops and residences to occur in discrete clusters, suggesting the spatial marking of horizontal rather than vertical social divisions.

As a final word of caution concerning the Anyang site, it should be noted that despite over 80 years of excavations, the urban layout is not well understood. Most of the work that has been undertaken at the site is salvage archaeology. Owing to the size of the site, the orientation of Chinese archaeology,¹³ and modern construction that sits atop more and more of it, the site has not been systematically surveyed and excavated. Nevertheless, the Institute of Archaeology of the Chinese Academy of Social Sciences has sponsored a major project under the current station director, Tang Jigen, to study Anyang’s site structure through a synthesis and mapping of all previous excavation and survey work done at Anyang. It is hoped that this project will shed new light on this crucial site.

Anyang Ceramic Traditions

The Anyang (Yinxu) Variant

The Anyang variant of the Anyang ceramic tradition formed a metropolitan ceramic assemblage that attained unprecedented homogeneity and distribution. Anyang-variant sites are more plentiful than those of any other Anyang-period variant, and the distribution of Anyang-variant sites is greater in geographical extent than any earlier Central Plains metropolitan variant. At the same time, however, the overall distribution of Central Plains ceramic tradition sites (i.e., the variants other than that of Anyang) retracted during this period, most noticeably in the south and the west, expanding only in the east. The number of regional variants also

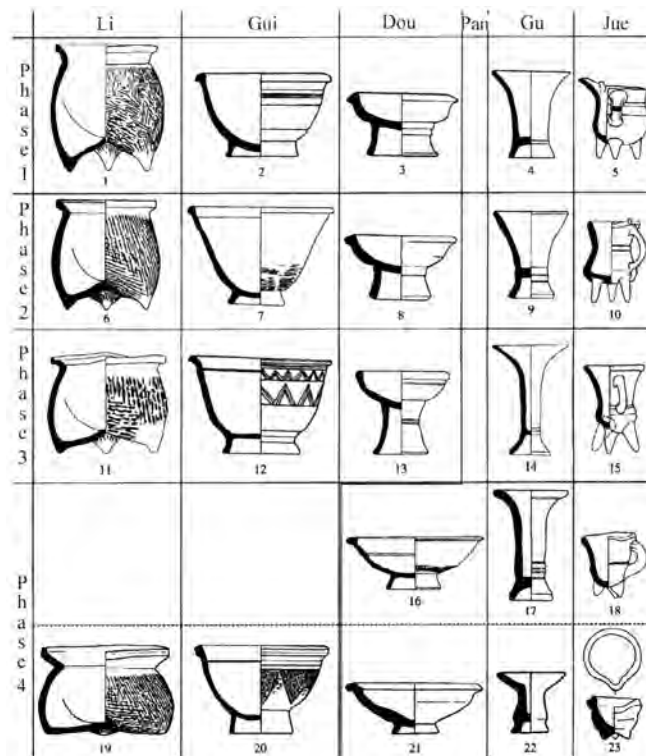


5.8. Anyang-variant everyday ceramics seriation (after ZSKY 2003:291, fig. 6-3).

decreased to seven from the nine of the Xiaoshuangqiao-Huanbei period and the eight of the Erligang period, mirroring both the reduction in geographic distribution of Central Plains ceramic traditions and homogenization at the core.

The Anyang variant was centered on Anyang and distributed mainly in southern and central Hebei and northern and central Henan. As such, it covered the areas formerly occupied by the Xiaoshuangqiao-Huanbei period Baijiazhuang and Caoyanzhuang variants, and so the metropolitan area of Erligang times remained part of the larger Anyang metropolitan ceramic tradition core (ZSKY 2003). The *li*-tripod remained the main cooking vessel for this variant (as for all CPBA tradition variants; Figure 5.8). The houses of Anyang-variant sites were mostly surface dwellings with rammed-

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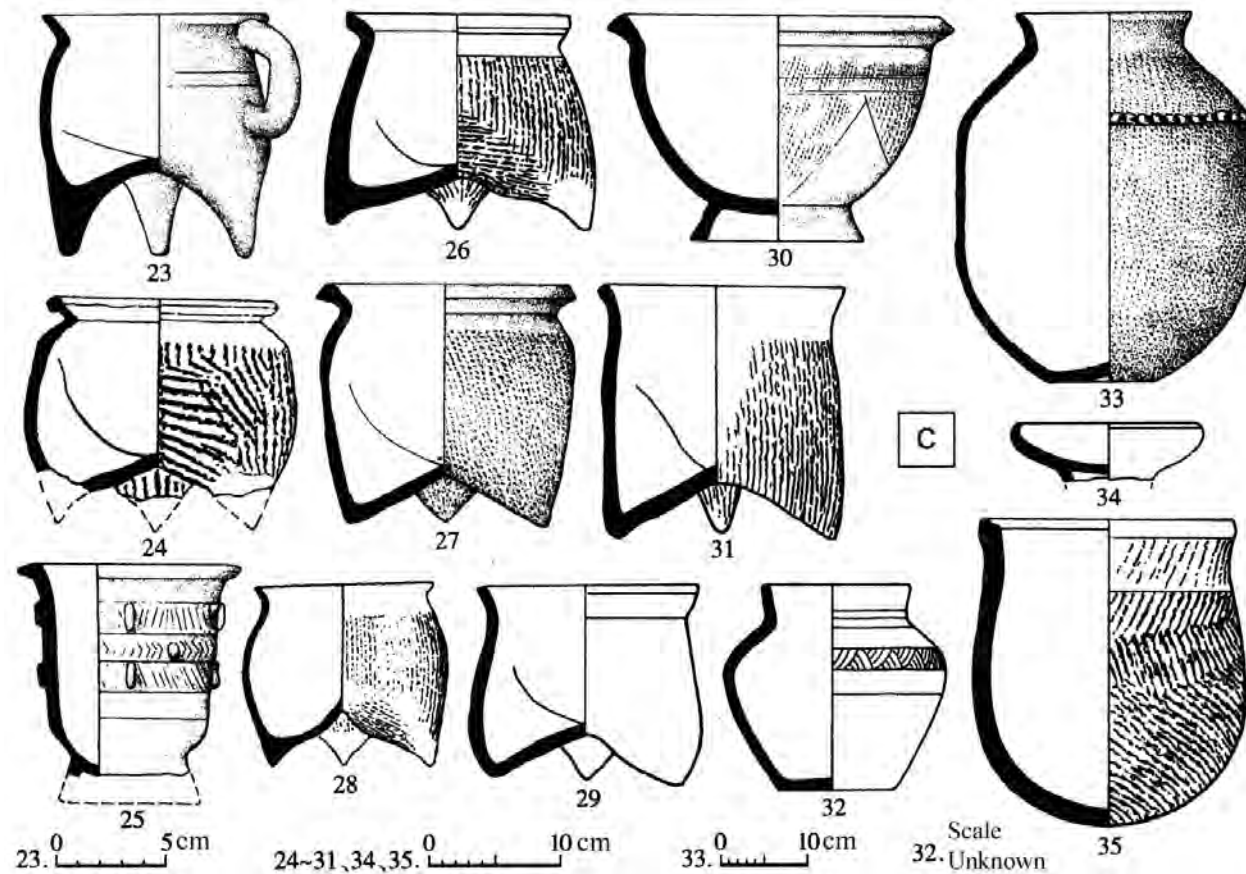


5.9. Anyang mortuary ceramic seriation (after ZSKY 2003:293, fig. 6-4).

earth foundations, and there were fewer semisubterranean dwellings (ZSKY 2003), showing a progression toward above-ground dwellings and the popularization of building techniques that were previously associated with elite dwellings. Tombs with ramps began to appear in this period, and waist-pits, long a diagnostic feature of “Shang” burials, reached unprecedented levels of popularity (around 50 percent; ZSKY 2003). Evidence for human sacrifice and death attendants also appears more frequently in this period. In addition, for most, but not all, Anyang-variant sites, *gu* and *jue*, whether ceramic or bronze, form the core of the mortuary assemblage (Figure 5.9).¹⁴

Guandimiao

Located near Zhengzhou and the contemporaneous site of Renmin Gongyuan, Guandimiao is a well-preserved, Anyang-period, Anyang-variant village. As such, it presents a rare opportunity for a holistic study of a nonelite site. Approximately 20 percent of this 10-ha site was excavated, revealing 22 houses, 20 kilns, hundreds of middens, and 228 small tombs dating from the Anyang period, as well as earlier and later occupations ranging from Yangshao to Qing times (HWKY 2008). Despite Guandimiao being an Anyang-variant site, the houses were all semisubterranean. The Anyang-period occupation was surrounded by a ditch, and most of the burials were located outside of it. The residential and production remains were mostly located in the northern part of the enclosed site, while sacrificial remains were found in the south (HWKY 2008). The presence of ritual deposits in a site with no evidence of elites, suggests, as do the sacrificial deposits in the residential clusters at Anyang, that sacrifice was not the sole prerogative of metropolitan elites but rather that elite and commoner ritual practices existed in a continuum (Campbell 2007, 2009). The large number of kilns suggests to the excavators that Guandimiao was specialized in ceramic production, an economic occupation that, as with Huizui’s lithic production (chapter 2), had possibly begun as early as the Longshan period (HWKY 2008). Such sites as Guandimiao, Huizui, and Liwu (see below) suggest that small settlements played important roles in Central Plains regional and even interregional exchange.



5.10. Subutun-variant ceramics (after ZSKY 2003:308, fig. 6-9).

Anyang Tradition, Subutun Variant

Although this variant of the Anyang ceramic tradition covered the area previously occupied by the Daxinzhuang variant of the Erligang and Xiaoshuangqiao-Huanbei traditions, it extended farther east than the earlier Central Plains tradition variants. Also, its center seems to have shifted east from the Jinan area to the Qingzhou (Subutun) area (ZSKY 2003; Fang 2009; Figure 5.10). At the Subutun site itself, 10 tombs have been excavated between 1965 and 1986, and many more tombs were found through

coring. The excavated tombs include a four-ramped tomb (with 48 human “sacrificial victims”), a chariot pit, and a single-ramped tomb. Both the burial structures and assemblages are said to closely resemble those of Anyang, even while some ceramics show “rich local characteristics” (ZSKY 2003:314). Probably the most remarkable aspect of the Subutun site is the four-ramped tomb, the only one from the Anyang period found outside of Anyang and generally believed to be a marker of royal status. The interpretations of this tomb range from that of a political rival, to privileged favorite of the Anyang kings (Fang

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2009:15).¹⁵ Given the strict sumptuary rules that apparently governed the number of ramps a tomb could have at Anyang, together with the politically and militarily divisive Shang political landscape depicted in the oracle-bone inscriptions,¹⁶ the rival scenario seems more likely.

Fang (2009) provided a more recent counterpoint to the ZSKY (2003) account of northern Shandong in Anyang times. Instead of speaking of regional variants in blanket terms, he divided up the Subutun-variant area into five settlement clusters. The first of these, Daxinzhuang, is centered around the site of the same name, which was in excess of 30 ha in area in Anyang times—the largest thus far discovered in the entire northern Shandong region (Fang 2009:8). Not only have inscribed oracle bones been discovered at Daxinzhuang (Shandong Daxue Dongfang Kaogu Yanjiu Zhongxin et al. 2003, 2004), but also Anyang-type bronze vessels have been found there with “clan insignia.”¹⁷ Although there appears to be a great deal of similarity between the material culture of Daxinzhuang and Anyang, the former differs from Anyang in that the ceramic *gu* and *jue* frequently seen in Anyang burials do not appear, and a few bronze vessels show peculiarities that suggest local casting (Fang 2009).

The second settlement cluster is the Xiaotun cluster west of Jinan (Fang 2009). Anyang metropolitan-style bronze vessels, chariot fittings, tools, and weapons were found in the area. Many of the bronzes had “clan insignia” on them. There were four different insignia, all of

which can also be found at Anyang. Nevertheless, and despite the evidence of elite contacts with the Anyang core, the small tombs discovered at the Pingyin Zhujiqiao site do not have waist-pits or the same mortuary ceramics as Anyang, interring only ceramic *guan*-pots. Fang (2009) interprets this as indicating possible differences in the cultural or ethnic affiliation between the Anyang or Anyang-styled local elites and the common people.

East of Jinan, and near the modern city of Zibo, is the third cluster, the largest site being Huantai Shijia. The site approaches 30 ha in size and may have been moated (Fang 2009). Bronze vessels have been found in the area since the 1960s and oracle-bones and sacrificial pits have been discovered in recent years. Oracle-bones and bronze vessels have also been found at nearby sites, suggesting this was an important area in Anyang times. The adjacent Changbai Mountains have Shandong’s largest copper deposits, suggesting mining and smelting in the area. Anyang-period ceramic tool molds have been found at the nearby site of Zouping Langjun, indicating some local casting. The material culture of the sites in this cluster is said to be “classic Late Shang”(i.e., Anyang variant), with a few local characteristics (like unadorned *li*-tripods; Fang 2009:10).

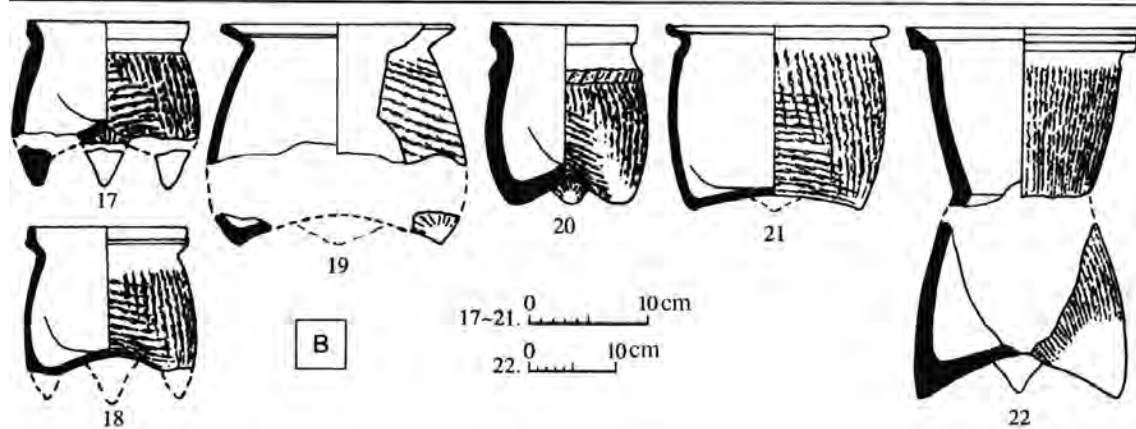
As for the Subutun cluster itself, Fang (2009) notes that the ceramic assemblage of the large tomb M7 includes *gu*- and *jue*-vessels, rare in the Shandong coastal area, a possible sign of close Anyang affiliation. Nevertheless, at another

er site in the area, Qingzhou Zhaopu, an Anyang-period tomb was discovered showing pronounced local characteristics (body flexed and on its side, deceased clasping a roebuck tooth¹⁸) and a mixed assemblage of Central Plains tradition and non-Central Plains tradition ceramic vessels. Although neither systematic nor necessarily representative, the presence of Shang elite and mixed nonelite tombs is suggestive of possible elite-commoner cultural differences. In addition to tombs, salt production sites have been located among those sites of the Subutun cluster distributed along the ancient shoreline (Fang 2009; Shandong Sheng Wenwu Kaogu Yanjiusuo, Beijing Daxue Zhongguo Kaoguxue Yanjiuzhongxin and Shouguangshi Wenhuaaju [SWKY, BDZKY, SW] 2010).

To the north of Subutun, but part of the same cluster of sites, is Shouguang Guchengcun, where over 60 bronze artifacts were discovered, and of those inscribed, most bore the inscription 己 (Shouguangxian Museum, 1985). To scholars who associate bronze insignia with polities, this suggests the presence of two polities in close proximity, that of Ya Chou 亞醜 and that of Qi 己 or Ji 纪. As I have argued elsewhere (Campbell 2007), this one-to-one correspondence between bronze insignia and polity is problematic. Nevertheless, if the “clan insignia” do in fact reference some sort of kindred as most scholars believe, then the presence of these two clusters of insignia-bearing bronzes suggests two different elite lineages in the same area.¹⁹

The fifth of Fang’s clusters is the Lanjia cluster, north of the Yellow River on or near what was then the coast. In addition to bronze vessels discovered in the area indicating the presence of Anyang-style elites, sites with large numbers of thick-walled crucibles and salt-production remains have been discovered near what was once the coastline, indicating a local salt industry (Fang 2009).²⁰ Excavations at the village site of Liwu, moreover, have demonstrated that a specialized but stable community of salt producers lived there year-round (Shandong Sheng Wenwu Kaogusuo, Beijing Daxue Zhongguo Kaoguxue Yanjiuzhongxin, Shandong Shifan Daxue Qi Lu Wenhua Yanjiuzhongxin, Binzhoushi Wenwu Guanlichu [SWK, BDZKY, SSDQLWY, BWG] 2010), providing another example of specialized production tied into larger, likely inter-regional, economic networks.

In summary, the two accounts provided by ZSKY (2003) and Fang (2005) of northern Shandong in the Anyang period show some telling contrasts. The ZSKY (2003) account, based as it is on homogenizing formal ceramic-tradition typologies and the assumption these correspond to ethnic or even political units, tends to describe areas in blanket terms, combining what appear in Fang’s (2005) account to be overlapping and intersecting material cultural tradition distributions into a single Anyang variant. Fang’s approach on the other hand, based on settlement clusters, bronze insignia, and resource distribution and interpreted through much later textual traditions, tries to identify ethnic groups and political ac-



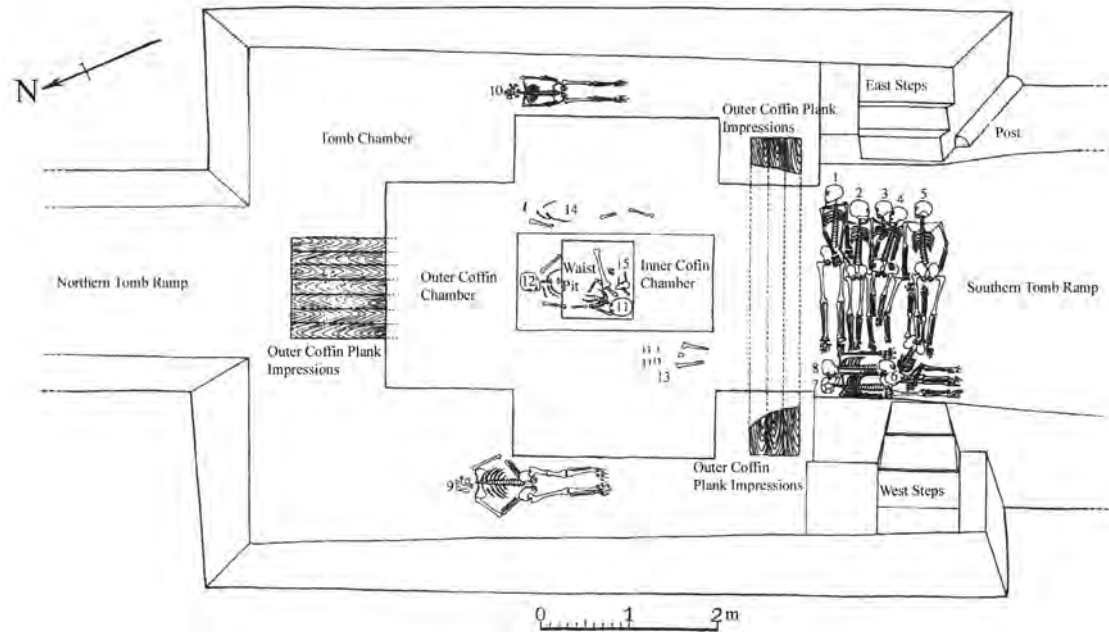
5.11. Anqiu-variant ceramics (after ZSKY 2003:307, fig. 6-9).

tors. Fang’s account allows us to see how the formal typological account of ceramic traditions that we have been summarizing tends to lump together potentially diverse social-economic networks, downplaying diversity within its confines and exaggerating difference at its boundaries. Though Fang’s account has its own limitations, it is a reminder of the potentially very much more complicated maps that could be drawn of economic networks, settlement patterns, and political groups if only information was systematically gathered on these aspects of the archaeological record in China. Combined, these accounts suggest an overall picture of tendrils of elite Anyang material culture penetration and a general dominance of Anyang ceramic types even while non-Central Plains tradition communities²¹ still apparently existed in northern Shandong and especially eastern Shandong. As for the political situation, it was likely even more complicated, but for current purposes, it is enough to note that elite Anyang material culture does not necessarily equal

the presence of Shang “state” expansion. It could equally well indicate local elite emulation or Anyang-independent political entities sharing the broader Central Plains metropolitan cultural ecumene. One need not go further afield than Eastern Zhou China to find competing polities with broadly similar elite culture.

Anyang Tradition, Anqiu Variant

Distributed in western Shandong and eastern Henan, this variant is a development of the Panmiao variant of the Xiaoshuangqiao-Huanbei period (ZSKY 2003; Figure 5.11). The Anqiugudui site itself had a long history of occupation with successive Longshan, Yueshi, Xiaoshuangqiao-Huanbei, and Anyang layers. The ceramics of this variant are not only similar in type but also in developmental history with corresponding ceramics at Anyang. In color, paste, and thickness of vessels walls, however, Anqiu ceramics are said to show marked differences, in addition to possessing a few ceramic styles that very rarely ap-



5.12. Chang Zi Kou tomb: Human remains (after HWKY, ZW 2000:11, fig. 6).

pear at Anyang (ZSKY 2003). This suggests, at minimum, a different network of ceramic production/distribution than Anyang, as well as distinct but interacting²² potting communities.

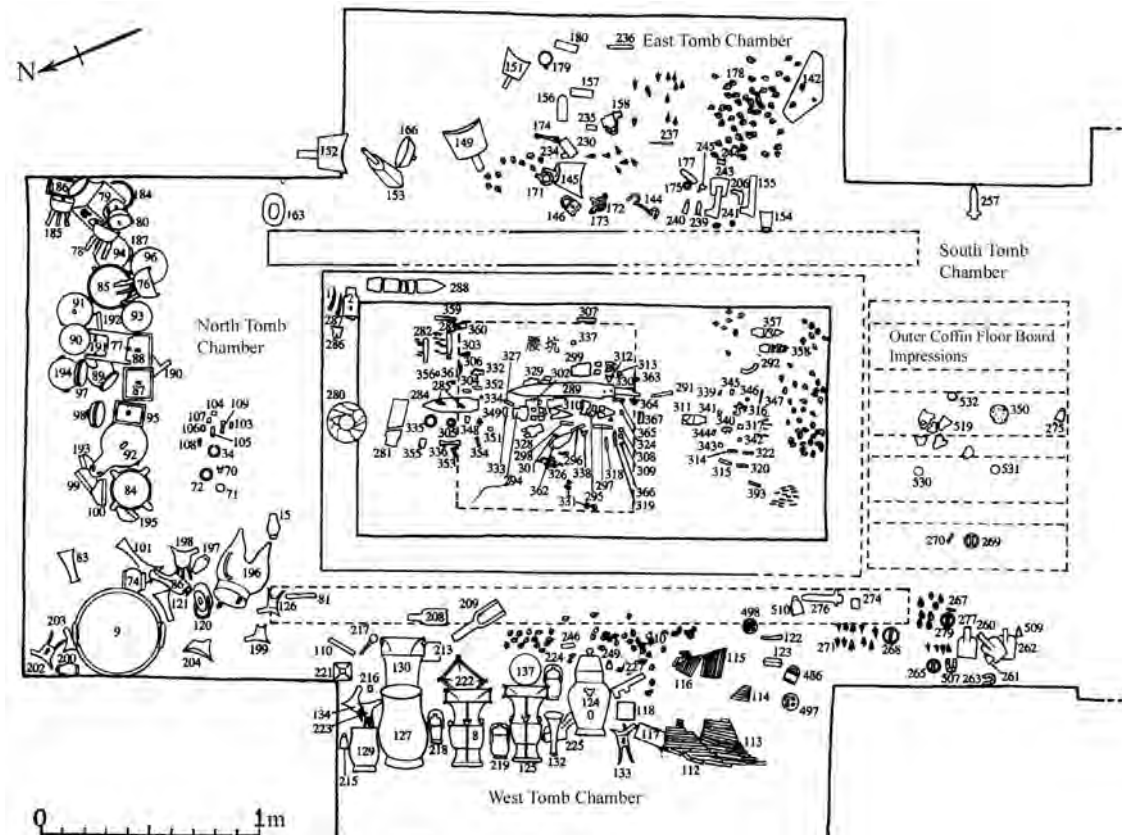
An assemblage of bronze and jade artifacts typical of an elite Anyang-type burial and comparable to Anyang phase I artifacts was discovered in Huaiyang County in 1981 (ZSKY 2003), indicating metropolitan-style elites in this area. In 1997 a large two-ramped tomb of Western Zhou date was discovered at Luyi Taiqinggong (Henansheng Wenwu Kaogu Yanjiusuo, Zhoukoushi Wenwuju [HWKY, ZW] 2000; Figures 5.12, 5.13). The ceramics in the tomb, however, are said to show Anqiu-variant characteristics (ZSKY 2003). Inscriptions on the bronzes in the tomb identify the owner as Chang Zi Kou, or Kou, head of the Chang lineage,²³ and various aspects

of the burial—from a waist-pit with human and dog attendants, to jade artifacts and ceramics—suggest Anyang-metropolitan, rather than Zhou cultural affiliation (HWKY, ZW 2000). Interestingly, there are a dozen protoporcelain vessels indicating contact with the Yangzi region as well, while the uncharacteristically large ceramic assemblage (209 vessels)²⁴ does not include the *li*-tripods commonly found in Shang and Zhou tombs. In summary, these discoveries suggest that the material culture in this area (or at least some sites in this area), from common to elite, while within the Anyang orbit, nonetheless shows some local variation.

Anyang Tradition, Qianzhangda Variant

Distributed in the southern half of Shandong Province, in part of the area

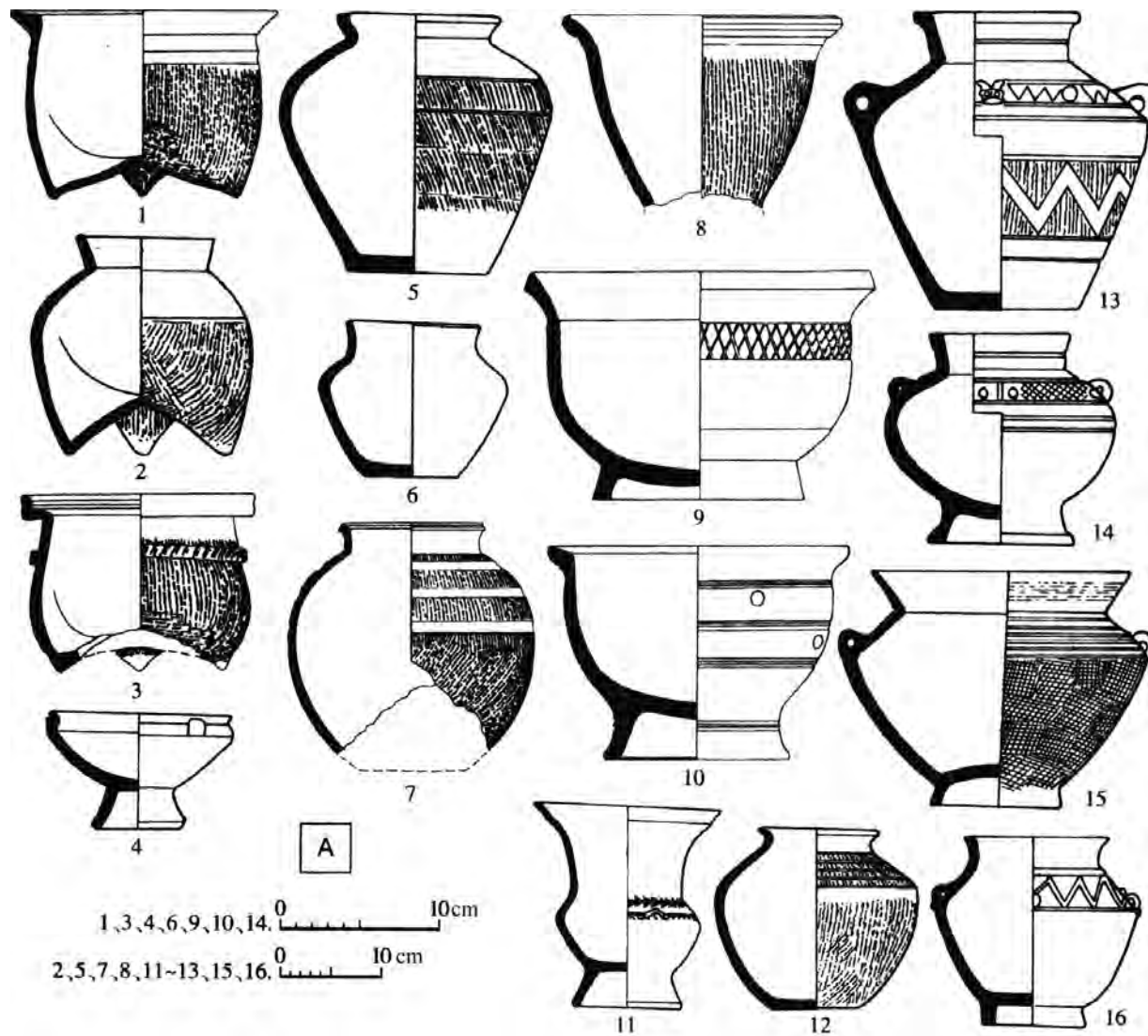
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5.13. Chang Zi Kou tomb: Grave goods (after HWYK, ZW 2000:16, fig. 10).

of the Xiaoshuangqiao-Huanbei tradition Panmiao variant, and centered on the Qianzhangda site, the Qianzhangda variant is distinguished by the presence, in otherwise overwhelmingly Central Plains bronze assemblages, of unadorned *li* and *yan* (generally associated with the Yueshi tradition), as well as stamped hard-ware and protoporcelain of southern origin (Figure 5.14; ZSKY 2003; Fang 2009). Also unusual was the frequent use of lacquer artifacts in tombs,²⁵ perhaps suggesting southern contacts (Fang 2009). At the site of Qianzhangda itself, of the 120 tombs excavated there, eleven were one- or two-ramp large tombs, five were chariot pits, and two were horse pits, signifying,

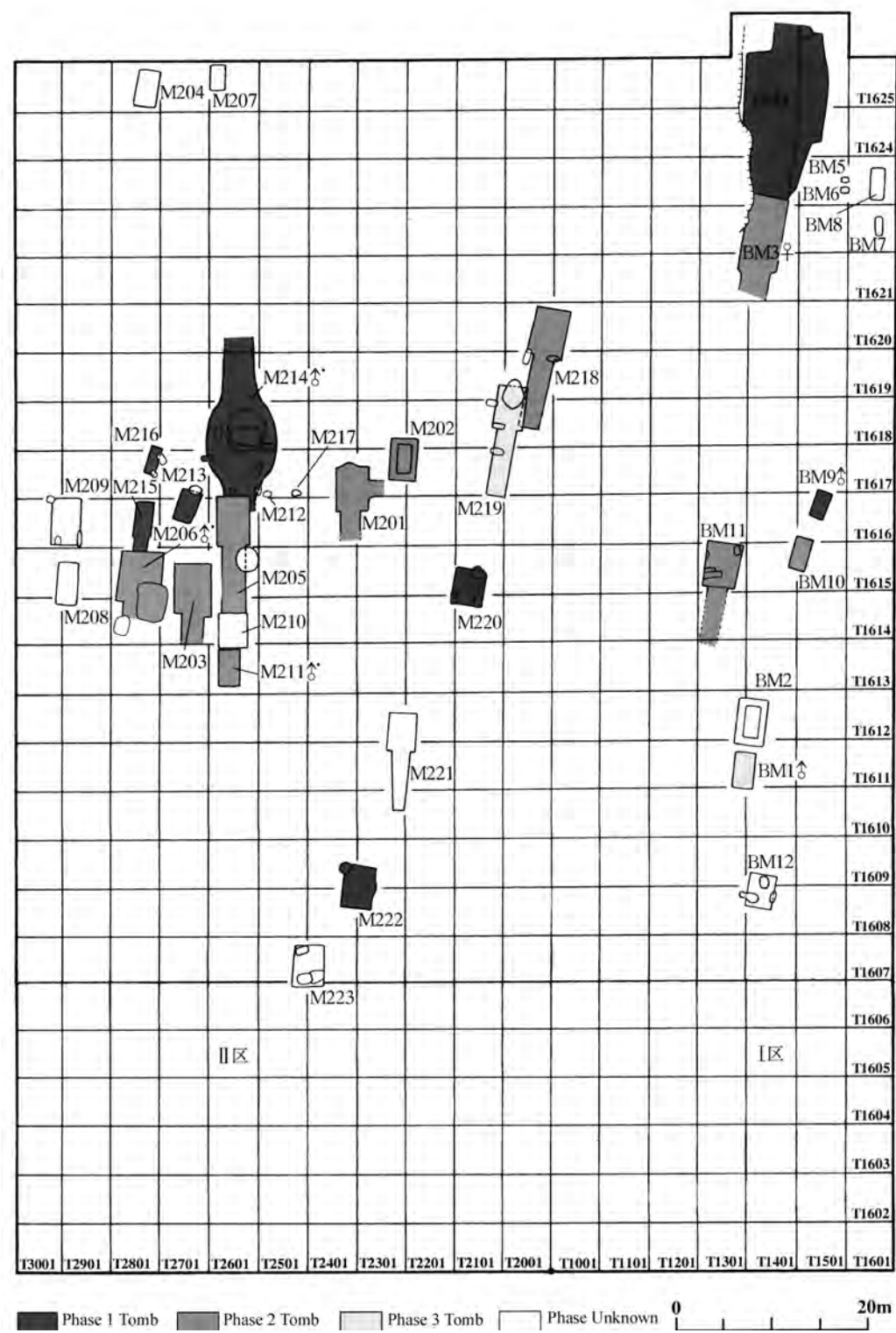
along with their remaining contents (they had been looted multiple times), the presence of Anyang, or Anyang-styled elites (Figure 5.15). Although the form and contents of the burials are said to be similar to Anyang, “Yueshi-type” ceramics were also present, and ceramic *gu* and *jue* were missing from the assemblage. Taken together, these facts suggest that the adoption of Central Plains metropolitan material culture was top-down, indicating a shared elite culture overlying a possibly more heterogeneous population. Bronze vessels have been discovered at many other sites in the area, some with insignia, and all of Anyang style, in Anyang-type assemblages (Figure 5.16). There is not,



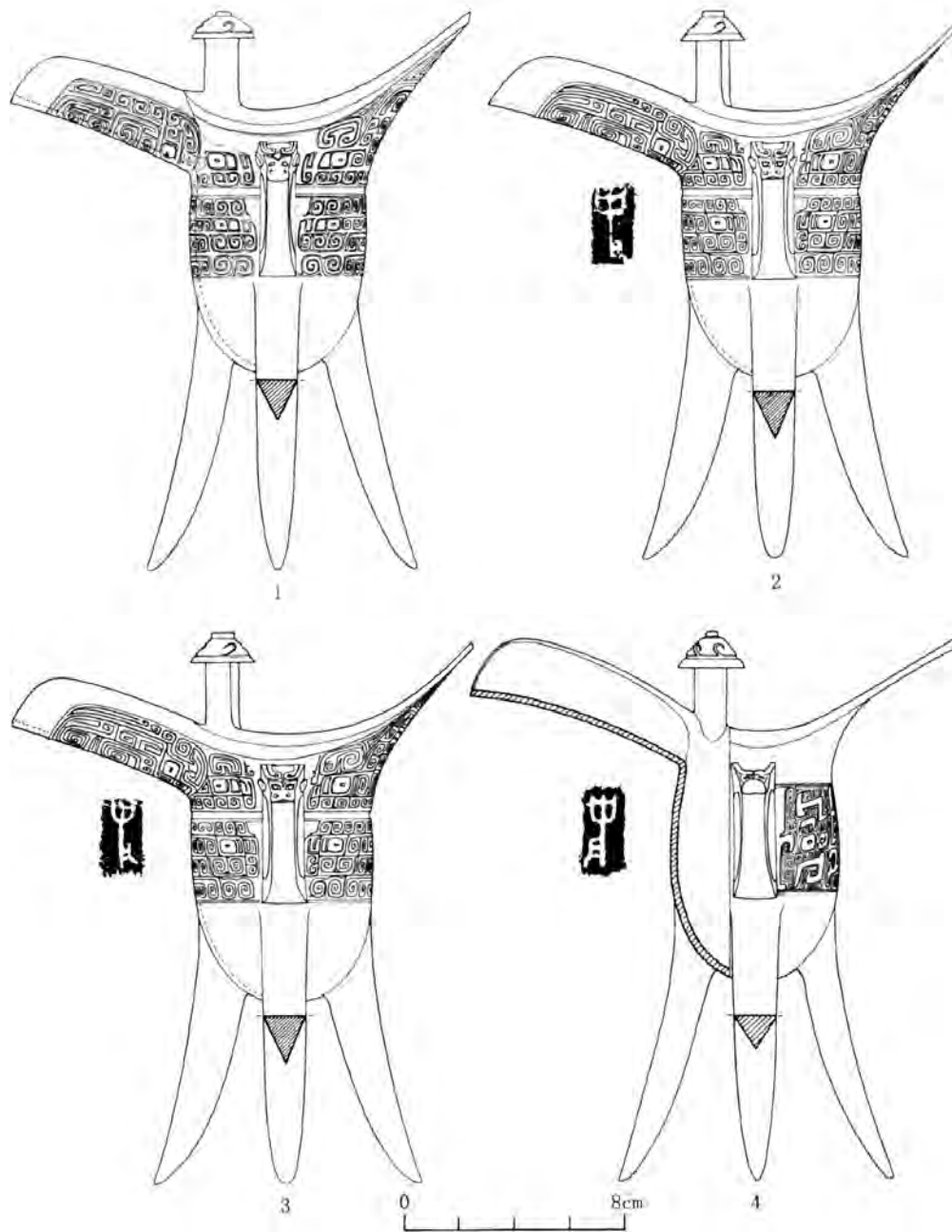
5.14. Qianzhangda-variant ceramics (after ZSKY 2003:307, fig. 6-9).

however, much information concerning nonelite tombs or residential sites in general, so the account given here is necessarily partial.²⁶ Nevertheless, looking at the ceramics recovered from midden deposits confirms the general impression of the Qianzhangda variant as largely Central Plains metropolitan with local and nlocal, non-Central Plains elements.

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5.15. Qianzhangda cemetery layout (after ZSKY 2005a:7, fig. 3).



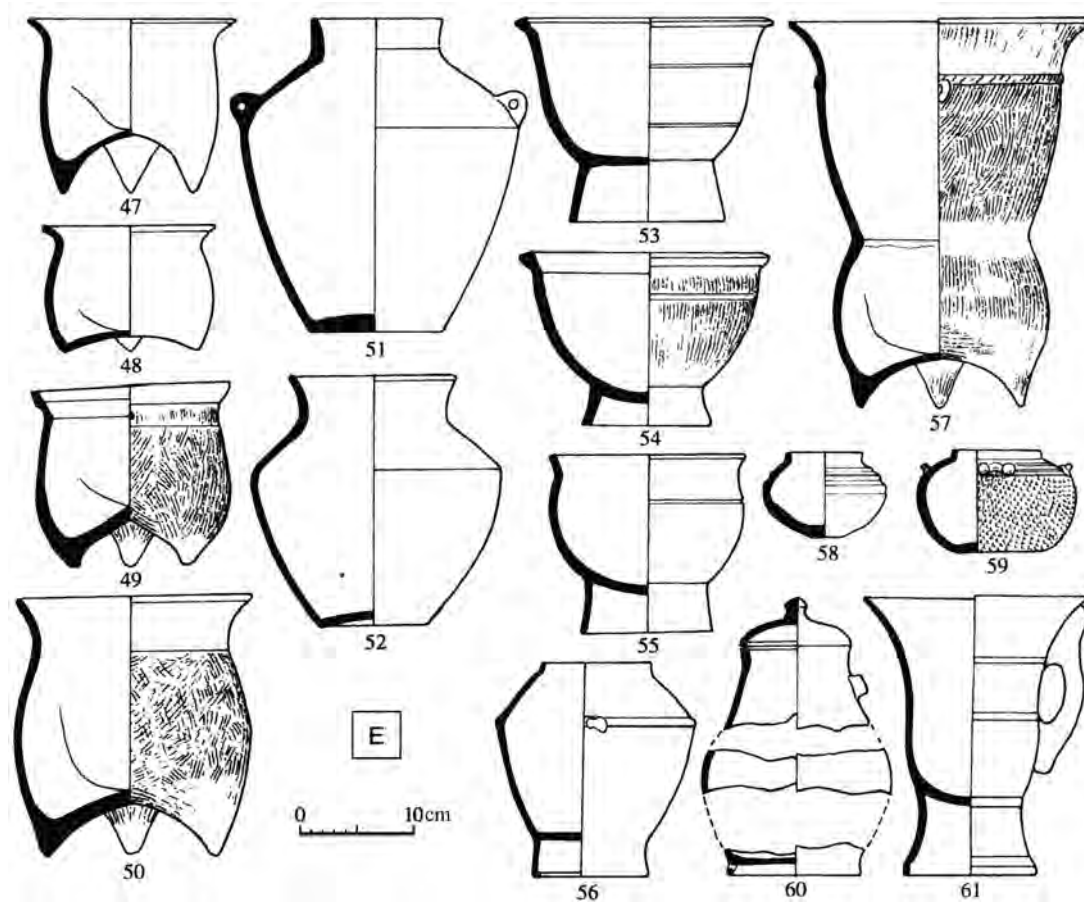
5.16. Bronze jue bearing insignia “shi” (after ZSKY 2005a:257, fig. 182).

Anyang Tradition, Tianhu Variant

This variant is known only from the cemetery site of Tianhu. In the “ceramic tradition equals cultural/ethnic group”

tradition that ZSKY (2003) is working from, the anonymous authors note that, “in Late Shang times, Shang culture was rejected by local cultures and left the banks of the Yangzi, retreating north of the Tongbai Mountains” (318). Appar-

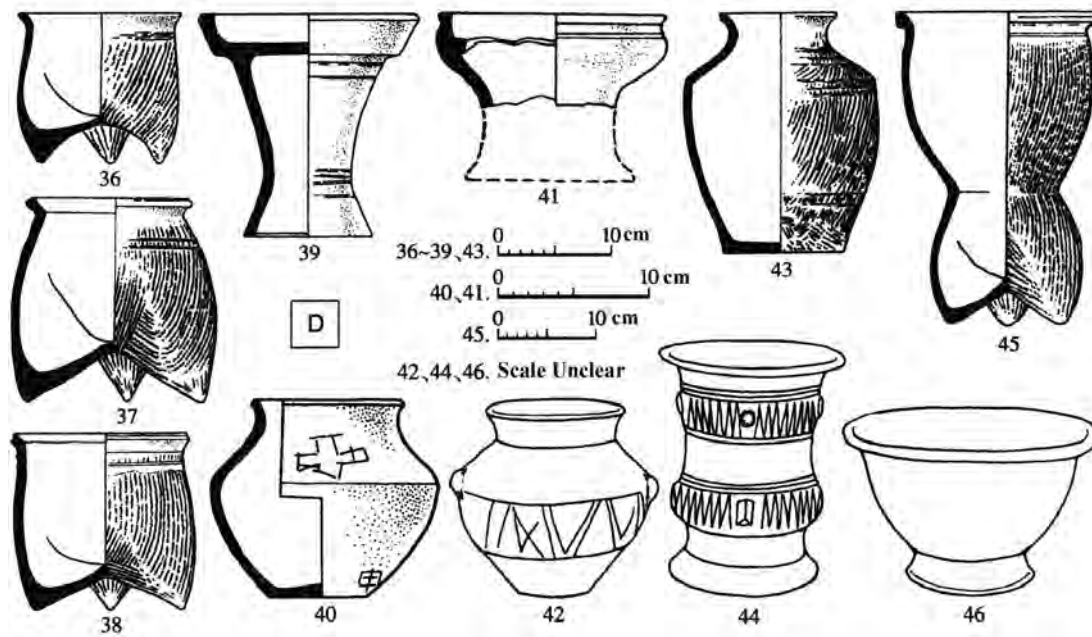
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5.17. Tianhu-variant ceramics (after ZSKY 2003:309, fig. 6-9).

ently as a result, the Tianhu Anyang variant was born. Whatever the social-political story behind this change, Tianhu is one of the southernmost Anyang-period sites known with broadly Anyang-type material remains. While both ceramic forms and styles are said to basically resemble those found at Anyang, some Tianhu vessel styles are not found at Anyang. The high percentage of coarse-tempered brown and fine-paste yellow ceramics also suggests local production techniques or clay sources somewhat different from those at Anyang (Figure 5.17; ZSKY 2003).

The 20 or so Tianhu burials excavated between 1980 and 1985 have been divided into four grades or “classes,” ranging from burials with over a dozen bronze vessels, to tombs with only ceramics vessels.²⁷ The assemblages of Anyang-style bronze vessels (*ding*-cauldrons and pairs of *gu* and *jue*), the frequent use of waist-pits with dogs, and other aspects of the burials suggest shared Central Plains metropolitan burial practices and generally inclusion in a wider Central Plains zone of interaction. At the same time, the frequency of lacquer vessels and the absence of ceramic *gu* or *jue* in tombs, suggest some local variation in mortuary practice as well.



5.18. Laoniupo-variant ceramics (after ZSKY 2003:308, fig. 6-9).

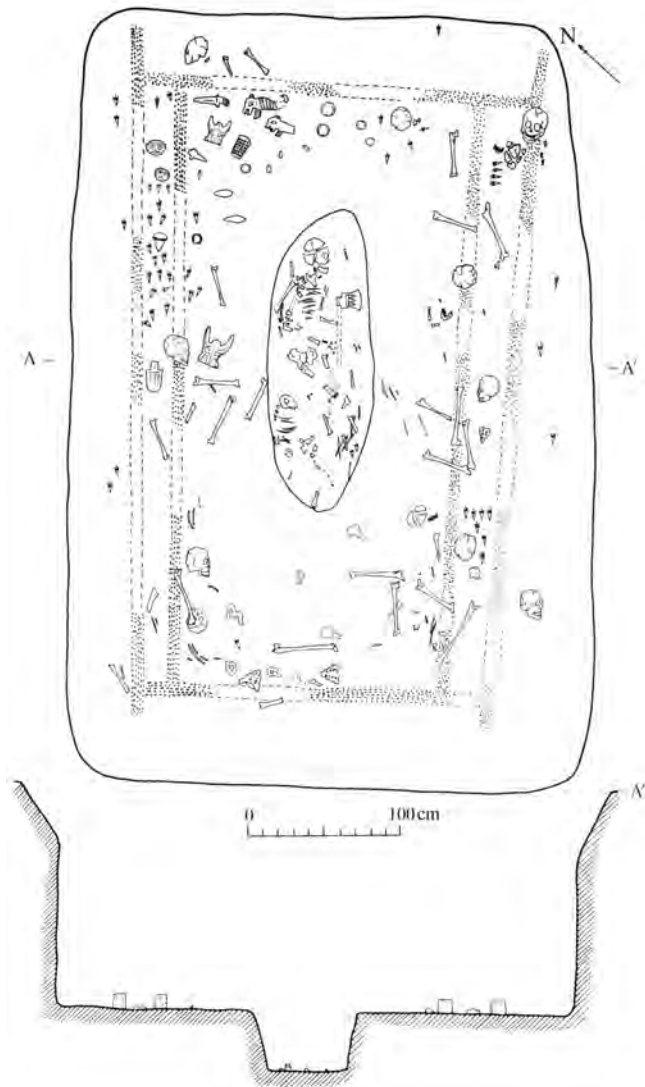
Anyang Tradition, Laoniupo Variant

By the Anyang period, Central Plains-tradition sites were no longer found west of Xi'an, their western Shaanxi distribution having been taken over by so called "Proto-Zhou" ceramic traditions, such as Zhengjiapo, Liujia, and Nianzipo. East of Xi'an, however, the Laoniupo variant of the Central Plains metropolitan tradition survived until the end of the Anyang period. The Laoniupo variant is said to be the most dissimilar of all the Anyang-tradition variants (ZSKY 2003), and the Laoniupo site itself shows "obvious differences" between its Xiaoshuangqiao-Huanbei and Anyang-period ceramics (Figure 5.18; Liu 2001). All of this suggests that whatever mechanisms had brought Central Plains ceramic traditions to Shaanxi and maintained their similar-

ity with those of Zhengzhou in the Erligang and Xiaoshuangqiao-Huanbei periods had weakened or disappeared by Anyang times. However, given that we know nothing of the specific history of ceramic production or distribution in this area, the underlying causes of these changes can only be speculated upon.

The Laoniupo site (50 ha) itself had Erligang- and Xiaoshuangqiao-Huanbei-period occupations, but most of the remains at the site date to the Anyang period (Liu 2001). Two badly preserved, large, rammed-earth foundations date to this period, the remains of one of them, almost 300 m² in size (Liu 2001). Six kilns and the remains of a bronze-casting foundry have all been discovered at the site. Ceramic molds for bronze weapons, tools, masks, and vessels place beyond a doubt the possibility that the Anyang-type bronze vessels

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5.19. Laoniupo Burial 86XLIII1M41 (after Liu 2001:269, fig. 234). 2003:308, fig. 6-9).

discovered at the site could have been cast locally, which further suggests that Anyang-type bronzes discovered at other sites need not have been manufactured at Anyang.

Thirty-eight tombs, a horse-pit, and a chariot pit were excavated at Laoniupo in 1986 (Liu 2001). Although no large (by Anyang standards) or ramped tombs

were found, 7 of the 38 were “medium”-sized, and over 80 percent of the tombs had waist-pits (Figures 5.19, 5.20). *Gu* and *jue* were the bronze vessel types most frequently interred in tombs and closely resemble vessels found at Anyang (Figure 5.21; ZSKY 2003). An unusually high percentage of the tombs had death attendants or human sacrifices (21 out of 38), and many of the tombs had multiple waist-pits and niches. The niches, as well as some features of the ceramic assemblage, show connections with non-Central Plains metropolitan traditions to the west (ZSKY 2003), while the presence of bovine and human bronze plaques shows connections with the Hanzhong area of southern Shaanxi (Figure 5.21) (although based on mold fragments found at the site, these were probably cast locally).

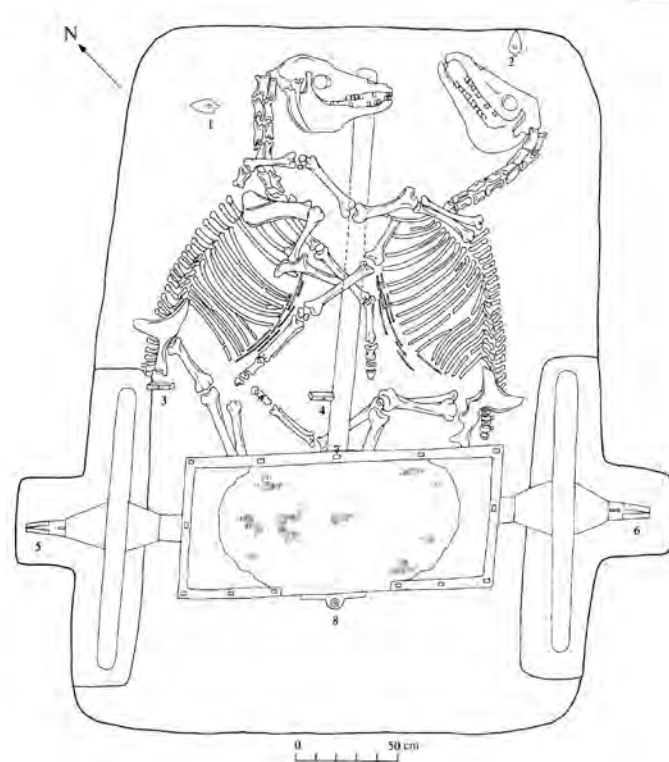
At the nearby site of Xi'an Yuanjiaya, an Anyang-period tomb was discovered with two bronze vessels (a *gu* and *jue*) and six ceramic vessels, three of which were “classic” Anyang-period metropolitan artifacts (ZSKY 2003) and the other three resembling Laoniupo ceramics. Altogether, the Laoniupo variant suggests a bronze-casting tradition whose craftsmen and/or patrons were in contact with multiple nonlocal traditions (including that of Anyang). Nevertheless, their ceramic tradition, though apparently deriving from a common Erligang and Xiaoshuangqiao-Huanbei tradition, developed independently of Anyang. And yet, as the Yuanjiaya site (and non-CPBA sites in the immediate area) show, ceramic and other material cultural traditions are best seen as intersecting and overlapping networks

of production and distribution rather than bounded homogenous spaces.

Beyond the Anyang Tradition Variants

The North

As noted above, the Anyang variant of the Anyang-period Central Plains metropolitan tradition is said to extend north into the southern part of Hebei Province. The situation farther north, however, is somewhat unclear. On the one hand, Anyang-type bronzes have been discovered at many sites excavated in and around Shijiazhuang and north—even to modern day Beijing. On the other hand, none of these excavations have proper excavation reports, and so it is difficult to say much about the ceramic-tradition affiliations in these areas. The discovery, in 1978, of Anyang phase I ceramics in a midden at Fangshan, southwest of Beijing, suggests to the authors of ZSKY (2003) that, at least until Anyang I, people using Central Plains metropolitan tradition ceramics were living in the area. Complicating the picture however, are nearby sites, such as Beifudi and Yanshan, which had Anyang-period layers with Weifang III-tradition affiliations (Jumahe Kaogudui 1988; see below). The conclusion drawn by the authors of ZSKY (2003) is that the Weifang III people, with their northern complex bronze culture, came down from the Yan Mountains and pushed the Shang people south sometime after Anyang I. Given the uncertainties concerning the material culture affiliations of central Hebei in the Anyang period, the



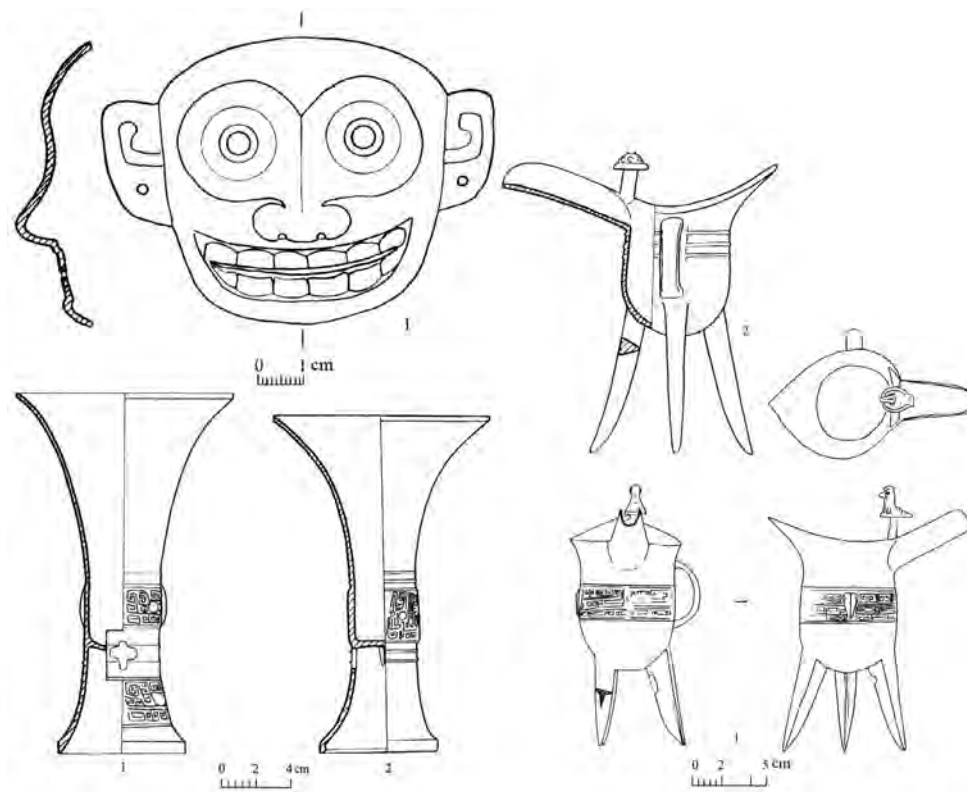
5.20. *Laoniupo Chariot pit 86XLIII1M27 (after Liu 2001:273, fig. 237).*

evidence for northern complex material cultural elements in this area as far back as Erlitou times, and the fact that material culture does not equal ethnic or political group, at this point the best we can say is that the Central Plains metropolitan tradition northward tide of material cultural “influence” seems to ebb and reverse in the Anyang period. Moreover, whatever their political affiliations or ethnic identities, there appear to have been communities with elites utilizing Central Plains metropolitan style bronze vessel assemblages at least as far north as Shijiazhuang if not beyond.²⁸

The Weifang III Tradition

The Weifang III tradition shows both

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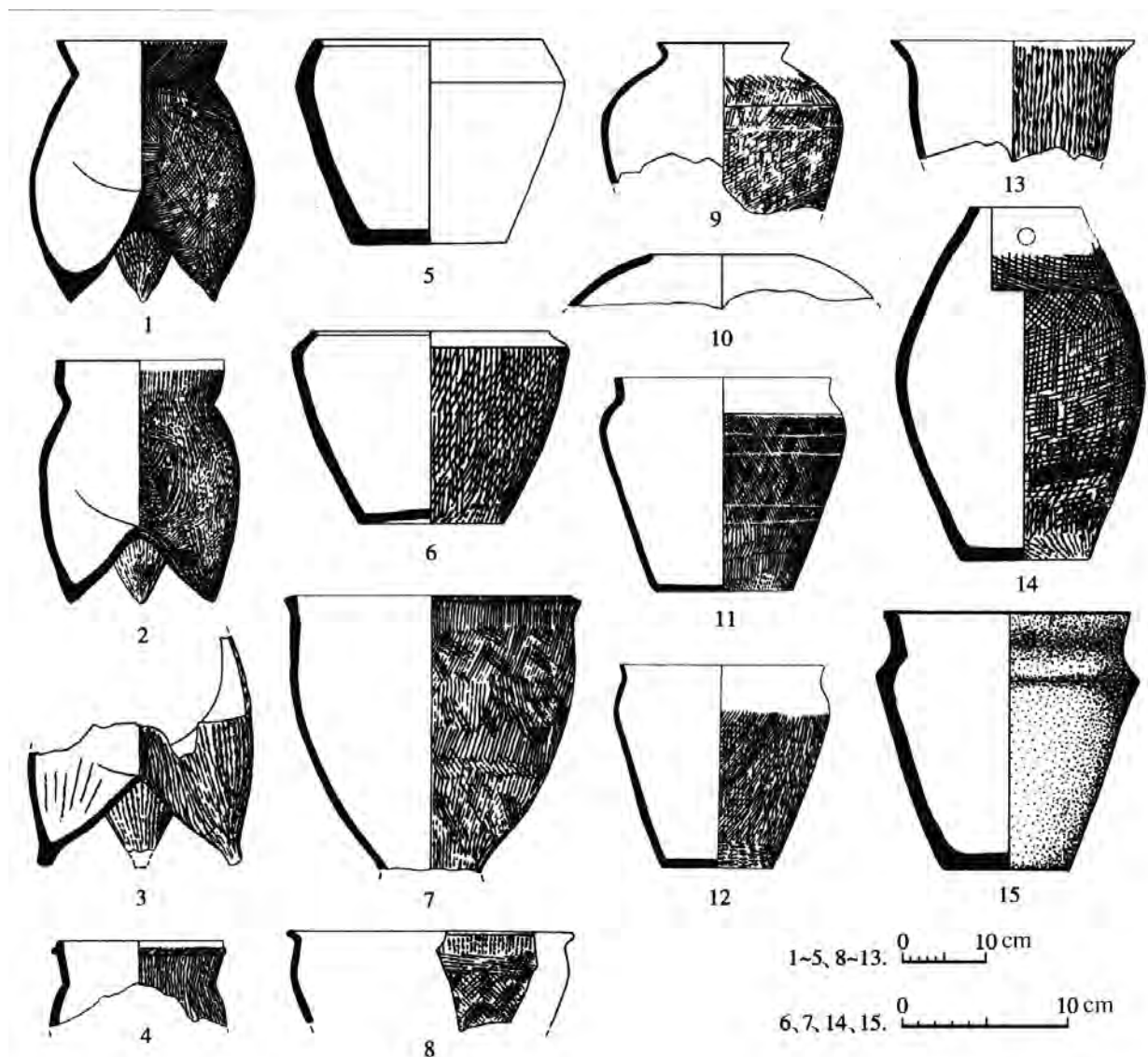


5.21. Laoniupo bronze burial goods: bronze mask from 86XLIII1M41 (after Liu 2001:296, fig. 256); gu-goblets from 86XLIII2M44 and 86XLIII1M33, respectively (after Liu 2001:284, fig. 245); and jue-vessels from 86XLIII2M44 and 86XLIII1M33, respectively (after Liu 2001:285, fig. 246).

Datuotou and Zhukaigou “influences” and was distributed in more or less the same area as the Datuotou tradition (Figure 5.22; ZSKY 2003; Jiang and Wang 2010). The emerging culture-historical picture is of a late Xiaoshuang-qiao-Huanbei to early Anyang-period abandonment of the northern loop of the Yellow River by the Zhukaigou tradition (chapter 2) with a concomitant appearance of Zhukaigou-type material culture in an arc from northern Shaanxi and Shanxi to northern Hebei and Liaoning (ZSKY 2003). The implication is that, perhaps due to increasing aridity in the Ordos region, a large-scale migration of northerners southward

and eastward dramatically changed the culture-historical (and by further implication, political-strategic) picture along the northern and western borders of the Central Plains metropolitan world.

Unfortunately, there is little or no information on Weifang III inter- or intrasettlement structure, production, or livelihood. Evidence of tool assemblages—including polished stone shovels, axes, knives, and chisels—backs up the hypothesis that the economy of people living at Weifang III sites was at least partially based on agriculture (ZSKY 2003). Houses were generally round or oval-shaped and semisubterranean, and ap-

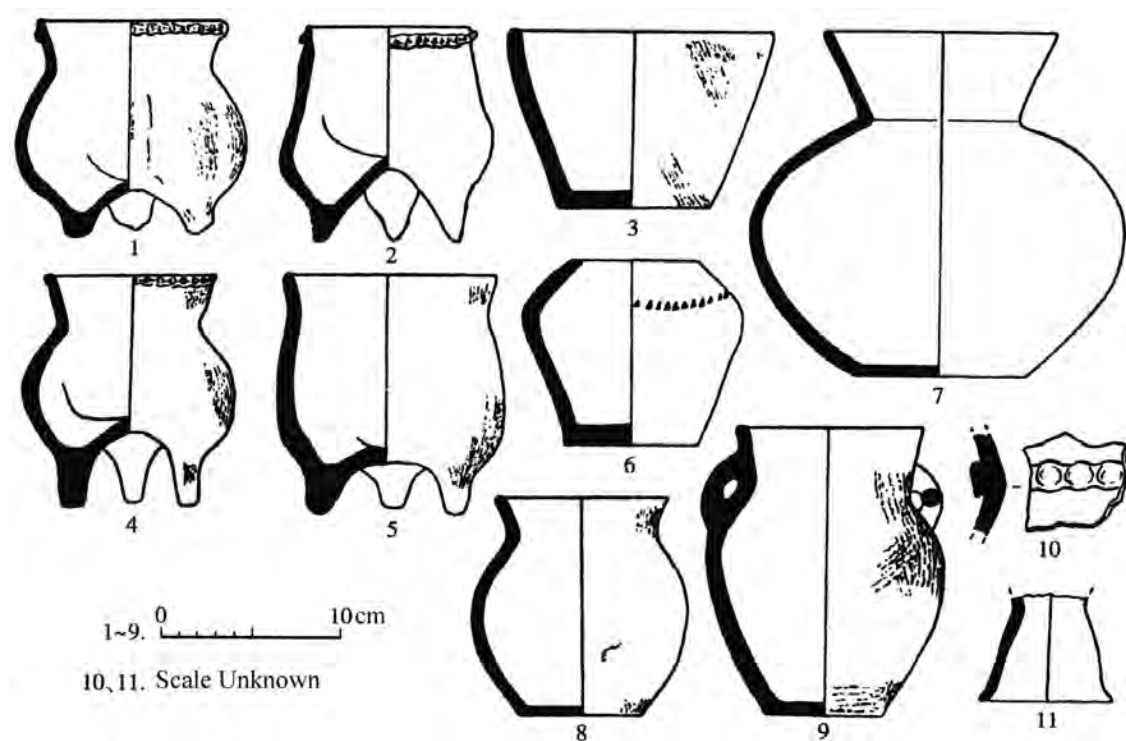


5.22. Weifang III ceramics (after ZSKY 2003:610; fig. 8-49).

parently no large sites or structures associated with this tradition have been discovered so far. Tombs take the form of east-west oriented, rectangular burials with wooden coffins and bodies laid out face down. Anyang-style bronze *ding* and *gui* vessels have also been found in a number of Weifang III burials, such as Pinggu Liujiahe M1 and four tombs at Jixian Zhangjiayuan. In these five examples, bronze *ding* and *gui* (but not the

more common *gu*- and *jue*-vessels that form the core of Anyang bronze mortuary assemblages) were found along with circular or “trumpet-shaped” gold earrings (ZSKY 2003:610). The absence of bronze *gu* and *jue* mirrors a general lack of ceramic wine vessels in Weifang III-tradition assemblages, suggesting that the Anyang-style bronze vessels were being put to use in local practices that were unrelated to Central Plains

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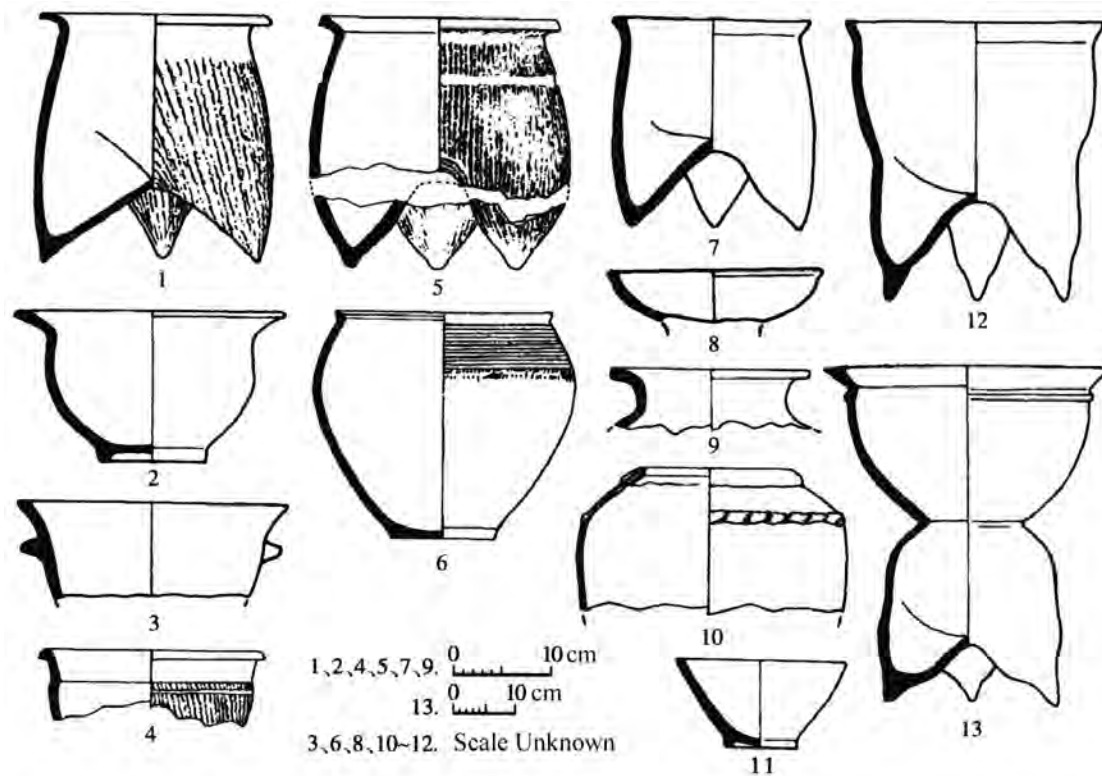
5.23. *Weiyingzi-tradition ceramics (after ZSKY 2003:616; fig. 8-50).*

metropolitan traditions. In addition to Anyang-style bronze vessels, northern-complex bronze tools and weapons also appear in Weifang III sites along with gold earrings, gold bracelets, and hairpins (ZSKY 2003), broadly linking Weifang III with metallurgical traditions stretching from northern China and southern Siberia to Central Asia.

The Weiyingzi Tradition

To the east of the Weifang III tradition, the Weiyingzi tradition was distributed in modern Liaoning Province over much of what was formerly the distribution of the Lower Xiajiadian tradition. Perhaps not surprisingly, the Weiyingzi tradition is said to show contacts with the Weifang III tradition, with influences of Lower Xiajiadian, with Zhukaigou, as well as with traditions farther east (Figure 5.23;

ZSKY 2003). Not many houses have been excavated at Weiyingzi sites, but those that have are either round or oval-shaped semisubterranean or surface dwellings. Relatively more tombs have been excavated—often located beside residences—all taking the form of rectangular pits. The largest tomb known from this tradition actually dates to the Western Zhou period. This is Weiyingzi tomb 7101 (Liaoningsheng Bowuguan Wenwu Gongzuodui 1977; ZSKY 2003), which is almost 9 m² in area and has inner and outer coffins, silks, pieces of bronze armor, chariot fittings, and gold bracelets. The tomb was oriented east-west, as are most Weiyingzi tombs. Bronze armor, weapons, and even Central Plains-type bronze vessels have also been found in other Weiyingzi tombs.²⁹ Bronze hoards found in the Weiyingzi area contained



5.24. Zhenzhumen-tradition ceramics (after ZSKY 2003:462, fig. 8-4).

assemblages of Central Plains bronzes, some with inscriptions indicating their origin in the Western Zhou polity of Yan, based near modern Beijing. Since these belong to the Western Zhou period, however, we will not discuss them here. Weiyingzi sites have also turned up weapons, tools, and ornaments that suggest broad northern complex affiliations, such as ring-pommeled knives, socketed axes, and socketed ge dagger-axes, helmets, gold earrings, and gold bracelets.

The East

The Zhenzhumen Tradition

As mentioned earlier, the east was the one direction that saw a continued expansion of the Anyang ceramic tradition. While the general picture of a

blanket replacement of Yueshi ceramic traditions with Central Plains material culture is too simplistic and while there may still have been non-Central Plains ceramic production communities in subpeninsular Shandong, on the Shandong Peninsula itself, the Yueshi-derived Zhenzhumen tradition definitely predominated. This tradition is said to develop out of the Zhaogezhuang Yueshi regional variant and is located in roughly the same area. Since little excavation work has been done and even less published on sites of this tradition, information is limited (Figure 5.24). Apparently few bronze artifacts have been found at Zhenzhumen sites, and what has been found all appears to be of Central Plains origin (ZSKY 2003). In general, the picture that emerges from the

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east is one of creeping Central Plains metropolitan material cultural dominance at the expense of local traditions, a wave that had reached the coast but not the Shandong Peninsula. This simple image, however, almost certainly belies a much more complicated web of social, economic, political, ethnic, and military networks (Campbell 2007, 2009).

The Southeast

A ceramic tradition change occurred during Anyang times in the general area where the Xiaoshuangqiao-Huanbei tradition Dachengdun variant was located (central Anhui). While Central Plains traditions dominate in northern Anhui, sites in the Lake Chao area show increasingly strong local characteristics (ZSKY 2003). Scattered finds of tombs in the Yingshang County area just north of the Huai River in the 1970s and 1980s produced numerous Anyang-type bronze vessels in Anyang-type elite assemblages, including bronze chariot fittings, weapons, and tools. Nevertheless, central Anhui is an archaeologically underdeveloped area, and more work needs to be done.

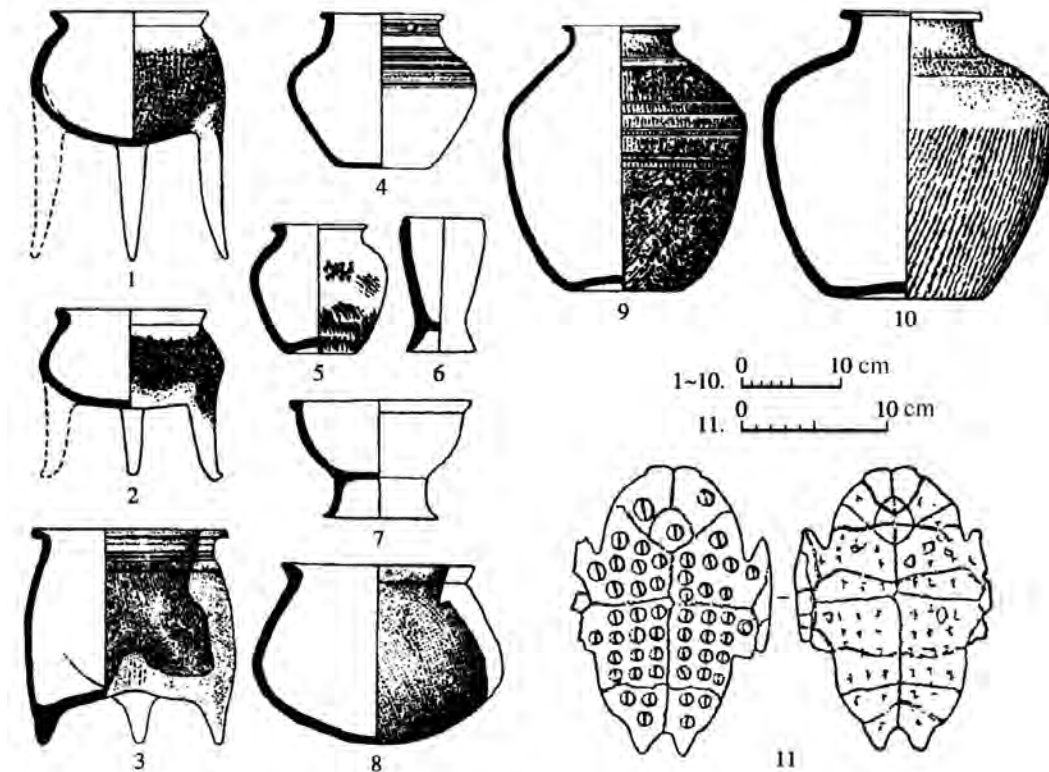
In the Lake Chao area, at the Dachengdun site itself, the Anyang-period layer (layer IV) is said to only contain early Anyang-period ceramics, and even these show marked local characteristics (Anhuisheng Wenwu Kaogu Yanjiusuo [AWKY]1987; ZSKY 2003). While apparently none of the Xiaoshuangqiao-Huanbei period Central Plains metropolitan tradition sites south of Lake Chao have Anyang-period remains,

an ancient copper mine has been discovered at Tongling, Anhui, near the Yangzi. This mine may have been in operation as early as the Anyang period (AWKY 1992; ZSKY 2003). In general, however, it appears as though whatever networks had brought and kept the ceramics of Anhui south of the Huai River within the Central Plains tradition orbit from the seventeenth through the fourteenth centuries BCE had weakened by Anyang times. Whether this was due to a resurgence of local independence, the natural result of centrifugal Erligang and Xiaoshuangqiao-Huanbei expansion, the movement of the metropolitan center farther north, or changes in economic networks is not clear.

In Jiangsu Province on either side of the Yangzi River, the Hushu tradition was still distributed more or less where it was in Xiaoshuangqiao-Huanbei times, although there is a reduction in the number of sites in the Anyang period (ZSKY 2003). Hushu bronze-casting also appears to remain confined to small weapons and tools (ZSKY 2003).

The South

Post-Panlongcheng Northern Hubei as mentioned earlier, by Anyang times Panlongcheng had been abandoned and the Middle Yangzi was beyond the distribution of Central Plains ceramic traditions. In the former area of the Panlongcheng-variant distribution, a few sites with Anyang-period remains have been discovered, but their affiliation, other than being non-Central Plains, is unclear (ZSKY 2003:474). Nevertheless, Anyang-type bronze vessels continue to



5.25. Zhouliangyuqiao-tradition ceramics (after ZSKY 2003:476; fig. 8-8).

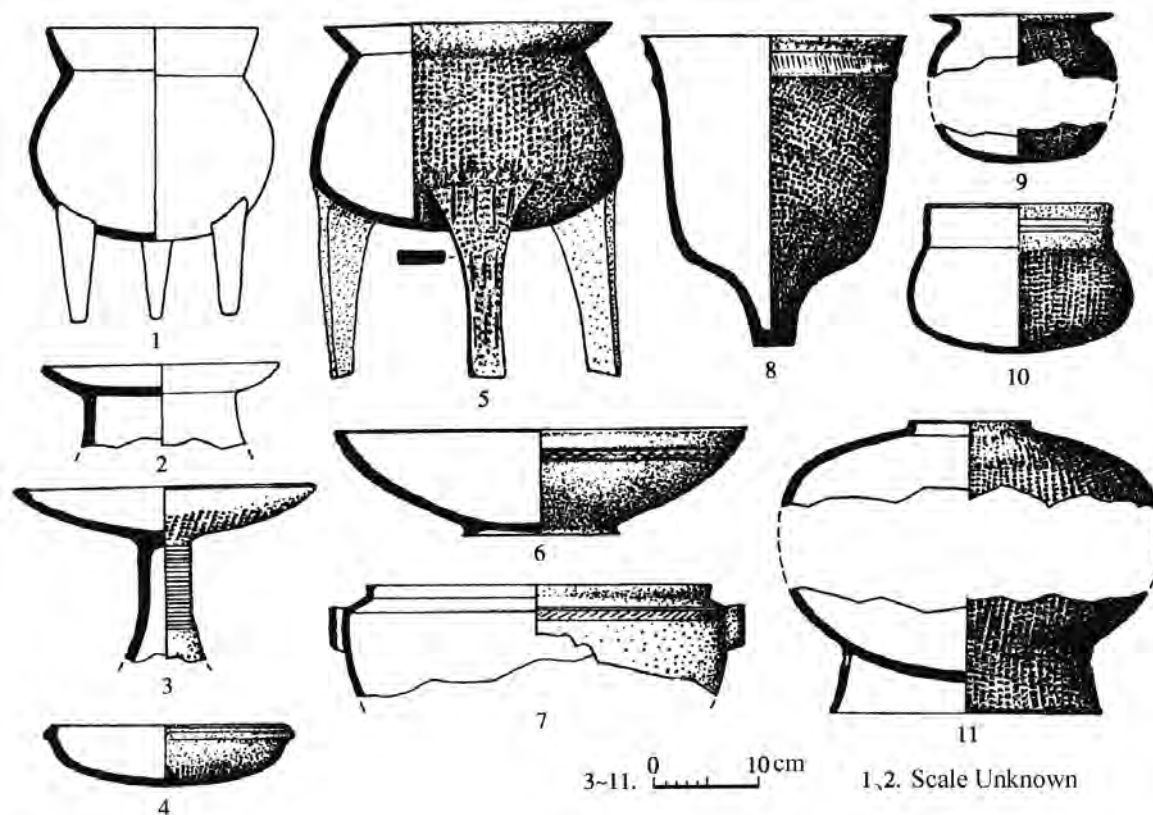
be found in the area, perhaps suggesting some level of continued contact with the Central Plains world.

The Zhouliangyuqiao Tradition

In roughly the area formerly occupied by the Jingnansi tradition, the Zhouliangyuqiao tradition emerged during the Anyang period. While not much is known about this tradition apart from its formal ceramic typological features, it is said to show “influences” from northern Hubei (Figure 5.25; ZSKY 2003:477). Bronze vessels have also been discovered at or near sites associated with this tradition, such as the large *zun* discovered at Shashi Dongyuecun and the two *zun* discovered at Jiangling Cenhemiaoxingcun (ZSKY 2003).

The Duimenshan–Feijiahe Tradition

Farther south, to the east of Lake Dongting, the Erligang and Xiaoshuangqiao-Huanbei outpost of Yueyang Tonggushan had been abandoned by Anyang times, and the surrounding area was apparently home to a flourishing bronze industry. Many famous bronze vessel finds have been discovered here, including the human-faced *ding*, the four-ram *zun*, and (possibly) the tiger-consuming-man-*you*. Large *nao*-bells have also been discovered in this area, and Bagley (1999) notes that the general bronze repertoire is significantly different from that of the Central Plains (bells, *zun*, *lei*, and animal-shaped vessels) as is their depositional context: pits and mountaintops, but generally



5.26. Duimenshan-Feijiahe-tradition ceramics (after ZSKY 2003:479; fig. 8-9).

not burials. The discovery of the Western Zhou site of Tanheli, however, puts in doubt the Anyang-period date for the bronzes found in the area. Instead, Xiang (2006, 2008) cogently argues that the Tanheli site and some of the bronzes (with Anyang clan insignia) found in the area indicate the presence of a group of post-Zhou-conquest Shang refugees, possibly in part from one of the southern polities of the Shang hegemony and likely forming a minority of the local population. The resulting hybrid culture persisted through the Western Zhou period, but beyond the reach of the Zhou hegemonic polity.

The Anyang-period ceramic tradition associated with this area, Duimenshan-Feijiahe, is characterized by *ding*-

cauldrons and a relative abundance of stoneware (glazed and unglazed), which is nonetheless distinct from Jiangxi-type stamped stoneware (Figure 5.26; ZSKY 2003). Unfortunately, other than formal bronze and ceramic typologies, little or no information exists on the settlements, production sites, or residences of Duimenshan-Feijiahe ceramic producers.

The Baota Tradition

In northwestern Hunan, the Erligang- and Xiaoshuangqiao-Huanbei-period Baota tradition underwent dramatic change in the Anyang period, with local features becoming much more pronounced. The northern-derived *li*-tripod all but disappeared from the ceramic assemblage, and vessel forms

underwent changes that reflect the departure of Central Plains metropolitan influence from the area (ZSKY 2003). Nevertheless, these observations need not be seen mechanically in terms of a monolithic Shang state's intrusion and retreat, but rather the disintegration of the Xiaoshuangqiao-Huanbeiperiod Panlongcheng-variant ceramic production and distribution networks with their (as yet unclear and undoubtedly dynamic) political, social, economic, and/or military connections to the northern metropolitan centers.

The Wucheng Tradition

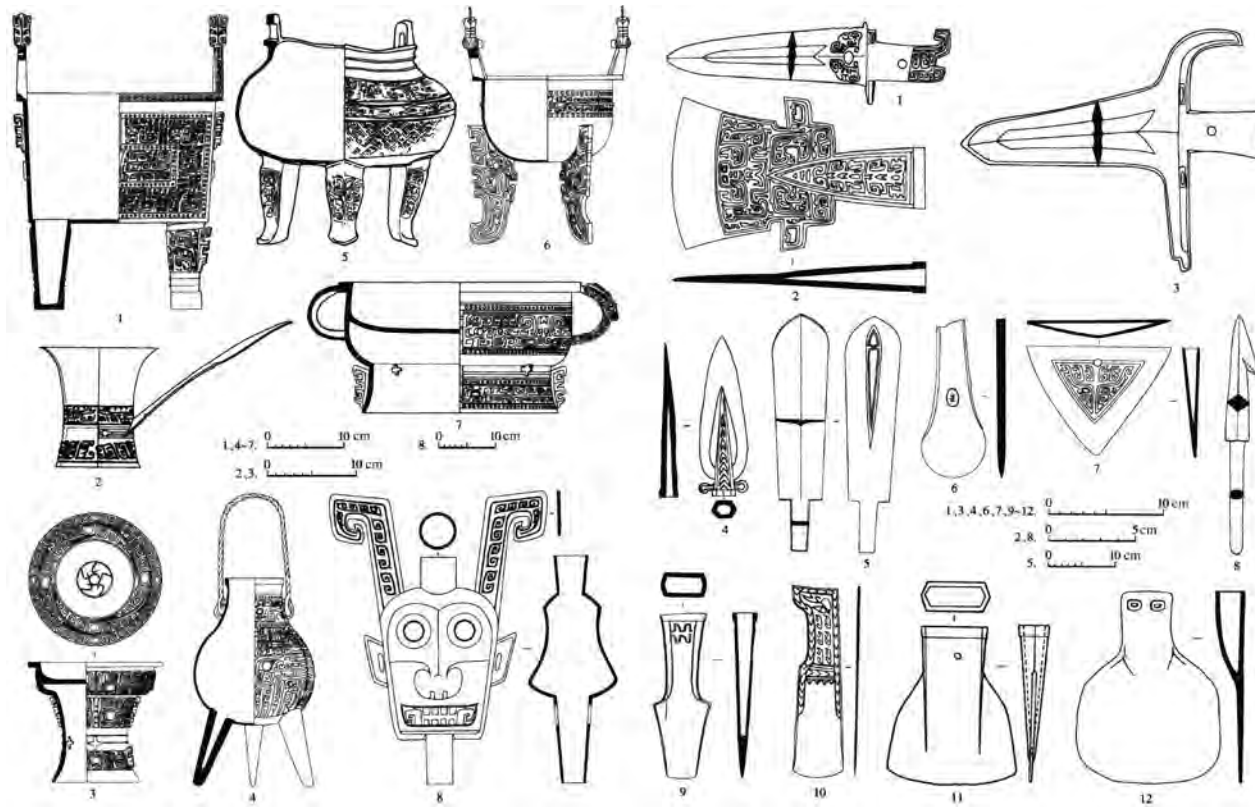
During the Anyang period, Wucheng-tradition ceramics, like all traditions in the Yangzi area, showed increasingly local characteristics. The so called *yan*-shaped vessel, probably derived from a similar vessel that appeared in neighboring Wannian tradition assemblages, became more common, even while northern-derived *li*-vessels became rarer, smaller, and stranger (from a Central Plains perspective)—so small, in fact, that they likely no longer functioned as cooking vessels (JBKY, ZB 2005). Stonewares and protoporcelain also increased at the expense of earthenwares. No bronze artifacts have been discovered at the site of Wucheng from this period despite the discovery of stone molds in phase III (Anyang-period) layers (JBKY, ZB 2005).

Also dating to the Anyang period is the famous Xin'gan tomb, located some 5 km from a large Wucheng-tradition walled site, Niutoucheng.³⁰ This tomb is the second richest burial yet discovered from the Anyang period. Its as-

semblage³¹ included Erligang- to Anyang-period bronze vessels, with the latter being both more abundant and showing more non-Central Plains characteristics (Figure 5.27) (Jiangxisheng Wenwu Kaogu Yanjiusuo, Jiangxisheng Wenwu Bowuguan, Xinganxian Bowuguan 1997). In general, the tomb shows evidence both of widespread networks of prestige goods (north to Henan, west to Hubei, and perhaps beyond to southern Shaanxi³²) and, at the same time, evidence of local styles and of local uses of prestige goods. Moreover, Xingan is an indication of the wealth and sophistication of elites in northern Jiangxi, rivaling all but the highest echelons of Anyang society. Nevertheless, much more work needs to be done in Jiangxi Province and in the south in general before anything like an adequate picture emerges of social and political entities in the Wucheng-tradition area. How many large centers aside from Wucheng and Niutoucheng were there? Were they simultaneously or serially occupied? What was the relationship between larger and smaller sites, and did regional settlement patterns change over time? None of these questions can be answered on present evidence, and, despite the passage of over 30 years since the discovery of Wucheng, we still have little beyond tantalizing clues.

As in the Xiaoshuangqiao-Huanbeiperiod, eastern Jiangxi was still apparently occupied by the scattered, small sites (no larger than 10 ha) of the Wannian tradition. This tradition was characterized by large quantities of stamped stoneware, glazed ceramics, and protoporcelains (ZSKY 2003; Peng 2004).

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5.27. Wucheng-tradition bronze artifacts from the Xin'gan tomb (after ZSKY 2003:488, 489, figs. 8-12,13).

Aside from formal ceramic typology and the fact that they apparently did not have a metallurgical tradition that has left any traces, little information exists concerning sites of this tradition.

Southwest

The Sanxingdui-Jinsha Tradition

During the Anyang period the Sanxingdui tradition continued to flourish in the Sichuan basin, although during that same epoch, the political and cultural center is thought to have shifted from Sanxingdui to the Jinsha site (ZSKY 2003). The Jinsha site, discovered in 2001, is 300 ha in size and shows many signs of material cultural conti-

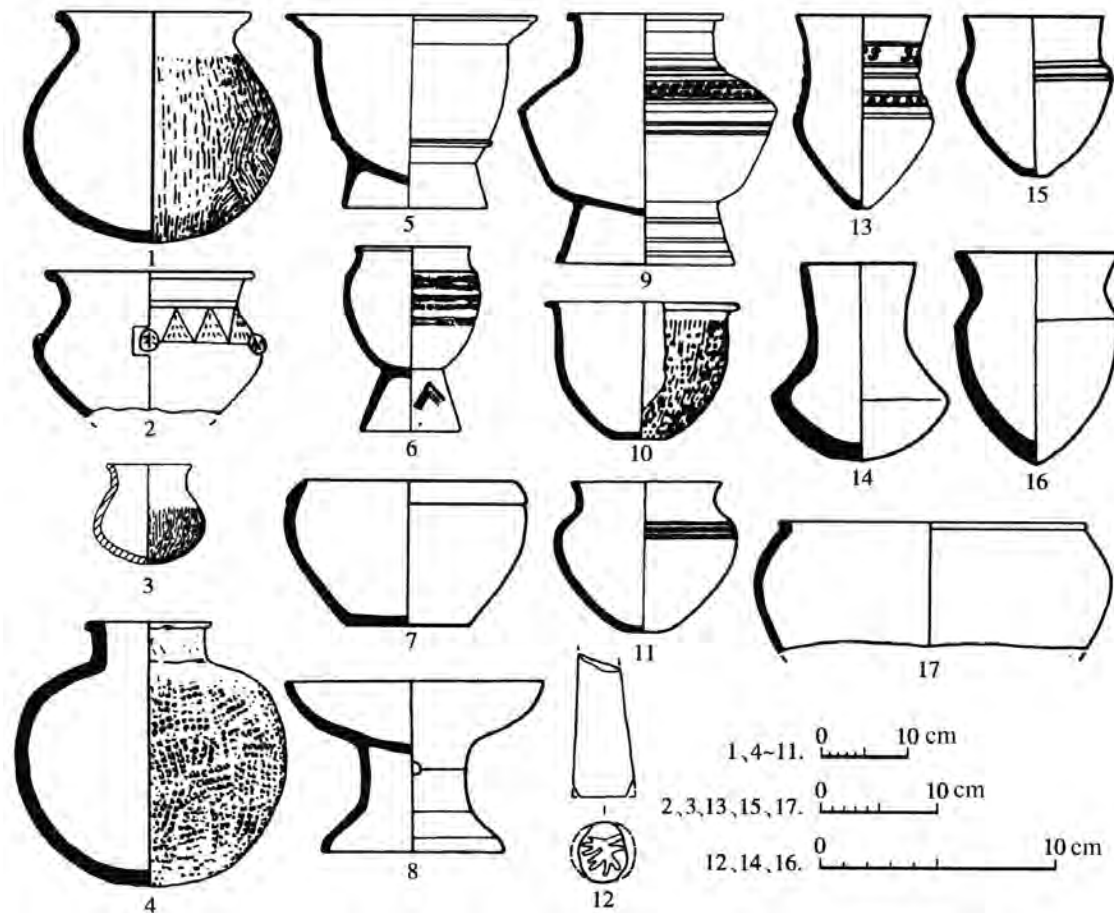
nunity with Sanxingdui. Houses, kilns, tombs, and ceremonial areas have all been discovered, along with over 2,000 artifacts of gold, bronze, jade, stone, and ivory (SWKY 1999; ZSKY 2003). The famous artifact pits at Sanxingdui are also thought to date to early phases of the Anyang period.

Pits 1 and 2 at Sanxingdui have been the topic of many articles in both Chinese and English and need no detailed introduction here. As noted above, they appear to have been exemplary examples of a wider practice of burying artifacts in pits in the Sichuan basin.³³ In any case, the 1,700 plus gold, bronze, ivory, jade, stone, bone, and ceramic objects

collectively placed in these two pits, with evidence of burning and breakage, clearly demonstrate both a strikingly unique assemblage of artifacts³⁴ and radically different practices of terminal use or “enclaving” (Kopytoff 1986). At the same time, the inclusion of Central Plains-type bronze vessels³⁵ in the pits both suggests a practice of collecting and raises the issue of the date of the unique Sanxingdui-type bronze masks, figures, and other artifacts.

Although social and political information is largely lacking, in the Anyang period, the Sichuan basin was still home to the Sanxingdui tradition, characterized by large walled sites and elite craft industries that rivaled those of their known contemporaries. In terms of contacts and networks, although Sanxingdui bronze masks, statues, and trees do not appear outside of Sichuan, large, “toothed” jade *zhang* are widely distributed, and, given the quantity and size of the those found in Sichuan, it may be that some of those found elsewhere originated here (see also So 2001). As noted above, the Central Plains-style bronze vessels found in the artifact pits resemble Middle-Yangzi artifacts not only in design, but in type: predominately *zun*- and *lei*-vessels. Interestingly, many of the 4,700 plus cowrie shells discovered in the Sanxingdui artifact pits were discovered inside bronze *zun*, *lei*, and masks, a practice also found in Yunnan Province in later times. This latter connection is doubly interesting given that one of the major sources of the cowrie shells found in abundance at Anyang³⁶ is purported to be the Indian Ocean, perhaps via Yunnan. An-

other resource that is hypothesized to have come to Anyang from Yunnan via Sichuan is lead. The argument, put forward in Jin et al. (1994, 1995, 1998), is that many Anyang bronzes have a high percentage of a rare lead isotope that is only found in Yunnan. Moreover, sites in the Middle Yangzi (such as Xin’gan) and the artifact pits of Sanxingdui have even higher percentages of bronzes with this isotope, an entirely logical distribution if Yunnan was, in fact, the source via Sichuan. Jin argues that lead ingots were being shipped from Yunnan to Sichuan and beyond, perhaps along with copper, since there are native copper deposits in Yunnan, and, the argument goes, it might have been more economical to ship easily mined native copper from Yunnan than mine it closer to home. Although this argument is controversial and obviously needs more work toward demonstrating actual (rather than hypothesized) trade routes, the distribution of artifacts with this isotope seems to support Jin’s hypothesis (not to mention that the distribution of artifacts with this isotope shrinks to Sichuan in the early Western Zhou and then only appears in Yunnan before disappearing from the archaeological record). Nevertheless, the exact source of this lead, in Yunnan or elsewhere, has yet to be found. Other specialists have, moreover, questioned the results of Jin et al. (1994, 1995, 1998), claiming instead that the source of the lead could be in the Qinling Mountains of Shaanxi Province (Saito et al. 2002). If these hypothesized networks in fact existed, it would suggest that, despite no evidence of direct contact, the Sanxingdui polity(ies) may have played an im-



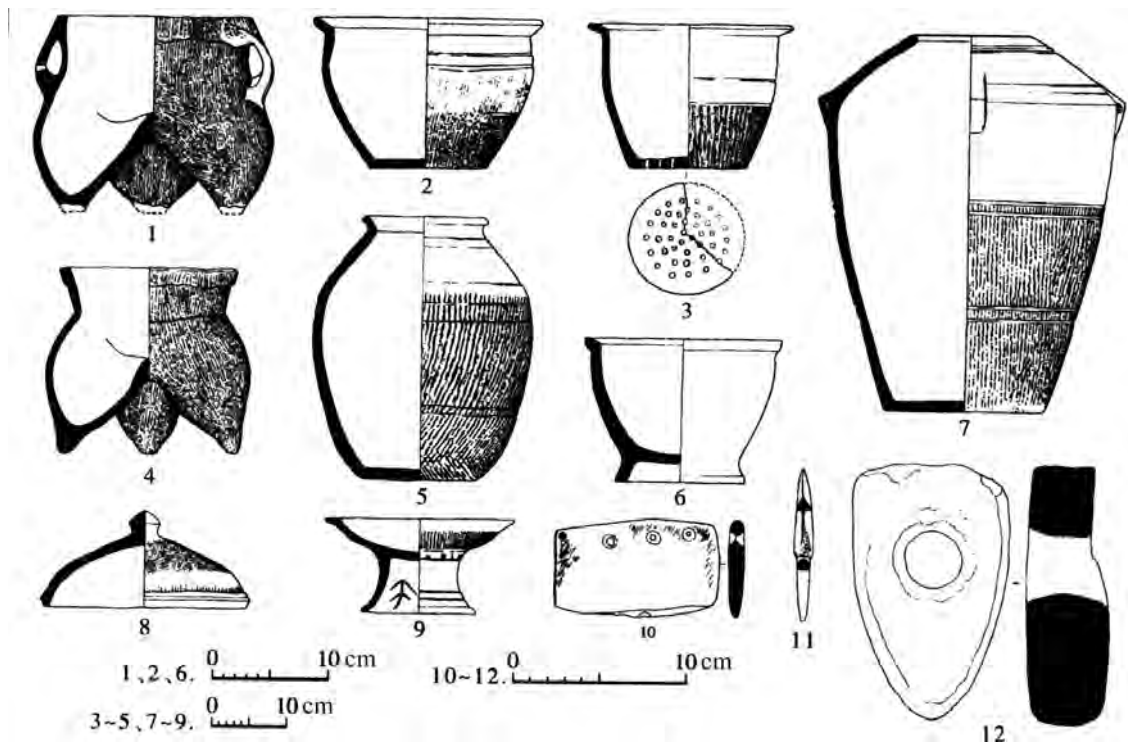
5.28. Lujiahe-tradition ceramics (after ZSKY 2003:515; fig. 8-19).

portant, if indirect, role in some Anyang economic networks.

The Lujiahe Tradition

Whereas the Chaotianzui variant of Sanxingdui tradition had flourished in the Yangzi River gorges area during the “middle period of Sanxingdui” (ZSKY 2003:513), which perhaps included the first half of the Anyang period, the Lujiahe tradition is tentatively dated to the last half of the Anyang. Sites are said to be densely distributed but small in size (generally < 100 m²). Despite a number of excavations, very little has been pub-

lished on this tradition (ZSKY 2003), and much remains unclear. As one might expect, the Lujiahe tradition is said to show “influences” of both Sanxingdui tradition and Central Plains-derived Panlongcheng tradition or its Middle Yangzi inheritors (Figure 5.28). Interestingly, “one of the most important ritual vessels” of this tradition is a ceramic lei that imitated Middle-Yangzi bronze lei-vessels (ZSKY 2003:516).



5.29. Nianzipo-tradition ceramics and stone tools (ZSKY 2003:527, fig. 8-23).

The Baoshan Tradition

During the Anyang period, the Baoshan tradition continued to flourish, its ceramics showing contacts with the Lujiahe, Sanxingdui, and Shaanxi traditions, even while its bronze repertoire links this area to a general sphere of Central Plains-derived bronze industry, to Middle Shaanxi (including Laoniupo), Sichuan, and even Jiangxi³⁷ (XBX 2002; ZSKY 2003; Cao 2006; Luo 2011). A local tradition is also suggested by objects, such as bovine and human plaque/masks, triangular *ge* or *kui*, and sickle-shaped *ge*³⁸ (Xibeidaxue Wenbo Xueyu-an [XWX] 2002; ZSKY 2003; but see Luo 2011³⁹). Recent archaeometric studies of casting technique, alloy composition, and ore sources seem to back the

hypotheses that the Hanzhong bronzes were produced in a multitude of places with a variety of alloys from different ores, including some local artifact types (scepter and sickle-shaped objects), which have distinctive alloys as well as stylistic features (Mei et al. 2009; Chen et al. 2009).

The West

As mentioned above, by Anyang phase II, Central Plains metropolitan tradition sites had disappeared from their Xiaoshuangqiao-Huanbei-period distribution in western Shaanxi, to be found only east of Xian from that point until their total disappearance at the end of Anyang period. During this time, a number of new traditions emerged in

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western Shaanxi, some occupying sites that had previously seen Central Plains metropolitan tradition (Beixin variant) occupation in the Xiaoshuangqiao-Huanbei period.

West-Central Shaanxi

By Anyang phase II, Central Plains ceramic traditions had disappeared from the area west of Xian, replaced by “lo-cal” traditions (or types),⁴⁰ such as Nian-zipo, Liujia, and Zhengjiapo. In Anyang times, Guanzhong, west of Xi’an, was a patchwork of interpenetrating traditions, many of which were probably produced by ethnic and political groups that would participate in the coalition that overthrew the Shang king at Anyang and ushered in the Zhou dynasty.⁴¹

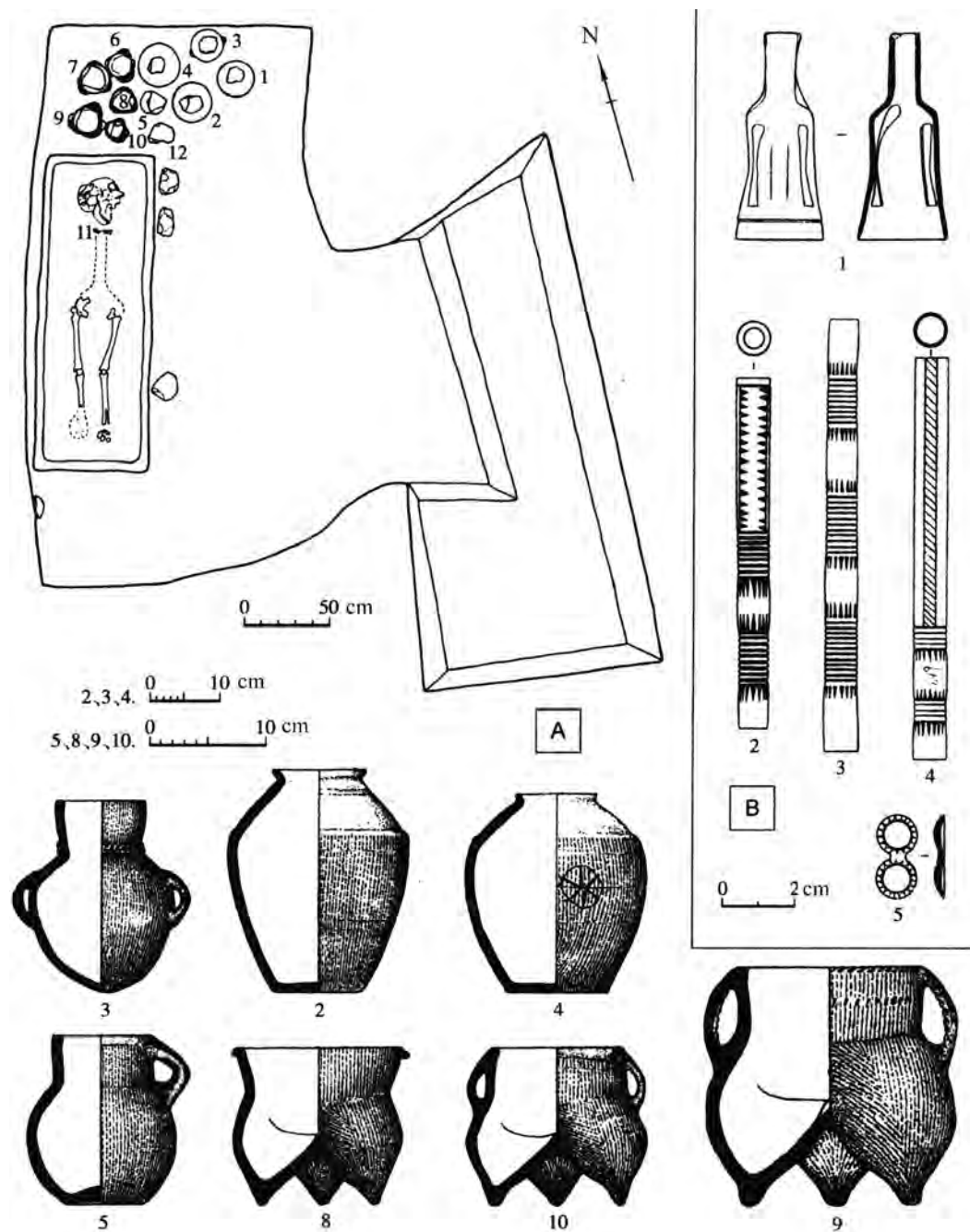
The Nianzipo Type

The southern limit of this type of site is Qishan, while it extends west to Pingliang, Gansu and east as far as the Jing River: essentially the valleys and uplands north of the western end of the Wei River Valley in Shaanxi. The houses of this tradition take the form of subterranean, semisubterranean, and surface constructions, with subterranean houses built into embankments being the most common. The burials discovered associated with this tradition are all small and generally rectangular pit burials, although “cave” burials dug into embankments also appear. Although most of the burials have wooden coffins, some have stone coffins. Most burials have only one or two ceramic vessels, generally *li*- or *dou*-vessels. Characterized by “divided crotch, bag-footed *li*-

tripods,” this ceramic tradition is said to date from Anyang I and perhaps even earlier and lasts until the beginning of Anyang phase IV (Figure 5.29; ZSKY 2003:525–528). Some archaeologists have argued that this tradition should be considered Proto-Zhou (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Jing-Wei Gongzuodui 1989), while others have argued it is a variant of the Liujia tradition (Zhou 1988). The ceramics of this tradition also show similarities with the Siwa tradition to the west and the Lijiaya tradition to the northeast.

The Liujia Type

Distributed south to the northern slopes of the Qinling Mountains and north to Pingliang, east to Fufeng, and west to Tianshui in Gansu, this tradition overlaps with Nianzipo to some degree, although generally its distribution is farther south. Few sites of this tradition have been excavated (ZSKY 2003), and what is known about it comes mostly from burials (Figure 5.30). These tend to be small, generally “cave” or “niche” burials, which are dug into the sides of pits with a ramp. Burial goods mostly comprise ceramic vessels, frequently a single *li*-tripod, but sometimes a variable number of other vessels (ZSKY 2003). Bronze tubes, bells, and beads are also sometimes found in Liujia tombs. The cemetery at Liujia itself (in the Zhouyuan) can be divided into three phases, the first two of which are of the Liujia tradition and the third of which is of the Zhengjiapo tradition (ZSKY 2003). The Liujia phases are dated to Anyang phase II and III respectively. The ceramics of the Liujia tradition show many similarities with those of Nianzipo (including



5.30. *Liujia*-type tomb, bronze bell and tubes, and ceramics (after ZSKY 2003: 529; fig. 8-24).

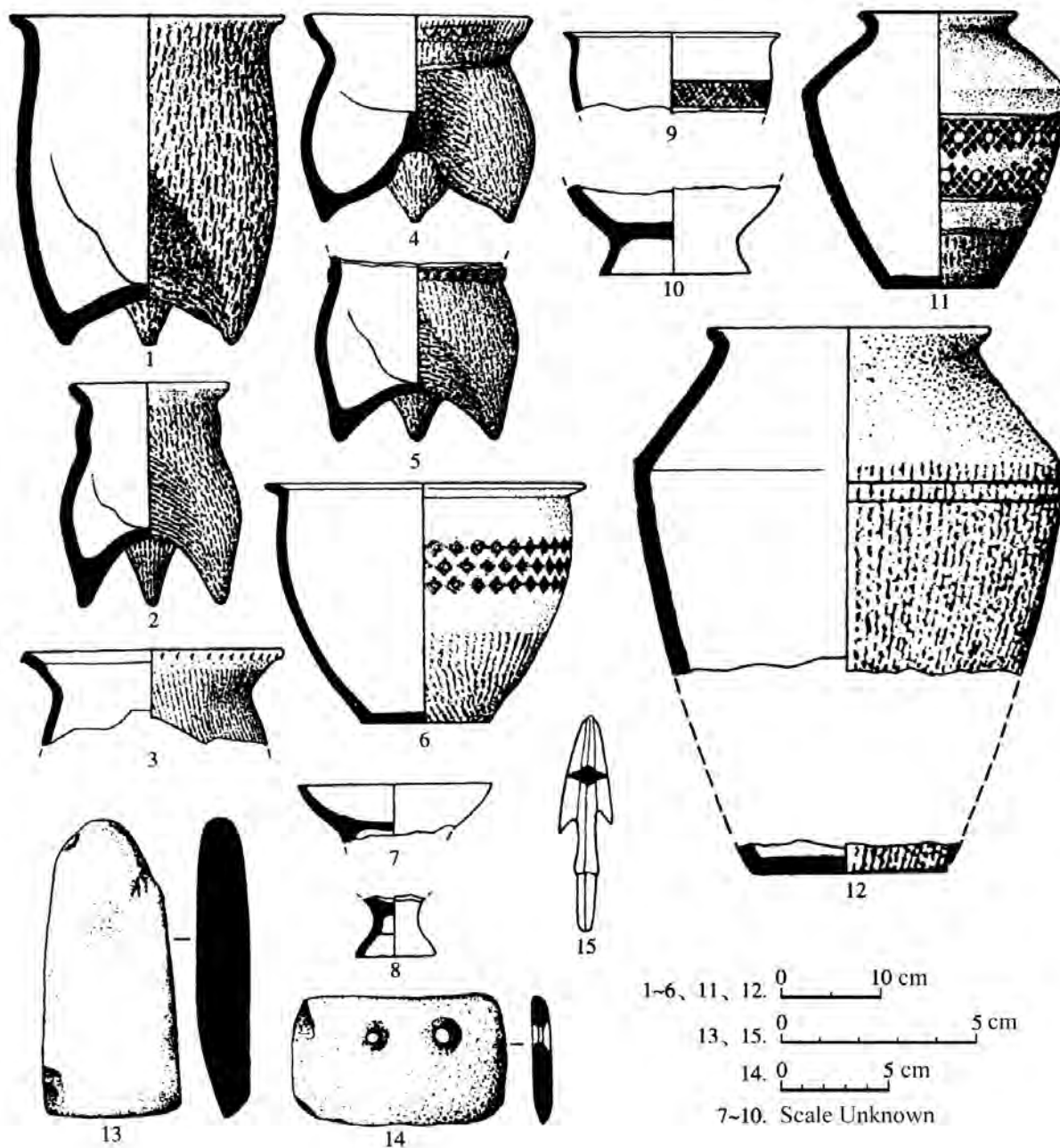
divided crotch, bag-footed *li*-tripods), prompting some to argue that they are in fact the same tradition.

The Zhengjiapo Type

By approximately Anyang II, the

Zhengjiapo tradition was distributed mostly between Xian and the Zhouyuan, in the area formerly occupied by Xiaoshuangqiao-Huanbei Beicun-variant sites. By Anyang phase IV, however, Zhengjiapo-tradition sites could be

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5.31. Zhengjiapo-type artifacts (after ZSKY 2003:532; fig. 8-25).

found as far north and west as Gansu Qingyang (ZSKY 2003). The houses of this tradition include subterranean, semisubterranean, and surface dwellings, with subterranean houses being

the most common (like Nianzipo-type sites). Burials tend to be placed in discrete cemeteries, and the majority of them are small rectangular pits. Most burials have either a single ceramic

li-tripod or a *li*-tripod and *guan*-pot. A few tombs also have bronze *ding*- or *gui*-vessels, while others have bronze *ge* dagger-axes and/or bronze beads. The joined crotch *li*-tripods and other aspects of the ceramic assemblage distinguish this tradition from neighboring traditions, while nonetheless showing Liujia, Nianzipo, Central Plains ceramic, and Central Plains and Northern Complex bronze tradition “influences” (Figure 5.31). The Zhengjiapo tradition has been implicated in the search for the predynastic Zhou people; two prominent scholars claim that only Zhengjiapo strata containing divided crotch, bag-footed *li*-tripods should be considered predynastic Zhou, while layers without this diagnostic ceramic type belonging to the Western Zhou (Zhang and Liang 1989). The fact that there is debate concerning whether certain Zhengjiapo deposits are pre- or postdynastic Zhou suggests a strong similarity between Zhengjiapo and Western Zhou ceramic traditions, whatever the ethnic or political affiliation of the potters who made them, people who distributed them, or consumers who used them.

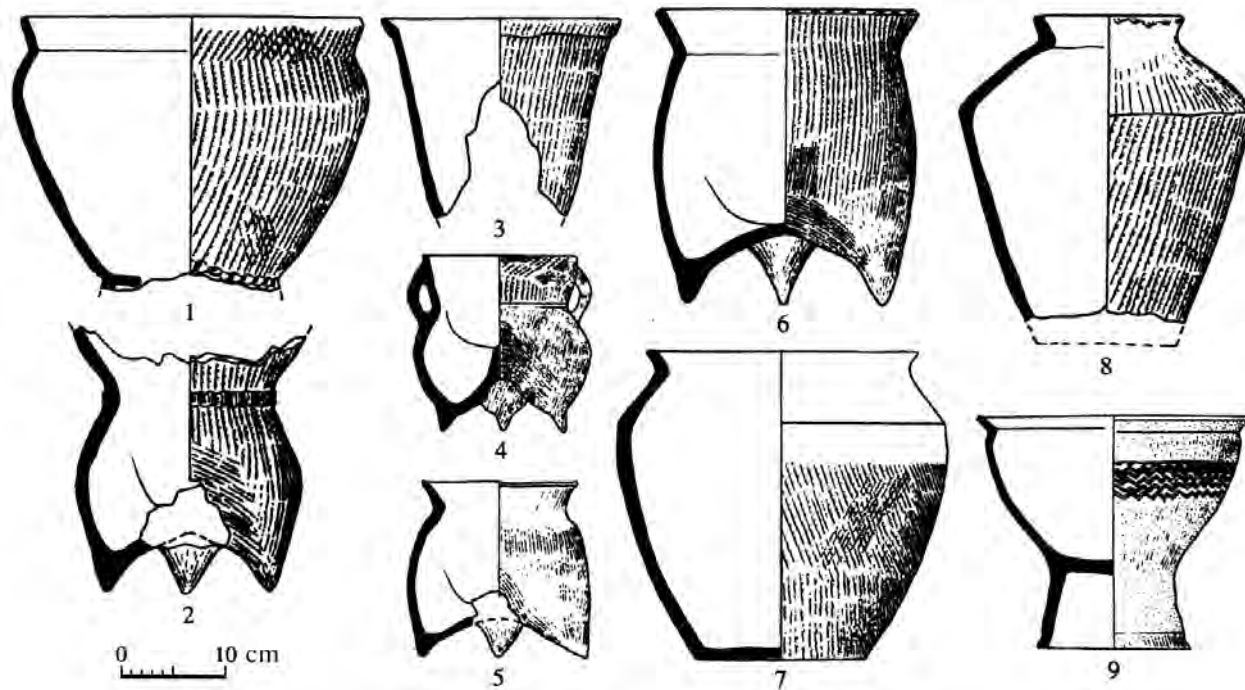
The Fenghao Site

Both tombs and living areas with what are believed to be predynastic Zhou remains have been discovered distributed along a rise between Keshengzhuang and Zhangjiapo. The four pre-Zhou tombs discovered in the area contained waist-pits and ledges with death attendants, as well as bronze vessels, weapons, and chariot equipment. The ceramics excavated from the burials and living sites include types that resemble Zhengjiapo ceramics, as well as those of

the other neighboring traditions. The pre-Zhou remains are said to date to the end of the Anyang period, when, based on transmitted traditions, King Wen of the Zhou is supposed to have founded his capital, Feng, at this site. Interestingly though, the putative predynastic Zhou tombs are basically Central Plains metropolitan-style tombs, although the bronze vessel assemblage (*ding*- and *gui*-vessels) lack the *gu* and *jue* typical of Anyang bronze mortuary assemblages, and the ceramics show non-Central Plains tradition origins (Figure 5.32).

If there is a consensus concerning Shaanxi west of Xian during the 150 or so years during the rise of the Zhou and their subsequent conquest of the Shang world, it is that the material cultural picture is complicated. But then, given the textual tradition that the Zhou arose among a panoply of non-Shang peoples and led a large alliance against the Shang, this confusing material cultural picture is, in fact, in line with Zhou representations of their own origins.

Farther west, the Xindian and Siwa traditions were still distributed in eastern Gansu, Qinghai, and even western Shaanxi in the case of Siwa. From the perspective of material culture and burial practices, Xindian and Siwa sites appear to share at least some similarities with Nianzipo and Liujia type sites. What this might mean in political, economic, or cultural terms, however, awaits future research.



5.32. Fenghao site pre-Zhou ceramics (after ZSKY 2003:534; fig. 8-26).

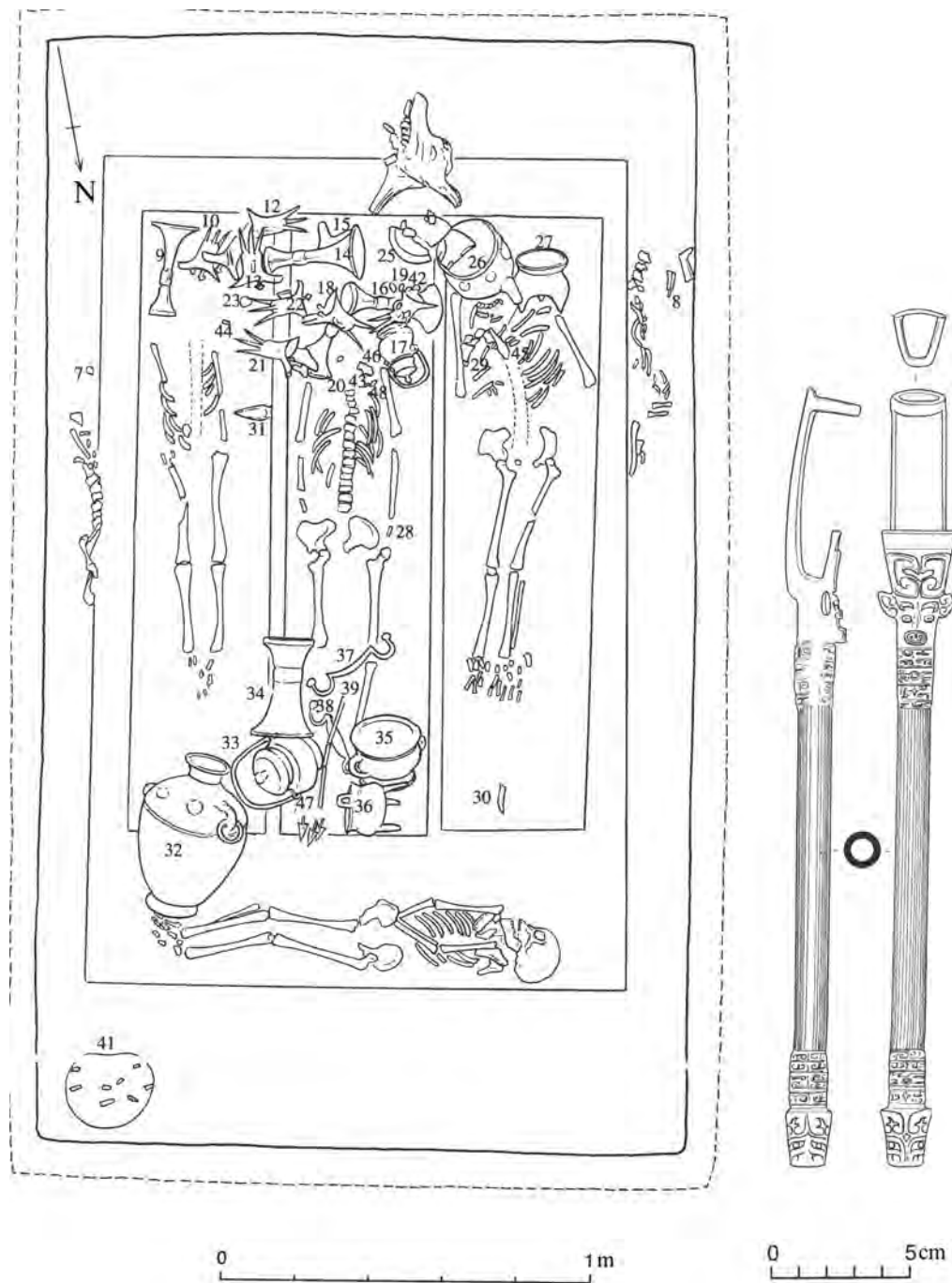
The Northwest

West of the Taiheng Mountains, very few Anyang-period sites have been discovered in southern and southeastern Shanxi. In the former distribution area of the Erligang Dongxiafeng and Xiaoshuangqiao-Huanbei Xiaoshen variants, only a few scattered finds of middens and burials attest to an Anyang period Central Plains tradition presence in the area.

At Lingshi Jingjiecun, three large un-ramped (7–9 m²) Anyang-period tombs were discovered (Figure 5.33). Two of the tombs had waist-pits (containing dogs) and death attendants; all three had inner and outer coffins and assemblages of Anyang-style bronze vessels (in addition to weapons, tools, and chariot equipment), many of which carried the

insignia bing “丙” (Shanxisheng kaogu yanjiusuo 2006). Interestingly, while the burials were basically of Anyang-style, the ceramics of this and other Anyang-period sites in Shanxi show non-Central Plains characteristics, including “Shaanxi influences” (ZSKY 2003:322), even while some of the bronze artifacts, including an animal-headed knife and a scepter, also suggest Northern Complex connections (Figure 5.34; see also Thorp 2006).

In middle Shanxi, the Jinzhong tradition shows increasing Central Plains metropolitan influence during the latter part of the Xiaoshuangqiao-Huanbei and beginning of the Anyang periods, followed by a large influx of Northern Complex features via the Lijiaya tradition (ZSKY 2003). In terms of sites, Taigu Baiyan, Xinzhou Liansigou, and

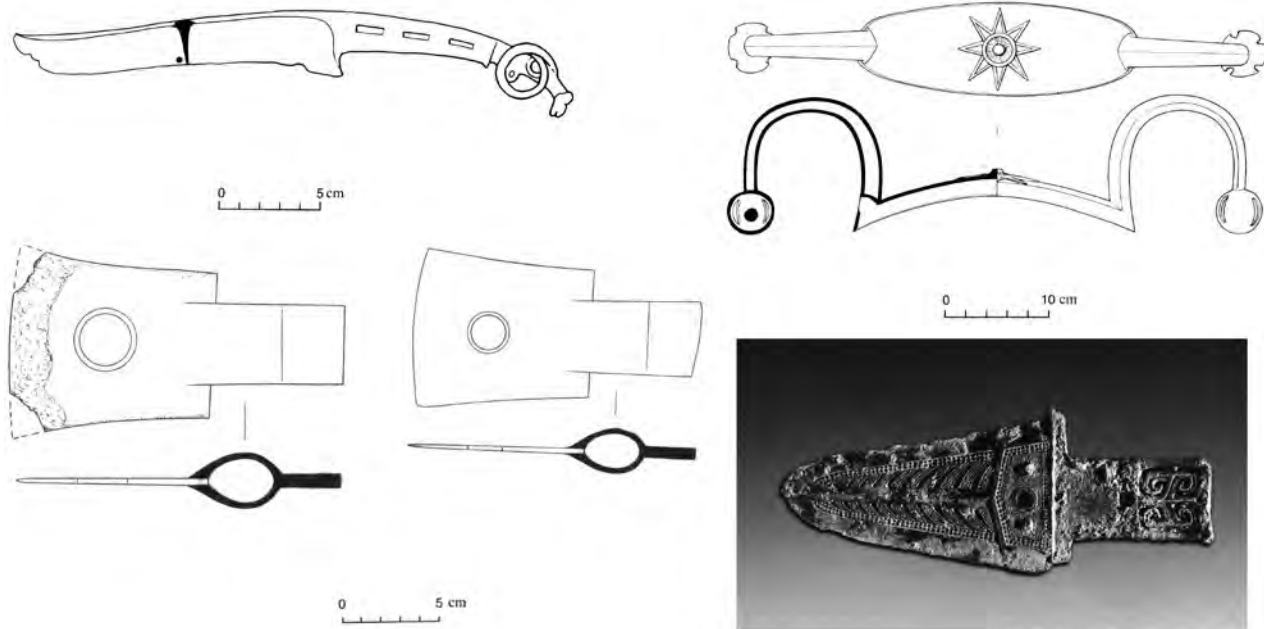


5.33. Lingshi M1 (after Shanxisheng kaogu yanjiusuo 2006:16, 86, figs. 8, 93).

Fenyang Xinghuacun all have Anyang-period Jinzhong-tradition remains. Interestingly, Xinhuacun has some early Anyang-period burials (and more extensive Xiaoshuangqiao-Huanbei

remains) and later Jinzhong-tradition remains dating to the latter part of the Anyang period (Jinzhong kaogudui 1989; ZSKY 2003). Jinzhong ceramic *li*-tripods are said to come in three styles:

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5.34. Bronze artifacts showing Northern Complex influence or affiliation from the Lingshi tombs (after *Shanxisheng kaogu yanjiusuo* 2006:134, 178, 84, 78 figs. 150, 203, 91, 85).

Central Plains metropolitan-style, a local “intermediate” style, and a bag-footed, Shaanxi-type *li*. Unfortunately, the provenance of vessels in each style is unknown, and so, whether the variety is due to trade, a heterogeneous population, or experimentation by local potters, also is not known. Ten bronze vessels discovered at Xinzhou, however, were all Anyang-style and most likely imports (ZSKY 2003:573).

The Lijiaya Tradition

Since the 1950s, Anyang-period bronze artifacts have been discovered in over twenty places along the course of the Yellow River as it runs south between Shanxi and Shaanxi provinces.⁴² These artifacts are generally thought to date to the second half of the Anyang period (phases III–IV), and many show striking

local characteristics. These finds can be divided into Central Plains metropolitan-type bronze vessels and weapons (Figure 5.35); Northern Complex weapons, tools, and ornaments; and vessels of “mixed” type (Figure 5.36; ZSKY 2003:585). Although assemblages vary in terms of ratios of Central Plains versus Northern zone bronze artifacts, their distribution interpenetrates even while the Northern zone-type artifacts show common characteristics, suggesting that the Jin-Shaan Plateau was a zone of contact between the Central Plains and Northern Complex bronze traditions.

While none of the bronze artifact finds of the Jin-Shaan Plateau area were archaeologically excavated and, thus, cannot be directly related to particular sites



5.35. CPBA-style bronzes from the Jin-Shaan Plateau area (after ZSKY:2003: 587, fig. 8-40).

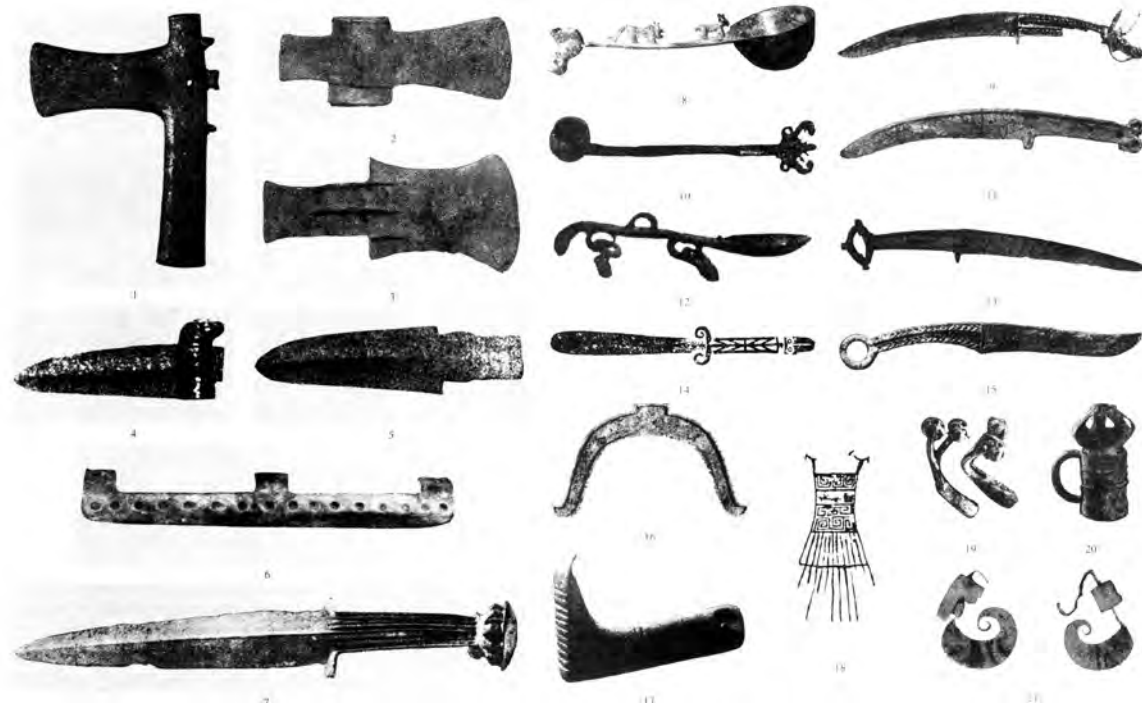
or cultural strata, survey and excavation in the region has turned up a number of sites to which have been assigned the name Lijiaya “culture” (ZSKY 2003). The Qingjian Lijiaya site itself, on the Shaanxi side of the Yellow River, is a roughly 6.7 ha fortress, with 100 m cliffs to the north and south, cliffs and walls to the west, and a wall of piled stone and earth blocking the eastern approach.⁴³ Kilns, tombs, and houses were all found within the site, including a relatively large rammed-earth building (approx. 50 m²), within a rammed-earth walled courtyard (approx. 1,000 m²) with gate-houses at the southern entrance. The burials were almost all rectangular pits with coffins and few or no grave goods,

although a few tombs contained bronze axes (ZSKY 2003).

At another nearby site, Suide Bijiaqu, subterranean houses, storage pits, and medium-sized tombs were discovered. Unfortunately the tombs were completely looted. Nevertheless, bronze artifacts are known to have been discovered at the site and at two other locations nearby. Scapulimancy with prepared and chiseled sheep bones was also practiced at Bijiaqu (ZSKY 2003).

The ceramics of these sites show strong similarities with each other, suggesting a common tradition (Figure 5.37; ZSKY 2003). The Lijiaya tradition, moreover,

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5.36. Northern Complex bronze and gold artifacts of the Late Shang Jin-Shaan Plateau (after ZSKY 2003:588--589; fig. 8-41).

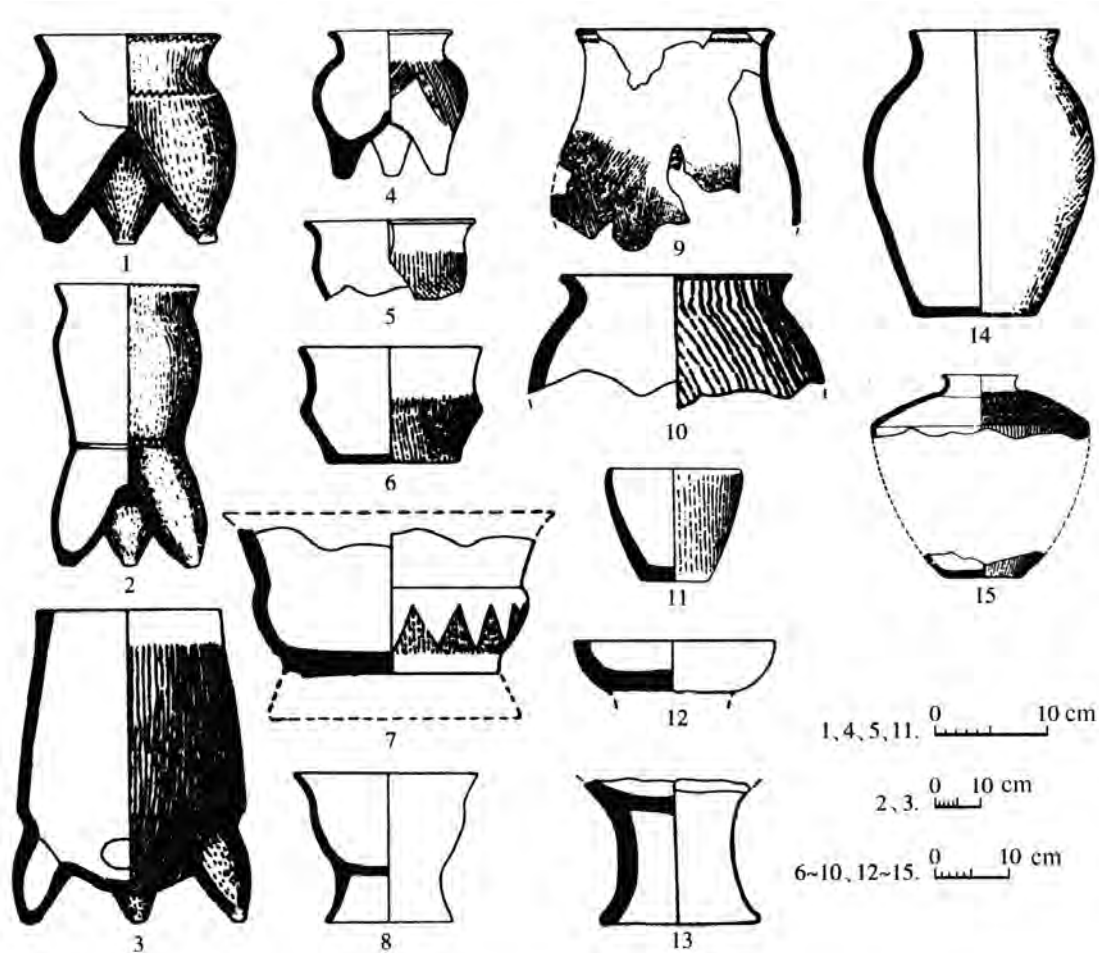
appears to derive from the Zhukaigou tradition, which disappeared from the Ordos region about the same time that the Lijiaya tradition appeared a few hundred kilometers downriver.

In general, the northern and western frontiers of the Central Plains material cultural world show dramatic changes and the influx of non-Central Plains traditions into areas where Central Plains variants were formerly distributed. The Anyang period is also the period in which the chariot appears, an import from the steppe, and these intrusive ceramic traditions all show some degree of affiliation or contact with Northern Complex bronze traditions. Moreover, this material-cultural situation is paralleled in Anyang period I

and II oracle-bone inscriptions, which show an overwhelming military and political concern with the north and west. Indeed, if Xia's (2005) reconstruction of the Gongfang wars are correct, it was at the end of Anyang period II that the Anyang court and its local allies lost the war in Shanxi, permanently removing Anyang political influence in the area, roughly the same period that Lijiaya sites, and mixed bronze assemblages appear on the Jin-Shaan Plateau.

Conclusion

The Anyang period, rather than a period of political devolution or of a reconstituted but weak "Shang state" overshadowed by the glory of its Zhengzhou predecessor, was a period that saw the



5.37. *Lijiaya-tradition ceramics (after ZSKY 2003:590; fig. 8-42).*

rise of “the Great Settlement Shang” at Yinxu. Yinxu, Anyang was a site significantly larger than Zhengzhou and was at the center of a metropolitan tradition variant of ceramic production, bronze-casting, ritual practices, and architecture of unmatched homogeneity and distribution (Figure 5.1). The site of Yinxu, Anyang, was not only of unprecedented size, but also contained the richest burials, largest foundry sites, and palace-temple area of any known contemporaneous or earlier site in East Asia (Table 5.3). While it is true that there is a much fuller range of data from Yinxu

than any other second-millennium BCE site in China, it is also true that Anyang metropolitan style bronze vessels vastly outnumber Erligang or Xiaoshuang-qiao-Huanbei bronzes excavated or in collections around the world, suggesting that the bronze industry at Anyang reached an entirely new scale. Anyang elite crafts also show marked progress in technical virtuosity, suggesting an uninterrupted development under the continued patronage of powerful elites from Erlitou to Anyang. Whatever the political narrative may have been over the course of the Central Plains Bronze

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Center	Size	Circumscribed Palace-Temple Area	Largest Palace-Temple	Bronze Casting
ERLITOU	300 ha	11 ha	9000 m ²	1 location
Yanshi	200 ha	4.5 ha	9000 m ²	2 (?) locations
ZHENGZHOU	290 ha (inner walls); 1300 ha (outer walls); 2500 ha estimated total site	37 ha	2000 m ²	2 locations
Panlongcheng	75 ha	none (?)	6000 m ²	?
Xiaoshuangqiao	150 ha	none	500 m ²	1 location
HUANBEI	470 ha	20+ ha	16,000 m ²	?
ANYANG	3000 ha	70 ha	5000m ² (?)	6 locations

Table 5.3. Comparison of major sites, 1800–1050 BCE.

Age, it apparently did not involve a collapse.

Nevertheless, while both Anyang and its metropolitan ceramic variant distribution were of unparalleled size, the Anyang period saw the retreat of Central Plains metropolitan ceramic tradition variants on all fronts except the east. Given the sudden appearance of the chariot, the encroachment of northern complex influences in the northwest and north, and the early period oracle-bone inscriptions that indicate troubled northern and western borders, the reduced distribution of Central Plains tradition ceramics in the north and west may have had less to do with the internal weakness of the Shang polity centered at Anyang than with external factors. The situation in the south after the demise of the widespread Panlongcheng variant by the end of the Xiaoshuangqiao-Huanbei period is one of multiple interacting regional traditions with no one center of cultural gravity. One might say that the Panlongcheng

horizon gave way to a southern intermediate period with continued interaction and exchange. In the West, Central Plains ceramic tradition influences continued to ebb even while some contact was apparently maintained between the elites of Anyang and at least some of those of the Wei River Valley. This again suggests that political relationships and elite material culture circulated in networks different from those responsible for producing ceramic traditions. Moreover, an Anyang-period shrinkage in the distribution of Central Plains tradition ceramics should be no more considered an unambiguous sign of a weakened state and decentralized political situation than the Xiaoshuangqiao-Huanbei period “maximum” distribution the sign of a strong, centralized and expansionist polity. The Anyang-period ebb of Central Plains metropolitan ceramic tradition distribution in the south, west, and north may be partially related to the movement of the metropolitan area (and its attendant population nucleation) north and east, fol-

lowed on by military pressure from the north and west.

In contrast to ceramic traditions, Anyang metropolitan-style bronze vessels continued to circulate widely even while local casting traditions flourished on the peripheries of the Central Plains metropolitan world. If Bagley (1999:208) can claim, in reference to bronze-casting, that there was “no Late Shang horizon,” it nonetheless remains true that the distribution of metropolitan-style Central Plains bronze artifacts was no less extensive in the Anyang period than it was in the Erligang period. The difference between the Erligang and Anyang periods rather resides in the greater dispersion of bronze-casting both within and beyond the metropolitan ecumene by Anyang times. This trend toward the proliferation and spread of bronze-casting, moreover, can already be seen in Erligang times with casting occurring at multiple sites in Zhengzhou, at Yanshi, and probably at Panlongcheng.

There is, moreover, evidence of continued contact and long distance exchange networks linking Yinxu with its non-Central Plains metropolitan tradition neighbors. Firstly, if Yinxu was the site of an unprecedented bronze industry, not only casting more, but larger, and thicker-walled vessels than at any time previously, where did it obtain its metals? The Yangzi area and Shandong were both possible sources for copper, while lead isotope studies have suggested that Anyang shared a lead source with the bronze industries of Zhengzhou, Wucheng, Panlongcheng, and Sanxingdui (Jin et al. 1994, 1995, 1998) until

at least Anyang phase II, while tin may have been procured from Yunnan or Jiangxi (Jin 1990). Some of the jade found in Anyang tombs has been claimed by some scholars to be nephrite from Hetian in Xinjiang (Zhang 1982; Shen 1991) and, if true, would constitute an exchange network thousands of kilometers long. Even longer exchange routes have been suggested for cowrie shells, which, based on their modern distribution, may have originated in the Indian Ocean (Li 2003; Peng and Zhu 1995). Protoporcelain and stamped and glazed stoneware are also generally thought to have been imported from the south, with Wucheng a possible site of production (Chen et al. 1999), as well as sites in Zhejiang (ZWKY et al. 2011). Lacquer and shell inlay may also have been objects of exchange (Fang 2009), not to mention the undoubtedly numerous things that left no trace in the archaeological record. Nevertheless, while it is apparent that Anyang was a period of long-range regional exchange, the nature of the networks, their participants, and facilitators, or even the routes remain all but unknown.

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Endnotes

1 See Li (1977) for an understanding of Anyang based on prewar excavations (and a bibliography of the voluminous Academia Sinica publications on the early excavations and analyses based on them). Chang (1980) builds on this with later research, but much work has been done in the intervening quarter-century since Chang wrote *Shang Civilization*, rendering some of its conclusions out of date. Bagley (1999), Keightley (1999), Thorp (2006), and Liu and Chen (2012) supplement Chang's (1980) account but collectively still lag behind the current Chinese understanding of the site. My brief description of Anyang here will thus follow more recent developments.

2 While there is some lingering debate among oracle-bone scholars about this issue, the consensus among archaeologists is that Anyang was a capital site. From an archaeological perspective, the palace-temples, large-scale industry, monumental tombs, writing, not to mention the sheer size of the site, make it difficult to see Anyang as anything but a central place and an unprecedentedly large and prosperous one at that.

3 Yoffee (2005) includes a table comparing site sizes of early urban spaces and lists Anyang as 19 km², apparently based on personal communication with Liu Li and Yates (1997). More recent estimation of the size of the Anyang site put it at over 30 km², surpassing any earlier or contemporaneous site, including Zhengzhou.

4 Although cart tracks (for a vehicle narrower than a chariot) have been discovered at Erlitou (Erlitou Team 2005a), there is no evidence for chariots or horses in the Central Plains before they suddenly began to appear across northern China in the Anyang period (Yuan and Flad 2003).

5 There is debate about the nature of chariot use, however, especially in the case of war. Many authors are not convinced that Anyang chariots would be very useful in fighting as opposed to simply marking status and/or providing mobile command platforms (Bagley 1999; Tang Jigen [per-

sonal communication]). Nevertheless, they were used in hunting, as oracle-bone examples attest, so presumably they were at least effective as mobile archery platforms.

6 Despite a strong later textual tradition that identifies the Shang king Pan Geng with the establishment of a capital at Anyang and the long-held belief that the Anyang period begins with his reign, there is little or no evidence, either in oracle-bones, the royal cemetery, or the palace-temple complex, for kings prior to Wuding at Anyang. Some scholars have suggested instead that Huanbei, just across the river to the north, might be the capital that Panlong was supposed to have established in the area (Yang and Tang 1999).

7 In fact, given their size, they are unlikely to have been ordinary residences and may well have served some function other than dwelling.

8 The idea, moreover, that there were large flows of metal coming into Anyang and earlier centers for bronze-casting is probably based on modern industrial assumptions. It is certainly not founded on any estimate of contemporaneous metal consumption. My own preliminary order of magnitude estimate, based on extrapolating from bronzes buried in tombs at Anyang, is around 1,000 tons over 200 years (Campbell 2013), or about 1,000,000 kgs ÷ 200 years = 5,000 kg/year, or approximately 14 kg per day. In other words, a single person-load of metal per day could likely have supplied the Anyang foundries. Considering that Anyang far outstripped Erligang or Erlitou bronze-casting, the idea that some centrally administered "state" apparatus had to have controlled and administered the flows of metal into the center in these cases seems extremely dubious.

9 The idea that large-scale production requires a single, centralized source of resources as opposed to multiple, perhaps independent sources seems to also underlie Liu and Chen's (2003) depiction of early complex polities in China as centrally controlled resource extraction mechanisms (what might be termed "the Exxon model").

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10 That is to say, although the largest vessels and richest unlooted tombs have all been found in the royal cemetery and the palace-temple complex, and it does generally seem to be true that larger tombs are better furnished, no one has done a study of the correlation between bronze vessel quality and size and other markers of rank in burials, so the claim that elites outside the “Shang court” could not have possessed vessels of a certain kind is untested. Moreover, given the fragmentary nature of the sample, it is difficult to say what the upper end of the sumptuary rules spectrum looked like when so few unlooted high elite tombs have been discovered.

11 While it had been asserted that a large midden containing cattle bone excavated at Huayuanzhuang was also the remains of bone-working, this conclusion now seems unlikely based on a reanalysis of the report (Li et al. 2011).

12 That M1567, which appears to be unfinished and yielded no artifacts, was Di Xin’s tomb accords with traditional accounts of his suicide after defeat at the hands of the Zhou. If this is correct then the building of royal tombs began in the lifetime of the ruler.

13 Under the current directorship of Tang Jigen, these orientations have been rapidly changing, at least at Anyang, but much of that recent work has yet to be completed or published.

14 In some sites in Hebei, such as Xiaqiyan, and Zhaoyao, li-tripods continued to form the core of ceramic mortuary assemblages.

15 Several bronzes from this and other tombs in the cemetery bore the inscription Ya Chou 亚醜, which many scholars have identified with Xiaochen Chou 小臣醜, who supposedly appears in the oracle-bone inscriptions. In fact, the inscription in question, which provides no context besides the name, actually reads Xiaochen Gui 小臣鬼, making the identification even more tenuous.

16 All of this is assuming that this tomb did, in fact, date to the Anyang period rather than the

Shang-Zhou transition or early Western Zhou.

17 These are 辛又 and 役 respectively, the former being discovered not at Daxingzhuang but at the nearby Liujiashuang (Fang 2009).

18 Interring roebuck canines is an ancient burial practice in the Shandong region going back to Dawenkou times (Li 2008).

19 My argument, in brief, is that while I believe that the bronze insignia refer to kinship groups, these group names, even if they correspond to the ruling lineage, correspond only rarely to polity names as seen in the oracle-bone inscriptions. I argue that polity names are generally derived from place names and that the practice of associating bronze insignia directly with polity names is mistaken. Thus there may indeed have been two separate Anyang-period political entities in the Subutun area, but they were probably not called Chou or Ji by contemporaries (or however those graphs were pronounced in Anyang times), just as the Zhou dynasts were not called the “Ji dynasty” or the “Ji polity.”

20 Both Liu and Chen (2003) and Fang (2005) make reference to a salt official (*lu xiaochen* 卤小臣) recorded in the oracle-bones, but neither references the inscription number. My own study of Xiaochen officials in the Anyang period based on both the CHANT database and *Leizhuan* turned up only one example that *could* be read that way (5596). This inscription is unique, provides no context concerning the individual, and the graph in question can be read in other ways than *lu* 卤 (salt). Moreover, even if the graph in question should be read as *lu* it might refer to a place name (as it appears to in *heji* 36756), which would translate as “a minor servitor of Lu”, or something else entirely. This underlines the dangers inherent in attempting to interpret unique or rarely appearing oracle-bone graphs or phrases, and demonstrates the need for a more rigorous approach than is frequently current in Chinese paleographic circles. The pernicious practice of then basing interpretations of wide-ranging socio-political implication

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upon such tenuous evidence is obviously even more problematic.

21 It is important to note that whereas “non-Central Plains tradition communities” only refers to their material culture and certain cultural practices, it may very well be that people producing or using this material culture were members of political communities affiliated with Central Plains elite culture users or even the Anyang polity itself.

22 Of course, the million-dollar question is “what sort or sorts of interaction?” but given the orientation of Chinese archaeology toward formal typology rather than social or technical process, the evidence that might resolve this question does not presently exist.

23 It has also been argued that this name should be read “Wei Zi Qi” and associated with the grandson of the last Shang king as recorded in such early chronicles as the *Shiji* and the *Zhushu-jinian* (Wang 2002; Matsumaru 2004).

24 In fact, it is odd for large Anyang-period Central Plains metropolitan tombs to have large quantities of pottery (Bagley 1999). Ceramic vessels tend to be replaced with bronze vessels in large tombs so that there is an overall negative correlation between tomb size and number of ceramic vessels (Campbell 2007). In this sense Taiqinggong is similar to the Anyang-period elite tomb at Xinggan and perhaps suggests a Huai-Yangzi burial tradition differing from Central Plains norms.

25 Although lacquer objects do appear in the royal tombs at Anyang, they are not very common in Anyang tombs of a similar size and richness to those found at Qianzhangda.

26 Even elite remains mostly come in the form of looted tombs or poorly provenanced bronze finds by farmers or workers in the 1970s and 1980s, when central government control meant that farmers were more likely to turn over finds to authorities than to try to sell them on the black market.

27 More specifically the burials were graded as follows:

I. Three bronze *ding*-cauldrons, five pairs of bronze

gu and *jue*; II. Two bronze *ding*-cauldrons, two pairs of bronze *gu* and *jue*; III. One bronze *ding*-cauldron, one pair of *gu* and *jue*; IV. Ceramic vessels only.

(ZSKY 2003:319). This grading of tombs apparently bears the anachronistic interpretive influence of Middle Western Zhou and later more stringent sumptuary regulations where the number of certain types of bronze vessels are supposed to rigidly reflect the status of the deceased. This, however, was not the case for the Anyang period (Campbell 2007).

28 Note, however, as the Laoniupo example shows, the presence of Anyang-style bronzes does not necessarily mean they were produced at Anyang.

29 Such as Kazuo Heshanggou Tomb 1 which had bronze *hu*- and *you*-vessels, the latter filled with cowrie shells (ZSKY 2003).

30 This site is currently undergoing excavation and has not been published.

31 There were in excess of 1,900 artifacts in the tomb, including more than 480 bronze artifacts, 1,072 stone and jade artifacts, and 480 ceramic vessels (about 20 percent of which were glazed stoneware or protoporcelain).

32 A bronze head found in the tomb closely resembles masks found at Laoniupo and even more abundantly in the Hanzhong area of southern Shaanxi.

33 Table 8-1 (ZSKY 2003) lists ten artifact pits that were discovered. The contents of the other pits, most of which are only partially reported, appear to be mainly jade or stone artifacts, although at least two of the other pits had bronze plaques.

34 Representing, moreover, a monumental expenditure of skilled and unskilled labor by the standards of Bronze Age China.

35 Nevertheless these vessels likely originated in the middle Yangzi area and, thus, represented an indirect Central Plains influence.

36 The tomb of Fuhao alone has more than 7,000 cowries in it, and cowrie shells form almost

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the only form of reward recorded on Anyang-period bronze vessel gifting inscriptions.

37 Not only was a Baoshan-type bronze-mask artifact found at Xin'gan, but also a sickle-ge.

38 In addition to sickle-ge, "sickle-shaped" weapons have also been found in the Hanzhong area (65 altogether, in three separate finds), which are, apparently, unique to the Hanzhong area (ZSKY 2003:518). Sickle-ge have also been found in burials at Anyang.

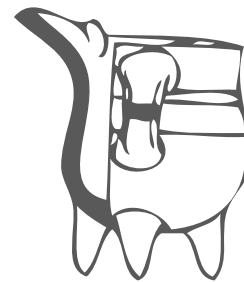
39 Luo Tai 2010, argues that the human or "primate" and bovine masks were probably made at Laoniupo and traded to the Hanzhong region.

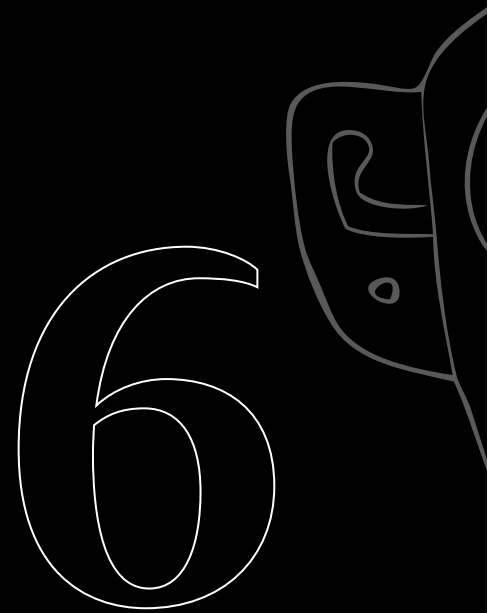
40 ZSKY (2003) prefers to call Nianzipo, Liujia, and Zhengjiapo "types" because of the intense debate that surrounds the issue of the predynastic Zhou and the implications (in Chinese archaeological circles) of distinct ethnic groups that would arise by calling them separate archaeological "cultures."

41 This of course, does not justify attempting to match specific ethnic or political groups recorded in later texts with ceramic types as some authors in China have attempted to do. Named political groups may well have included heterogeneous populations or homogeneous populations incorporating heterogeneous potting traditions.

42 See ZSKY (2003:584, 585) for bibliographic references.

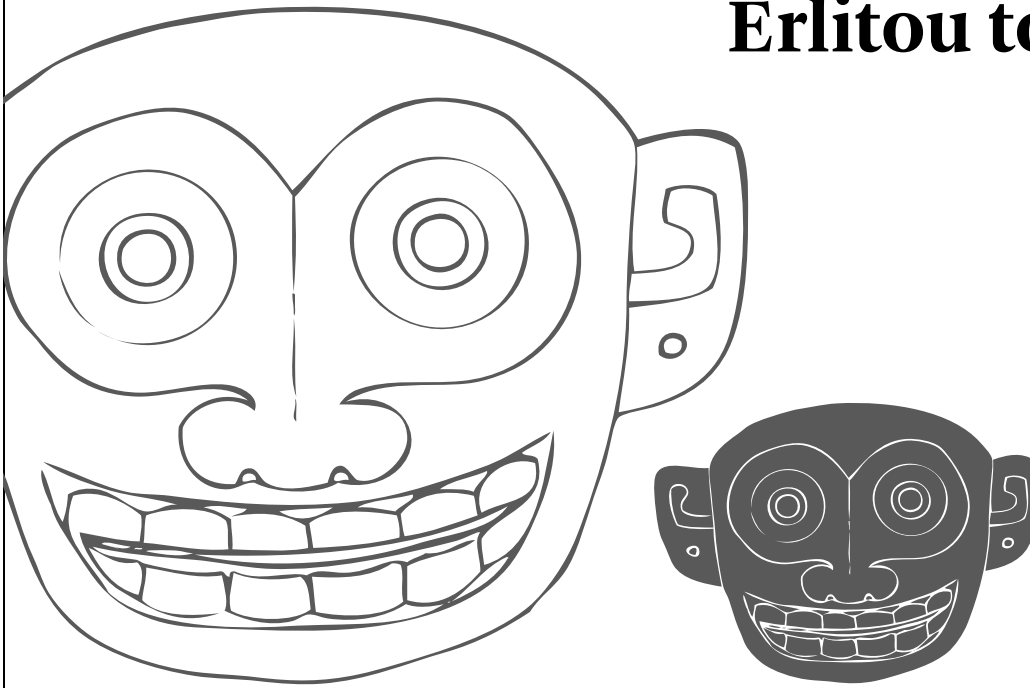
43 This wall had inner and outer layers and was reinforced during the occupation of the site (ZSKY 2003).





Roderick B. Campbell

Conclusion: The Central Plains Bronze Age from Erlitou to Anyang



Although certain Anyang material cultural traditions had earlier or later origins, Erlitou stands at the headwaters for much of the complex of elite material cultural practices that define Central Plains Bronze Age civilization. Moreover, whatever the political relationship between the Zhengzhou and Erlitou centers, the Erlitou expansion saw no retraction but rather was incorporated into the expansion of Shang material cultural distribution. Erlitou, too, seems to serve as a model for a capital site, with its contemporaneously unparalleled size, circumscribed palace-temple district, enclosed courtyard architecture built to monumental scale, and bronze-casting workshops. At the same time, if there is

a quantum leap in scale, it is not between Erlitou and its Longshan predecessors, such as Taosi or Zhoujiazhuang, but rather between Erlitou and Zhengzhou. Another marked difference between the Erlitou and Erligang periods (other than the re-alignment of major architecture) is the appearance of a number of walled sites in the early stages of the Erligang period. Moreover, the disparity in size between Zhengzhou and these sites, which otherwise share orientation, building techniques, and styles of major architecture and burials, suggests their subsidiary status within a common network of elite material cultural practices. While this phenomenon might suggest expansion, conquest, and, perhaps, colonization

from the Zhengzhou core, the political relationships between elites and the mechanisms that produced and maintained them remain obscure beyond the apparently dominant status of Zhengzhou. At the same time that the urban center at Zhengzhou exerted expanding cultural and political influence, it was also the site of a centripetal pull that brought together diverse groups of people whose material culture homogenized over the roughly 200 years of Zhengzhou's occupation. Zhengzhou, then, was not only the origin of metropolitan traditions, but also the site of their genesis from diverse origins.

From the point of view of ceramic traditions, metropolitan traditions and their variants continued to expand in distribution from Erlitou through to the Xiaoshuangqiao-Huanbei period, after which the Anyang period saw both a contraction of the metropolitan ceramic tradition distribution and an expansion of the core variant. As mentioned earlier, this phenomenon may have been related to the relocation of the metropolitan core to Anyang, followed by political/military pressure from the north and west. Thus, what were the distributions of three separate ceramic traditions in Erlitou times (Erlitou, Luwangfen-Songyao, Xiaqiyuan), three separate Erligang variants in Erligang times (Erligang, Liulige, Taixi), and two variants in Xiaoshuangqiao-Huanbei times (Baijiazhuang, Caoyanzhuang) coalesced into a single metropolitan ceramic tradition in the Anyang period (Yinxu). At the same time, what were once the southern and western peripheries of the Xiaoshuangqiao-Huanbei ceramic horizon saw the development of non-Central Plains metropolitan traditions. Nevertheless, the expansion or contraction of ceramic tradi-

tions cannot simply be read as a reflection of conquest, colonization, and population replacement. Indeed, where more detailed information exists, the picture is often one of mixed practices and selective adoption rather than outright replacement. Unfortunately, finer-grained ceramic research aimed at uncovering the practices of production and networks of exchange (social, political, cultural, technological, and economic) behind ceramic tradition changes is only just beginning. This research will no doubt rewrite the story of Bronze Age China, but for now we must make do with a much hazier picture.

Looked at from the perspective of Central Plains metropolitan bronze industry and its products, there was a continuing expansion in distribution throughout the second half of the second millennium BCE. In Erlitou times, bronze vessels and compound mold casting seem to have had a very restricted distribution. In the Erligang period, metropolitan style bronze vessels see a great expansion in distribution, while casting took place in multiple locations. In the Xiaoshuangqiao-Huanbei period, metropolitan style bronzes were even more widely distributed, and foundries on the peripheries of the Central Plains material cultural world started casting their own vessels in styles showing increasing heterogeneity. In Anyang times, metropolitan styles were still widely distributed, but local industries beyond the distribution of Shang ceramic traditions were in full swing. Given the multiple centers for bronze-casting during Erligang times, the expanding scale and the continued technical development of bronze-casting, along with the existence of huge metropolitan centers throughout the Xiaoshuangqiao-Huanbei and Anyang peri-

ods, the long-term centrifugal progression of bronze-casting technology is more likely the result of hundreds of years of competitive emulation of a strategic form of symbolic capital on the part of local elites and technologically advanced societies on the periphery than evidence for the collapse of strong Erlitou and Zhengzhou-centered polities and their bronze monopolies as some authors have argued (e.g., Bagley 1999; Liu and Chen 2003, 2012).

Combining distributions of elite and nonelite material culture across this expanse of time, at least from the Erligang period, although perhaps beginning in Erlitou times, the expansion of ceramic and bronze traditions was accompanied by the building of settlements sharing metropolitan cultural features. Distributions of Central Plains metropolitan ceramic traditions and various forms of metropolitan elite material culture, however, do not completely coincide.

Politically, the archaeological picture of North China in the second millennium BCE suggests the intrusion of metropolitan elites or the incorporation of local elites into metropolitan networks of elite practices. This may have involved colonization, conquest, alliance, peaceful incorporation, or measures of each. Comparing the Erligang with the Xiaoshuangqiao and Anyang periods, an obvious difference can be seen in the building of walled Shang sites on the peripheries in the Erligang period. However, whether this phenomenon was related to establishing dominion in newly conquered areas or to the defensive concerns of subsidiary metropolitan elites is not known. For some reason, building walls around settlements in North China appears to fall out

of favor by the Anyang period. Whether this is due to changes in patterns of warfare or other reasons is unknown (and, of course, preservation and discovery may also be factors). It was not due to a lack of warfare in the Anyang period, nor, as evidenced by the increased scale of everything else at Yinxu, due to a lack of labor or resources.

Contra Wheatley (1971), Chang (1983, 1985, 1986), and others (e.g., Shen 1994, 2003),¹ Central Plains Bronze Age cities were no more “king’s cities” or “cult centers” than later Imperial capitals were “emperor’s cities” or ritual centers. That is not to say that they did not serve an important symbolic purpose or that nothing changed between Shang and Qin-Han times, but that Central Plains Bronze Age urban spaces were also centers of production and exchange even if the particulars remain sketchy (Campbell et al. 2011). As per Yoffee (2005), they brought populations together in unprecedented densities, undoubtedly forging new forms of social networks and identities. Part of this story is the processes of homogenization of material culture seen at Zhengzhou and Anyang and the role of the metropole as cultural, political, and sacred center of the world. At the same time, however, at Anyang, there is evidence of kinship-based clusters of residences and burials, suggesting that the basic divisions of society and social identity were predicated on kin groups, whatever their specific constitution.

Endnote

1 Shen (2003), moreover, makes the erroneous claim that early Chinese cities before the eighth century BCE were “occupied mainly by royal families and the ruling class” (290).

ABBREVIATIONS / ACRONYMS

AT, IA, CASS | *Anyang Team, Institute of Archaeology, Chinese Academy of Social Sciences*
AWKY | *Anhuisheng wenwu kaogu yanjiusuo*
EFT, IA, CASS | *Erlitou Fieldwork Team, Institute of Archaeology, Chinese Academy of Social Sciences*
HKY | *Henansheng kaogu yanjiusuo*
HWKY | *Henansheng wenwu kaogu yanjiusuo*
HWKY, ZW | *Henansheng wenwu kaogu yanjiusuo, Zhoukoushi wenwuju*
HbWKY | *Hubeisheng wenwu kaogu yanjiusuo*
HbWY | *Hebeisheng wenwu yanjiusuo*
JBKY, ZB | *Jiangxisheng bowuguan kaogu yanjiusuo, zhangshushi bowuguan*
LWF-SY | *Luwangfen–Songyao tradition*
NZWKY, EB | *Neimenggu Zizhiqū Wenwu Kaogu Yanjiusuo, Erduosi Bowuguan*
SWKY | *Sichuansheng Wenwu Kaogu Yanjiusuo*
SWY, BDZKY, SSDQLWY, BWG | *Shandongsheng Wenwu Kaogu Yanjiusuo, Beijing Daxue Zhongguo Kaoguxue Yanjiuzhongxin, Shandong Shifan Daxue Qi Lu Wenhua Yanjiuzhongxin, Binzhoushi Wenwu Guanlichu*
SWY, BDZKYZSW | *Shandongsheng wenwukaogu yanjiusuo, Beijing daxue Zhongguo kaoguxue yanjiu zhongxin Shouguangshi wenhuaaju*
XBX | *Xibeidaxue Wenbo Xueyuan*
XSZDGZ | *Xia Shang Zhou Duandai Gongcheng Zhuanjiazū*
XWX | *Xibeidaxue wenbo xueyuan*
YXK | *Yinxu Xiaomintun Kaogudui*
ZDW, KWG | *Zhengzhou Daxue Wenboyuan, Kaifengshi Wenwu Gongzuodui*
ZSKY | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo*
ZSKY, AG | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Anyang Gongzuodui.*
ZSKYAG, ZJHQKDK | *Zhongguo shehuikexueyuan kaogu yanjiusuo Anyang gongzuodui, Zhong Jia Huanheliuyu quyu kaogu diaocha ketizu*
ZSKYEG | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Erlitou Gongzuodui*
ZSKYHDG | *Zhongguo shehuikexueyuan kaogu yanjiusuo Henan diyi gongzuodui*
ZSKY, HEG | *Zhongguo shehuikexueyuan kagu yanjiusuo, Henan dier gongzuodui*
ZSKYNG | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Neimenggu Gongzuodui*
ZSKYSD | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Shanxi Dui*
ZSKY, SG | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Shandong Gongzuodui*
ZSKY, ZLB, SKY | *Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Zhongguo Lishi Bowuguan, Shanxisheng Kaogu Yanjiusuo*
ZWKY | *Zhejiangsheng Wenwu Kaogu Yanjiusuo*
ZW, ZB, HW | *Ziboshi Wenwuju, Zhiboshi Bowuguan, Huantaixian Wenwuguanlisuo*

Bibliography

Allan, Sarah. 2007. "Erlitou and the Formation of Chinese Civilization: Toward a New Paradigm." *Journal of Asian Studies* 66:461–496.

An Jinhuai 安金槐. 1993. "Guanyu Zhengzhou Shangdai qingtongqi jiaocangkeng xingzhi de tantao" 关于郑州青铜器窖藏坑性质的探讨 (Discussion Concerning the Nature of the Zhengzhou Shang-Period Bronze Artifact Storage Pits). In *Zhengzhou Shangcheng kaogu xinfaxian yu yanjiu: 1985–1992 郑州商城考古发现与研究: 1985–1992* (New Archaeological Discoveries and Research at the Shang Walled Site at Zhengzhou: 1985–1993), edited by Henan Sheng Wenwu Yanjiusuo 河南省文物研究所, pp. 60–63. Zhengzhou: Zhongzhou Guji Chubanshe.

———. 1997. "Zailun Zhengzhou Shangdai qingtongqi jiaocangkeng de xingzhi yu niandai" 再论郑州商代青铜器窖藏坑的性质与年代 (Further Discussion of the Date and Character of the Zhengzhou Shang Period Bronze Artifact Storage Pits). *Huaxia kaogu* 1997.1:73–82.

Anhuisheng Wenwu Kaogu Yanjiusuo 安徽省文物考古研究所. 1987. "Anhui sheng Hanshan Dachengdun yizhi fajue baogao" 安徽省含山大城墩遗址发掘报告 (Excavation Report on the Dachengdun site, Hanshan, Anhui Province). *Kaoguxue jikan* 6:83–99.

———. 1992. "关于铜陵古铜矿初步考察研究的报告 (Preliminary Investigative Research Concerning the Ancient Copper Mine at Tongling)." In *Zhongguo gu tongdu Tongling* 中国古铜都铜陵 (China's Ancient Copper Capital, Tongling), edited by Tongling Shizheng Xiewenshi Weiyuanhui 铜陵市政协文史委员会. Tongling: Tongling Shizheng Xiewenshi Weiyuanhui, Tonglingshi.

Anthony, David. 2007. *The Horse, the Wheel, and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World*. Princeton: Princeton University Press.

Anyang Team, Institute of Archaeology, Chinese Academy of Social Sciences. 2004a. "Survey and Test Excavation of the Huanbei Shang City in Anyang." Translated by Zhicun Jing. *Chinese Archaeology* 4:1–20. (Originally published in *Kaogu* 2003.5:3–16).

———. 2004b. "A Brief Report on the Excavation of Palatial Compound F1 at the Huanbei Shang City in Anyang, Henan." *Chinese Archaeology* 4:21–28. (Originally published in *Kaogu* 2003.5:17–23).

Appadurai, Arjun. 1986. *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge, UK: Cambridge University Press.

Bagley, Robert. 1999. "Shang Archaeology." In *The Cambridge History of Ancient China*, edited by Michael Loewe and Edward L. Shaughnessy, pp. 124–231. Cambridge: Cambridge University Press.

———. 2004. "Anyang Writing and the Origin of the Chinese Writing System." In *The First Writing: Script Invention as History and Process*, edited by Stephen Houston, pp. 190–249. Cambridge: Cambridge University Press.

Baines, John, and Norman Yoffee. 1998. "Order, Legitimacy, Wealth in Ancient Egypt and Mesopotamia." In *Archaic States*, edited by Gary Feinman and Joyce Marcus, pp. 199–260. Santa Fe: School of American Research Press.

Beijing Daxue Kaogu Xi Shang Zhou Zu 北京大学考古系商周组, and Shaanxisheng Kaogu Yanjiusuo 陕西省考古研究所. 1994. "Shaanxi Yaodian Beicun yizhi 1984 nian fajue baogao" 陕西耀县北村遗址 1984 年发掘报告 (Report on the 1984 Excavations at Beicun, Yaodian, Shaanxi). *Kaoguxue yanjiu* 2.

Blanton, Richard. 1998. "Beyond Centralization: Steps Toward a Theory of Egalitarian Behavior in Archaic States." In *Archaic States*, edited by Gary Feinman and Joyce Marcus, pp. 135–172. Santa Fe: School of American Research Press.

Campbell, Roderick. 2007. "Blood, Flesh, and Bones: Kinship and Violence in the Social Economy of the Late Shang." Unpublished PhD dissertation, Departments of Anthropology and East Asian Languages and Civilizations, Harvard University.

———. 2009. "Toward a Networks and Boundaries Approach to Early Complex Polities: The Late Shang Case." *Current Anthropology* 50 (6):821–848.

———. nd. "A Preliminary Estimation of Anyang Bronze Production." Unpublished manuscript.

Campbell, Roderick, Li Zhipeng, He Yuling, and Yuan Jing. 2011. "Consumption, Exchange, and Production at the Great Settlement Shang: Boneworking at Tiesanlu, Anyang." *Antiquity* 85:1279–1297.

Cao Dazhi 曹大志. 2004. "Erlitou leixing muzang de zai renshi" 二里头类型墓葬的再认识 (Another Look at Erlitou-Variant Tombs). Unpublished manuscript.

Cao Nan 曹楠. 2008. "Sandai shiqi chutu bingxing yuqi yanjiu" 三代时期出土柄型玉器研究 (Research on Three Dynasties-Period Handle-Shaped Jade Artifacts). *Kaogu xuebao* 2008.2:141–174.

Cao Wei 曹玮 (ed). 2010. *Hanzhong chutu Shang dai qingtongqi* 汉中出土商代青铜

器 (Shang Bronzes Unearthed Hanzhong). Chengdu: Ba Shu Shushe.

Chang, K. C. 1980. *Shang Civilization*. New Haven: Yale University Press.

———. 1983. *Art, Myth, and Ritual: The Path to Political Authority in Ancient China*. Cambridge, MA: Harvard University Press.

———. 1985. “Guanyu Zhongguo chuqi ‘chengshi’ zhege gainian” 关于中国初期 ‘城市’ 这个概念 (On the Concept of ‘City’ in Ancient China). *Wenwu* 1985.2:61–67.

———. 1986. *The Archaeology of Ancient China*. 4th edition. New Haven and London: Yale University Press.

Chen Kunlong, Thilo Rehren, Jianjun Mei, and Congcang Zao. 2009. “Special Alloys from Remote Frontiers of the Shang Kingdom: Scientific Study of the Hanzhong Bronzes from Southwest Shaanxi, China.” *Journal of Archaeological Science* 2009.36:2108–2118.

Chen, Tiemei, George Rapp, Jing Zhichun, He Nu. 1999. “Provenance Studies of the Earliest Proto-Porcelain Using Instrumental Neutron Activation Analysis.” *Journal of Archaeological Science* 26:1003–1015.

Chen Xingcan. 2005. “Lithic Production of Early States in China: An Examination of the Development of Craft Specialization.” Paper presented at *Workshop on Early Chinese Civilization*, March 10–12, 2005, University of British Columbia, Vancouver.

Chen, Xingcan, Li Liu, and Chunyan Zhao. 2010. “Salt from Southern Shanxi and the Development of Early States in China.” In *Salt Production in China in a Comparative Perspective: Salt Archaeology in China*, vol. 2, edited by Li Shuicheng and Lothar von Falkenhausen, pp. 42–65. Beijing: Kexue Chubanshe.

Childe, V. Gordon. 1963 [1930]. *The Bronze Age*. New York: Biblio and Tannen.

———. 1950. “The Urban Revolution.” *Town Planning Review* 21: 3–17.

Cohen, David. 2001. “The Yueshi Culture, the Dong Yi, and the Archaeology of Ethnicity in Early Bronze Age China.” Unpublished PhD dissertation, Harvard University.

Creel, Herlee G. 1937. *The Birth of China: A Study of the Formative Period of Chinese Civilization*. New York: Reynal and Hitchcock.

Du Jinpeng 杜金鹏. 2005. “A Preliminary Investigation of Palace Foundation No. 1 at the Huanbei Shang City.” Translated by Rod Campbell. In *Chinese Archaeology*

5:192–199. (Originally published in Chinese in *Wenwu* 2004.5:50–64).

———. 2009. Yinxu yi ershiyi jizhi deng jianzhuyicun yanjiu 殷墟乙二十—基址等建筑遗存研究 (Research on Yinxu Foundation B-21 and Related Structures). *Kaogu* 2009.11:59–69.

Du Jinpeng 杜金鹏, Wang Xuerong 王学容, and Zhang Liangren 张良仁. 1999. “Shilun Yanshi Shangcheng xiaocheng de jige wenti” 试论偃师商城小城的几个问题 (A Preliminary Discussion of Several Questions Concerning the Inner Wall at the Yanshi Shangcheng Site). *Kaogu* 1999.2:35–40.

Erlitou Fieldwork Team, Institute of Archaeology, Chinese Academy of Social Sciences. 2005a. “Prospecting and Excavation of the Palace Complex and the Outside Roads of the Erlitou Site in Yanshi, Henan.” Translated by Zhang Liangren. *Chinese Archaeology* 5:1–9. (Originally published in *Kaogu* 2004.11:3–13).

———. 2005b. “A Large Turquoise Dragon-form Artifact Discovered at the Erlitou Site.” Translated by Zhang Liangren. *Chinese Archaeology* 5:10–12. (Originally published in *Kaogu* 2005.7:15–20).

Falkenhausen, Lothar von. 1993. “On the Historiographical Orientation of Chinese Archaeology.” *Antiquity* 67(257):839–849.

———. 2006. “The External Connections of Sanxingdui.” *Journal of East Asian Archaeology* 5:191–245

Fang Hui. 2009. “Shang wangchao jinglue dongfang de kaoguxue guancha” 商王朝经略东方的考古学观察. (Archaeological Observations Concerning the Eastern Strategy of the Shang Dynasty). In *Duowei shiyu – Shang wangchao yu Zhongguo zhaoqi wenming yanjiu*, edited by Jing Zhichun 荆志淳, Tang Jigen 唐际根, and Ken-ichi Takashima 高嶋謙一, pp. 70–84. Beijing: Kexue Chubanshe.

Fitzgerald-Huber, Louisa G. 1995. “Qijia and Erlitou: The Question of Contacts with Distant Cultures.” *Early China* 20:17–68.

———. 2003. “The Qijia Culture: Paths East and West.” *Bulletin of the Museum of Far Eastern Antiquities* 75:55–78.

Flad, Rowan. 2002. “Ritual or Structure? Analysis of Burial Elaboration at Dadianzi, Inner Mongolia.” *Journal of East Asian Archaeology* 3:23–51.

———. 2008. “Divination and Power: A Multiregional View of the Development of Oracle Bone Divination in Early China.” *Current Anthropology* 49(3):403–438.

Flad, Rowan, and Chen Pochan. 2013. *Ancient Central China: Centers and Peripheries Along the Yangzi River*. Cambridge: Cambridge University Press.

Ford, Anne. 2004. "Ground Stone Tool Production at Huizui, China: An Analysis of a Manufacturing Site in the Yiluo River Basin." *Indo-Pacific Prehistory Association Bulletin* 24:71–78.

Ge, Yan, and Katheryn Linduff. 1990. "Sanxingdui: A New Bronze Age Site in Southwest China." *Antiquity* 64:505–513.

Haapanen, Mina H. 2005. "From a Community to Communities of Practice: The Late Shang Dynasty Site of Miaopu Locus North at Anyang, Henan Province, China." Unpublished PhD dissertation, Cotsen Institute of Archaeology, University of California, Berkeley.

He Yuling 何毓灵. 2011. "Yinxu shougongye shengchan guanli moshi tanxi" 殷墟手工业生产管理模式探析 (A Discussion of Yinxu Craft Production Organization). *Sandai kaogu* 4:279–289.

Hebeisheng Wenwu Yanjiusuo 河北省文物研究所. 1985. *Gaocheng Taixi Shang dai yizhi* 藁城台西商代遗址 (The Shang-Period Site of Gaocheng Taixi). Beijing: Wenwu Chubanshe.

Henansheng Wenwu Kaogu Yanjiusuo 南省文物考古研究所. 1993. "Zhengzhou Xiaoshuangqiao yizhi de diaocha yu shijue" 郑州小双桥遗址的调查与试掘 (Survey and test excavation at the Xiaoshuangqiao site, Zhengzhou). In *Zhengzhou Shangcheng kaogu xin faxian yu yanjiu*: 1985–1992 郑州商城考古新发现与研究. Edited by Henan Sheng Wenwu Yanjiusuo, pp. 242–271. Zhengzhou: Zhongzhou Guji Chubanshe.

———. 1996. "1995 nian Zhengzhou Xiaoshuangqiao yizhi de fajue" 1995年郑州小双桥遗址的发掘 (The 1995 Excavations at the Xiaoshuangqiao Site, Zhengzhou). *Huaxia kaogu* 1996.3:1–23.

———. 2001. *Zhengzhou Shangcheng: 1953–1985 nian kaogu fajue baogao* 郑州商城：1953年–1985年考古发掘报告 (Zhengzhou Shangcheng: 1953–1985 Excavation Report). Beijing: Wenwu Chubanshe.

———. 2008. "Henan Xingyang shi Guandimiao yizhi Shang dai wanqi yicun fajue jianbao" 河南荥阳市关帝庙遗址商代晚期遗存发掘简报 (Preliminary Excavation Report on the Late Shang Remains at the Guandimiao Site, Xingyang City, Henan). *Kaogu* 2008.7:32–46.

Henansheng Wenwu Kaogu Yanjiusuo, Zhengzhou Shi Wenwu Kaogu Yanjiusuo 河南省文物考古研究所, 郑州市文物考古研究所. 1999. *Zhengzhou Shang dai tongqi jiaocangkeng*

郑州商代铜器窖藏坑 (Storage Pits with Shang-Dynasty Bronze Artifacts in the Zhengzhou Area). Beijing: Kexue Chubanshe.

Henansheng Wenwu Kaogu Yanjiusuo 河南省文物考古研究所, and Zhoukoushi Wenwuju 周口市文物局. 2000. *Luyi Taiqinggong Changzikou mu* 鹿邑太清宫长子口墓 (The Tomb of Chang Zi Kou at Taiqinggong, Luyi). Zhengzhou: Zhongzhou guji Chubanshe.

Hu Qianying 胡谦盈. 1979. “Lun Siwa wenhua” 论寺洼文化 (A Discussion of the Siwa Culture). *Wenwu jikan* 2:139–153.

Huang Zhanyue 黄展岳. 2004. *Gudai renxing renxun tonglun*. 古代人牲人殉通论 (A Discussion of Ancient Human Sacrifice and Attendants-in-Death). 2nd edition. Beijing: Wenwu.

Hubeisheng Wenwu Kaogu Yanjiusuo 湖北省文物考古研究所. 2001. *Panlongcheng: 1963–1994 nian kaogu fajue baogao* 盘龙城: 1963–1994年考古发掘报告 (Panlongcheng: 1963–1994 Excavation Report). Beijing: Kexue Chubanshe.

Jiang Gang 蒋刚王. 2008. 夏商西周文化对其西方和北方地区文化渗透的方向性与层级性 Xia Shang Zhou wenhua dui qi xifang he beifang diqu wenhua shentou de fangxiangxing yu cenjixing (The Directional and Hierarchical Nature of the Absorption of Northern and Western Area Cultures by Xia, Shang, and Zhou Cultures). *Kaogu* 12: 53–65.

Jiang Gang 蒋刚王, and Wang Zhigang 志刚. 2010. “Guanyu Weifang sanqi wenhua he Zhangjiayuan shangceng wenhua de zai renshi” 关于围坊三期文化和张家园上层文化的再认识 (A New Understanding Concerning the Weifangsanqi Culture and the Upper Zhangjiayuan Culture). *Kaogu* 2010.5:67–78.

Jiangxisheng Wenwu Kaogu Yanjiusuo 江西省文物考古研究所, Jiangxi Sheng Bowuguan 江西省博物馆, and Xingan Xian Bowuguan 新干县博物馆. 1997. *Xingan Shangdai damu* 新干商代大墓 (The Large Shang-Period Tomb at Xin’gan). Beijing: Wenwu Chubanshe.

Jiangxisheng Bowuguan Kaogu Yanjiusuo, Zhangshu Shi Bowuguan 江西省博物馆考古研究所, 樟树市博物馆. 2005. *Wucheng: 1973~2002 nian kaogu fajue baogao* 吴城 1973–2002年考古发掘报告 (Wucheng: The 1973–2002 Excavation Report). Beijing: Kexue Chubanshe.

Jiang Yude 江雨德 (Roderick B. Campbell). 2011. “Guo zhi da shi: Shangdai wanqi zhong de lizhi gailiang” 国之大事：商代晚期中的礼制改良 (The Great Affairs of the State: The Mid-Late Shang Ritual Reforms). In *Yinxu yu Shang wenhua – Yinxu kexue fajue 80 zhou nian jinnian wenji* 殷墟与商文化 — 殷墟科学发见80周年纪念文集 (Yinxu and Shang Culture: Collection of Papers Commemorating the Eightieth Anniversary of the Scientific Excavation of Yinxu), edited by Zhongguo Shehuikexueyuan Kaogu Yanjiusuo 中国社会科学院考古研究

所, pp. 267–276. Beijing: Kexue chubanshe.

Jianjun Mei, Kunlong Chen, and Wei Cao. 2009. “Scientific Examination of Shang-Dynasty Bronzes from Hanzhong, Shaanxi Province, China.” *Journal of Archaeological Science* 2009.36:1881–1891.

Jin Zhengyao 金正耀. 1990. “Wan Shang Zhongyuan qingtongqi de kuangliao lai yuan” 晚商中原青铜的矿料来源 (Mineralogical Sources of Late Shang Bronzes from the Central Plains). *Disanjie guoji Zhongguo kexueshi taolunhui lunwenji* 第三届中国科学史讨论会论文集 (Collected Papers of the Third International Conference on the History of Chinese Science). Beijing: Kexue Chubanshe.

Jin Zhengyao 金正耀, W. T. Chase, Hirao Yoshimitsu 平尾良光, Mabuchi Hisao 马渊久夫, Yang Xizhang 杨锡璋, and Miwa Karoku 三轮嘉六. 1998. “Zhongguo lianghe liuyu qingtong wenming zhijian de guanxi – yi chutu Shang qingtongqi de qian tongweisu bizhi yanjiu jieguo wei kaocha zhongxin 中国两河流域青铜文明之间的联系 – 以出土商青铜器的铅同位素比值研究结果为考察中心 (Relationships between Bronze Civilizations in the Two River Valleys of China: Focusing on the Results of the Study of Lead Isotopes Ratios from Unearthed Shang Bronzes). Reprinted in *Shang wenhua lunwenji* 商文化论文集 (Collected Studies of the Shang Culture). 2 volumes. 2003. Edited by Li Boqian, pp. 594–602. Beijing: Wenwu Chubanshe.

Jin Zhengyao 金正耀, W. T. Chase, Hirao Yoshimitsu 平尾良光, Peng Shifan 彭适凡, Mabuchi Hisao 马渊久夫, Miwa Karoku 三轮嘉六, and Zhan Kaixun 詹开逊. 1994. “Xingan Shang dai damu qingtongqi de qiantongweisu bizhi yanjiu” 新干商代大墓青铜器的铅同位素比值研究 (A Study of Lead Isotope Ratios in Bronzes from the Shang Tomb at Xin’gan). *Kaogu* 1996.8:744–747.

Jin Zhengyao 金正耀, Mabuchi Hisao 马渊久夫, W. T. Chase, Chen De’an 陈德安, Miwa Karoku 三轮嘉六, Hirao Yoshimitsu 平尾良光, and Zhao Dianzeng 赵殿增. 1995. “Guanghan Sanxingdui yiwukeng qingtongqi de qian tongweisu 广汉三星堆遗物坑青铜器的铅同位素比值研究 (A Study of the Lead Isotope Ratios in the Bronzes from the Sanxingdui Artifact Pits). *Wenwu* 1995.2:80–85.

Jing Zhicun 荆志淳, Xu Guangde 徐广德, He Yuling 何毓灵, and Tang Jigen 唐际根. 2007. “M54 chutu yuqi de dizhi kaoguxue yanjiu” M54 出土玉器的地质考古学研究 (Geographical Research on the Jade Artifacts from M54). In *Anyang Yinxu Huayuanzhuang dongdi Shang dai muzang* 安阳殷墟花园庄东地商代墓葬 (Shang-Dynasty Tombs at Huayuanzhuang Locus East, Yinxu, Anyang), edited by Zhongguo Shehuikexueyuan Kaogu Yanjiusuo 中国社会科学院考古研究所, pp. 345–387. Beijing: Kexue chubanshe.

Jing Zhicun 荆志淳, Tang Jigen 唐际根, He Yuling 何毓灵 and Xu Guangde 徐广德. 2011. “Shangdai yong yu de wuzhi xing” 商代用玉的物质性 (The Materiality of Jade Use in

the Shang Dynasty). In *Yinxu yu Shang wenhua – Yinxu kexue fajue 80 zhou nian jinnian wenji* 殷墟与商文化 — 殷墟科学发见80周年纪念文集 (Yinxu and Shang Culture: Collection of Papers Commemorating the 80th Anniversary of the Scientific Excavation of Yinxu), edited by Zhongguo Shehuikexueyuan Kaogu Yanjiusuo 中国社会科学院考古研究所, pp. 86–117. Beijing: Kexue chubanshe.

Jinzhong Kaogudui 晋中考古队. 1989. “Shanxi Fenyang, Xiaoyi liangxian kaogu diaocha he Xinghuacun yizhi de fajue” 山西汾阳, 孝义两县考古调查和杏花村遗址的发掘 (Archaeological Survey of Fenyang and Xiaoyi Counties, Shanxi, and Excavation of the Xinghuacun Site). *Wenwu* 1989.4:22–30.

Jumahe Kaogudui 拒马河考古队. 1988. “Hebei Yixian Laishui guyizhi shijue baogao” 河北易县涑水古遗址试掘报告 (Report of Trial Excavations at the Laishui Ancient Site in Yi County, Hebei). *Kaoguxuebao* 1988.4:421–454.

Keightley, David. 1973. “Religion and the Rise of Urbanism.” *Journal of the American Oriental Society* 4: 527–538.

———. 1999. “The Shang: China’s First Historical Dynasty.” In *The Cambridge History of Ancient China*, edited by Michael Loewe and Edward L. Shaughnessy. Cambridge, UK: Cambridge University Press.

———. 2000. *The Ancestral Landscape: Time, Space, and Community in Late Shang China*. Berkeley, California: The Institute of East Asian Studies, University of California and the Society for the Study of Early China.

———. 2006. “Marks and Labels: Early Writing in Neolithic and Shang China.” In *Archaeology of Asia*, edited by Miriam Stark, pp. 177–201. Malden: Blackwell.

Kopytoff, Igor. 1986. “The Cultural Biography of Things: Commoditization as Process.” In *The Social Life of Things: Commodities in Cultural Perspective*, edited by Arjun Appadurai, pp. 64–94. Cambridge: Cambridge University Press.

Lee, Gyoung-ah, Gary Crawford, Li Liu, and Xingcan Chen. 2007. “Plants and People from the Early Neolithic to Shang Periods in North China.” *Proceedings of the National Academy of Sciences* 104(3):1087–1092.

Li Chi. 1977. *Anyang*. Seattle: University of Washington Press.

Li Zhongli 李仲立. 1981. “Shilun Xian-Zhou wenhua de yuanliu” 试论先周文化的渊源流 (A Hypothesis Concerning the Origins of the Predynastic Zhou). *Shehuikexue* 1981.1:49–59.

Li Min. 2008. "Conquest, Concord, and Consumption: Becoming Shang in Eastern China." Unpublished PhD dissertation, Department of Anthropology, University of Michigan, Ann Arbor.

Li Shuicheng 李水城. 2005. "Xibei yu Zhongyuan zaoqi yeytongye de quyu tezheng ji jiaohu zuoyong" 西北与中原早期冶铜业的区域特征及交互作用 (Regional Characteristics and Interaction of Early Copper Metallurgy in the Northwestern Region and the Central Plains). *Kaogu Xuebao* 2005.3:239–278.

Li Yung-ti. 2003. "The Anyang Bronze Foundries: Archaeological Remains, Casting Technology, and Production Organization." Unpublished PhD dissertation, Department of Anthropology, Harvard University, Cambridge, MA.

———. 2005. "The Social-political Implications of Multiple Craft-production Areas at Yinxu." Paper presented at Workshop on Early Chinese Civilization, March 10–12, 2005, University of British Columbia, Vancouver.

———. 2007 "Co-Craft and Multicraft: Section-Mold Casting and the Organization of Craft Production at the Shang Capital of Anyang." In *Craft Production in Complex Societies: Multicraft and Producer Perspectives*. Edited by Izumi Shimada, pp. 184–223. University of Utah Press, Salt Lake City.

Li Zhipeng 李志鹏, Jiang Yude 江雨德 (Rod Campbell), Yuan Jing 袁靖, He Yuling 何毓灵. 2010. Yinxu Tiesanlu zhiguzuofang yizhi chutu zhigu yicun de chubu fenxi yu renshi 殷墟铁三路制骨作坊遗址出土制骨遗存的初步分析与认识 (A Preliminary Analysis of the Bone-working Remains from the Bone Workshop Site of Tiesanlu, Yinxu). *Zhongguo Wenwubao*, Sept. 17, p. 7.

Li Zhipeng 李志鹏, He Yuling 何毓灵, and Jiang Yude 江雨德 (Roderick Campbell). 2011. Yinxu Wan Shang zhigu zuofang yu zhigu shougongye de yanjiu huigu yu zai tantao 殷墟晚商制骨作坊与制骨手工业的研究回顾与再探讨 (Reflections on Research Concerning Late Shang Bone Workshops and Bone Working). *Sandai Kaogu* 4:471–486.

Liaoningsheng Bowuguan Wenwu Gongzuodui 辽宁省博物馆文物工作队. 1977. "Liaoning Chaoyang Weiyngzi Xizhou mu he guyizhi" 辽宁朝阳魏营子西周墓和古遗址 (Western Zhou Tombs and the Ancient Site at Weiyngzi, Chaoyang, Liaoning). *Kaogu* 5:306–312.

Liu Li. 2004. *The Chinese Neolithic: Trajectories to Early States*. Cambridge, UK: Cambridge University Press.

———. 2009. "Zhongguo zaoqi guojia zhengzhi geju de bianhua" 中国早期国家格局的变化 (The Changing Pattern of Early Chinese States). In *Duowei shiyu – Shang wangchao yu*

Zhongguo zhaoqi wenming yanjiu, edited by Jing Zhichun 荆志淳, Tang Jigen 唐际根 and Ken-ichi Takashima 高嶋謙一, pp. 152–170. Beijing: Kexue Chubanshe.

Liu Li and Chen Xingcan. 2001. “Cities and Towns: The Control of Natural Resources in Early States, China.” *Bulletin of the Museum of Far Eastern Antiquities* 73:5–47.

———. 2003. *State Formation in Early China*. London: Duckworth.

Liu Li, Chen Xingcan, and Li Baoping. 2007. “Non-state Crafts in the Early Chinese State: An Archaeological View from the Chinese Hinterland.” *Indo-Pacific Prehistory Association Bulletin* 27:93–102.

Liu Li and Xu Hong. 2007. “Rethinking Erlitou: Legend, History, and Chinese Archaeology.” *Antiquity* 81:886–900.

Liu Shi'e 刘士莪 (Editor). 2001. *Laoniupo: Xibei Daxue kaogu zhuan ye tian ye fajue baogao* 老牛坡: 西北大学考古专业田野发掘报告 (Field Report on the 1985–1988 Excavations at Laoniupo by the Northwest University Archaeology Program). Xi'an: Shaanxi Renmin Chubanshe.

Liu Senmiao 刘森淼. 2002. “Panlongcheng waiyuan daizhuang hangtu yiji de chubu renshi” 盘龙城外缘带状夯土遗址的初步认识 (A Preliminary Understanding of the Belt of Rammed-Earth Foundations Outside the Walls of Panlongcheng). *Wuhan Wenbo* 1:12–15.

Liu Xu 刘绪. 2001. “Youguan Xiandai niandai he Xia wenhua cennian de jidian kanfa”. 有关夏代年代和夏文化测年的几点看法 (A Few Thoughts Concerning the Chronology of the Xia Dynasty and the Dating of the Xia Culture). *Zhongyuan wenwu* 2001.2:32–33.

Luan Fengshi 栾丰实. 1997a. “Yueshi wenhua de fenqi yu leixing” 岳石文化的分期与类型 (The Chronology and Typology of the Yueshi Culture). In *Haidai diqu kaogu yanjiu*. 海岱地区考古研究 (Archaeological Research in the Haidai Area), pp. 364–374. Jinan: Shandong Daxue Chubanshe.

———. 1997b. “Lun Yueshi wenhua de lai yuan.” 论岳石文化的来源 (On the Origins of the Yueshi Culture). In *Haidai diqu kaogu yanjiu* 海岱地区考古研究 (Archaeological Research in the Haidai Area), pp. 318–347. Jinan: Shandong Daxue Chubanshe.

Luo Tai 罗泰 (Lothar von Falkenhausen). 2010. “Hanjiang shangliu pendu de qingtong shidai de ruogan guancha” 汉江上流盆地的青铜时代的若干观察 (The Bronze Age in the Upper Han River Basin: Some Observations). In *Hanzhong chutu Shang dai qingtongqi* 汉中出土商代青铜器 (Shang Bronzes from Hanzhong), 4 vols., edited by Cao Wei 曹玮, pp. 517–569. Chengdu: Ba Shu Shushe.

Mei, Jianjun, Kunlong Chen, Wei Cao. 2009. "Scientific Examination of Shang-Dynasty Bronzes from Hanzhong, Shaanxi Province, China." *Journal of Archaeological Science* 36:1881–1891.

Moseley, Michael. 2001. *The Incas and Their Ancestors: The Archaeology of Peru*. London: Thames and Hudson.

Nan Yuquan 南玉泉. 1989. "Xindian wenhua xulie ji qi yu Kayue, Siwa de guanxi" 辛店文化序列及其与卡约、寺洼文化的关系 (The Xindian Culture Sequence and Its Relationship to the Kayue and Siwa Cultures). In *Kaoguxue leixingxue de lilun yu shijian* 考古学类型学的理论与实践 (The Theory and Practice of Archaeological Classification), edited by Yu Weichao 俞伟超, pp. 73–109. Beijing: Wenwu Chubanshe.

Neimenggu Zizhiqu Wenwu Kaogu Yanjiusuo, Eerduosi Bowuguan 内蒙古自治区文物考古研究所, 鄂尔多斯博物馆. 2000. *Zhukaigou: Qingtongshidai zaoqi yizhi fajue baogao* 朱开沟: 青铜时代早期遗址发掘报告 (Zhukaigou: Excavation Report on an Early Bronze Age Site). Beijing: Wenwu Chubanshe.

Peng Ke and Zhu Yanshi. 1995. "New Research on the Origins of Cowries Used in Ancient China." *Sino-Platonic Papers*, no. 68. Philadelphia: Department of Asian and Middle Eastern Studies, University of Pennsylvania.

Peng, Minghan 彭明瀚. 2004. "Ganjiang Poyanghuqu Shangdai wenhua de quxi leixing yanjiu" 赣江鄱阳湖区商代文化的区系类型研究 (A Regional-Typological Study of Shang-Period Cultures in the Ganjiang River and Poyang Lake Area). *Kaogu* 2004.3:68–79.

Piggott, Stuart. 1974. "Chariots in the Caucasus and in China." *Antiquity* 48:16–24.

Qiu Shihua 仇士华, Cai Lianzhen 蔡莲珍, Xian Ziqiang 冼自强, Bo Guancheng 薄管成. 1983. "Youguan suowei Xia wenhua de tanshisi niandai ceding de chubu baogao" 有关所谓夏文化的碳十四年代测定的初步报告 (A Preliminary Report on the Carbon-14 Dates of the So-Called 'Xia Culture'). *Kaogu* 1983.10:923–926.

Qiu Shihua 仇士华, Cai Lianzhen 蔡莲珍, and Zhang Xuelian 张雪莲. 2006. "Guanyu Erlitou wenhua de niandai wenti" 关于二里头文化的年代问题 (Concerning the Problem of the Dates of the Erlitou Culture). In *Erlitou yizhi yu Erlitou wenhua yanjiu* 二里头遗址与二里头文化研究 (Research on the Erlitou Site and Erlitou Culture), edited by Du Jinpeng and Xu Hong, pp. 321–333. Beijing: Kexue Chubanshe.

Rawson, Jessica (ed.). 1996. *Mysteries of Ancient China: New Discoveries from the Early Dynasties*. New York: George Braziller.

Ren Xianghong 仁相宏. 1996. "Yueshi wenhua de faxian yu yanjiu" 岳石文化的发现与研究

(The Discovery and Study of the Yueshi Culture). *Zhongguo kaoguxuehui dibaci nianhui lunwenji*. 中国考古学会第八次年会论文集 (Collected Papers From the Eighth Annual Meeting of the Chinese Archaeological Society). Beijing: Wenwu Chubanshe.

Saito Tsutomu, Rubin Han, Shuyun Sun, Congqiang Liu. 2002. "Preliminary Consideration of the Source of Lead Used for Bronze Objects in Chinese Shang Dynasty—Was It Really from the Boundary Along Sichuan, Yunnan, and Guizhou Provinces?" In *BUMA-V: Proceedings of the Fifth International Conference on the Beginnings of the Use of Metals and Alloys. Messages from the History of Metals to the Future Metal Age: April 21–24, 2002, Gyeongju, Korea*. Edited by Gyu-Ho Kim, Kyung-Woo Yi, and Hyung-Tai Kang, pp.xx. Seoul: Korean Institute of Metals and Materials.

Shandong Daxue Dongfang Kaogu Yanjiu Zhongxin, Shandongsheng Wenwu Kaogu Yanjiusuo, Jinan Shi Kaogu Yanjiusuo 山东大学东方考古研究中心, 山东省文物考古研究所, 济南市考古研究所. 2003. "Jinan Shi Daxinzhuang yizhi chutu Shangdai jiaguwen" 济南市大辛庄遗址出土商代甲骨文 (Shang-Period Oracle-Bones Discovered at the Daxinzhuang Site, Jinan). *Kaogu* 2003.6:3–6.

———. 2004. "Jinan Shi Daxinzhuang Shangdai Juzhi yu Muzang" 济南市大辛庄商代居址与墓葬 (Settlement Site and Tombs of the Daxinzhuang Site, Jinan). *Kaogu* 2004.7:25–33.

Shandong Sheng Wenwu Kaogu Yanjiusuo 山东省文物考古研究所, Beijing Daxue Zhongguo Kaoguxue Yanjiu Zhongxin 北京大学中国考古学研究中心 and Shouguangshi Wenhua Ju 寿光市文化局. 2010. "Shandong Shouguangshi Shuangwangcheng yanye yizhi 2008 nian de fajue" 山东寿光市双王城盐业遗址2008年的发掘 (The 2008 Excavations at the Salt-Production Site of Shuangwangcheng, Shouguang City, Shandong). *Kaogu* 2010.3:18–36.

Shandong Sheng Wenwu Kaogusuo 山东省文物考古研究所, Beijing Daxue Zhongguo Kaoguxue Yanjiu Zhongxin 北京大学中国考古学研究中心, Shandong Shifan Daxue Qi Lu Wenhua Yanjiu Zhongxin 山东师范大学齐鲁文化研究中心, Binzhou Shi Wenwu Guanlichu 滨州市文物管理处. 2010. "Shandong Yangxin xian Liwu yizhi Shangdai yicun fajue jianbao" 山东阳信县李屋遗址商代遗存发掘简报 (Preliminary Excavation Report of the Shang-Period Remains from the Site of Liwu, Yangxin County, Shandong). *Kaogu* 2010.3:3–17.

Shanxisheng kaogu yanjiusuo 山西省考古研究所. 2006. "Lingshi Jingjie Shangmu" 灵石旌介商墓 (The Shang Tombs at Jingjie, Lingshi). Beijing: Kexue Chubanshe.

Shaughnessy, Edward. 1988. "Historical Perspectives on the Introduction of the Chariot into China." *Harvard Journal of Asiatic Studies* 48.1:189–237.

Shelach, Gideon. 1994. "Social Complexity in North China During the Early Bronze Age: A Comparative Study of the Erlitou and Lower Xiajiadian Cultures." *Asian Perspectives*

33(2):261–291.

———. 1996. “The Emergence of Complex Society in Northeast China from the Fourth to the First Millennia B.C.: A Perspective from the Chifeng Area of Inner Mongolia.” PhD dissertation, University of Pittsburgh, PA.

———. 1999. Leadership Strategies, Economic Activity, and *Interregional Interaction: Social Complexity in Northeast China*. New York: Kluwer/Plenum.

Shen Bin 申斌. 1991. “‘Fuhaomu’ yuqi cailiao tanyuan” ‘妇好墓’ 玉器材料探源 (Investigation into the Source of Jade Artifacts in the Fu Hao Tomb). *Zhongyuan wenwu* 1991.1:73–77.

Shen Chen. 1994. “Early Urbanization in the Eastern Zhou in China (770–221 B.C.): An Archaeological View.” *Antiquity* 68:724–744.

———. 2003. “Compromises and Conflicts: Production and Commerce in the Royal Cities of Eastern Zhou, China.” In *The Social Construction of Ancient Cities*, edited by Monica Smith, pp. 290–310. Washington: Smithsonian Books.

Shih Chang-ju 石璋如. 1933. “Diqici Yinxu fajue: E-qu gongzuo baogao” 第七此殷墟發掘：E區工作報告 (The Seventh Excavation at Yinxu: Report on Work in Area E). *Anyang fajue baogao* 4:709–728.

———. 1951. “Xiaotun C-qu de muzangqun” 小屯C區的墓葬羣 (The Burial Group at Area C, Xiaotun). *Bulletin of the Institute of History and Philology* 23:447–487.

———. 1954. “Yindai di shang jianzhu fuyuan zhi yi li” 殷代地上建築復原之一例 (Reconstructing Yin-Dynasty Surface Architecture: One Example). *Annals of the Academia Sinica* 1954.1:267–280.

———. 1955. “Xiaotun Yindai de jianzhu yiji” 小屯殷代的建築遺蹟 (Architectural Remains at Yin-Dynasty Xiaotun). *Bulletin of the Institute of History and Philology* 26:131–188.

———. 1959. *Yinxu jianzhu yicun* 殷墟建築遺存 (Architectural Remains from Yinxu). Taipei: Institute of History and Philology, Academia Sinica.

———. 1961. “Xiaotun Yindai bingzu muzhi jiqi you guan xianxiang” 小屯殷代丙組墓址及其有關現象 (The Yin-Dynasty Bing Group Tombs at Xiaotun and Some Related Phenomenon). In *Qingzhu Dong Zuobin xiansheng liushiwu sui lunwenji* 慶祝董作賓先生六十五歲論文集 (Papers Presented to Mr. Tung Tso-pin on His Sixty-fifth Birthday), pp. 781–802. Taipei: Institute of History and Philology, Academia Sinica.

———. 1970. “Yindai di shang jianzhu fuyuan de dier li” 殷代地上建築復原的第二例 (Reconstructing Yin-Dynasty Surface Architecture: A Second Example). *Bulletin of the Institute of Ethnology*, Academia Sinica 29:321–341.

———. 1976a. Yindai di shang jianzhu fuyuan de disan li 殷代地上建築復原的第三例 (Reconstructing Yin-Dynasty Surface Architecture: A Third Example). *Bulletin of the Department of Archaeology and Anthropology*, National Taiwan University 39/40:140–157.

———. 1976b. *Yiqu jizhi shang xia de muzang* 乙區基址上下的墓葬(The Tombs Above and Below the Foundations in Area Yi). Taipei: Institute of History and Philology, Academia Sinica.

Sichuan Sheng Wenwu Kaogu Yanjiusuo 四川省文物考古研究所 (ed.). 1999. *Sanxingdui jisikeng* 三星堆祭祀坑 (The Sanxingdui Sacrificial Pits). Beijing: Wenwu Chubanshe.

Smith, Adam. 2008. “Writing at Anyang: The Role of the Divination Record in the Emergence of Chinese Literacy.” Unpublished Ph.D. dissertation, Cotsen Institute of Archaeology, University of California, Los Angeles.

Smith, Monica. 2003. “Introduction: The Social Construction of Ancient Cities.” In *The Social Construction of Ancient Cities*, edited by Monica Smith, pp. 1–36. Washington, D.C.: Smithsonian Books.

So, Jenny. 2001. “Jade and Stone at Sanxingdui.” In *Ancient Sichuan: Treasures from a Lost Civilization*, edited by Robert Bagley, pp. 153–176. Seattle and Princeton: Seattle Art Museum and Princeton University Press.

Sun Hua 孙华. 2000. *Sichuan pendi de qingtong shidai* 四川盆地的青铜时代 (The Bronze Age of the Sichuan Basin). Beijing: Kexue Chubanshe.

———. 2009. Shang dai qianqi de guojia zhengti --- cong Erligang wenhua chengzhi he gongshi jianzhu jizhi de jiaodu 商代前期的国家政体 ——从二里冈文化城址和宫室建筑基址的角度 (The Early Shang-Dynasty State Regime: From the Perspective of Erligang-Culture Wall and Palace Architectural Remains). In *Duowei shiyu – Shang wangchao yu Zhongguo zhaoqi wenming yanjiu*, edited by Jing Zhichun 荆志淳, Tang Jigen 唐际根, and Ken-ichi Takashima 高嶋謙一, pp. 171–197. Beijing: Kexue Chubanshe.

Tang Jigen. 2004. “The Social Organization of Late Shang China: A Mortuary Perspective.” Unpublished Ph.D. dissertation, Archaeology, University College London.

Tang Jigen 唐际根 and Jing Zhicun 荆志淳. 2009. “Anyang de ‘Shang yi’ yu ‘Da Yi’

Shang’ ” 安阳的 “商邑” 与 “大邑商” (Anyang’s “Shang Settlements” and “Great Settlement Shang”). *Kaogu* 2009.9:70–80.

Tang Jigen 唐际根, Jing Zhicun 荆志淳, He Yuling 何毓灵. 2010. “Huanbei Shangcheng gongdianqu yi, erhao hangtu jizhi jianzu fuyuan yanjiu” 洹北商城宫殿区一、二号夯土基址建筑复原研究 (Architectural Reconstruction Research on Rammed-Earth Foundations 1 and 2 within the Palace Area of Huanbeishangcheng). *Kaogu* 2010.1:23–35.

Thorp, Robert. 1988. “The Archaeology of Style at Anyang: Tomb 5 in Context.” *Archives of Asian Art* 41:47–69.

———. 1991. “Erlitou and the Search for the Xia.” *Early China* 16:1–38.

———. 2006. *China in the Early Bronze Age: Shang Civilization*. Philadelphia: University of Pennsylvania Press.

Tong Weihua 佟伟华. 2003. “Shangdai qianqi Yuanqu pendi tongzhi zhongxin – Yuanqu Shangcheng” 商代前期垣曲盆地统治中心 – 垣曲商城 (The Early Shang Period Center of Political Control in the Yuanqu Basin: The Shang Walled Site at Yuanqu). In *Shang wenhua lunwenji* 商文化论文集 (Collected Studies of the Shang Culture). 2 volumes. Edited by Li Boqian 李伯谦, pp. 455–469. Beijing: Wenwu Chubanshe.

Underhill, Anne P. 2002. *Craft Production and Social Change in Northern China*. New York: Kluwer Academic Publishers.

———. 2006. “Warfare and the Development of States in China.” In *The Archaeology of Warfare: Prehistories of Raiding and Conquest*, edited by Elizabeth Arkush and Mark Allen, pp. 253–285. Gainesville: University of Florida Press.

Wang Jinxian 王进先. 1982. “Shanxi Zhangzhishi jianxuan zhengji de Shangdai qingtongqi” 山西长治市拣选征集的商代青铜器 (Selections of Shang-Period Bronze Vessels Collected in Zhangzhi City, Shanxi). *Wenwu* 1982.9:49–52.

Wang Lixin 王立新. 1998. *Zao Shang wenhua yanjiu* 早商文化研究 (Research on Early Shang Culture). Beijing: Gaodeng Jiaoyu Chubanshe.

———. 2009. “Ye tan wenhua xingcheng de xiehouxing – yi zhao Shang yu Erlitou de zhihouxing” 也谈文化形成的滞后性 – 以早商文化与二里头文化为例. (Another Discussion of the Time Lag in Cultural Formation: Using the Early Shang and Erlitou as Examples). *Kaogu* 2009.12:47–55.

Wang Ming-ke. 1992. “The Ch’iang of Ancient China through the Han Dynasty: Ecological Frontiers and Ethnic Boundaries.” Unpublished PhD dissertation, East Asian

Languages and Civilizations, Harvard University.

Wang Wei 王巍. 2005. “Yanshi Shangcheng kaogu xin jinzhan ji qi xiangguan wenti” 偃师商城考古新进展及其相关问题 (New Archaeological Advances at Yanshi Shangcheng and Some Related Issues). In *Yanshi Shangcheng yizhi yanjiu* 偃师商城遗址研究 (Research on the Yanshi Shangcheng Site), edited by Du Jinpeng 杜金鹏, Wang Xuerong 王学容, pp. 249–262. Beijing: Kexue Chubanshe.

Wang Weilin 王炜林, Sun Zhouyong 孙周勇. 2011. “Shimao yuqi de niandai ji xiangguan wenti” 石峁玉器的年代及相关问题 (The Date of the Shimao Jades and Related Questions). *Kaogu yu wenwu* 2011.4:40–49.

Wang Xuerong 王学容. 1999. “Yanshi Shangcheng buju de tansuo he sikao” 偃师商城布局的探索和思考 (Investigation and Thoughts Concerning the Layout of Yanshi Shangcheng). *Kaogu* 1999.2:24–34.

———. 2000. “Henan Yanshi Shangcheng di er hao jianzhuqun yizhi yanjiu” 河南偃师商城第II号建筑群遗址研究 (Research on the Site of Building Group II at Yanshi Shangcheng in Henan Province). *Huaxia kaogu* 2000.1:41–60.

Wang Xun 王迅. 1994. *Dongyi wenhua yu Huaiyi wenhua yanjiu*. 东夷文化与淮夷文化研究 (Research on the Eastern Yi and Huai Yi Cultures). Beijing: Beijing Daxue Chubanshe.

Webb, John, Anne Ford, and Justin Gorton. 2007. “Influences on Selection of Lithic Raw Material Sources at Huizui, a Neolithic/Early Bronze Age Site in Northern China.” *Indo-Pacific Prehistory Association Bulletin* 27:76–86.

Wheatley, Paul. 1971. *Pivot of the Four Quarters: A Preliminary Inquiry into the Origin and Character of the Ancient Chinese City*. Chicago: Aldine Publishing Company.

Willey, G. R. , and P. Phillips. 1958. *Method and Theory in American Archaeology*. Chicago and London: University of Chicago Press.

Xibeidaxue Wenbo Xueyuan 西北大學文博學院. 2002. *Chenggu Baoshan—1998 nian fajue baogao* 城固宝山—1998 年发掘报告 (Chenggu Baoshan: 1998 Excavation Report). Beijing: Wenwu Chubanshe.

Xia Hanyi 夏含夷 (Shaughnessy, Edward L.). 2005. *Gushi yiguan* 古史異觀 (Alternative Views on Ancient History). Shanghai: Shanghai Guji Chubanshe.

Xia Nai 夏鼐. 1949. “Lintao Siwashan fajueji” 临洮寺洼山发掘记 (Memoirs of the Excavation of Siwashan, Lintao). *Kaogu xuebao* 1949.4:71–138.

Xia Shang Zhou Duandai Gongcheng Zhuanjiazu 夏商周断代工程专家组. 2000. *Xia Shang Zhou duandai gongcheng: 1996–2000 nian jieduan chengguo baogao* 夏商周断代工程：1996–2000年阶段成果报告(简本) (The Xia, Shang, Zhou Chronology Project: 1996–2000 Report (abridged version)). Beijing: Shijie tushu Chubanshe.

XiangTaochu 向桃初. 2006. Xiangjiang liuyu Shang Zhou qingtong wenming yanjiu de zhongyao tupo 湘江流域商周青铜文明研究的重要突破. (An Important Breakthrough in the Study of the Shang-Zhou Bronze Civilization of the Xiang River). *Nanfang wenwu* 2006.2:68–80.

———. 2008. *Xiangjiang liuyu Shang Zhou qingtong wenming yanjiu* 湘江流域商周青铜文化研究 (A Study of the Shang-Zhou Bronze Civilization of the Xiang River). 2 vols. Beijing: Xianzhuang shuju.

Xinhua, October 30, 2012. “Chinese Scientists Identify Largest Neolithic City.” Xinhua 2012, http://www.china.org.cn/china/Off_the_Wire/2012-10/30/content_26940312.html.

Xu Hong 许宏, Chen Guoliang 陈国梁, Zhao Haitao 赵海涛. 2004. “Erlitou yizhi juluo xingtai de chubu kaocha” 二里头遗址聚落形态的初步考察 (A Preliminary Investigation of the Settlement Pattern of the Erlitou Site). *Kaogu* 2004.11: 23–31.

———. 2005. “A Preliminary Investigation of the Settlement Pattern of the Erlitou Site.” Translated by Zhang Liangren. *Chinese Archaeology* 5:13–18. (Originally published in *Kaogu* 2004.11:23–31).

Xu, Jay. 2001a. “Introduction Part I: Sichuan Before the Warring States.” In *Ancient Sichuan: Treasures from a Lost Civilization*, edited by Robert Bagley, pp. 21–38. Seattle and Princeton: Seattle Art Museum and Princeton University Press.

———. 2001b. “Bronze at Sanxingdui.” In *Ancient Sichuan: Treasures from a Lost Civilization*, edited by Robert Bagley, pp. 59–152. Seattle and Princeton: Seattle Art Museum and Princeton University Press.

———. 2006. “Defining Archaeological Cultures at the Sanxingdui Site.” *Journal of East Asian Archaeology* 5:149–190.

———. 2008. “The Sanxingdui Site: Art and Archaeology.” Unpublished PhD dissertation, Department of Art and Archaeology, Princeton University.

Xu Xusheng 徐旭生. 1959. “1959 nian xia Yuxi diaocha ‘Xiaxu’ de chubu baogao” 1959年夏豫西调查“夏墟”的初步报告 (Preliminary Report of the Surveys in the Ruins of Xia in 1959). *Kaogu* 1959.11:592–600.

Yan Wenming 严文明. 1986. "Jiaodong yuanshi wenhua chutan" 胶东原始文化初探 (A Preliminary Discussion of Jiaodong Primitive Culture). In *Shandong shiqian wenhua lunwenji* 山东史前文化论文集 (Collected Papers on Shandong Prehistory), edited by Shandong Sheng "Qi Lu Kaogu Congkan" Bianjibu 山东省《齐鲁考古丛刊》编辑部, pp. 63–95. Jinan: Qi Lu Shushe.

Yang Xizhang 杨锡璋 and Tang Jigen 唐际根. 1999. "Yubei Jinan diqu de zhong Shang yicun yu Pangeng yi qian de Shangdu qiantu 豫北冀南地区的中商遗存与盘庚以前的商都迁徙 (Middle Shang Remains in Northern Henan, Southern Hebei, and the Movements of the Shang Capital Before Pangeng)." In *Sandai wenming yanjiu* 1:248–256. Beijing: Kexue Chubanshe.

Yates, Robin. 1997. "The City-State in Ancient China." In *The Archaeology of City-States: Cross Cultural Approaches*, edited by Deborah Nichols and Thomas Charlton, pp. 71–90. Washington: Smithsonian Institution Press.

Yinxu Xiaomintun Kaogudui. 2007. "Henan Anyangshi Xiaomintun Shangdai fangzhi 2003–2004 nian fajue jianbao" 河南安阳市小屯商代房址2003–2004年发掘简报 (Preliminary Report on the 2003–2004 House-Features at Xiaomintun, Anyang City, Henan). *Kaogu* 2007.1:3–13.

Yin Wei-chang. 1986. "A Reexamination of Erh-li-t'ou Culture." In *Studies of Shang Archaeology*. Edited by K. C. Chang. New Haven: Yale University Press.

Yoffee, Norman. 2005. *Myths of the Archaic State*. Cambridge, UK: Cambridge University Press.

You Rende 尤仁德. 2002. *Gudai yuqi tonglun* 古代玉器通论 (A General Survey of Ancient Jade Artifacts). Beijing: Zijinchen Chubanshe.

Yuan Guangkuo 袁广阔 and Qin Xiaoli 秦小丽. 2000. "Henan Jiaozuo Fucheng yizhi fajue baogao" 河南焦作府城遗址发掘报告 (Excavation Report for the Fucheng Site, Jiaozuo, Henan). *Kaogu xuebao* 2000.4:501–536.

Yuan Guangkuo 袁广阔 and Zeng Xiaomin 曾晓敏. 2004. "Lun Zhengzhou Shangcheng neicheng he waiguocheng guanxi" 论郑州商城内城和外郭城关系 (Some Problems on the Relationship between the Inner and Outer Walls of the Shang City at Zhengzhou). *Kaogu* 3:59–67.

Yuan Guankuo and Zeng Xiaomin. 2005. "Relationship between the Inner and Outer Walls at the Zhengzhou Shang City." Translated by Rod Campbell. *Chinese Archaeology* 5:188–191. (Originally published in *Kaogu* 2004.3:59–67).

Yuan Jing and Rowan Flad. 2003. "Two Issues Concerning Ancient Domesticated Horses in China." *Bulletin of the Museum of Far Eastern Antiquities* 73:111–127.

———. 2005. "New Zooarchaeological Evidence for Changes in Shang-Dynasty Animal Sacrifice." *Journal of Anthropological Archaeology* 24(3):252–70.

Yuan Jing 袁靖, Huang Yunping 黄蕴平, Yang Mengfei 杨梦菲, Lü Peng 吕鹏, Tao Yang 陶洋, and Yang Jie 杨杰. 2007. "Gongyuanqian 2500 nian ~ gongyuanqian 1500 nian Zhongyuan diqu dongwu kaogu yanjiu: yi Taosi, Wangchenggang, Xinzhai he Erlitou yizhi wei li" 公元前 2500 ~ 公元前 1500 年中原地区动物考古研究 ——以陶寺, 王城岗, 新砦和二里头遗址为例 (Research into the Zooarchaeology of the Central Plains, 2500–1500 BC: The Cases of Taosi, Wangchenggang, Xinzhai, and Erlitou). *Keji Kaogu* 2:12–34.

Yuan Jing and Roderick Campbell. 2009. "Recent Archaeometric Research on the 'Origins of Chinese Civilization.'" *Antiquity* 83:96–109.

Zhang Changshou 张长寿 and Liang Xingpeng 梁星彭. 1989. "Guanzhong Xianzhou qingtong wenhua de leixing yu Zhou wenhua de lai yuan" 关中先周青铜文化的类型与周文化的渊源 (The Typology of Guanzhong Proto-Zhou Bronze Culture and the Origins of Zhou Culture). *Kaoguxuebao* 1989.1:1–24.

Zhang Guoshuo 张国硕. 1989. "Yueshi wenhua lai yuan chutan" 岳石文化来源初探 (Preliminary Discussion of Origins of the Yueshi Culture). *Zhengzhou daxue xuebao* 1:1–5.

Zhang Li 张莉. 2012. "Cong Longshan dao Erlitou—yi Songshan nan bei wei zhongxin" 从龙山到二里头——以嵩山南北为中心 (Social Transformation from the Longshan Period to the Erlitou Period: Songshan and Beyond). Unpublished PhD dissertation, School of Archaeology and Museology, Peking University.

Zhang Xuezheng 张学正, Shui Tao, 水涛, Han Chongfei 韩翀飞. 1993. "Xindian wenhua yanjiu" 辛店文化研究 (Research into Xindian Culture). In *Kaoguxue wenhua lunwenji* 考古学文化论集 (Collected Papers on Archaeological Cultures), edited by Su Bingqi 苏秉琦, pp. 122–152. Beijing: Wenwu Chubanshe.

Zhao Huacheng 赵化成. 1989. "Gansu dongbu Qin he Qiang Rong wenhua de kaoguxue tansuo" 甘肃东部秦和羌戎文化的考古学探索 (Archaeological Exploration of Qin and Qiang-Rong Culture in Eastern Gansu). In *Kaoguxue leixingxue de lilun yu shijian* 考古学类型学的理论与实践 (The Theory and Practice of Archaeological Classification), edited by Yu Weichao 俞伟超, pp.145–176. Beijing: Wenwu Chubanshe.

Zhao Zhijun 赵志军. 2007. "Gongyuanqian 2500 nian ~ gongyuanqian 1500 nian Zhongyuan diqu nongye jingji yanjiu" 公元 2500 年 ~ 公元前 1500 年中原农业经济研究

(Research into the Agricultural Economy of the Central Plains, 2500–1500 BC). *Keji Kaogu* 2:1–11.

Zhao Zhiquan 赵芝荃. 1986. “Guanyu Erlitou wenhua leixing yu fenqi de wenti.” 关于二里头文化类型与分期的问题. (Concerning the Issues of Erlitou Culture Variants and Chronology). In *Zhongguo kaoguxue yanjiu—Xia Nai Xiansheng kaogu wushinian jinianhui wenji (er)*. 中国考古学研究——夏鼐先生考古五十年纪念文集 (二) (Research in Chinese Archaeology: Collected Papers in Commemoration of Xia Nai’s Fifty Years of Archaeology [2]), edited by Zhongguo Kaoguxue Yanjiu Bianweihui 中国考古学研究编委会 pp. xx. Beijing: Kexue Chubanshe.

Zhejiang Sheng Wenwu Kaogu Yanjiusuo 浙江省文物考古研究所, Huzhou Shi Bowuguan 湖州市博物馆, and Deqingxian Bowuguan 德清县博物馆. 2011. “Zhejiang dong Tiaoxi zhongliu Shangdai yuanshici yaozhicun” 浙江东苕溪中流商代原始瓷窑址群 (The Shang-Dynasty-Period Protoporcelain Kiln Site Cluster in the Middle Reaches of the Tiaoxi, Eastern Zhejiang). *Kaogu* 2011.7:3–23.

Zheng Guang 郑光. 2005. “Yanshi Erlitou Yizhi” 偃师二里头遗址 (The Yanshi Erlitou Site). Reprinted in *Yanshi Erlitou yizhi yanjiu* 偃师二里头遗址研究 (Research on the Yanshi Erlitou site), edited by Du Jinpeng 杜金鹏 and Xu Hong 许宏, p. 795. Beijing: Kexue Chubanshe.

Zheng Jiexiang 郑杰祥. 1988. *Xia shi chutan*. 夏史初探 (Preliminary Investigations into Xia History). Zhengzhou: Zhongzhou Chubanshe.

Zhengzhou Daxue Wenboyuan 郑州大学文博院 and Kaifengshi Wenwu Gongzuodui 开封市文物工作队. 2000. *Yudong Qixian fajue baogao* 豫东杞县发掘报告 (Excavation Report from Qi County, Eastern Henan). Beijing: Kexue Chubanshe.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo 中國社會科學考古研究所. 1956. *Huixian fajue baogao* 辉县发掘报告 (Excavation Report from Hui County). Beijing: Kexue Chubanshe.

———. 1980. *Yinxu Fuhao mu* 殷墟妇好墓 (The Tomb of Fu Hao of Yinxu). Beijing: Wenwu Chubanshe.

———. 1987a. *Yinxu fajue baogao* (1958–1961) 殷墟发掘报告 (1958–1961) (Yinxu Excavation Report [1958–1961]). Beijing: Wenwu Chubanshe.

———. 1987b. “Yinxu 259, 260 hao mu fajue baogao” 殷墟 259, 260 号墓发掘报告 (Yinxu 259, 260 hao mu fajuebaogao). *Kaoguxuebao* 1987.1:99–117.

———. 1994. *Yinxu de faxian yu yanjiu* 殷墟的发现与研究 (The Discovery and Research of Yinxu). Beijing: Kexue Chubanshe.

———. 1996. *Dadianzi ---- Xiajiadianxiaceng wenhua yizhi yu mudi fajue baogao* 大甸子——夏家店下层文化遗址与墓地发掘报告 (Dadianzi: Excavation of a Lower Xiajiadian Culture Site and Cemetery). Beijing: Kexue Chubanshe.

———. 1998. *Anyang Yinxu Guojiazhuang Shangdai muzang: 1982 nian ~ 1992 nian kaogu fajue baogao* 安阳殷墟郭家庄商代墓葬：1982年 ~ 1992年考古发掘报告 (Shang-Dynasty Tombs at Guojiazhuang, Yinxu, Anyang: 1982–1992 Excavation Report). Beijing: Zhongguo Da Baike Quanshu Chubanshe.

———. 1999. *Yanshi Erlitou: 1959 ~ 1978 nian kaogu fajue baogao* 偃师二里头：1959年 ~ 1978年考古发掘报告 (Yanshi Erlitou: 1959–1978 Excavation Report). Beijing: Zhongguo Da Baike Quanshu Chubanshe.

———. 2002a. *Anyang Xiaotun* 安阳小屯 (Xiaotun, Anyang). Beijing: Shijie Tushu Chubanshe.

———. 2002b. “Henan Yanshi Shangcheng Shangdai zhaoqi wangshi jisi yizhi” 河南偃师商城商代早期王室祭祀遗址 (The Early Shang Royal Sacrificial Site at Yanshi Shangcheng, Henan). *Kaogu* 2002.7:6–8.

———. 2003. *Zhongguo kaoguxue: Xia Shang Juan* 中国考古学 夏商卷 (Chinese Archaeology: Xia and Shang). Zhongguo shehuikexue Chubanshe, Beijing.

———. 2005a. *Anyang Yinxu chutu yuqi* 安阳殷墟出土玉器 (Jades From Yinxu). Science Press, Beijing.

———. 2005b. *Tengzhou Qianzhangda damudi* 滕州前掌大墓地 (The Qianzhangda Cemetery in Tengzhou). 2 vols. Wenwu Chubanshe, Beijing.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Anyang Gongzuodui. 中国社会科学院考古研究所, 安阳工作队. 1979. “Yinxu xiqu mudi” 殷墟西区墓地 (Cemeteries at Western Yinxu). *Kaogu xuebao* 1979.1:27–146.

———. 1995. “1973 nian Xiaotun nandi fajue baogao” 1973 年小屯南地发掘报告 (1973 Xiaotun South Excavation Report). *Kaoguxue jikan* 9:45–137.

———. 2009. “Henan Anyang shi Yinxu Liujiiazhuang beidi 2008 nian fajue jianbao” 河南安阳市殷墟刘家庄北地 2008 年发掘简报 (Preliminary Excavation Report for Liujiiazhuang North Locus, Yinxu, Anyang City, Henan). *Kaogu* 2009.7:20–38.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Anyang Gongzuodui 中国社会科学院考古研究所安阳工作队 and Zhong Jia Huanheliuyu Quyu Kaogu Diaocha Ketizu 中加洹河流域区域考古调查课题组. 2010. “Henan Anyangshi Huanbei shangcheng yizhi 2005–2007 nian kancha jianbao” 河南安阳市洹北商城遗址2005~2007年勘察简报 (Preliminary Report of the 2005–2007 Survey of the Huanbei Shang Walled Site, Anyang, Henan). *Kaogu* 2010.1:3–8.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Erlitou Gongzuodui 中国社会科学院考古研究所二里头工作队. 1974. “Henan Yanshi Erlitou zao Shang gongdian yizhi fajue jianbao” 河南偃师二里头早商宫殿遗址发掘简报 (Brief Report of Excavations of the Early Shang Palaces at Erlitou, Yanshi, Henan). *Kaogu* 1974.4:234–248.

———. 1992. “1987 nian Yanshi Erlitou yizhi muzang fajue jianbao” 1987年偃师二里头遗址墓葬发掘简报 (Preliminary Report of the 1987 Tomb Excavations at Yanshi Erlitou). *Kaogu* 1992.4:294–303.

———. 2005. “Henan Yanshi Erlitou yizhi zhongxinqu de kaogu faxian” 河南偃师市二里头遗址中心区的考古新发现 New Archaeological Discoveries in the Central Area of the Erlitou Site, Yanshi, Henan). *Kaogu* 2005.7:15–20.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Henan Dier Gongzuodui 中国社会科学院考古研究所河南第二工作队. 1998. “Henan Yanshi Shangcheng dongbei’ou fajue jianbao” 河南偃师商城东北隅发掘简报 (Preliminary Report of Excavations at the Northeast Corner of Yanshi Shangcheng, Henan). *Kaogu* 1998.6:1–8.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Henan Diyi Gongzuodui 中国社会科学院考古研究所河南第一工作队. 2010a. “Henan Yanshishi Huizui yizhi xizhi 2004 nian fajue jianbao” 河南偃师市灰嘴遗址西址2004年发掘简报 (Preliminary Report of the 2004 Excavations at the Site of Huizui, Yanshi City, Henan). *Kaogu* 2010.2:36–46.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Henan Diyi Gongzuodui 中国社会科学院考古研究所河南第一工作队. 2010b. “2002–2003 nian Henan Yanshi Huizui yizhi de fajue” 2002–2003年河南偃师灰嘴遗址的发掘 (The 2002–2003 Excavation of the Huizui Site, Yanshi, Henan). *Kaoguxuebao* 2010.3:393–422.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Henan Xinzhaidui, Zhengzhoushi Wenwu Kaogu Yanjiuyuan 中国社会科学院考古研究所河南新砦队, 郑州市文物考古研究院. 2009. “Henan Xinmishi Xinzhai yizhi fajue jianbao” 河南新密市新砦遗址发掘简报 (Preliminary Excavation Report for the Site of Xinzhai, Xinmi City, Henan). *Kaogu* 2009.2:3–15.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Jing-Wei Gongzuodui 中国社会科学院考古研究所泾渭工作队. 1989. “Shaanxi Changwu Nianzipo Xianzhou wenhua yizhi fajue jilu” 陕西长武碾子坡先周文化遗址发掘纪略 (Record of Excavations at the Proto-Zhou Site of Nianzipo, Changwu, Shaanxi).” *Kaoguxue jikan* 6:123–142.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Neimenggu Gongzuodui

中国社会科学院考古研究所内蒙古工作队. 1961. “Neimenggu Chifeng Yaowangmiao, Xiajiadian yizhi shijue jianbao” 内蒙古赤峰药王庙, 夏家店遗址试掘简报(Preliminary Report of Trial Excavations at the Yaowangmiao and Xiajiadian sites, Chifeng, Inner Mongolia). *Kaogu* 1961.2:77–81.

———. 1974. “Chifeng Yaowangmiao, Xiajiadian yizhi shijue baogao” 赤峰药王庙, 夏家店遗址试掘报告 (Trial Excavation Report for the Yaowangmiao and Xiajiadian Sites, Chifeng). *Kaoguxuebao* 1974.1:111–144.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo Shandong Gongzuodui

中国社会科学院考古研究所山东工作队. 1985. “Shandongsheng Changdaoxian Tuoji Dao Dakou yizhi” 山东省长岛县砣矶岛大口遗址 (The Dakou Site on Tuoji Island, Changdao County, Shandong Province). *Kaogu* 1985.12:1068–1084.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Shanxi Dui

中国社会科学院考古研究所山西队. 1980. “Shanxi Xiangfenxian Taosi yizhi fajue jianbao” 山西襄汾县陶寺遗址发掘简报 (Preliminary Report of Excavations at the Taosi Site, Xiangfen county, Shanxi). *Kaogu* 1980.1:18–31.

———. 1983. “1978–1980 nian Shanxi Xiangfen Taosi mudi fajue jianbao” 1978–1980 年山西襄汾陶寺墓地发掘简报 (Preliminary Report of the 1979–1980 Cemetery Excavations at Taosi, Xiangfen, Shanxi). *Kaogu* 1983.1:30–42

———. 1989. “Jinnan kaogu diaocha baogao” 晋南考古调查报告 (Southern Shanxi Archaeological Survey Report). *Kaoguxue Jikan* 6:1–51.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Henan Xinzhai Dui, Zhengzhoushi Wenwu Kaogu Yanjiuyuan 中国社会科学院考古研究所河南新砦队, 郑州市文物考古研究院. 2009. Henan Xinmishi Xinzhai yizhi 2002 nian fajue jianbao 河南新密市新砦遗址2002 年发掘简报 (Preliminary Excavation Report for the Xinzhai site, Ximishi, Henan). *Kaogu* 2:3–15.

Zhongguo Shehuikexueyuan Kaogu Yanjiusuo, Zhongguo Lishi Bowuguan, Shanxisheng Kaogu Yanjiusuo 中國社會科學考古研究所, 中国历史博物馆, 山西省考古研究所 1988. *Xiaxian Dongxiafeng* 夏縣东下冯 (Dongxiafeng Site in Xia County). Beijing : Wenwu Chubanshe.

Zhu Fenghan 朱凤瀚. 1991. *Shang Zhou jiazu xingtai yanjiu* 商周家族形态研究 (A Study of the Family Patterns of Shang and Western Zhou China). 2nd ed., 2004. Tianjin: Tianjin Guji Chubanshe.

Ziboshi Wenwuju 淄博市文物局, Ziboshi bowuguan 淄博市博物馆, Huantaixian Wenwu Guanlisuo 桓台县文物管理所. 1997. "Shandong Huantaixian Shijia yizhi Yueshi wenhua mugoujia jisi qiukeng de fajue" 山东桓台县史家遗址岳石文化木构架祭祀器物坑的发掘 (Excavation of a Wood-Framed Sacrificial Artifact Pit at the Yueshi Site of Shijia, Huantai County, Shandong). *Kaogu* 1997.11:1-18.

Zou Heng 邹衡. 1980. "Shilun Xia wenhua" 试论夏文化 (A Preliminary Discussion of Xia Culture). In *Xia Shang Zhou kaoguxue lunwenji* 夏商周考古学论文集 (Collected Papers on Xia, Shang, and Zhou Archaeology). Beijing: Wenwu Chubanshe.

———. 1988. "Zailun Xianzhou wenhua" 再论先周文化 (A Reexamination of Proto-Zhou Culture). In *Zhou Qin Han Tang kaogu yu wenhua guoji xueshu huiyi lunwenji* 周秦汉唐考古与文化国际学术会议论文集 (Collected Papers from the International Conference on Zhou, Qin, Han, and Tang Archaeology and Culture). *Xibei daxue xuebao*.

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On the front cover: Zun in the shape of a water buffalo, Huadong Tomb 54 (image courtesy of the Chinese Academy of Social Sciences, Institute for Archaeology).

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