

SHANG RITUAL AND SOCIAL DYNAMICS AT ANYANG: AN ANALYSIS OF
DASIKONG AND HUAYUANZHUANG EAST BURIALS

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Abstract

The Shang period (1600-1046 BC) of early China has received considerable attention in archaeology. Ritual is thought to be important in the development of Shang society. However, there are considerable gaps in knowledge pertaining to the relationship between ritual and society across the entire sociopolitical spectrum. Burials hold great potential in furthering our understanding on the formation and maintenance of the Shang belief system and the relationship between ritual and society across this spectrum. This analysis reveals the substantial variability of Shang burial practices within the Late Shang center at Anyang in modern Henan, China.

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Introduction

There has been significant attention given to the societies of early China in studies of history and archaeology (Li 2013; Liu and Chen 2012; Loewe and Shaughnessy 1999). In particular, topics such as ritual, religion, and ideology have been a central concern (Keightley 2014; Pankenier 2013; Sterckx 2005). This is particularly true of the second millennium BC Shang dynasty (Bagley 1999; Keightley 1999; Li 1977; Puett 2002; Reinhart 2015). This thesis will analyze Shang ritual and society through an analysis of burials.

In studies of modern and ancient societies, ritual, religion, and ideology are subjects that have received considerable attention in anthropology and archaeology (Chang 1983; Flad 2008; Jaffe 2015; Rappaport 1999; Swenson 2015). For decades, archaeologists have devoted significant energy to the analysis of ritual in burial contexts (Chapman 2003; Drennan 2001; O'Shea 1984; Saxe 1970; Tainter 1978; Underhill 2000). Ritual is seen as holding pervasive influences across societies. Indeed, “(g)iven the central place that religious considerations have occupied in the thoughts and actions of men and women in all times and places...it is hard to imagine that religion, as bizarre as some of its manifestations may seem, is not in some way indispensable to the species.” (Rappaport 1999:2). For Rappaport, ritual is where religious thought and conceptions are realized in society. Robert D. Drennan (1976:348), drawing from Rappaport's work, touches upon a similar line of thinking and states: “Ritual serves as the *point* of articulation between religion and the social processes with which we are concerned.” Ritual is not only an indicator of a society's belief system and religious conceptions in a physical reality, but also holds the potential to reveal important insights into a society's social, political, and economic relationships. For example, ritual is seen to have held pivotal roles in the development of social inequalities (Blitz 1993; Chang 1983). Archaeology holds a unique position in helping

understand ritual through time which reveals important new insights into multiple aspects of society (Howey and O'Shea 2006). While there is considerable debate on how to approach ritual within a broader societal context in archaeology (see Swenson 2015), ritual is nonetheless an essential area of study in our attempts to further contextualize our understandings of social, political, economic, and religious processes. This could be accomplished through a study of ritual food consumption in modern India (Berger 2011), in ritual feasts in pre-Hispanic Philippine chiefdoms (Junker 2001), or in ritual and sacrifice in ancient China (Chang 1983; Puett 2002; Yuan and Flad 2005). Other studies, including in China, have attempted to analyze societal processes through a study of burials and conceptions of death (Allard 2001; Flad 2001; Saxe 1971; Sullivan and Mainfort 2010; Underhill 2000).

Mortuary rituals and death have been a major focus in anthropologically-oriented projects (see Robben 2004). Approaches to burials vary widely and range from processual (Tainter 1978) to bottom-up cross-cultural analyses (Drennan et al. 2010). For some, these rituals “are a true cultural universal that show people’s resistance to accepting biological death as a self-contained event, and their desire to prolong the departure from the dead through a process of phased transitions” (Robben 2004:9). Despite referring to mortuary ritual as a “resistance,” Robben also acknowledges that there is a much variability to “cultural beliefs about death and dying” (Robben 2004:4). By “belief,” I will draw from Roy A. Rappaport (1999) who suggests that belief is “a mental state concerning, or arising out of, the relationship between the cognitive processes of individuals and representations presented to them as possible candidates for the status of true” (Rappaport 1999:119). This cultural variability of beliefs can be found in rituals from modern Japan (Suzuki 2004) to ancient societies (Swenson 2015). I believe that the understanding of this variability of beliefs in ancient societies can benefit much from research on

the differential treatment of the deceased in ritualized burial practices. This is a point I will return to later.

And while cultural understandings of death vary greatly across time and through space, it nonetheless underlines that conceptions of death and the activities surrounding it hold special significance and merit further attention. Comparative study has received greater attention in anthropology (see Schnegg 2014; Smith 2012). A study of mortuary rituals has not only the potential to reveal important insights into various cultural and societal processes, but also to assist in providing a broader comparative framework to assist in researching past and present societies across the globe. As Smith and Peregrine (2012:4) state: “(c)omparative analysis is the only way to identify regularities in human behavior, and it is also the only way to identify unique features of human societies.” And despite the number of studies on burials and death in ancient societies (see below) and modern societies, a continued focus on mortuary rituals that seeks to set a foundation for further comparative study can provide greater insight into the diversity of human behavior.

In studies of early societies, the analysis of mortuary rituals have been the center of intense debate (Drennan 2001). Material evidence of mortuary rituals has been taken to represent a broad range of social, political, economic, and religious functions and cosmological conceptions (Drennan et al. 2010; Flad 2001; Stevenson 2009; Underhill 2000). Some have taken burials and associated interred goods as direct representations of the status an individual enjoyed in life (e.g., Kong 2011). Others have continued to argue for a more contextual approach to burial analyses (Stevenson 2009; Underhill 2000). Drennan (2001) contends that when burial data are employed to understand broader society, the researcher should seek evidence outside of burials that can effectively complement the burial data. That burials reflect social organization is

one of the most common interpretive schemes applied to analyzing the differential treatment found in burial practices (Carr 1995). While "the general principle that mortuary differences reflect social differences remains sound," it is also important to note that "inequality of investment in burial is, at best, a rough indicator of social inequality" (Drennan et al. 2010:46, 55). Alice Stevenson (2009) maintains that social inequality must incorporate the broader variation in society. Social inequality is represented in a wide range of practices in various societies (Drennan et al. 2010). Thus, while caution is necessary in mortuary analysis, an approach to burials that recognizes the entire spectrum of politics, economics, religion, and society (Stevenson 2009) across society can help in elucidating a range of societal processes.



Figure 1. Map of modern China with location of Anyang.

The purpose of this thesis is to analyze burials from two cemeteries, Dasikong and Huayuanzhuang East, uncovered at the late second millennium BC Shang dynasty site of Yinxu near modern Anyang in China's Henan province (Figure 1) along the Huan River. Through an analysis of burial data from the Dasikong and Huayuanzhuang East site reports, I hope to advance our understandings of ritual and social dynamics during a pivotal period in the development of the early Chinese state. I believe Shang dynasty burial practices presents a case study that will allow the formation of a research framework that is contextualized within broader social, political, economic, and religious processes that are often obscured in archaeological studies of burials. This is primarily due to the extensive site reports and published studies on Shang sites and society. The published materials will allow me to compare and contrast my results with published studies and long-held notions of Shang ritual and social dynamics and the development of complex societies in Bronze Age China. I hope then to fill in considerable gaps in our knowledge of the nature of Shang ritual and represent Shang ritual activity across the entire sociopolitical spectrum during the Late Shang period. Moreover, by complementing my own analysis with the extensive archaeological and historical research done on Shang dynasty material remains and written records, both oracle bones and post-Shang historical documents, I can address the concerns of burials not representing the broader complexity of human behavior and social dynamics. The amount of research done on Shang society is rarely seen in archaeological contexts of early China. Thus, I hope not only to increase our understandings of Shang ritual and society, but also to offer a case study that can somewhat mitigate the biases surrounding burials, expand our knowledge of societal processes, and can be effectively employed for comparative analysis. I also recognize that the two cemeteries used in this analysis might not represent the full complexity of the sociopolitical hierarchy at Anyang. These could be

areas of restricted access for the purpose of mortuary rituals. When analyzing hierarchy and status, the relative status descriptors of “low” and “high” will be used. This is not meant to convey absolute status to the burials. The low and high status burials are relative degrees of status and prestige.

This thesis is centered primarily on the question: What do burial rituals reveal about the formation and maintenance of the Shang belief system, and particularly about ruling ideologies and the development and maintenance of sociopolitical relationships during the Shang period? I will also ask two additional questions: (1) How might differences in burial reflect social differences in Shang society? (2) Are these differences connected to differential participation in a ritual economy? By asking these questions, I seek to complement and contribute to past and ongoing efforts to expand our knowledge of the Shang dynasty. I also hope to challenge current perceptions of Shang ritual and society as well as contribute to the larger theoretical debates about the roles of ritual in ancient state societies. In the following section, I will briefly continue the discussion of ritual and introduce the current state of knowledge on the Shang dynasty. This review cannot hope to be comprehensive given the large scope of published materials on both ritual and the Shang dynasty, but will be sufficient to provide a solid foundation to approach my analysis of Shang burials.

Background

Ritual

The importance of ritual has not been lost on scholars researching ancient and modern societies and there continues to be fierce debate about the numerous approaches to ritual that have been published (Swenson 2015). Rituals, both in ancient and modern societies, are found to hold special roles in negotiating social relationships (Berger 2011), control of resources (Blitz

1993), feasting (Dietler and Hayden 2001; Reinhart 2015), production (Campbell et al. 2011), exchange networks (Filini 2015), violence (Campbell 2013), and the everyday (Rappaport 1999). Ritual was recognized as “*the* basic social act” that “establishes, guards, and bridges boundaries between public systems and private processes” (Rappaport 1999:138 emphasis in original). Rappaport has been highly influential in studies of ritual and religion, he defines “the term ‘ritual’ as to denote the performance of formal acts and utterances not entirely encoded by the performers” (Rappaport 1999:24).

Beyond Rappaport’s influential arguments of ritual cycles and cybernetics (Rappaport 1971, Rappaport 1999), there have been many scholars who have taken more broadly universal approaches to ritualized actions (i.e., Rappaport) and those who constructed ritual approaches contextually. In anthropology, researchers often associate definitions of ritual with repetition and habitual actions within society (Jaffe 2015). In a study of the Teotihuacan ritual economy, Agapi Filini (2015:99 emphasis in original) discusses how “the term *ritual* concerns the sum of repetitive actions that are governed by certain ideological principles enmeshed in a concrete ideological context.” At Teotihuacan, rituals stimulated production, influenced urbanization, and were important in maintaining social organization and the sociopolitical statuses of the ruling elites (Filini 2015). We then see that ritual was integral across Teotihuacan’s social, political, economic, and religious domains. Valerio Valeri (1994) understood ritualized sacrifice and the relationship that was emphasized (pragmatic or symbolic) in sacrifice as being found in the interplay between consumption and renunciation. In Valeri’s analysis, meaning is located within varied sacrificial forms. Philippe Ariès (2004:41) contends that “(t)he ritualization of death is a special aspect of the total strategy of man against nature, a strategy of prohibitions and concessions.” From this perspective, ritual is a negotiation between man and nature.

Furthermore, it is because of “the violent and unpredictable forces of nature” that “death has not been permitted its natural extravagance but has been imprisoned in ceremony, transformed into spectacle” (Ariès 2004:41). By ritualizing death, this ritual negotiation becomes a limited means of power against death that is performed within the public sphere.

Ritual is also taken to hold a significant role in sociopolitical and power dynamics. Katrinka Reinhart (2015) in a study of ritual feasting at the Shang center of Yanshi Shangcheng in both potter and elite contexts discovered that ritual feasting was not only an elite-centric activity, but was an important ritual within lower status groups as well. Reinhart (2015:105) thus concludes that the sociopolitical structure at Yanshi “was more heterarchically organized, and social power was more fluid, negotiated between individuals, ancestors, and communities.” This interpretation of rituals at Yanshi pushes back against elite models of ritual power. Reinhart’s study also shows that ritual feasting held a prominent (and multifaceted) role in Shang sociopolitical dynamics. Heterarchy is “defined as the relations of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways” (Crumley 1995:4). Heterarchy has been used in archaeology primarily to further understand the variation in complex societies that models of hierarchy are thought to overlook or minimize. For example, in a study of Metal Age and protohistoric Thailand, Chureekamol Onsuwan Eyre (2011) contends that heterarchy allows archaeologists to better understand the variability of sociopolitical relationships found in data through time. While this study will not apply a model of heterarchy and argues against Shang society as heterarchically organized, Reinhart’s study underlines an often understudied aspect of Shang society: a society that negotiates through a diverse set of means with the sociopolitical, ancestral hierarchy.

In many forms of ritual, ideology, and religion, there is, in varying degrees, some level of control emphasized, the context determines whether that control is social, political, or economic (e.g., Chang 1983; Filini 2015). In K.C. Chang's (1983) study of ritual in early China, Chang argued that ritual was an integral part of the many interrelated pathways to ruling power. While ritual can be associated with control mechanisms, a central function of ritual is not the direct control of behavior and actions, it is to establish the norms and guidelines of the everyday, in short, ritual is meant create and maintain "obligation" (Rappaport 1999:123-124). We can perhaps see this in Teotihuacan, where "ideology, in a very broad sense, constituted the dominant corpus of ideas of the ruling class regarding the world and also the means and actions that were implemented to create social structure and ensure social reproduction" (Filini 2015:98). And it was within ritual that Teotihuacan elite ideology was reinforced and obligation to the ideological structure found.

The many interpretations and definitions of ritual and its various forms underscores the varied and influential roles ritual has held in societies. Edward Swenson (2015:340) states "archaeologists increasingly argue that an examination of past ritual events provides one of the most effective means of interpreting material agency, plural subjectivities, identity politics, social memory, alternate ontologies, and ideological struggle in ancient societies." This is a perspective that Swenson would support if archaeologists approach ritual from within the context of "the larger continuum of practice in general" (Swenson 2015:340). I will attempt to draw from a broad range of ritual definitions and approaches to form an integrative basis for my analysis of Shang burials. I take burials to represent ritualized spaces, which when properly contextualized within broader societal processes, allow a reconstruction of sociopolitical dynamics, cosmology,

and identity. Studies of mortuary rituals will also grant limited insight into production and exchange practices.

The Shang dynasty

The Shang dynasty (1600-1046 BC) is one of the most intensely studied periods of early China. There has been decades of research conducted on Shang centers and volumes of data and research published (Bagley 1999; Campbell et al. 2011; Cao et al. 2010; Chang 1983, Zhongguo shehui kexueyuan kaogu yanjiusuo 2011; Li 1977; Li 2013; Li and Hwang 2013; Loehr 1953; Keightley 1999; Puett 2002; Reinhart 2015; Stoltman 2009). Many of the major known Shang sites are located in Henan. Yinxu, also referred to as Anyang, is thought to be the last capital of the Shang dynasty (Li and Hwang 2013). Thus, the period covering the time in which Anyang was occupied by latter Shang kings is called the Late Shang period or dynasty. In the following discussion of the Late Shang dynasty, I will refer to this last “capital” as Anyang.

Archaeology as a discipline in China was greatly influenced by the research and excavation at Anyang (Bagley 1999; Jing et al. 2013). The histories and material sequences developed from this research are the center of numerous debates. This includes the chronology of the Shang dynasty. The traditional date of the start of the Late Shang period is 1300 BC, which corresponds to the move of the Shang capital to Anyang by Pan Geng 盤庚, and it is usually taken to end around 1046 BC, which marks the overthrow of the last Shang king by King Wu 武 of the Zhou (Li 2002; Xia Shang Zhou Duandai Gongcheng Zhuanjiazhu 2000). Others place the date of the Late Shang dynasty at 1250-1050 BC (Campbell 2013; Li and Hwang 2013) or 1250-1046 BC (Flad 2008; Jing et al. 2013). The 1250 BC date is derived from the fact that there have been no oracle bone inscriptions found referring to the first three kings at Anyang, Pan Geng, Xiao Xin 小辛, and Xiao Yi 小乙 (Keightley 1999). It is then to the last nine kings of the Shang

dynasty, Wu Ding 武丁 to Di Xin 帝辛, that the capital at Anyang can be referred to as being the Late Shang dynasty (Jing et al. 2013). Li Feng (2013) pointed to recent arguments which have suggested that there could be material remains (oracle bones) from the reigns of Pan Geng, Xiao Xin, and Xiao Yi at Huanbei, found just northwest of Yinxu.

Shang society is thought to represent a hierarchical, lineage-based complex society constructed through a pervasive ritual system, elite-centric religious beliefs, and a hegemonic state system (see Bagley 1999; Chang 1983; Jing et al. 2013; Keightley 2014). Shang society was also an agricultural society, which is demonstrated not only by agricultural tools and domesticated animals, but also evidenced by pollen data that shows “forest destruction, large-scale agriculture activity and anthropogenic soil erosion” in the Anyang Region after 3400 cal. BP (Cao et al. 2010:8).

The geographic extent of the Shang political control is unclear. Keightley (1999:277, 1979-80:26) believes that the Shang state geographically and politically was “undoubtedly porous and fluid” and “was gruyere, filled with non-Shang holes, rather than tou-fu, solidly Shang throughout.” Keightley further elaborates that the area that the Shang king could claim and travel within was likely small, despite the fact that there have been several culturally Shang sites discovered far away from Anyang, which were likely not politically controlled by Shang elites. Following a similar line of thought Li Feng (2012:83) wrote that “the Shang state was itself an elusive congregation of communities that were in various degrees of relationship to the political state, loosely bound together by the hegemonic power of the Shang king.” Similarly, Bagley (1999) conceived of the Shang state in more of a relational model between the kings at Anyang and the leaders established in the surrounding regions. Shang kings interacted with many regions and with powerful neighbors around them (Bagley 1999). In a recent study of Shang

dynasty engagement with neighboring Shanxi province, Li and Hwang (2013) discuss how Anyang interacted with polities and communities in Shanxi at multiple levels and to varying degrees, it was not limited to just political control. Thus, current knowledge suggests that the Shang state was not large, but through various social, political, economic (see below), and religious (see below) mechanisms the Shang elite were able to exert greater influence over distance regions. It shows what K.C. Chang emphasized decades ago, that the Shang was just one of polities in what is now modern China (Chang 1983).

The Shang dynasty is also thought to be marked by central control of resources (Keightley 1999). The interpretations of the mechanisms of resource management vary. Analyses of artifacts have shown that Shang crafts production were highly developed in terms of the complexity and quality of the goods and were associated with a complex acquisition and exchange network. For example, Campbell et al. (2011) analyzed bone artifacts from Anyang's Tiesanlu bone workshop and discussed how bone materials from Shang elite sacrifices were filtered into this workshop for distribution into markets for exchange, a sort of widespread ritual economy. Stoltman et al. (2009) in an analysis of ceramics suggests that the artisans making pottery during the Shang period could have employed imported materials and created pottery based on a variety of factors. In both instances, the authors acknowledge the skill and technical expertise with which these craftspeople created their goods. This is an important point as Chang argues that in addition to ritual, art, and writing it was "(b)y controlling a few key resources—above all, bronzes—and by amassing the means to control them" that elites in early China attained and maintained power (Chang 1983:95). And given that there was an extensive and developed crafts industry during the Shang period, differential access to this industry would almost assuredly create power asymmetries and hierarchical divisions. While craft production

was certainly widespread during the Shang, Reinhart (2015) argues that within the pottery communities at Yanshi, individuals and communities negotiated power dynamics through ritual feasting. Reinhart believes that understandings of complex societies should not only be based on hierarchical models of social organization. Power, even within craft industries, was not always mediated through top-down political strategies. Thus, social inequality in the Shang dynasty was negotiated within multiple social, political, and economic dimensions. And it was partly within this economic dimension of fostered networks of exchange that the Shang king was able to negotiate larger political relationships with neighboring polities. The nature and extent of this engagement remains to be investigated and, again, while I believe that Shang sociopolitical organization is more complex than typically conceived, I also still advocate for an understanding of Shang society that is conceived of as strongly hierarchical. Moreover, additional research needs to be conducted to determine the extent to which this engagement was at all sociopolitical levels of Shang society. Despite this, I believe that Shang society was strongly hierarchically organized, especially within ritual, although the nature of this hierarchy will be explored below.

The lineage, or clan, system that has been identified at Shang sites has a long history in archaeological and historical thought (Jing et al. 2013; Keightley 2014; Meng and Li 2011; Tang 2004). Chen Shen (2002) suggested that clans were integral in the social structure of Shang society. Chang (1985) argued that a central characteristic of polities in ancient China was that groups defined by blood relationships were the groups holding political authority. Chang (1983) characterizes the Xia-Shang-Zhou period in early China as the variation of political power between the many clans. Campbell et al. (2011) suggested that lineage groups could have controlled production areas and that these lineages could have been exercised control as representatives of the king. Jing et al. (2013) discusses the lineage-based nature of the

neighborhoods at Anyang. Much evidence regarding lineage groups and ancestors is based on script found on bronze and ceramic artifacts and oracle bones inscriptions (Chang 1983; Jing et al. 2013; Keightley 2014; Puett 2002). The lineage groups were also internally hierarchical both socially and politically (Chang 1983). We, then, can see a lineage-based society where the king occupied the central position (Keightley 2014).

And though kinship relations are thought to have played important roles in the hierarchical systems of early China, the authority of the king only could not preserve the social hierarchy by itself (Chang 1983). It is within this hierarchy and kinship relationships that scholars generally point to as being the most prominent feature of Shang society, ancestor worship and a religious hierarchy of spirits (Keightley 2014; Thorpe 2006). The Shang pantheon has been described along the following hierarchy: (1) Di, (2) Nature Powers, (3) Former Lords, (4) predynastic ancestors, (5) the dynastic ancestors, and (6) the dynastic ancestresses (Keightley 1999:253-254). The ancestral cult that dominates Shang oracle bone inscriptions has long been held to be central in the development, maintenance, and negotiation of the Shang sociopolitical structure, even if the nature of engagement with the ancestors and spirits has been interpreted differently (see Bagley 1999; Chang 1983; Jaffe 2015; Jing et al. 2013; Keightley 2014; Pankenier 2013; Puett 2002). For example, Keightley believes that the Shang “*made* their ancestors” (Keightley 2014:155 emphasis in original). Puett (2002) further elaborates that Shang attempted “to make the deceased into proper ancestors and to have the ancestors guide the nature spirits and Di” (Puett 2002:54). Royal lineage ancestor worship was highly structured and hierarchical (Bagley 1999). Keightley further argued that this ancestral cult was fundamental to the formation of the Shang state: “The Late Shang state emerged by building upon and institutionalizing, rather than opposing, the ties of affection, obligation, and dependency

indicated by the mortuary practices of the Neolithic” (Keightley 2014:51). Jiang (2011) contends that ancestor worship is a religion that belongs to all Shang people, and was one of the basic components of Shang society. The extent of engagement through the classes of Shang people aside, it is generally noted that ancestor worship was critical to power within politics and religion (Jing et al. 2013) and within this system, power was constantly and hierarchically negotiated and institutionalized (Keightley 2014). Moreover, there was not much room in the ideological realm for groups and individuals to ferment dissent (Keightley 2014). Although perhaps Shang perspectives of ancestors were negotiated and defined within dimensions not previously considered, as indicated by Yanshi ritual feasting (Reinhart 2015).

The Shang ancestor cult was realized in several ritual forms. Ritual was an integral part of Shang society. This is manifested in burials, sacrificial pits, architecture, writing, and feasting remains (Jing et al. 2013; Keightley 2014; Pankenier 2013; Reinhart 2015; Yuan and Flad 2005). Puett (2002:52) argued that the ritualized nature of the ancestor system was “an attempt to create hierarchy. Hierarchy was not an assumption; it was a goal.” In addition, within the ancestor system, there was a hierarchy in which ancestors were more powerful in relation to their age; these ancestors were also less powerful than the deities in the Shang pantheon (Puett 2002). The hierarchical nature of Shang ritual is a crucial aspect of many analyses. In one sense, a desire of Shang people was “to secure the blessing of their high god Di 帝, but as he was so far removed from the realm of the living, there was no direct way to access him. Instead, one had to petition the ancestors to appeal to Di” (Jaffe 2015:10). To accomplish this, Shang people would need to, at least to a limited extent, submit to the hierarchical order of the ancestor ritual system. Yuan and Flad (2005) suggest that the emergence of state societies in China was linked to the control of ritual activity, in their study that was sacrifice. Ritual, then, becomes not just an integrated

part of sociopolitical dynamics, but also a foundational element of state societies in early China. The thought behind Shang ritual was likely that spirits were uncontrollable without ritual action on the part of the living, and no control meant that the relationship between humans and spirits was characterized as dangerous to the living (Puett 2002). Others have argued that “religious beliefs and ritual practices were sources of tension, not of stability, and political players sought to exercise power and control through their manipulation” (Jaffe 2015:16). While the author was referring to a later Chinese historical period, the Shang period was also marked by sociopolitical competition, warfare, resource and demographic changes, and economic fluctuations (Bagley 1999; Campbell 2013; Campbell et al. 2011; Jing et al. 2013; Kieghtley 2014; Yuan and Flad 2005). Keightley (2014) also recognized that within the Shang system there was distinct, competing political-religious groups. Thus, given the relatively unstable nature of the Shang world, we can perhaps approach Shang religion as one that “emerges not as the essential definition of individual characterization but rather as one more pliable category of identity, open to both personal formulation and susceptible to unconsciousness change” (Jaffe 2015:17). In this way, we may attempt to reformulate the role of ritual in society as one that incorporates the social, political, economic, and religious dimensions that exists at varied levels including elite efforts of social maintenance and lower class negotiations with their surrounding environment.

A prominent aspect of Shang ritual and ancestor cult was divination. Divination was crucial to late Shang state power (Flad 2008) and a very important institution to Shang elites, particularly the royal group (Jing et al. 2013). This was not only important as access to a particular knowledge through writing (Chang 1983), but also as a public spectacle that needed to be performed properly. Evidence of the importance of divination to the Shang elite can be found in Wu Ding’s records where studies show that many of the divination records validated Wu

Ding's authority in multiple dimensions, these divinations were public rituals that allowed Wu Ding to routinely reestablish the sociopolitical structure during the Shang period (Keightley 2014). Divination is prevalent at Anyang in the form of oracle bone divination, Chang (1983:51) describes the process:

“During the ritual, the diviner applied heat at the bottom of the grooves and hollows to produce hairline cracks on the opposite surface of the bone. These cracks were interpreted to provide answers to the questions that were put to the ancestors. The king himself sometimes would bring the question to the diviner, but more often he asked the question through a mediating ‘inquirer.’ The cracks were interpreted by a ‘prognosticator,’ a role in which the diviner himself could have doubled but which the king himself often performed.”

Divination has been interpreted to hold a primary role in interacting with the ancestors and acting as a stabilizing force in Shang society. Puett (2002) contends that one of the purposes was intimately tied to determining the will of and persuading the supernatural to benefit the living and prevent misfortune. In this way, “(d)ivination is...inherently a social act that helps ensure that society can continue to function” (Flad 2008:403). Divination traditions are found in regions outside of Shang centers, but “the procedures used were less systematic and less elaborate” (Flad 2008:418). Moreover, divination was not static during the Shang period. During the Late Shang, there is a decrease in oracle bone divination, personal divination is almost gone, divination focuses on hunting, war, sacrifice, and fate (Jiang 2008). Oracle bone inscriptions provide insight into the behaviors and practices of the elites who conducted or were connected to these divination rituals (Keightley 2014) and provide insight the life and concerns of the Shang ruling elite (Yuan and Flad 2005). Thus, there is also cause for caution when using Shang oracle bone inscriptions in analyses of Shang society as these records relate primarily to the thoughts and practices of the elite and do not represent the diverse beliefs and actions of the lower Shang classes. Despite this, oracle bones are an important resource in attempts to understand Shang

society and underscore “the belief that the future could be divined” in ritual (Keightley 2014:102).

These rituals also display the dynamic nature of Shang society. Understanding Shang ritual can also reveal changes in Shang society, sociopolitical organization, and attempts to negotiate identity (Bagley 1999; Yuan and Flad 2005). It is also evident that many aspects of Shang ritual were adopted and transformed by the later Zhou dynasty (Keightley 2014; Pankenier 2013).

Burials are a unique window into Shang society and cosmology. At Anyang, there have been many cemeteries uncovered and over 10,000 burials discovered (Jing et al. 2013). The rituals associated with death were structured and were significant aspects of Shang society (Keightley 2014; Shen 2002). Mortuary rituals “involved the attempt to make the spirit of the deceased into an ancestor and to place that ancestor within a ritual system designed by the living” (Puett 2002:45). Constance A. Cook (2005) discussed how there were two separate sacred sites in Shang mortuary ritual, the below-ground site and the above-ground site. Cook (2005:11) states that “(t)he below-ground site represented the primal stage of the mortuary ritual, the burial of the deceased in the tomb. The above-ground site represented the secondary stage of the mortuary ritual, the celebration of the transition of the deceased into an ancestor.” These burial rituals were conducted as to secure the assistance of these ancestors and presented essential opportunities to reify cultural values (Keightley 1999; Keightley 2014). These rituals were not limited to elite contexts, however, burial was a practice that was engaged at every level during the Shang, “but with drastically different resources, creating a radically hierarchical structure of being” (Campbell 2013:101). Roderick Campbell (2013:101) further discusses how “(t)his hierarchy was tangibly instantiated in the use of other members of the community as

mortuary capital.” Despite the hierarchy clearly present in burial assemblages, mortuary rituals were not just something that the nobles engaged in, but is something that everyone participated in (Jiang 2008). This participation is often defined as holding roles that reaffirm social identity within the hierarchical system (Cook 2005).

The sociopolitical status of the deceased as represented in burials has been the subject of long debate within archaeology in societies across the globe, including Shang society (Drennan 2001; Saxe 1971; Keightley 2014; Tang 2004). Keightley (2014) contends that Shang elite status continues into death and the interred goods and energy invested are a representation of that status. Keightley also argues that mortuary practices stimulated production. Jing et al. (2008) argues that archaeologists cannot take interred goods as a reflection of the person's life, it cannot reflect the person's wealth, position, power, or social status because this assumes that the interred goods belongs to the person or something that the person should have, but in reality the interred goods were given or exchanged by others who take part in the funeral. While assigning direct status to interred goods requires caution (see Saxe 1970; Binford 1971; O’Shea 1984 for classic examples of assigning status to burial interpretations), there are patterns and ritual meaning to be found in artifacts associated with mortuary ritual (Allard 2001; Jing et al. 2013; Keightley 2014; Tang 2004; Underhill 2000).

Table 1. Examples of studies on burial practices in early China.

Author	Site, Culture, and/or Society
Underhill (2000)	Dawenkou
Fung (2000)	Dawenkou
Allard (2001)	Dawenkou and Majiayao
Flad (2001)	Dadianzi
Tang (2004)	Shang
Kong (2011)	Yinxu (Shang)
Jaffe (2012)	Liulehe (Western Zhou)
Lai (2015)	Warring States, Qin, and early Han

There have been many studies conducted on burial practices in early China (Table 1). In a study of the ceramic assemblages from burials at Dawenkou and Majiayao, Francis Allard (2001) found that at Dawenkou, power was developed and maintained by elites through navigating and maintaining increasingly diverse social relationships. At Majiayao, Allard defined power relationships as not being determined by the diversity of social relationships, but by a more limited set of social connections. Also a study of Dawenkou burials, Ann Underhill (2000) looked more broadly at change through time in mortuary ritual. Underhill concluded that labor intensive grave goods increased and the cemetery being analyzed became an area of elite burials through time. Rowan Flad (2001) in a quantitative analysis of Dadianzi burials determined that in earlier periods at the site, mortuary ritual was focused on negotiating sociopolitical identity at earlier periods and later the focus shifted to confirming these identities.

Tang Jigen (2004), in a pioneering analysis of Shang period burials, makes a number of points on the social organization during the Shang period. Tang suggests that burials are clustered at three levels and that these three levels are organized according to lineage relationships. In addition, based on his burial analysis, Tang divided Shang hierarchy into six groups with the top three groups consisting of a very small percentage of the hierarchy. Tang also suggested that power was concentrated in the royal group at Anyang and that the lineages below this group were roughly equal in their sociopolitical status. Tang also wrote that males held a higher position in society than females. While Anyang burials are believed to be grouped according to lineage, for archaeologists it is not yet possible to comprehensively determine the exact lineage relationships between burials at Anyang (Jing et al. 2013). The spatial layout of Shang burials are also interpreted to have important ritual meanings (Pankeiner 2013; Shen 2002).

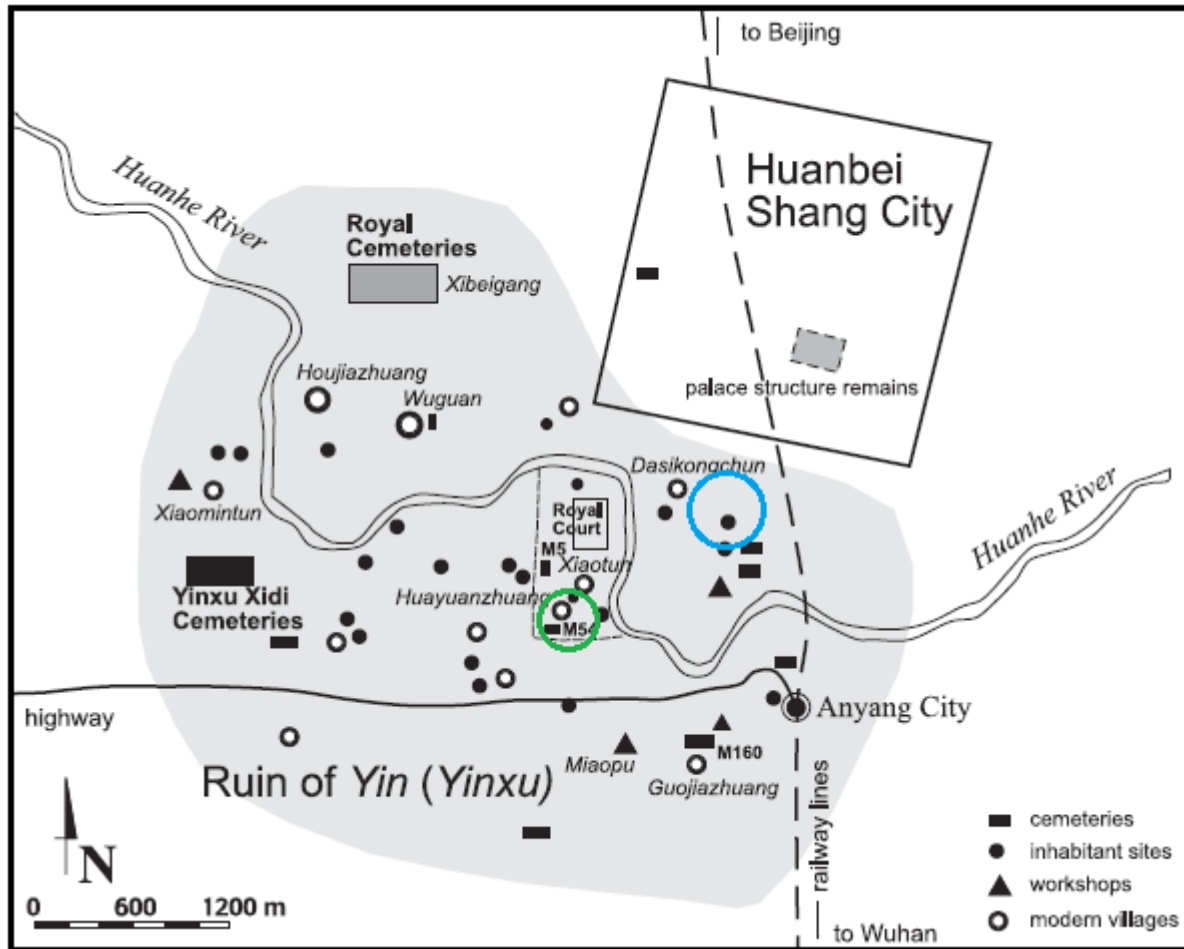
Shang dynasty burials and ritual practices are then integral to Shang society and also have the potential to provide significant insight into groups throughout Shang hierarchy due to mortuary ritual's varied location at multiple social, political, economic, and religious dimensions. Thus, burials are a necessary point for archaeologists to expand our knowledge of Shang society and provide a broader comparative framework to further our understandings of burial practices and social dynamics. My analysis of burials differs in several regards to earlier attempts of burial analysis in early China. Particularly, the following quantitative analysis incorporates multiple approaches to understanding the variability in the data, including non-metric multidimensional scaling and Gini coefficients (see below). While quantitative techniques have been employed in studies of Neolithic and early Bronze Age burial in China, this multivariate approach to Shang period burials holds great potential in revealing important and overlooked patterns in ritual and across multiple social, political, and economic dimensions. Furthermore, this study will seek to complement Tang's earlier research and, thus, providing a broader understanding of Shang burial practices. This analysis will also differ by focusing on the variability of rituals and associated beliefs across the sociopolitical spectrum at Anyang. I will also attempt to draw from various alternative interpretations of ritual to understand Shang ritual and society.

The foregoing discussion of ritual and the Shang dynasty provides a solid framework within which a quantitative analysis of burials can be attempted. This discussion has also provided a brief overview of current knowledge of Shang ritual and society with which I hope to engage, add to, and challenge.

Methods

Dasikong and Huayuanzhuang East

As discussed above, the quantitative analysis used data from two Anyang cemeteries, Dasikong and Huayuanzhuang East (Figures 2, 3, and 4). Burials at Dasikong and Huayuanzhuang East are divided into four periods as identified in the site reports (Zhongguo



shehuikexueyuan kaoguyanjiusuo 2014, Zhongguo shehuikexueyuan kaoguyanjiusuo 2007).

Figure 2. Spatial layout of Anyang, the green circle is the approximate location of Huayuanzhuang East and the blue circle is the approximate location of Dasikong (after Shen 2002).

These four periods, referred to as Yinxu Periods I-IV cover the length of Shang occupation at the Yinxu site (see Li 2002; Li 2013 for a further breakdown of Shang chronology). Flad (2008:406)

broke down the four periods: I-II (1250-1200), III (1200-1125), and IV (1125-1046). I thus analyze each chronological subset of burials separately.

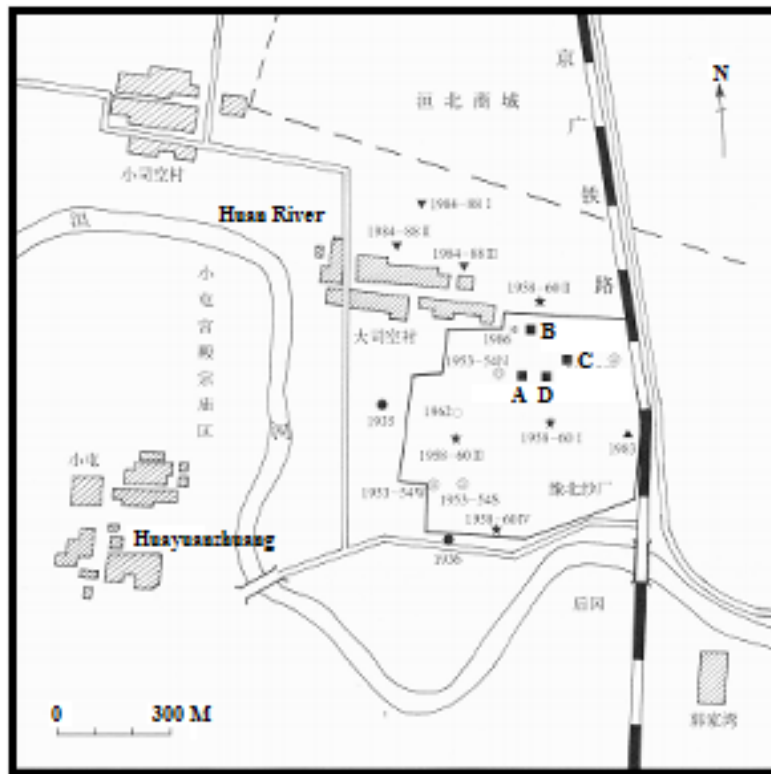


Figure 3. Spatial layout of Dasikong with burial groups A, B, C, and D marked (after Zhongguo shehuikexueyuan kaoguanjiusuo 2014).

The portion of Dasikong analyzed in this thesis was excavated by the Anyang Work Station in 2004. The excavations covered an area of approximately 6400 m² (Zhongguo shehuikexueyuan kaoguanjiusuo 2014). Huayuanzhuang East was excavated by the Anyang Work Station from 1992-2002 and covered an area of approximately 16,500 m² (Zhongguo shehuikexueyuan kaoguanjiusuo 2007).

Spatially, Dasikong was analyzed in its entirety and partially as four distinct groupings of burials (Figure 5) as defined in the Dasikong site report (Zhongguo shehuikexueyuan

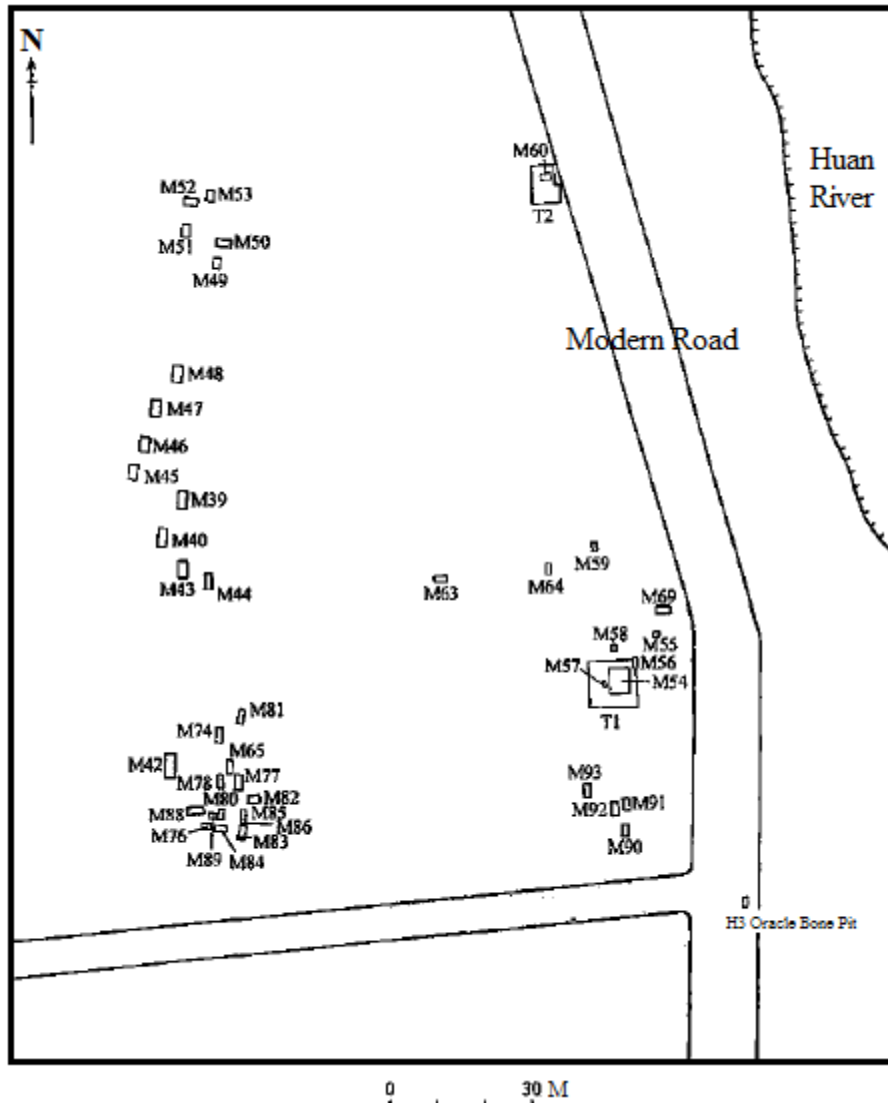


Figure 4. Spatial layout of Huayuanzhuang East burials (after Zhongguo shehuikexueyuan kaoguanjiusuo 2007).

Dasikong cemetery and 40 burials from the Huanyuanzhuang East cemetery were analyzed. The burials were selected from the site reports based on whether the published were complete enough for comparative purposes. For example, burials that contained incomplete data on burial dimensions were not included in the analysis. I also separate the data by sex where possible to better understand gender differences during the Late Shang period. There are a total of 148

kaoguanjiusuo 2014). The Huayuanzhuang East cemetery was also analyzed as a single cemetery as reported (Zhongguo shehuikexueyuan kaoguanjiusuo 2007), but these were further divided into four groupings (Figure 6) based on the spatial arrangement of graves. Some 351 burials were analyzed from the

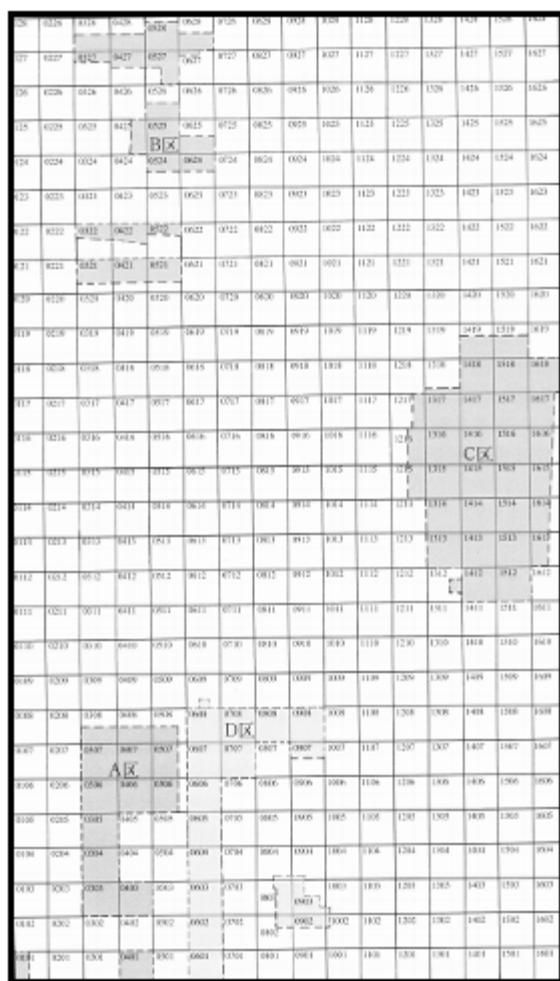


Figure 5. Spatial layout of Dasikong A, B, C, and D (after Zhongguo shehuikexueyuan kaoguanjiesuo 2014).

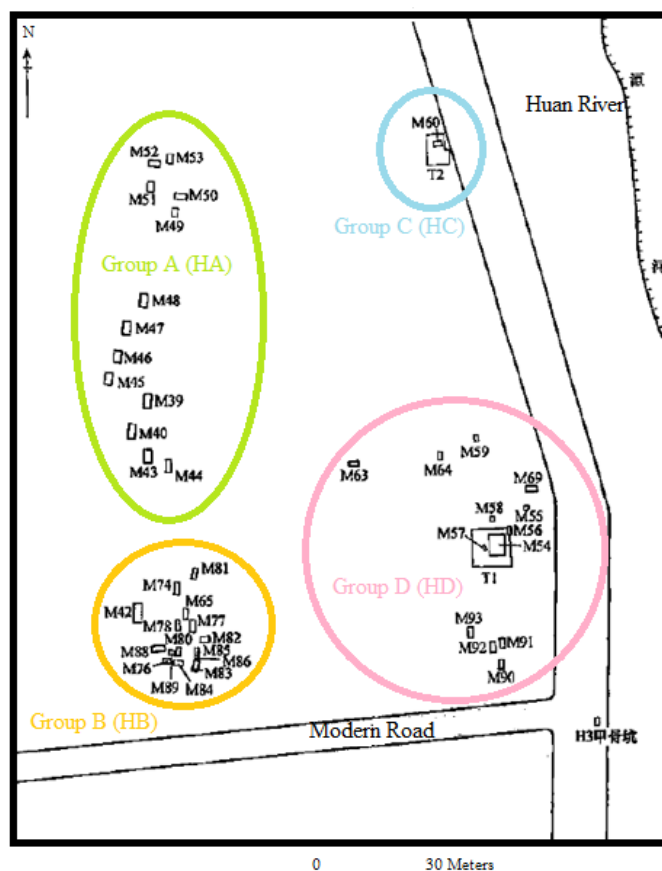


Figure 6. Spatial layout of Huayuanzhuang East A, B, C, and D (after Zhongguo shehuikexueyuan kaoguanjiesuo 2007).

Dasikong burials and 10 Huayuanzhuang East burials where sex was identified. The statistical software R (v. 3.3.1) is used in this analysis.

Quantitative methodologies have been extensively used by archaeologists (Clark 1982; Drennan 2009; Shennan 1988; Spaulding 1977), for example, in faunal analysis (Grayson 1984; Lyman 1994), lithics analysis (Lassen and Williams 2015) and settlement analysis (Drennan et al. 2014). Quantitative techniques have also been used to analyze burials and associated funerary practices (Burchell 2006; Flad 2001; O’Shea 1984). My analysis draws on an exploratory data analysis (EDA) approach, which “is formalized pattern searching using a variety of different

techniques to assess the same body of data” (Clark 1982:218). This analysis will incorporate analytical methods ranging from comparing means to non-metric multidimensional scaling and Gini coefficients. In multidimensional scaling, cases (burials) are analyzed to reveal patterns and relationships among variables (see below) that allowed me to better understand aspects of Shang ritual, ideologies, society, and behavior that would otherwise be difficult to discern (see Drennan 2009; Drennan et al. 2010; Shennan 1988; Spaulding 1977 for more on multivariate analysis and examples in archaeology of non-metric multidimensional scaling). Gini coefficients, statistical measures of economic and other inequality, hold great potential in furthering understanding of inequalities of various sorts in archaeological contexts (Peterson et al. 2016).

Table 2. Variables used in the non-metric multidimensional scaling analysis.

Variables
Energy Invested in Burials
Waist Pit
Sacrificial Remains
Burial Size
Drinking Vessels % of Interred Goods
Food Vessels % of Interred Goods
Bronzes % of Interred Goods
Pottery % of Interred Goods
Servingware % of Ceramics
Shells % of Interred Goods
Weapons % of Interred Goods
Knives % of Interred Goods
Tools % of Interred Goods
Ornaments % Interred Goods
Instruments % of Bronzes
Jade % of Interred Goods
Bone % of Interred Goods
Stone Artifacts % of Interred Goods

There were eighteen variables used in the non-metric multidimensional scaling analysis (Table 2). There are of course other variables that could have been employed, but I believe these

variables represent a solid foundation for a non-metric multidimensional scaling analysis in this Shang context. Other variables, such as human sacrifice, were rare occurrences in the dataset and were excluded from the analysis so as to avoid adversely affecting the results.

Table 3. Estimates of artifact costs used in determining energy invested in grave goods.

Artifact/Material	Cost
Bronze/Lead Vessel/Instrument	2000
Bronze/Weapon/Tool	1250
Small Bronze/Lead Artifact	1250
Unclassified Bronze Artifact/Piece	500
Ceramic Vessel	1000
Large Ceramic Artifact	1000
Small Ceramic Artifact	250
Pottery Sherd	1
Shell/Shell Artifact	250
Freshwater Shell/Shell Artifact	100
Stone Artifact	500
Jade Artifact	2500
Crystal Artifact	2500
Gold Artifact	2500
Turquoise	2000
Bone/Antler Artifact	500
Ivory Artifact	700
Oracle Bone/Turtle	2500

Table 4. Categorization for Burial Size variable.

Category	Size (m³)
1	0-3
2	3.1-5
3	5.1-7
4	7.1-10
5	10.1-15
6	15.1-20
7	20.1-30
8	>30

The *Energy Invested in Grave Goods* variable was derived from a method described in Peterson et al. (2016). Following this method, each burial was given a standardized proportion based on interred goods and was multiplied by relative costs for each artifact category. Burial costs were totaled and each burial's cost was divided by total costs to determine each burial's "energy" relative to total "energy" invested in all burials. Table 3 displays the estimated costs for interred goods used in calculating energy investment for this variable. *Energy Invested in Grave Goods* was also used to calculate Gini coefficients for each cemetery. *Waist Pit* is a presence/absence variable of whether a waist pit (*yaokeng*) feature was built into the burial. *Sacrificial Remains* is also a presence/absence variable of whether a burial contains animal sacrificial remains. These remains are not differentiated between complete skeleton or partial skeleton and species level identifications are not made due to lack of zooarchaeological data in site reports. This variable is, however, sufficient for the purposes of my analysis as my objective is to understand mortuary ritual in multiple dimensions and should not require a detailed analysis of sacrificial practices. These practices are described in detail elsewhere (Yuan and Flad 2005, Keightley 2014, Thorp 2006) and were consulted as a complement to my research. *Burial Size* is a categorization of burial dimensions (Table 4). *Drinking Vessels % of Interred Goods* and *Food Vessels % of Interred Goods* are the proportions of these types of vessels among all interred goods in each burial assemblage. *Servingware % of Ceramics* is the combined proportion of vessels of this type from among all identified vessels in each burial assemblage. *Bronzes % of Interred Goods* and *Pottery % of Interred Goods* are the proportion of these material types among all interred goods in each burial assemblage. *Shells % of Interred Goods* is the proportion of shells or shell artifacts in each burial assemblage. *Weapons % of Interred Goods* and *Knives % of Interred Goods* are the proportion of knives each burial assemblage that were

identified as weapons and knives. Knives were not included in either the weapon or tool category as it is difficult to determine the function of these artifacts, they could in some instances be weapons, tools, or decorations. *Tools % of Interred Goods* is the proportion of production tools in each burial to each burial assemblage. *Ornaments % of Interred Goods* is the proportion of ornaments and decorative artifacts each burial assemblage. *Instruments % of Interred Goods* is the proportion of this type of artifact to each burial assemblage. *Jade % of Interred Goods* is the proportion of jade artifacts to each burial assemblage. *Bone % of Interred Goods* is the proportion of bone artifacts in each burial to each burial assemblage.

Bronzes, ceramics, jade, bone, and stone artifacts were selected as to understand further the role of raw materials in production, exchange, and ritual. For example, Campbell et al. (2011) suggested that bone materials could be part of a broader ritual and market economy and production sites could be lineage controlled. If so, is differential access to these materials represented in the form of mortuary rituals? Is this access related to a ritual hierarchy or differences in socioeconomic status? These variables were chosen based on current understandings of Shang society and can effectively encapsulate the variety of data reported for each site.

It is also important to note that while in the site reports burials are labeled with the prefix *M* followed by a number, this analysis changes the *M* to *D* (Dasikong) and *H* (Huayuanzhuang East) for each cemetery. The following analysis deals with each cemetery in turn in order to understand social processes and ritual within each cemetery and to establish a framework for comparison.

Results

Chronology

The first step in analyzing the Shang burial sample was to search for basic patterns in the dataset, such as those based on chronology, grave dimensions, and interred goods. As stated above, there are a total of 391 burials included in this analysis that have been divided into four periods (Table 5, Figures 7 and 8) based on the standard Yinxu periodization discussed above. There is also a category of burials that could not be associated with any period, identified as “Period V” in my analysis.

Table 5. Burial counts by period.

	Period I	Period II	Period III	Period IV	Period V	Total
Dasikong	8	47	41	138	117	351
Huayuanzhuang East	1	9	4	10	16	40

Period I at Huayuanzhuang East contains only one burial; therefore, no conclusions can be made about this period from the Huayuanzhuang East dataset in this quantitative analysis.

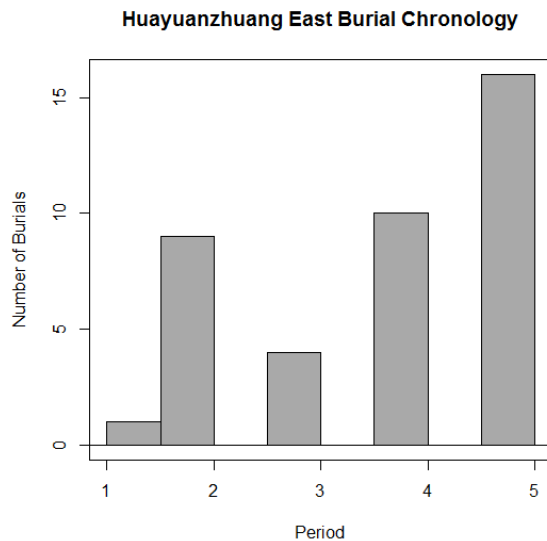


Figure 7. Huayuanzhuang East burial counts.

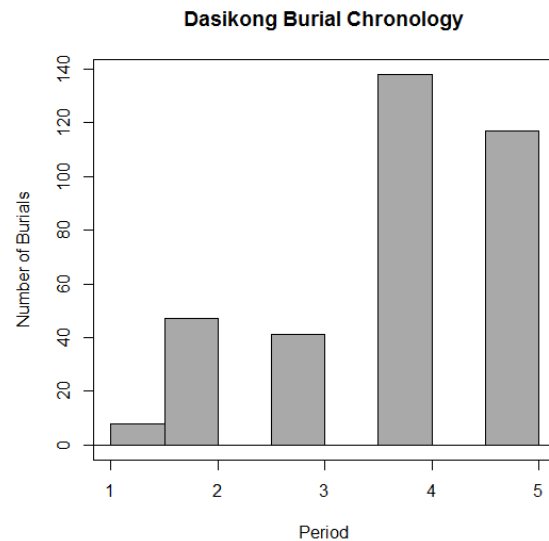


Figure 8. Dasikong burial counts.

Similarly, there are only eight Period I burials at Dasikong. In both cemeteries there is an increase in burial activity from Period I to Period II followed by a slight decrease in Period III

and then finally an increase in Period IV. There are quite a few burials from both that could not be assigned to period. While not useful for diachronic analysis, these additional burials prove useful when other aspects of the assemblages through quantitative analysis.

Burial Size

The average dimensions of burials at Dasikong are larger than Huayuanzhuang East burial dimensions. The burial dimensions for the Huayuanzhuang East and Dasikong burials were calculated from the dimensions recorded in site reports (Table 6). The mean for Dasikong burials is 7.47 m³ and for Huayuanzhuang East it is 5.66 m³. The median for Dasikong burials is 4.37 m³ and for Huayuanzhuang East it is 3.36 m³. The 10% trimmed mean for burials at Anyang is 4.7 m³ (Dasikong) and 4.16 m³ (Huayuanzhuang East). The centers have varied values. The mean, especially, has larger values while the median seems to underestimate the center of the Dasikong and Huayuanzhuang East batches. The median has a lower value and would seem to better represent the center, but it also could very well underrepresent the center for both Dasikong and Huayuanzhuang East. Thus, the 10% trimmed mean is often used when average for burial size was calculated, unless otherwise noted. On the basis of the Dasikong sample, I estimate that the 10% trimmed mean of Dasikong burial sizes is 4.7 m³ ± .45 m³ at the 95% confidence level. On the basis of the Huayuanzhuang East sample, I estimate that the 10% trimmed mean of Huayuanzhuang East burial sizes is 4.16 m³ ± 1.13 m³ at the 95% confidence level. While the 10% trimmed mean is a useful measure of central tendency, both Dasikong and Huayuanzhuang East hold a broad range of burial sizes (Figures 9 and 10), and it is important to recognize that some burials here are much larger and more costly (in energy and labor) to excavate than others.

Table 6. Measures of central tendency for Dasikong and Huayuanzhuang East burial sizes.

leaf unit: 0.1

n: 351

0 | 000000001111111112222222233333333334444455555566666677777888889999

1 | 00011111222333334444566677788888999

2 | 0000001111222222333333444455555666667777788889

3 | 001111222333344455667888999999

4 | 00001111223334444555555566688999

5 | 00011134556667889999

6 | 00000112234555567788999

7 | 012456777

8 | 12379

9 | 000256889

10	001677
----	--------

11	0146678
----	---------

12 | 25779

12	257
13	048

14	0233445
----	---------

14	52
15	48

HI: 16.22 16.3 16.39 16.52 16.69 17.62 17.99 18 18.3 20.38 20.64 20.79 22.77 23.12 23.87 23.9 25.95

27.33 27.93 28.74 29.98 31.62 31.93 36.31 63.11 68.77

Figure 9. Stem-and-leaf plot of Dasikong burial dimensions (m³).

1 | 2: represents 1.2

leaf unit: 0.1

n: 40

0 | 01569

1 | 0148

2 | 01245

3 | 559

4 | 123499

5 | 01288

6 | 4

7 | 233

8 | 13

9 |

10 |

11 | 06

12 |

13 | 79

HI: 15.51 103.69

Figure 10. Stem-and-leaf plot Huayuanzhuang East burial dimensions (m³).

Size and Chronology

With the exception of Period I that is plagued by a small sample size issue, the 10% trimmed means for each set of periods are similar (Table 7). There are trends in the batches of burial sizes (Figures 11 and 12). To discover whether burial sizes remained relatively static or dynamic through time at Anyang, I analyzed the dimensions of Periods II-IV Dasikong burials using the mean, not the 10% trimmed mean. Dasikong burials were used for this part of the analysis due to their larger quantities of burials compared with Huayuanzhuang East. The Dasikong burial sample indicates at 95% confidence that the mean of burial dimensions at Dasikong was $7.13 \text{ m}^3 \pm 1.51 \text{ m}^3$ for Period II burials, $7.57 \text{ m}^3 \pm 1.84 \text{ m}^3$ in Period III, and $6.88 \text{ m}^3 \pm 1.69 \text{ m}^3$ in Period IV. Thus, it can be said that burial size remained similar over time at Dasikong and may indicate somewhat standardized burial sizes. However, there are only loose groupings of burial sizes in the Period I burials at Dasikong and Periods II-IV at Huayuanhzuang East. Instead, the burial sizes in these periods are spread out with no clear peaks. This could be contrary to what was found at Dasikong Periods II-IV burials and indicate that burial dimensions were not standardized in mortuary practices, but were dependent on a variety of factors. Burial size could simply reflect making the burial large enough for the deceased and the goods to be interred. In addition, burial size could be related to spatial limitations or personal, ritual preferences. Conversely, burial size could also be related to status, irrespective of whether this status reflected economic, political, or social standing within the communities. These possibilities will be discussed below.

*Table 7. 10% trimmed mean of burial sizes (*only burial in this period).*

	Period I	Period II	Period III	Period IV	All Periods
Dasikong	3.87	6.78	7.19	5.47	4.7
Huayuanzhuang East	1.4*	6.88	8.1	4.68	4.16

Period 1	Period 2	Period 3	Period 4
1 2: represents 1.2	1 2: represents 1.2	1 2: represents 1.2	1 2: represents 1.2
leaf unit: 0.1	leaf unit: 0.1	leaf unit: 0.1	leaf unit: 0.1
n: 8	n: 47	n: 41	n: 138
0 678	0 012	0 4	0 111122333333455666799
1	1 88	1 136	1 1112334456788899
2	2 267	2 001256	2 00011122223333334445666789
3 59	3 011233	3 8899	3 1344799
4 3	4 15	4 1458	4 0011122345555668999
5 0	5 56678	5 1499	5 001135699
HI: 11.85	6 34555689	6 00179	6 01259
	7 014577	7	7 6
	8	8	8 1279
	9 0026	9 0	9 5889
	10	10 007	10 17
	11 7	11	11 146
	12 7	12	12 279
	13	13	13 48
	14 24	14 3345	14 0
	HI: 17.62 18 20.64 22.77	15 48	HI: 16.39 16.52 17.99 18.3 20.79 23.12 23.87 23.9 27.93 28.74 29.98 31.62 36.31 63.11 68.77
		16 236	
		HI: 25.95	

Figure 11. Stem-and-leaf plots of Dasikong burial dimensions (m^3) by period.

Period 2	Period 3	Period 4
1 2: represents 1.2	1 2: represents 1.2	1 2: represents 1.2
leaf unit: 0.1	leaf unit: 0.1	leaf unit: 0.1
n: 9	n: 4	n: 10
2 14	4 3	0 5
3	5 8	1 1
4 249	6	2 0
5 0	7	3 9
6	8 3	4
7	9	5 128
8	10	6
9	11	7 33
10	12	8 1
11 6	13 9	
12		
13		
14		
15 5		
HI: 103.69		

Figure 12. Stem-and-leaf plot of Huayuanzhuang East burial dimensions (m^3) by period.

Burial Size, Artifacts, and Energy Invested in Grave Goods

The size of burials, interred goods, and *energy invested in grave goods* were also analyzed to understand the relationship between these variables. In addition to scatterplots, Pearson's r and Spearman's rank correlation coefficient were used to help quantify this

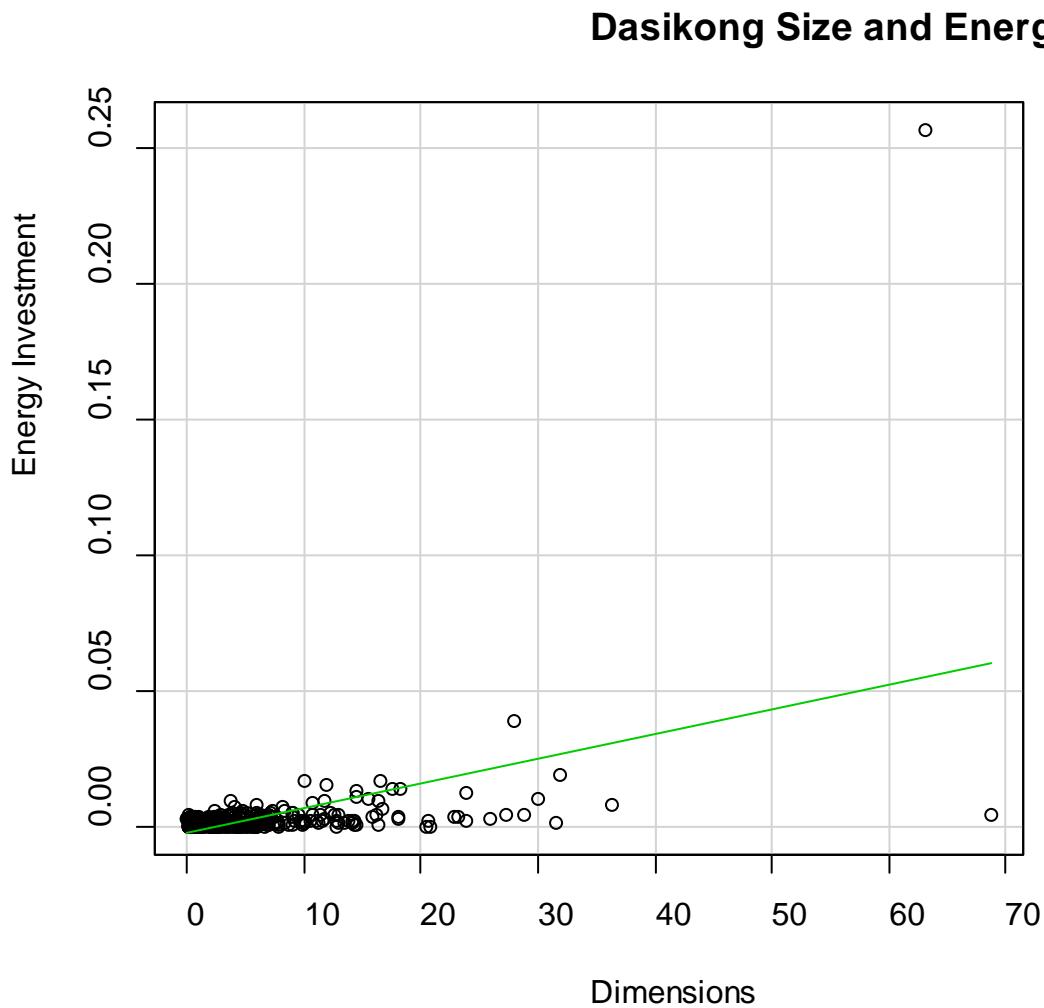


Figure 13. Dasikong burial size and energy scatterplot.

relationship. For Dasikong burials, there is a moderate but highly significant correlation between burial size (X) and interred goods per burial (Y) ($r = .4567413$, $p < 2.2\text{e-}16$, $Y = .486X + 1.265$).

For Huayuanzhuang East burials (H15 and H21 trimmed), there is a moderate correlation but

highly significant correlation ($r = .4175584$, $p = 0.009097$, $Y = .645X + 1.896$). Burials were ranked according to the respective value of the *energy invested in grave goods* variable. There is also a moderate and highly significant rank-order correlation between burial size (m^3) and energy invested in burials at both cemeteries Dasikong ($r_s = .3977219$, $p = 9.436e-15$) and Huayuanzhuang East ($r_s = .4049689$, $p = .009538$). Thus, at both cemeteries, while the construction of larger burials does seem to be related to either the amount of interred goods or energy invested. The nature of this relationship is still not clear. This can also be seen in the scatterplots displaying the relationship between burial size and energy invested in burials. There

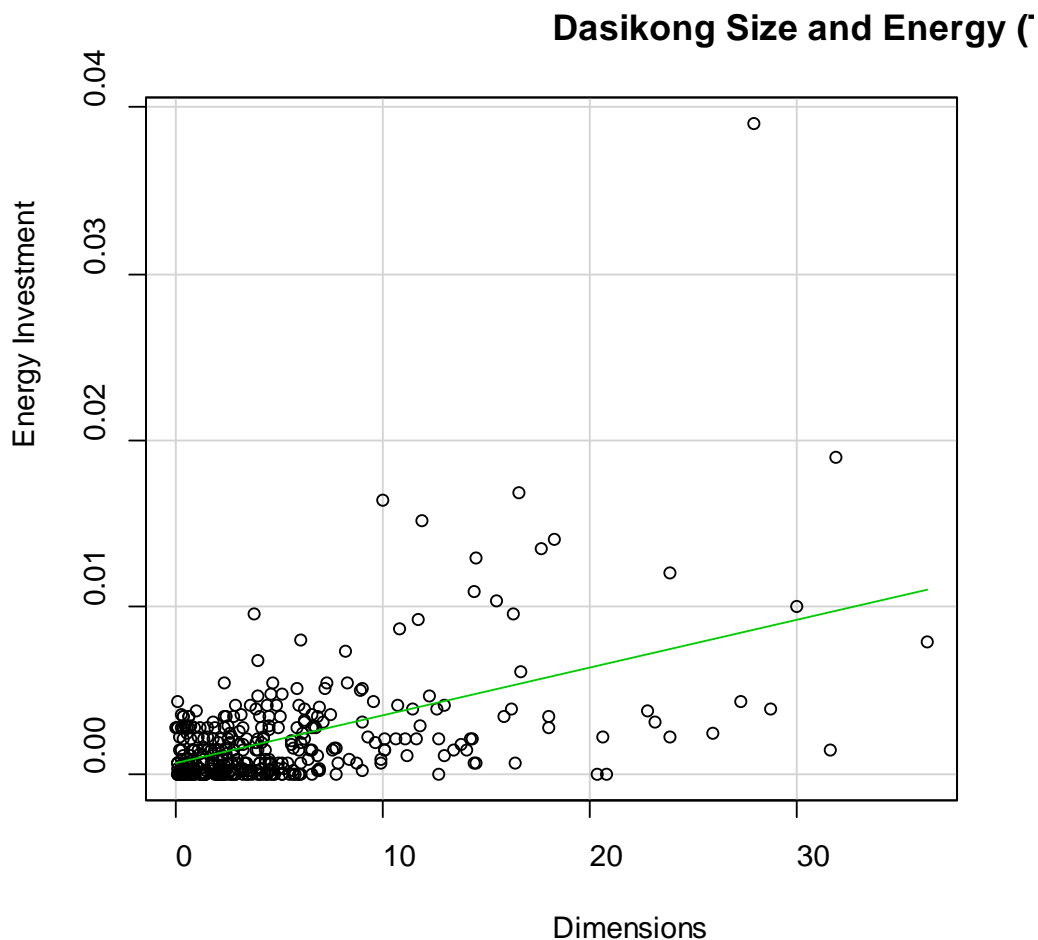


Figure 14. Dasikong burial size and energy scatterplot with outliers trimmed.

were two scatterplots made for each cemetery as there were large outliers that made it difficult to see many of the data points on the scatterplot.

The Dasikong scatterplots (Figures 13 and 14) display that while there are burials that have larger burial dimensions and are associated with higher energy invested, there are also burials that have smaller burial dimensions and are associated with low energy invested. Burial D303 and D301 are examples of this in the Dasikong sample. While D303 has the highest energy invested among the burials at Dasikong, D301 has the largest burial size but with relatively low energy invested. If we look closely at the trimmed scatterplot, the pattern conforms to

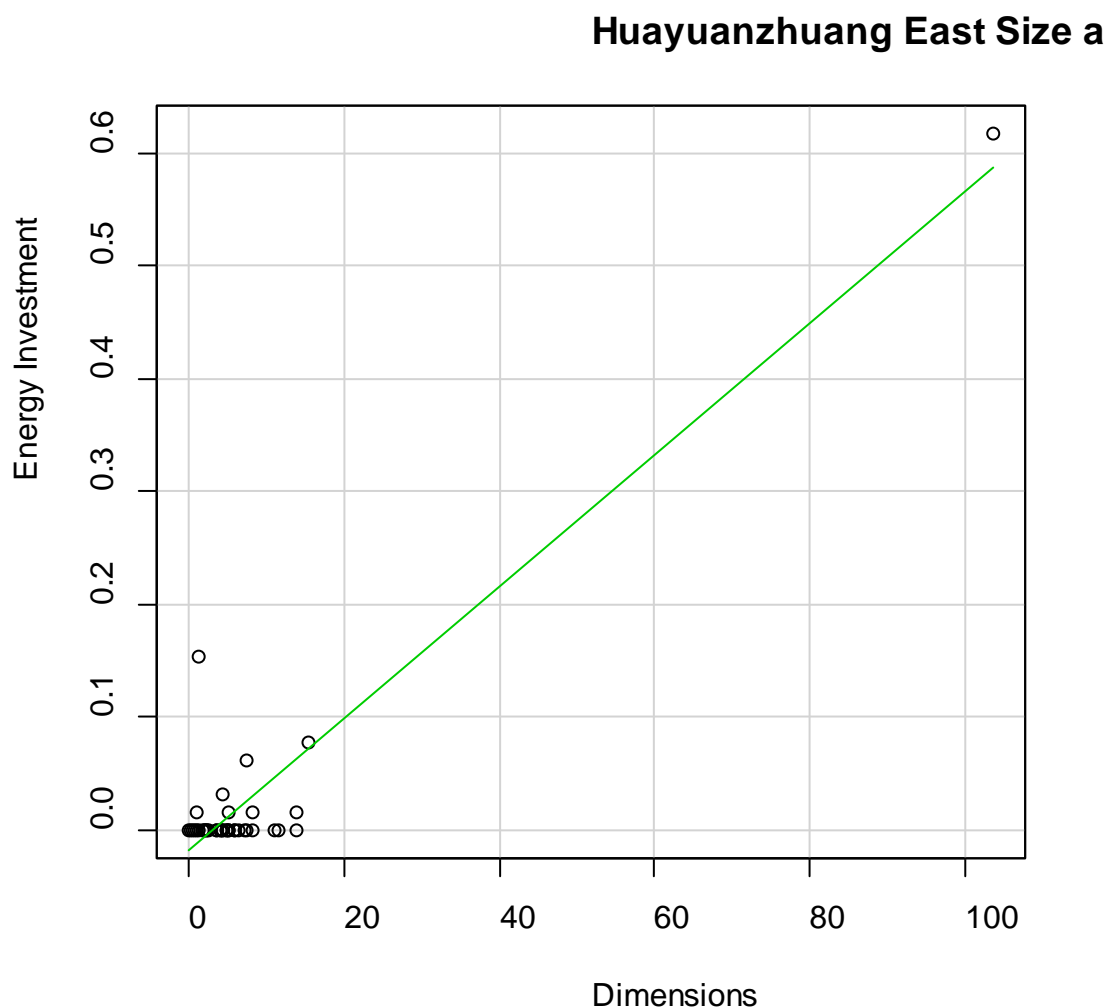


Figure 15. Huayuanzhuang East burial size and energy invested in burial scatterplot.

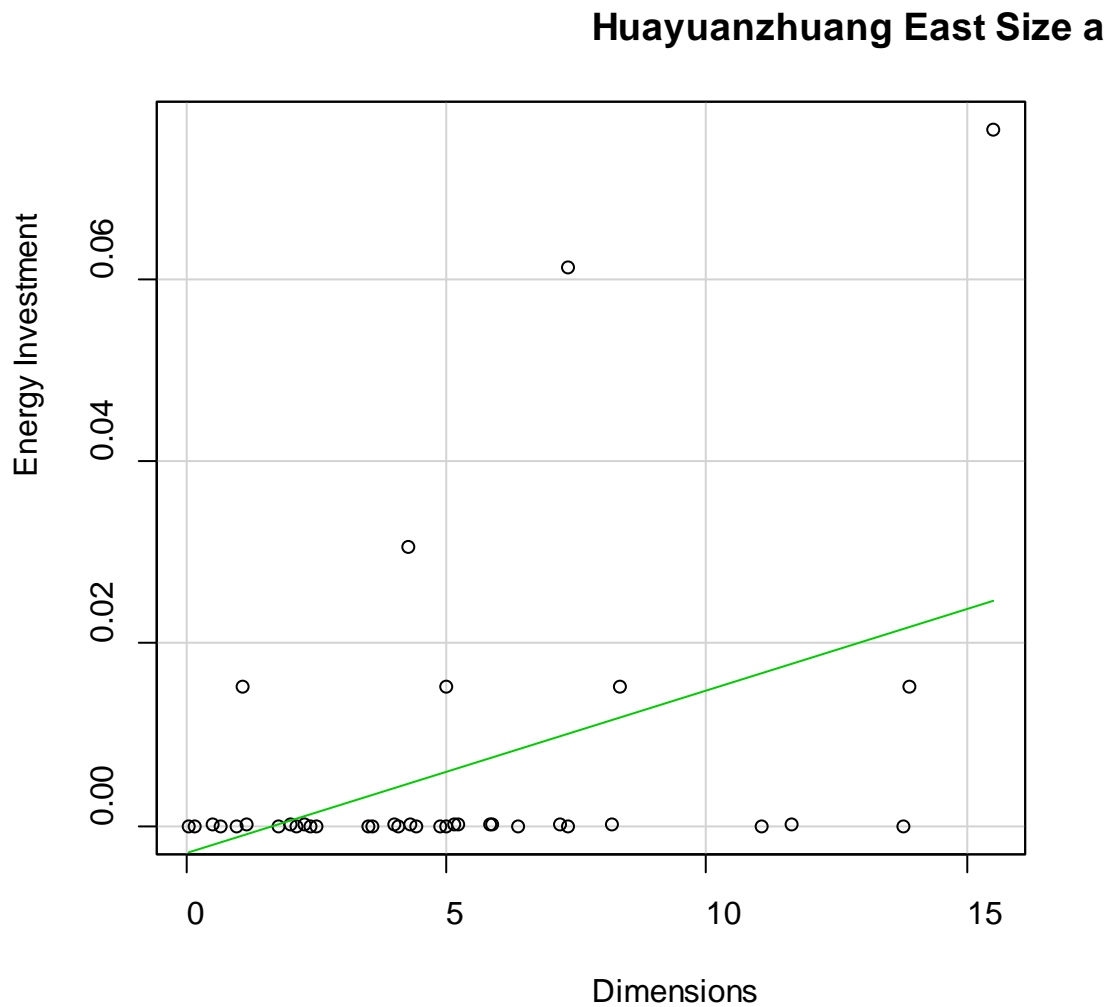


Figure 16. Huayuanzhuang East burial size and energy invested in burial scatterplot with outliers trimmed.

expectations: burials with high energy invested and large burial size, and burials with low energy invested and smaller burial size—but there are also some large residuals—smaller burials with high energy invested and large burials with low energy invested.

A look at the scatterplot with the outliers trimmed, reveals large residuals with the majority of cases hovering near zero values for *energy invested in grave goods* (Figures 15 and 16). While the largest burial (H15) at Huayuanzhuang East is the one with the highest energy invested, the burial with the second highest energy invested is also one of the smallest burials.

The analysis of burial size shows that the construction of larger burials at Huayuanzhuang East is not uniformly, or even very often, associated with high energy investment. This is not to discount the fact that larger burials require more physical labor to construct, but there is little relationship between grave size and the costliness of its burial. The largest burials at Anyang, the royal tombs at Xibeigang, are indeed large burials associated with many ritual and prestige goods, but the burials outside of Xibeigang, including at Dasikong and Huayuanzhuang East, have a diverse range of burial sizes and interred goods. Although, the Xibeigang tombs are shaft tombs like at Dasikong and Huayuanzhuang East, they are constructed with four ramps that are oriented towards the cardinal directions. This spatial layout was an integral part of elite Shang mortuary rituals (Pankenier 2013). Perhaps burial size was thus a matter of lesser importance in the mortuary rituals of lower status members of the community. The focus at these latter sites was instead on interred goods, ritual, and spatial layout. These issues will be explored below. It is clear, however, that while size does in some ways correlate to Shang mortuary ritual, burial size need not be a crucially important to this ritual. It can then be said that the primary concern of ritual participants in energy expended was the ritual of interment rather than burial size.

Waist Pits

One such feature that could have held an important role in mortuary practices were waist pits (Figure 17). These waist pits were constructed below the deceased and often contained the remains of sacrificial animals, primarily dogs. The presence of waist pits is thus indicative of certain ritual practices absent from the funerary rituals of the deceased where graves lack these

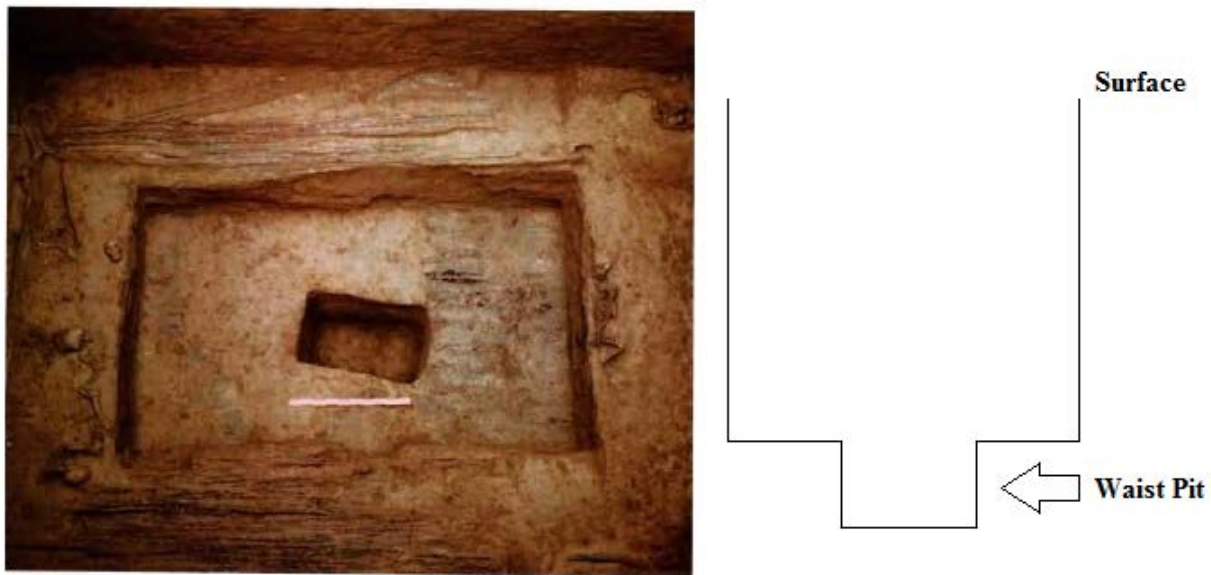


Figure 17. Picture of waist pit from M54 (H15 in my analysis) (picture of M54 from Zhongguo shehuikexueyuan kaoguyanjiusuo 2007) and outline of shaft burial with waist pit.

features. Both Dasikong and Huayuanzhuang East were analyzed with respect to this burial feature. There are 135 burials with waist pits at Dasikong (38%) and 216 without waist pits (62%). There are 17 burials with waist pits (42.5%) and 23 burials without waist pits at Huayuanzhuang East (57.5%) (Table 8). The waist pit dimensions are relatively small compared to overall burial sizes. For example, the mean size of waist pits at Huayuanzhuang East is $.08 \text{ m}^3$, the size of Dasikong waist pits is similar to that of Huayuanzhuang East waist pits. Despite this, the 10% trimmed mean of burials with waist pits at Huayuanzhuang East is 8 m^3 and the 10% trimmed mean of those without waist pits is 2.82 m^3 . At Dasikong, the 10% trimmed mean of waist pit burials is 9.05 m^3 and 2.37 m^3 for those without waist pits (Table 9). Thus, waist pits do not add to significantly to burial dimensions, but waist pits are typically found in larger burials. From the back-to-back stem-and-leaf plots of Dasikong and Huayuanzhuang East waist pit

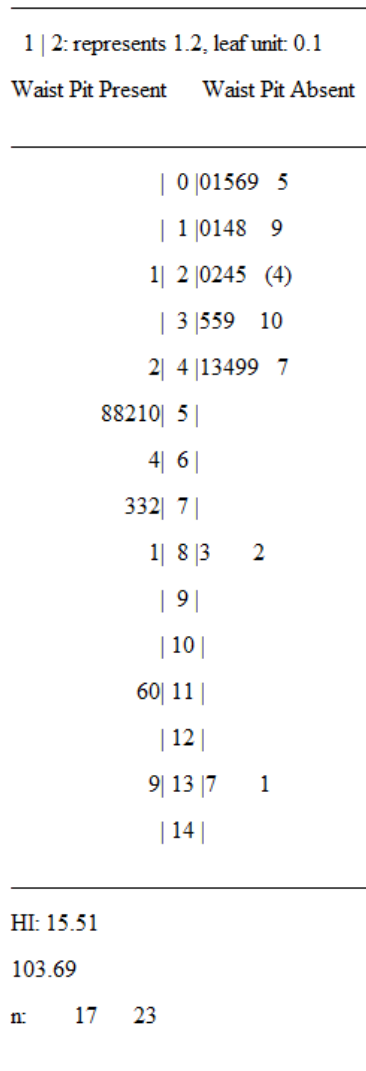


Figure 19. Huayuanzhuang East back-to-back stem-and-leaf plot presence/absence of waist pit by burial size (m³).

If waist pits were constructed in fewer burials, would there be fewer interred goods and energy invested in these burials? If so, then the construction of waist pits could reflect the ways in which lower status members of the community navigated the Shang belief system. Looking at Table 10, we see that 76% of grave goods are found in Dasikong waist pits burials and 95% of grave goods are found in Huayuanzhuang East waist pit burials. In terms of *energy invested in grave goods*, there is a similar trend in the data: 82% of total cemetery energy is invested in Dasikong waist pit burials and 71% of total cemetery energy is invested in Huayuanzhuang East waist pit burials (Table 11).

Table 10. Counts of interred goods with respect to waist pits.

	Waist Pit Present	Waist Pit Absent
Dasikong	1319	418
Huayuanzhuang East	3337	116

Table 11. Sum of energy invested in burials with respect to waist pits.

	Waist Pit Present	Waist Pit Absent
Dasikong	0.710515	0.28949
Huayuanzhuang East	0.81608	0.18392

In summary, waist pits are associated with relatively few burials and yet comprises most of the *energy invested in grave goods*. In addition, waist pits were restricted to larger burials despite the minimal investment needed to construct these features. While there are likely a variety of factors that went into determining the layout of burials, there are two possible explanations presented here. First, waist pits could have been linked to an aspect of the Shang ritual system that was only accessible to higher status members of society. This idea is supported not by only the large quantity of artifacts associated with waist pits and the high energy invested in waist pit burials, but also by the fact many waist pits contain sacrificial remains. And many of these sacrificial remains were “specially bred livestock” that were integral to Shang ritual (Pankenier 2013:65). Thus, sacrifice, which was often performed elite contexts (Yuan and Flad 2005), can serve as an additional indicator of the association between waist pits and Shang ritual and hierarchy. An analysis and brief discussion of sacrificial remains is found below. A second possibility is that waist pits represent some other preference or ritual activity unrelated to social standing. The former seems to be the more plausible to me, the fact that not all larger or richly apportioned burials were constructed with waist pits (i.e. the Huayuanzhuang East Period I burial, H21) needs to be accounted for.

Orientation

Burials were also analyzed to their orientation. The north-south orientation was the most common burial orientation at each cemetery, but there is also considerable variation. Four categories were used for this purpose because the burial orientations clustered into multiple peaks centered on four directions in stem-and-leaf plots used to explore modality (Table 12, Figures 20 and 21). The categories are North-South (ranging from 315°-45°), East-West (ranging from 45°-135°), South-North (ranging from 135°-225°), and West-East (ranging from 225°-315°). These four categories were labelled N-S, E-W, S-N, and W-E respectively. For the purposes of the analysis I changed all orientations in category N-S that fall below 0° to a negative value. For example, 350° became -10°.

Table 12. Means of degrees of burial orientation.

	N-S	E-W	S-N	W-E
Dasikong	10.93°	102.67°	194.22°	274.75°
Huayuanzhuang East	7.04°	93.83°	183.8°	276.5°

```

1 | 2: represents 12
leaf unit: 1
n: 40
-1 | 0
-0 |
0 | 002234555555
1 | 0000000005
2 | 00
3 |
4 |
5 |
6 |
7 |
8 |
9 | 00058
10 | 0
11 |
12 |
13 |
14 |
15 |
16 |
17 |
18 | 00559
19 |
20 |
21 |
22 |
23 |
24 |
25 |
26 |
27 | 24
28 | 00

```

Figure 20. Stem-and-leaf plot of Huayuanzhuang East burial orientation (°).

1 | 2: represents 12

leaf unit: 1

n: 351

-3 | 2

-2

-1 | 004

-0 | 245555578

0 | 00000023333333445555555555678

1 | 0000000000000000122223334555555555555555555555555677888899

2 | 00000000000000002222333355556

3

4

5

6

7

8 | 0245

9 | 00001223335555555555778

```
10 | 0000000000223333555555555557
```

```
11 | 000000000255
```

12 | 08

12	0
13	0

14 | 0

15 | 0

16 | 57

17 | 55557

18 | 0000000000233555555555778

19 | 0000000000000244555555555566666666777888889

19		0000000000000021
20		00000000233569

21

22

23

24

25

26 | 35557

27 | 000000000000000023334455555566678

28 | 000145555555

29 | 00557

30 | 5

Figure 21. Stem-and-leaf plot of Dasikong burial orientation ($^{\circ}$).

The N-S category includes most of the burials of each cemetery, but there are substantial numbers of burials oriented to the other cardinal directions (Table 13). There is a greater range of burial orientations found at Dasikong, whereas those at Huayuanzhuang East display a greater tendency to be oriented north-south. The N-S orientation is associated both with larger burials (Table 14) and with greater quantities of interred goods (Table 15) at both cemeteries. Conversely, the E-W and W-E orientations are associated with smaller burials and fewer grave goods. H21, as it that has the second highest energy investment and number of grave goods. The N-S orientation is associated with the highest energy invested of the four orientations (Table 16). The lowest energy investment in burials is associated with the W-E orientation. While the S-N orientation at Dasikong and the E-W orientation at Huayuanzhuang East each hold the next highest energy invested burial groups, the difference between energy invested is minimal in these groups when compared to the N-S orientation and W-E at Huayuanzhuang East. As shown in the Dasikong site report (Zhongguo shehuikexueyuan kaoguanjiesuo 2014), the deceased head also are shown to be oriented to specific directions. Dasikong was used as there is more data available for this cemetery. The north orientation for the deceased's head is associated with the highest energy investment (.05), east and south are similar (.03 and .02 respectively), and west is associated with the least energy investment (.01). These results are not statistically significant and only represent approximately 11% of the total *energy invested in grave goods*. It nonetheless highlights that there are interesting and varied patterns of ritual behavior that are worth pursuing. Any future analysis of head orientation would need to take into account post-depositional processes.

Table 13. Burial counts of orientation categories.

	N-S	E-W	S-N	W-E
Dasikong	135 (38%)	72 (21%)	93 (26%)	51 (15%)
Huayuanzhuang East	25 (63%)	6 (15%)	5 (13%)	4 (10%)

Table 14. Burial orientation and 10% trimmed mean of burial size.

	N-S	E-W	S-N	W-E
Dasikong	6.17	3.46	4.13	4.01
Huayuanzhuang East	5.62	4.1	6.33	2.35

Table 15. Artifact counts of orientation categories.

	N-S	E-W	S-N	W-E
Dasikong	912	161	452	212
Huayuanzhuang East	3341	123	23	11

Table 16. Energy invested in burials of orientation categories.

	N-S	E-W	S-N	W-E
Dasikong	0.54871	0.11969	0.21907	0.11252
Huayuanzhuang East	0.78555	0.19899	0.01539	0.00008

What importance should be attached to this difference in burial orientation? Orientation, like waist pits, is an important feature of mortuary ritual at Anyang. This propensity towards astral alignments has been discussed at length elsewhere (Li 2013; Pankenier 2013). It is remarkable that all four cardinal directions are represented in burials ranging from what could be elites to the lower classes with relatively high precision at Anyang. The burials with higher energy investment seem to be more closely associated with a north-south orientation, yet the data also suggest that orientation to the other three cardinal directions is diverse and purpose-driven throughout the Shang hierarchy regardless of social, political, or economic status indicators. Those designing burials could have relied primarily on the most monumental structures as a focus of orientation since these would have likely been prominent on the landscape. If this

assumption correct, however, why did Shang communities orient graves toward cardinal directions not associated with symbols of elite status? Like waist pits, there could be multiple reasons for this. The orientation chosen could reflect the status of the deceased assigned by the community at varied social, economic, political, and religious levels. Burial orientation could alternatively reflect a site that “was most likely the meeting ground of previously separate peoples who may have come from local communities and/or distant territories and spoken different dialects or even languages” (Jing et al. 2013:405). If the occupants of Anyang were composed of different ethnic groups from varied regions, I would expect differing approaches to ritual, which could include burial orientation. Constructing burials with attention towards specific orientations, then, would represent differing ritual preferences of distinct groups. Preferences for orientations has long been recognized as a prominent burial feature in many



Figure 22. Spatial layout of royal tombs at Xibeigang.

societies, this orientation could reflect social status, connection to the landscape, or other religious customs (Pearson 1999). The N-S orientation that is associated with the highest energy and largest quantity of interred goods would represent the established local Shang people. Conversely, the cardinal directions and orientation of burials at Anyang towards all four cardinal directions could represent attempts to challenge and redefine or even confirm existing sociopolitical relationships.

It is also plausible, however, that orientation was dictated by someone with the ritual in accordance with prescribed ritual practices similar to the companies hired to direct funerals in modern Japan according to a variety of conditions and factors including beliefs, people involved, and the characteristics of the deceased (Suzuki 2004). This could be evidenced by a set of burial assemblages and burial layouts that are diverse yet follow clear guidelines that are replicated in other burials (i.e. orientation, waist pits, spatial layout, assemblage composition, etc.). This knowledge need not be confined to an outside person or group but could also have been found within particular lineages or communities. If the knowledge on ritual practices relating to death are found solely in an outside group, then this knowledge could have been used by what Brian Hayden (1995:18) called *aggrandizers*, who are “any ambitious, enterprising, aggressive, accumulative individual who strives to become dominant in a community, especially by economic means.” These aggrandizers would have been in a prime position to control this vital aspect of the Shang ancestral system and could have been linked to the Shang royal cult who were at the top of this ancestral hierarchy (Keightley 1999).

We could perhaps further extend this aggrandizing argument by suggesting that performing a mortuary ritual in specific ways was an attempt to exert “ownership” over these practices and their associated benefits (supernatural or otherwise). For example, burial

orientation may have been connected to these attempts. Groups and/or individuals may have oriented burials for ritual purposes to gain the advantages these orientations were believed to hold for the deceased and the ritual participants. This aggrandizing behavior could partially explain why the royal tombs had ramps oriented to all four cardinal directions (Figure 22) and the elite propensity to orient monumental structures north-south.

In contexts where knowledge of ritual practices was the purview of lineage groups or communities, then burials may have represented ritual spaces that could be appropriated to struggle with and used to define sociopolitical relationships. I believe that the ritual knowledge surrounding burial practices was more likely to be found within the groups related to the deceased as represented in the varied burial practices such as spatial layout and the internment of goods (see below). But this knowledge was derived from an overarching ritual system that pervaded every aspect of Shang society as evidenced in standardized practices such as burial orientation and use of waist pits. Ritual was *localized* within specific groups but *not* separate from a broader religious system found throughout Anyang, demonstrated by divination practices found in oracle bones. Thus, burials could represent the *beliefs* (see Rappaport discussion above) of each group, community, or individual pertaining to death, status, and broader cosmology that arose from the dominating ancestral cult and related hierarchy clearly present at Xibeigang and in a variety of elite ritual practices, such as sacrifice (Campbell 2013, Yuan and Flad 2005). Regardless of the exact nature of the four cardinal directions during the Late Shang period as seen in burials, the construction of burials with relative precision towards these points in all burials displays the clear ritualized nature of burial practices and (likely) efforts to negotiate the status of the deceased within the context of each burial.

Sacrificial Remains

Burials containing sacrificial remains were the minority in each cemetery, yet were associated with larger burials, more artifacts, and higher *energy invested in grave goods*. Sacrifice was an important ritual aspect of Shang society (Yuan and Flad 2005). As noted above, sacrificial animals were sometimes bred for this purpose. It seems likely that there existed differential access to these animals for use in sacrificial mortuary rituals. In 29% of Dasikong burials there were sacrificial remains, 27.5% of Huayuanzhuang East burials contained sacrificial remains (Table 17). There is a large difference between the sizes of burials with and without remains (Table 18). Burials with sacrificial remains contain 69% of all interred goods at Dasikong and 94% of all interred goods at Huayuanzhuang East (Table 19). Energy is also invested at a higher rate in Dasikong burials with sacrificial remains (.65) than those without sacrificial remains (.35). Among Huayuanzhuang East burials, those with sacrificial remains also have higher energy investment (.79) (Table 20). Thus, we see that the ritual activity of sacrifice is limited to a group(s) that have preferential access to this invaluable resource.

Table 17. Burial counts in relation to sacrificial remains.

	Sacrifice Present	Sacrifice Absent
Dasikong	103	248
Huayuanzhuang East	11	29

Table 18. 10% trimmed mean of burial sizes with respect to sacrificial remains.

	Sacrifice Present	Sacrifice Absent
Dasikong	9.52	2.94
Huayuanzhuang East	14.89	3.74

Table 19. Artifact counts with respect to sacrificial remains.

	Sacrifice Present	Sacrifice Absent
Dasikong	1196	541
Huayuanzhuang East	3298	200

Table 20. Energy invested in burials and sacrificial remains.

	Sacrifice Present	Sacrifice Absent
Dasikong	0.65294	0.34706
Huayuanzhuang East	0.78529	0.21471

Chronology and Energy

I also analyzed the how *energy invested in grave goods* changed through the four periods of the Late Shang (Table 21). At Dasikong, energy invested shows a successive increase through time. At Huayuanzhuang East, the single Period I burial included in my sample exhibits relatively high energy investment, but the Period II burials display the highest collective energy, due to expenditure (H15) in one burial that has a very high estimated energy input. Energy invested in burials drops off dramatically in Period III followed before rebounding slightly in Period IV.

At Dasikong, the pattern of increasing investment could merely reflect population growth, while investment in mortuary rituals remained stable or it could indicate increasing material focus on ritualized practices without substantial population increase. At Huayuanzhuang East, the cemetery was clearly an important area for burial of elites during the early occupation of Anyang, but subsequent graves display lower investment in mortuary rituals. As discussed above, the cemeteries at Anyang are thought to be organized according to descent group, and thus, it seems likely that these two cemeteries represent distinct lineages with slightly different funerary rites.

Table 21. Energy invested in burials through time.

	Period I	Period II	Period III	Period IV	Period V
Dasikong	0.02681	0.0961	0.12605	0.57948	0.171567
Huayuanzhuang East	0.15303	0.7391	0.03071	0.06168	0.01548

Artifacts by Type

Before going into more detail about artifacts recovered from each cemetery, I first provide an overview of their frequency distribution by type (Table 22) and material. Ceramic vessels for drinking and eating are more prevalent than the more expensive bronze vessels of the same type, this makes sense as pottery was a less socially restricted material than bronze in Shang times. Weapons and ornaments are the most numerous artifacts, although many of these artifacts are concentrated within only a few graves. For example, of the 1136 weapons at Huayuanzhuang East, nearly all were recovered from one burial. Pottery, on the other hand, is more evenly distributed and by far the most commonly interred grave good.

Table 22. Counts and percentages of artifact types.

	Ceramic Drinking Vessels	Bronze Drinking Vessels	Ceramic Food Vessels	Bronze Food Vessels	Ceramic Serving Ware
Dasikong	276 (15.9%)	42 (2.4%)	265 (15.3%)	17 (1%)	44 (2.5%)
Huayuanzhuang East	90 (2.6%)	36 (1%)	38 (1.1%)	24 (0.7%)	13 (0.4%)

	Weapons	Tools	Ornaments	Knives	Total Interred Goods
Dasikong	269 (15.5%)	53 (3.1%)	536 (30.9%)	9 (0.5%)	1734
Huayuanzhuang East	1139 (32.6%)	32 (0.9%)	193 (5.5%)	12 (0.3%)	3498

Artifact by Material

The distribution of artifacts by materials of production was also examined (Table 23). Artifacts and bronze and shell are among the most common class of grave goods at both cemeteries, but at Huayuanzhuang East most of these are concentrated in two high energy burials. Pottery is the most evenly distributed artifact noted despite composing only 4.1% of total

interred goods. At Dasikong, pottery rivals shell and bronze for prominence and is spread more nicely between the burials.

Table 23. Counts and percentages of artifacts by material.

	Bronze	Ceramic	Shell	Jade	Stone	Bone	Gold
Dasikong	438 (25.3%)	588 (33.9%)	593 (34.2%)	30 (1.7%)	14 (0.8%)	38 (2.2%)	2 (0.1%)
Huayuanzhuang East	1365 (39%)	144 (4.1%)	1555 (44.5%)	230 (6.6%)	19 (0.5%)	64 (1.8%)	118 (3.4%)

Artifact Proportions

I also calculated the proportions of different artifacts by type aggregated for each cemetery (Table 24). Drinking vessels, food vessels, and ornaments represent the highest proportions of interred goods at both Dasikong and Huayuanzhuang East. Shells are also prominent at Dasikong, but less so at Huayuanzhuang East. In contrast, drinking vessels are more common in Huayuanzhuang East burials than Dasikong burials. Although both drinking and food vessels are prevalent in Dasikong burials, the additional presence of substantial quantities of shell and other ornaments could indicate a focus not only on ritual engagement through drinking and eating, but also displays of wealth and/or prestige. While feasting was an important social activity in early China (Sterckx 2011) and there is evidence of possible feasting activity in burials (Figure 17 picture of bones in bronze ding), I am hesitant to connect the prevalence of food and drinking vessels found in graves to generalized pattern of funerary feasting without further analysis. These vessels could also be more connected to the provisioning of the dead through the interment of food and drinking vessels. In this sense, this provisioning could have been related to a notion of hospitality between the deceased and the participants who desired this new ancestor's assistance.

Table 24. Artifact proportions by type.

	DrinkingVessels%ofBronzes	DrinkingVessels%ofCeramics	FoodVessels%ofBronzes	FoodVessels%ofCeramics
Dasikong	0.003	0.171	0.002	0.189
Huayuanzhuang East	0.009	0.252	0.04	0.12
	Servingware%ofCeramics	Shells%ofInterredGoods	Weapons%ofInterredGoods	
Dasikong	0.022	0.24	0.03	
Huayuanzhuang East	0.04	0.092	0.068	
	Knives%ofInterredGoods	Tools%ofTotalInterredGoods	Ornaments%InterredGoods	
Dasikong	0.02	0.001	0.254	
Huayuanzhuang East	0.003	0.01	0.105	
	Instruments%ofBronzes	Jade%ofInterredGoods	Bone%ofInterredGoods	
Dasikong	0.038	0.006	0.013	
Huayuanzhuang East	0.064	0.016	0.002	

Dasikong Artifacts and Chronology

The Dasikong cemetery shows remarkable variability in the burials' spatial layout of burials and their interred goods (Figure 23; Table 25). The number of burials and quantity of interred goods increased from Period III to Period IV, and could indicate any number of

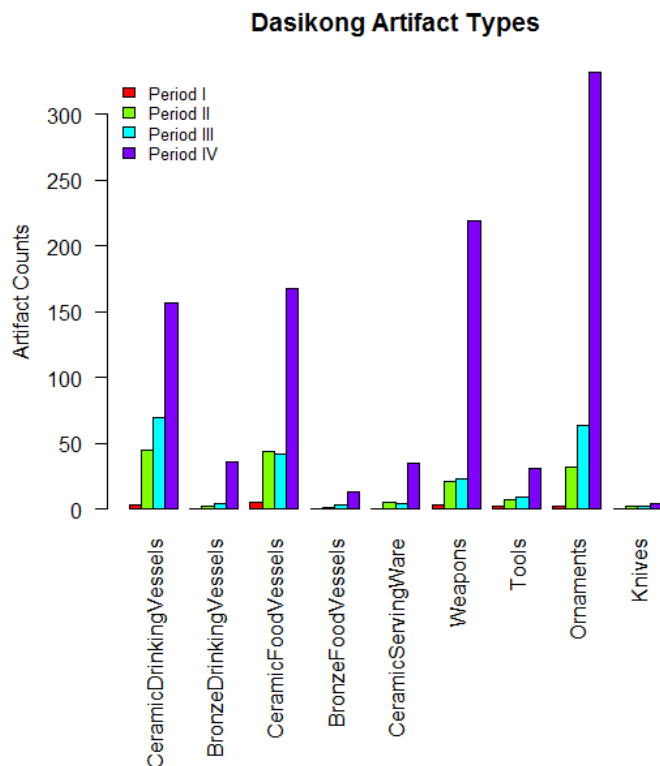


Figure 23. Dasikong artifact type counts and chronology.

possibilities, as discussed briefly above, including population increases; shifts in places of ritual importance; or the growing prominence of communities or lineage groups in the organization of ritual activities.

Table 25. Dasikong artifact type counts and chronology.

	Period I	Period II	Period III	Period IV
Ceramic Drinking Vessels	3	45	69	157
Bronze Drinking Vessels	0	2	4	36
Ceramic Food Vessels	5	44	42	168
Bronze Food Vessels	0	1	3	13
Ceramic Servingware Vessels	0	5	4	35
Weapons	3	21	23	219
Tools	2	7	9	31
Ornaments	2	32	63	332
Knives	0	2	2	4
Total	15	159	219	995

Table 26. Dasikong artifact proportions.

	Period I	Period II	Period III	Period IV
DrinkingVessels%ofBronzes	0	0.003	0.008	0.005
DrinkingVessels%ofCeramics	0.213	0.296	0.394	0.198
FoodVessels%ofBronzes	0	0.002	0.007	0.001
FoodVessels%ofCeramics	0.531	0.285	0.236	0.259
Servingware%ofCeramics	0	0.028	0.009	0.044
Shells%ofInterredGoods	0.094	0.185	0.185	0.302
Weapons%ofInterredGoods	0.088	0.087	0.049	0.026
Knives%ofInterredGoods	0	0.021	0.049	0.022
Tools%ofInterredGoods	0	0	0.006	0.001
Ornaments%InterredGoods	0.094	0.192	0.191	0.317
Instruments%ofBronzes	0	0.068	0.046	0.061
Jade%ofInterredGoods	0	0.002	0.005	0.008
Bone%ofInterredGoods	0.05	0.035	0.012	0.009

There are several trends in the artifact proportions of Dasikong burials (Table 26). First, there is an increase in the proportions of drinking vessels from Period I to Period III and a slight decrease in Period IV. Second, there is an overall decrease of food pottery vessels and weapons

as a part of burial assemblages from Period I to Period IV. Third, there is a marked increase in shell artifacts from Period I to Period IV. Proportions of tools, knives, instruments, and serving ware in burial assemblages remain low at Anyang. Finally, proportions of bronze drinking and food vessels, jade, and bone artifacts are extremely low, likely reflecting differential access to these materials for use in mortuary rituals.

The bronze artifacts show a large proportional increase in Period IV (Table 27; Figure 24). Indeed, many of the bronze artifacts date to this period. The pottery from Dasikong exhibits a similar trend with the exception that not all pottery types increased in Period IV (Table 28; Figure 25). This seems to support the idea that by Period IV, Dasikong had become an important place for ritual (funerary) activity for high status groups with access to materials previously reserved for the wealthiest and most prestigious of Shang elites. Whether the status on display at Dasikong was sociopolitical or economic in nature is unclear. It is also unclear whether the deceased buried at Dasikong in Period IV were related, by lineage, specialization, beliefs, or politics; and whether they might be the descendants of earlier groups buried there.

Table 27. Dasikong bronze artifacts by period.

	Bronze Gui	Bronze Jue	Bronze Gu	Bronze Ding	Bronze Ben	Bronze Ge	Bronze Dao	Bronze Mao	Bronze Zu	Bronze Zao	Bronze Ling
Period I	0	0	0	0	0	3	0	0	0	0	0
Period II	0	1	1	0	1	19	1	0	1	0	6
Period III	1	2	2	3	2	17	2	3	2	1	8
Period IV	4	16	11	11	4	50	3	57	104	2	27
Total	5	19	14	14	7	89	6	60	107	3	41

Table 28. Dasikong pottery counts by period.

	Ceramic Dou	Ceramic Gu	Ceramic Pan	Ceramic Gui	Ceramic Li	Ceramic Bu	Ceramic Zun	Ceramic Lei	Ceramic Guan	Ceramic Jue	Ceramic Yu	Ceramic Hu
Period I	3	0	0	1	4	0	0	0	0	0	0	0
Period II	19	12	3	19	7	4	0	2	13	11	1	1
Period III	14	25	4	18	7	0	3	1	15	24	2	1
Period IV	15	53	35	73	19	4	18	24	70	47	0	1

Dasikong Bronze Artifacts

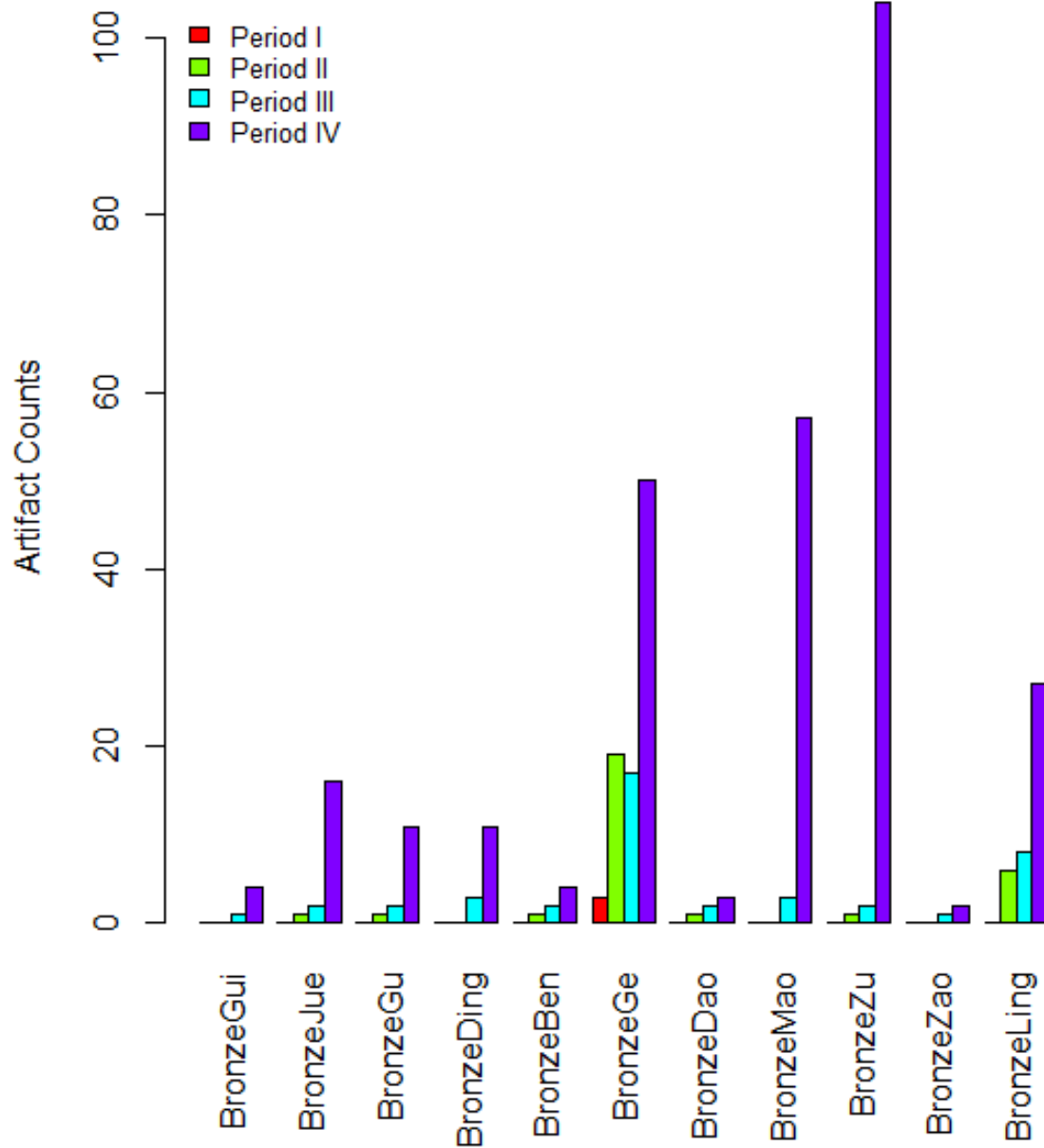


Figure 24. Dasikong bronze artifacts by period.

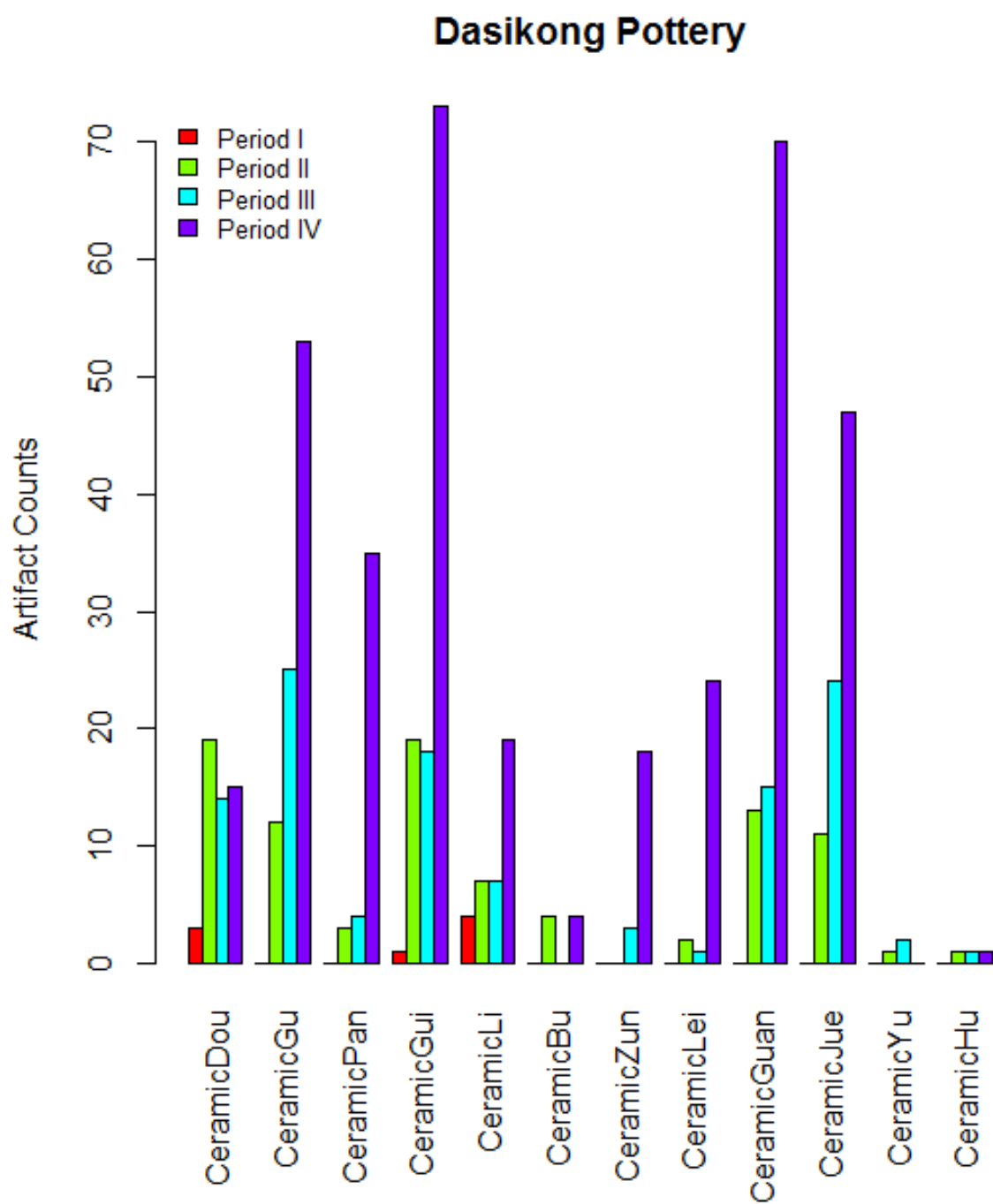


Figure 25. Dasikong pottery by period.

Huayuanzhuang East Artifacts and Chronology

The Huayuanzhuang East cemetery is markedly different from Dasikong in terms of artifact quantities and proportions. This is primarily due to large samples of artifacts recovered from burials H21 (Period I) and H15 (Period II). There is nonetheless an increase from Period III to Period IV in terms of the quantity of grave goods interred with the deceased (Table 30; Figure 26). Perhaps we can conclude that Huayuanzhuang East continued to be used as a burial place due to its proximity to Xiaotun (an elite center at Anyang) and that high status individuals interred here in Periods I and II. The slight increase in later burial activity might then be seen to reflect an emphasis of association with an ancestral hierarchy (H15 and H21). The later burials might not then need to be richly furnished—rather as access to burials in the place itself could have conferred or signaled a socially or ritually significant status to the deceased itself. It is also plausible that Huayuanzhuang East was a lineage center with prominent early members, signaled but one that had declined in later periods. The former assumption seems to me the more likely at present due to the unclear nature of lineage links between individual burials.

Table 29. Huayuanzhuang East artifact types by period.

	Period I	Period II	Period III	Period IV
Ceramic Drinking Vessels	17	33	11	25
Bronze Drinking Vessels	7	27	0	2
Ceramic Food Vessels	8	3	9	14
Bronze Food Vessels	3	16	2	2
Ceramic Serving Ware	3	0	0	10
Weapons	1	1119	1	14
Tools	3	28	0	0
Ornaments	1	187	0	3
Knives	0	11	0	0
Total	43	1424	23	70

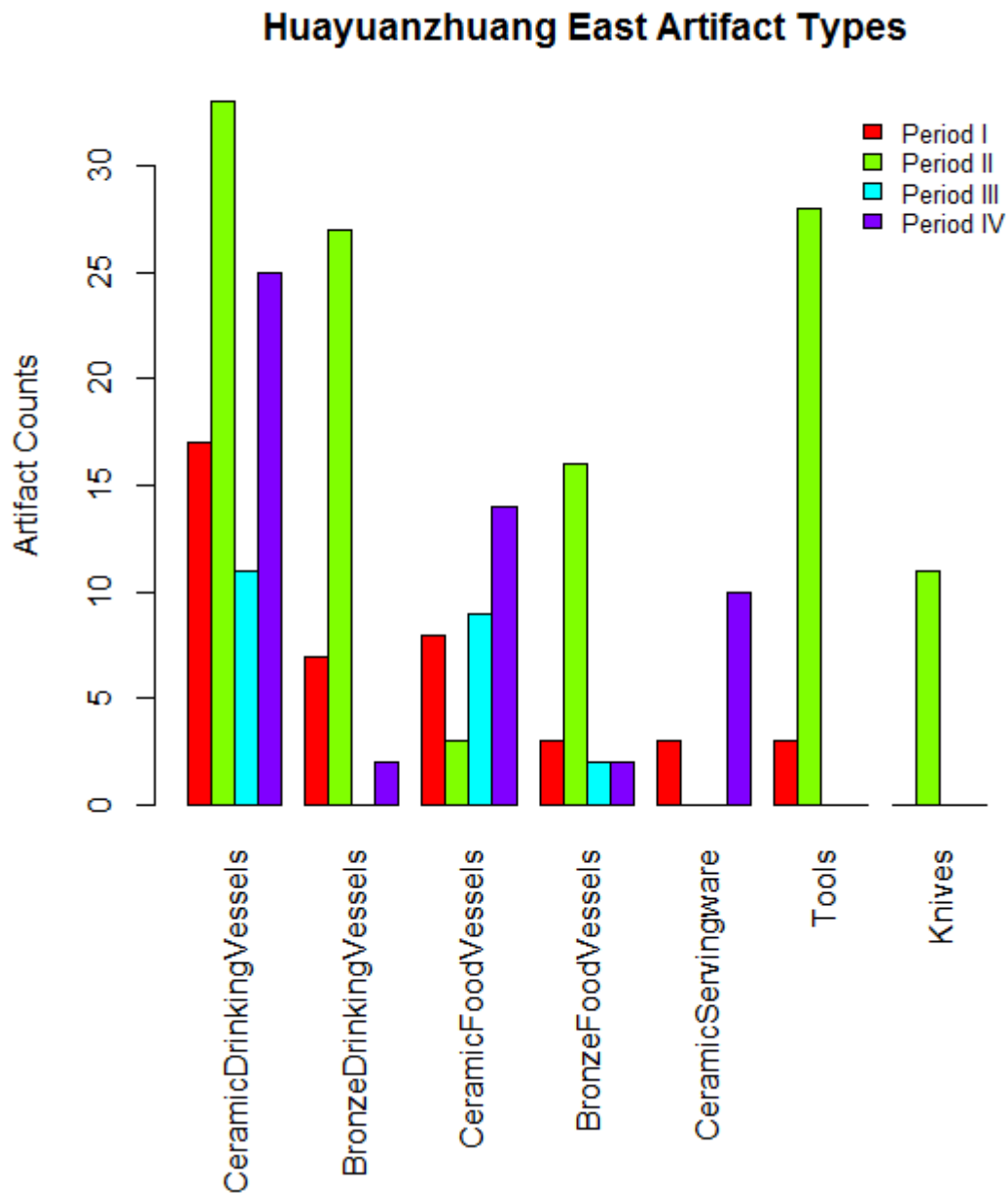


Figure 26. Huayuanzhuang East artifact types by period.

The means of artifact proportions reveals consistently high proportions of pottery drinking and food service vessels (Table 30). High proportions of weapons and ornaments are also observed at Huayuanzhuang East. It is important to note that while Huayuanzhuang East was likely a place of greater significance in mortuary rituals, the diverse array of bronzes and

Table 30. Huayuanzhuang East means of artifact proportions by type and period.

	Period I	Period II	Period III	Period IV
DrinkingVessels%ofBronzes	0.07	0.03	0	0.007
DrinkingVessels%ofCeramics	0.17	0.377	0.409	0.389
FoodVessels%ofBronzes	0.03	0.024	0.077	0.004
FoodVessels%ofCeramics	0.08	0.056	0.326	0.187
Servingware%ofCeramics	0.03	0	0	0.156
Shells%ofInterredGoods	0.53	0.17	0.208	0.08
Weapons%ofInterredGoods	0.01	0.081	0.031	0.056
Knives%ofInterredGoods	0	0.005	0	0
Tools%ofTotalInterredGoods	0.03	0.033	0	0
Ornaments%InterredGoods	0.55	0.119	0.208	0.09
Instruments%ofBronzes	0	0.002	0.125	0.106
Jade%ofInterredGoods	0.02	0.008	0	0.031
Bone%ofInterredGoods	0.01	0.002	0	0

pottery present in the Huayuanzhuang East burials (Figures 27 and 28) suggests that people involved in these rituals engaged with the significance of places in different ways. This could

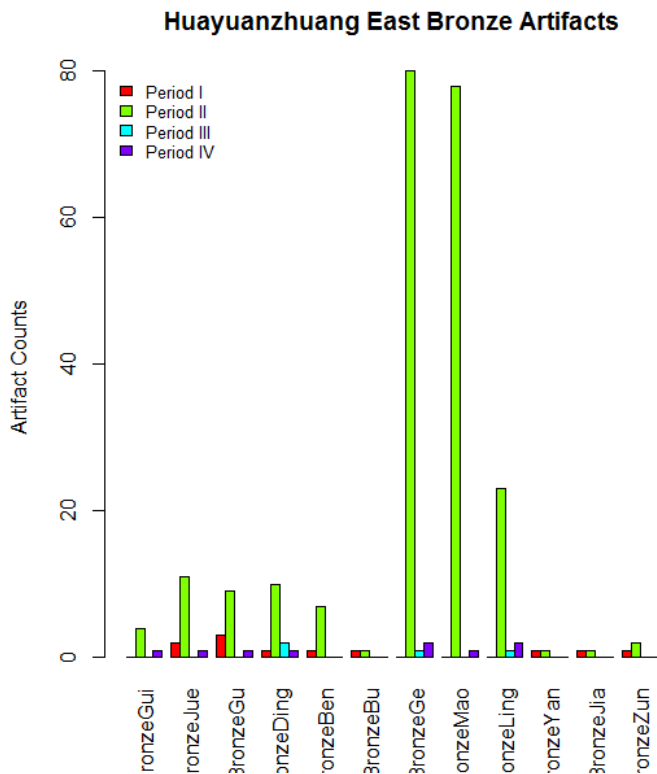


Figure 27. Huayuanzhuang East bronze artifact counts by period.

take the form of prescribed but varied sets of practices related to the deceased based on different beliefs connected to the Shang religious system. It might also be that participants were restricted in the use of certain goods due limitations in access to the supernatural or other levels of person's wellbeing thus, explaining differences in burial assemblages.

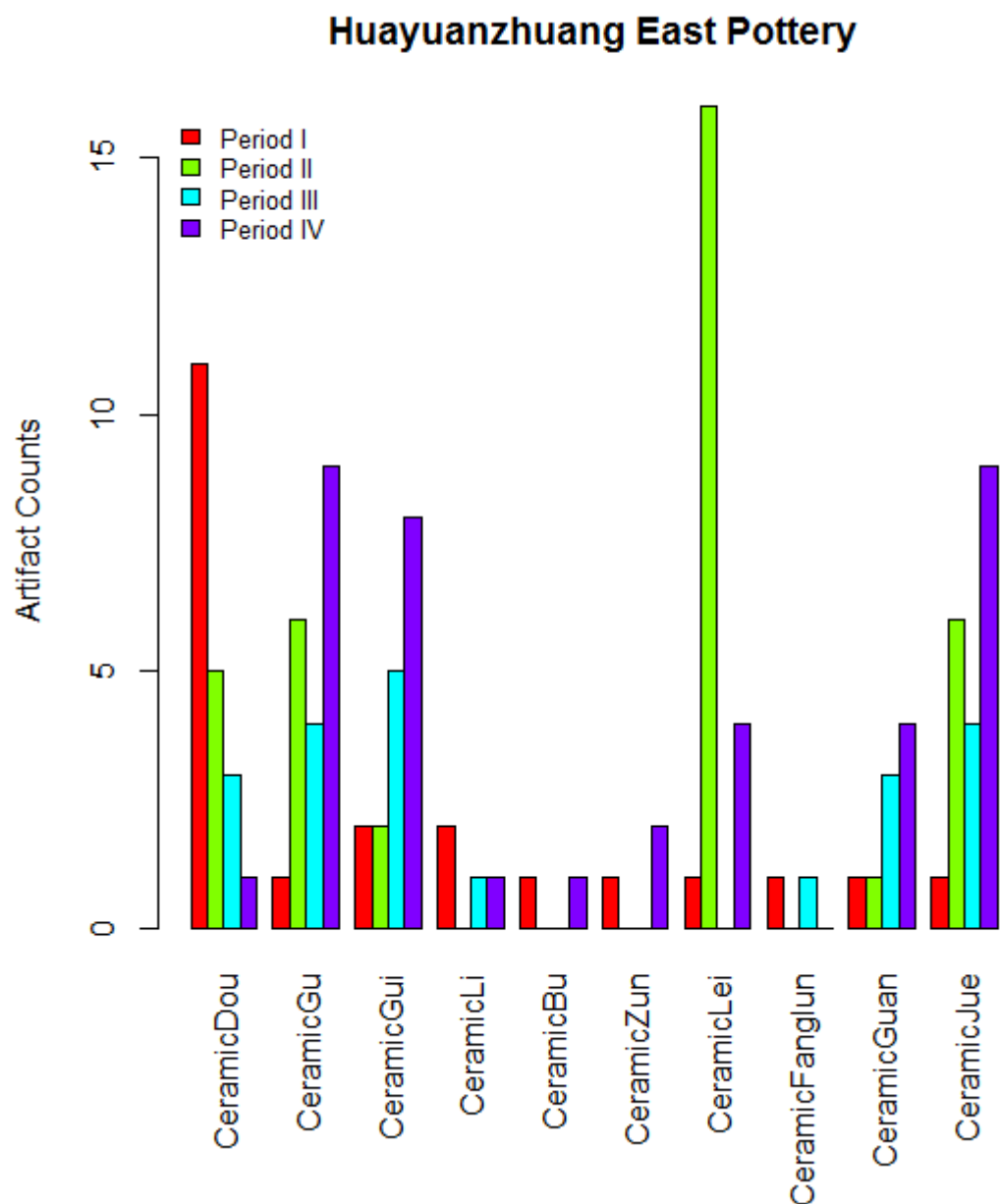


Figure 28. Huayuanzhuang East pottery counts by period.

Dasikong Burial Groups

The Dasikong cemetery was divided into four groups: A, B, C, and D. Dasikong A and Dasikong D have similar numbers of burials; Dasikong B and Dasikong C have fewer burials than A and D, but are otherwise similar in terms of sample size to one another (Table 31). While Dasikong B does have a similar number of burials as Dasikong C, Dasikong C has the largest

10% trimmed mean of burial size (Table 32) and the largest quantity of interred goods (Table 33). It is also worth noting that Dasikong as a whole was not used extensively as a burial ground during Period I. Dasikong A, Dasikong C, and Dasikong D show a propensity to orient burials north-south, but as discussed above there are many burials oriented to the other cardinal directions as well (Table 34). North-south is a less common orientation amongst the burials at the Dasikong B group. Across groupings, energy investment in grave goods is low through Periods I-III, although Dasikong B is without Period I burials (Table 35). During Period IV, energy investment increases notably for Dasikong A and D, especially C.

Table 31. Dasikong counts of burials by group.

	Period I	Period II	Period III	Period IV	Period V	Total
Dasikong A	1	14	9	39	40	103
Dasikong B	0	8	7	22	26	63
Dasikong C	3	12	4	38	13	70
Dasikong D	4	13	21	39	38	115

Table 32. Dasikong 10% trimmed mean of burial sizes by group.

	Burial Size
Dasikong A	4.33
Dasikong B	3.38
Dasikong C	8.7
Dasikong D	3.57

Table 33. Dasikong artifact counts by group.

	Period I	Period II	Period III	Period IV	Period V	Total
Dasikong A	4	40	65	244	47	400
Dasikong B	0	41	21	92	43	197
Dasikong C	8	45	45	663	4	765
Dasikong D	4	48	104	178	41	375

Table 34. Dasikong burial groups by orientation.

	N-S	E-W	S-N	W-E
Dasikong A	41	14	29	19
Dasikong B	7	23	18	15
Dasikong C	47	8	13	2
Dasikong D	40	27	33	15

Table 35. Dasikong burial groups by *energy invested in grave goods*.

	Period I	Period II	Period III	Period IV	Period V	Total
Dasikong A	0.00461	0.02015	0.0446	0.07014	0.075539	0.215039
Dasikong B	0	0.0239	0.00956	0.03517	0.032784	0.101424
Dasikong C	0.01605	0.02636	0.02288	0.38285	0.014343	0.462487
Dasikong D	0.00615	0.02568	0.049	0.09132	0.048902	0.22105

Huayuanzhuang East Groups

The only Period I burial from Huayuanzhuang East is located in group C.

Huayuanzhuang East A, B, and D have approximately similar numbers of burials in Periods II-IV (Table 36). The 10% trimmed mean of burial sizes is varied in each group (Table 37).

Huayuanzhuang East B has the largest quantity of burials by a slim margin, but also contains the lowest quantity of interred goods (Table 38). Huayuanzhuang East C and D have the largest assemblages due primarily to artifact-rich H21 and H15 burials. The orientation of burials at Huayuanzhuang East seems to be relatively more standardized than at Dasikong, with north-south the predominant orientation (Table 39). *Energy invested in grave goods* is concentrated in Periods I-II, again indicating that Huayuanzhuang East was important early during the occupation of Anyang (Table 40).

Table 36. Huayuanzhuang East burial counts by group.

	Period I	Period II	Period III	Period IV	Period V	Total
Huayuanzhuang East A	0	4	1	3	5	13
Huayuanzhuang East B	0	2	2	5	6	15
Huayuanzhuang East C	1	0	0	0	0	1
Huayuanzhuang East D	0	3	1	2	5	11

Table 37. Huayuanzhuang East 10% trimmed mean of burial sizes by group (*only burial in group).

	Burial Size
Huayuanzhuang East A	7.66
Huayuanzhuang East B	4.45
Huayuanzhuang East C	1.4*
Huayuanzhuang East D	3.02

Table 38. Huayuanzhuang East artifact counts by period.

	Period I	Period II	Period III	Period IV	Period V	Total
Huayuanzhuang East A	0	19	7	42	24	92
Huayuanzhuang East B	0	27	14	29	7	77
Huayuanzhuang East C	100	0	0	0	0	100
Huayuanzhuang East D	0	3203	6	15	5	3229

Table 39. Huayuanzhuang East orientation by groups.

	N-S	E-W	S-N	W-E
Huayuanzhuang East A	10	2	1	0
Huayuanzhuang East B	10	2	1	2
Huayuanzhuang East C	0	1	0	0
Huayuanzhuang East D	5	1	3	2

Table 40. Huayuanzhuang East burial group by energy invested in grave goods.

	Period I	Period II	Period III	Period IV	Period V	Total
Huayuanzhuang East A	0	0.03064	0.01531	0.06136	0.000143	0.10746
Huayuanzhuang East B	0	0.07644	0.01537	0.00022	0.015276	0.10731
Huayuanzhuang East C	0.15303	0	0	0	0	0.15303
Huayuanzhuang East D	0	0.63202	0.000034	0.000048	0.000059	0.63221

Sex

The burials were also analyzed according to the sex of the deceased were these identifications had been made. There were far more burials that were identified according to sex at Dasikong than Huayuanzhuang East (Tables 41 and 42). The male burials at Dasikong display a lower value of *energy investment in grave goods* than female burials, but there are also slightly less burials that were identified as male. While energy investment was less, there were more

grave goods found in male burials at Dasikong. At Huayuanzhuang East, there were more burials identified as male. Among these male burials, the two burials with the highest energy invested were included.

Table 41. Dasikong burials by sex.

	Burial Counts	Total Interred Goods	Energy Invested
Female	81	212	0.15132
Male	68	267	0.13189

Table 42. Huayuanzhuang East burials by sex.

	Burial Counts	Total Interred Goods	Energy Invested
Female	3	12	0.00511
Male	7	3328	0.78521

Burial Position

Dasikong burials were analyzed in relation to the five burial positions outlined in Zhongguo shehuikexueyuan kaoguanjiesuo (2014), Huayuanzhuang East lacked sufficient data for an analysis of sex. The burial positions display high variation in the ritual behavior and possible ritual preferences during the Late Shang period. *Supine extended* was the most common and was associated with the highest energy investment (Table 43). Though, *prone extended* was associated with the largest burials.

Table 43. Burial counts, mean of dimensions, and *energy invested in grave goods* for Dasikong burial positions.

	Supine Extended	Supine Flexed	Prone Extended	Side Extended*	Side Flexed
Count	162	3	47	1	2
Size	3.467962963	1.363333333	7.096382979	0.21	0.255
Energy	0.29064645	0.00597616	0.103268108	0.00136598	0.001366

Gini Coefficients

While an argument can be made that both Dasikong and Huayuanzhuang East should be divided by the burial clusters as described above and compared. In order to answer the questions

discussed earlier, the groupings are better combined and analyzed as a whole. Continuing in this vein then, Dasikong and Huayuanzhuang East were further analyzed as single units in order to calculate Gini coefficients and perform the non-metric multidimensional analysis. As discussed above, status is meant to convey degrees of inequality.

The scores of Gini coefficients “range from 0 to 1, with 0 representing a completely uniform distribution of wealth and 1 indicating the total concentration of wealth” in an individual or group, but the Gini values need not indicate wealth (Peterson et al 2016:213). The Dasikong Gini coefficient is 0.72 and the Huayuanzhuang East Gini coefficient is 0.92. The Gini coefficients for the cemeteries show remarkably high degree of inequality. But I would expect this if burials were primary spaces for the negotiation of status. Thus, the conclusions based on burial data should be viewed with caution when making implications about broader society (Peterson et al. 2016). Gini coefficients for both cemeteries display high degrees of inequality or prestige. Yet the preceding analysis shows that despite the large gaps in inequality found in mortuary ritual, people involved in these rituals attempted to display these inequalities in a variety of ways. This reinforces Campbell’s (2013:101) point that Shang people engaged mortuary rituals with resources that varied considerably between groups which formed “a radically hierarchical structure of being.” The high values of the Dasikong and Huayuanzhuang East Gini coefficients also strengthens the idea that this Shang hierarchy was highly developed as it brought “individuals strongly to the fore” (Drennan, Peterson, and Fox 2010:56). I suggest that the diversity in approaches for burial rituals observed is strongly affected by group or individual belief structures connected in complicated ways to an overarching Shang ideology and cosmology. Indeed, in the following Zhou period, there is ample evidence for lineage ritual embedded within a broader Zhou ritual system (Vogt 2012) and for a continuation of some

Shang period ritual practices into the subsequent Zhou period (Pankenier 2012, Vogt 2012). And if early Chinese religion is more open to change at various levels and focused on characterizing the individual and if the associated rituals were attempts to establish power as Jaffe (2015) suggested, then ritual becomes integral to the attempts of groups and individuals to establish their own identity in society. Also, if these attempts were in complex ways related to the creation of ancestors as sources of supernatural powers within a broader Shang hierarchy and if the ritual goal is to create hierarchy (Puett 2002), then Shang ritual is important in both the maintenance of sociopolitical dynamics and the formulation of an elite belief system to define the created sociopolitical relationships. Thus, ritual during the Shang period is characterized by conflicting identities that were negotiated in a ritual system where there was constant ritual activities to establish and relate these identities to a broader social hierarchy. The high social inequality, or high degree of ritual displays of prestige, in each cemetery thus shows that Shang burial ritual was paradoxically defined simultaneously by *struggle* and *collaboration*. Burials were ritual spaces created for *struggle* in that burials represented an opportunity to renegotiate relationships in multiple social, political, and economic dimensions in addition to publicly and ritually affirming the beliefs of the people involved in the ritual. It was *collaboration* in that burial rites and norms ritually connected the deceased and ritual participants to broader Shang society. This is by no means a binary between struggle and collaboration; the dynamic nature of Shang hierarchy cannot be diminished in any study of the Shang society. The ways in which lower status groups and individuals actively engaged Shang society and hierarchy instead of narrower focuses of elite-centric ritual practices defining Shang society. Across the entire sociopolitical spectrum in mortuary rituals, participants engaged with a ritual system that prioritizes the display of not solely wealth or political position, but prestige that is conveyed in varying degrees of

inequality within burials. As we will see in the multidimensional scaling below, wealth in the form of economic specialization is not well represented in the funerary rituals. Thus, the high degree of inequality displayed by the Gini coefficients must reflect a different form of inequality not attributable wealth. This inequality reveals a ritual system of prestige.

Non-Metric Multidimensional Scaling

There are interesting patterns that are revealed in the non-metric multidimensional scaling of Dasikong (Figure 29) and Huayuanzhuang East burials (Figure 30). The burial data reveal both clusters and gradients that will be discussed below and can be interpreted as

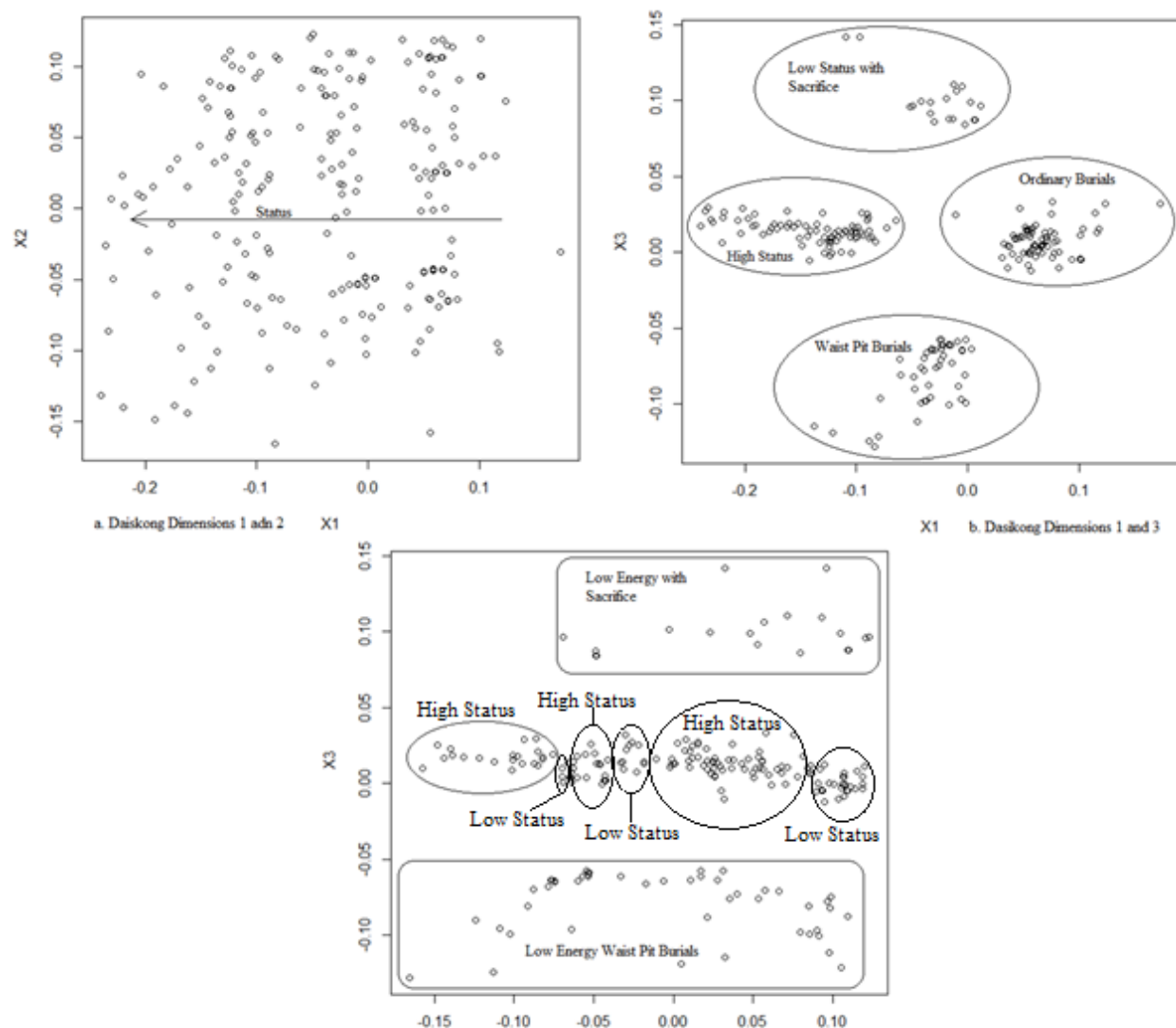


Figure 29. Multidimensional scaling plots of Dasikong burials.

meaningful patterning that will help us understand Shang ritual and society. Each circle in the plots represents one burial. Burials that are spatially clustered in the plots are similar in terms of the variables in Table 1; pairs of burials spaced farther apart are more dissimilar in terms of these variables. Figure xx (29a, 29b, etc.) presents a view of a pair of dimensions. Three dimensions were chosen as the stress values fell below the .15 threshold for meaningful interpretation. This is because the small sample sizes in periods at Huayuanzhuang East and the small sample sizes of both cemetery's Period I burial groups prohibit a diachronic analysis in this multidimensional scaling.

The patterning of Dasikong burials in Dimensions 1 and 2 (Figure 29a) shows a gradient running right to left. This gradient can be interpreted as status with more densely clustered low status burials on the left to higher status burials on the right. This gradient of status can be more clearly seen in clusters of burials that are parallel to each other in Figure 29a. These clusters can be seen roughly as lower status burials with few interred goods, high proportions of pottery, smaller burials, and no indicators of higher ritual status such as sacrifice and waist pits. The burials increase in grave goods, energy, size, and diversity of interred goods to the left of the plot until there are high status burials spread out at the left of the plot. A possible interpretation of this plot's gradient and large clusters of burials is that Shang status visible in burials was negotiated, maintained, and redefined through a broad range of ritual activities. Even with the diversity of burial practices that were observed, there is still some evidence for a hierarchy of practice developed as shown by the denser clusters of low status burials at the right to the more spread out (distinct) higher status at the left of the plot. Figure 29b shows four clusters of burials. The upper cluster is composed of low energy burials with sacrificial remains. The right cluster consists of smaller "ordinary" burials with no ritual features (waist pits and sacrificial remains)

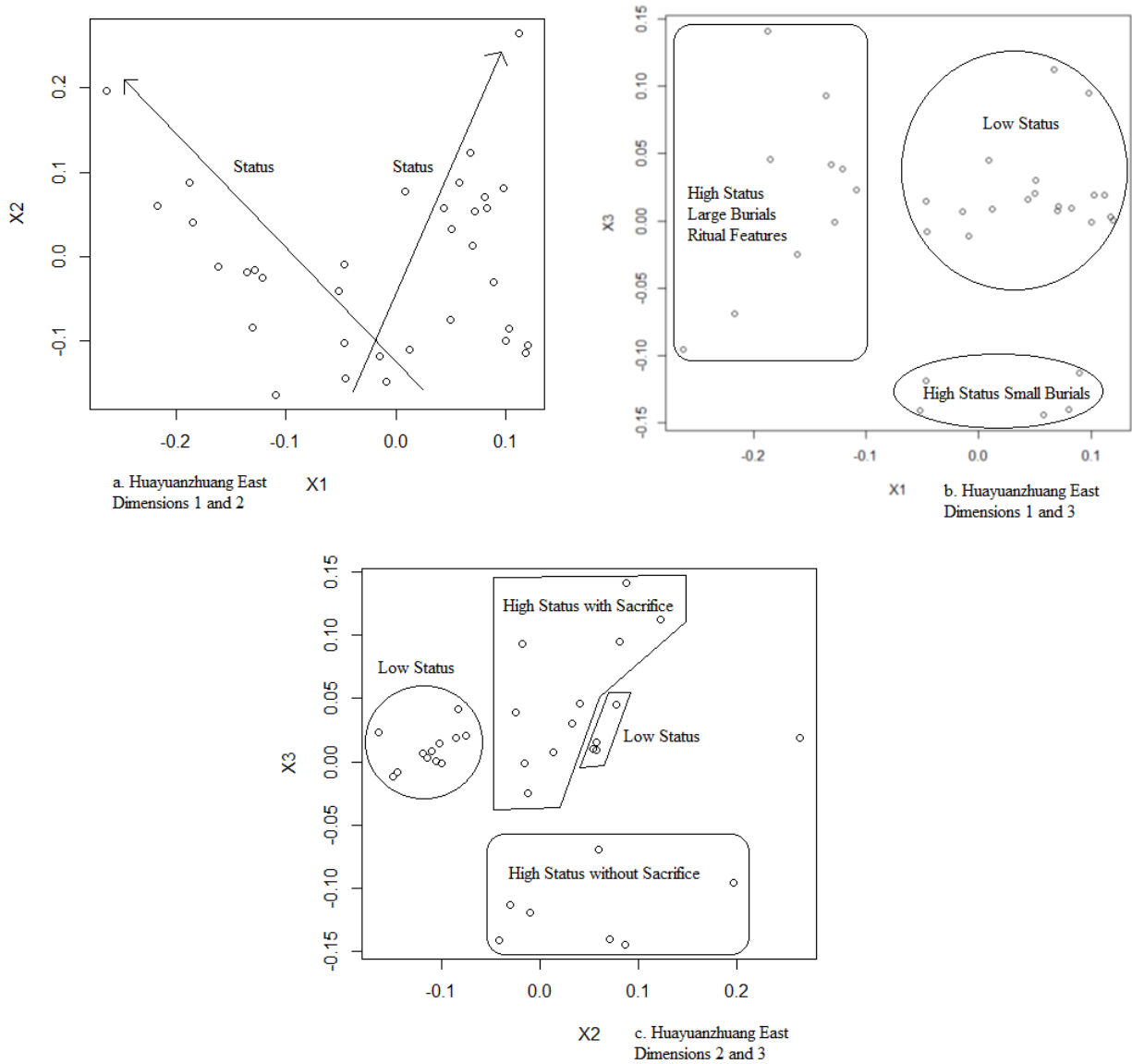


Figure 30. Multidimensional scaling plots of Huayuanzhuang East burials.

and higher proportions of pottery and ornaments with minimal prestige goods (bronzes and jade). The lower cluster consists of burials that are typically low energy waist pit burials (no sacrificial remains) with a mix of different types and materials of interred goods. The left cluster consists of high energy burials with both waist pits and sacrificial remains. Figure 29c has two distinct clusters on the upper and lower portions of the plot. The upper portion consists of low energy burials with sacrificial remains and high proportions of pottery. The lower portion also consists of low energy burials with high proportions of pottery but with waist pits. There is also several

clusters of burials in the center of the plot. The three high status clusters represent distinct high status groups in relation to the variables used in the scaling. Similarly, the three low status burial clusters reflect multiple distinct low status groups. The five low status burial clusters display that within low status groups and/or communities there was substantial variation in the ways to approach funerary rituals.

The Huayuanzhuang East analysis reveals different patterns. Figure 30a displays two cross-cutting and therefore unrelated gradients of what can be interpreted as status. Both gradients run from the bottom-left portion of the plot. This portion of the plot consists of low energy burials with few interred goods and high proportions of pottery. The gradient running to the left follows larger burials with increasingly higher energy investment. These burials also have both waist pits and sacrificial remains. The gradient running almost perpendicular to this one follows small burials with no ritual features (with one exception) and a slight increase in variety of types and materials of interred goods with low proportions of pottery. These gradients could then be said to represent different forms of inequality or prestige. Figure 30b displays three clusters of burials. The left cluster consists of large high energy burials with ritual features. The lower cluster is smaller burials with high energy investment and two waist pit burials. The right cluster of burials consists of lower energy burials with high proportions of pottery and some prestige goods such as bronzes and jade. Figure 30c shows several clusters of burials. The left cluster consists of high proportions of pottery and several burials with low proportions of bronzes. This cluster is representative of the lowest status of the hierarchy visible here along with the low status cluster in the center of the plot. The high status cluster in the center is composed burials with moderate proportions of pottery, low proportions of prestige goods, waist pits, and sacrificial remains. Although this higher status cluster does have burials at the top-right with

higher proportions of bronzes. The lower cluster consists of higher energy burials with moderate proportions of pottery, shells, and low proportions of some prestige goods.

These non-metric multidimensional scaling solutions have demonstrated the highly varied nature of Shang burial practice. I see this variation, in addition to the high Gini coefficients, as a ritual system displaying both *struggle* and *collaboration* relating to cosmology and identity. While the Gini coefficients and scaling display this system, evidence can also be found in the previous discussion of burial assemblages. For example, sacrificial remains could be an indication of struggle. This is because sacrificial remains seem to be restricted—possibly controlled by elites—to high status burials as indicated by the association burials with sacrificial remains have with higher *energy invested in grave goods*. Orientation of burials could also provide evidence for a system of struggle and collaboration. The variation of burials to the four cardinal directions could indicate ritual behavior that was meant to contest established sociopolitical and/or ritual relationships and identity. And yet the strong tendencies to orient burials closely to the four cardinal directions as opposed to say a northwest or southwest orientation signifies ritual behavior that was aligned to a larger ritual system. Thus suggesting cooperation with this system. The variation of artifacts, particularly pottery and bronzes, might also point to this ritual system. If workshops and production were controlled by elites (see above and discussion below), then use of these goods in funerary rituals by lower status groups and individuals would require, at some level, cooperation with elites and their associated ritual statuses. While there are patterns of interred goods and sets of pottery and bronzes, there is also substantial variation in these artifacts which indicates a struggle with competing ritual beliefs and displays of status. Burials offer us a unique window on the Shang system of beliefs. These plots reveal a system with clear hierarchy but unstable materiality that may be appropriated to

perform, establish, and reestablish relationships between individuals and groups of individuals within local social, political, and economic contexts.

There was no clear patterning connecting economic specialization to mortuary ritual, which is interesting given the large workshops for specific materials that have been found at Anyang (Bagley 2009; Campbell et al. 2011; Reinhart 2015). It can thus be said that the connection between status, ritual, and the goods used in these rituals is a complicated and indirect one in shaping wealth, social position, and positionality within the Shang ancestral hierarchy or some other sociopolitical entity. Membership in these groups may have assured access to prestige goods, including those used in funerary ritual. That economic specialization is not a structuring principle of the multidimensional solution and that prestige goods of particular sorts do not concentrate in high energy burials could be cited as evidence for such an idea. Conversely, these same patterns could represent competing approaches to ritual activities vested in different social groups within Shang society. This will be further explored in the following discussion.

Discussion

In this section I continue the preceding discussion about the results of my analysis and as they pertain to the questions asked in introduction to this thesis. The central question, again, is: What do burial rituals reveal about the formation and maintenance of the Shang belief system, and particularly about ruling ideologies and the development and maintenance of sociopolitical relationships during the Shang period? There are also two supplementary questions: (1) How might differences in burial reflect social differences in Shang society? (2) Are these differences connected to differential participation in a ritual economy? In answering these questions, I draw from a variety of resources in addition to the discussions of ritual and Shang society provided

above. In what follows, multiple alternative interpretations of burial rituals are offered to help better understand the variability and complexity of Shang ritual and society.

The Shang belief system and its associated rituals are believed to have held pivotal roles in various aspects of Shang society, such as sociopolitical dynamics (Chang 1983; Keightley 1999) and violence (Campbell 2013). Rowan Flad (2008), for example, discussed how divination and associated ritual knowledge may have served as a source of sociopolitical power, particularly during the Late Shang period. Death and funerary rituals were likely locations of vital negotiation and contestation within a Shang hierarchy that venerated ancestors and ceded authority based on genealogical distance from them. Burials and mortuary rituals would be integral in this ancestor-centric society as they would serve as what Drennan (1976:348) has referred to as “points of articulation” (see above). Mortuary rituals then represent a critical arena for the formation and maintenance of Shang belief and social organization. The assumption is that each ritual act or funerary rite associated with burials is meaningful at multiple societal levels. Huntington and Metcalf (1979:1) claim that death evokes “an incredible variety of responses...But it is not a random reaction; always it is meaningful and expressive.” Assuming ancestor worship was pervasive in Shang society, understanding the responses to death become crucial in any formulation or interrogation of Shang society. Indeed, the variety of Shang responses to death seen in my quantitative analysis of burials seems to underscore a multivalent and recursive relationship involving “the cognitive processes of individuals and representations presented to them as possible candidates for the status of true” (Rappaport 1999:119). Local and even individual belief would have in some way modified existing Shang mortuary rituals by influencing the actions of others. This is similar to Mississippian mortuary rituals where

“(a)gency and self were redefined by and for everybody involved in the gatherings, not just once-influential and now-dead persons” (Pauketat 2010:29).

The idea that ancestors were an essential part of Shang social organization has a long history (see above). Much of the theoretical underpinnings for our understanding of ancestor worship is found in historical texts, both oracle bones and post-Shang texts. The rituals surrounding burials are thought to be part of an active transformation which “commemorated the dead and carried the spirit into a new realm and a new relationship with the living” (Thorp 2006:184). As discussed above, the purpose of these rituals was to perpetuate a social hierarchy based on genealogical distance from formative Shang ancestors. To Keightley (2014:51), “(t)he Late Shang state emerged by building upon and institutionalizing, rather than opposing, the ties of affection, obligation, and dependency indicated by the mortuary practices of the Neolithic.” Thus, Shang ancestors, although no longer living, like the participants in veneration rituals, were active members of society. While ancestor worship is clearly attested to in such elite practices as oracle bone divination (Keightley 2014), the evidence for such in mortuary practice bears closer examination.

If every Shang burial represents an active attempt to raise the status of the deceased and that of the deceased’s descendants, then we can expect to see an institutionalization of burial practices, control of resources as interred goods, and restrictions to certain burial forms. If ancestor veneration, in the sense that they served as sources of supernatural and sociopolitical power for the living, were one of the primary reasons to perform Shang mortuary rituals, then institutionalized forms of mortuary rituals would be essential for elites to manipulate these rituals and thus maintain power structures and reinforce social cohesion. The institutionalization of ancestor worship is a central feature of many interpretations of Shang power dynamics and social

processes (see Keightley 2014; Puett 2002). This could perhaps be found in the control of resources as ritual paraphernalia and the spatial layouts of burials. In the first of these (resources), the presence or absence of sacrificial remains in burials can be interpreted as support for the traditional view of Shang ancestor worship. Burials with sacrificial remains are a minority in both Dasikong and Huayuanzhuang East and yet these burials have the highest energy invested. The control of animals for the purpose of sacrifice in burials could serve as means to not only influence the power newly-created ancestors had in a supernatural sense, but also as a way to communicate publicly the association that the ritual participants and related ancestors had through the control of an invaluable resource. Bronzes are thought to be intimately tied to the elites at Anyang (Chang 1983). And if elite status was related to the creation and maintenance of the ancestors, we can also look to bronzes to determine the role of ancestral rituals in society. The proportions of bronzes in burials is low in each of the two cemeteries examined here and remain low through Periods I-IV. Differential access to these energy intensive goods is only really seen in burials. Moreover, these goods are often associated with other elite features. For example, the largest burial in terms of energy invested and size at Huayuanzhuang East contains the most bronze artifacts out of any burial at both sites. This burial is also associated with 30 sacrifices (15 humans and 15 animals). One could also point to the Gini coefficients as evidence for a system that has high prestige inequality represented in burial offerings which could signify that the ancestral system of the Shang was defined by elite control over resources. This idea is explored more below.

The spatial layout of burials could also be indicative of such a system. For example, the construction of waist pits, which are associated with high energy, greater quantities of interred goods, and larger burials, could reflect controlled attempts to restrict lower classes access to

more prominent positions within the ancestral hierarchy given that these features require little effort to construct. A possible interpretation of these associations, in conjunction with what is known about Shang ancestral beliefs, could be the formation and maintenance of a Shang ancestral system that was institutionalized in an attempt to create a unified Shang society within an expansive and politically decentralized state, what Keightly (1983) called “Swiss Cheese”. There would be very little room for opposition to an established order within an elite monopoly on access to the supernatural.

We might also expect to find consistent emulation of elite-style burial practices among the lower classes within the restricted burial options they were allowed to access if the formation and maintenance of a hierarchical ancestral system was emphasized in mortuary ritual. Perhaps the most obvious evidence in support of this is the differing proportions of pottery vessels and bronze vessels (*gu*, *jue*, *gui*, etc.). The lower classes could have tried to imitate the rituals of the elite through the production and/or acquisition of pottery vessels and the use of these vessels in similar conditions and fashion to those found in elite burials (assuming they were aware of them). Although emulation is certainly a possibility, I believe that emulation was not a central tenant of burial ritual. Reinhart (2015:103) suggested that support for the idea of Shang ritual emulation “is problematized by diachronic evidence that suggests that [ritual] is a deeply rooted regional tradition.” Instead, I believe that the evidence points to participants having conducted rituals more in accordance with their own religious, sociopolitical, and economic situations.

There could have been multiple means through which this ancestor system was enforced, as discussed above. There could have been individuals or groups who were invariably connected with elites (or exclusively the royal clan) that possessed the esoteric knowledge required to facilitate the creation of official Shang ancestors and thus they gained access to the supernatural.

This group could have been close to, or a part of, a group of ritual specialists that specialized in divination. Conversely, ritual knowledge could have been created and maintained by different groups with input from clan leadership. The use of goods in mortuary rituals could also have been informed by such esoteric knowledge. From this perspective, goods and associated exchange networks were linked to the ideology and ritual practices of the elites who controlled the manufacture and distribution of these goods. This is exemplified by the ritual economy of Teotihuacan, where production and distribution were attached to ruling ideologies and practices (Filini 2015). A form or combination of the latter two seem to be the most likely, but the idea that burial practices were the domain of a specialized group cannot be wholly discounted (see Chang 1983; Keightley 2014). Moreover, part of the Shang king's authority rested on "the ability to comprehend the celestial rhythms and to maintain conformity between their changes and human activity" (Pankenier 2013:193). While there is evidence of specialized and restricted ritual knowledge, the extent of these specialized practitioner's participation in broader everyday ritual is not clear from previous studies. I propose that such participation was highly attenuated as the diversity of approaches to funerary rituals seems to suggest active participation in varied ritual traditions. This would likely restrict a practitioner's access to ritual activities throughout Shang society.

If the relationship between ancestor creation and funerary rites were diminished, and burials as spaces for the negotiation of diverse social, political, economic, and religious interests was deemphasized, we would expect a high degree of variability in burial practice. Variability characterizes the burials and burial assemblages. Exactly as discussed above, burials display nested but patterned differences structured along multiple dimensions. That is to say, burial practices did not conform to a single nested organizing principle at either site.

The ritual structure of Teotihuacan could help explain this variation. Filini (2015:100) discussed how while there was an elite class with “official common practices”, symbols in the Teotihuacan ritual economy and ideology were interpreted differently in different places and thus could have resulted in “dissimilar rituals.” The participants in such rituals “consciously took advantage of attractive ideas and strategies to condition, reproduce, or change structure” (Filini 2015:100). While Filini was discussing ritual and the influence of Teotihuacan ideology at a regional scale, it is appropriate to think of Shang ritual at Anyang in a similar way given the diverse nature of Anyang as a settlement during the Late Shang period (Jing et al. 2013). Thus, the variability in Shang burials could be explained by differing interpretations of ideology and ritual activities that were publicly (and privately) advocated for by Shang elites (and non-elites). The large sacrificial offerings (Campbell et al. 2011) and the strict ritual schedules of the Shang elite (Keightley 2014) could represent attempts on the part of the elites to reinforce official practices and power structures while struggling with the various competing rituals that were formulated and performed by differing groups. Similarly, the political dynamics of the Shang court and local groups “was one of negotiation that demanded the Shang king's continuous display of military might through royal hunting or punitive campaigns” (Bagley 1999:108).

Valerio Valeri's (1985) study of Hawaiian ritual and sociopolitical dynamics is also relevant to the current analysis. Valeri, in a discussion on sacrifice, stated “(t)he major gods are gods of the entire society; in fact, of all Hawaiians. The lower gods belong to more restricted social groups, or sometimes to individuals or lines who rule over them” (Valeri 1985:109-110). Moreover, “one can sacrifice only to the gods that correspond to one's hierarchical position in society” (Valeri 1985:109). Perhaps in the same way, Shang ancestors were maintained and controlled by different groups and were restricted by these groups. The Shang ancestral

landscape was then one that resembled Keightley's conception of the (possible) Shang geopolitical landscape: a loose collective of ancestors and ancestral lines under the contentious leadership of the royal ancestors. And according to some (Campbell 2013; Jaffe 2015), the Shang period was marked by social instability. Thus, with a volatile sociopolitical climate and restricted supernatural (deities and ancestors) groups, ritual would become the central arena for political negotiation and contestation by elites. The clusters and axes of variation seen in my multidimensional scaling plots thus represent differing approaches to belief and ritual as practiced by different groups. The Dasikong Period IV increase in *energy invested in grave goods* could represent increased competition in the ritual arena between such groups. The Huayuanzhuang East Period I and II burials could also suggest a group that invested significant energy into mortuary rituals early at Anyang. Differences in the orientation of burials to specific cardinal directions could also represent the deceased's alignment with specific deities and/or ancestral groups. These orientations and placements represent “one of the most visible activities through which human societies map out and express their relationships to ancestors, land and the living” (Pearson 1999:141). Shang mortuary rituals might also have negotiated attempts to circumvent the existing power structure and access directly the supernatural pantheon, perhaps even the supreme deity himself, Di, “as he was so far removed from the realm of the living, there was no direct way to access him. Instead, one had to petition the ancestors to appeal to Di” (Jaffe 2015:10). Variability in burial ritual might thus be seen as repeated attempts—in opposition to or in collaboration with other groups—to access supernatural powers without the use of Shang royals and their mystical ancestors as intermediates.

Shang animal sacrifice has been suggested to be “a critical aspect of the cosmological system and an activity that increasingly served to create and strengthen the power of Shang

royalty by emphasizing the ritual significance of animals that were disproportionately controlled by the elite” (Yuan and Flad 2005:253). Variability of animal sacrifice has therefore been interpreted as changes in the structure of power in society (Yuan and Flad 2005). Similarly, variability in burial ritual could indicate resistance to the existing power structure.

While the Shang ritual system served as a central arena of political negotiation, the Shang royalty ruled absolutely for over two centuries at Anyang. The Shang ritual system likely had an important function in the maintenance of sociopolitical power. Rappaport’s (1971) influential application of a “ritual cycle” derived from cybernetics could perhaps lend insight into the nature of Shang power and ritual. In this argument, Rappaport takes ritual to be “homeostats” and “transducers.” Rituals are transducers in that they work to integrate local groups and subsystems into regional systems. By homeostat, Rappaport is pointing to a ritual system that has the inherent ability to adapt to changing conditions in society and respond homeostatically to any disruptions in society. For Rappaport, ritual “establishes, guards, and bridges boundaries between public systems and private processes” (Rappaport 1999:138). In Shang society, the rituals performed by the local groups discussed above are integrated into a larger Shang ritual system with power centered on a royal ancestral group, which regulates any differing rituals and beliefs surrounding death (disruptions) in society. Local groups are politically affirmed and integrated by virtue of their public performance of funerary rites. Thus, the interplay between variation in local ritual and highly stylized state sponsored sacrifice – which undoubtedly had substantial economic impact on Shang society as a whole through the acquisition and distribution of resources – would have served to incorporate various groups at Anyang (and beyond) into the Shang royal ritual and political system.

One characteristic of the Shang ritual system that is somewhat overlooked through an adaptation of the ritual cycle approach is the variable influence of burial practices in the sociopolitical dimension. Shang rituals are often thought to be an integral feature of the sociopolitical structure (Keightley 2014; Puett 2002). In burials, the spatial layout and interred goods are sometimes believed to represent the status of the deceased. This direct representation of status from burials has a long history in archaeology (see Sullivan and Mainfort 2010). This idea has also been applied to studies of early China. In a study of Neolithic Dawenkou and Majiayao burials, Francis Allard (2001) attests that “(s)ocial categories do exist in real life and differences among them are often expressed at the time of burial, even if they are sometimes exaggerated within a context of social competition, or reduced for whatever reason” (Allard 2001:3). While the sociopolitical status of the deceased surely played a role in burial treatment, such status cannot be directly inferred from burials. Instead, burials are ritual spaces in which the living jockeyed with each other to curry favor with their ancestors for social prestige and political power with reference to Shang cosmology. The sociopolitical ambitions of funeral participants likely played a greater role than the status of the deceased as reflected in high Gini values for Dasikong and Huayuanzhuang East burials given that the bulk of grave goods interred were likely deposited by persons outside the deceased’s immediate family. Thus, rituals surrounding death become arenas for aggrandizing behavior. Campbell (2013:101) discusses how Shang burial practices resulted in “mortuary capital” within the Shang hierarchy. Brian Hayden (1995:65) discusses how “aggrandizers at all levels feel that the death of prominent men in the exchange networks threatens to extinguish the debt structure and the pressures for exchange that such individuals helped to establish.” Development of the Shang hierarchy can be understood through aggrandizing ritual behavior as “it only takes a few aggrandizers in any

community to create widespread and profound socioeconomic changes if they are given free reign and if the resource base is conducive (Hayden 1995:75) – which the Shang resource base would have been. Sociopolitical power would then have exerted great influence on mortuary rituals, but it is important to note that this influence was not entirely derivative of the deceased's social standing, but rather a combination of a ritual's participants' statuses and beliefs.

Non-metric multidimensional scaling plots showed little influence of economic specialization (production or distribution) on burial ritual. Yet, the Gini coefficients calculated for these same sets of burials indicate a high degree of inequality. Campbell et al. (2011) identifies a ritual economy of bone goods that were likely distributed widely, but the proportions of bone artifacts remains low in both cemeteries through Periods I-IV. If bone goods were readily accessible, then why were these artifacts not found more among the other funerary goods recovered? There are several reasons for this apparent discrepancy. Bone as crafts might not have had strong ritual connotations. While this could certainly have been true, we can also draw from the Teotihuacan example discussed above. If production and exchange during the Late Shang period were associated with the flow of ritual status and ideology like at Teotihuacan (Filini 2015), then the use of bone materials in rituals may have been ideologically restricted. The low proportions of some interred goods could be understood as representing differential access to the ritual statuses and beliefs associated with these goods in Shang society. The multidimensional scaling and the Gini coefficients represent a system where ritual status is defined not by economic position in networks of production and exchange, but by the situation of the deceased and participants in funerary ritual within the broader organization of Shang ritual in a kind of political theater – in other words, a network of ritually-based prestige.

Conclusions

Multiple interpretations of the nature of Shang ritual and society were presented above. My analysis of Shang society has resulted in a multivalent picture of societal processes and ritual behavior. The discussion reflects this variability of burial practices and hopes to generate discussion of Shang society that diverges from traditional narratives of Shang society. This analysis has shown the heterogeneous nature of society that existed during the Shang period and that much remains to be researched to fully comprehend this society.

An EDA approach to understand the formation and maintenance of the Shang belief system and the relationship between the Shang belief system and its associated ritual activities to societal processes and ruling practices and ideologies. Burial size was shown to hold a relatively limited role in the ritual tendencies of groups at Anyang. Waist pits, while constructed within a minority of burials, are associated with high *energy invested in grave goods* and spatially larger burials. Orientation was also interpreted to have important ritual implications. Burials in the two cemeteries closely clustered towards one of the four cardinal directions with the north-south orientation having the highest *energy invested in grave goods* and the largest quantity of burials. Similar to waist pits, burials containing sacrificial remains were also shown to have high energy investment and larger burial dimensions despite representing only a fraction of the total counts of burials in each cemetery. At Huayuanzhuang East, energy investment was concentrated in Periods I and II. Conversely, at Dasikong, energy investment increased through each successive period until it peaks during Period IV. Bronzes, pottery, and shell artifacts are the most common interred goods in each cemetery. The analysis of Gini coefficients reveals high degrees of inequality at each cemetery with Huayuanzhuang East having a higher Gini coefficient (0.92)—thus higher a higher degree of inequality—than Dasikong (0.72). These high values likely reflect

ritual prestige rather than wealth inequality. The non-metric multi-dimensional scaling, along with the other aspects of the analysis, shows the variability of Shang burial practices and related belief systems and ideologies.

Future analyses of Shang society would benefit from researching how the communities identified at Anyang were related to burials groups. While analyses of burials have helped us understand much about the development of complex societies, a study that integrates household and burial data would greatly further our knowledge of Shang ritual and society. This knowledge would also be instrumental in understanding how rituals of the everyday are linked to burial and sacrificial rituals. Expanding and/or retooling the non-metric multidimensional scaling used in this analysis would help in narrowing the ritual interpretations discussed here and could provide substantial new insights into Shang society. For example, the economic differentiation could be masked in this analysis due to the variables utilized for the scaling. A quantitative analysis that incorporates a finer scale understanding of the production and distribution of goods at Anyang and regionally would also be advantageous. In addition, as discussed above, the data for this analysis could likely have been derived from two cemeteries that represent groups and individuals of higher degrees of status or prestige. Thus, future studies of the Shang period should incorporate burials spatially removed from the core of Anyang to determine the full sociopolitical spectrum of Shang society and the variability of Shang ritual. Yet, even if Dasikong and Huayuanzhuang East do not represent a relatively complete view of Shang hierarchy, this analysis still displays high degrees of inequality through ritual displays of prestige and substantial variation in burial practices close to and within the Shang center.

During the Late Shang period, burials were ritual locations of struggle and collaboration. This negotiation was integral to the formation and maintenance of a Shang belief system. This

belief system was essential in integrating local and partially autonomous groups into a strongly developed political hierarchy. While Shang hierarchy was developed and highly pervasive, ritual expressions of social standing and political power were diverse and contingent upon multiple factors. Rituals were performed to reflect the deceased's and participants' religious, sociopolitical, and economic contexts. Within these contexts, participants held differing beliefs and developed, maintained, and modified varied ritual approaches to reflect these beliefs. While there was substantial variation in Shang mortuary rituals, the ruling elite did have an overarching ideology. For example, ancestors were clearly associated with elite practices and ideology, and were used by elites to legitimize and create power asymmetries. The degree to which different groups emphasized ancestor creation and veneration varied at Anyang. Despite this, ancestors were active members of society. Ritual knowledge was likely located in local groups and in the networks of production and exchange. These groups struggled and collaborated within Shang society and approached mortuary ritual at multiple social, political, economic, and religious dimensions.

Shang society and ritual has been the focus of research for many decades and yet there remains much to be learned. This analysis of Shang burials has attempted to broaden understandings of ritual systems and society through the use of quantitative methods and a more expansive approach to analyzing ritual activities. Future studies of Shang society should utilize approaches that acknowledge the mutable nature of Shang hierarchy and the diversity of approaches to ritual that were formulated, maintained, and redefined by various subsets of Shang society. Studies of ritual should not be limited to understanding the extent of sociopolitical power projected by elites in this society and resistance to these projections, but should also

attempt to further understandings of cosmology, identity, social organization, and the everyday reflected in these rituals.

Research on Shang ritual should continue to study its manifestations across the entire sociopolitical spectrum. The Shang period has great potential to further our understandings of the development of complex societies in early China. Moreover, the Shang period can provide an excellent case study for comparative analysis, to which I hope this study has contributed.

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