

Religion, Violence, and Emotion: Modes of Religiosity in the Neolithic and Bronze Age of Northern China

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Abstract This paper explores the development of religious traditions in the Neolithic and Bronze Age of northern China. It applies the cognitive anthropological theory of Divergent Modes of Religiosity (DMR) for the first time in this part of the world. DMR theory frames ritual behavior in two distinct modes, one that is more traumatic/emotional and occurs less frequently (imagistic rituals) and another that is more placid and occurs more frequently (doctrinal rituals). Various archaeological and historic sources indicate that violent imagistic rituals involving human sacrifice and feasting began deep in the Neolithic; but religion did not become more tame when societies entered the Bronze Age, as predicted by DMR theory. Instead, violent imagistic rituals continued and became arguably more brutal. The application of DMR theory here is a useful means to explore the challenging topic of religious violence and to reveal biases in the treatment of ritual and religion in Shang studies.

Keywords Religion · Ritual · China · Divergent Modes of Religiosity theory · Violence · Sacrifice · Memory

Introduction

Religion and violence: an uncomfortable pairing; a seeming contradiction in terms; a reflection of distant memories and reminder of more recent trauma; a succinct summarization of current headlines. Juergensmeyer et al. have said that ‘the dark attraction between religion and violence is endemic to religious tradition’ (2013, p. 1). This discomfiting topic has come into sharper academic and intellectual focus in recent years, attested by recent anthologies, such as the *Oxford Handbook of Religion and Violence*, a

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collection of essays from a wide range of contributors in academia, divinity schools, and public policy fields (Juergensmeyer et al. 2013). Others works include the *Princeton Readings in Religion and Violence* (Juergensmeyer and Kitts 2011) and the *Blackwell Companion to Religion and Violence* (Murphy 2011). The volume by Scheper-Hughes and Bourgois (2004a) entitled *Religion in War and Peace: An Anthology* deals more generally with social, literary, and philosophical approaches to violence. Archaeology is most certainly able to contribute to this growing body of interdisciplinary research with its view that is both broad and specific, evidence that reaches into the prehistoric and more recent past, and its observation of social and cultural change over long periods of time. As Taylor (2002, p. 11) has pointed out, and as this paper will demonstrate, signs of violence are easy to detect in the archaeological record; they are, however, under-reported.

Ritual has been recognized as an important aspect of life in ancient China, driving social and cultural development from the small-scale societies of the Neolithic through the dynasties of the Bronze Age (e.g. Chang 1983, 1994; Flad 2008; Fung 2000; Liu 1996a, 2000, 2004; Liu and Chen 2003; Reinhart 2015; Underhill 2002). Most studies in the English-language literature have approached ritual in these periods as it relates to social status, politics, and elite power. Evidence of large-scale sacrifice at the Late Shang capital site of Anyang, along with the historic record of these sacrifices (enumeration in the oracle-bone divination inscriptions), has prompted discussions by writers such as Chang (1980), Keightley (1978a, 1998, 2012), Shelach (1996), Yuan and Flad (2005), and Underhill (2002, p. 29). In these studies, Shang sacrifice is viewed as ritual procedure conducted by state leaders—an effective way to display and consolidate power. Shang historians have approached the topic in a similar way (e.g. Lewis 1990; Puett 2005); Keightley (2012, p. 76) has gone so far as to say that killing was routine and bureaucratic. There are two major problems with the elite-centered and ‘bureaucratic’ view of ritual and religion in the early Chinese Bronze Age. First, recent research has suggested that the elites were not the only ones conducting rituals involving sacrifice and feasting, indicating other possible explanations of the role of sacrifice in Shang society (Reinhart 2015). Second, the sociopolitical narrative is sterilizing in its abstraction. When ritual killing is explained away as a means for the ruling party to acquire power, and killing is stripped of its intensity under the rubrics of ‘ritual’ and ‘sacrifice’, other important considerations are ignored.

Beyond inherited disciplinary norms that sanitize the violence in ritual killing, there is also an aversion to discussing it. Studies have focused on the lavish array of bronze vessels in the tomb of Fu Hao at Anyang (e.g. Rawson 1993; Nelson 2003; Thorp 1988). Some depict (as stick figures) three sacrificial victims displayed on a ledge surrounding the tomb that are illustrated in the site report (Anyang Archaeological Team 1977, Fig. 3); however, few studies mention other people killed—some violently—at various stages of Fu Hao’s funeral (except see Tang 1999), illustrated in the same site report (Anyang Archaeological Team 1977, Fig. 2). While Fu Hao’s axe is depicted as a bronze luxury item, its use in decapitation, perhaps even the severing of the head found on top of the tomb chamber, is seldom mentioned. Similarly, the remains of many human sacrifices at the royal cemetery of Xibeigang at Anyang are well known (and support the elite aggrandizement narrative), but little has been said in the English-language literature about the other numerous examples of sacrifice, including men, women, and children killed in various contexts throughout the region’s Neolithic and Bronze Age; the violence, bloodshed, and mutilation that accompanied some of these deaths is rarely mentioned. Some of the evidence in this paper shows children and infants buried in the layers of house foundations and town walls, suggesting that child sacrifice may have been practiced in some communities. Child sacrifice is certainly seen worldwide in both past and contemporary societies. For example, the

very well-preserved frozen bodies of Inca children entombed on top of peaks in the Andes as part of a sacrificial ritual (Wilson et al. 2007, 2013). A contemporary example is the *muti* ritual performed in certain communities of South Africa that involves torture, killing, and mutilation of children (Scholtz et al. 1997; Taylor 2002, pp. 7–13). Child sacrifice in the Chinese Neolithic is not frankly discussed in English-language publications, though it deserves a closer examination.

Human sacrifice in other parts of the world has been similarly explained away and sanitized. Trigger's (1987) description of Huron prisoner torture ritual in 17th century AD Quebec, performed to the god of war or to the sun, is intensely disturbing to read not only because of the graphic content of the acts but also because of the reserved tenor of the prose. Trigger describes the brutal acts of burning and mutilation of an Iroquois prisoner in an even and unemotional tone—as if describing the construction of a longhouse. Another example is the description of an elite Viking funeral ritual involving the sacrifice of a young slave girl, recounted by the historic writer Ibn Faḍlān toward the end of the first millennium (Parker Pearson 1999, pp. 1–3; Taylor 2002, pp. 90–95). Taylor (2002) teases out some of the implications of this 'sacrifice' in objecting to assumptions of the historic writer's 'clinical account' and a contemporary writer's notion that the slave girl was 'happy' to be strangled and stabbed to death in order to be with her deceased master (Warminde 1995). Parker Pearson (1999), by contrast, merely highlights what could be learned if archaeological remains of this event are ever found: information about the ship construction method, weapons and other grave goods, the local environment and aspects of the animals sacrificed during the funeral, the age and sex of the deceased, the extent and length of the ceremony, and the life-histories of the elite man and slave girl. There is no mention of the implications of the killing or death of the young girl. In his study of human sacrifice in ancient Greece, Hughes (1991) constructs a typology of human sacrifice from historic sources and reviews archaeological evidence but concludes that there is no definitive evidence that the ancient Greeks ever performed human sacrifice, though they themselves believed that it had occurred. Sugiyama (2005) writes that human sacrifice was a fundamental sociopolitical institution for many Mesoamerican societies since at least the Preclassic period. The author discusses the sociopolitical implications of the many human sacrifices found under the Feathered Serpent Pyramid at Teotihuacan, arguing that the main purpose of the burial complex was a 'dramatization' of the mass sacrifice of soldiers and a proclamation of the significance of their rulership and military power. A recent volume on human sacrifice by Tiesler and Cucina (2008) focuses primarily on establishing methods of identifying sacrifice in the archaeological record (soil in Mexico is very acidic, frequently leading to partial preservation of human remains); the paper by Harrison-Buck et al. (2007) in the same volume interprets sacrifice according to the conventional narrative of elite political dynamics.

While most studies concerning human sacrifice deal with political motivations for it (rule by fear, consolidation of power, expression of force), or its bioarchaeological aspects, the emotional, experiential aspects are rarely considered (though see Hamilakis and Konsolaki (2004) on the sensory embodied experience of animal sacrifice and feasting in the Aegean). Despite a focus on emotion in other disciplines, archaeological approaches to the topic are not extensive (Tarlow 2012). This is surprising, following a surge in interest in the lived body, and critique of power-based perspectives grounded in works of Foucault that eclipse human agency and individuality (e.g. Meskell 1996, 2000). Rosaldo (1993, pp.12–13) has criticized William Douglas's (1969) ethnography of funerary ritual in a rural Basque community for its failure to consider the emotional aspects of death and bereavement. Funerary ritual, in this ethnography, is a tool used to analyze the

sociopolitical structure of the society; death is viewed as a ‘mechanical programmed unfolding of prescribed acts’ (for example, an old woman’s ‘easy’ death). In eliminating intense emotions from the equation, Rosaldo argues, Douglas’s interpretation is distorted, misleading, and fails to consider potentially important variables. Rosaldo’s commentary is a broader critique of conventional anthropological approaches to death and the programmatic definition of ritual where ‘it more nearly resembles a recipe, a fixed program, or a book of etiquette than an open ended human process’ (Rosaldo 1993, p. 172). As I will show in this paper, the instances of human sacrifice evidenced at sites from the Neolithic and Bronze Age in northern China depict a much grittier picture than that of the procedural taking of life when they are viewed according to a less sterile rubric.

Why do we rely on abstract models and euphemisms (‘sacrifice’) when writing about ritual killing, and why are we avoidant? Violence is a challenging topic. Nell’s exploration of the reward value of cruelty for perpetrators and spectators (2006) provoked very strong reactions in published responses to the author. Nell argues that cruelty for punishment, social control, and even amusement is widely practiced cross-culturally and through history. He posits that the strong emotions evoked by a ‘pain–blood–death’ complex are adaptive. Although the goal of the article is clearly articulated as the development of more effective prevention of violence and cruelty, many commentators seemed reticent to consider the possibility of Nell’s thesis (and were, ironically, quite cruel in response). Nell states that there is a danger in studying cruelty for three reasons. First, because of a view that evil is polluting and contagious and that those who deal with it become contaminated. Second, because of a perception that to analyze is to condone (or at least not condemn), ‘casting a shadow over the researcher’s rectitude’ (2006, p. 212). And third, that to ground cruelty in evolutionary theory is to naturalize it and liberate perpetrators from responsibility. He laments that ‘cruelty will not be contained through obscurantism’ (2006, p. 212). While uncomfortable, and perhaps risky, the topic of ritual killing in the Neolithic and Bronze Age of northern China, and the role of killing in ritual and religion more generally, requires confrontation.

In this paper I will address the uncomfortable topic of violence (and its relationship with religion) in archaeological contexts of the Neolithic and Bronze Age of China through the testing of a cognitive theory of religion developed by anthropologist Harvey Whitehouse. The theory of Divergent Modes of Religiosity (DMR) was developed through Whitehouse’s research on Papua New Guinea rituals termed ‘rites of terror’ (Whitehouse 1995, 1996, 2000, 2002, 2004a). DMR theory considers the emotional intensity of ritual and how that relates to social organization, explaining different types of ritual behaviors which apparently cleave into two types of practices: intense, emotionally arousing rituals that are rarely enacted versus calm rituals that are enacted frequently. The main objective of this paper is to test DMR theory against a set of data to which it has not yet been applied (archaeological material from Neolithic and Bronze Age sequences in northern China). For the case study, I will draw evidence from excavation reports of sites in northern China, primarily around the Yellow River valley, as well as my own research at the site of Yanshi Shangcheng, where there is evidence of sacrifice and feasting in multiple districts of the ancient settlement. I will first introduce the Neolithic and Bronze Age sequences of the region and provide background to DMR theory, with examples of its application in different parts of the world. I will then test the theory against various data from northern China, first presenting evidence of imagistic rituals in the Neolithic and then evidence of their continuation in the Bronze Age. Since this runs counter to the expectations of DMR theory for sociopolitical evolution and the emergence of Bronze Age civilization, I will argue that this case study refutes DMR theory. I will follow this with a discussion that

focuses on the problem of the relativity of violence and emotion, the question of ‘mixed modes’, reflections on construction and deconstruction of theory, and a critique of DMR theory’s reliance on outmoded models of memory.

Geographical and Temporal Focus

Systematic regional survey of the Yiluo region of the middle Yellow River valley has provided good resolution on the evolution of settlement systems over the course of the Neolithic and Bronze Age (Liu et al. 2002). The geographical focus of this paper is restricted for the purposes of the study, and is not intended to suggest that this region—although the locus of many important archaeological sites and traditionally considered the heartland of early Chinese civilization—developed in isolation; it is increasingly recognized that there was regional interaction throughout what is today known as China (e.g. Chang 1986; Liu and Chen 2012). Indeed, there are numerous examples of cultural elements present across various regions; for example, multiple lines of evidence suggest that the Yellow River region of the north was in contact with the central Yangzi (Yangtze) region (Cohen 2011, p. S281).

The geographical focus of this paper is the middle region of the Yellow River valley in northern China. This region was a locus of capital cities and smaller towns from the early dynastic periods and throughout history and a long sequence of Neolithic settlements underlie the dynastic sites. It is not uncommon to see Qin monuments or pottery dating from the Neolithic through the Han dynasty while walking along a country road or surveying in farmers’ fields in Henan, reflecting a continuous occupation and development over millennia. The temporal focus of this paper is the Neolithic (c. 7000–2000 BC) and Early Bronze Age to the end of the Late Shang dynasty (c. 1900–1046 BC). For each time period, I will present a brief description of an important site, including Jiahu for the Early Neolithic, Jiangzhai for the Middle Neolithic, Taosi for the Late Neolithic, Erlitou for the Erlitou period, Yanshi for the Erligang, Huanbei and Xiaoshuangqiao for the Middle Shang, and Anyang for the Late Shang. The scale and sociopolitical organization of the Neolithic and Bronze Age societies presented below are important since, according to DMR theory, different types of ritual behaviors are expected for different scales of society. It is thus necessary to establish scale and social structure for the purposes of testing the theory. Background on ritual is important for contextualizing the archaeological materials used to test the theory.

Neolithic Societies (c. 7000–2000 BC)

The Neolithic of the middle Yellow River valley region spans roughly 5000 years, from the seventh millennium BC through the third millennium BC. A number of key developments mark this period, including the transition to settled life, the domestication of plants and animals, increasing reliance on agriculture, beginnings of pottery use, and the growth of urbanism, warfare, and marked social inequality. The Chinese Neolithic is divisible into several phases, each with characteristic levels of development and distinct regional traditions (archaeological ‘cultures’) defined by Chinese archaeologists according to pottery and other material culture traits. During the Neolithic, settlements were located along the major waterways in the various regions of China, including the Yellow River, the Yangzi

River, the Liao River in northeastern China, and the Pearl River in southern China. In the middle Yellow River valley, the progression of regional archaeological traditions includes the Early Neolithic Peiligang, the Middle Neolithic Yangshao, and the Late Neolithic Longshan (Table 1, Fig. 1). According to An (1988, p. 755), ‘in the middle reaches of the Huanghe [Yellow River] there is an obvious line of cultural succession from the Peiligang through the Yangshao and Longshan to the Shang, and chronologically these cultures form

Table 1 Selected Neolithic regional traditions and archaeological sites (Yellow River and Wei River regions)

Early Neolithic archaeological traditions (c. 7000–5000 BC)			
Houli	Cishan-Beifudi	Peiligang	Baijia-Dadiwan
Lower Yellow River region	East of Taihang Mountains	Middle Yellow River region	Wei River region
Houli Qianbuxia Xiaojingshan Xihe Yuezhuang	Beifudi Cishan Shangpo	Egou Jiahu Peiligang Shawoli Shigu Shuiquan Tanghu Tieshenggou Wayaozui Wuluoxipo	Baijia Dadiwan Guantaoyun Lijiacun
Middle Neolithic archaeological traditions (c. 5000–3000 BC)			
Beixin-Dawenkou	Yangshao		
Lower Yellow River / Taiyi Mountains region	Middle Yellow River and Wei River regions		
	Early Yangshao (Banpo phase)	Middle Yangshao (Miaodigou phase)	Late Yangshao
Baishicun Beixin Dawenkou Dayishan Dongjiabai	Banpo Beishouling Dadiwan Hengzhen Jiangzhai Longgangsi	Dadiwan Hongshanmiao Miaodigou Xipo	Anban Dadiwan Xishan
Late Neolithic archaeological traditions (c. 3000–2000 BC)			
Late Dawenkou / Shandong Longshan	Longshan		
Lower Yellow River region / Shandong	Middle Yellow River and Wei River regions		
Bianxianwang Chengzi Dantu Dawenkou Dinggong Liangchengzhen Yaowangcheng	Guchengzhai Hougang Kangjia Mengzhuang Taosi Wadian Wangchenggang Wangyoufang Xinzhai Xinzheng Xubaocun		

Sources Cohen (2011), Liu (2004), Liu and Chen (2012), Wang (2013), Zhu (2013)

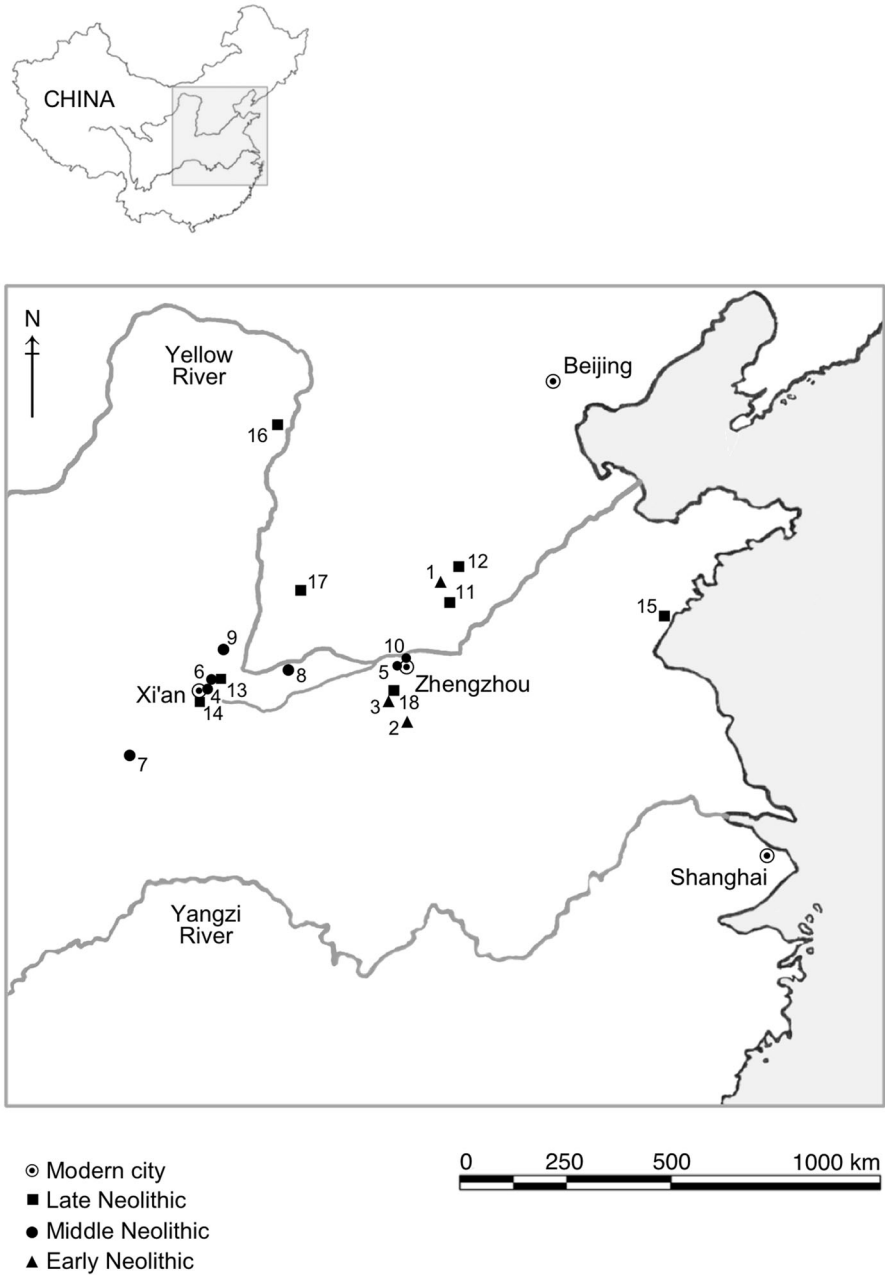


Fig. 1 Neolithic sites discussed in the text. *Early Neolithic*: 1 Cishan, 2 Jiahu, 3 Shuiquan. *Middle Neolithic*: 4 Banpo, 5 Dianjuntai, 6 Jiangzhai, 7 Longgangsi, 8 Miaodigou, 9 Shijia, 10 Xishan. *Late Neolithic*: 11 Hougang, 12 Jianguo, 13 Kangjia, 14 Keshengzhuang, 15 Liangchengzhen, 16 Shimao, 17 Taosi, 18 Wangchenggang

a continuous chain.’ In this paper, I follow the chronology outlined by Liu and Chen (2012): Early Neolithic (c. 7000–5000 BC); Middle Neolithic (c. 5000–3000 BC); and Late Neolithic (c. 3000–2000 BC). Note, however, that not all scholars adhere to the same periodization: Zhu (2013), for example, defines the Early Neolithic as 7000–4000 BC.

The Early Neolithic (c. 7000–5000 BC)

The Early Neolithic of the middle Yellow River valley is a transitional period in which important new ways of life gradually developed and laid the foundation for more complex societies to come. The period is characterized by the settling of communities in permanent villages, the move away from a wild diet toward reliance on agriculture and animal husbandry, and the production of pottery vessels. Sedentism and agriculture, hallmarks of the Neolithic and often seen as co-dependent, developed independently (Cohen 2011; Liu and Chen 2012) and domestication of animals may have post-dated agriculture and pottery manufacture by a considerable period (Yuan and Flad 2002). Early Neolithic sites of the middle Yellow River region belong to the Peiligang tradition. Other contemporaneous traditions in the North China region include Xinglongwa (in Inner Mongolia); Cishan (north of the Yellow River); Houli (in the lower Yellow River valley, north of the Zhongnan Mountains); and Dadiwan (in the Wei River valleys, west of the Central Plain). The neighboring Peiligang, Cishan, and Dadiwan traditions share cultural similarities and are seen as the predecessors of the broadly distributed Yangshao tradition (An 1988). In other regions of China there were other distinct archaeological traditions, such as Pengtoushan, Lower Zaoshi, Chengbeixi, Xiaohuangshan, and Kuahuqiao of the Yangzi River region. Those in southern China include Zengpiyuan and Dingsishan (Liu and Chen 2012).

Peiligang sites (Chang 1986, pp. 87–95; Y. Li 2003; Liu and Chen 2012, pp. 141–150; Sun 1992; Zhu 2013), distributed across a large swath of the Yellow River valley in Henan province, include the larger sites of Jiahu and Tanghu and many smaller ones. Peiligang material culture is characterized by ground and chipped stone tools, especially sickles and grinding stones, and also pottery. The presence of characteristic sickles and grinding stones is often interpreted as a sign of agriculture, and there is indeed clear evidence for the domestication of plants and animals; however, wild resources were more significant. Starch-residue analysis of grinding stones indicates that grinding stones were multipurpose culinary implements used to grind various foodstuffs, with an emphasis on wild acorn (Liu et al. 2010; data from studies compiled in Liu and Chen 2012, p. 143). Domesticated plants typically found at Peiligang sites include millet (considered the staple crop) and rice (Cohen 2011; Lee et al. 2007); domesticated animals included pig, chicken, and dog (Yuan 2010; Yuan and Flad 2002; Zhou 1981).

Regional survey in northern Henan (Liu et al. 2002) revealed a series of small Peiligang sites with thin deposits at Tieshenggou and Wuluoxipo that contrast with the larger settlements of Jiahu (Henan Province 1999, 2002) and Tanghu (Xin et al. 2010). These larger sites display thicker cultural deposits, more elaborate material culture, clusters of semi-subterranean houses interspersed with refuse and storage pits, and ditches surrounding the sites. At Jiahu, there was a separate cemetery area. Liu and Chen (2012, pp. 142–148) propose that these two types of site types represent different occupation patterns and possibly different levels of sociocultural development. Whereas the smaller, thinner sites, which are characterized by cruder pottery and less variation in material culture, may represent seasonal food procurement camps, the larger, thicker sites would likely have been occupied year round. The Jiahu site is a well-excavated example of a year-round site, located in Wuyang, Henan. It is one of the oldest, most extensively excavated, and most

celebrated Peiligang sites in northern China (Henan Province 1999; Liu 2004, pp. 75–78, 126–128; Zhang and Cui 2013). It was occupied for a long period, from around 7000 BC to 5500 BC, when it was destroyed by a flood. The residential area of the site yielded dense domestic and work-related deposits. Residents lived primarily in round, semi-subterranean houses and consumed both wild resources and domestic animal and plant products, including rice (not the usual regional staple). Occupation at the site is divided into three phases. During the first phase, the site was partitioned into residential clusters of small houses closely associated with burials. In the second and third phases, the residential areas became associated with their own cemeteries. While most houses were small, larger houses located at the center of the residential clusters contained a wider variety of tools and were perhaps group work spaces (Liu 2004). The Jiahu site is well known for its ritual evidence, as well as yielding the earliest fermented beverage in China to date (McGovern et al. 2004, 2005). While Jiahu was one of the most complex communities of the Early Neolithic, it appears to have been fairly egalitarian.

Evidence thought to be related to ritual activity has been found at several Early Neolithic sites in the region, including Jiahu, where pit burials of dogs found in both residential and cemetery areas are thought to represent sacrificial remains (Guo 2012, 2013; Henan Province 1999; Yuan 2008). Archaeologists have also interpreted certain Jiahu grave goods as ritual paraphernalia. These include a carved bone forked instrument, crane bone flutes (Henan Province 1999; Zhang et al. 1999, 2004), and turtle shells associated with pebbles (some inscribed with signs). X. Li et al. (2003) suggest that these special items reflect early forms of shamanism and divination ritual similar to that practiced by Shang diviners some 5000 years later. They propose that the inscribed turtle shells are early evidence of links between divination, writing, and power as articulated in K. C. Chang's shamanism model (discussed below) (X. Li et al. 2003, p. 41).

Evidence of ritual involving post-mortem dismemberment and possibly circulation of body parts has also been discovered. In a bioarchaeological study at Jiahu, Smith and Lee (2008) suggest that body parts were disarticulated during a funeral 'body severance' ritual (p. 254) and that their circulation may have been a strategy to evoke (social) memory and emotion, or that they may have been used as ritual paraphernalia to 'cross over from the living world to afterworld' (p. 278). Grave M282 of an adult male, for example, contained the right mandible of another adult male. Several researchers have suggested that some individuals in Jiahu society had special ritual abilities, as evidenced by ritual items contained in their graves. However, these people did not seem to have a higher economic status—they were not differentiated from the rest of society by lifestyle (residence, work, diet) or burial treatment (Liu 2004; Liu and Chen 2012, p. 147; Smith and Lee 2008). I will return to this point about memory and emotion in the discussion section below.

At the Shuiquan site, a Late Peiligang site in Henan province (Henan First Team 1995), excavators recovered what they think were ritual pits in the center of the settlement's cemetery. Burials were divided into two groups separated by a 'linear space' containing two pits (Liu 2004, p. 128). One pit contained burnt clay and stones and the other contained animal bones. Lee and Zhu (2002, p. 717) suggest that mortuary ritual at Shuiquan may have included animal sacrifice and feasting, and that this is the earliest evidence of ancestral cult practice in northern China. According to Liu (2004, p. 130), the location of the pit features suggests that ritual practices were dedicated to all deceased members of the community and that the earliest ancestral cults in these egalitarian societies were community activities. Other signs of Early Neolithic ritual in the region include potential evidence of ritual involving millet and pigs at the site of Cishan in Hebei (Hebei Cultural Relics 1981) (the Cishan–Peiligang material culture distribution lies north of the Peiligang

distribution). Pits at Cishan contained pig skeletons, in some cases buried underneath thick layers of carbonized millet (Yuan and Flad 2002, p. 725; Zhou 1981). Some authors have identified these as the remains of ritual feasting (Bu 1987; Zhu 2013).

The Middle Neolithic (c. 5000–3000 BC)

While the Early Neolithic was a transitional period, in which new sociocultural features such as agriculture and sedentism developed gradually, in the Middle Neolithic these features blossomed. Farming villages continued to flourish along the major waterways across China, and also spread into previously unoccupied areas. Permanent settlement layouts and building construction techniques developed, as did agriculture, animal husbandry, and artisan production, such as ceramics and lithics.

Middle Neolithic sites of the middle Yellow River region belong to the Yangshao tradition. Yangshao remains are similar to those of the Peiligang and related Cishan sites that they overlie (An 1979). Other regional archaeological traditions in the surrounding areas include Zhaobaogou and Hongshan in northeast China; Beixin and Dawenkou in the lower Yellow River valley; Daxi in the Middle Yangzi River; Hemudu in the Lower Yangzi River; and Dingsishan, Xiantouling, and Kequtou in southern China. In some areas, such as the upper Yellow River, non-agricultural communities continued to exist (Rhode et al. 2007).

The Yangshao tradition of the middle Yellow River region was named after the type site discovered in the 1920s by Swedish geologist Johan Gunnar Andersson. The Yangshao period may be divided into Early, Middle, and Late phases, each of which is named after characteristic material culture (Andersson and Classen 1934; Liu 2004; Liu and Chen 2012; Sun 2001). The Early Yangshao period (c. 5000–4000 BC), or Banpo phase, is characterized by a developing settlement layout and changes in house style and building construction. Several sites have been thoroughly excavated, including Banpo (Institute of Archaeology 1963); Jiangzhai (Lee 2007; Xi'an Banpo Museum 1988); Shijia (Gao and Lee 1993; Xi'an Banpo Museum 1978); and Beishouling. Previous interpretations of Yangshao society (e.g. Institute of Archaeology 1963) revolved around the idea of matrilineal society, rooted in models of social evolution such as that put forward by Morgan (1877). This approach was primarily based on burial data and has been critiqued and revised in more recent scholarship (e.g. Chang 1986; Gao and Lee 1993; Liu 2004; Liu and Chen 2012; Wang 1985). Lee (2007) has suggested that Early Yangshao society, as exemplified by the Jiangzhai site, was non-hierarchical and lacked institutionalized leadership. He suggests that work at this site was performed at the household level, with food-sharing at the community level, while symbolism was shared at a regional level, signaling inter-community interaction.

The Jiangzhai site, located in Lintong, Shaanxi, was arranged in a circular pattern, with houses encircling a central plaza, doors facing inward. Round houses were clustered into five groups, each associated with a larger rectangular structure. The residential area was surrounded by a series of ditches, and outside of the ditches were three cemetery areas. Whereas former models interpreted the single large house in each residential cluster as a chief's residence, Lee (2007) uses detailed analysis of the remains of the houses to argue that small houses were residences but larger structures were spaces for communal activities. He also argues that the centrally focused residential pattern allowed for community policing. Gao and Lee (1993) have conducted osteological analysis of human bones from secondary, multiple burials at the Shijia site, located in Weinan, Shaanxi (considered a

variant of Yangshao). They propose that graves were composed of biologically related group members and that society had a patrilocal clan structure. They found a predominance of males in secondary burials, which contrasts with the more equal distribution of the sexes in Yangshao cemeteries with primary burials. The authors interpret this as a reflection of the difficulty of a ‘homeward journey’ for deceased females who had married out of their home village (p. 293).

Religion in the Yangshao period seems to have involved ancestor worship and possibly shamanism. In the preceding period, ritual burial (or ‘sacrifice’) included food utensils, animal bodies, and grains. As discussed below, in the Middle Neolithic human bodies begin to be buried in similar contexts. Liu (1999a, b, 2000) has argued that the focus of ritual transitioned from group ancestor worship to individual ancestor worship as society became more stratified. She uses the Early Yangshao site of Longgangsi in Shaanxi (Shaanxi Province 1990) as an example of group veneration. At this site, a large group of human burials was excavated from a cemetery site ($N = 168$). Surrounding the burials were numerous pits ($N = 15$) containing ash, charcoal, burnt clay, whole pots and pottery sherds, crop grains, and stone tools—most likely related to feasting.

The Late Neolithic (c. 3000–2000)

The Late Neolithic in the Yellow River valley region was a period of major social and cultural change, with pronounced population increase, the formation of tiered settlement hierarchies, increased conflict and fortification of settlements with earthen walls, emergent urbanism and centralization, and intensive agriculture. A distinction between urban and rural areas began to emerge in the middle Yellow River valley region, where larger settlements such as Wangchenggang and Taosi were surrounded by smaller sites. Wangchenggang, for example, was surrounded by 22 smaller sites. The emergence of social stratification, including an elite group, with production and exchange of luxury items, is also clearly evidenced in this period. Underhill (1991) has suggested that pottery production took place at the household level in the Late Neolithic of northern China and political competition and increasing social difference were expressed through competitive feasting (Underhill 2002).

The primary archaeological tradition of the Late Neolithic in the middle Yellow River region was the Longshan (Liu 1996b). One of the larger Longshan sites is Taosi, located in Linfen, Shanxi (Shanxi Working Team 1980, 1983). Taosi was one of the most complex of the Late Neolithic regional centers (Liu and Chen 2012), arguably the first urban center (Liu et al. 2013). It was surrounded by a multi-tiered settlement hierarchy and was occupied for around 600 years. Social differentiation is evident in both architectural and mortuary remains at Taosi (Liu 1996a). While lower-status residents lived in small, modest structures, elites lived in walled palace structures. The Taosi cemetery site contains a large number of burials (several thousand) that excavators have divided into several classes, ranked according to size and number of grave goods.

Regarding Late Neolithic ritual, there is a continuation of the trend for pit burial of human bodies that began in the Middle Neolithic. Larger burials are more elaborate, as, for example, at Taosi, where they contain many items seemingly related to ritual activity, such as alligator-skin drums, *cong* and *bi* jades, and elaborate pottery (Liu 1996a; Shanxi Working Team 1983). Architectural and material evidence suggest that Taosi was an

Table 2 Selected Bronze Age regional traditions and archaeological sites of northern China (Yellow River, Wei River, and other regions)

Erlitou period archaeological traditions (c. 1900–1500 BC)		
Yueshi	Erlitou	Other
Lower Yellow River region	Middle Yellow River	Other
Chengziya Shijia Yinjiacheng	Dashigu Donglongshan Dongxiafeng Erlitou Huizui Nanguan Nanwa Wangjinglou	Mengzhuang (<i>Xiaqiyuan tradition, Yellow River region</i>) Panlongcheng (<i>Yangzi region</i>) Shimao (<i>southern Ordos Desert</i>)
Erligang period archaeological traditions (c. 1600–1400 BC)		
Yueshi/Erligang	Erligang	Other
Lower Yellow River region	Middle Yellow River and Wei River regions	Other
Daxingzhuang (<i>Erligang</i>) Shijia (<i>Yueshi</i>)	Donglongshan Dongxiafeng Fucheng Laoniupo Nanguan Qianzhangda Yanshi Yuanqu Zhengzhou	Panlongcheng (<i>Panlongcheng tradition, Yangzi region</i>)
Middle Shang period archaeological traditions (c. 1400–1300 BC)		
Yueshi/Shang	Shang	
Lower Yellow River region	Middle Yellow River region	
Daxinzhuang Qianzhangda (<i>Shang, western Shandong</i>)	Huanbei Laoniupo Taixi Xiaoshuangqiao	
Late Shang period archaeological traditions (c. 1300–1046 BC)		
Shang		
Lower Yellow River region	Middle Yellow River region	Wei River region
Daxinzhuang Lanjia Qianzhangda Shijia Subutun Xiaotun (not Anyang)	Taixi Yinxu (Anyang)	Laoniupo (<i>Laoniupo tradition</i>)

Sources: Liu and Chen 2012; Thorp 2006, Underhill (1998)

important ritual site and possibly related to astronomical observation. From one of the architectural structures, the sunrise is visible through narrow gaps between columns, and this may have been related to developing calendrical knowledge (for a list of references, see Liu and Chen 2012, p. 224).

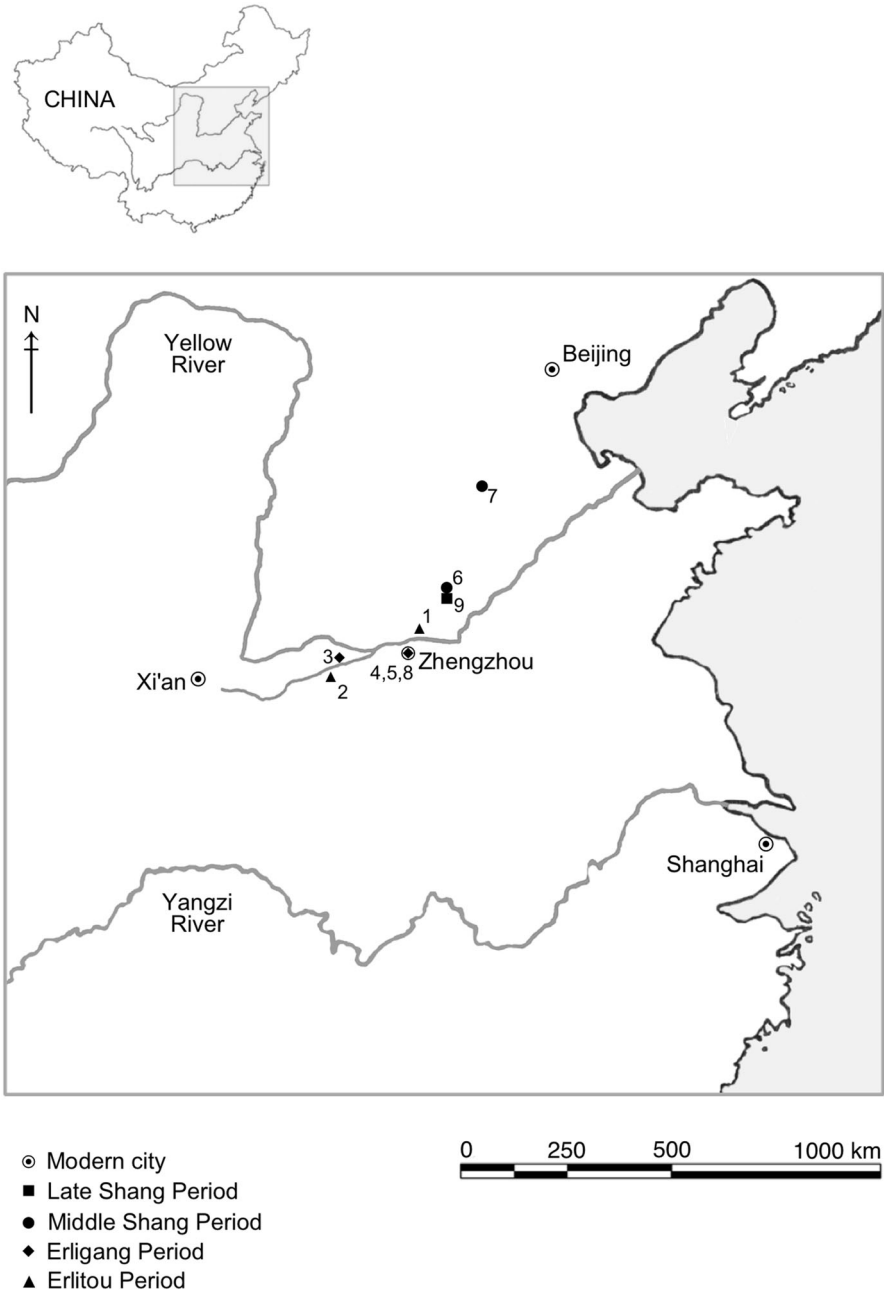


Fig. 2 Bronze Age sites discussed in the text. *Erlitou*: 1 Dasima, 2 Erlitou. *Erligang*: 3 Yanshi, 4 Zhengzhou. *Middle Shang*: 5 Baijiazhuang, 6 Huanbei, 7 Taixi, 8 Xiaoshuangqiao. *Late Shang*: 9 Anyang (Liujiashuang, Xibeigang, and Yinxu)

Early Bronze Age Societies (c. 1900–1046 BC)

The Bronze Age of North China, otherwise known as the Three Dynasties period, has been studied intensively throughout the course of Chinese archaeology, from the antiquarian interests of Song dynasty scholars (Chang 1981a; Trigger 2006) to the birth of modern archaeology and initiation of excavations at Yinxu (Anyang) under the direction of Li Ji (Li Chi) (C. Li 1977). Regional settlement patterns and their evolution are well understood from systematic survey (Liu et al. 2002). The sequence of archaeological traditions of this period in the middle Yellow River valley includes Erlitou, Erligang (also known as Early Shang), Shang, and Zhou (Table 2; Fig. 2). For the purposes of this paper, I will constrain the Bronze Age discussion to the approximately 850-year period from the Erlitou through the end of the Shang period. There is debate as to where and when the first states appeared, whether the political structure can best be described as a city state, territorial state, or other, and whether the term ‘state’ is even applicable to the Chinese case (Campbell 2009; Liu 2009; Liu and Chen 2003; Shelach and Jaffe 2014). Liu and Chen (2003, 2012) identify the tiered settlement hierarchy surrounding the Erlitou site as the earliest state. While there has been debate as to whether or not the Erlitou site represents a capital site of the historic Xia dynasty (Allan 2007; L. Liu 2001; Thorp 1991), Liu and Xu (2007) shift the conversation to archaeologically and materially based interpretation.

The Erlitou Period (c. 1900–1500)

Erlitou sites are primarily distributed in the middle Yellow River region. The core area is in the Yiluo river valley and Song Mountain region of Henan province (Liu et al. 2002); some sites have also been found in the middle Yangzi River region, representing a southern expansion of the polity. The largest Erlitou site is the type-site located at Erlitou, Yanshi county, Henan. Since its discovery in 1959, the site has been extensively studied (Allan 2007; Institute of Archaeology 1999, 2014; Liu 2006; Liu and Xu 2007; Thorp 1991; Xu 2004; Xu et al. 2005). It is considered one of the showpieces of Chinese archaeology and is well protected from encroaching development. The settlement includes a palace complex with residential features and materials (walled towards the end of occupation), a bronze foundry located 200 m south of the palace, a ritual area north of the palace, lower-status residential areas in the western and northern areas (inferred from the modest houses and burials), and pottery and bone production areas.

There is marked differentiation in architecture and burial elaboration between palace and lower status areas, reflecting deepening social hierarchy. Bronze casting, a new technology used for drinking and food vessels, began to occur in the third occupation phase at Erlitou (Liu and Xu 2007). Bronze vessels were composed of a ternary alloy of copper, tin, and lead, and were cast using the piece-mold technique, in which the molten liquid is poured into ceramic mold-sets comprised of exterior ‘negative’ molds and interior cores. While there is debate over whether this was an internal development or external introduction (Fitzgerald-Huber 1995), Liu and Chen (2012, p. 272) point out that Erlitou metallurgy is innovative in its piece-mold casting technique and its use of bronze for ritual purposes when in other parts of the world it was used for utilitarian items and non-ritual ornaments (see also Chang 1974, 2005, p. 135; Liu and Chen 2012, p. 271). Allan (2007) argues that bronze casting was driven by a desire for the ritual vessels and not for implements and weapons. She notes that while some tools and weapons—for example, arrowheads—were made of bronze, these were technologically simple to produce (e.g.

with bivalve molds). It is worth noting that the piece-mold casting technique is an intimate melding of ceramic and bronze technologies. Indeed the vessels produced imitate clay vessel types (Liu 2003).

Evidence of ritual activity at Erlitou includes the first bronze ‘ritual vessels’ of the Bronze Age, as well as a 300 m long ritual area north of the palace (in excavation areas IV and IX), where excavators revealed architectural structures above and below ground, with associated burials appearing to represent religious and sacrificial activity (Xu et al. 2005). The first cast bronze vessels are thought to have been used for drinking alcohol and were of the *jue*, *jia*, and *he* types, modeled after pottery (Bagley 1990; Childs-Johnson 1987). ‘The forms of these drinking vessels inherited a ceramic tradition associated with ritual feasting as a part of the ancestral cult ceremony, and this tradition can be traced back to the Neolithic period ... The stylistic continuity of these vessels as ritual paraphernalia from the Neolithic to Bronze Ages suggests a continuous practice of similar forms of ritual observances’ (Liu and Chen 2012, p. 272).

The Erligang Period (1600–1400 BC)

Following the Erlitou period, the political center shifted and populations moved to new centers at the sites of Zhengzhou and Yanshi (located only 6 km northeast of Erlitou), marking the beginning of the Erligang period, though it appears that some people continued to live at Erlitou after it was depopulated (Liu and Xu 2007). Erligang sites cover a broad region of north-central China, with a core area in the middle Yellow River valley but extending southward into Hubei, Jiangxi, and Hunan provinces, westward into Shanxi and Shaanxi provinces, and eastward into Shandong. The Erligang polity may be characterized as a tiered settlement hierarchy (Liu and Chen 2012; Yuan 2013) or network of sites (Thorp 2006). The walled sites of Zhengzhou and Yanshi, both located in Henan province, were primary and secondary centers, respectively (inferred from site size and other features). Smaller walled sites include Yuanqu, Dongxiafeng, and Panlongcheng. These were located farther afield and had single pounded-earth walls and square urban plans. Some of the outlying sites, such as Dongxiafeng, Donglongshan, Daxinzhuang, and Panlongcheng were originally unwalled Erlitou settlements until the Erligang took them over, in what Liu and Chen (2012) see as a colonial process motivated by a need to acquire natural resources. Smaller settlements and villages were located in the vicinity of the larger centers, continuing the distinction between urban and rural residents. The earliest layers at Yanshi exhibit a mixture of Erlitou and Erligang features (Liu et al. 2002; Liu and Chen 2012), which some scholars see as representing the historical overthrow of the Xia Dynasty by the Shang Dynasty (Du et al. 1999, pp. 38–40; Gao et al. 1998; Henan Cultural Relics Institute 1994; Zou 1999). Survey in the Yiluo valley area near Yanshi reflects Erligang expansion: 24 sites were datable to the Upper Erlitou—Lower Erligang period; 46 sites were datable to the Upper Erligang period; and 4 small sites were datable to the Late Shang (when the political center shifted again, to Anyang) (Liu et al. 2002).

The walled site of Yanshi, located in Yanshi, Henan, was discovered in 1983 (Luoyang Han Wei 1984) and excavations continue to the present day (Du 2005; Du et al. 1999; Institute of Archaeology 2013). Yanshi’s perimeter walls consisted of an outer wall that defined a cleaver-shaped space and an inner wall that defined a rectangle and shared the southern half of the cleaver handle. These defined inner and an outer city areas. A walled palace area, containing palace buildings with rammed-earth foundations, was located towards the center of the inner rectangular city. North of these buildings was a stone-lined pool with underground waterways, and a ritual area containing walled structures and an

open area. A storage facility that might have been an arsenal was also located in the inner city and a second similar structure was located outside the eastern wall of the inner city, bordering the wall. While the palace and storage facilities were located in (or close to) the inner city, the dwellings of lower-status residents were concentrated in the northeast of the outer city (Wang, X. 1999, p. 31). Thus the architectural layout of Yanshi reflects social difference and a segregation of ‘insiders’ and ‘outsiders’.

The importance of ritual in Erligang/Shang society has long been recognized from material remains and inscriptions on divination bones (called ‘oracle bones’), which, at the Late Shang site of Anyang, were records of ritual offerings made to ancestors and spirits as well as questions posed to ancestors (Keightley 1978a). At Erligang sites, the most recognizable archaeological signs of ritual are divination bones, ritual deposits (pits), and bronze vessels, which are usually found in graves. During the Erligang, ritual pits were usually composed of bodies (human/animal/mixed), sometimes buried along with pottery and other objects. These pits have been discovered in palace, building foundation, and mortuary contexts as well as in community areas near houses. As at Erlitou, sacrifice ritual was an important focus of palace elites at Yanshi. This is evident from the dense ritual deposits in the palace compound that contained remains of sacrifice and feasting ritual (Institute of Archaeology 2002; Reinhart 2015). Recent research has indicated that potters living in a lower-status area of the Yanshi site practiced similar sacrifice and feasting rituals (Reinhart 2015).

The Middle Shang (c. 1400–1300 BC)

During the Middle Shang period (Tang 2001), the political center shifted again and regional centers like Zhengzhou and Yanshi fell as two new regional centers rose at Huanbei and Xiaoshuangqiao. Yanshi, for example, was abandoned in its last occupation phase after a period of flourishing (Wang, X. 1999). Liu and Chen (2012, p. 291) refer to the Middle Shang as a period of decentralization and propose that this may have been due to sociopolitical conflict—caches of bronze vessels were found in pits and wells at Zhengzhou dating to the end of the Erligang period, suggesting that the city was abandoned quickly. One of the major centers, Huanbei, was discovered fairly recently in Anyang City. Huanbei displays characteristics of a major center, such as a palace area with large pounded-earth foundation platforms (Anyang Archaeological Team 2003; Du 2005; He and Tang 2010; Tang et al. 2010a, b). Thus far, foundations F1 and F2 have been excavated; F1 seems to have been a ritual site, perhaps similar to the ritual site in the Yanshi palace. This is evidenced by the presence of human and animal sacrifice. The second site, Xiaoshuangqiao, located around 20 km from Zhengzhou, Henan, is another important Middle Shang site (Henan Province 1996; Song 2004b, p. 98). Sacrificial remains at Xiaoshuangqiao underscore the importance of this practice. Excavators discovered sacrificial pits near palace building foundations containing both human and animal remains. Some sacrificial pits at the site also contained large urns with glyphs painted in red pigment (more details will be provided in a following section).

The Late Shang (c. 1300–1046 BC)

The Late Shang is the first historic period in Chinese history, bearing the earliest extant body of texts (though not the first evidence of writing). This corpus of texts was recovered from the Late Shang capital site of Yinxu, also known as Anyang, located in Anyang City, Henan. The identity of this site as ‘Yinxu’ and home of the ‘Shang’ people is established

with these sources. However, there is disagreement about what type of state the Late Shang represents (Keightley 1999a, b; Trigger 1999; Yates 1997). During the Late Shang, the political center shifted one final time to Anyang. According to regional archaeological survey, the number of sites in the region increased and the size of the regional center at Anyang increased dramatically compared to previous centers, indicating a population increase from the Middle to Late Shang.

Anyang is a sprawling unwallled site, located over a large territory (15–30 km). A large palace area was discovered near the village of Xiaotun and 53 pounded-earth palace foundations were revealed concentrated in one area. Some appear to be ritual sites (as evidenced by human and animal sacrificial pits) while others were likely elite residences (Tang 2008). While the Shang kings were buried in a separate cemetery north of the Huan River at Xibeigang, some elite tombs were discovered near the palace foundations, including the tomb of Fu Hao (Anyang Archaeological Team 1977; Institute of Archaeology 1980). In other parts of the site, craft production areas and other residences were discovered. Tang (2004) has conducted mortuary analysis of burials from the site and argues that cemeteries were organized by lineage or family groups. Differentiation of mortuary remains appears to have been pronounced, with at least six classes.

During the Late Shang, inscriptions on bones and turtle shells called *jiaquwen* 甲骨文 (literally ‘shell bone writing’, known as ‘oracle bones’) appear as a pristine writing system (Smith 2013). This sudden appearance of a fully-developed writing system suggests that earlier writing on less durable material, such as bamboo (depicted in oracle-bone inscriptions), has not survived. Earlier forms that appear related to the fully developed system have been discovered in ritual contexts (Song 2003, 2004b; Yang 2000, p. 48), and some scholars have linked ritual and writing (e.g. Chang 1983; X. Li et al. 2003). Oracle bones have been found in great numbers at Anyang. The subjects of the writings include divination queries about military campaigns, hunting, harvests, the weather, the king’s dreams, and enumeration of animals and people sacrificed (Keightley 1978a). Some have argued that divination ritual was for its apotropaic effect, the appeasement of the ancestors in hopes of securing peace and prosperity (e.g. Allan 1991; Keightley 1978b).

Divergent Modes of Religiosity Theory

Having discussed sociopolitical organization (in which ritual played a significant part) in the Neolithic and Bronze Age of the middle Yellow River region, I will now examine a general theory of religion. Anthropologist Harvey Whitehouse (2002, 2004a) has pointed out that many models of human ritual and religious behaviour in the social sciences bear a striking resemblance to one another, with a bifurcation of ritual behaviour into two opposing types: one more complex and codified, the other more emotional and experiential. Whitehouse (2002, 2004a) used this as the starting point for the construction of the theory he calls Divergent Modes of Religiosity (DMR theory, or sometimes ‘modes theory’). Whitehouse traces the intellectual heritage of DMR theory to a list of scholars, beginning with Weber (1930, 1947) and his contrast between routinized and charismatic religious styles. Weber is followed by the Apollonian and Dionysian modes of Benedict (1935) (though developed earlier by Nietzsche in *The Birth of Tragedy*). Then, as structuralism rose in the 1970s, Gellner (1969) wrote about literate urban versus image-based rural forms of Islam; Lewis (1971) published on central versus peripheral cults and ecstatic shamanism; Turner (1974) theorized about *communitas* versus structure; and Werbner

(1977) discussed regional versus community cults. Goody (1968, 1986) wrote generally about literate versus non-literate religions and Frederik Barth (1990) proposed ‘conjurer’ versus ‘guru’ religious types. Whitehouse’s new theory was developed to address shortcomings of its predecessors but also to explain similarity across models. It would establish a causal mechanism rooted in models of human memory to explain the two apparently divergent modalities of religious experience defined in these studies.

According to DMR theory (Whitehouse 1995, 2000, 2002, 2004a), there are two distinct modes of religious or ritual behaviour, which consist of separate suites of interconnected and mutually reinforcing psychological and sociopolitical features (Table 3). The two modes are characteristic of the particular sociopolitical structures in which they occur. The first is termed ‘imagistic’ and is characterized by traumatic ‘ritual ordeals’ that occur rarely and are intensely emotionally arousing and often dysphoric (Atkinson and Whitehouse 2011). The accompanying sociopolitical form is decentralized, characteristic of smaller scale societies. Examples of imagistic rituals include Melanesian initiation rites (Whitehouse 1996); altered states of consciousness in Amazonian or Siberian shamanism; collective possession; and rituals involving homicide or cannibalism (Whitehouse 2002, p. 303). In the imagistic mode, religious leaders, if present, tend to be elders or ritual experts (Whitehouse and Hodder 2010, p. 130). Imagistic religions tend to be localized and do not spread rapidly.

The other mode is termed ‘doctrinal’ and is characterized by highly repetitive and routinized rituals that are not very emotionally arousing. They tend to involve complex religious doctrines and their procedures are likewise complex, but consist of sets of repetitive bodily acts that are simple to follow once learned, such as kneeling and bowing in prayer, sitting still and listening to sermons, standing and singing hymns (Whitehouse 2002, p. 299). Since similarly trained members can recognize one another’s membership without formal introduction, a large diffuse community is formed. Thus, the sociopolitical form is large-scale and hierarchical, with centralized political authority, such as the imagined community of a state-level society. Religious rulers in the doctrinal mode emerge as charismatic orators who have access to specialized knowledge. The doctrinal mode is seen as accompanying the first large scale societies of the Bronze Age and is characteristic of large regional religions and the major world religions today. Doctrinal religions tend to

Table 3 Modes of religiosity according to Divergent Modes of Religiosity Theory

Variable	Imagistic Mode	Doctrinal Mode
<i>Psychological Features</i>		
1. Arousal level	1. High	1. Low
2. Transmission frequency	2. Low	2. High
3. Dominant memory system	3. Episodic/‘flashbulb’	3. Semantic/implicit
4. Ritual meaning	4. Internally generated	4. Learned/acquired
5. Techniques of revelation	5. Iconicity, multivalency, multivocality	5. Rhetoric, narrative
<i>Sociopolitical Features</i>		
1. Social cohesion	1. Intense	1. Diffuse
2. Leadership	2. Passive (religious elder)/absent	2. Dynamic
3. Membership	3. Exclusive	3. Inclusive
4. Spread	4. Slow/inefficient	4. Rapid, efficient
5. Degree of uniformity	5. Low	5. High
6. Scale	6. Small, localized	6. Large
7. Political structure	7. Decentralized	7. Centralized

last for long periods of time, spread rapidly and thus cover larger territory. DMR theory is framed in both cognitive and evolutionary terms: the two modes are distinct because distinct types of memory systems are activated through distinct ritual procedures; it is these memory systems that enable the traditions to persist. Intense emotional experiences of the imagistic mode activate episodic memory, in which vivid and enduring pictures of events are stored (McCauley 2001; Whitehouse 1996, 2000). Memory studies have dubbed this type ‘flashbulb memory’ (Brown and Kulik 1982; Conway 1995; Luminet and Curci 2008; Winograd and Neisser 1992). According to DMR theory, because flashbulb memory allows for details of the ritual performance to be stored for long periods, the procedures will not be forgotten and the tradition will survive. By contrast, the prescribed repetitive rituals of the doctrinal mode lead to memories that are stored in implicit and semantic memory systems and the rituals become a matter of habit and way of understanding the world. Since the causal mechanism separating the two modes is rooted in the structure of the human brain, taken to be the same today as it was thousands of years ago, the theory may be applied cross-culturally and cross-temporally, and psychological studies may be used to further develop and refine the theory (e.g. Páez et al. 2009).

One of the fundamental differences between the two modes of religiosity is in the emotional intensity that the rituals evoke in participants. According to DMR theory, the degree of emotionality is related to the frequency with which the rituals occur. Atkinson and Whitehouse (2011) have analysed religious rituals described in the Human Relations Area Files databases from 74 different cultural contexts around the world. They argue that there is a strong negative correlation between the frequency of ritual performance and the emotional arousal of participants. This supports the prediction of DMR theory that rarely occurring rituals are emotionally intense whereas frequently occurring doctrinal-type rituals are not. However, it should be noted that the arousal rating of the rituals was assigned a numeric code by graduate and undergraduate students using a Likert scale from 0 (no arousal) to 5 (extreme arousal). Emotional arousal was then partitioned into euphoric arousal (e.g. dancing, singing, shouting) and dysphoric arousal (e.g. pain, discomfort, trauma). The subjectivity of emotional intensity, euphoria, and dysphoria may be problematic. How can it be known whether the ethnographer, informant, witness, or analyst understands the ritual in the same way as participants (see the discussion section below on relativism, violence, and emotion)?

Central to DMR theory is the idea that the two modes of religiosity are mutually exclusive. Their key features ‘stand in stark contrast with each other’ (Whitehouse 2002, p. 308). This point was made in early formulations of the theory as well as in more recent applications, such as the paper entitled ‘Divergent Modes of Religiosity and Armed Struggle’ (Whitehouse and McQuinn 2012). While the two modes of religiosity are distinct, there are times when both are present within the same tradition, something Whitehouse has dubbed ‘interacting modes’ (2002, p. 309). According to DMR theory, these interacting modes happen primarily because the doctrinal mode is vulnerable to a ‘tedium effect’ as a result of repetitive rituals (Whitehouse 2004b, p. 226). When this occurs, imagistic characteristics are sometimes favored to counteract the tedium effect, which can lead to the following interacting modal configurations: (1) a ‘splintering’ of imagistic mode practices within a doctrinal tradition, which then reinvigorates the orthodox base; (2) an increase in relevance of an orthodox doctrine; and (3) the adoption of high-arousal rituals that lead to individual personal revelation framed in orthodox narratives but with no consequence for group dynamics. Interacting modes can also happen when lower-status members of a society do not have access to the doctrine of the elites (Whitehouse 2002, p. 311). Furthermore, when imagistic characteristics occur within doctrinal mode,

the effects are much different to those found in the imagistic mode itself (Whitehouse 2004b, p. 217). Note, however, that interacting modes are not the same as a blending or mixing of the modes: ‘those aspects of a religious tradition associated with doctrinal and imagistic modes respectively, remain distinct from the viewpoints of both participants and observers. It is precisely this distinctiveness that prompted the numerous dichotomous theories of religion ...’ (Whitehouse 2002, p. 309). Again, the reason for the distinction between modes is the distinction in types of memory processes.

Several authors in a volume edited by Whitehouse and Martin (2004) have argued for the presence of ‘mixed modes’, but these claims have all been rejected by Whitehouse (2004b), who, to my knowledge, has not supported the idea of mixed modes. A number of examples illustrate this point. Clark (2004) proposed that mixed modes may be found in doctrinal medieval Christian religion, which includes mystics who undergo imagistic revelatory experiences. Whitehouse (2004b) refutes this by arguing that imagistic-like revelations are framed by orthodox narratives (visions, salvation), are experienced by lone individuals, and do not affect group dynamics as would a true imagistic practice. Another example is provided by Beck (2004), who discusses Greco-Roman Mithraism in the second through fourth centuries and proposes that there is alternation between imagistic and doctrinal dynamics, including the transmission of elaborate doctrine through image and symbol. Drawing parallels between Mithraic mystery cults and his own findings in Melanesia, Whitehouse (2004b) counters this by arguing it is simply a case of full-blown imagistic religiosity.

Other critiques of DMR theory include Wiebe (2004), who questions the theory’s causal mechanism, asking why we cannot see doctrinal modes in earlier prehistoric times if the architecture of the human mind was the same then as now. Mithen (2004) argues for doctrinal mode dynamics in western Asia long before the advent of writing, which is understood by some as making the doctrinal mode possible. Another view is that the advent of agriculture heralded the doctrinal mode (Atkinson and Whitehouse 2011; Whitehouse 2004b). But northern China again does not support this hypothesis, as agriculture was in play for a long period prior to the emergence of decidedly complex society.

Application and Testing of DMR Theory

Whitehouse has called on researchers in various fields to test DMR theory to look for any compelling cross-cultural counter-evidence (Whitehouse 2004a). If DMR theory is correct, ‘then its specific hypotheses concerning the underlying cognitive causes of religious experience and social morphology should be applicable... to all religions, whether or not near and familiar or distant and exotic’ (Whitehouse 2004a, p. 164). The hypotheses regarding psychological and sociopolitical features, moreover, are testable with empirical evidence (Whitehouse 2004a, p. 64). To date, DMR theory has been applied in many parts of the world through a range of disciplines (Whitehouse and McQuinn 2012): ethnographically (Whitehouse and Laidlaw 2004, 2007); to aid understanding of the formation and spread of religion, as well as religious reforms and sectarian splintering (Gragg 2004; Hinde 2005; Pyysiainen 2004; Whitehouse 2009); and in cognitive science studies (McCauley and Whitehouse 2005; Whitehouse and McCauley 2005). It has also been applied to contemporary military conflict (Whitehouse and McQuinn 2012). Testing of DMR theory (to both understand cases and refine the theory) is ongoing. In a recent article about theory building in the social sciences, Whitehouse et al. (2012, p. 182) state:

many of these predictions have already been tested against contemporary and longitudinal evidence, using the methods of both qualitative case study and large-scale survey, and some of the mechanisms responsible for the patterns observed have been investigated by means of controlled experiments ... This back-and-forth between simulation and theory testing has the potential to accelerate progress in the scientific study of religion.

For archaeological cases, Whitehouse suggests starting with the sociopolitical features and then testing for the predicted arousal level, ritual frequency, and other variables listed in Table 3 (Whitehouse 2004a, pp. 157–158). DMR theory is amenable to being tested with archaeological cases because past societies are often described in terms of their sociopolitical structure and structural change is often accounted for over long periods. DMR theory has been applied to various case studies, including the rise of complex societies out of Neolithic roots. Gragg (2004) illustrates imagistic dynamics of Roman mystery cults and Leopold (2004) describes imagistic characteristics of early Christian Gnostic cults of the second century. Whitehouse and Hodder (2010) argue that at the Neolithic settlement site of Çatalhöyük, on the Anatolian Plateau in present-day Turkey, there was a shift from imagistic to doctrinal mode dynamics in later stages of occupation at the site associated with increasing political centralization, hierarchical social organization, and craft specialization. Johnson (2004) and Mithen (2004) also use DMR theory to explain transition to complex civilizations in Iran and western Asia. Other archaeological, classical, and historical applications of the theory can be found in Hodder (2014), Pachis and Martin (2009), and Whitehouse and Martin (2004). To my knowledge, DMR theory has not yet been applied to archaeological cases in China, thus the current study contributes to this growing body of scholarship.

Testing DMR Theory with the Northern Chinese Case

DMR theory predicts that complex societies with central authority and leadership (such as those of the Bronze Age) should exhibit doctrinal mode dynamics that are distinguishable from those of small-scale Neolithic societies (see Table 3). By extension, the transition to these complex societies should be accompanied by a shift from imagistic to doctrinal mode dynamics. According to DMR theory, the religion of a large, complex, hierarchical, and diffuse society should be characterized by frequently occurring, low-arousal rituals and learning of ritual through semantic/implicit memory systems with passive rumination. Leadership should be centralized, with a charismatic and active leader. By contrast, the religion of small-scale, tight-knit communities, such as earlier Neolithic societies, should be characterized by rarely occurring, high intensity rituals and learning through active personal reflection (exegetical reflection). Leadership, if present, should take the form of a ritual elder or shaman.

To test DMR theory, I will initially follow the format that Whitehouse (2004a, pp. 157–158) suggests: after first defining the sociopolitical organization of the case, I will then consider the archaeological evidence and whether the predictions of DMR theory hold true. Thus, I will address arousal level, ritual frequency, leadership, and group cohesion. In order to look for a shift from imagistic to doctrinal mode dynamics concomitant with transition to complex society as found in other parts of the ancient world (e.g. Whitehouse and Hodder 2010), I will examine evidence from both the Neolithic and the Bronze Age sequences, looking for a shift or change as societies enter the Bronze Age.

As described in the introductory sections on the middle Yellow River valley, Early and Middle Neolithic societies (c. 7000–3000 BC) were small in scale, mostly self-sufficient, and fairly egalitarian. Although some individuals may have been distinguished on the basis of their ritual ability, they were not differentiated from others in their daily life or in their mortuary treatment. During the Late Neolithic (c. 3000–2000 BC), social competition appears to have increased and social differentiation becomes more evident archaeologically, along with craft specialization and the production of luxury goods. These Neolithic communities, especially in the earlier periods, fit the imagistic mode's sociopolitical characteristics of small-scale, localized communities with exclusive membership. Societies begin to change in the later Neolithic, and by the Erlitou period, a complex and developed urban polity marks the beginning of the Bronze Age with a surge in technological development (e.g. bronze casting). Erlitou was an expansive polity, often described as centrally organized, ruled from a palace compound and the capital site of Erlitou. This fits the doctrinal mode of religiosity, with its centralized political structure, large territory, and inclusive membership.

The Conventional 'Bureaucratic' and Elite-Centered View of the Shang

Scholars of the Shang (the polity to follow Erlitou) have indeed described characteristics that fit the doctrinal mode of religiosity. As outlined above, Early Bronze Age polities of northern China are often characterized as highly stratified with centralized authority, though there is disagreement as to their type of political structure (territorial state, city-state, or network). Shang historian David Keightley has repeatedly emphasized a view of Late Shang religion that describes it as highly structured, structuring, routinized, and orderly; again, fitting with doctrinal mode. According to Keightley, Shang ritual divination was dominated by routine, bureaucratic procedures (1998, p. 826), including the procedural documenting of concerns and enumeration of sacrifices in inscriptions by diviners who were 'Shang bureaucrats' (Keightley 2012, p. 108). Since Keightley, as a historian, privileges the textual sources, his perspective may indeed be biased. Record keeping of the numbers of animals and humans sacrificed to the ancestors may appear orderly but it does not necessarily reflect an orderly experience or say anything about how the ritual killing was experienced 'on the ground'.

In a study of changes in animal sacrifice during the Shang, Yuan and Flad (2005, p. 411) argue that, by the Late Shang, animal bones used in divination rituals were pre-treated in highly standardized ways. This point is reiterated by Flad (2008), who argues that in the Late Shang, access to divination practices was restricted to the elites through 'structured elaboration' of the divination rituals: 'these procedures are more elaborate and codified where divination is closely tied to state-based structures of authority because it is only in relatively centralized and bureaucratized contexts that elaborate procedures can become standardized' (Flad 2008, pp. 403–404). Campbell (2007) argues that mortuary ritual and sacrifice became increasingly elaborate during the Late Shang, and Smith (2013) argues that language emerged out of structure in China, rather than from the agency and creative intelligence of individuals.

A 'bureaucratic' view of Shang society (and religion more specifically) that emphasizes routinization, repetition, and formalization—perhaps stemming from the intellectual heritage of Weber (1978) and his notion of bureaucracy as a peak of rationality—fits with the doctrinal mode of religiosity as expected for an early complex polity with centralized government, kingship, complex social hierarchy, and large territory. However, focusing primarily on elite power and abstract notions of state power means that we risk

misinterpreting social organization (as Campbell 2009 argues for the Late Shang) and obscuring other important aspects, such as the religious practices of non-elites (Reinhart 2015) or the *human* experience of violence. While there is evidence to support the expected model of centralized state power, hierarchical social organization, and doctrinal mode dynamics in the Shang, there is also evidence of violent, bloody, and sensorially stimulating rituals, rooted in very old traditions. Moreover, these occur not only in elite contexts but also in lower-status contexts. At the Shang site of Yanshi Shangcheng, an important settlement of the Erligang period with a walled palace complex, violent ‘sacrificial’ ritual is evidenced in the palace temple sites—as expected—and also, unexpectedly, in a potters’ neighborhood (Reinhart 2015). Scheper-Hughes and Bourgois (2004b) argue that a Weberian dichotomy does not apply in the case of genocide and community violence. Genocide, they contend, is not just executed by the modern state as typically conceived but is also conducted by smaller communities. Conversely, bureaucratic institutions also practice more intimate techniques of brutality that are typically considered characteristic of smaller-scale communities. Through the testing of DMR theory with the northern China case, I will reveal parallels between expectations of the doctrinal mode of religiosity and expectations of the elite-centered bureaucratic view of the Shang, both of which are inadequate to characterize the complexity of the archaeological case.

Evidence for Imagistic Ritual in Northern China

Turning now to the case study, I will first review evidence of imagistic ritual in Neolithic contexts and then move on to illustrate similar practices in the Bronze Age. To support the view that the evidence in both periods represents imagistic ritual as described by DMR theory, I will consider the emotional valence of the rituals and also the frequency with which they were performed. A fundamental feature of the imagistic mode of religiosity is the high emotional intensity, sensorial stimulation, and low performance frequency of ‘ritual ordeals’. In a study of ‘rites of terror’ in societies of Papua New Guinea, Whitehouse (1996, p. 703) cites examples such as penis bleeding initiation rituals, mortuary rites in which dancers are burned, and possession rituals. Other examples include shamanism and altered states of consciousness, collective possession, and rituals involving homicide or cannibalism (Whitehouse 2002). Such imagistic rituals involve heightened emotional arousal and ‘sensory pageantry’ (McCauley and Lawson 2002; Whitehouse 2001, p. 174). They contrast starkly with the placidity and low emotional arousal of doctrinal mode rituals. As predicted by DMR theory, there is clear archaeological evidence for imagistic mode dynamics at archaeological sites representing small-scale Neolithic societies in the middle Yellow River valley. Imagistic rituals evidenced involve violence and killing, perhaps enhanced sensorially by music, feasting, and the consumption of intoxicants.

Ritual Violence in the Neolithic

Several English language studies have approached the topic of ritual in the northern Chinese Neolithic. These include Liu’s work on household ritual, ancestor worship, and mortuary patterns (Liu 1996a, 2000, 2004), Fung’s (2000) study of Dawenkou burial ritual and ceramic vessels; and Lee and Zhu’s (2002) study of religion in the Chinese Neolithic. But few studies have focused squarely on the tradition of human sacrifice. Archaeological

evidence indicates that human sacrifice can be traced back to the Middle Neolithic in northern China, possibly evolving out of an earlier tradition of animal sacrifice in the Early Neolithic, such as at the sites of Jiahu and Cishan discussed above.

In the northern Chinese Neolithic, a community's dead were usually buried in discrete cemetery areas with bodies in supine position (Liu 2004). Examples include the Early Neolithic sites of Jiahu and Shuiquan, the Middle Neolithic site of Longgangsi and the Late Neolithic site of Taosi. In some communities, secondary and group burials were practiced, for instance, at the Hongshanmiao cemetery site, where bones were deposited in jars and buried (Henan Province 1995), and the Shijia cemetery site, where groups of individuals were buried in the same grave (Gao and Lee 1993; Xi'an Banpo Museum 1978). This regular, orderly, and respectful treatment contrasts with pit burials. These are often referred to as 'sacrificial pits' (*jisikeng* 祭祀坑) in site reports (note that 'sacrificial pits' can also contain buried animals). As Liu points out, pits containing humans are usually found outside cemetery areas, with no grave goods, and with skeletons in an 'undignified position', often displaying signs of violence such as dismemberment or decapitation (2004, pp. 47–48). The earliest examples of pit burials containing human bodies include the Middle Neolithic, Early Yangshao period, site of Banpo in Xi'an, Shaanxi, where skeletons were recovered from pits outside the main cemetery area (Institute of Archaeology 1963). At the Middle Yangshao site of Miaodigou in Shanxian, Henan, skeletons were also found in pits (Institute of Archaeology 1959). In the Late Yangshao period, signs of violence become more evident (Liu 2004, p. 48). At the site of Dianjuntai in Xingyang, Henan, a pit filled with the chaotic remains of 10 human skeletons was recovered. Some of the bodies were dismembered, three were of children, and one showed signs of burning; pottery was also found in the pit, suggesting a link between food consumption and sacrifice (feasting ritual) (Zhengzhou City Museum 1982).

Evidence of child sacrifice is also exhibited at the Middle Neolithic, Late Yangshao period, walled site of Xishan site in Henan province. At Xishan, pottery containing remains of infants was found buried within layers of house foundations and inside the city wall. While there does seem to be a Neolithic tradition of infant burial in urns near houses, for example, at Banpo (Institute of Archaeology 1963), the infant skeletons at Xishan were incomplete and were buried inside architectural structures. In some cases, only parts of a skull or limb were present, in other cases the lower body was missing. Why the skeletons were incomplete is not clear. Partial preservation is a possibility, but premortem/post-mortem body manipulation is also probable. Excavators suggest that these are the remains of 'infanticide sacrifice' associated with the building process (Archaeological Team Leader Training Program 1999, p. 14). While 143 tombs were excavated from two cemetery areas, pit burials were also discovered. Excavators describe the remains of human adults in postures indicating struggle, found along with animal bones, which they relate to sacrificial activity. Additionally, there were more than 20 pits containing large animal skeletons, such as cow and pig, which excavators also relate to sacrificial ritual.

Scholars have noted the increase in signs of violence and conflict during the Late Neolithic (e.g. Chang 1986; Pearson and Underhill 1987, p. 817). The examples of pits with men, women, and children are difficult to write off as merely the unfortunate effects of warfare, especially considering the association with building construction and evidence of consumption of food/drink (perhaps feasting). Like the Xishan house foundation burials, in a number of Longshan examples, human sacrifice appears related to building construction. At the site of Hougang in Anyang city, Henan, for example (Anyang Archaeological Team 1985), excavators recovered the skeletons of 27 children from a cluster of circular houses. These burials were found underneath pounded-earth house

foundations, while others were found in the walls. Seventeen of these children had been buried in pots, while the others had no surrounding vessel (Fig. 3). Adult victims were also killed and buried during building construction ritual. At the site of Wangyoufang, Henan, three children were buried inside the walls of a house and three adult men, showing signs of extreme violence, were buried haphazardly in the corner of a different house foundation. Their bodies were overlapping, their jaws were dislocated, and the fronts of their skulls had been cut off (Henan Team 1987, cited in Liu 2004, p. 47). At the site of Keshengzhuang in Chang'an, Shaanxi, dismembered human bodies were mixed with animal parts and buried

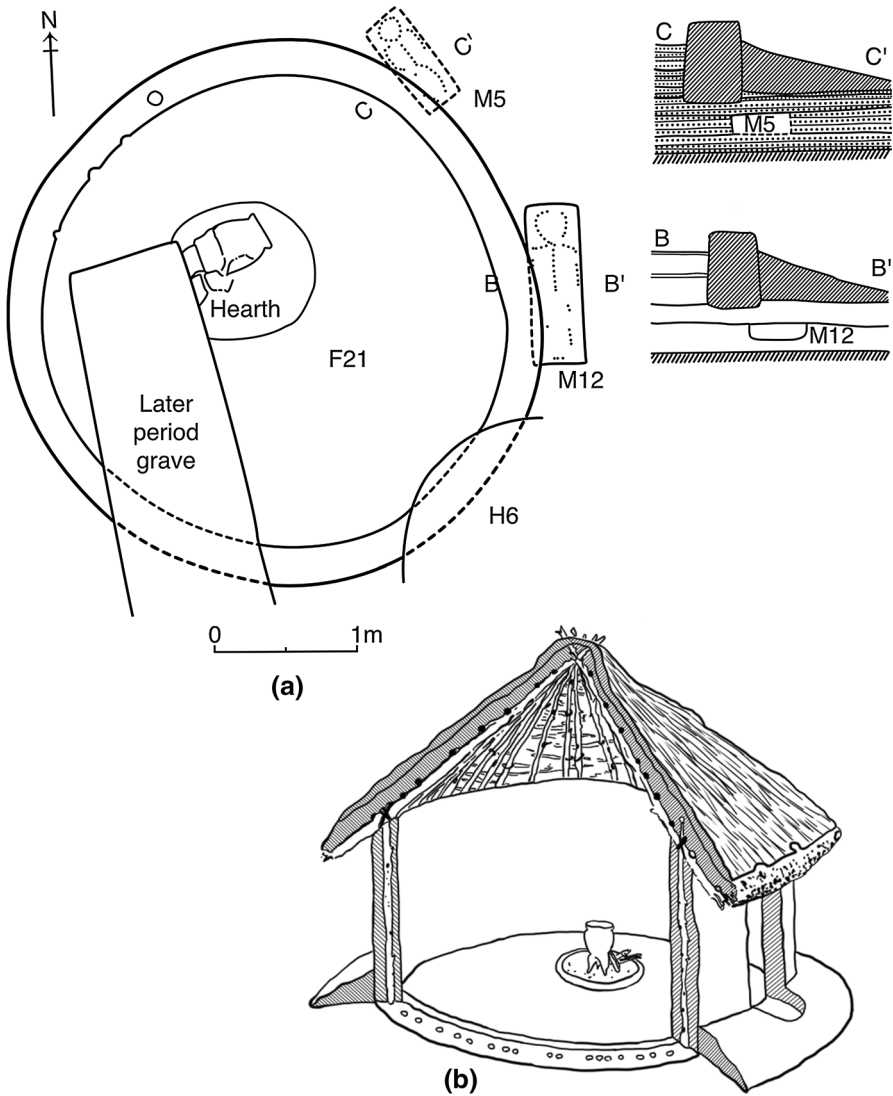


Fig. 3 Late Neolithic houses at the site of Hougang; **a** plan of house F21 with children buried in the foundation layers (redrawn from Fig. 21 of Anyang Archaeological Team 1985); **b** reconstruction of house F11 (redrawn from Fig. 9 of Anyang Archaeological Team 1985)

in pits close to house foundations (Liu 2004, pp. 47–48). At the site of Jiangou in southern Hebei, excavators discovered human skulls bearing signs of blows and post-mortem scalping within a house foundation, as well as a water well filled with layers of human skeletons (representing old, young, male, and female individuals). Some had been decapitated and others showed signs of a struggle (Chang 1986, pp. 270–271; Yan 1982).

At the walled site of Wangchenggang site in Dengfeng city, Henan, sacrificial pits were discovered in several areas (Beijing University 2006; Henan Province 1983). Round pits were found associated with fragmentary rammed-earth building structures (see Pearson and Underhill 1987 on the possible ritual nature of these structures). The pits may have been related to ritual sacrifice (Chang 1986, pp. 273–274; Henan Province 1983). Pit No. 1, for example, was several meters deep and filled with fairly uniform layers of pounded earth. In the upper layers, two pits (H106 and H120) contained in total seven human skeletons. From the bottom to the top, these were one child, one adult male, one young adult male plus one young adult female, and one young adult female along with two children (Fig. 4). Pit No. 1 also contained fragmented pottery of types related to eating and drinking (*ding* quadripod, *guan* jar, *li* tripod, *jia* cup, *hu* pitcher, and *weng* contracted-mouth vessel), again linking sacrifice with consumption of food/drink, possibly related to feasting. Evidence of human sacrifice associated with construction was also found at Shimao, a walled site on the southern edge of the Ordos Desert in Shaanxi province that was founded in the Longshan period (occupation continues into the early Erlitou period). Two pits filled with human skulls were discovered near the site's stone perimeter wall (Shaanxi Province 2013, pp. 21–23). Pit K1, a slightly elliptical pit located outside the north–south wall segment, contained a concentration of human skulls. Pit K2, a nearly rectangular pit located in the lower layer of the city gate contained a concentration of 24 human skulls. Most skulls were uncovered with temporal bone face-up. Preliminarily identification sexed these individuals as young females. Clear cut-marks and signs of burning were visible on their skulls. The location of the pits suggests that sacrificial ritual may have been related to wall construction.

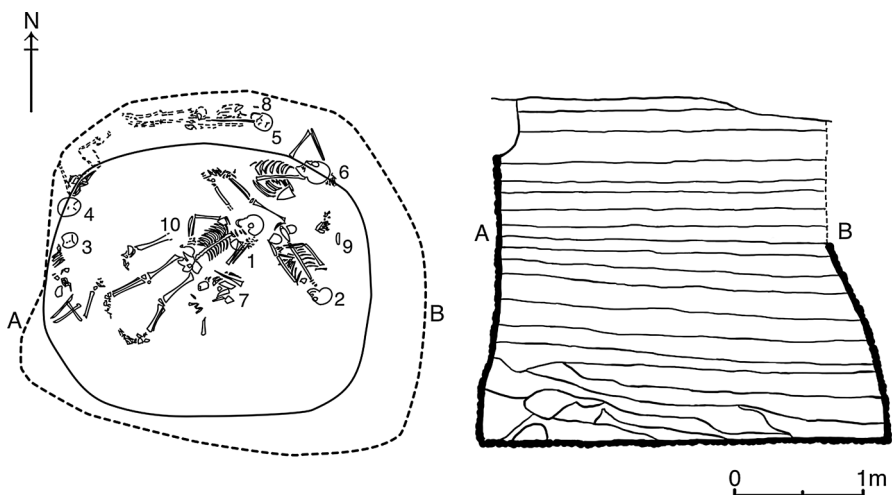


Fig. 4 Wangchenggang burial pit No. 1, plan and profile. 1, 2 young female, 3–5 children, 6, 7 adult male, 8 pig teeth, 9 deer teeth, 10 stone core (redrawn from Fig. 14 of Henan Province 1983)

‘Sacrifice’ in the Bronze Age

In the preceding section, I have laid out evidence of ritual killing, a hallmark of imagistic ritual for small-scale societies. But does the imagistic tradition of killing and violence taper off as societies of this region enter the Bronze Age, as predicted by DMR theory? I will now review evidence that suggests that imagistic rituals continue into the Erlitou, Erligang, and Shang periods, becoming perhaps even more brutal.

Two basic types of ‘human sacrifice’ have been identified in Bronze Age contexts archaeologically and through studies of the oracle-bone inscription record from Anyang. The first includes people who were killed, often violently, and buried in pits. The second includes people who were buried along with a tomb occupant either beneath the coffin in a ‘waist pit’ (*yaokeng* 腰坑) or on ledges surrounding the coffin (*ercengtai* 二层台 or ‘second level platform’). These two types of sacrifice are often distinguished in the Chinese literature as *rensheng* 人牲 or *renji* 人祭 (human sacrifice) and *renxun* 人殉 (companions in death or martyrs) (Huang 1983, 1987, 1990, 1996; Wang, L. 1999, pp. 22–23). Keightley (1999a, b) follows a similar convention but uses the term ‘followers-in-death’. Avoiding the somewhat non-violent connotation of the mortuary ‘companions’, Song (2004a) uses the term ‘funeral murder’ (this is also sometimes referred to as self-sacrifice or suttee).

This discussion focuses primarily on Erligang and Shang sites, but evidence for sacrificial activity is plentiful at the site of Erlitou as well. Excavators mention a sacrificial zone or ‘cultic area’ located north of the palace, containing architectural structures associated with burials (Xu et al. 2005). Site reports also document the recovery of many pit burials from the site (Institute of Archaeology 1999, 2014). For example, in the southeast of Area V (the palace excavation zone), around 50 m east of palace building number 10, excavators recovered five sets of human remains buried in a pit (H305) dated to the early occupation phase. The bodies were found in various positions of disrespect (face down, limbs bent in various directions, overlapping body parts). Three of the skeletons were sexed definitively as female and one as likely female, all aged between 20 and 30 years of age. There was also one male, aged 16–17. The pit fill contained pottery sherds from various types of cooking and serving pots (tripods, jars steamers, water jugs, basins, urns), animal bones and animal teeth (such as pig and sheep/goat), and two knives of copper and bone (Institute of Archaeology 2014, pp. 417–420).

Similar pit burials continue into the Shang period at various sites in the middle Yellow River region. Sacrificial pits have been found in building foundation, mortuary, temple, community residential and other contexts. At the Erligang site of Yanshi, located just 6 km away from Erlitou, human remains were found in pits in a ritual area in the walled palace complex, as well as in pits in a potters’ neighborhood (Reinhart 2015). The palace ritual site was located in the northern sector of the palace and was comprised of an eastern area (Area A) and two large rectangular walled structures (Areas B and C) in the western area measuring more than 200 m from west to east (Institute of Archaeology 2002, p. 6). Although only a brief report on this ritual site has yet been published, it is sufficient to say that this as a ritual sacrifice area. A great deal of pottery and other remains indicative of feasting were recovered, in addition to animal and human sacrifices. Human victims were found in pits of various sizes and shapes. Pit H282, for example, was a large pit (with a 30 m² surface area and depth of 3 m). The pit had regular walls with carved niches and stakes at the entry. Its bottom showed signs of burning. Excavation uncovered 14 levels of deposits, including human and animal remains, a large quantity of pottery, and stones.

Some of the human individuals were buried whole but others were dismembered, some split at the waist. The large area of the palace that these sacrificial temple sites occupied indicates the importance of sacrificial rituals at Yanshi (Fig. 5), and the large amount of pottery and other evidence associated with feasting again links sacrifice with ritual food/drink consumption.

Ritual pit burials and remains associated with feasting were also found in an artisans' community near the northeast corner of the outer city at Yanshi (Institute of Archaeology 2013; Reinhart 2015). Excavators recovered human and animal remains in a number of pits, with pottery, in a residential area that also evidenced pottery production (Fig. 6). Pit H124, for example, of unit T32, contained a human skeleton with bent limbs buried in loose soil along with fragments of pottery from various types of vessels (jars, tripods, steamers, basins, urns, and lids) (Fig. 7). Excavators discovered sacrificial pits containing

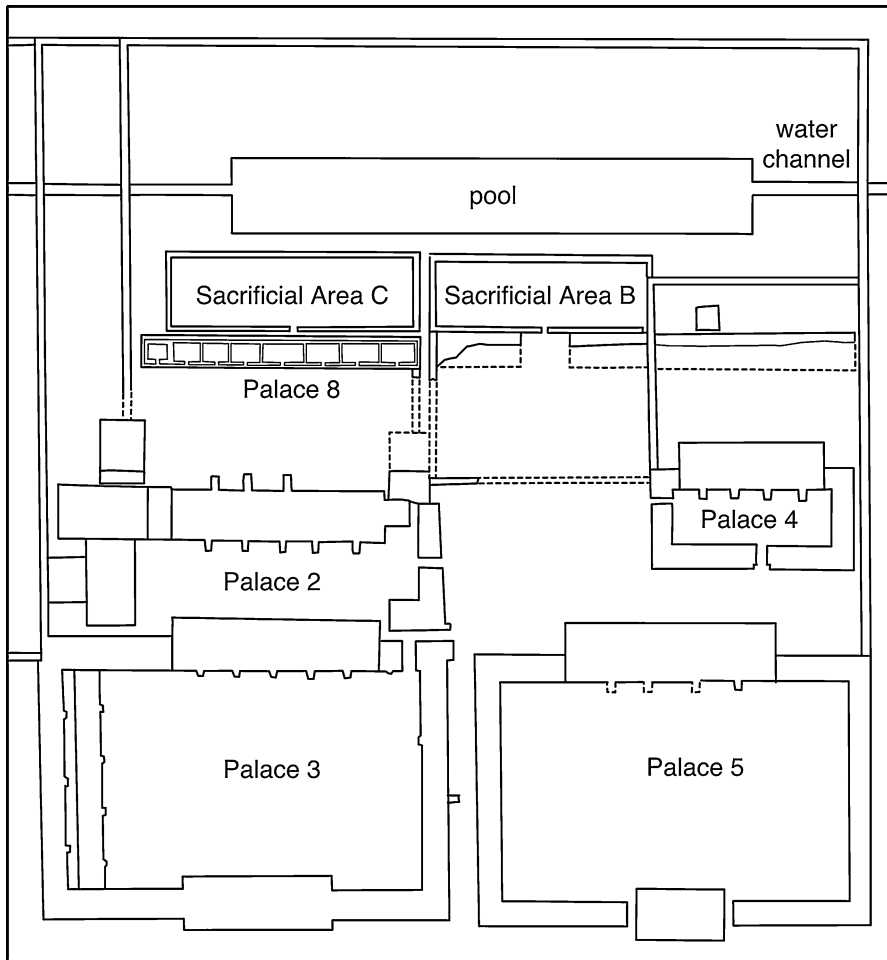


Fig. 5 Layout of the Yanshi Shangcheng Palace complex from Phase III (redrawn from Fig. 1 of Henan Second Archaeological Team 2006)

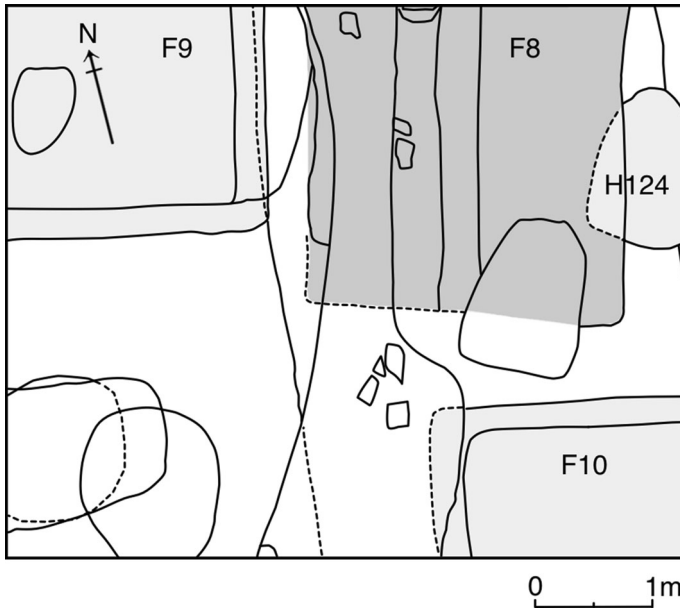


Fig. 6 Excavation unit T32. Shading represents houses F8, F9, and F10 and burial pit H124 (redrawn and modified from Fig. 43 of Institute of Archaeology 2013)

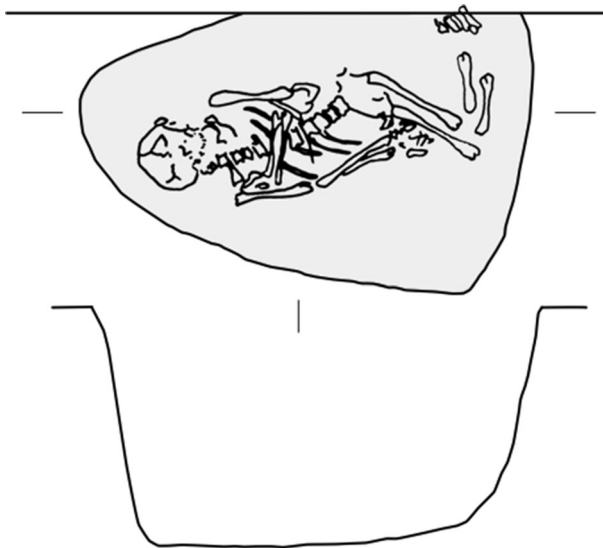


Fig. 7 Pit H124 (from unit T32) from the site of Yanshi containing a flexed human skeleton and pottery (not shown) (redrawn from Fig. 194 of Institute of Archaeology 2013)

animal remains (sheep and dog) along with other evidence of ritual activity (Reinhart 2015). Excavators also found the remains of two children, each measuring about 1 m in height, beneath row-house F12, which they think might be related to ritual activity, perhaps

connected to construction of the building. Pit K1, found in unit T28, however, was a larger sacrificial pit (Fig. 8). It contained the remains of humans and pigs deposited in different layers, which possibly correspond to discrete ritual events (Institute of Archaeology 2013, pp. 428–433). The bottom layer was lined with stones and there was a human body without a grave at the bottom. The middle layer contained a human head in the southeast side and the remains of two bodies without graves near the western side. Pig bones were found near the human bodies and the remains of a pig were uncovered at the center of the pit. The upper layer contained broken pottery vessels of various types, and no whole pots were recovered in K1; excavators infer that this relates to ritual practice.

At the Erligang site of Zhengzhou, sacrificial remains have been discovered in various locations (Cao 2009; Henan Province 2001; Yuan and Flad 2005). An early site report detailing discoveries made during excavations in the 1950s on Longhaima Street describes pits containing ‘casually buried’ human skeletons and skulls found in Shang layers (Henan Province Museum 1973, p. 80). Photographs of one of the excavated pits reveal human

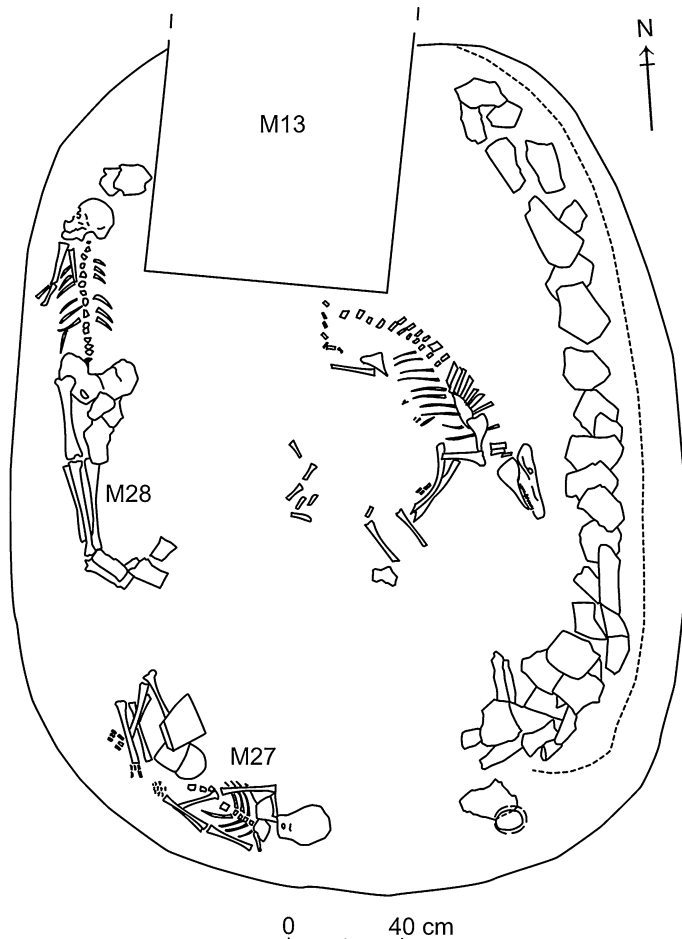


Fig. 8 Pit K1 (unit T28) from the site of Yanshi (redrawn from Fig. 238 of Institute of Archaeology 2013)

skulls associated with a cattle scapula that had been processed for pyromantic divination (round holes carved into the bone surface) (Henan Province Museum 1973, Plate 1). The report also describes pottery and other objects in the same context. Testing in the north-eastern area of Zhengzhou, near the city wall, revealed Shang period trenches associated with rammed-earth structures (Henan Province Museum 1974, p. 1). Excavation uncovered pottery; bone and stone tools; some cow and pig bones; and nearly 100 human skulls displaying cut marks near the upper brow and ears. The photograph in Chang (1980, p. 276) illustrates that some of the skulls were sawn in half, perhaps to make skullcap cups. According to Cao (2009, p. 43), signs of violence found at Zhengzhou, include bodies with bound hands, dismembered fingers and toes, missing feet, and the burial of children. Along with some of the human remains, excavators also found animal bones and pottery, including cooking pots (*li* tripods and *ding* quadripods) and animal bones inside a large pottery urn showing signs of burning, again suggesting a link between sacrifice and consumption of food, possibly feasting.

The ritual killing of humans is also evident at sites from the Middle Shang period. At the site of Xiaoshuangqiao, pits containing human skeletons were discovered in the palace area (Henan Province 1996). Some bodies were buried alone in pits, others were paired or in groups, and some were dismembered (Song 2004b, p. 98). Numerous bull's skulls and horns were found in pits—one pit contained more than 70 skulls (Henan Province 1996, pp. 9–14). Some pits with bull's skulls and horns also contained ceramic vessel fragments, artifacts of bronze, bone, and jade, turquoise pieces, and remains of metallurgical activity. Other pits contained the bones of deer, pig, dog, chicken, and crane, as well as elephant tusks and skulls (Song 2004b). In addition, bright red pictographs written with cinnabar were discovered on the surface of large ceramic vats in palace ritual- and trash-deposits, which Song (2003, 2004b) demonstrates are related to the signs found in oracle-bone inscriptions from the Late Shang, thereby reinforcing the ritual nature of the deposits. At the Middle Shang site of Huanbei near Anyang, pits containing human skeletons were found associated with a palace building foundation (Anyang Archaeological Team 2003). The stratigraphic relationship between pits and the pounded-earth foundation indicates that sacrifices took place during the building process (Du 2005, p. 196). Other examples of ritual homicide at Early to Middle Shang sites include Baijiazhuang in Zhengzhou, Henan (Henan First Cultural Heritage Team 1955); the Lijiazui site near Panlongcheng, Hubei (Hubei Province Museum 1976); the Taixi site in Gaocheng, Hebei; and the Laoniupo site near Xi'an (Thorp 2006, p. 104).

At the Late Shang site of Yinxi in Anyang city, Henan, hereafter referred to as Anyang, examples of extreme violence and ritual homicide are well reported (Anyang Excavation Team 1977; Chang 1980; Institute of Archaeology 1977; Keightley 1978b; Shelach 1996; Tang 1999, 2004, 2008; Yang 1986; Yang and Yang 1977). The oracle-bone record from the site also contains references to human (and animal) sacrifice. Keightley (1999a, b) states that the number of victims specified in oracle bones as killed in a single sacrificial offering varied from 3 to 400 but the most common number was 10. While a great many sacrificial pits are found at the Xibeigang royal cemetery and in the palace-temple complex in front of Building 7, sacrificial pits have also been found in other locations and more continue to come to light. Other locations include cemetery sites at Hougang and Dasikongcun, residential areas such as Wangyukou (thought to be a diviner's residence) (Anyang Archaeological Team 2012a), and a pottery workshop area in Liujiazhuang, Anyang Locus North. At Liujiazhuang, excavators conducted several seasons of excavation, revealing pottery kilns and massive deposits of pots; tombs furnished primarily with pottery food/drink vessels; roads; house foundations; bronze vessel hoards; and sacrificial

pits (Anyang Archaeological Team 2005, 2009, 2012b, c). Pit H524, for example, is a rich deposit. Only the top two layers were dug but they revealed human, horse, cattle, and pig skeletons, and pottery. The human remains in the upper layers were incomplete, including one male with no left tibia, a male with only a skull and forearms, and another with only a skull. Most of the animals were dismembered (Anyang Archaeological Team 2009, pp. 34–35) (Fig. 9).

Sacrifice in mortuary contexts at Anyang is also well reported. One of the larger elite tombs to escape looting is the Fu Hao tomb (tomb M5), located in the west locus of the palace–temple complex at Xiaotun (Anyang Archaeological Team 1977; Institute of Archaeology 1980; Tang 1999, 2004; Thorp 1981, 1988). This tomb is thought to belong to Fu Hao 妇好 (‘Lady Hao’), a consort of King Wu Ding. The remains of 16 human victims were found at different depths in her tomb, suggesting that the procedure was complex. One victim was uncovered in the waist pit beneath Fu Hao’s coffin, along with a dog. Three were excavated from tomb chamber ledges, and eight were recovered from water that had filled the chamber. The remains of four more individuals were uncovered on top of the chamber, including the upper body of one individual, another laying face down, a skull of a third, and a child (Fig. 10).

In the Anyang contexts, Tang (2004, p. 24) draws a distinction between types of human sacrifices that differs from those distinctions mentioned earlier. He emphasizes a difference between people killed during the funeral ceremony and those killed and offered to the ancestor at a later date. He calls the former ‘sacrificial remains’, associated with the term *xun* 殉 in oracle-bone and classical texts, and the latter ‘worshipping remains’, associated with the term *ji* 祭. This distinction highlights two different ritual contexts in which humans were killed. During a king’s burial ceremony, for example, human victims were interred in the tomb chamber, dismembered and buried within the tomb fill, and decapitated on the tomb ramp (Fig. 11). Those buried outside the tomb during ‘worshipping’ ceremonies are found in small adjacent pits that contained between 3 and 10 people (Tang

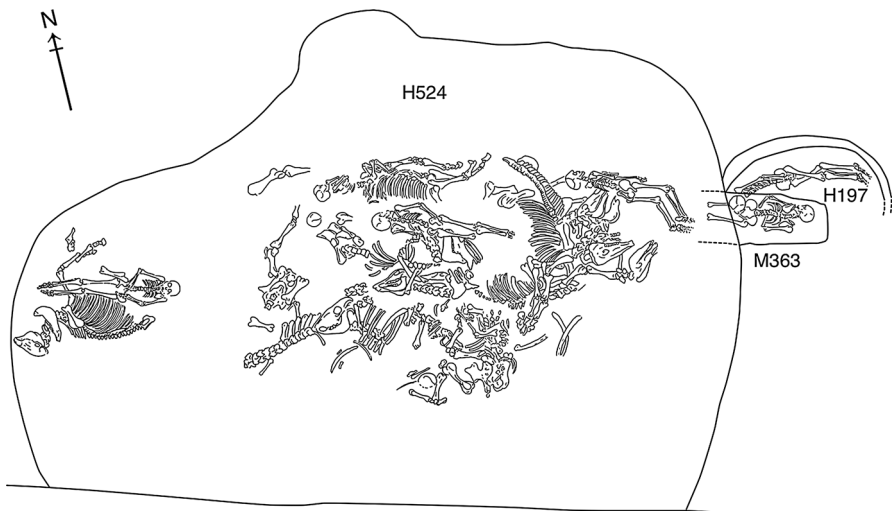


Fig. 9 Pit H524 at Locus North of Liujiashuang at Anyang (redrawn from Fig. 11 of Anyang Archaeological Team 2009)

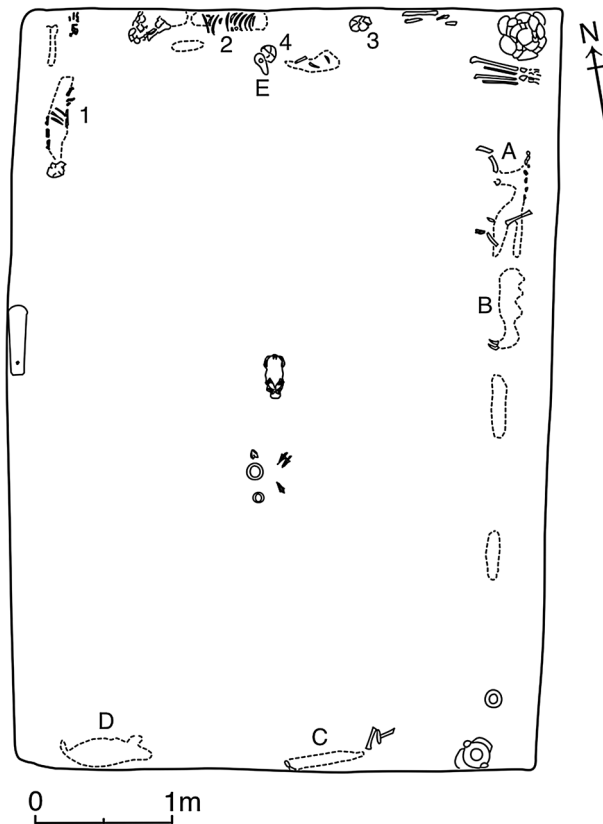


Fig. 10 The Fu Hao tomb at Yinxi, Anyang. Artifact assemblages recovered from the top of the chamber. 1–3 human skeletons, 4 human skull, A–E dog skeletons and bone powder (redrawn from Fig. 2 of Anyang Archaeological Team et al. 1977)

2004, p. 54). Sometimes pits were dug into the earth immediately above the tomb ramp and thus, by the logic of stratigraphy, the bodies in them were buried at a later time.

Signs of violence in these contexts are clear. For example, in pit M39 adjacent to tombs M1 and M1400, the remains of ten headless bodies were buried (Fig. 12). Blade marks are clearly visible on cervical vertebrae (Anyang Excavation Team 1977, p. 22). In pit M139, incomplete remains of seven individuals were buried haphazardly (Fig. 12). Some were represented only by a sternum or leg bone; on some, fingers or toes had been severed; others had been cleaved in two at the torso, or had had a lower limb severed. Severed lower limbs may reflect the practice of foot amputation that some scholars argue was as a form of punishment or torture mutilation during the Shang (Hu 1973; Y. Liu 1999, p. 3). Arguments are based on shape analysis of the oracle-bone pictographs and skeletal evidence, which includes tomb M16 at the Hougang locus at Anyang (Anyang Excavation Team 1972) and tomb M103 at the Shang site of Taixi in Gaocheng, Hebei (Liu 1999a, b).

Further examples of extreme violence at Anyang include the practice of burying people alive in tombs, as in Tomb M166 at the Yinxi Xidi site, which contained the body of a person face down in foetal position with feet bound, one foot atop the other. Another display of brutality is visible in tomb M358 at the same site, which contained a human head

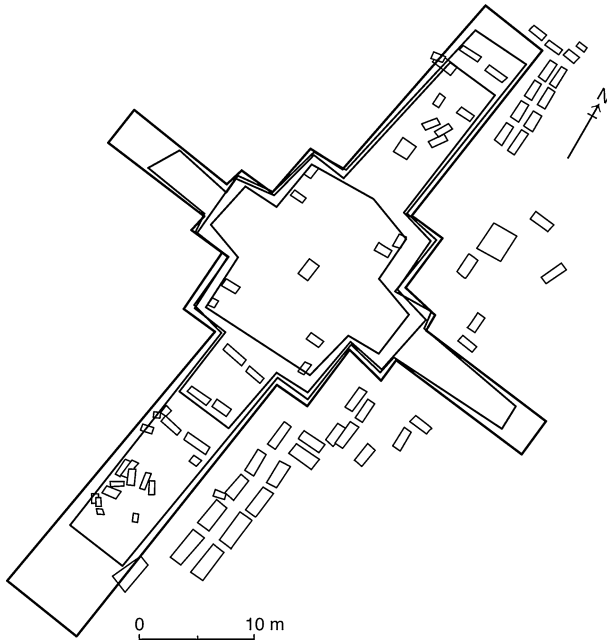
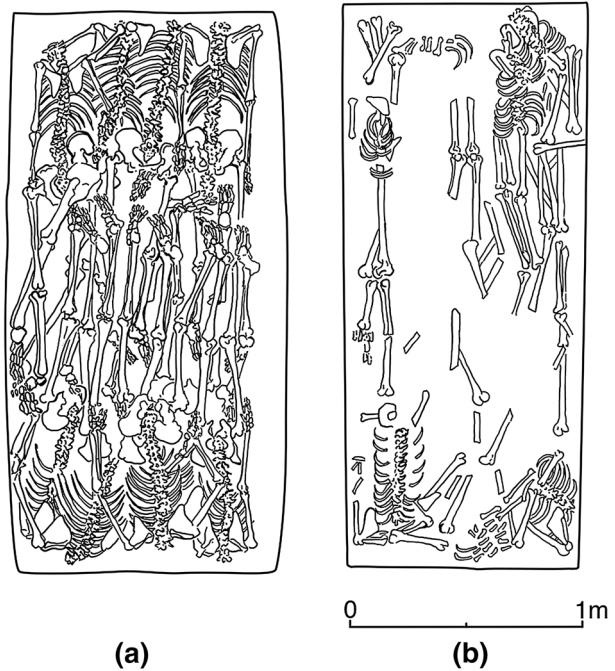


Fig. 11 Late Shang cross-shaped royal tomb M1001 with sacrificial pits (redrawn from Tang 2008, p. 150)

that had been split in two (Tang 1999, p. 179). Pits of skulls were often found in the royal Xibeigang cemetery near pits of decapitated bodies (Tang 2004, p. 54). In Fu Hao's tomb, four bronze *yue* 钺 axe heads were found, along with the eating and drinking paraphernalia and a beheaded victim (Anyang Archaeological Team 1977, p. 72). This type of axe can be traced back to the Neolithic. It appears to evolve into an instrument of ritual and sacrifice during the Late Neolithic (Li and Zhang 2009) and is decorated with the same types of imagery found on ritual eating and drinking vessels during the Shang (Allan 1999, p. 73). *Yue* axes have been discovered in other Shang tombs containing sacrificial victims (Bagley 1999, p. 197), including the Erligang period Lijiazui tomb M2 outside Panlongcheng (Hubei Province Museum 1976) and the Late Shang tomb M1 from the cemetery in Subutun, Shandong (Bagley 1999, p. 220; Chang 1986, p. 371; Shandong Province Museum 1972) (Fig. 13). These 'instruments of torture' (Wang and Chen 2002) or 'executioner's axes' (Chang 1986, p. 365) may have been used for beheading (Allan 1999, p. 73; Bagley 1999, p. 197). Allan (2007) suggests that *yue* axes were used for mutilation during sacrifices—rather than warfare—and that their motifs resemble the iconography found on ritual food vessels.

Additional signs of violence during the Late Neolithic and Early Bronze Age in northern China include evidence of scalping and the creation of skullcap cups (Chen 2000, 2001). According to Chen (2001, p. 11), although these practices are rarely mentioned in early texts, they were part of a long tradition in northern China. Examples include skullcap cups from six female victims found in pits at the Longshan site of Jiangou in Handan, Hebei (Chang 2005, p. 126; Handan Archaeological Team 1959; Yan 1982); two skulls bearing evidence of postmortem scalping from the Erlitou period site of Dasima in Wuzhi, Henan; and skullcap cups from the Erligang site of Zhengzhou, bearing traces of chopping and

Fig. 12 Sacrificial pits associated with royal tombs M1 and M1400 at Xibeigang. **a** M39; **b** M139 (redrawn from Fig. 3 of Anyang Excavation Team 1977). Locations of these two pits are indicated in Fig. 16



cutting (see also Chang 1980, p. 276; Henan Province Museum 1974). The cups may have been used as culinary utensils, but this is not clear.

Imagistic Feasting and Sensory Pageantry

Imagistic rituals are ‘profoundly stimulating occasions’ (Whitehouse 2001, p. 174). Certain types of feasting meet this description. Smells, tastes, special settings, music, and other dramatic effects of ritual feasts certainly stimulate the senses but do not necessarily produce an imagistic experience. If, though, the feast is rare and emotionally arousing, it may qualify. Context is especially important in interpretation. Whitehouse and Hodder (2010, pp. 128–129) illustrate imagistic-mode feasting at Çatalhöyük that involved consumption of dangerous animals killed by hunting parties during imagistic teasing/baiting rituals in which men displayed bravery and strength.

A number of studies have demonstrated the importance of feasting in the Neolithic of northern China (Lee and Zhu 2002), especially as a competitive ritual practice (Liu 2004; Underhill 2002). The link between ritual killing and feasting is reflected in the many examples from the Neolithic and Bronze Age contexts of the region cited above, with pits and tombs containing both human remains and eating and drinking implements. At the Late Neolithic site of Kangjia, in Lintong, Shaanxi, excavators uncovered evidence of ritual killing and feasting in pits located outside row-houses (Liu 2004; Liu et al. 2001). Pit H71, for example, discovered outside the entrance to house F260, contained the remains of feasting, sacrifice, and divination (Fig. 14). Feasting remains came from a wide variety of animals and plants, with 16 different animal species (shellfish, fish, bird, wolf, dog, bear,

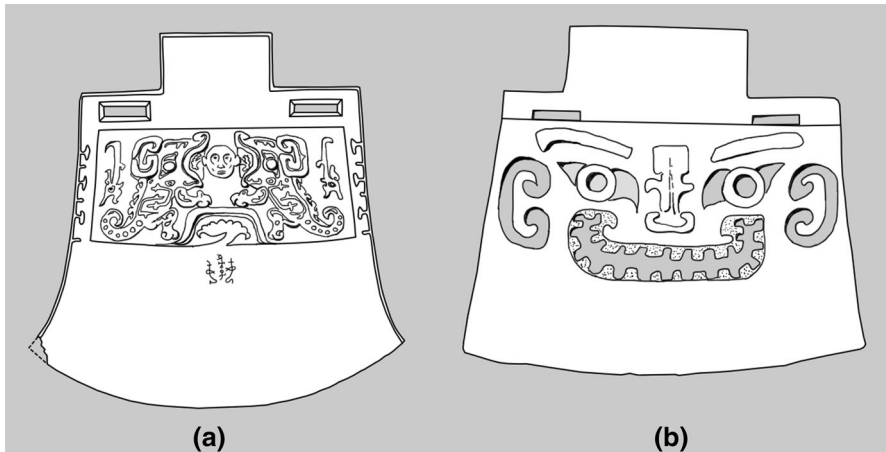


Fig. 13 Late Shang bronze *yue* axes; **a** from the Fu Hao tomb at Anyang; **b** from Subutun site tomb M1 (redrawn and modified from Fig. 3.24 of Thorp 2006 and Fig. 6.38 of Lu and Yan 2005, respectively)

deer, goat, and two bovine species) and wild fruit. Many of the animal bones were burnt and there was a predominance of rib bones and vertebrae from buffalo, deer, pig, and dog, suggesting to excavators that whole animal carcasses were consumed near the pit (Liu 2004). The skeletal remains of a young woman (M55) were found at the bottom of the pit. Her body had been dismembered and parts of her upper and lower right arm and lower right leg were displaced near the body. Other bones from her right side (lower leg, lower arm, and foot) were found distributed vertically throughout the pit (which had a depth of 0.9 m).

Contextual analysis led researchers to interpret this pit and six others as possible remains of sacrificial ritual (Liu 2004; L. Liu et al. 2001). Not only were these burials not in a cemetery with bodies in supine position, but they were also found near or under houses (related to house construction ritual, as discussed with examples above), and the bodies appear to have been treated with disrespect. In addition, the position of the bodies suggests unnatural death. For example, the spine of burial M53 was flexed in such a way as to suggest unnatural death or movement after burial (Liu 2004, p. 53). Burial M56, an adult male, was found underneath house F264 and appears to have been placed face down with one arm bent underneath the body, which was flexed with the curvature of the pit bottom, suggesting to excavators that the body was not stiff when placed in the pit (Liu 2004, p. 55). In addition to killing and dismemberment, the ritual evidenced by pit H71 also appears to have involved divination. This is suggested by the discovery of a divination bone (deer scapula) 60 cm above the body of M55 in the feast pit (Liu 2004; L. Liu et al. 2001). Divination involving animal scapulae is a Neolithic tradition in northern China that developed into the oracle-bone divination practice seen in the Late Shang at Anyang (Flad 2008). The smells, sounds, and sights associated with fire, with killing a human being, with eating meat and fruit, and with contact with another world would have been emotionally arousing and very much conform to the imagistic-mode predictions for a small scale society. Evidence from Neolithic contexts suggests that infanticide, ritual homicide, and animal killing were important components of ritual, perhaps linked with feasting.

The Bronze Age of the middle Yellow River valley region also bears evidence linking feasting and sacrifice. As mentioned, bronze was a new prestige material, first used to cast

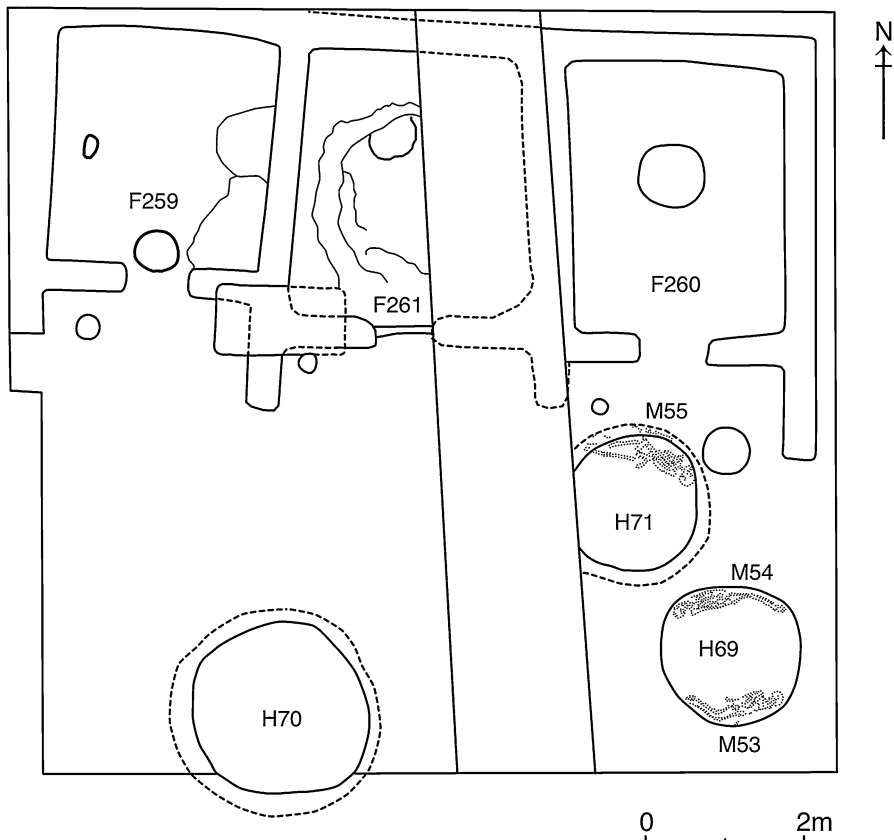


Fig. 14 Plan of unit T26 at the late Neolithic site of Kangjia showing ritual pits located outside house entrances (redrawn from Fig. 7 of L. Liu et al. 2001 and Fig. 3.16 of Liu 2004)

ritual vessels for the heating and serving of liquor at the Erlitou site. Liu (2004, p. 245) suggests that competitive feasting that began in the Late Neolithic (see also Underhill 2002) continued to play an important role when states first emerged, and that the bronze vessels were used by the Erlitou elites for displaying power and wealth in competitive feasts. As described above, at the Erligang site of Yanshi, sacrificial killing and feasting occurred in both palace and lower status domains. Ceramic analysis of pottery excavated from the palace ritual deposits reveals a complex assemblage of pot types that suggest that the elites were hosting elaborate feasts, while evidence of the ritual consumption of food and drink in a potters' residential area suggested that elites were not the only ones conducting rituals pairing feasting and sacrifice (Reinhart 2015).

Further exploration of the linkage between killing and consumption of food and drink might involve questioning whether human flesh and/or blood was ever cooked or consumed. Keightley (Keightley 1999a, b, pp. 280–281) points out that it is reasonable to assume that the Shang elite were consuming meat from animals sacrificed in such great numbers. On the list of retainers for a royal banquet depicted in the text *Zhouli* 周礼 (Rites of Zhou), a portrait of model government during the Zhou dynasty (Shang's successor), there are 'cooks for sacrificial offerings' (Knechtges 1986, p. 49). Allan (2007, p. 469) has

interpreted the *taotie* motif, which is prevalent in Shang bronze iconography, and which adorns the executioner's axe in Fig. 13 (quite possibly used in beheading, see above), as a 'generalized [allusion] to the consumption of sacrificial animals and humans, passage to the other world, and those who inhabit it'. According to Lewis (1990, pp. 173–174), in Bronze Age texts, the phrase 'devouring the enemy' is a standard metaphor for the conquering of one state by another. But this may be more literal than metaphorical, he notes, as there are scenes of anthropophagy in the *Zuo Zhuan* 左传 (Chronicles of Zuo), wherein criminals are chopped up and served in a stew and leaders are eaten after conquests. Two sets of human skulls in bronze *yan* 甗 steamer/boiler pots were discovered at Anyang and are on display at the site. One was found in a sacrificial pit in the Xibeigang royal cemetery in 1984; the other was unearthed in 2000 at a tomb in the Liujiazhuang potters' neighborhood, mentioned above (Tang 2008, p. 160). Ritual anthropophagy is found in various contexts around the world (see discussions in Taylor 2002), and like ritual homicide, is cited as one of the most extreme forms of imagistic ritual (Whitehouse 2002, p. 303). While this evidence is certainly not conclusive, it should not be ignored as too sensational.

Activities and props that heighten the sensory experience of ritual performance—for instance, drugs or alcohol, music, dance, lighting, costume, and narrative techniques—can amplify the emotional impact of feasting ritual. Drinking alcoholic beverages at feasts is common cross-culturally; the psychoactive properties of alcohol augment the emotionally stimulating atmosphere (Dietler 1990, 2006; Mandelbaum 1965). Some feasts even center on ritual drinking, for example, Inka public worship, where participants sing, dance and drink large quantities of beer (Trigger 2003, p. 513). Sherratt (2007, p. 12) suggests that Shang wine rituals involving elaborate bronze vessels were religious and symbolic acts that may have been combined with other forms of performance. Chang (1983, p. 55) comments that 'the Shang were notorious drinkers' and suggests that Shang leaders were shamans who used music, dance, and altered states of consciousness produced by drinking alcohol to communicate with the spirit world (see following section). Classical texts portray the Shang kings as immoral, attributing the Zhou overthrow of the Shang polity to the cultural decline of its kings, who reportedly ate meat and drank alcohol indulgently. The last Shang king is said to have had heaps of mashed grain (from ale-making), pools of alcohol, and an orchard of meat (drying over tree limbs) (Cook 2005, p. 30).

The consumption of alcoholic beverages is another component of ritual in the northern Chinese Bronze Age that appears to demonstrate continuity with the Neolithic (Kupfer 2010; McGovern 2003, 2009; Mai et al. 2005; Poo 1999). Residues of a mixed fermented beverage containing rice, honey, and fruit were recovered from pottery at the Early Neolithic site of Jiahu and at the Late Neolithic site of Liangchengzhen in Rizhao, Shandong (G. Mai et al. 2005; McGovern et al. 2004). The first types of 'ritual vessels' cast out of bronze at the site of Erlitou were used for alcoholic beverages. This suggests that consumption of alcohol played a role in ritual during the incipient Bronze Age (Bagley 1990, p. 10; Childs-Johnson 1987). Allan (2007, p. 477) remarks that it is significant that Erlitou bronze vessels were made to hold alcohol, a mind-altering substance frequently used in ceremonies in the ancient world. According to Thorp's analysis, *gu* and *jue* drinking vessels are among the most common types of bronze vessel discovered at Anyang (2006, p. 194). This is reflected in the Fu Hao tomb assemblage (Bagley 1999, p. 197; Childs-Johnson 1987, p. 182). Ebrey (2010, p. 27), suggests that the predominance of drinking cups in the Fu Hao tomb assemblage is the result of mourners tossing their drinking cups, along with a libation of wine, into the tomb during the funeral.

Evidence suggests that graveside feasting was an important practice in Late Neolithic and Bronze Age contexts in northern China, possibly for the purpose of transforming

deceased relatives into ancestors or displaying status (Nelson 2003, p. 66; Puett 2005; Underhill 2002). Fung (2000, pp. 83–84) provides evidence for mortuary drinking at Late Neolithic Dawenkou sites in northeastern China, interpreting the placement of drinking vessels in and around the grave as reflecting the practice of ritualized drinking and suggesting that the number of drinking goblets corresponds to the number of participants with drinking privileges. Funeral rituals appear to have been similarly enacted across the social hierarchy at the Late Shang site of Anyang (Tang 1999, p. 179). Excavation of the Fu Hao tomb, described above, revealed much about things placed in elite tombs, which included both food and drink vessels as well as sacrificial victims (Anyang Archaeological Team 1977). Food and drink vessels made of bronze figure prominently in the vessels placed in the main chamber (Fig. 15). They are also prominent in the fill above the chamber.

Good preservation of the Fu Hao tomb allowed for reconstruction of the funeral ceremony, described by Tang (1999). After the tomb chamber was excavated and objects and sacrificial victims were placed in and around the coffin, the tomb was sealed. Sacrificial victims and various objects were then placed on top of the chamber and onto layers of pounded earth as the shaft was backfilled. Objects such as weapons, musical instruments, carvings, ornaments, and tools were deposited at various levels in the fill. Eating and

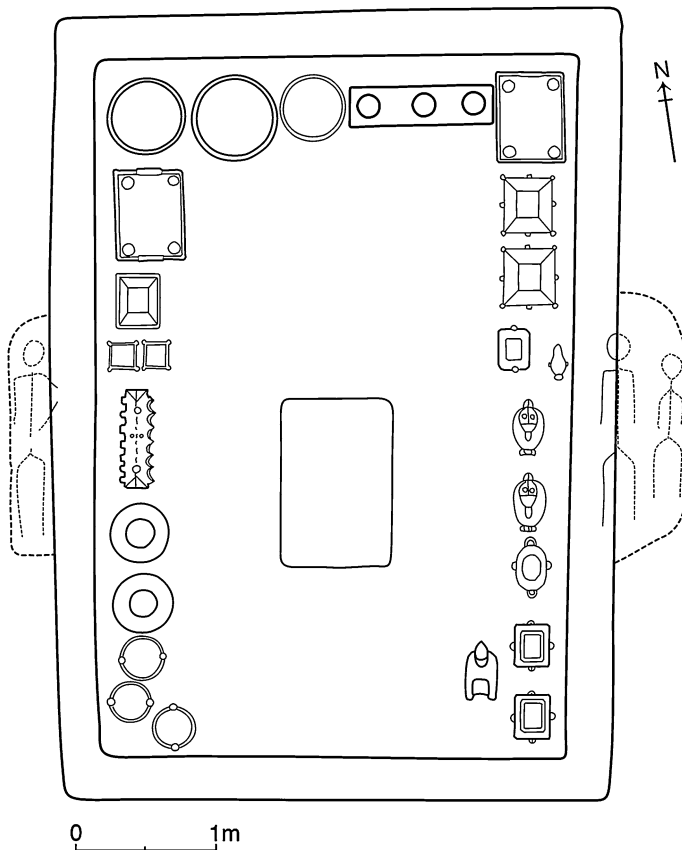


Fig. 15 Bronze food/drink vessels placed in the tomb chamber around the coffin of Fu Hao at the site of Yinxu, Anyang (redrawn from Fig. 3 of Anyang Archaeological Team et al. 1977)

drinking vessels of various materials were placed on top of the chamber (at a depth of 6.2 m beneath the surface) and in four out of six of the layers above it. The last object to be placed in the shaft at 1 m below the surface was a pottery *jue* ‘wine vessel’. Some objects seem to have been placed carefully, while others appear more haphazardly deposited. Nelson (2003, p. 85) suggests that two bowls and three implements deposited directly atop the tomb chamber represent a final meal shared between Fu Hao and her family.

Music is another frequent component of ritual that heightens drama and emotional impact. Evidence suggests that Bronze Age rituals were accompanied by music, a tradition that appears rooted in the Early Neolithic of northern China. Examples of musical instruments from the early period including multi-note flutes, made from bones of cranes, found in burials at Jiahu (Bagley 2005; Henan Province 1989; Zhang et al. 1999). Clay flutes were discovered at the Early Neolithic site of Banpo in Xi’an, Shaanxi (Institute of Archaeology 1963); alligator-skin wooden drums have been found at Late Neolithic sites such as Taosi (Liu 1996a, pp. 7–8); and other instruments from the Neolithic include stone clay whistles, pottery drums, chime stones, and bells (Huang and Chen 2002). Bronze Age examples are plentiful, with instruments including bronze bells, chime stones, drums, and stringed instruments (Tong 1983; Chen 1990; Falkenhausen 1993; Bagley 1999). A variety of these instruments are mentioned in the oracle-bone inscriptions (Song 1999). The recovery contexts of instruments in the Shang and Zhou periods suggest that they were used during rituals. Bronze bells are found alongside bronze ritual eating and drinking vessels in elite Shang tombs (such as the Fu Hao tomb) and hoards of bells are sometimes found in association with temple paraphernalia from the Shang and Zhou periods (Falkenhausen 1993, p. 25).

Ritual Frequency

One of the key expectations of DMR theory concerns how frequently a ritual is enacted. Whereas traumatic imagistic rituals are rarely enacted (and do not need to be frequent, since they produce ‘flash-bulb’ memories), doctrinal rituals, by contrast, are enacted repetitively until they become second nature. It is difficult to estimate ritual frequency from the archaeological record due to the incomplete nature of the datasets—not all materials or features become buried (some are destroyed, some are reused) and not all buried materials survive into the present. This is especially the case for northern China, which has been continuously occupied over millennia, though the rapid buildup of soil in the middle Yellow River valley due to fluvial and eolian deposition works to the archaeologist’s advantage. Also problematic for archaeologists is the perception of ritual homogeneity. Kyriakidis suggests that rituals often borrow paraphernalia or behaviors from other rituals in the same system and thus it can be difficult to distinguish between different rituals in the same cultural context. While they may appear distinct from rituals of other traditions, similar evidence may not reflect similar rituals (2007, pp. 12–13). This being the case, a large number of sacrificial pits may reflect not a large number of rituals but rather fewer ritual events with multiple pits or ritual events with different groups of participants.

Mortuary ritual is more clear cut and easier to clarify archaeologically, as demonstrated above for the case of Fu Hao. Graveside practices are typically recognized as ritualistic, although members of the same society need not practice them in the same way or share the same beliefs about death. With regard to frequency, funerals are typically enacted periodically. They may also be intrinsically emotionally charged for some participants, and

involve the participation of local community members. At Anyang, some of the funerals involved feasting and ritual killing, which may be said to be imagistic in both context and frequency.

Researchers have attempted to estimate the frequency and number of people killed in royal graveside sacrifice at Anyang. Keightley (2012, pp. 73–77) estimates the average number of victims killed per year using oracle-bone inscription data: dividing the total number of victims recorded ($N = 10,000$) by the length of occupation at the site (either 150 or 194 years) and correcting for a math error equals either 67 or 52 people killed per year (depending on occupation duration). Keightley (2012, p. 74) also indicates that the average number of divinations about human sacrifice is not constant for each year (it seems to taper off after the reign of King Wu Ding). This problematizes the simple average in the first calculation. Calculations based on ritual inscriptions are inherently problematic. The corpus of oracle-bone inscriptions is incomplete and there is also the problem of potential

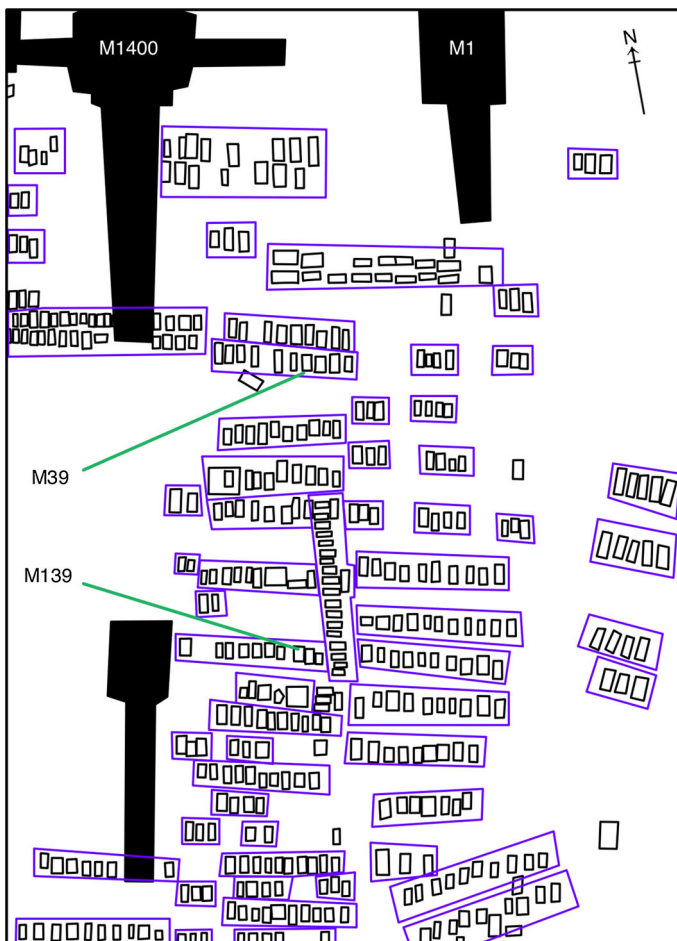


Fig. 16 Groups of sacrificial pits associated with royal tomb M1 and M1400 at Xibeigang, Anyang (redrawn and modified from Tang 2008, p. 154 and Fig. 3 of Anyang Excavation Team 1977)

exaggeration or omission. Not all sacrifices were necessarily recorded; sacrifices recorded may not reflect the actual number of victims killed.

Frequency of human sacrifice can be better assessed archaeologically by evaluating the material remains; pit burial leaves a fairly permanent mark. At Anyang, high numbers of people are known to have been sacrificed at the royal cometary Xibeigang. However, the high numbers do not necessarily correlate with high frequency. Anyang site director Tang (2008, p. 154) has grouped sacrificial pits adjacent to the Xibeigang royal tombs into sets according to their location, size, shape, and depth (Fig. 16). Each set of pits is thought to represent a single sacrificial event. Around royal tombs M1 and M1400, the average number of sacrificial pits per group is around 6.4, with 3 pits per group being most common and 10 pits per group being second most common. The number of individuals in each pit varies, but averages roughly 3–10. Therefore each ritual killing event at the king's grave site involved the killing of dozens to more than a hundred people (Tang 2004, p. 54). Drilling exploration and excavation of pits has revealed around 2500 pits. Although the precise numbers have not been calculated, Tang (2008, p. 164) estimates the number of victims in Xibeigang to be around 10,000 or more. It seems reasonable to deduce that over the course of the 150–200 years of occupation, sacrifices occurred periodically at the Xibeigang royal cemetery during mortuary ritual for the 12 kings that ruled Anyang. Thus ritual killing in this context seems to have been a relatively rare event, perhaps a special ritual. Childs-Johnson (1987, p. 190) notes a distinction in oracle-bone inscriptions between standard ceremonies and major ceremonies. She proposes that a particular wine ceremony involving the pouring of wine libations using *jue* type bronze vessels was conducted the night before a major ceremony. It seems likely that killing large numbers of people in remembrance of the leader in a violent ritual (e.g. decapitation by a bronze axe) would have constituted a major ceremony.

Scholars have most frequently focused on human sacrifice of the 'worshipping' variety at the Xibeigang royal cemetery, but sacrifice also occurred in other contexts at Anyang. Ritual killings were performed during the laying of foundations for large buildings, for example. This would have occurred more rarely because construction of new, large-scale buildings did not happen routinely. Ritual killing also occurred in cemeteries of other lineages (Tang 2004), at a diviner's residence area, and a pottery workshop area (see Fig. 9 above). Thus, ritual homicide was not only practiced by the kings in order to express or consolidate royal power as typically framed. It appears to have been practiced more widely across Anyang society, by members of different communities (funeral mourners, potters, diviners, royal elites). Evidence presented above from Yanshi indicates a similar situation. Ritual killing of animals and humans, together with feasting, is found in both royal elite and a lower status potters' area. Frequency is difficult to estimate from the available information from the royal ritual site (a report has not yet been published). But for the potters' site described above, frequency of ritual killing appears low.

With a focus on oracle-bone ritual inscriptions, Keightley emphasized a regular and repetitive sacrificial calendar during the Shang, in which feasting with the ancestors occurred regularly (e.g., Keightley 2000, p. 52). He comments that 'men and spirits frequently shared [feasts]' (Keightley 2012, p. 215) and proposes that Shang ancestors depended on the nourishment of offerings of grain, flesh, blood, and wine by their descendants (Keightley 1978b, p. 213). He also describes the oracle-bone pictograph for *xiang* 饗, which he translates as 'hosting ritual' (Keightley 1999a, b, p. 259). It depicts two people facing a vessel. He argues that the same graph was used when the king entertained his supporters at banquets and when he hosted his ancestors during sacrificial rituals. While there may have been frequent 'feasting' by people to memorialize and metaphorically

sustain their dead, this does not mean that the ritual or the scale would be the same in all cases. As mentioned above, there appears to have been a distinction between standard and major ceremonies. The *Zhouli* depicts an opulent royal feast and tallies the attendants for various duties, including a great number of specialists for catching or capturing animals for food and collecting or harvesting plant foods, and those in charge of baskets, ice, pickles, and salt, as well as food doctors, alcohol specialists, and cooks (Knechtges 1986, p. 49). A feast on this scale requires significant labor and resources (Jennings et al. 2005) and would thus likely not happen very frequently.

Frequency of ritual performance is difficult to assess archaeologically. If sacrificial killings *did* occur frequently in particular communities (rather than only rarely, as the evidence appears to suggest) this still does not negate the probability that ritual killing was emotionally intense for some of the participants. Atkinson and Whitehouse's (2011) cross-cultural study correlating low-frequency with high arousal does not address examples of high intensity emotional rituals found in complex societies, such as the Aztec or Maya heart 'extraction' ritual.

Leadership and the Shaman-King Hypothesis

Another testable aspect of DMR theory is predictions about leadership style. Religious leadership is one of the important variables that defines the mode of religiosity according to DMR theory. Religious leaders characteristic of the imagistic mode, when present, tend to be elders or ritual experts such as those of Amazonian shamanism (see Whitehouse and Hodder 2010, p. 131 for more examples). This type of leadership contrasts with doctrinal-mode leadership, in which a more active and charismatic orator has knowledge that is unintelligible to the flock, which is comprised of individuals who are generally more passive in their religious thinking. For the purpose of testing DMR theory, religious leadership in the Bronze Age societies under consideration should exhibit features of doctrinal type leadership.

A number of scholars from the disciplines of archaeology, religious studies, and history have supported the view that Shang religious leaders were shamans who communicated with the spirit world during rituals (Chang 1983, 1993, 1994, 2005; Chen 1936; Ching 1997; Marshall 2006; Schafer 1951; Waley 1955). Some scholars, however, have objected (for an overview of the debate see Allan 1999 and Kesner 1991). While the Shang shamanism hypothesis relates the iconography on bronze ritual vessels to shamanistic communication, opponents have objected. Bagley (1980, 1987), for example, has denied that there is any meaning inherent in the animal and monster-mask (*taotie*) images on the vessels, arguing that they were simply designs and not references to shaman animal assistants or spirit communication. Keightley (1983, 1984, 1998) has also positioned himself strongly against the shamanism model, and Puett (2002, 2004) builds on his critiques. Keightley (1988, p. 391) states that 'the content of the oracle-bone inscriptions indicates that Shang divination was not shamanic; that there was no transcendent world of ideal forms to which the diviner might voyage ...'. In his view, divination and sacrifice were practices of a civilized bureaucratic system: 'orderly divination, the hosting of guests (whether alive or dead), sacrifice—these were the ways of civilized men, of men dealing, not with the wild and the unknown, not with ecstatic inspiration or trance, but, through ritual and schedule ...' (Keightley 1998, p. 813). This stance is a reflection of the bureaucratic view of Shang society I mentioned above.

K.C. Chang was a leading proponent of the Shang shamanism model throughout his career, contending that shamanism was a tradition rooted in the Neolithic in China (Tong 2002) that continued through the Bronze Age (Chang 1999, 2005). He argues that the Shang king was head shaman. His model utilizes both archaeological and textual evidence, including the zoomorphic images and animal iconography on the Shang and Zhou ritual bronzes, especially animal–human hybrid forms, which he interprets as the shaman flight with the assistance of animals (Chang 1983). Textual sources employed by Chang include both oracle-bone inscriptions and passages from Bronze Age transmitted texts, such as the Chu Yu 楚语 section of the *Guoyu* 国语 (*Discourses of the States*), the *Zhouli*, and other texts that describe the *wu* 巫 and *xi* 覡 religious figures (often translated as ‘shamans’) and their ritual duties such as exorcism, rain dancing, and spirit journeys. Chang also argues that the predominance of vessels used for heating, serving, and drinking wine in the Shang ritual vessel corpus suggested that the religious leaders used alcohol, and possibly other medicinal substances, to facilitate communication with the spirit world (Chang 1983, 1993; Ferrie 1995). As discussed above, the consumption of alcoholic beverages was an important component of ritual in northern China that is clearly rooted in the Neolithic and continues through the Bronze Age (Mai et al. 2005; McGovern 2003, 2009; Poo 1999; Kupfer 2010).

Julia Ching’s (1997) argument supporting the Shang shamanism model is centered on the ‘wisdom’ of the ancient sages, who were models for later historic leaders. She argues that the oracle-bone character for ‘sage’, *sheng* 聖 (the traditional form of 圣), which has ‘ear’ (耳), ‘mouth’ (口), and ‘ruler’ (王) components, refers to the ancient sage ruler who was wise because of his ability to hear the spirit world and communicate it to the earthly realm. In an analysis of the transmitted texts used to support the Shang shamanism theory by Chang and other scholars, Falkenhausen (1995, p. 293) proposes that in the Late Bronze Age *Zhouli* and associated classical texts, there is a distinction between two groups of ritual specialists. The group he calls ‘invocator-priests’ was in charge of administering ancestral ritual, while the other group, the ‘spirit-mediums’, was in charge of nature worship: ‘the invocators are in charge of the technicalities of the ritual demeanor and responsible that the performance is enacted in the proper sequence; their function is a priestly one. Contrastingly, the mediums are directly engaged in communicating with the spirits.’ Marshall’s (2006) analysis is similar. She proposes that there were two types of mediums, one that went into trance and one that did not. While the trance group performed multiple duties in the royal court, such as accompanying the ruler during funeral procession, performing rain dances, healing rituals, and exorcisms, sometimes wearing animal skins and wielding weapons to ward off malevolent spirits, the non-trance group (essentially bureaucrats or administrators) was in charge of training other mediums in ritual procedures. In these examples, the two leadership styles predicted by DMR theory are blended in the same tradition.

Excavators at the Erligang site of Yanshi reported that they uncovered a *wushi* 巫师 or ‘shaman’ burial in the palace site, near or inside the temple-sacrificial area. Since the excavation report has not yet been published, the only published information consists of a short, mostly descriptive report of the sacrificial site (Institute of Archaeology 2002, pp. 6–7). This special burial, M2, is described as that of an adult female interred in supine position with head aligned west. Cinnabar was found scattered over and around her body, and six hairpins of jade and bone were found near her head. Cinnabar (HgS, mercury sulfide), a bright red ore from which mercury is extracted, was linked with ritual in Neolithic and Bronze Age China. It is found in various Neolithic ritual contexts, associated with elite burials, and used for writing on ritual vessels deposited in sacrificial contexts at

the Middle Shang site of Xiaoshuangqiao (Liu 2004; Ma 2005; Song 2004b). Additionally, some oracle-bone divination inscriptions are filled with cinnabar. Schafer (1951) argues that the *chi* 赤 ritual mentioned in the oracle-bone record involved burning or exposing a shaman or shamaness for rainmaking during drought, though it is as yet unclear whether burial M2 represents a sacrifice. Allan (1984) describes the self-sacrifice of the Shang king in a lost passage from the *Shangshu* 尚书 (missing in its original form but quoted in other sources). In this passage, King Tang, founder of the Shang Dynasty, performs a divination ritual, offering himself in sacrifice after seven years of drought. After he presents himself as an offering, it rains.

There are two important points here. First, the assumption that Shang ritual was a sober and bureaucratic affair has been problematized by the evidence of violent and sensorially stimulating imagistic rituals. And second, the leaders (e.g. Shang kings) may not have had a monopoly on ritual, which appears to have been practiced by various members of the community at large. That both elite and artisan groups at Yanshi practiced similar sacrifice and feasting ritual linked with earlier Neolithic rituals is significant, in that they both hark back to the same deeply rooted tradition. This is not a Bronze Age kingship based on privileged elite information inaccessible to the masses.

Warfare, Hunting, and Group Cohesion

Intergroup conflict is characteristic of the middle Yellow River region, beginning around the Middle Neolithic and increasingly evident in the Late Neolithic and Bronze Age. The final period of the Bronze Age, the Eastern Zhou, is also known as the Warring States period and preceded the unification of China by the Qin, one of the warring states. Some researchers have interpreted some of the pit burials in the Neolithic contexts as victims of war. And Shelach (1996) has argued that warfare between the Shang and the neighboring *Qiang* people was driven by a desire to capture people for use in human sacrificial ritual. Even if the people killed in sacrificial rituals were different (culturally/ethnically ‘other’) to ritual participants or audience members (at whatever type of ritual, be it funerary or foundation-laying), does this negate the emotional intensity of the ritual? Arguably not. Considering that numerous sexed skeletons in the above examples were women (who were presumably not all battle-hardened warriors) and many were children and infants, it is likely that this would have been an evocative and intense display, regardless of the victims’ cultural identity. Furthermore, imagistic ritual is considered by DMR theory to have important effects on group cohesion.

Group cohesion is another characteristic that DMR theory predicts will be divergent between the two modes, something potentially testable with material evidence. According to Atkinson and Whitehouse (2011, p. 52), imagistic rituals should be more prevalent in societies that engage more frequently in intergroup warfare. This is because such rituals produce tight social bonding, decrease the likelihood of defection, and allow people to signal commitment to the group. Whitehouse and McQuinn (2012) illustrate imagistic practices, including the use of public execution and intoxication, among rebel groups in Sierra Leone. Hunting is another activity that, like warfare, involves risk and necessitates small-group cooperation and cohesion. Imagistic-mode feasting at Çatalhöyük, as mentioned, involved the consumption and commemoration of dangerous animals killed by hunting groups who ritually teased large, dangerous animals such as aurochs in displays of bravery and strength (Whitehouse and Hodder 2010, pp. 128–129). Evidence suggests that

hunting was a central activity of the Shang elite (Fiskesjö 2001). According to Keightley's analysis of oracle-bone inscriptions, mobilization of a hunt was similar to that of a military campaign (Keightley 2012, p. 194). While many of the sacrificial animals enumerated in oracle-bone inscriptions are domesticates—for example, cattle, sheep, dogs, and pigs (Yuan and Flad 2005)—other inscriptions specify the chasing and hunting of wild animals such as hares, pheasants, goats, deer, boar, horses, elephants, and tigers (C. Li 1957, p. 10). Faunal remains from Anyang support this, and include rat, hare, badger, raccoon dog, cat, fox, tapir, boar, deer, antelope, panther, bear, rhinoceros, tiger, and elephant (C. Li 1957). At the Xibeigang royal cemetery, domestic animals were sacrificed (horses, sheep, pigs, and chickens) but wild animals, including elephants and monkeys, were also buried in sacrificial pits (Tang 2004, p. 54). Many of these animals occur as icons, patterns, and designs on Shang art, especially the ritual bronze eating and drinking vessels (Chang 1981b; Cheng 1963). At the site of Xiaoshuangqiao, described above, elephant skulls and tusks were found in pits near to other pits filled with great piles of bulls' skulls and horns. Some of these animals are clearly dangerous and would have been dangerous for a hunting party to chase, capture, and kill. Feasting and sacrifice, as I have argued, are linked materially; Lewis (1990, p. 19) argues that sacrifice, warfare, and hunting were metaphorically linked in the later Bronze Age of northern China.

Hunting parties and military groups were not the only tight knit social groups in Shang society. Liu (2000) has described a shift from village/community based worship of ancestors to the veneration of single individuals within kin and family groups during the course of the Neolithic in northern China. At the Late Shang site of Anyang, cemeteries were constructed around family/lineage units, exhibiting both vertical and horizontal social differentiation (Tang 2004). Nelson (2003, p. 66) proposes that Shang feasting and mortuary feasting were private rituals for family/lineage members (including ancestors) that were orchestrated in order to enlist the aid of the ancestors. And Underhill (2002, p. 82) suggests that the king may have invited outsiders to ancestral rituals to foster loyalty by making them feel linked to the elite kin group. As described above, sacrifice ritual is apparent in various Bronze Age contexts, from elite temple and graveside to lower-status artisans' household and community contexts. The practice of inherited imagistic ritual within these various contexts may have worked to solidify societies according to a gross social structure that was more fluid and less strictly hierarchical than assumed in more traditional views of state power in the Chinese Bronze Age. I have argued elsewhere for the presence of heterarchy and more fluid social power during the Erligang (Reinhart 2015). It is perhaps this commonality and common heritage in imagistic ritual tradition shared across society that makes the negotiation of social power possible.

Discussion

I have argued that acts of human sacrifice evidenced at Neolithic sites in northern China were emotionally stimulating, high arousal events that were further intensified through added sensory elements such as feasting and perhaps intoxication and music. This is predicted by DMR theory for small-scale societies with imagistic religions. But as societies entered the Bronze Age in northern China, religion did not become 'tamer' as predicted by DMR theory and modeled by 'bureaucratic' and elite-centered views of the Shang. Rather, ritual acts of human sacrifice became arguably more intense and brutal.

Relativism, Violence, and Emotion

Sacrificial killing in the Early Bronze Age often involved body manipulation such as decapitation and dismemberment. Can I rightly conclude that these apparently violent acts were imagistic—emotionally ‘arousing’ and intense? Or do they merely *appear* that way through my contemporary (‘Western’) lens? How can the emotional experience of ritual participants be understood by a researcher who did not see or even read about the performance? It is true that archaeologists do not have the luxury of bearing witness to acts that occurred in the past. But are material remains really entirely ‘mute’? Prosecutors frequently build circumstantial murder cases without witness testimony and juries pass judgment about the nature of the crime from material evidence. For the sacrificial killings in the Neolithic and Early Bronze Age of northern China, which involved the burial of victims in pits or other people’s tombs, there is plentiful material evidence—and an accumulation of thousands of years of such evidence owing to good soil preservation potential. Studies based on first-hand accounts, such as ethnographies and historical documents are not necessarily more clear-cut; the concern I raised about the potential issue with relativism and gauging emotional intensity in Atkinson and Whitehouse’s (2011) cross-cultural study on ritual frequency/intensity using the Human Relations Area Files deserves further consideration.

Trigger’s (1987) description of Huron prisoner torture ritual, based on the writings of French Jesuit missionary Le Mercier (Thwaites 1898), includes a narrative description of a series of torture acts. Many readers I know would find the scenes *very* disturbing but Trigger describes the ritual participants as calm, patient, and unemotional. In one scene, ‘each tormentor ... showed no sign of anger or lack of self-control while he had the prisoner in his power’ (Trigger 1987, p. 74). This account and emphasis focuses on the *procedure* of the ritual, raising doubt as to whether ritual participants were emotionally moved by the proceedings. By contrast, the primary source Trigger consulted for this description depicts a very different emotional intensity for participants in the early stages of the ritual. Le Mercier writes that

[the victim] shrieked like a lost soul; the whole crowd imitated his cries, or rather smothered them with horrible shouts. One must be there, to see a living picture of Hell. The whole cabin appeared as if on fire; and, athwart the flames and the dense smoke that issued therefrom, these barbarians—crowding one upon the other, howling at the top of their voices, with firebrands in their hands, their eyes flashing with rage and fury—seemed like so many Demons who would give no respite for this poor wretch. (Thwaites 1898, p. 61)

Contrasting Trigger’s calm presentation, Le Mercier’s gritty narrative evokes intensity and emotional arousal that fits with the definition of imagistic ritual.

Further complicating the question of subjectivity is the issue of bias in (and reliability of) ‘witness testimony’—the issue of the ethnographic outsider. Le Mercier (the witness) refers to the Huron people in this and other passages as ‘barbarians’ and ‘demons’ (e.g. Thwaites 1898, pp. 16, 63, 69, 71, 179). While not surprising—missionary accounts written during the Spanish conquest also use similar descriptors—the pejorative terms and judgmental tone do raise questions about whether the missionary dramatized or exaggerated his description. There is also the question of different experiences among different ritual participants. As described by Trigger (1987, pp. 74–75), after the Iroquois victim was finally killed, his body was cut up, cooked, and eaten: ‘some Huron ate it with horror, while others relished the taste of human flesh, but to all it was an act of religious significance.’

The variation in views aggregated through these two accounts prompts reasonable questions about the reliability of gauging emotional intensity from ethnographic records, or historical accounts, or material remains.

Violence is another concept fraught with uncertainty. In their anthology on violence through social theory, literature and philosophy, anthropologists Scheper-Hughes and Bourgois (2004b, p. 1) define violence as a ‘slippery concept’ that resists definition and quantification—violence is in the eye of the beholder. Depending on one’s position, acts of violence may be viewed divergently. From one viewpoint, a violent act is ‘depraved’; but from another, it is ‘glorious’. Terrorist suicide bomber or martyr? Spilling of human blood to nourish the soil or the vicious taking of a loved one’s life? Huron torture ritual was dedicated to the sun but was also an act of aggression toward the Iroquois. There are also degrees of violence and shock value. Torture and mutilation may be at one end of the spectrum while ‘quiet deaths’ may be at the other; however, there is risk of ‘reducing’ through conventional definitions/assumptions and diminishing the emotional impact. The death of a young Inca woman left on a high mountain peak in the Andes may have been ‘quiet’ to many people in her community who could not hear her cries, but this fails to consider the bereavement of her survivors or the effect on other young women fearful of the same fate. It risks foreclosing discussion of other important aspects of the experience (see discussion of Rosaldo’s 1993 critique in the introduction section). While definitions of violence are subjective and relative, Scheper-Hughes and Bourgois (2004b, p. 1) are able to pin down one aspect of violence that is more certain: it is mimetic and self-propagating, producing mirrors, spirals, chains, and continuums of violence.

Returning to the initial question: when emotional intensity and violence are such subjective experiences, how can the arousal level of ritual participants be gauged from material evidence—necessary for testing DMR theory with archaeological data? The answer is that things must be assessed in their contexts—temporal, regional, historical, social-cultural, archaeological, and so forth. Regarding the temporal context, the Bronze Age human sacrificial rituals of northern China, involving bloodshed and dismemberment, resemble practices in the Neolithic. This appears to reflect a continuity in traditions across this long time period—the chain of violence. Textual sources from the Late Shang and later Bronze Age suggest that sacrificial rituals were thought of in their historic context as violent. Keightley (1999a, b) states that, according to oracle-bone inscriptions, Late Shang sacrifice emphasized bloodshed and dismemberment. Lewis (1990, p. 20) proposes that the act of sacrifice was a conscious act of killing in the Bronze Age of northern China and that sacrificial animals offered during rituals were viewed as victims. He cites classical texts attributed to the Zhou dynasty that depict a cow lowing in mourning after its offspring was killed and roosters violently injuring themselves to avoid sacrifice. He also references ‘killing altar sacrifice’ (*sha yin* 杀禋) and ‘blood sacrifice’ (*xue ji* 血祭) that are referred to in classical texts and the possible derivative relationship between the characters for ‘sacrifice’ (*ji* 祭) and ‘kill’ (*sha* 杀).

Materials should also be analyzed in relation to sociocultural ‘norms’ in order to assess the impact value of the ritual killing. Violence is ‘twisted’. It is a violation of normal, a puncturing, a fracturing of what is acceptable. Violence shocks because it distorts and destroys. Do Neolithic and Bronze Age sacrificial rituals of northern China violate the norm—would they have appeared violent and shocking? Normally, individuals in the Neolithic period of the region were buried in cemeteries, in rectangular graves or tombs with their bodies intact and in a supine posture—a lifelike sleeping position. Many people were also buried with adornment, pots, food, and tools—again, an expression of daily life. The burial of ritually killed people, however, violates these norms. Sacrificial victims were

buried in pits of various shapes, not graves or tombs; trash was also buried in pits. Victims' bodies were sometimes 'twisted' in unnatural positions (Figs. 7, 8, and 14), not laid out as if sleeping. They were sometimes buried haphazardly, one on top of the other—certainly not in a normal and lifelike fashion (Fig. 4). Their bodily integrity was frequently violated through dismemberment, decapitation, and disarticulation (Figs. 8, 9, and 12). They were not presented with objects from daily life. In both the Neolithic and Bronze Age, norms were violated through violent acts.

The archaeological context provides further evidence to support the claim that killing humans in both time periods in the region was emotionally intense. Convincing evidence from various Neolithic and Bronze Age contexts suggests that sacrificial killing often accompanied feasting and divination rituals, and that these interrelated rituals likely involved intoxicants and perhaps music. If ritual killing was as routine and unemotional an activity as constructing a house, why alter mood? When human sacrifice was performed in an intimate setting—such as outside the doors of the Neolithic houses at Kangjia, in the Erligang period potters' area at Yanshi Shangcheng, or the Late Shang potters' neighborhood at Anyang—the ritual killing would have been witnessed by community members, in some cases, participating in an accompanying ritual feast. Private elite rituals of killing and divination may have been practiced by 'specialists' with few witnesses, but when those rituals took place at public feasts, they would have included guests and other attendees as witnesses and participants. Underhill has proposed that 'sharing a meal with the people who witness sacrifices to the royal ancestors would stimulate close family ties and create greater loyalty and debt to the royal court' (2002, p. 72).

Sacrifice, Identity, and Value

Who was sacrificed? It is often assumed that individuals who were ritually killed must have been the least valued members of society, such as slaves, low status individuals, foreigners, or war captives (e.g. Chang 1980; Shelach 1996). Killing would perhaps be easier if the victim was dehumanized or 'othered' in some way. The presence of faunal remains in a number of examples presented above, and similarities with the tradition of animal sacrifice, suggest that the human victims were treated as other than human—were they perhaps animalized? Or, conversely, perhaps the animals were humanized, as with the Lewis (1990, p. 20) example of anthropomorphized animal sacrificial victims expressing emotion described above. What kind of an offering would something or someone *not* highly valued make to the ancestors?

The assumption that human sacrificial victims were undervalued or were the least valued members of society should be questioned. Ritual killing in Maya contexts sometimes involved high status victims. Lucero and Gibbs (2008), for example, discuss the remains of human victims in cave sites in Belize. A number of decedents in the Classic period site of Actun Tunichil Muknal (Cave of the Stone Sepulcher) exhibited evidence of trauma (especially to the cranium), but also cranial modification, which is an elite practice. In Sugiyama's study of sacrifice at the Central Mexican site of Teotihuacan, the author propose that there was social differentiation among the large number of sacrificial victims buried under the Feathered Serpent Pyramid; some were buried with rich adornment, others were 'treated anonymously' (Sugiyama 2005, p. 226). While some of the sacrificial victims in the Late Neolithic and Bronze Age contexts of northern China may indeed be war captives, and may be connected with militarism of the polity, sacrificial victims are also found in non-elite domestic areas, such as the potters' neighborhoods at Yanshi and

Anyang. Infants, children, and women certainly may have been captured in raids, but there is also the possibility that some victims were not foreigners or ‘others’.

Mixed Modes?

I have argued that rituals practiced by people of the Early Bronze Age societies of the middle Yellow River region (Erlitou, Erligang, and Shang) were similar in certain respects to those of the Neolithic period. Rituals of both periods involved killing people and burying their bodies in pits close to and underneath houses, in temples, by graves in cemeteries, and in other people’s graves. In both later Neolithic and Bronze Age periods, many of these rituals appear to have been accompanied by feasting, and possibly other sensorially stimulating activities such as intoxication. I have further argued that these rituals have an intense valence and qualify as imagistic rituals according to DMR theory criteria, and that they were major events that were not practiced very frequently. While imagistic mode rituals are expected in small-scale communities of the Neolithic, their continuity well into the Bronze Age is not. As mentioned, the rituals of the Bronze Age societies also exhibit classic characteristics of the doctrinal mode, such as specialization and routinization as discussed by proponents of what I have called the ‘bureaucratic’ and elite-centered view of Shang society.

Is this a case of ‘mixed modes’? As mentioned above, a number of researchers who were not successful in applying DMR theory to their area of expertise, have attempted to introduce the concept of ‘mixed modes’. A similar objection to the logic of oppositions is raised by Scheper-Hughes and Bourgois (2004b, pp. 12–13) in their characterization of ‘community violence’. They suggest that a Weberian dichotomy that opposes low-tech, community-level, personal, intimate, and ‘charismatic’ genocide against modern, high-tech, state-level, impersonal, and rational killing is a false dichotomy. They point out that mass-killing, genocide, and provoked deaths of scapegoated populations occurred in the ancient world and pre-state societies. Examples include witch-hunts and witch burnings in parts of Africa and New Guinea, which, they argue, have led to demographic collapse in a similar fashion to the social hygiene campaigns of modern industrial states. Conversely, they argue that modern states also engage in ‘intimate’ killings. An example is the early days of the Holocaust, when German soldiers led many Jews away from their homes to shoot them point blank in the head or neck—very intimate killing. The efficient, high-tech chemical gas chamber of the Nazi ‘bureaucracy’ was not implemented until later, illustrating both types of killing in the same tradition. If the opposition between the ‘enchanted’ and the ‘rational’—inherited from Weber and philosophers before him—is false, is ‘modes’ of religiosity a useful concept?

Theory Construction and Deconstruction

Theories synthesize bodies of evidence and attempt to explain fundamentals of nature. By definition, ‘theory’ implies competing ideas and there is thus often controversy surrounding theories (Shoemaker et al. 2004). There are often multiple competing theories about a topic, for example, the Out of Africa theory versus the multi-regional theory of human evolution. DMR theory, which Whitehouse has invited researchers to test, is an overarching cognitive theory of human religious behavior. It has been used to explain the evolution of religion and societies in multiple parts of the world and has even been used to explain contemporary military conflict (Whitehouse and McQuinn 2012). The many successful applications lend apparent credibility to the theory. It is relevant to recall here the

argument made by the philosopher of science Karl Popper (1989, pp. 34–38) to the effect that the greater the ‘explanatory power’ of a theory, the weaker it is: Freud’s psychoanalytical theory, for example, is weak because it purports to explain almost all of human behavior but is very difficult to refute; by contrast, a strong theory (for Popper) was one that could be refuted through testing.

As mentioned above, a number of researchers who tested DMR theory in their area of expertise argued that the theory was unable to explain their particular cases (e.g. Beck 2004; Clark 2004). Whitehouse (2004b), however, refuted each attempt at falsification and offered explanations in each case for why DMR theory was still viable. Popper (1989) highlights the problem with this sort of process. Some testable theories, when falsified, are still supported by their ‘admirers’ by such ‘rescuing operations’ as introducing auxiliary assumptions or reinterpreting the theory so that its predictions continue to be supported. ‘Such a procedure is always possible, but it rescues the theory from refutation only at the price of destroying, or at least lowering, its scientific status’ (Popper, p. 37). Popper uses Marxism as an example of such a rescued theory. In its early formulations, Marxism predicted social revolution in capitalist societies (which were seen as economically and morally flawed). At that stage, according to Popper’s criteria, Marxism was a good theory because it was definitively testable. When social revolutions did *not* occur in industrialized capitalist societies, the theory should have been falsified. Instead, however, both theory and evidence have been reinterpreted by supporters and predictions and observations continue to align. Marxist theory differs from Freud’s theory of psychoanalysis because the latter is fundamentally irrefutable since no human behavior is able to contradict its claims.

According to my test of DMR theory with the case of ritual and religion in the Neolithic and Bronze Age of northern China, DMR theory is falsified. Since the foundation of DMR theory is models of human memory, such as Conway’s (1995) ‘flashbulb’ memory, it is worth reviewing contemporary research on the topic to explore potential deficiencies in the theory’s structure.

Trauma and Memory

According to DMR theory, the mechanism that cleaves ritual into two distinct and opposing modes (imagistic and doctrinal) is based on cognitive models of memory. In DMR theory, the characteristics of imagistic rituals are based on ‘flashbulb memories’ associated with traumatic rituals of a negative valence. These vivid memories are seared into participants’ minds, leading to deep spontaneous exegetical thinking about the meaning of the ritual, and bonding participants together. Thus the ritual acts as a social glue. By contrast, rituals of the doctrinal mode invoke the semantic and implicit memory systems, whereby repetitive actions lead to the more habitual following of rituals and a tendency to think more passively. Fresh studies undermine the validity of the flashbulb memory model.

In the context of the modern psychological clinic, flashbulb memories associated with trauma are unwanted and are part of a suite of symptoms characterizing a condition known as post-traumatic stress disorder (PTSD). After 9/11 and the ensuing wars, there has been a surge of interest in flashbulb memories and PTSD. With fresh experimental results, the standard citation of DMR studies, a book by Conway (1995) called *Flashbulb Memories*, is now outmoded and new studies need to be considered. An initial examination of recent psychology and neuroscience studies of PTSD problematizes the way memory is articulated in DMR theory. Recent neuroscience studies of PTSD patients using brain imaging techniques and psychological testing suggest that PTSD (with its ‘unwanted memories’)

affects only a certain percentage of people who experience a traumatic event, and that the likelihood of developing PTSD may also decrease with age. In a study of a traumatic coal mining disaster in Hunan, China in 2005, Hou et al. (2007) found that only 50 per cent of individuals developed the condition after two months. Moreover, only 38 per cent of people older than 37 developed it, while 61.1 per cent of those under 37 developed it. The percentage of people who did not develop PTSD in this study is significant—these were not outlying cases. Studies also indicate that memory *deficits*, as opposed to memory enhancement, are common after trauma (Hou et al. 2007; Isaac et al. 2006). Neuroimaging studies indicate that PTSD is associated with changes in brain structure and function involving the hippocampus, prefrontal cortex, and amygdala, which play important roles in memory (Bremner 1999; Isaac et al. 2006). Johnsen and Asbjørnsen (2008) conducted a meta-analysis of studies looking at the empirical evidence for verbal memory impairment in PTSD and discovered marked impairment in PTSD groups compared to healthy controls and modest impairment in exposed non-PTSD groups. And Isaac et al. (2006) present preliminary evidence for deficits in episodic memory in PTSD patients that cannot be accounted for by deficiencies in attention and concentration.

Further, deep rumination on the meaning of the ritual—one of the characteristics of the imagistic mode—does not necessarily lead to its enhancement. Studies that aim to release the unwanted memories of PTSD patients have shown that reflection on the traumatic event can help to release memories of the event (Ehlers et al. 2012). Páez et al. (2009) argue that interpersonal rehearsal (e.g. speaking with other participants) and not rumination are important in the formation of memory retention and they critique DMR theory for its oversimplification of memory processes. Collectively these studies suggests that trauma and deep exegetical thinking do not necessarily result in vivid lasting memory.

Ritual Reminders

If memory is not as robust after traumatic ritual as stipulated in DMR theory, then perhaps imagistic rituals require the use of mnemonic techniques in order to persist over time (to frame things in evolutionary terms). At Çatalhöyük, in the earlier stage of occupation, reminders of dangerous animals that were killed in ritual hunts (Hodder 2014) and the feasts that followed them were installed and painted on the walls of houses. Artwork depicting ritual hunting scenes and installations of sharp animal parts on house walls are thought to commemorate the ritual events of hunting and feasting and memorialize feast animals (Adams 2005; Hodder 2006, p. 146; Twiss 2012). Hodder and Cessford (2004) argue that there was no need for a centralized political power to keep the large settlement of Çatalhöyük together for so long because people became socialized in their houses through daily rituals. Hodder has commented that, at Çatalhöyük, ‘all of daily life seems to have been suffused with ritual and symbolism’ (Hodder 2005, p. 190). These material reminders of past events, in the household, may have served as mnemonic devices allowing for the repetitive rehearsing of memories.

In the case of the Neolithic of the middle Yellow River valley, Smith and Lee (2008) have proposed that body parts were circulated in Jiahu society as a means of evoking memory and emotion. Other material reminders of ritual might have included such things as designs on pots and other material objects. For example, some researchers have suggested that distinctive anthropomorphic designs found on pots from the early Yangshao sites of Banpo, Beishouling, and Jiangzhai that are associated with the burial of children near houses, may portray the costumes of ritual practitioners or depict shamanic ritual (Liu 2004, pp. 82–83). Art may have also been painted on building surfaces such as walls and

floors. At the Yangshao site of Dadiwan, for example, excavators discovered a house (F411) with a painting on the floor depicting two human figures and another with animals or creatures with multiple legs (Gansu Province Archaeological Team 1986). Lee and Zhu (2002) suggest that the building was used for small private rituals, serving to unite the community. What is thought to be a communal ritual building at the site of Xipo had walls that were painted red with the ritual substance cinnabar (Liu 2004, pp. 83–84). For the Bronze Age, possible mnemonic devices include the zoomorphic imagery that adorns Shang ritual vessels. Some scholars have argued that these design refer to shamanic rituals (Chang 1983). Or perhaps they reference animals killed in sacrifice. Other ritual reminders, such as singing and story telling, may have existed but would not have survived materially. Waley (1955), for example, suggests that songs in the early text *Jiuge* 九歌 (Nine Songs) were sung at sacrificial rituals.

If reminders of the ritual are commonly seen in association with imagistic rituals, it is no longer necessary to invoke the ‘flashbulb memories’ to argue for evolutionary fitness and durability. It may also be argued that the mnemonic devices are useful in helping memories endure that might otherwise be eroded because of stress responses following emotionally traumatic ritual events.

Conclusion

In this study I have refuted DMR theory by demonstrating that its two major predictions did not hold true for the case of the Neolithic and Bronze Age of northern China. The first prediction of DMR theory is that small-scale societies of the Neolithic should exhibit rarely occurring and intensely arousing ‘imagistic’ rituals. I was able to demonstrate this with archaeological evidence of human sacrifice and feasting ritual from the Neolithic periods in northern China that appear to have occurred rarely (though frequency is difficult to establish archaeologically). The second prediction of DMR theory is that societies should exhibit tame religion once evolved into complex polities of the Bronze Age. Such ‘doctrinal’ religions should be characterized by rituals that are frequently-occurring and calm. I was not able to demonstrate this second prediction with archaeological evidence from northern China. Rather, the sources suggest that religion in this period was characterized by intense and violent rituals similar to those in the Neolithic. I have evaluated ritual frequency in this period and conclude that rituals also appear to be infrequent (though again, this is difficult to ascertain from archaeological remains).

The refutation of DMR theory’s second prediction has also acted as a critique of conventional conceptions of ritual and sacrifice in Shang studies. Most English-language studies that consider human sacrifice in this period have focused on sanitized and abstract notions, such as aggrandizement of elite power. Keightley (2012, p. 76), with a perspective informed by the oracle-bone record, has written that ‘the sacrificial taking of life ... was a routine matter’. I have argued that this emphasis on repetition and formal adherence to procedure, orderliness, and routinization only portrays a limited aspect of ritual. Much of the archaeological evidence presented in this paper speaks not of clean routinization, but of messy variation on a theme—violence and bloodshed. Examples reveal people who were scalped, whose fingers, toes, and feet were severed, who were bound, buried alive, beheaded, split, and dismembered.

Following a concern about subjectivity in Atkinson and Whitehouse’s (2011) paper, I have addressed the issue of the subjectivity of violence and emotion and argue that the

emotional content of the Neolithic and Bronze Age rituals considered in this study *can* be inferred archaeologically through multilayered contextual analysis. In attempting to elucidate why DMR theory was falsified, I critiqued its reliance on ‘flashbulb memory’ (Conway 1995). Recent research in neuroscience and psychology has led to more complex modeling of memory processes than originally conceived in DMR theory. I have offered an alternative explanation for the persistence of traditions in the absence of this type of enduring memory, in the form of mnemonic devices in material culture that allow for rehearsal and remembering of the ritual. The continuity of violent and emotionally intense traditions can be explained by the tendency for violence to self-perpetuate. It is important—though uncomfortable and perhaps risky—to confront questions about religion, violence, and emotion, especially considering the apparent pervasiveness of violence in contemporary societies, including acts that are usually attributed to the ancient world: ritual killing and self-sacrifice.

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Note on abbreviations. IA: Institute of Archaeology; CASS: Chinese Academy of Social Sciences.

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