

The Evolution of Fragility: Setting the Terms

Edited by Norman Yoffee



The Evolution of Fragility: Setting the Terms

The Evolution of Fragility: Setting the Terms

Edited by Norman Yoffee

with contributions from
Tom D. Dillehay, Li Min, Patricia A. McAnany, Ellen Morris,
Timothy R. Pauketat, Cameron A. Petrie, Peter Robertshaw,
Andrea Seri, Miriam T. Stark, Steven A. Wernke & Norman Yoffee

Published by:
McDonald Institute for Archaeological Research
University of Cambridge
Downing Street
Cambridge, UK
CB2 3ER
(0)(1223) 339327
eaj31@cam.ac.uk
www.mcdonald.cam.ac.uk



McDonald Institute for Archaeological Research, 2019

© 2019 McDonald Institute for Archaeological Research. *The Evolution of Fragility: Setting the Terms* is made available under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 (International) Licence: https://creativecommons.org/licenses/by-nc-nd/4.0/

ISBN: 978-1-902937-88-5

Cover design by Dora Kemp and Ben Plumridge. Typesetting and layout by Ben Plumridge.

Cover image: Ta Prohm temple, Angkor. Photo: Dr Charlotte Minh Ha Pham. Used by permission.

Edited for the Institute by James Barrett (Series Editor).

CONTENTS

Contributors Figures Tables Acknowledgements	vii viii ix x
Chapter 1 Introducing the Conference: There Are No Innocent Terms Norman Yoffee	1
Mapping the chapters The challenges of fragility	3 6
Chapter 2 Fragility of Vulnerable Social Institutions in Andean States Tom D. Dillehay & Steven A. Wernke	9
Vulnerability and the fragile state Mediated political orders: succession and partition The mediated state Conclusions	12 13 19 20
Chapter 3 Why Early Cities Failed: Fragility and Resilience in Bronze Age China Li Min	a 25
The first quarter of the second millennium BC: collapse of the great Longsh The second quarter of the second millennium BC: the emergence and decline The third quarter of the second millennium BC: the rise and decline of Zher The fourth quarter of the second millennium BC: the rise and decline of An The first quarter of the first millennium BC: addressing fragility and resilies Zhou political order Conclusion	ne of Erlitou 28 ngzhou 33 yang 35
Chapter 4 Fragile Authority in Monumental Time: Political Experimentation in Classic Maya Lowlands	the 47
Patricia A. McAnany Political experimentation Large 'anomalous' aggregations Preclassic Maya lowlands: E-Groups and patron deity shrines Authority and hereditary rulership hybridized: southern lowland Maya ex Northern ambivalence to monumental time Fragility in its many guises or how political experiments end Final considerations and conclusions	47 48 50 experiment 52 54 56 57
Chapter 5 Ancient Egyptian Exceptionalism: Fragility, Flexibility and the Art of Ellen Morris Dangers skirted, bullets dodged Politicide, state effects and near death experiences Resiliency An autopsy report on Egypt's first failed state	61 64 75 76
The case for re-considering the role of a climate hostile to the state Chapter 6 Fragile Cahokian and Chacoan Orders and Infrastructures	79 89
TIMOTHY R. PAUKETAT Cahokian social and material history (AD 950 to 1250) Chacoan social and material history (AD 800s to 1130) Discussion	89 96 102

Chapter 7 Diversity, variability, adaptation and 'fragility' in the I	Indus Civilization	109
Cameron A. Petrie Fragile and/or robust? (Re-)Introducing the Indus Civilizati	ion	109
Indus settlements: from village to city (and back?)	OII	110
Diversity, variability and adaptation in the Indus context		116
Mediation of politics and power <i>within</i> Indus settlements: h	nierarchy heterarchy	110
and collective action	derarcity, neterarcity	119
Mediation of politics and power <i>between</i> Indus settlements:	the Indus state dehate	121
'Crisis, what crisis?'; the 4.2 kya event and the Indus	the field state debate	122
Urban 'stability and fragility' and rural 'resilience'		125
Chapter 8 Fragile States in Sub-Saharan Africa		135
Peter Robertshaw		
Three African states		137
State formation		141
Fragile African states		148
Conclusion		154
Chapter 9 Universal Rule and Precarious Empire: Power and Fra	gility in the Angkorian State	161
Miriam T. Stark		
Universal rule and the Angkorian state		162
Context: place, structure and scale		164
The structure of sovereignty: Angkorian landscapes		167
The structure of sovereignty: Angkorian power and patrona	age	168
Collapse, resilience and patronage		173
Fragility, resilience and regeneration		173
Chapter 10 Negotiating Fragility in Ancient Mesopotamia: Arenas	s of Contestation and	
Institutions of Resistance		183
Norman Yoffee & Andrea Seri		
A history of academic resistance to views of the totalitarian	nature of political and	
economic power in Mesopotamia		184
Fragility in literature		186
Historical examples of fragility and resistance		187
Contestation, resistance and fragilities in early Mesopotami	ian states	193
Coda		194

Contributors

Tom D. Dillehay

Department of Anthropology, Vanderbilt University, Nashville, TN 37325, USA Email: tom.d.dillehay@Vanderbilt.edu

Li Min

Department of Anthropology, A210 Fowler Building/Box 951510, 308 Charles E. Young Dr. North, University of California, Los Angeles, CA 90095, USA.

Email: limin@humnet.ucla.edu

Patricia A. McAnany

Department of Anthropology, University of North Carolina, Chapel Hill, 301 Alumni Bldg., Campus Box 3115, Chapel Hill, NC 27599-3115, USA. Email: mcanany@email.unc.edu

ELLEN MORRIS

Department of Classics & Ancient Studies, Barnard College, Columbia University, 3009 Broadway, New York, NY 10027, USA

Email: emorris@Barnard.edu

Тімотну R. Рацкетат

Illinois State Archaeological Survey, 209 Nuclear Physics Bldg., MC-571, University of Illinois, 23 E. Stadium Drive, Champaign, IL 61820, USA Email: pauketat@illinois.edu CAMERON A. PETRIE

Department of Archaeology, University of Cambridge, Downing Street, Cambridge CB2 3DZ, UK Email: cap59@cam.ac.uk

Peter Robertshaw

Department of Anthropology, California State University, San Bernardino, 5500 University Parkway, San Bernardino, CA 92407, USA Email: proberts@csusb.edu

Andrea Seri

History Department, Universidad Nacional de Córdoba, Pabellón España, Ciudad Universitaria, 5000 Córdoba, Argentina Email: andrea.r.seri@gmail.com

Miriam T. Stark

Department of Anthropology, University of Hawai'i at Mānoa, 346 Saunders Hall, 2424 Maile Way, Honolulu, Hawai'i 96822, USA
Email: miriams@Hawaii.edu

STEVEN A. WERNKE

Department of Anthropology, Vanderbilt University, Nashville, TN 37325, USA Email: steven.a.wernke@vanderbilt.edu

Norman Yoffee

Departments of Near Eastern Studies and Anthropology, University of Michigan, Ann Arbor, MI 48109, USA (emeritus) Email: nyoffee@gmail.com

Figures

2.1	Location map of Chimor state.	10
2.2	Location map of Inka empire.	11
2.3	The Inka ruler addresses the huacas.	16
2.4	Schematic of Andean political organization.	17
3.1	Map of major sites mentioned.	26
3.2	The archaeological landscape of the Luoyang Basin.	29
3.3	Turquoise inlaid objects from Erlitou elite burials.	30
3.4	The distribution of archaeological sites associated with Xiaqiyuan material culture.	31
3.5	The routes of campaigns of pre-dynastic Zhou kings.	36
3.6	The mortuary context and the distinctive double-niche construction of Fu Hao's tomb.	37
3.7	The political landscape of early China from the perspective of Zhouyuan at the turn of the first	
	millennium BC.	39
3.8	The archaeological landscape of the Quwo Basin in Jinnan.	41
4.1	Plan of Preclassic E Group at Cenote, Belize.	50
4.2	The 33 m-tall Preclassic deity pyramid at Lamanai.	51
4.3	Late Classic funerary pyramid of Tikal ruler, Jasaw Cahn K'awiil.	52
4.4	Part of inscription from Stela C, Quirigua.	53
4.5	Stela D, Copan.	54
4.6	Entrance to burial chamber of Ukit Kan Le'k Tok' behind ornate white stucco façade on the	
	Acropolis of Ek' Balam.	55
5.1	Map of Egypt showing sites mentioned in the text.	62
5.2	First dynasty Abydos.	65
5.3	Steles belonging to the sacrificed retainers of Djer.	65
5.4	Tomb of Qa'a; stele of Qa'a's sacrificed retainer Sabef.	66
5.5	Major monuments of Saqqara and Abusir until the end of the Old Kingdom.	67
5.6	The body count of slain northerners depicted on Khasekhem's limestone statue; Horus dominating the	
	personification of the north from the Narmer palette.	68
5.7	Probable early representations of Seth from Nagada and its environs.	69
5.8	Scorpion macehead, dedicated to the Horus temple at Hierakonpolis.	70
5.9	Seth makes an appearance in the Cairo Annals.	71
5.10	Peribsen with Seth atop his serekh; inscription of a vase dedicated by Horus Khasekhem; Horus-Seth	70
- 44	Khasekhemwy.	72
5.11	Some of the millions of multi-ton blocks that make up Khufu's pyramid.	74
5.12	Starving Bedouin from the causeways of Sahure.	80
6.1	Location of the Greater Cahokia and Chaco regions.	90 91
6.2	The physiography of the Greater Cahokia region.	93
6.3 6.4	The city of Greater Cahokia, showing its primary precincts. LiDAR plan map of Cahokia, highlighting monumental features that date to the Lohmann phase.	95 95
6.5	San Juan Basin physiography and the location of Chaco.	93 97
6.6	Schematic view of Chaco Canyon's great house locations.	98
6.7	Aerial view of Pueblo Bonito.	99
6.8	Schematic map of original Chetro Ketl field system.	100
6.9	Aerial view of Peñasco Blanco.	100
7.1	Plans of Indus cities and smaller settlements.	111
7.2	Plan of Mohenjo-daro and expanded views of the Mound of the Great Beth, the DK-Area, and the	111
,	HR-Area.	113
7.3	Plan of the 'Great Hall' at Mohenjo-daro and isometric view of the 'Great Hall' at Harappa.	113
7.4	Maps of the Indus River basin showing the distribution of modern winter and summer rainfall in	111
- • -	relation to the distribution of urban period settlements and urban centres.	117
7.5	Maps of the Indus River basin showing the distribution of modern winter and summer rainfall in	
	relation to the distribution of post-urban period settlements.	117

8.1	A sampling of the precolonial states of sub-Saharan Africa, together with archaeological sites mentioned	
	in the text.	136
8.2	The Great Enclosure and adjacent stone walling at Great Zimbabwe.	138
8.3	Khami – restored elite stone walling.	139
8.4	Danangombe – a later Rozvi capital.	139
8.5	Kilwa – audience court of the Husuni Kubwa palace.	140
8.6	Mapungubwe Hill.	143
8.7	Kilwa – the Great Mosque.	146
8.8	Great Zimbabwe – the Great Enclosure viewed from a royal residence area on the hilltop formerly	
	known as the 'Acropolis'.	149
8.9	Gedi on the Kenyan coast.	151
9.1	One view of twelfth-century Angkor in its broader Southeast Asian World.	162
9.2	Greater Angkor region (NW Cambodia).	164
9.3	Mapped roads in the Angkorian network.	165
9.4	Angkorian-period inscriptional data: royal vs non-royal.	166
9.5	Banteay Srei inscription, a tenth-century temple constructed by the guru of Prince Jayavarman V.	169
9.6	Angkorian hierarchy, derived from epigraphic sources.	170
9.7	Image of Jayavarman II from South gallery of Angkor Wat.	171
9.8	Oath-swearing to Sūryavarman II on Mount Sivapada, southern gallery of Angkor Wat.	172
9.9	Control as 'communication corridor'.	175
9.10	Total area under Angkorian 'control' from c. 802–1308.	176
10.1	Map of major sites mentioned in the text.	184
10.2	Uruk levels V and IV.	187
10.3	Uruk Eanna level III.	188
Table		
6.1	A comparison of Cahokian and Chacoan histories.	92

Acknowledgements

I thank Tim Potts, Director of the Getty Museum, for the grant that funded my residency at the Getty in autumn 2017, and for funding the 'fragility' conference. Thanks also to Cyprian Broodbank, director of the McDonald Institute for Archaeological Research, Cambridge, for providing funding for the conference. Lisa Guzzetta, senior public programmes specialist at the Getty Museum at the Getty Villa, along with her staff, organized the logistics for the conference. I could not wish for a more efficient and graceful colleague.

I also want to thank Alexa Sekyra, Sabine Schlosser and their staff in the Getty Research Institute for their support during my stay at the Getty Center. Finally, I thank Ben Plumridge for his skill and patience in producing this volume and Emma Jarman for supervising the process. James Barrett accepted the volume, after two reviews, on behalf of the McDonald Institute as an online, open-source and hence easily accessible publication.

Norman Yoffee, 2019

Chapter 3

Why Early Cities Failed: Fragility and Resilience in Bronze Age China

Li Min

Henry Wright (2006, 316) defines the dynamics of early statecraft as processes of political experimentation which 'characterize the organization of successive efforts to build successful political or social formations, and the factors that led to failures and successes'. 'Experimenting', Wright (2006, 315) argues, involves 'the building of knowledge based on understandings of the past'. The concept of political experimentation highlights the fragility and fluidity of state formation wherein instability, collapse and regeneration frequently occurred.

The experimental characteristics of the Bronze Age cities in early China contributed to their fragility. Through the second millennium BC, five phases of urban development in early China, namely Late Longshan, Erlitou, Early Shang, Late Shang and Western Zhou periods, each lasted approximately a quarter millennium before their collapse and deurbanization (Fig. 3.1). This paper explores the rapid rise of these early urban centres, their political incorporation of diverse groups, their rapid downfall, the limitations of state power associated with them, and the legacy of each urban episode in the formation of a historical tradition in early China. I argue that tension between the state dominated political order, often represented by a homogenous material culture, and the heterogeneity of political networks present in major cities, some associated with the deurbanized centres of the fallen regimes, contributed to the fragility of Bronze Age cities in early China.

Taking the recurrent issues of emergence, fragility, collapse and resilience as touchstones of this investigation, my archaeological inquiry is guided by these questions: What were the built-in tensions that contributed to their crises and deurbanization? What were the parallel networks and diverse traditions that the leaders of Taosi, Erlitou, Zhengzhou, Anyang, Zhouyuan had to cope with? What is the evidence of

political resistance within Bronze Age society through the second millennium BC? How did the cultural resilience of past legacies contribute to the fragility of newly forged regimes and become the basis for resistance? The shift of central political theatres eastwards over time: Taosi, Erlitou, Zhengzhou, Anyang, respectively, set the stage for the Zhou state-building enterprise at the end of the second millennium BC. As the western power of Zhou developed its political framework to accommodate these complex legacies spanning approximately 1000 km, architects of the Zhou state evoked political legacies associated with the past traditions for their dramatic reconfiguration of the political landscape in early China.

The first quarter of the second millennium BC: collapse of the great Longshan centres

Emergence

Prehistoric societies in early China saw the extensive collapse of the major mound centres in lower and middle Yangzi in the south as well as the rise of large Longshan centres in the highland basins and the lowland plains of the Yellow River Basin and the Huai River Basin in northern China (Zhang Chi 2017; Renfrew & Liu 2018). Both the prehistoric cities at Shijiahe in middle Yangzi and Liangzhu in lower Yangzi collapsed in approximately 2300 BC leaving behind no urban traditions in these two regions. This dramatic change in the configuration of political landscapes coincided with the increase of agropastoralism in the Neolithic economy derived from expanding Eurasian interactions. The Jinnan Basin and Ordos in the middle Yellow River Valley saw the most significant political development in the Longshan world.

The proto-urban centre of Taosi stood out in the Longshan society for its large population, marked social differentiation, cultural diversity, instability,

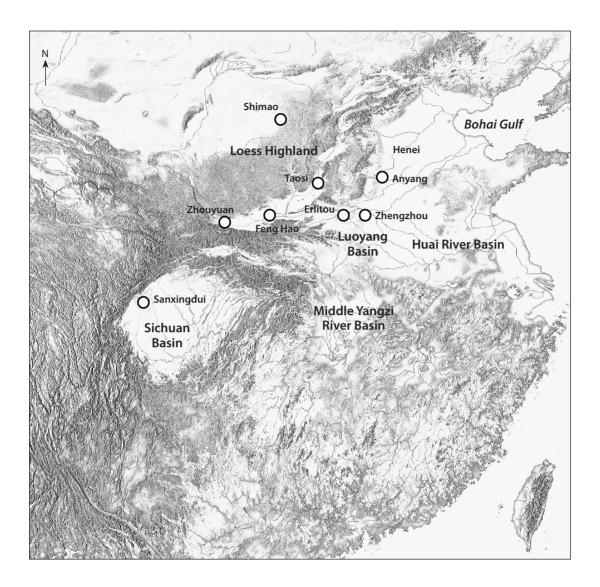


Figure 3.1. A map of major sites mentioned in this chapter.

and the emergence of defining attributes of early kingship in Bronze Age China (Zhongguo & Shanxisheng 2015). An unprecedented population concentration took place in Taosi during the final quarter of the third millennium BC. Various groups from the countryside migrated into Taosi, whose settlements grew from 50 hectares in the Early Phase to 300 hectares in the Middle Phase (He 2013). The large cemetery associated with the settlement had approximately 10,000 tombs, an unprecedented scale in early China (Gao 1993). The awe-inspiring tomb M22 of the Middle Taosi Phase rivals the tombs of the Shang and Zhou high elite in scale (e.g. the tombs of Fu Hao in Anyang and Duke of Guo in Sanmenxia, both associated with high elite of the Shang and Zhou states) (Zhongguo et al. 2003). Instead of making distinctions between a paramount leader and a king, Su Bingqi (1994, 71) used the notion 'the aura of kingship' to describe the exceptional grandeur that the Taosi rulers attempted to project.

The heavy concentration of the burials at Taosi and their alignment towards the central peak of Mt. Chong reveal that the proto-urban growth occurred in a landscape that symbolically inaugurated the sacred peak as the focus for new social identity for migrants with diverse cultural backgrounds. Several urban-size centres created by major aggregations of population emerged in basins on both sides of the Chongshan mountain range (Su 1994, 29). This circum-Chongshan settlement conglomerate may represent a confederation of polities. Its presence made the Jinnan Basin the most densely populated and politically significant region in Longshan society.

Crisis and decline

Expanding interactions during the late third millennium BC brought extraordinary diversity to Longshan cities like Taosi, including key components of the Bronze Age society (e.g. metallurgy, a metal-based conception of political and economic landscapes that involved prospecting and mining) as well as new notions and apparatus of kingship shared by the second millennium cities. At the same time, the emergent political and ritual authority at Taosi seems not to have developed a political framework to accommodate this diversity, resulting in the violent rupture in its urban history.

As a critique to the categorical difference of complex chiefdom versus state as represented by Taosi and Erlitou, Henry Wright characterized Taosi as a major episode of political experimentation in early China (Li Min 2018). This proposal captures the challenge of early state building, wherein the attempt at integration itself contributed to the risk of failure. During the Longshan period, increasing interactions between the Neolithic farming society and the agropastoral communities further contributed to tensions in Taosi society and became the source of the fragility of cities.

The mortuary inventory at Taosi revealed a conflicting trend of the failed social experimentation. On the one hand, pigs occupied a central place in the mortuary assemblage of Taosi elite. The top tier elite burials featured the ritual display of whole pigs split in halves and the culinary assemblage of pig heads and pig feet on cutting boards, which highlight the culinary refinement of the Neolithic farming tradition. The second-tier burials also included extensive display of pig mandibles, up to a hundred in each grave, presumably curated from the feasting events sponsored by the deceased during their lifetimes (Zhongguo & Shanxisheng 2015).

On the other hand, the presence of cowrie shells and copper objects at Taosi indicated a growing agropastoral component at the site, which seemed completely underrepresented in elite mortuary displays no signs of cattle and sheep bones were represented in Taosi's mortuary context. Cowries were brought into the highland Longshan society from the coast of the Persian Gulf and Indian Ocean through Eurasian exchange networks since the late third millennium вс (Peng & Zhu 1995). Their appearance was concurrent with the spread of cattle and sheep herding in the highland. The closest sources of Taosi's metal objects were Ordos to the north and western highland regions of Qinghai and Gansu to the west, where highland Longshan centres of Shimao, Lushanmao, and Qijiaping flourished (Fitzgerald-Huber 1995, 2003; Li Min 2018).

An overwhelming emphasis on the Neolithic pig feasting tradition in the Taosi elite mortuary ritual and

the expansion of an agropastoral economy revealed the divergence between changing socioeconomic circumstances of Longshan society and the conservative ideology of the Taosi leadership. This fault line in the great proto-urban centre probably contributed to the crisis at the transition between the Middle and Late Phase. At Taosi and its secondary centres, the elite tombs from the early and middle phases were systematically plundered and the palaces were levelled at approximately 2000 BC (He 2013). Whether it is the work of external conquests or internal conflicts, the widespread destruction of elite tombs at Taosi and nearly every major contemporaneous site in the region was a defining characteristic of the political instability prior to the emergence of any consolidated form of political structure.

The purpose of these looting activities was ritual destruction of the body, as many grave goods surrounding the coffins were left intact. In contrast to the pig dominated assemblage of the Early and Middle Phases, the fauna remains of the Late Phase displayed a significant increase of cattle and sheep bones, which suggested that the highland infiltration and intra and inter community conflicts at Taosi were probably caused by the failure to accommodate a culturally diverse population (Brunson et al. 2015). Clearly, the landscape cult and the emergence of a new set of ritual traditions that defined the Taosi social identity were not successful in removing the tensions within a rapidly changing Longshan society. The presence of other highland Longshan centres (e.g. Shimao in Ordos and Lushanmao in Yan'an) suggested that the tensions among multiple highland centres contemporaneous with Taosi might have contributed to their instability (Jaang et al. 2018). The relationship between Taosi and Shimao is currently the most contested issue in Chinese archaeology (Shaanxisheng et al. 2013, 2016).

However, Late Taosi society did not experience a demographic decline after the destructions of its elite cemetery and palatial structure. Instead, the great Longshan centre as well as its neighbouring communities south of Mt. Chong saw population growth during the Late Taosi phase, presumably from the influx of population from the loess highlands to the north of the basin. Evidence for political authority, however, was absent from these large sites, as no elite burials were identified from this period (He 2013). An extensive collapse took place during the nineteenth century BC, which was part of a widespread Longshan collapse in early China. The Jinnan Basin appeared to have been deserted and the remaining residents scattered into tributary valleys of the loess highland. When Erlitou expanded into the Jinnan Basin during the second quarter of the second millennium BC, its outpost Dongxiafeng was disproportionately smaller than those of the great Longshan centres and the outpost appeared to have moved into a no-man's zone (Zhongguo et al. 1988).

Legacy

The momentum of the political experimentation at the Jinnan Basin against the backdrop of extraordinary socioeconomic change left its legacy both in the repertoire of symbols for political representation and in the emplaced social memory. Taosi was experimenting with new ritual institutions by marking social distinctions through a syncretic process. Unlike a redundant display of grave goods in prehistoric tombs of the pre-Longshan era, the Taosi elite burials featured a formalized mortuary syntax that highlights an elaborate culinary set revolving around pig feasting and musical apparatuses consisting of wooden and earthen drums and chimestones (Zhongguo & Shanxisheng 2015). The distinctive elite objects and their configuration indicated an emerging high culture and these resulting forms will later become primary symbols of political authority in Shang and Zhou civilizations.

The discovery of a cast copper waist bell in a Late Taosi tomb presents the first evidence for metal acoustic instruments in early China (Zhongguo & Shanxisheng 2015). Its production technology was likely derived from the North Asian bivalve bronze casting technique with suspended core for spear production in the northern Altai. Bells were powerful instruments in shamanistic rituals. It is striking that the ritual aspects of early metal production were present at Taosi while the military aspect was absent. Over the centuries, the production of bronze bells evolved from this modest prototype into grade sets, matched with chimestone sets, in marking elite status in Zhou society during the first millennium BC. Two characters written in vermillion on a pottery bottle in Late Taosi represent a potential source of Chinese writing, based on their close resemblance with the Late Shang oracle bone inscriptions of the late second millennium BC (Zhongguo & Shanxisheng 2015). Chinese writing, therefore, was probably invented at a critical moment from indirect interactions with Bronze Age society in West Asia through Eurasian and Central Asian intermediaries. This could explain the cowrie-based value system in later Chinese writing (Li Min 2018).

Although the Jinnan Basin experienced a demographic recession through the second millennium BC, the Taosi legacy was shared among highland Longshan memory communities that survived the collapse. Evidence can be seen from their preservation of Taosi vessel forms and ritual configurations in elite mortuary contexts. As I will argue later in this chapter, when the

next major urban episode was set in motion at the end of the second millennium BC, the Zhou military colony granted to the Lord Tang Shu Yu was established with reference to the legendary landscape of the Jinnan Basin in the third millennium BC. The discovery of the Zhou military colony and the lineage cemetery of Lord Tang Shu Yu at Tianma-Quncun (1100 hectares), approximately 20 km south of Taosi, provided the touchstone for the archaeological landscape and the historical legacy in textual narratives.

The second quarter of the second millennium BC: the emergence and decline of Erlitou

Emergence

Erlitou (c. 1750–1500 BC) emerged after the collapse of Taosi and other great Longshan centres in the Jinnan Basin and in the lowland regions in the east. This new episode of development unfolded in the Luoyang Basin to the southeast of Jinnan, which was previously a sparsely populated region during the Longshan period. The ceramic assemblage indicates the influx of population from all directions outside of the basin (Zhang Li 2012). The size of Erlitou was approximately the same as Taosi, but secondary sites around Erlitou were smaller and fewer of than those around Taosi during the Longshan period. Overall, the population of early China during the second quarter of the second millennium BC appears to be significantly lower than that of the Longshan period (Sebillaud 2014). The rise of Erlitou was not the direct cause for the depopulation in the surrounding regions. Rather, its emergence represents a reconfiguration and regeneration of population that survived the collapse (Fig. 3.2).

The rise of Erlitou involved contributions from the east and the west of the Luoyang Basin. Influx of communities associated with the lowland ceramic tradition from the upper Huai River Basin to the east and the south of the Luoyang Basin led to the rapid increase of settlement size, while highland immigrants contributed metallurgy to this highland gateway to the lowland plains. Moving eastward down the Wei River Valley, highland groups associated with the Qijia material culture crossed the Qinling mountain range at Lantian and established the highland outpost at the Donglongshan site at the northern end of the Shangluo Corridor. From Donglongshan, they crossed the narrow watershed in Luonan, entered the Luoyang Basin along the Luo River Valley, and prospected the rich turquoise mines near the southern end of the corridor and the copper mines in the middle Yangzi further downstream (Shaanxisheng & Shangluoshi 2011). The southern expansion of this western highland agropastoral network into the highland gateway

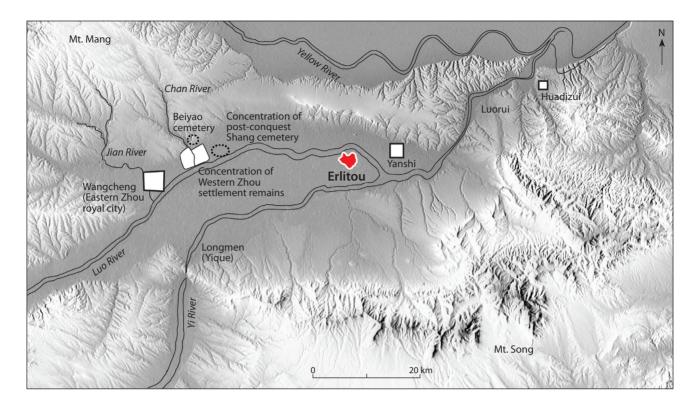


Figure 3.2. The archaeological landscape of the Luoyang Basin.

regions of Luoyang and Shangluo linked the two key components of the Bronze Age political landscape – establishing the political base in the heartland of the historical Central Plains and maintaining access to the copper ore of middle Yangzi.

Access to these resources accounted for the strong focus on bronze production and turquoise works at Erlitou, which laid the foundation for the political economy of Shang and Zhou states in later periods. The Erlitou ceramic assemblage displayed a hybrid character. Round pots of the western highland tradition were added with solid tripod construction characteristic of the lowland culinary tradition. The drinking assemblage from Erlitou represented sources as far as the northern communities associated with the Lower Xiajiadian material culture in the Chifeng region along the eastern edge of Mongolian Plateau and the coastal communities associated with the Maqiao material culture in the lower Yangzi (Xu 2009; Zhongguo 1999).

Besides ritual and commensal consumptions, social solidarity at Erlitou was achieved with the performative experience tied to Erlitou ritual tradition. Instead of being buried as warriors with bronze weapons, Erlitou elites were buried with a set of distinctive consumption apparatuses fabricated in bronze or pottery, wearing garments adorned with

turquoise mosaic inlaid bronze plaques, waist bells, and cowrie shells brought in through the Eurasian exchange network that had been established since the Longshan period. Erlitou elite occasionally holding black jade sceptres that was found in massive quantities in the Longshan centre of Shimao in Ordos, which might have had some temporal overlap with the early Erlitou urban centre.

The discovery of elite burials and palatial compounds attests to the presence of political authority at Erlitou, but the nature of the leadership is difficult to decipher (Zhongguo 1999, 2014). In contrast to the large cemeteries at Taosi, the cemeteries at Erlitou were small and scattered, each representing only a lineage group. The mortuary syntax highlighted the performative aspect in the social definition of the Erlitou elite persona, instead of military ethos, whereas ritual dance might be associated with the religious efficacy of Shamanism associated with the metallurgists. An elite in a burial at the centre of a palatial courtyard was buried with a turquoise mosaic serpent with a copper bell suspended on it (Zhongguo 2014) (Fig. 3.3). Some lesser elites were buried in sunken plazas at the ritual precinct with layers of trampling surfaces, wherein trampling activities continued over new soil layers added on top of the layers cut by the burials.

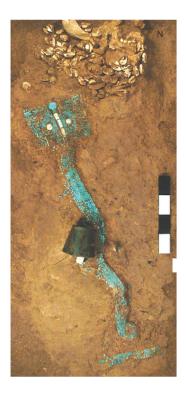






Figure 3.3. Turquoise inlaid objects from Erlitou elite burials (Left, the turquoise inlaid serpent in tomb 2002VM3 from the courtyard of the No. 3 palatial compound, after Zhongguo 2014, Colour Plate 120; middle and right, two turquoise inlaid bronze plaques from Erlitou elite tombs VIM11 and 81YLVM4 after Deng 1998, Plates 257 and 258).

Colour, sound, ritual dance, consumption of psychoactive substances, and the metallurgical transformation taking place at Erlitou collectively defined its urban spectacle and enhanced its attempts at communal solidarity. Many elite regalia in Erlitou burials were elaborations of highland Longshan tradition (Li Min 2018). The ritual emphasis on pig feasting in Early and Middle Phase Taosi elite tombs disappeared in Erlitou burials. Instead, the abundance of cattle and sheep bones in Erlitou faunal assemblages highlighted the consolidation of an agropastoral economy in the region historically known as the Central Plains (Yang 2008). The Bronze Age tradition of placing cattle limbs in elite burials gradually prevailed through the second millennium BC in early China.

The absence of significant destructions at Erlitou through its four urban phases suggests different tactics towards integration than at Taosi. This is also attested by the absence of defence walls around Erlitou, where the great city probably used the mountain range around the Luoyang Basin as its defence perimeter. To the east and southeast of the Luoyang Basin, a series of Erlitou walled strongholds were constructed in river valleys connecting the basin and the lowland plains (e.g. Dashigu in Zhengzhou, Dongzhao in

Xingyang, and Wangjinglou in Xinzheng), which provided security to the major lowland gateways to the Luoyang Basin.

Beyond its heartland, Erlitou outposts were established along major trade routes to the middle Yangzi River Basin and the Jinnan Basin, appeared to control the metal ores, turquoise, salt, cinnabar, and other resources critical to the Erlitou political economy (Liu & Chen 2003). The emphasis on the production of bronze vessels at Erlitou and the expansion toward metal producing regions suggests the rise of a metal-centric ideology of political landscape characteristic of Bronze Age China (Li Min 2018).

Crisis and decline

The differences between Taosi and Erlitou were present in their formation process and social circumstances instead of an evolutionary difference between complex chiefdoms and states. There were no signs of political centralization and administrative apparatus to set Erlitou apart from its Longshan predecessors. It is also difficult to characterize Erlitou as a territorial state. Its expansion did not represent episodes of conquest and incorporation of well-populated cities and communities. Rather, the spread of Erlitou

settlements appeared to be a repopulation in deserted regions, incorporating refugees from the aftermath of a significant social collapse.

Current archaeological evidence suggests that Erlitou's failure to incorporate the regions immediately north and east of the archaic lower Yellow River contributed to its demise and deurbanization during the middle second millennium BC. While it was successful in incorporating the Jinnan Basin, and the Huai River Basin into its political orbit, Erlitou did not incorporate the Henei Basin and the loess highland north of the archaic lower Yellow River, as well as the plains in western Shandong east of the river. After its Longshan towns were deserted during the early second millennium BC, the Henei Basin was repopulated by highland communities moving downstream from the Taiyuan Basin west of the Taihang mountain range, brought along with them the diagnostic highland ceramic assemblage centred

on the *li* pouch-legged tripod vessels (Zou 1980). After the collapse of its major Longshan centres in Shandong, post-Longshan communities associated with the Yueshi material culture inhabited the lowland plains to the east of the archaic lower Yellow River, which exhibited a much lower population density and reduced technological repertoire in comparison to their Longshan predecessors.

The decline of Erlitou did not result from an abrupt invasion. During Phase III of its urban occupation, Erlitou saw a gradual increase of Xiaqiyuan style *li* vessels from the Henei Basin (Zhongguo 1999) (Fig. 3.4). The change suggested an increasing infiltration into the basin from communities north of the Yellow River which contributed to the increasing cultural heterogeneity of the Bronze Age city. At the same time, these vessels appeared in the Jinnan Basin, the Guanzhong Basin, and the Shangluo Corridor. The Xiaqiyuan style *li* vessels eventually

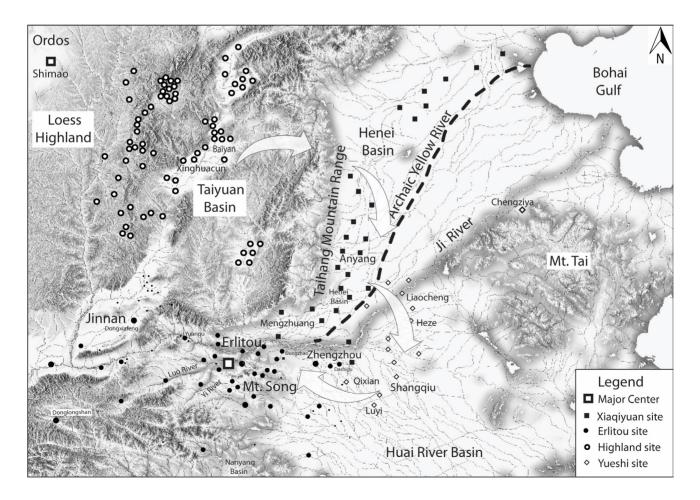


Figure 3.4. The distribution of archaeological sites associated with the Xiaqiyuan material culture in the Henei Basin in relation to sites associated with the Erlitou material culture to the south, the Yueshi material culture to the east, and highland sites to the west of Taihang mountain range.

dominated the ceramic assemblages of Erlitou Phase IV ($c.\,1560$ – $1520\,\mathrm{Bc}$), the final phase of Erlitou's urban occupation, and of the post-urban phase at Erlitou. This change in ceramic assemblage coincided with the abandonment of the Erlitou palaces during late Phase IV and the construction of a heavily fortified city in Yanshi, approximately 6 km east of the undefended urban centre at Erlitou.

Built around the early sixteenth century BC, the walled enclosure (approximately 80 hectares) at Yanshi was first constructed to secure its palatial foundations and several warehouses, probably to provide military surveillance over Erlitou. It was subsequently expanded to 200 hectares with the construction of an outer wall that extended its protection to the craft production areas (e.g. the bronze foundries, pottery kilns, and bone workshops, and storage facilities) (Zhongguo 2013). In contrast to the hybrid characteristics of the Erlitou ceramic assemblage, the new assemblage found at Yanshi displayed a remarkable resemblance to the Xiaqiyuan ceramic tradition in the Henei Basin, extraneous to the Luoyang Basin and the lowland plains south of the archaic Yellow River.

The stylistic and technological consistency of this vessel type was created by the lineage-based craftsman tradition, in which techniques and knowledge were transmitted within close-knit kin networks. Members of each lineage group shared ideas about elements of their technical process as part of their cultural identity: 'raw materials, source of energy, tools, actors, where and when things should take place, etc. And these technical representations are part of wider symbolic systems' (Lemonnier 1993, 4). Given the lineage organization and the social transmission of ceramic production techniques, the distribution and use of these distinctive cooking vessels reveal intriguing connections between a larger sociopolitical phenomenon of state expansion and domestic life at the household level.

The rise of the new centre at Yanshi inside the Luoyang Basin and at Zhengzhou immediately east of the basin, both associated with the Xiaqiyuan ceramic assemblage from Henei, coincided with the deurbanization of Erlitou during the middle second millennium BC. By the end of Erlitou Phase IV, the great urban centre at Erlitou was abandoned and its population appears to be absorbed into the newly constructed walled cities, Yanshi and Zhengzhou (Zhongguo 1999). With the construction of two well-defended cities associated with a ceramic assemblage from north of the Yellow River, the dramatic shift in the configuration of political landscape and material culture in the Luoyang Basin strongly favoured a scenario of military conquest from Henei. Like Taosi,

the failure to cope with an increasing highland component in the early city led to the demise of Erlitou.

Legacy

The Erlitou incorporation of the Jinnan Basin and the upper Huai Basin into its political hinterland marks the beginning of the Central Plains as a geopolitical entity that straddles the highland basin and the lowland plains (Li Min 2018). The early Bronze Age city transformed the Luoyang Basin from a highland gateway to a pivot of the four quarters, where the basin rose to political eminence for the first time in early China during the Erlitou period. It started a long geopolitical tradition in Chinese history, where successive regimes repeatedly returned to the Luoyang Basin for legitimation.

With the deurbanization of Erlitou and the subsequent abandonment of Yanshi fortress, the political significance of the Luoyang Basin declined during the second half of the second millennium BC. The next urban episode came at the end of the second millennium BC, when the emerging Zhou state built a new royal centre in the Luoyang Basin, in the name of returning to the old place of the legendary Xia regime. As I will argue in the later part of this paper, this spatial definition of legitimacy was likely a tribute to the Erlitou legacy.

Besides the emplaced social memory, an important Erlitou legacy was its repertoire of ritual vessel forms and its introduction of the first assemblage of bronze vessels in China. The ritual and commensal consumption activities revolving around various sprouted wares for the consumption of alcohol-based psychoactive beverages were part of the deliberate effort to foster a new cultural and religious tradition at Erlitou. The earliest bronze vessels in early China were produced in Erlitou's bronze foundry according to these shapes (e.g. the tripod beaker and the enclosed tripod pitcher with tubular extension) which attested to the cultural significance of these consumption activities in shaping the Erlitou urban experience.

The need for using these bronze vessels for precision heating and mixing of psychoactive ingredients became the major impetus for the technological innovation that ushered in the piece-mould casting technology which was a significant elaboration from the bivalve bronze casting technology used primarily for the production of weapons, tools, and accessories in the northern Altai. The close association with the palatial precinct suggested that the Erlitou bronze and turquoise workshops were strictly controlled royal production. Through the second and first millennia BC, this bronze assemblage had outlived the lifespan of the Erlitou regime and became the primary symbols of the *Sandai* Bronze Age states in the Central Plains.

The third quarter of the second millennium BC: the rise and decline of Zhengzhou

Emergence

Current evidence suggests that Zhengzhou and Yanshi were both constructed during the end of, or right after, the urban phase of Erlitou. From the perspective of geopolitical configuration, the change in the archaeological landscape of the middle second millennium BC could be characterized as a shift from a Luoyang-centred political order to a Zhengzhoucentred one. The construction of the Yanshi city in the Luoyang Basin served as the critical link for political transition.

Built approximately 85 km to the east of Erlitou, the fortified city of Zhengzhou (approximately 15 sq. km) had two rammed-earth enclosures built over the site of an Erlitou settlement. The rectangular inner city (300 hectares) was roughly the same size as Taosi and Erlitou. A palatial precinct consisting of dozens of rammed-earth foundations spanned over approximately 50 hectares at the northeast quarter (Henansheng 2001). Some featured an audience hall with a courtyard enclosed with roofed corridors. Located approximately 1 km south of the inner city, an outer wall flanked the bronze foundries, pottery kilns, bone workshops, and other craft production facilities in the southern half of the city.

The rapid rise of Zhengzhou as the new political centre likely benefited from the transfer of technological expertise, manpower, and administrative apparatus from Erlitou. Two bronze foundry sites in Zhengzhou produced a large number of clay mould fragments for the production of bronze vessels, tools, and weapons (Henansheng 1989). The clay piece-mould production techniques and the functional assemblage of Zhengzhou bronzes strongly resembled the Erlitou bronze industry, which had ceased to operate around the time that Zhengzhou foundries started. With expertise from Erlitou artisans, the products from the Zhengzhou workshops reached an impressive size. This expansion of vessel size occurred in tandem with an increased emphasis on cattle in elite feasting activities and royal rituals, which marked an important departure from the millennia-old Neolithic tradition based on pigs as seen in Taosi elite burials (Okamura 2005; Yuan & Flad 2005).

The Zhengzhou expansion followed Erlitou's footsteps. With the exception of Henei and Shandong, Zhengzhou outposts were either built next to or constructed on top of Erlitou strongholds (Li Min 2018). Unlike the Late Shang royal centre in Yinxu, there are no archaeological inscriptions that identify Zhengzhou and Yanshi with specific early Shang capitals named

in later historical texts. However, the shared design attributes, orientation of their architectures and cities, patterns of the temporal and spatial framework in historical geography, and cultural continuity with the material culture in the Late Shang capital of Anyang served as compelling evidence that these fortified cities represented the early royal centres for the emerging Shang state (Sun 2009).

From the first introduction of these distinctive pouch-legged tripod vessels among the Longshan communities in highland basins to the west of the Taihang mountain range, to their spread to the Henei Basin to the east of Taihang, to their increasing presence in the Luoyang Basin during the final phases of Erlitou, and finally to their rapid spread from Zhengzhou across a vast territory, the consistency in its production techniques, stylistic attributes, associated assemblage, and distribution of the highly diagnostic *li* pouch-legged tripod vessel marked it as the 'index fossil' of the Shang state formation process (Zou 1980). It provided us with the empirical basis to link Yinxu, the only site with inscriptions identifying itself as the Late Shang royal centre, with its outposts and with its predecessors in Zhengzhou and Henei (Li Min 2018). Its distribution pattern concurred with the descriptions in later textual sources of the Shang as a major cultural and political group active in the Central Plains during the second half of the second millennium BC.

The homogeneity in material culture, however, concealed the potential fault lines within the Bronze Age city of Zhengzhou. Based on our current knowledge on the density of sites associated with the Xiaqiyuan material culture, the population of the preconquest confederation from Henei was low relative to the Luoyang Basin. Even with the contribution of its allies from the plains of Shandong associated with the distinctive Yueshi material culture, the population is still far from meeting the need to populate two great cities of Zhengzhou and Yanshi as well as manning the Early Shang outposts that were established in all directions. The apparently homogeneous material culture of Early Shang sites, therefore, masked the complex makeup of the cultural groups that were incorporated into the Shang political enterprise. The end of the Erlitou ceramic tradition after the deurbanization of the city, in particular, suggests that the Shang state deliberately erased the cultural identity of the subjugated communities after its conquest.

Besides the highly homogenous material culture, the Zhengzhou political tradition placed significant emphasis on military ethos, an important deviation from the Taosi and Erlitou mortuary traditions that highlighted feasting, music, and ritual dance. In addition to bronze vessels for ritual and commensal

consumption, bronze weapons held a prominent place in elite tombs from Zhengzhou and its outposts. These elite burials belonged to lineages of elite warriors, which constituted the main forces of the Shang expansion out of Zhengzhou. Evidence for massive ritual violence were found across the Zhengzhou political network. The victims presumably were captives of many military campaigns waged by Zhengzhou's forces. Previously, human sacrifice was primarily observed at highland Longshan centres at Shimao and Taosi. Being a highland force, the Shang brought the violent practice to a new level. This emphasis on violence revealed that the early Shang state was largely a coercive enterprise, which is often overlooked by scholars who emphasized the monopoly of religious communication by Shang kingship (Chang 1983).

Crisis and decline

The Early Shang expansion from Zhengzhou soon reached its limit, and a series of crises weakened Shang hegemony. The Yanshi fortress in the Luoyang Basin was abandoned at the end of the fifteenth century BC (Zhongguo 2003, 218). The palatial buildings, workshop, and water management facilities in Zhengzhou appeared to have been gradually abandoned a century later without evidence for deliberate destruction (Zhongguo 2003, 228). After the decline of the palatial quarter, the Zhengzhou bronze foundries operated for some time before the city was completely deserted by the turn of the thirteenth century BC.

Three impressive hoards containing large bronze ding vessels were placed between the outer and inner wall enclosures at Zhengzhou, not long before the end of Early Shang occupation in the city. Two of these hoards were symmetrically placed near the two corners of the inner city, with cinnabar and charcoal layers deposited over the bronze vessels, suggesting that they were ritual dedications sponsored by the ruling elite in Zhengzhou, possibly to counter the forces making the city uninhabitable before its eventual abandonment (Henansheng & Zhengzhoushi 1999). These ritual events would have taken place with elaborate ritual protocols and contributed to the grandeur of Zhengzhou as an extraordinary place.

Located some 13 km northwest of Zhengzhou, Xiaoshuangqiao (150 hectares) flourished as an important royal centre in the final phase of Zhengzhou's urban occupation during the fourteenth century BC (Henansheng 2012). The discovery of palatial structures with rammed earth foundations, bronze foundries, and large-scale ritual sacrifice involving human victims and domestic animals inside the walled palatial precinct (9 hectares) defined the site as an important ceremonial and political centre in the immediate hinterland of

Zhengzhou. The massive deposits of cattle for royal dedications at the site marked the beginning of a cultural focus on cattle in state ritual as seen in oracle bone inscriptions of the Late Shang period (Okamura 2005; Yuan & Flad 2005; Lü 2015). The Xiaoshuangqiao ceramic tradition combined techniques associated with three cultural traditions, namely Xiaqiyuan from Henei, Erlitou from the Luoyang Basin, and Yueshi from Shandong, indicating that the construction of a Shang identity through material culture remained an ongoing process.

Partially overlapping with the late Upper Erligang Phase (c. 1450–1300 BC) occupation in Zhengzhou, Xiaoshuangqiao was either a ritual centre attached to the royal capital in Zhengzhou or a new royal capital established after the decline of Zhengzhou (Henansheng 2012). The flourish of Xiaoshuangqiao was very brief – less than five decades after its construction. Its palaces were burnt down and the city was abandoned at the end of the fifteenth century BC (Henansheng 2012, 725). The causes for the abandonments of Yanshi, Zhengzhou, and Xiaoshuangqiao remain unknown. The unusual appearance of Yueshi material culture at Xiaoshuangqiao seemed to indicate that the factional politics among the Shang alliances could have contributed to the brief flourish and decline of the site. By the end of the fourteenth century, the urban settlements at Yanshi, Zhengzhou, and Xiaoshuangqiao were all abandoned and the centre of political gravity shifted back to the Henei Basin.

Legacy

The construction of Zhengzhou and Yanshi immediately east of the Luoyang Basin reinforced the Central Plains-based political framework first laid out by Erlitou. This was further consolidated by the Shang incorporation of the Erlitou network of outposts in middle Yangzi, Jinnan, and the Huai River Basin. This vision of a political landscape centred around the Luoyang-Zhengzhou regions around Mt. Song left a long-lasting legacy in the political history of China (Li Min 2018).

Elaborating upon the Erlitou prospecting, mining, and metalworking foundations, Early Shang bronze workshops in Zhengzhou produced some of the most impressive bronze vessels of early China, and the technological knowledge of piece-mould casting was brought to Shang outposts such as Panlongcheng in middle Yangzi, Taijiasi in the middle Huai River Basin, and Daxinzhuang in Shandong. With the decline of Shang state power during the Late Shang period, these technologies became the basis for the political representation of emerging regional powers, which filled in the political vacuum left by the withdrawal of the Shang military presence (Bagley 1999; Steinke & Ching

2014). This decentralization of bronze casting technology effectively undermined the political authority of the Shang states, whose claim to power was partially based on the monopoly of this technology.

The fourth quarter of the second millennium BC: the rise and decline of Anyang

Emergence

The political dynamics between the abandonment of Xiaoshuangqiao in Zhengzhou and the construction of the Huanbei city in Anyang remain unclear (Tang 1999; Thorp 2006). Later textual sources mention a period of chaos and disruption in the Shang political order, which might have been caused by a crisis in royal succession, as seen in irregularities in the Shang king list. The Shang royal power might have moved its capitals around, as suggested by later textual sources, or disintegrated into multiple centres. If this was the case, these crises were certainly not great enough to generate major disruption in Shang material culture, unlike the change observed in the Erlitou-Erligang transition in the Luoyang Basin. Instead, ceramic typology of the pouch-legged li tripod vessels displayed strong continuity from Erligang to Yinxu phases. The Shang royal power eventually settled at Anyang in the Henei Basin, the very region where the archaeological assemblage defining the Zhengzhou tradition originated.

The first royal centre was established at Huanbei (470 hectares) on the northern bank of the Huan River. Within the walled city, there was an impressive palatial precinct (10 hectares) with dozens of rammed-earth foundations. Both the city walls and the buildings were orientated about 13 degrees east of true north, which was a characteristic of Shang walled cities, palatial foundations, and royal burials in Yanshi, Zhengzhou, Panlongcheng, and Yinxu (Jing et al. 2013; Sun 2009; Tang et al. 2000). After less than a century of occupation, however, the royal palatial precinct at Huanbei was burnt down like Xiaoshuangqiao, presumably from civil wars or highland raids. An elaborate gatehouse of the main palatial complex collapsed in intense fire and filled its entranceway with burnt architectural debris. The walled city was abandoned after this crisis. Its residents relocated to the south bank of the Huan River where they established a new royal centre in the area historically known as Yinxu, the Ruins of Yin, in operation from the middle thirteenth to middle eleventh century вс.

The discoveries of the royal cemetery, palaces, inscribed oracle bones at Yinxu present compelling links with the Late Shang kings from the twenty-first king, Wu Ding, to the twenty-ninth king, Di Xin, in historiography (Chang 1980; Keightley 1978, 1983, 2000). Based

on the king list in Han Dynasty sources, the Huanbei city was probably established by the nineteenth king, Pan Geng, who was responsible for relocating the Shang capital to the place of Yin in historical accounts. The late second millennium BC, therefore, presented the beginning of a convergence between textual and archaeological representations of history.

Unlike the Early Shang royal centres, however, the Late Shang royal centre at Yinxu was not walled. Instead, it was a giant conglomerate of residential communities, craft workshops for bone, jade, bronze, and ceramic production, and cemeteries located around the royal compound at Xiaotun. Yinxu grew from approximately 12 sq. km in Yinxu Phase I (late thirteenth century BC) to 30 sq. km in Phase III (late twelfth century BC), which was disproportionately larger than any of the major settlements within or beyond its political orbit.

Like all great urban centres before its time, Anyang incorporated diverse populations. Ceramic evidence identified urban enclaves inhabited by communities from the coast. Given the scope of human sacrifice that took place at the city, Anyang should have had quarters for the confinement of war captives. For example, the zhang sceptre-shaped clan emblem on bronze vessels from a recently discovered jade carver's tomb suggested that the deceased likely came from an elite artisan line of the Longshan-Erlitou tradition, where the zhang sceptres held a significant place it in its rituals (Zhongguo 2017). Although this prehistoric jade form was not incorporated into the Shang ritual tradition, the artisan lineage had retained its ancestral symbol while offering their service to their Shang patrons. Beyond the Shang political domain, the Longshan-Erlitou jade form was still revered by the highland communities (e.g. the Sanxingdui-Jinsha civilization in the Sichuan Basin). As I will elaborate in the next section, these highland communities under the Zhou leadership played a significant role in the demise of the Shang hegemony.

The massive use of cattle scapulae for royal divination relied on a well-developed agropastoral economy, in which cattle herding rapidly expanded as part of the Shang ritual economy (Okamura 2005). In contrast to preservation of merchant records written on clay tablets that informs on the Assyrian commercial system, the Late Shang inscribed oracle bones came from a much more restricted source – royal lineage and inner elite lineages. Outside of Anyang, only one inscribed oracle bone was discovered in the entire Shang domain from a secured archaeological context, which came from the eastern outpost of Daxinzhuang across the Shang domain (Li Min 2008). From these inscribed bones, we can catch a glimpse of the geopolitics and elite life in the Late Shang world from the

perspective of the Shang royalty and its inner elite. The special nature of these inscriptions also meant that information on parallel networks of power (e.g. local assemblies, councils of elders, and the like that represent the 'community' in the Mesopotamian texts) was absent from this earliest repertoire of archaeological writing.

This ritual bias in the perspective of the early archaeological writing, however, does not mean that commerce did not exist. The flow of cowrie shells, for example, suggests an extensive trade network linking the Shang cities in the Central Plains with Eurasian societies and ultimately to the shores of the Persian Gulf and the Indian Ocean. Trade arrangements were made with highland intermediaries and continued to operate through the first half of the first millennium BC, until the antagonism between the rising Xiongnu empire and the centralized states in the Central Plains severely undermined the cowrie trade during the Warring States period.

Fragility and decline

Although Yinxu was the largest city in early China during its time, the inherent fragility of governance in the Shang political structure accounted for its relatively short urban lifespan. Several factors stood out as the

sources of its tensions. First, succession through brothers was a major fault line for factional politics within the Shang political structure (Wang Guowei 1917). The Shang king's list had nine generations where the throne was transferred among brothers. Many of these transfers involved factional conflicts that weakened the Shang state power.

Second, the overwhelmingly large city of Yinxu did not have a well-functioning network of intermediate-level authorities and was vulnerable to highland raiding. There were signs of economic, institutional, and military difficulties after the long reigning period of Wu Ding in the early Yinxu phases. Hedged by a few strongholds, the last Shang kings clung to their royal city albeit with reduced hegemony while Shang forces folded back from other key positions in the middle Yangzi, the Jinnan Basin, and the Luoyang Basin. While the vacuum left by the Late Shang withdrawal from the Panlongcheng garrison was filled by indigenous groups of the middle Yangzi, both the Jinnan Basin and the Luoyang Basin became sparsely populated zones after Yinxu Phase II (Liu Xu 2014). The Late Shang state could no longer hold on to these basins for its own prosperity, economic integration, and security. These two empty basins became huge gaps between the Shang strongholds and royal heartland, which

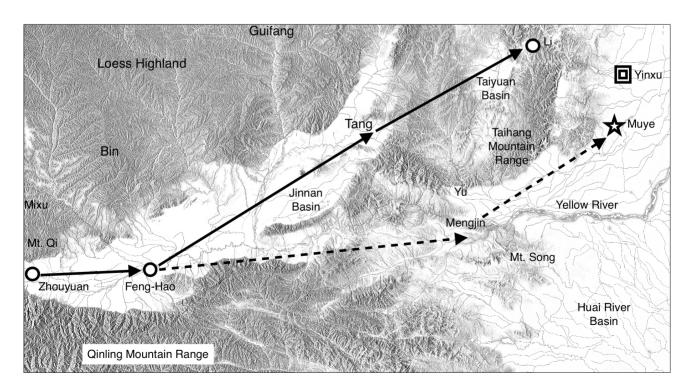


Figure 3.5. The routes of eastern campaigns led by pre-dynastic Zhou kings, whereas the northern route represents King Wen's campaign through the Jinnan Basin, and the southern route represents King Wu's campaign through the Luoyang Basin.

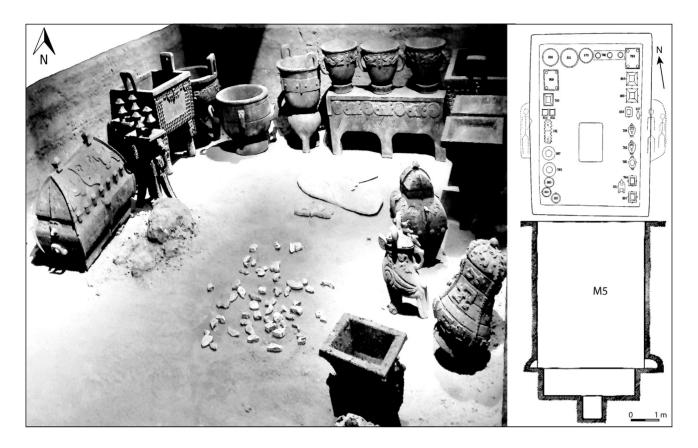


Figure 3.6. The mortuary context and the distinctive double niche construction of Fu Hao's tomb.

increased the fragility of the late Shang state. Once the frontier defence was breached, the rival groups could reach royal hinterland without encountering major resistance in between the frontier and the heartland (Fig. 3.5). This was evident in the eventual fall of Yinxu to Zhou campaigns.

Third, royal oracle bone inscriptions from Yinxu suggests a lack of formalized administration in Shang kingship. While the Late Shang oracle bones inscription might have projected an impression of Anyang domination over northern China, its constant references to armed conflicts with highland groups and coastal confederations under the labels of numerous fang suggested the limit of Shang hegemony. Besides the immediate deterrence of royal inspection tours and royal campaigns, the Shang king frequently called upon the hereditary leaders of Shang strongholds for military duties. These elite warriors were often addressed by their lineages rather than by their office, indicating the segmentary characteristics of the Late Shang political and kinship structure. This was also attested by the widespread use of clan emblems on inscribed bronzes, some of which allowed us to link the Shang elite lineages dispatched in Shandong with the members of cadet lineages buried in the royal

cemetery at Yinxu. The widespread use of oracle bone divination practices indicated that these elite lineages each had their own access to religious communication, which was a counternarrative to assertions of monopoly of religious communication by the Shang kingship (Li Min 2008).

Fourth, with the great geographic span of Shang strongholds and the absence of a formalized administrative system, the Shang political ties became increasingly fluid. Political marriages were one among many of the strategies for consolidating Shang royal power. Lady Fu Hao's distinctive highland style double niche burial construction and entries in oracle bone inscriptions about her highland campaigns against Shang's rivals suggested that this royal consort might have been a highland elite woman among the three dozen royal women married into King Wu Ding's household (Zhongguo 1980) (Fig. 3.6). The role played by the predynastic Zhou state also presented an example of the highland alliance-building. While the Shang king was preoccupied with the coastal campaigns against the Renfang confederation, the Zhou leaders were designated as the Western Lord to curb the revolts of the nine states in the Xia territory (Li Ling 2003). The subsequent Zhou conquest of the Shang was a

consequence of such Shang fragility of relying on a fluid network of allies and vassal states.

Finally, the highly porous structure of Shang political tradition was detrimental to the Shang claim of legitimacy. David Keightley's (1983, 2000) characterization of Late Shang society as full of holes like Swiss cheese (and not solid like tofu) was critical for the understanding of the presence and operation of different non-Shang traditions and memory communities in the broadly defined Shang world. The transmission of social memory associated with the pre-Shang legacy among elite lineages of the regional powers between or beyond Shang military strongholds posed significant challenges to successful political integration.

This was particularly important for understanding the political dynamics on the loess highlands (Cao 2014). These highly mobile agropastoral groups could be described as the highland Longshan memory communities, who were never fully incorporated into the political orbits of Erlitou, Zhengzhou, and Anyang. Their ancestral claim could be traced back to the Taosi-Shimao legacy of the late third and early second millennium BC, when they actively resisted the Shang hegemonic order based in Anyang to the east of the Taihang mountain range (Li Min 2018).

The Shang political efforts to build allies behind enemy lines in the Guanzhong Basin only led to the expansion of the Zhou political influence. When the last Shang king was committed to his royal campaigns on the eastern front, his western front was poorly defended by an archipelago of outposts and subsidiaries. Nearly a month of travel from the Shang royal centre, many of these subsidiaries were subjugated polities and were not fully incorporated into the Shang political system. Once the major Shang strongholds in the Guanzhong Basin fell to the Zhou campaigns, the rest shifted their loyalty and joined the western alliance force in its march toward Anyang. Without major Shang strongholds in Jinnan Basin, Luoyang Basin and Zhengzhou, the fully exposed Late Shang royal heartland soon fell to the Zhou conquest around 1046 вс.

Anyang remained as a major urban centre for some time after the Zhou conquest when its artisan lineages were busy casting commemorative bronze vessels for the Zhou victors. These vessels came in Late Shang form, with inscriptions honouring participation in victory ceremonies and the distribution of royal rewards. They would be brought to the new settlements granted to their patron as a part of the Zhou military colonization and also to the Zhou political base in the Zhouyuan-Baoji region which was located in the Guanzhong Basin, where they would be displayed in the ancestral temples of these prominent elite lineages.

The crisis of fragility soon set in. Three Zhou lords established around the Shang heartland to monitor the fallen Late Shang royal city contested the order of the Zhou rulers and allied with Shang revolts led by the leader of the Shang royal lineage at Anyang. The Zhou order was at the edge of collapse. In its second campaign of the eastern territories, the Zhou army defeated the groups that participated in the pro-Shang revolt and deported tens of thousands of people from Anyang and other major Shang settlements into the Zhou heartland in the Guanzhong Basin as well as the military strongholds newly established in the Luoyang Basin and other strategic locations. These deportees worked under the supervision of Zhou administrators in the new capitals and regional states granted to Zhou lords as builders and craftsmen, a scenario very much parallel to the Assyrian case described in Yoffee's and Seri's paper in this volume.

At 1200 BC, Yinxu was the largest city in the world. At 1000 BC, no settlements of any demographic significance remained. To destroy the potency of Anyang as a Shang ancestral place, Zhou troops systematically plundered the Shang royal tombs at Xibeigang, north of the royal palace in Xiaotun. The region never regained its political eminence as the seat of a great royal centre in Chinese history.

The first quarter of the first millennium BC: addressing fragility and resilience in the Zhou political order

Besides cultural and political differences, vast distances in geopolitical space was in itself a source of fragility for the newly forged Zhou political order. At the turn of the first millennium BC, the newly established Zhou state faced a great east-west divide in the political landscape with Guanzhong and Henei as the bases of two great political powers separated by nearly 1000 km and a constellation of resilient legacies associated with each episode of major political development in between. When Anyang flourished in the Henei Basin during the final quarter of the second millennium BC, the great basins hosting previous urban episodes were already deserted.

With the Zhou rising from the Guanzhong Basin to the far west of these central theatres of political development during the second millennium BC, these deserted basins served as a major fault line for the Zhou subjugation of Shang communities in the Henei Basin in farther east. The Zhou also faced the political challenge of incorporating this diverse landscape endowed with resilient political legacies from different urban episodes through the second millennium BC. Since these earlier urban episodes took place in the now

deserted basins lying between the Zhou and Shang heartland, the geopolitical and historical considerations were entangled.

To consolidate Zhou political integration, the Zhou set in motion a grand reconfiguration of the political landscape by systematically establishing a network of military colonies in strategic places and deporting subjugated Shang lineages to the Zhou heartland and strongholds. Zhou lords were granted domains as far east as Shandong and Beijing, approximately 1100–1200 km east of the Zhou political base in Zhouyuan. Shang elite warrior lineages from the Qufu region in Shandong were deported to places as far west as Gansu in western China, a distance of 1100 km, whereas these political refugees eventually became the ancestors of the Qin state (Zhao 2014; Liang 2017).

Historical geography served as the blueprint for Zhou's grand scheme of state building in the Jinnan Basin and Luoyang Basin (Li Min 2016) (Fig. 3.7). From a demographic perspective, these efforts could be

considered as regeneration or reurbanization of these two basins. In both cases, the Zhou founders evoked the Xia and predynastic legacies associated with these historically important basins. The Zhou royal speech incorporated into the *Yi Zhou Shu* outlined the symbolic and logistical considerations for the choice of building a new royal centre in the Luoyang Basin, which had been deserted for nearly five centuries after the abandonment of Erlitou and Yanshi during the middle second millennium BC:

To secure Heaven's protection, we must reside near the Heavenly Chamber. We must single out the evil people and remove them as I did to the King Zhou of Yin. Day and night we must reward and comfort the people to secure our land in the west. I shall promote my works until my good deeds are clear to all. From Luorui (the bend in the Luo River) to the Yirui (the bend in the Yi River), the land is easy to settle and without

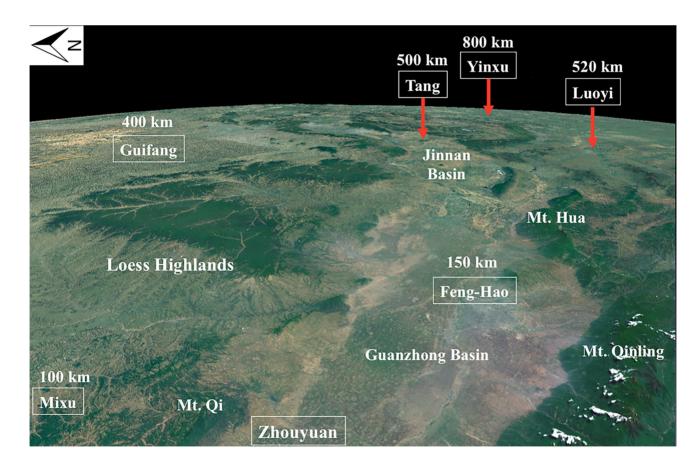


Figure 3.7. The political landscape of early China imagined from the perspective of Zhouyuan at the turn of the first millennium BC, wherein the Jinnan Basin and the Luoyang Basin were located between the Guanzhong Basin in the west and the Henei Basin in the east.

obstructions. Here was the old place of the Xia. If I might gaze south to Mt. Santu and north to the settlements at the foot of the Sacred Peak, if I might look back to the [Yellow] River and look out to the Luo River and the Yi River, this place would not be far from the Heavenly Chamber. (adapted from the translation of Nienhauser 1994, 63–4; the original transliteration has been changed to Pinyin)

The Heavenly Chamber refers to Mt. Song on the southern edge of the Luoyang Basin, which was regarded as the *axis mundi* in the cultural landscape of early China. While this account comes from a later transmitted text, inscriptions from bronze vessels commissioned not long after these events supported its general accuracy. The He *zun* vessel cast during the reign of King Cheng, for example, highlighted the association of axis mundi with the newly established capital Chengzhou in Luoyang:

It was when the King initially laid out his royal seat at Chengzhou. The King returned from extolling King Wu in the feng sacrifice, with sacrificial meat from the [Hall of] Heaven. In the fourth month, on *bingxu* day (ganzi no.23), in the ancestral temple, the King exhorted the junior princes of the royal lineage, saying: 'In the past, your fathers were able to aid King Wen, whereupon King Wen received this [Great Mandate]. When King Wu conquered the great state of Shang, he reverently announced to Heaven: "Let me dwell in this central territory and from here govern the people." Hark! While you are still minors lacking in understanding, look to your father's scrupulous respect for Heaven. Comprehend my commands and respectfully follow orders! Your sovereign's reverential virtue finds favor with Heaven, which guides me in my dullness.' The King's exhortation having finished, He was presented with the thirty strings of cowries used to make this treasured sacrificial vessel for (his father), Lord [X]. It was the King's fifth year. (translated by David W. Pankenier in Cook & Goldin 2016, 18)

As seen in Figure 3.2, the new Zhou royal centre was only 40 km west of Erlitou and Yanshi. At 1000 BC, the deported Shang subjects were building a new royal centre for the Zhou in the very basin where their royal ancestor overthrew the Erlitou regime around

1600 BC. Zhou described the choice of this royal centre as the pivot of the world and the old place of the Xia regime – thus evoking a pre-Shang notion of world order to regenerate the urban tradition in the Luoyang Basin. This was one aspect of resilience – the deeply entrenched legacy of a historical place and its place-world, which had survived deurbanization and deportation of its urban dwellers in the middle second millennium BC.

In the Jinnan Basin, the Zhou state-sponsored regeneration was under the command of Lord Tang Shu Yu, a brother of the King Cheng. The royal investiture address incorporated into the *Zuozhuan* (compiled in the fifth–fourth century BC) detailed the historical relics, lineages of highland colonial subjects, lineages of Zhou administrators, and the political instructions to the Lord of Tang. The royal speech used the legacy of the predynastic polity of Tang (a legendary polity active in the Jinnan Basin during the late third millennium BC) and *Xiaxu*, the Ruins of Xia, the legendary first dynasty attributed to the early second millennium BC as its geographic and political touchstone for Zhou state-building:

To Tang Shu was allotted a grand chariot, a Mixu drum, Quegong armor, a Guxian bell, nine ancestral lines of the Huai clan, and five regulators for overseeing official duties. He was given his command in the Tang Proclamation and enfeoffed at the Mound of Xia. He led his people by means of Xia regulations and surveyed the land in accord with Rong models (Durrant et al. 2016, Lord Ding 4.1e).

Although the account was put in writing centuries after the investiture of Lord Tang at the turn of the first millennium BC, the archaeological landscape offers the touchstone for understanding the Zhou colonizing mission. Separated by Mt. Chong, the Zhou military stronghold at Tianma-Quncun, the site of the lineage cemetery for the descendants of the Lord of Tang, was 20 km south of the great Longshan centre of Taosi and was surrounded by some of the largest Longshan sites from the turn of the second millennium BC (Li Min 2016, 2018) (Fig. 3.8). Evidence for marriage alliances between Zhou and highland elite lineages at Quncun and Dahekou reveals a pattern previously observed in Fu Hao's tomb in Anyang.

The convergence of historical and archaeological landscapes at the turn of the first millennium BC revealed that Zhou was fully aware of the pre-Shang legacies associated with the two great basins and used their legacies for military colonization and

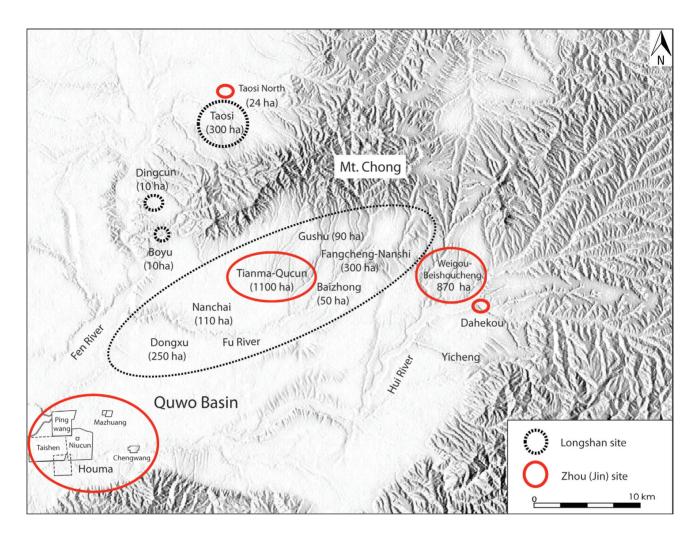


Figure 3.8. The Archaeological Landscape of the Quwo Basin in Jinnan. The dashed line in the Quwo Basin outlines the area of high concentration of the Taosi period settlements.

political consolidation. The important role played by the Longshan memory communities in the political development of the Shang-Zhou transition suggested that the pre-Shang legacy defined the shared political ideology among the Zhou and its highland allies. The Zhou did not have to invent the pre-Shang history of the two great basins – the descent groups of these pre-Shang powers were still active in the political arena during the final century of the second millennium BC. These highland communities served as major sources of Zhou's historical knowledge and fought as Zhou's allies in the campaigns against the Shang.

By adopting the historical modes of governance specific to each region, the Zhou state founders recognized the resilience of the past legacies (e.g. the Zhou adoption of a dual calendar system, Xia calendar for the Tang (Jin) state and Zhou calendar for the rest of the political domain, and the Zhou request of Shu Yu

to lead 'his people by means of Xia regulations and surveyed the land in accord with Rong models'). The Zhou unified these historical legacies with the notion of Mandate of Heaven, which defined an overarching cultural order for Zhou governance (Li Min 2018). Zhou political rhetoric frequently connected the dynastic fortunes with their major landmarks: 'In the past, when the Yi-Luo River dried up, the Xia regime failed. When the Yellow River dried up, the Shang regime failed' (*Guoyu* 1978, 26–7).

In this historically configured political landscape, the Zhou leaders acknowledged that each basin was endowed with its historic legacy and highlighted that the Zhou's claim to legitimacy upstaged that of the descent groups of the great powers in the past. The Zhou, therefore, used the political ideology of the Mandate of Heaven to neutralize the potential for resistance within a society with diverse historical traditions. By acknowledging the historical shift of the heavenly mandate, the descent groups of the past regimes found themselves a legitimate place within the Zhou political framework (Li Min 2018).

This historical conception of the political landscape allowed the Zhou to work its way into a stream of tradition starting with the Xia civilization in the Jinnan and Luoyang Basins in the middle, followed by the Shang civilization in the Henei Basin in the east, and succeeded by the Zhou civilization in the Guanzhong Basin in the west. This strategy privileged the emplaced historical legacy associated with the two great basins in the middle and contributed to the consolidation of the Zhou political order by closing the fault line between the Shang and Zhong heartlands. At the same time, however, this attempt to articulate the Zhou into the great historical tradition of the Central Plains centred at the Luoyang Basin left the Zhou homeland in the Guanzhong Basin suspended in the west. Without a well consolidated hinterland, the Zhou royal centres in Guanzhong were vulnerable to infiltration by highland groups unincorporated into the Zhou political domain.

Although the Zhou had moved away from the fragile Shang succession system involving the transmission of power among siblings, beginning with the revolt of the three Zhou lords against the Regency of the Duke of Zhou at the onset of Western Zhou, factional conflict continued to unfold in court politics. During the reigning period of King You, factional competition in the Zhou court over succession triggered the fall of the Guanzhong Basin to highland invasion in 771 BC. Zhou's ambitious plan of colonizing the vast domain to the east with military strongholds, therefore, laid the conditions for its disintegration – at the time of highland crisis, no major states from the military strongholds in the east were capable of providing aid in time (Li Feng 2006).

After the death of the Zhou king, the two western states, the Tang (Jin) state granted to Lord of Tang and the Qin state established by the Shang lineages deported to Gansu, worked together to aid the safe transfer of King Ping to the sole remaining royal centre in the Luoyang Basin. The royal house lingered on for another five centuries before it was finally annexed by the Qin state in 255 BC. By then, Qin had moved into the Guanzhong Basin left behind by the Zhou and grew to be the greatest military power among all the Zhou states. With the unification of the empire in 221 BC, the Shang elite warrior lineage from the far east, deported to the western highlands by the Zhou conquerors at the turn of the second millennium BC, finally returned to its homeland in eastern China.

Conclusion

The five episodes of political developments reviewed in this chapter grant greater insight into the nature of fragility in ancient states of early China during the second millennium BC. Lineage organization and historical legacy constituted the focal points of cultural resilience and provided the potential for resistance when incorporated by a new state. Amidst the rise and fall of early cities and ephemeral states, an overarching Sandai (Three Dynasties) political culture developed in the historical Central Plains and set itself apart from the Bronze Age peers in continental East Asia (Li Min 2018). It was defined by the graded instruments of food and music that first took shape in Taosi and the Longshan society at the end of the third millennium BC and further elaborated through the Erlitou, Zhengzhou, Yinxu, and Zhou royal centres. This stream of tradition persisted through the second millennium BC despite the political shift at an approximately quarter millennium timescale.

Despite the frequent dynastic change, the resilience of the lineage organization worked also as the sources of fragility for new regimes. The historical narrative of the predynastic Zhou lord being ordered by his Late Shang king to suppress the revolts of the nine states of Xia manifested such a fault line among the historical and geopolitical traditions (Li Ling 2003). In these historical circumstances, memory communities of past regimes often functioned as foci of resistance to the goals of new political leaders.

Fragility due to the divergent interests of different power networks became a constant concern of the early thinkers who had observed these historic episodes of breakdowns. Confucius' solution was to make good governance of the rulers mimic the role of lineage leaders thus merging the interests of kingship and kinship. This ideological pursuit, however, did not always work to satisfy the need of the expanding state. As legalist Hanfeizi (c. 280–233 BC) of the Qin state warned: 'A man who is a filial son to his father may be a traitorous subject to his lord.' (*Hanfeizi* juan 19) Legalist reforms implemented by the Qin and other states were aimed at bypassing powerful elite lineages and the exercise of direct state control over the population.

After the Qin unification, the political emphasis on elite lineage lines in the Zhou system was thoroughly abolished. The ambitious political experimentation of the Qin Empire, however, did not outlast its second ruler. The imperial Qin collapsed due to rebellions that arose from all of the fallen states. The decision of the imperial Han government to adopt a hybrid system that combined state appointed

administrators and hereditary governance by members of the royal lineage aimed at resolving tensions and hence the fragility within early states.

References

- Bagley, Robert W., 1999. Shang archaeology. In *The Cambridge History of Ancient China*, eds. Michael Loewe and E.
 L. Shaughnessy. Cambridge: Cambridge University Press, 124-231.
- Brunson K, He Nu, and Dai Xiangming 2015. Sheep, cattle, and specialization: new zooarchaeological perspectives on the Taosi Longshan. *International Journal of Osteoarchaeology* 26(3), 460–75.
- Cao Dazhi 2014. The Loess Highland in a Trading Network (1300–1050 Bc). Ph.D dissertation, Department of Art and Archaeology, Princeton University.
- Chang Huaiying 2010. Xia Shang shiqi gu Jizhou zhiyu de kaoguxue yanjiu (archaeological research of the ancient Jizhou region during the Xia-Shang period). Ph.D dissertation, School of Archaeology and Museology, Peking University.
- Chang, K.C., 1980. *Shang Civilization*. New Haven: Yale University Press.
- Cook, Constance A. and Paul R. Goldin (eds.) 2016. A Source Book of Ancient Chinese Bronze Inscriptions (Early China Special Monograph Series no. 7). Berkeley: The Society for the Study of Early China.
- Deng Cong (ed.) 1998. *Dongya yuqi* (Jades of East Asia). Hong Kong: Zhongguo kaogu yishu yanjiu zhongxin.
- Durrant, Stephen, Wai-yee Li, and David Schaberg (trans.) 2016. Zuo Tradition: Zuozhuan (Commentary on Spring and Autumn Annals). Seattle: University of Washington Press
- Fitzgerald-Huber, L., 1995. Qijia and Erlitou: the question of contacts with distant cultures. *Early China* 20, 17–67.
- Fitzgerald-Huber, L., 2003. The Qijia culture: paths east and west. *Bulletin of the Museum of Far Eastern Antiquities* 75, 55–78.
- Gao Wei 1993. Zhongyuan Longshan wenhua zangzhi yanjiu (the study of the mortuary tradition of the Central Plains Longshan Culture). In *Zhongguo kaoguxue luncong*, ed. Zhongguo shehui kexueyuan kaogu yanjiusuo. Beijing: Kexue chubanshe, 90-105.
- Gu Fang (ed.) 2005. Zhong*guo chutu yuqi quanji* (a comprehensive collection of excavated jades in China), 15 volumes. Beijing: Kexue chubanshe.
- Guoyu (edited by Shanghai shida guji zhenglizu) 1978. Shanghai: Shanghai guji chubanshe.
- Han Feizi 1919-1922. Siku congkan chubian (vol. 350–2), 20 juan. Shanghai: Hanfenlou.
- He Nu 2013. The Longshan period site of Taosi in southern Shanxi province. In *A Companion to Chinese Archaeology*, ed. Anne P. Underhill. West Sussex: Wiley-Blackwell, 255–77.
- Henansheng wenwu kaogu yanjiusuo 1989. Zhengzhou Shangdai Erligang qi zhutong yizhi (bronze foundry site of the Erligang phase in Zhengzhou Shang city). In *Kaoguxue jikan*, ed. Zhongguo shehui kexueyuan

- kaogu yanjiusuo, vol. 6. Beijing: Zhongguo shehui kexue chubanshe, 100–22.
- Henansheng wenwu kaogu yanjiusuo 2001. Zhengzhou Shangcheng (the Zhengzhou Shang city). Beijing: Wenwu chubanshe.
- Henansheng wenwu kaogu yanjiusuo 2012. *Zhengzhou Xiaoshuangqiao* (the Xiaoshuangqiao site in Zhengzhou). Beijing: Kexue chubanshe.
- Henansheng wenwu kaogu yanjiusuo and Zhengzhoushi wenwu kaogu yanjiusuo 1999. *Zhengzhou Shangdai tongqi jiaocang* (Shang bronze hoards in Zhengzhou). Beijing: Kexue chubanshe.
- Hubeisheng wenwu kaogu yanjiusuo 2014. Hubei Yunxian Liaowadianzi yizhi 2007 niandu fajue jianbao (Preliminary report on the archaeological excavation at the Liaowadianzi site in Yunxian, Hubei). In *Hubei Nanshui beidiao gongcheng kaogu baogaoji* (Collection of reports on the cultural heritage conservation in the Hubei section of the South- to- North Water Diversion Project), eds. Hubeisheng wenwuju, Hubeisheng yiminju, and Nanshui beidiao zhongxian shuiyuan youxian zeren gongsi, vol. 9. Beijing: Kexue chubanshe, 205–24.
- Jaang, Li, Sun Zhouyong, Shao Jing, Li, Min 2018. When peripheries were centres: a preliminary study of the Shimao-centred polity in the loess highland, China. Antiquity 92 (364): 1008–22.
- Jing, Zhichun, Tang Jigen, George Rapp, and James Stoltman 2013. Recent discoveries and some thoughts on early urbanization at Anyang. In A Companion to Chinese Archaeology, ed. Anne P. Underhill. West Sussex: Wiley-Blackwell, 343–66.
- Keightley, David N., 1978. Sources of Shang History: The Oracle-Bone Inscriptions of Bronze Age China. Berkeley: University of California Press.
- Keightley, David N., 1983. The Late Shang State: When, Where and What? In *The Origins of Chinese Civilization*, ed. by David Keightley. Berkeley: University of California Press, 523–64.
- Keightley, David N., 2000. *The Ancestral Landscape: Time, Space, and Community in Late Shang China (ca. 1200–1045 Bc).* (China Research Monograph 53). Berkeley: Institute of East Asian Studies, University of California.
- Lemonnier, Pierre 1993. Technological Choices: Transformation in Material Cultures Since the Neolithic. London: Routledge.
- Li Feng 2006. *Landscape and Power in Early China: The Crisis and Fall of the Western Zhou (1045–771 Bc).* Cambridge: Cambridge University Press.
- Li Ling 2003. Sandai kaogu de lishi duanxiang cong zuijin fabiao de Shangbo Chujian Rong Cheng Shi, Bin Gong Xu he Yu Qiu zhuqi xiangdao de (historical reflection on Three Dynasties archaeology, reflections from the recently published Rong Cheng Shi manuscript of Chu state bamboo slips in the collection of Shanghai Museum, Bin Gong xu vessel, and other bronze vessels). *Zhongguo xueshu* 2, 188–213.
- Li Min 2008. Conquest, Concord, and Consumption: Becoming Shang in Eastern China. Ph.D. dissertation, Department of Anthropology, University of Michigan.
- Li Min 2016. Governing from the Ruins of Xia: Archaeology of Social Memory in Early China. In *Social Theory in*

- Archaeology and Ancient History: The Present and Future of Counternarratives, ed. Geoff Emberling. Cambridge: Cambridge University Press, 291–327.
- Li Min 2018. Social Memory and State Formation in Early China. Cambridge: Cambridge University Press.
- Liang Yun 2017. Lun zaoqi Qin wenhua de laiyuan yu xingcheng (on the origin and formation of the early Qin culture). *Kaoqu xuebao* 2, 149-74.
- Liu, Li and Chen Xingcan 2003. State Formation in Early China. London: Duckworth.
- Liu, Li and Chen Xingcan 2012. *Archaeology of China: From the Paleolithic to the Early Bronze Age*. Cambridge: Cambridge University Press.
- Liu Xu 2014. Xia Shang Zhou Kaogu Tanyan (investigating the archaeology of Xia, Shang, and Zhou). Beijing: Kexue chubanshe.
- Lü Peng 2010. Zhongguo jiayang huangniu de qiyuan jiqi zai zongjiao yishi zhong de yingyong (on the origin and the ritual use of domesticate cattle in early China). Zhongguo shehui kexueyuan gudai wenming yanjiu zhongxin tongxun 20,10-16.
- Nienhauser, William 1994. *The Grand Scribe's Records*. Bloomington: Indiana University Press.
- Okamura, Hidenori 2005. *Chūgoku kodai ōken to saishi* (royal power and sacrifice in ancient China). Tōkyō: Dakuseisha.
- Peng, Ke and Zhu Yanshi 1995. New research on the origin of cowries in ancient China. *Sino-Platonic Papers* 68, 1-21.
- Renfrew, Colin and Liu Bin. 2018. The emergence of complex society in China: The case of Liangzhu. *Antiquity* 92(364): 975-990.
- Qinghaisheng wenwu kaogu yanjiusuo and Beijing daxue kaogu wenbo xueyuan 2016. Guinan Gamatai (The Gamatai site in Guinan, Qinghai). Beijing: Kexue chubanshe.
- Qinghaisheng wenwu guanlichu kaogudui and Zhongguo shehui kexueyuan kaogu yanjiusuo 1984. Qinghai Ledu Liuwan yuanshi shehui mudi (The prehistoric cemetery at Liuwan in Ledu, Qinghai). Beijing: Wenwu chubanshe.
- Sebillaud, Pauline 2014. Settlement Spatial Organization in Central Plains China during the Period of Transition from Late Neolithic to Early Bronze Age (ca. 2500–1050 Bc). Ph.D dissertation, Archaeology and Museology Program, Jilin University.
- Shaanxisheng kaogu yanjiuyuan and Shangluoshi bowuguan 2011. *Shangluo Donglongshan* (the Donglongshan site in Shangluo). Beijing: Kexue chubanshe.
- Shaanxisheng kaogu yanjiuyuan, Yulinshi wenwu kaogu kantan gongzuodui, and Shenmuxian wenti guangdianju 2013. Shaanxi Shenmu Shimao yizhi (the Shimao site in Shenmu, Shaanxi). *Kaogu* 7, 15-24.
- Shaanxisheng kaogu yanjiuyuan, Yulinshi wenwu kaogu kantan gongzuodui, and Shenmuxian wenti guangdianju 2016. Shaanxisheng Shenmuxian Shimao yizhi Hanjiagedan didian fajue jianbao (a preliminary report on the excavation of the Hanjiagedan locus at the Shimao site in Shenmu, Shaanxi). *Kaogu yu wenwu* 4, 14-24.
- Shanxisheng kaogu yanjiusuo 2017. Shanxisheng shi'erwu zhongyao kaogu faxian chutu wenwu (important cultural

- objects from major archaeological finds in Shanxi during the Twelveth Five Year Plan period). Taiyuan: Shanxi renmin chubanshe.
- Sichuansheng wenwu kaogu yanjiusuo 1999. *Sanxingdui jisikeng* (The sacrificial pits at Sanxingdui). Beijing: Wenwu chubanshe.
- Steinke, K. and D. C. Ching (eds.) 2014. *Art and Archaeology of the Erligang Civilization*. Princeton (N.J.): Princeton University Press.
- Su Bingqi 1994. *Huaren long de chuanren zhongguoren* (Chinese and the descendants of dragon). Shenyang: Liaoning daxue chubanshe.
- Sun Hua 2009. Shangdai qianqi de guojia zhengti cong Erligang wenhua he gongshi jianzhu jizhi de jiaodu (the political formation of the Early Shang state, from the perspective of the city site and palatial foundations of the Erligang culture). In *Duowei shiyu Shang wangchao yu Zhongguo zaoqi wenming yanjiu*, eds. by Jing Zhichun, Tang Jigen, and Ken-ichi Takashima. Beijing: Kexue chubanshe, 171-97.
- Tang Jigen 1999. Zhongshang wenhua yanjiu (research on the Middle Shang culture). *Kaogu Xuebao* 4, 393-420.
- Tang, Jigen, Jing Zhichun, and G. Rapp 2000. The largest walled Shang city located in Anyang, China. *Antiquity* 74, 479-80.
- Thorp, Robert L. 1991. Erlitou and the search for the Xia. *Early China* 16, 1-38.
- Thorp, Robert L. 2006. *China in the Early Bronze Age*. Philadelphia: University of Pennsylvania Press.
- Wang Guowei 1917(1959). Yin Zhou zhidu lun (A study of Shang and Zhou political institutions). In *Guantang Jilin*, ed. Wang Guowei, vol. 10. Beijing: Zhonghua shuju, 451-80.
- Wright, Henry T., 2006. Early State Dynamics as Political Experiment. *Journal of Anthropological Research* 62(3), 305-19.
- Xu Hong 2009. *Zuizao de Zhongguo* (the first central state). Beijing: Kexue chubanshe.
- Yang Jie 2008. Erlitou yizhi chutu dongwu yihai yanjiu (a study of the archaeological fauna excavated at the Erlitou site). In *Zhongguo zaoqi qingtong wenhua Erlitou wenhua zhuanti yanjiu*, ed. Zhongguo shehui kexueyuan kaogu yanjiusuo. Beijing: Kexue chubanshe, 470-539.
- Yang Fudou (ed.) 1996. *Sanjin kaogu* vol. 2. Taiyuan: Shanxi renmin chubanshe,
- Yuan Jing and Rowan Flad 2005. New zooarchaeological evidence for changes in Shang dynasty animal sacrifice. *Journal of Anthropological Archaeology* 24(3), 252-70.
- Zhao Baojin (ed.) 2008. *Yicheng xianzhi* (Yicheng gazateer). Taiyuan: Shanxi chuban jituan and Shanxi renmin chubanshe.
- Zhao Huacheng 2014. New Explorations of Early Qin Culture. In *Birth of An Empire: The State of Qin Revisited*, eds. Pines, Yuri, Gideon Shelach, Lothar von Falkenhausen, and Robin Yates. Berkeley: University of California Press, 53-70.
- Zhang Chi, 2017. Longshan-Erlitou Zhongguo shiqian wenhua geju de gaibian yu Qingtong shidai quanqiuhua de xingcheng (Longshan-Erlitou: the reconfiguration

- of prehistoric cultures in China and the formation of Bronze Age globalization). *Wenwu* 6, 50-59.
- Zhang Li 2012. Social transformation from the Longshan period to the Erlitou period: Songshan and beyond. Ph. D. dissertation, School of Archaeology and Museology, Peking University.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 1980. *Yinxu Fu Hao mu* (Fu Hao's tomb at Yinxu). Beijing: Wenwu chubanshe.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 1999. *Yanshi Erlitou* (the Erlitou site in Yanshi). Beijing: Zhongguo dabaike quanshu chubanshe.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 2003. *Zhongguo kaoguxue: Xia Shang juan* (Chinese archaeology: Xia and Shang volume). Beijing: Zhongguo shehui kexue chubanshe.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 2013. *Yanshi Shang cheng* (the Shang city at Yanshi). Kexue chubanshe, Beijing.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 2014. *Erlitou* 1999-2006 (the Erlitou excavations 1999-2006). Beijing: Wenwu chubanshe.

- Zhongguo shehui kexueyuan kaogu yanjiusuo Anyang gongzuodui 2017. Anyang Yinxu Tiesanlu M89 fajue jianbao (A preliminary report on the excavation of the tomb M89 at the Tiesanlu site in Yinxu, Anyang). *Kaogu* 3, 26-36.
- Zhongguo shehui kexueyuan kaogu yanjiusuo and Shanxisheng Linfenshi wenwuju 2015. *Xiangfen Taosi:* 1978-1985 nian kaogu fajue baogao (the Taosi site in Xiangfen: the report for the excavation of the 1978-1985 seasons). Beijing: Wenwu chubanshe.
- Zhongguo shehui kexueyuan kaogu yanjiusuo, Zhongguo lishi bowuguan, Shanxisheng kaogu yanjiusuo 1988. *Xiaxian Dongxiafeng* (the Dongxiafeng site in Xiaxian). Beijing: Wenwu chubanshe.
- Zhongguo shehui kexueyuan kaogu yanjiusuo Shanxi gongzuodui, Shanxisheng kaogu yanjiusuo, and Shanxisheng Linfenshi wenwuju 2003. Taosi chengzhi faxian Taosi wenhua zhongqi muzhang (the discovery of Middle Phase burials at the walled site of Taosi). *Kaogu* 9, 3-6.
- Zou Heng 1980. Xia Shang Zhou kaoguxue lunwenji (the collection of papers on Xia Shang Zhou archaeology). Beijing: Wenwu chubanshe.