

Imperial expansion, public investment, and the long path of history: China's initial political unification and its aftermath

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The Neolithic (ca. 8000–1900 B.C.) underpinnings of early Chinese civilization had diverse geographic and cultural foundations in distinct traditions, ways of life, subsistence regimes, and modes of leadership. The subsequent Bronze Age (ca. 1900–221 B.C.) was characterized by increasing political consolidation, expansion, and heightened interaction, culminating in an era of a smaller number of warring states. During the third century B.C., the Qin Dynasty first politically unified this fractious landscape, across an area that covers much of what is now China, and rapidly instituted a series of infrastructural investments and other unifying measures, many of which were maintained and amplified during the subsequent Han Dynasty. Here, we examine this historical sequence at both the national and macroscale and more deeply for a small region on the coast of the Shandong Province, where we have conducted several decades of archaeological research. At both scales, we examine apparent shifts in the governance of local diversity and some of the implications both during Qin–Han times and for the longer durée.

China | empire | archaeological settlement patterns | political unification

Two millennia ago, two empires, situated at the opposite ends of Eurasia, dominated their respective regions (1). To the west, Rome was in the process of expanding its conquests across Europe, whereas to the east, the Han, having assumed power following the short-lived Qin Dynasty, ruled over most of what is today China. Although at their peaks these polities were roughly comparable in spatial extent, the political legacies that followed their declines were markedly different (2). Whereas the bounds of the Roman Empire were never historically reconstituted, Chinese regions, after the initial Qin unification (221 B.C.), were reintegrated perpetually into one political unit, despite intermittent periods of disunity (3). From the founding of the empire to its early 20th-century dissolution, the area from the Mongolian steppe to the South China Sea was ruled by a single authority for roughly half this period (1, 2, 4).

Why humans cooperate in large, often relatively durable social groupings is a key question for contemporary research (5, 6). Thus the repeated historical renegotiation of China's continent-scale political consolidations remains a scholarly focus after more than a generation of attention (3, 4, 7, 8). One perspective (3, 4) places great emphasis on biogeography and defensive concerns, specifically the persistent, perceived military threat of mobile peoples along China's northern frontier. Although northern invasions did occur periodically during China's history (3, 8) and military threat does provide strong incentives for collective action (3, 9, 10), many questions, however, remain unanswered. Why, in China, was the military challenge met by successful, albeit not always long-lived, political reconstitutions (threats from mobile peoples had no such collaborative effect in Europe) (1)? Why did areas distant and less threatened by the northern frontier reintegrate, and why did the repeated reestablishment of empire reunify a landscape close to the limits achieved originally by the Qin? These unanswered questions belie a problematic but oft-held premise:

that widespread cooperation was somehow easy to attain in China, perhaps because the populace shared a long-standing cultural tradition or ethnic identity (11).

In contrast, we argue that Chinese collective identities (12), which became social building blocks of large-scale political integration, were constructed, as evidenced elsewhere (13, 14), and certainly were not primeval. We recount processes and events, both before and after the initial Qin unification, that underpinned the making of more overarching Chinese collective identities, subsuming strong elements of local customary diversity (15). To assess this sequence, we examine multiple analytical scales. First, we synthesize documentary histories (which generally reflect the perspectives of governing and elite principals) and archaeological overviews to recapitulate the transitional sequence that ran from diverse networks of agricultural communities across China during the Neolithic (ca. 8000–1900 B.C.) to the Qin unification. Then, to assess the ways in which political edicts and governance practices played out for lives on the ground, we review the findings from one region of China (the coast of Shandong Province), eventually conquered and integrated by the Qin–Han, where we are conducting a systemic regional archaeological settlement pattern survey (16–18). Through this multiscale investigation, we evaluate both shifting strategies of governance and the ways that they were negotiated and received in one local context.

Paths from Village Life to Political Unification

Over the last three decades, the advent of new archaeological and archaeobotanical findings has led to a dramatically new understanding of the transitions from mobile gatherer–hunters to sedentary life and farming in China (19, 20). Prior models that envisioned the radiation of agricultural villages from the Central

Significance

During the Bronze Age, the diverse cultural traditions of the earlier Chinese Neolithic were interconnected into more expansive political and economic networks that culminated in the establishment of the region's first empires (Qin and Han). Drawing on documents and archaeology, we outline the processes associated with this political consolidation and steps that were taken during imperial governance at both the national and a specific local scale (coastal Shandong Province), where we have conducted two decades of archaeological settlement pattern research. Through the juxtaposition of macro- and micro-scale analysis, we document human impacts of infrastructural investments, interactive technologies, and ideological tenets that were implemented during the Qin–Han dynasties, which helped establish the rough spatial configuration of what has since been China.

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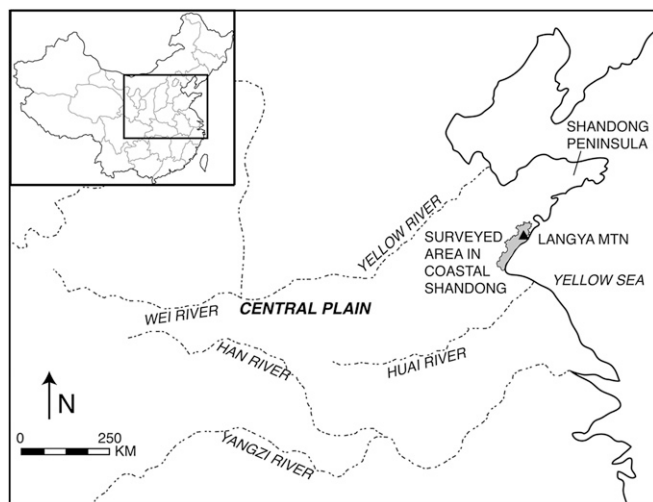


Fig. 1. China, showing places mentioned in text.

Plain out to the rest of the continent have been revised to reflect a deeper time and more spatially mosaic Neolithic era that saw significantly different subsistence preferences, sequences of change, community patterns, modes of leadership, and even symbolic representations across the diverse landscapes of China (21–23). The extent of variation extended well beyond the variability in subsistence regimes that favored rice in the south and varieties of millet in the north. By 5000 B.C., across China, there was marked diversity in the ways that power was funded, materialized, and communicated between emergent leaders and associated subalterns with seemingly more collectively oriented governance in some regions, such as the Central Plain, and more ruler-centric political formations in others, such as the Yangzi delta (21, 24, 25).

By the advent of the second millennium B.C., what is today China was divided into many small polities that, although interacting in down-the-line socioeconomic networks, had distinctive ways of manifesting power and communicating their identities through the use of diverse ceramic and other artifactual traditions (26). Subsequent textual accounts place the roots of early Chinese civilization in the Central Plain, principally with the Shang (Fig. 1). Shang rule was aristocratic, based on the veneration of clan ancestors, access to metal resources, the production and distribution of bronze vessels, writing, and the materialization of powerful symbols. During the second millennium, precocious developments in urbanization, high-intensity metal production, and early writing did occur on the Central Plain (26, 27). The first experiments in metal work for China, however, occurred outside this area (26, 28), and massive population centers also arose elsewhere associated with highly different indigenous cultural traditions (26).

The initially perceived conception of ancient Shang military expansionism has narrowed from earlier interpretations, as detailed archaeological investigations have been undertaken in regions adjacent to the Shang heartland (12, 27). Although involved in the acquisition of metals, and so extended networks of trade, Shang conquest and political expansion was limited in geographical extent. Texts do confirm that the Shang viewed their enemies, especially those who were able to successfully withstand their military forays or lay beyond them, as “barbarian” peoples, with distinctive collective identities (29). For example, according to Shang oracle bones, the barbarian peoples to the east (in Shandong Province) had their own distinguishing rituals, supernatural spirits, religious objects, and ceremonies and sacrifices (29).

The defeat of the Shang by the Zhou, whose homeland was in northwest China (ca. 1046 B.C.), was the first episode of several during Chinese history where outsiders invaded and conquered

the Central Plain, but then adopted many of the governing and cultural practices of that region (12, 30). The epoch of Zhou rule was the longest enduring Chinese dynasty, albeit also a time of cataclysmic change. Many of the institutions and practices that underpinned later notions of Chinese identity and governance first were implemented during that era (30, 31), but the most significant of these shifts occurred after the Western Zhou period (1046–771 B.C.). Western Zhou rulers made near-continuous efforts to vanquish the people of Shandong to the east, and although they conquered some areas and disrupted others, people still referenced in texts as “eastern barbarians” were able to rebuff their military efforts, especially in coastal Shandong (29, 31).

The subsequent centuries of the Zhou period (Eastern Zhou, 771–221 B.C.) were marked by both political consolidation and significant shifts in the principals and practices of governance (12, 30). As typified by the writings of Confucius, there was a shift in leadership and governance from more aristocratic forms that were legitimized through linear clan-based ties to more explicit moral codes and defined social expectations for rulers, the ruled, and those who administered the functions of government (9, 30, 32). An emergent nonhereditary bureaucracy implemented systems of taxation and legal codes (30, 32). The Eastern Zhou Dynasty endeavored to expand its political hegemony in all directions through conquest and political alliance, but met perpetual resistance, and in the latter centuries of this era, centralized authority largely broke down, leaving 5–10 formerly vassal states across the Chinese landscape to vie for power and territorial control during the Warring States era (453–221 B.C.) (Fig. 2) (15, 30, 33). Growth in the size of polities along with the challenges of ruling over increasingly diverse populations in the face of persistent political and military competition likely prompted fiscal reforms and the adoption of the somewhat more collectively oriented policies and practices, such as investments in public goods (9; ref. 34, pp. 338 and 339). As diverse populations were integrated into ever-larger states during this era, the contrasts expressed in documents of the time between Zhou peoples and the barbarians outside the bounds of the empire were sharpened (32). The long Zhou era was the time when “the Chinese defined for themselves a culture as well as a world” (ref. 35, p. 550).

Qin Reforms, Han Programs, and Shifting Notions of Identity

In China, there was no collective Chinese identity at the outset of the Warring States period; rather, traditional affiliations, including language, funerary customs, and notions of time (almanacs), often were associated with local states, albeit polities now

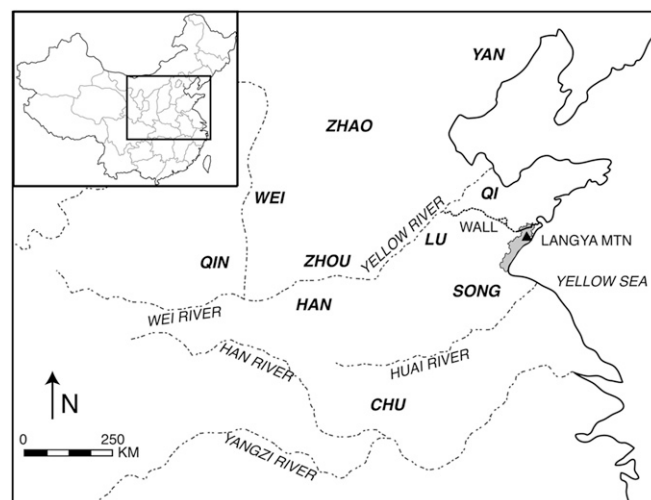


Fig. 2. Polities of the Warring States period and location of the Qi wall.

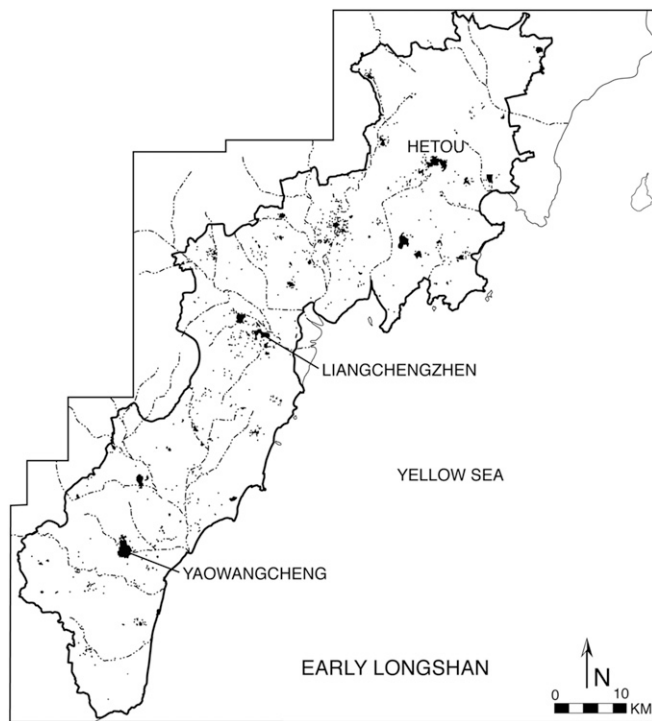


Fig. 3. Early Longshan settlement in southeastern coastal Shandong.

growing in size (12). The Qin state, one of these local polities, was vassal to the Zhou and situated to the northwest of the latter's core (12, 33). During the fourth century B.C., the Qin began an episode of conquest that culminated in China's political unification. Although subsequent Qin imperial rule was exceedingly short (221–207 B.C.), the changes set in motion during these times contingently underpinned a national identity and the course of subsequent Chinese history (12, 15, 33, 36).

With military conquests, the Qin state instituted new governmental policies. An array of initiatives was designed to reorder longstanding social relations, thereby severing the ties between subalterns and aristocratic local lords. Other reforms were meant to strengthen the Qin state by increasing its tax base, expanding its armies, and redirecting the loyalties and affiliations of all its constituents to a national identity, the Qin state (12, 36). The reforms were fundamental and multifaceted, including diminishment of rituals associated with ancestor veneration, binding households into groups of five that were intended to share responsibility for each other's behavior, naming commoners, and placing greater expectations on farmers to join the military (33). Military prowess and governmental service became means for subaltern social mobility (33, 36).

Later Qin changes fundamentally altered the rhythms of life and networks of communication. A uniform system of coinage was introduced. A census was implemented. The written script was unified to enhance communication across language/dialect communities. Registries and tolls were imposed to limit and track personal movement. Daily and yearly almanacs were synchronized, with the impact of harmonizing rituals and commemorations over broader spatial realms (12, 36).

Some Qin directives, both during the century before and immediately after unification, were intended to break down and reorient existing socialized landscapes. Numerous roads were built, and river transport was improved. Efforts were made to connect the walls that had been built at the northern limits of three of the warring states, which became the genesis of China's Great Wall (12, 36). After the defeat of the last competing state, the Qi, in eastern Shandong, 30,000 families were moved to the

coast to establish a new regional capital at Langyatai (17; ref. 37, p. 47). Such mass relocations were ordered elsewhere as well (38).

Overall, the reforms instituted by the Qin were geared for persistent war, conquest, and the bureaucratic redefinition of an expansive domain (39). Qin governance was underpinned by, and in certain respects rejected, prior Zhou statecraft, including certain fundamental social contracts and moral codes (33). Although early texts state that the Qin rulers recognized that the world had changed with unification, their policies and practices were legitimized and guided by claims that the emperor was unique with godlike powers, destined for eternal life (36). Faced with many potential royal rivals and a massive empire, the Qin Dynasty endured only a few years following the death of the first emperor, Qinshihuang (also known as Shihuangdi). Infrastructural investments could not keep up with the rapid tempo of expansion (38).

Dynastic power shifted to the Han (206 B.C.–A.D. 220), who maintained many of the unifying initiatives of their immediate predecessors but readopted key elements of Zhou statecraft and morality, including the "Mandate of Heaven," which proclaimed the emperor's place as a product of supernatural authority rather than cosmic process (36). During the first centuries of the Han Dynasty, although greater degrees of power were shared with local despots, the imperial authority of the centralized empire was reaffirmed (38). Unity and unification were preferred and associated with leadership. The overarching imperial order gave primacy to universality but did not mandate uniformity, thus integrating elements of diversity (40–42).

At the same time, investment continued in many public goods projects begun by the Qin. These initiatives and others pushed and pulled peasants to intensify farming, thereby reaching previously unprecedented levels of agrarian production (43, 44). In the A.D. 2 census, the first preserved, the population of China exceeded 57 million people, which is estimated to be a significant increase from even a few centuries before (38, 45). The Han Dynasty bequeathed political, social, and ideological foundations for empire that endured largely intact for two millennia (38).

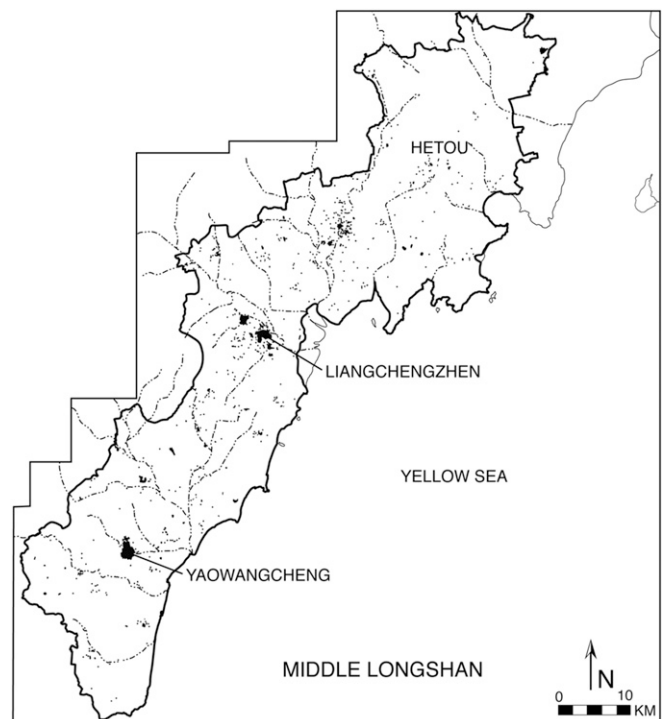


Fig. 4. Middle Longshan settlement in southeastern coastal Shandong.

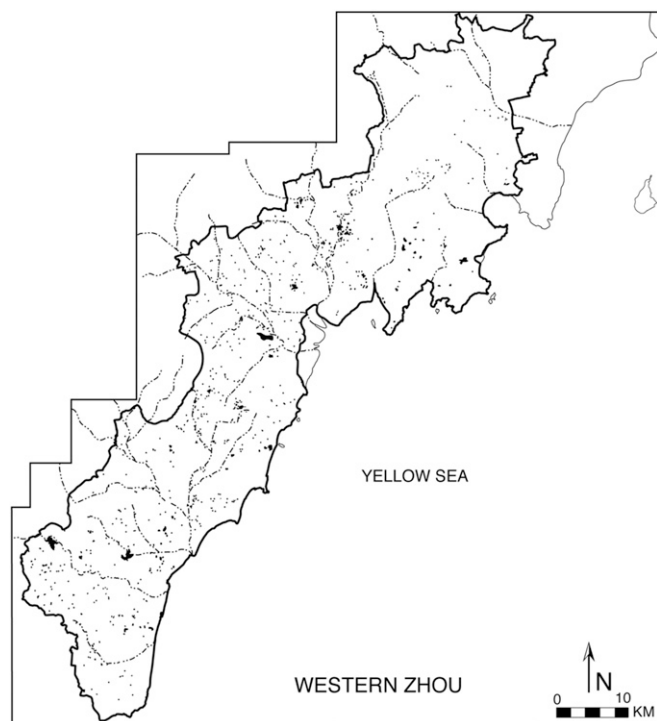


Fig. 5. Western Zhou settlement in southeastern coastal Shandong.

Integrating Diversity: A Microscale Focus from Coastal Shandong

We have outlined the sequence of changes at the national scale that led to the 221 B.C. unification of China and the construction of belief systems, ideological constructs, bureaucratic blueprints, and socioeconomic connections that served as the basis for later episodes of political consolidation. The empirical basis for this account, however, is almost entirely top-down, derived from texts, leaving unaccounted for the perspective and presence of more than 90% of the population. In this section, we cannot give voice to that majority, but we can gain insights into how these massive big-scale transitions interfaced with their lives on the ground for at least one local region, coastal Shandong, that has been systematically investigated through regional archaeological settlement pattern surveys (16–18).

Over the past two decades, our collaborative team has implemented a broad-scale walkover of more than 2,288 sq km, covering a large coastal basin immediately south of the Shandong Peninsula in eastern China (Fig. 1) (16–18). The aim of the archaeological survey is to record broad-brush spatial and temporal perspectives on changing settlement patterns and demography for the focal region by the systematic recording of surface archaeological remnants of ancient settlement that are recovered on the ground and diligently entered on maps (ref. 27, pp. 221–222; 46). Pottery, the most abundant artifact recovered, provides a basic means for dating the surface remnants of past human landscape use and therefore ancient settlement patterns across time. Other visible architectural and archaeological features, such as tomb monuments, platforms, ancient walls, and exposed pits, also are recorded systematically (16, 18).

Based on the settlement survey, coastal Shandong was not inhabited by a wide network of farming communities until the latter half (ca. 3000 B.C.) of the Neolithic period (16, 18). Once the area was settled, however, the population grew rapidly, and by the Early Longshan period (ca. 2600 B.C.) the regional population aggregated around three large settlements—Yaowangcheng in the south, Liangchengzhen in the center, and Hetou in the north—with population rather evenly distributed across the area (Fig. 3). Although the material culture inventory

between these three sectors appears homogeneous, these areas each have somewhat different topographic/environmental settings. The southernmost area is very flat, with wide rivers that empty into the coast, and is used to farm mostly rice today. The middle sector includes somewhat more rolling topography, with narrower watercourses, and the farming economy is mixed, including wheat, with only patches of rice. The northernmost area is most dissected and hilly, although the suite of crops today is broadly similar to that immediately south of it, with greater representation of cold-tolerant plants, such as cabbage.

By the subsequent Middle Longshan period (ca. 2400 B.C.), the population in and around Hetou in the north markedly declined as the two other centers continued to exceed all others in size (Fig. 4). The ceramics and other material culture in the coastal basin were different from that found on the Shandong Peninsula (47), and so we propose that the northern end of our survey region may have become a kind of buffer or shatter zone between people affiliated with these different traditions. Likewise, although the size of these central communities and the density of overall settlement on the coast were not at all indicative of mobile “barbarians referred to in documents,” the ceramic and other artifactual/symbolic traditions on the coast were sufficiently distinct from those found on the Central Plain at this time that they could have been viewed by the people on the opposite side of the Shandong mountains as ethnically “other.” Furthermore, in accord with the texts, we found no artifactual or other material indication of a Shang invasion or direct, persistent presence on the Shandong coast early in the Bronze Age (29).

Later in the Bronze Age, incursions and influences from the West did have significant effects on the Shandong coast, although at least during the Western Zhou period, we do not think that most of the coastal population was incorporated into expansive polities with capitals outside the investigated region. Nevertheless, by late in the second millennium B.C., the settlement patterns on the Shandong coast shifted markedly, as both the size of the largest centers and the region’s overall population declined (Fig. 5). During the Western Zhou period, many of the larger communities were moved to elevated, somewhat

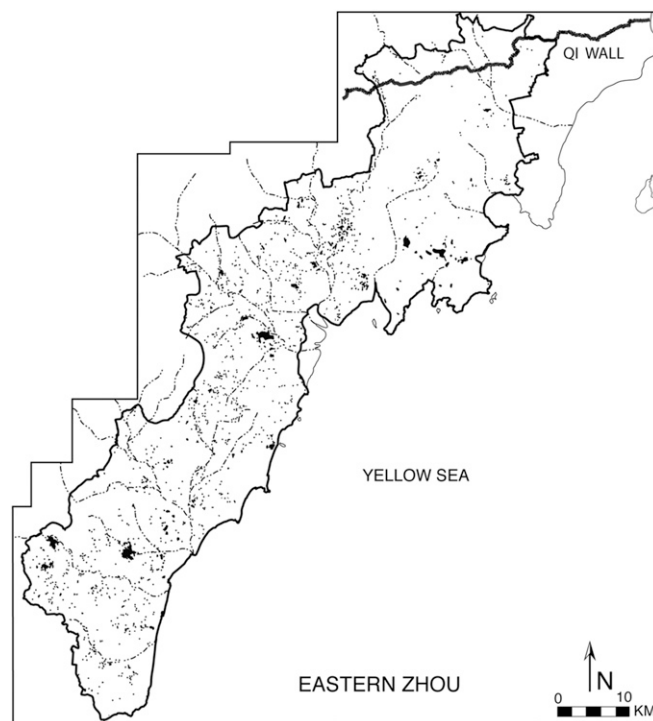


Fig. 6. Eastern Zhou settlement in southeastern coastal Shandong.



Fig. 7. Survey crew walking on the Qi wall as it winds its way up the hilltop in front of them.

defensible, locations along the western edge of the study region. Together these communities define an alignment of settlements that then extends from the western edge of the basin to the coast (north of where Liangchengzhen is situated). The placements of these settlements define or demarcate the southern two-thirds of the surveyed region from the north and west. Most of the area north of this west–east line of settlements continued to be sparsely occupied as it had been since the decline of Hetou following the Early Longshan period.

By Eastern Zhou times, there was another significant shift in the settlement pattern of the coastal basin where we are investigating (Fig. 6). Many of the earlier Western Zhou defensible settlements that seemed to define a coastal domain were abandoned or diminished in size. Yet overall, the coastal population increased. At the same time, the head towns or central places in the region remained relatively small in size. In accord with the political consolidation established in documents, the coastal basin likely was incorporated into one or more larger states whose capitals were located outside the study region. Although the regional population expanded during Eastern Zhou, the population along the northern edge did not, remaining sparse as it was for more than a millennium.

The Great Wall of the Qi State (seemingly China's first great wall), which was erected early in the Warring States era, was built east-to-west across much of what is today Shandong Province (Fig. 2). The rammed earth wall that in places was lined or bolstered by stones extends more than 600 km. It defined the southern limits of the Qi polity, which was the last of the large warring polities to be engulfed by Qin armies before unification. During the survey, we were able to follow the easternmost extension of the Qi wall for 50 km as it ran across the northern limits of our study region (Fig. 7). Therefore, the political border that the wall demarcated in Warring States times likely had been a kind of boundary for more than 1,500 years. At least for its easternmost 50 km, the Qi wall was erected along ridge tops and followed the highest contours possible, descending to lower elevations only when there was no other option. The Qi wall was not exceedingly tall. Thus the wall likely was most effective as a means to slow down the giant military infantry units that are reported in textual accounts of the Warring States period (48).

Ultimately, after the wall was breached, and the Qi state defeated by the Qin, Qinshihuang visited these new conquests. He climbed Langya Mountain, overlooking the coast, and erected a stela to proclaim his rule (17, 49, 50). Later, according to textual accounts, as an expression of his delight with the region and the sea, he relocated 30,000 families to Langyatai (37; ref. 38, p. 47). In line, however, with other programs to construct a more unified imperial domain, it seems likely that Qinshihuang was intent to break down long-lived cultural and political divisions by placing a hub of economic and political activity in

an area that for generations was settled sparsely. These Qin reforms, largely reaffirmed by the Han, appear to have achieved their aim. The population grew rapidly in the region during Qin–Han, with the greatest expansion in the northern sector, surrounding the emergent local capital of Langyatai (Fig. 8). Han settlements were established in what was the earlier shatter zone, as the harbor and salt resources around the provincial capital fostered local economic growth (17). Across the coastal basin, the Han population reached levels not achieved earlier. A number of towns grew up near natural routes and passes to the west. These new second-tier settlements likely served as nodal communities that linked the coast to more inland areas at a time of increasing communication and socioeconomic integration.

Concluding Thoughts and Implications

By examining (at two analytical scales) diachronic change in China from the Neolithic to the nation's first episode of unification, we have documented how a diverse landscape inhabited by people with a multitude of different traditions and economic pursuits were ultimately unified into one of the largest imperial domains that the world had seen to that date. There was nothing preordained or strictly biogeographical when these consolidating trends first occurred, nor were such factors sufficient when the rulers and people of China reintegrated themselves into a single polity in the subsequent two millennia. Likewise, variation in dialect, culinary traditions, and other customs were maintained, but these elements of diversity did not crystalize into long-standing episodes of political fragmentation (51). Rather, the globally unique tendency for China to be politically unified so repeatedly at a near continental scale (1–4) was in large part the consequence of the social construction of an amalgam of broadly held political ideals, institutional structures and ties, unified communication technologies and commerce networks (ref. 52, p. 23), and collective traditions and memories that were initially negotiated and adopted during the Shang, Zhou, Qin, and Han eras. Although these practices and institutions certainly did not remain entirely stagnant, they did become part of the fabric of

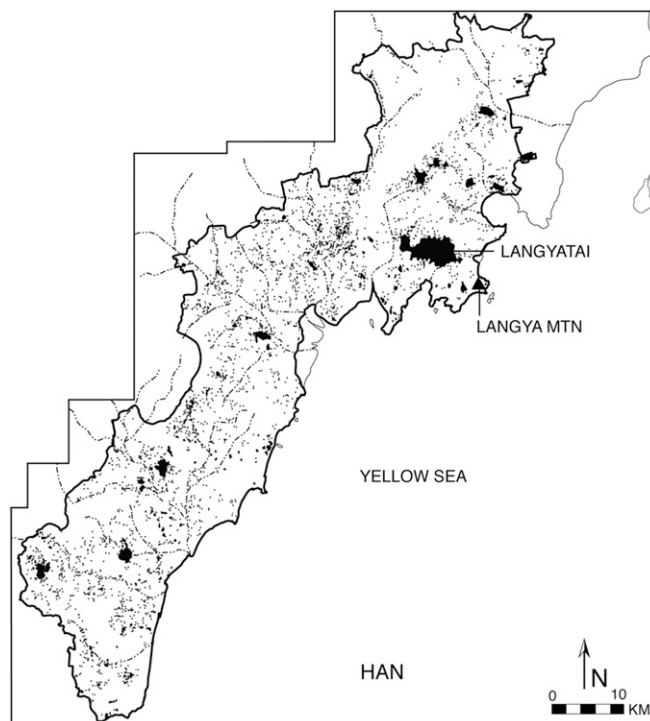


Fig. 8. Qin–Han settlement in southeastern coastal Shandong.

Chinese collective identities underpinning subsequent efforts for the reformulation and sustenance of political unity.

More specifically, the forging of new moral codes and sociopolitical contracts and institutions during the Bronze Age that reworked relations between states, elites, and ordinary citizens was a foundation and catalyst for subsequent and repeated episodes of political consolidation (34, 39). In Europe during a comparable period of political expansion, Roman governance, with mostly smaller scale enemies and a focus on resource extraction, did not institute or negotiate comparable shifts in these fundamental interpersonal relations (ref. 1, pp. 16 and 17; 53). During the Roman Empire, patronage and patronism remained key pillars of imperial power (1), and the legacy after imperial collapse left a much more culturally and politically fragmented landscape. As a consequence, subsequent

military threats that required defensive responses served as spurs for more collective action and political response in China, whereas parallel threats still today do not have a comparable effect at the opposite end of the Eurasian land mass.

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- Scheidel W (2009) *From the "Great Convergence" to the "First Great Divergence."* *Rome and China: Comparative Perspectives on Ancient World Empires*, ed Scheidel W (Oxford Univ Press, New York), pp 11–23.
- Ko CY, Koyama M, Sng TH (2014) *Unified China and Divided Europe*. Available at srn.com/abstract=2382346. Accessed September, 20, 2014.
- Turchin P (2009) A theory for the formation of large empires. *Journal of Global History* 4(2):191–217.
- Ko CY, Sng TH (2013) Regional dependence and political centralization in imperial China. *Eurasian Geography and Economics* 54(5-6):470–483.
- Kennedy D, Norman C (2005) What don't we know? *Science* 309(5731):75.
- Carballo DM, Roscoe P, Feinman GM (2014) Cooperation and collective action in the cultural evolution of complex societies. *J Archaeol Method Theory* 21(1):98–133.
- Lattimore O (1967) *Studies in Frontier History: Collected Papers 1928-1958* (Mouton, Paris).
- Barfield TJ (1989) *The Perilous Frontier: Nomadic Empires and China* (Blackwell, Oxford).
- Blanton RE, Fargher L (2008) *Collective Action in the Formation of Pre-Modern States* (Springer, New York).
- Turchin P (2006) *War and Peace and War: Life Cycles of Imperial Nations* (Pi Press, New York).
- Eisenstadt SN, Giesen B (1995) The construction of collective identity. *Europ J of Social* 36(1):72–102.
- Yates RDS (2001) Cosmos, central authority, and communities in the early Chinese empire. *Empires: Perspectives from Archaeology and History*, eds Alcock SE, D'Alroy TN, Morrison KD, Sinopoli CM (Cambridge Univ Press, Cambridge, UK), pp 351–368.
- Nagel J (1994) Constructing ethnicity: Creating and recreating ethnic identity and culture. *Soc Probl* 41(1):152–176.
- Emberling G (1997) Ethnicity in complex societies: Archaeological perspectives. *J Archaeol Res* 5(4):295–344.
- Pines Y, Falkenhausen LV, Shelach G, Yates RDS (2014) General introduction: Qin history revisited. *Birth of an Empire: The State of Qin Revisited*, eds Pines Y, Falkenhausen LV, Shelach G, Yates RDS (University of California Press, Berkeley, CA), pp 1–34.
- Underhill AP, et al. (2008) Changes in regional settlement patterns and the development of complex societies in southeastern Shandong, China. *J Anthropol Archaeol* 27(1):1–29.
- Feinman GM, Nicholas LM, Hui F (2010) The imprint of China's first emperor on the distant realm of eastern Shandong. *Proc Natl Acad Sci USA* 107(11):4851–4856.
- Fang H, et al. (2012) *Archaeological Report of Regional Systematic Survey in the Southeast Shandong* (Science Press, Beijing). Chinese.
- Cohen DJ (2011) The beginnings of agriculture in China: A multiregional view. *Curr Anthropol* 52:5273–5293.
- Zhao Z (2011) New archaeobotanic data for the study of the origins of agriculture in China. *Curr Anthropol* 52:5295–5306.
- Liu L (2004) *The Chinese Neolithic: Trajectories to Early States* (Cambridge Univ Press, Cambridge, UK).
- Falkenhausen LV (2007) Review of *The Chinese Neolithic: Trajectories to Early States*. *Harv J Asiat Stud* 67(1):178–193.
- Bettinger RL, Barton L, Morgan C (2010) The origins of food production in North China: A different kind of agricultural revolution. *Evol Anthropol* 19(1):9–21.
- Li X (2013) The later Neolithic period in the central Yellow River valley area. *A Companion in Chinese Archaeology*, ed Underhill AP (Blackwell, Chichester, UK), pp 213–235.
- Qin L (2013) The Liangzhu culture. *A Companion in Chinese Archaeology*, ed Underhill AP (Blackwell, Chichester, UK), pp 574–596.
- Bagley R (1999) Shang archaeology. *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*, eds Loewe M, Shaughnessy EL (Cambridge Univ Press, Cambridge, UK), pp 124–231.
- Liu L (2009) State emergence in early China. *Annu Rev Anthropol* 38:217–232.
- Yao A (2010) Recent developments in the archaeology of southwestern China. *J Archaeol Res* 18(3):203–239.
- Fang H (2013) The eastern territories of the Shang and Western Zhou: Military expansion and cultural assimilation. *A Companion in Chinese Archaeology*, ed Underhill AP (Blackwell, Chichester, UK), pp 473–492.
- Falkenhausen LV (2006) *Chinese Society in the Age of Confucius (1000-250 BC): The Archaeological Evidence* (Cotsen Institute, Los Angeles).
- Feng L (2006) *Landscape and Power in Early China: The Crisis and Fall of the Western Zhou 1045-771 BC* (Cambridge Univ Press, Cambridge, UK).
- Falkenhausen LV (1999) The waning of the Bronze Age: Material culture and social developments. *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*, eds Loewe M, Shaughnessy EL (Cambridge Univ Press, Cambridge, UK), pp 450–544.
- Shelach G, Pines Y (2006) Secondary state formation and the development of local identity: Change and continuity in the State of Qi (770-221 BC). *Archaeology of Asia*, ed Stark MT (Blackwell, Malden, MA), pp 202–230.
- Deng KG (2012) The continuation and efficiency of the Chinese fiscal state, 700 BC-AD 1911. *The Rise of Fiscal States: A Global History, 1500-1914*, eds Yun-Casilla B, O'Brien PK (Cambridge Univ Press, Cambridge, UK), pp 335–352.
- Hsu CY (1999) The Spring and Autumn period. *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*, eds Loewe M, Shaughnessy EL (Cambridge Univ Press, Cambridge, UK), pp 545–586.
- Lewis ME (2007) *The Early Chinese Empires: Qin and Han* (Harvard Univ Press, Cambridge, MA).
- Sima Q (1993) *Qin Dynasty, Records of the Grand Historian*, trans Watson B (Columbia Univ Press, New York), Rev Ed, Vol 1.
- Bodde D (1986) The state and empire of Ch'in. *The Cambridge History of China, Volume 1: The Ch'in and Han Empires, 221 BC-AD 220*, eds Twitchett D, Loewe M (Cambridge Univ Press, Cambridge, UK), pp 20–102.
- Kiser E, Cai Y (2003) War and bureaucratization in Qin China: Exploring an anomalous case. *Am Sociol Rev* 68(4):511–539.
- Loewe M (1994) China's sense of unity as seen in the early empires. *Toung Pao* 80(1/3): 6–26.
- Lewis ME (2006) *The Construction of Space in Early China* (State Univ of New York Press, Albany, NY).
- Pines Y (2005-2006) Bodies, lineages, citizens, and regions: A review of Mark Edward Lewis' *The Construction of Space in Early China*. *Early China* 30:155–188.
- Bray F (1979-1980) Agricultural technology and agrarian change in Han China. *Early China* 5:3–13.
- Anderson EN (1989) The first green revolution: Chinese agriculture in the Han Dynasty. *Food and Farm: Current Debates and Policies*, eds Gladwin C, Truman K (Univ Press of America, Lanham, MD), pp 135–151.
- Duan CQ, Gan XC, Wang J, Chien PK (1998) Relocation of civilization centers in ancient China: Environmental factors. *Ambio* 27(7):572–575.
- Kowalewski SA (2008) Regional settlement pattern studies. *J Archaeol Res* 16(3): 225–285.
- Luan F (1997) On phases and regional types of the Haidai Longshan culture. *Collected Works on the Archaeology of the Haidai Area*, ed Luan F (Shandong Univ Press, Jinan, China), pp 229–282. Chinese.
- Lewis ME (1999) Warring states: Political history. *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*, eds Loewe M, Shaughnessy EL (Cambridge Univ Press, Cambridge, UK), pp 587–650.
- Kern M (2007) Imperial tours and mountain inscriptions. *The First Emperor*, ed Portal J (British Museum Press, London), pp 105–113.
- Sima Q (1993) *Han Dynasty, Records of the Grand Historian*, trans Watson B (Columbia Univ Press, New York), Rev Ed, Vol 2.
- Skinner GW (1985) Presidential address: The structure of Chinese history. *J Asian Stud* 44(2):271–292.
- Skinner GW (1977) Introduction: Urban development in imperial China. *The City in Late Imperial China*, ed Skinner GW (Stanford Univ Press, Stanford, CA).
- Ertman T (1997) *Birth of the Leviathan* (Cambridge Univ Press, Cambridge, UK).