Rethinking Erlitou: legend, history and Chinese archaeology

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Erlitou is one of the most important settlements in early China, a prime site for the investigation of early cities and states. Traditionally, it has been described, dated and explained in terms of dynastic succession – the dynasties of the Xia and the Shang being the ethnically-distinct actors and prime movers that made history here. In a brilliant analysis, the authors decouple the semi-legendary textual histories from the up-to-date archaeological sequence at Erlitou itself. This article strikes a blow for archaeological reasoning that will be felt far beyond the Yellow River.

Keywords: China, Neolithic, Bronze Age, Xia, Shang, Erlitou

Introduction: Erlitou and its dynastic affiliations

The Erlitou site in the Yiluo basin of the Yellow River is the primary centre of the Erlitou culture (*c*. 1900-1500 BC), representing the largest urban settlement of the earliest archaic state developed in northern China. Discovered in the 1950s, Erlitou has been subjected to intensive excavations, revealing complex spatial layout including a palatial complex, elite and commoners' burials, residential areas, and workshops for making bronzes, turquoise, pottery and bone objects (e.g. Institute of Archaeology 1999; Xu 2004; Liu 2006). The discovery of these features, along with many elaborate bronze, jade and ceramic artefacts, points to a highly developed civilisation. Since archaeology is a text-oriented discipline in China (Falkenhausen 1993), the Erlitou site has continuously provoked controversial debates about its ethnic and historical identity, particularly its relationships with early dynasties, the Xia and Shang as recorded in ancient texts, which are believed to represent two different ethnic groups. Among Chinese archaeologists, the debates primarily focus on questions of historical identity, such as whether Erlitou was a capital city of the Xia or of the Shang, and there is a strong sense among specialists that it is their duty to determine Erlitou's exact dynastic affiliation. Indeed, it is a general methodology in Chinese archaeology to use dynastic chronology from later textual records as blueprints for archaeological investigations and interpretations. Although different studies have focused on various versions of the chronology from ancient texts, nevertheless all implicitly believe that one of the chronologies ought to be correct. This method has a fundamental problem. It lacks a critical examination of some general problems relating to the nature of prehistoric royal genealogies, which were derived from oral history rather than reliable written chronicles.

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The recently completed Xia Shang Zhou Chronology Project (Lee 2002) assigned the Xia and Shang dynasties to *c*. 2070-1600 BC and *c*. 1600-1046 BC, respectively, while dating the Erlitou culture to *c*. 1880-1520 BC (Xia Shang Zhou Chronology Project Team 2000). Since the beginning of Xia predates the Erlitou culture, and the Erlitou culture crosscuts the Xia and Shang dynasties, these discrepancies have led to endless debates on which archaeological culture corresponds to the early Xia and which phase of the Erlitou culture represents the Xia-Shang transition (Liu 2001). The Erlitou culture is further divided into four phases, almost all of which have been identified, by different scholars, with the Xia-Shang transition. The most recent dominant opinion, by no means universally agreed, among the majority of Chinese archaeologists, views the time between Phase III and Phase IV as the period of this historical changeover. Since Erlitou Phase IV is believed to have shown a marked decline in population and the abandonment of some palatial structures, it is taken as a scenario of dynastic collapse (Gao *et al.* 1998).

In recent years, excavations and surveys at and around Erlitou have revealed much new data relating to the development and decline of this important urban centre (Erlitou Working Team 2004a & b; 2005a & b; Xu *et al.* 2004). These discoveries, nevertheless, have not helped to solve the mystery of Erlitou's dynastic affiliations, but have only made the problems more complex. In this article we will first summarise the new archaeological data, and then analyse the problems involved in the traditional approaches to the Erlitou site. We argue that many Chinese archaeologists have been misled by legendary chronologies, and it is now time to change this research orientation.

Development and decline of Erlitou

The Erlitou site, extending to 300ha as currently known, is today located on the southern bank of the Luo River (Figure 1). Years of intensive agricultural and land levelling activities have removed some upper levels of the ancient deposits, and large parts of the site are covered by three large modern villages. During the decades of excavations, several large rammed-earth foundations were discovered; these remains are protected, meaning that no further excavation can be conducted to reveal earlier deposits beneath them. As a result, only limited areas of the site can be excavated today. Recent archaeological investigations at Erlitou have attempted to overcome these difficulties, providing much new information about changes in the spatial layout of the site through time.

Erlitou was first occupied during the Neolithic period by three small late Yangshao culture (*c*. 3500-3000 BC) settlements and subsequently by one small early Longshan culture (*c*. 3000-2500 BC) settlement (Figure 1). There was a gap of about 600 years between the abandonment of the Longshan settlement and the arrival of new groups of people who were the carriers of the Erlitou culture around 1900 BC. This settlement then developed into the primary centre in the Yiluo region before finally being reduced to an ordinary village sometime during the Erligang period (*c*. 1600-1250 BC) and subsequently being completely abandoned.

The Erlitou culture lasted for about 360 years and is usually divided into four phases, although it is difficult to determine the exact duration for each phase.

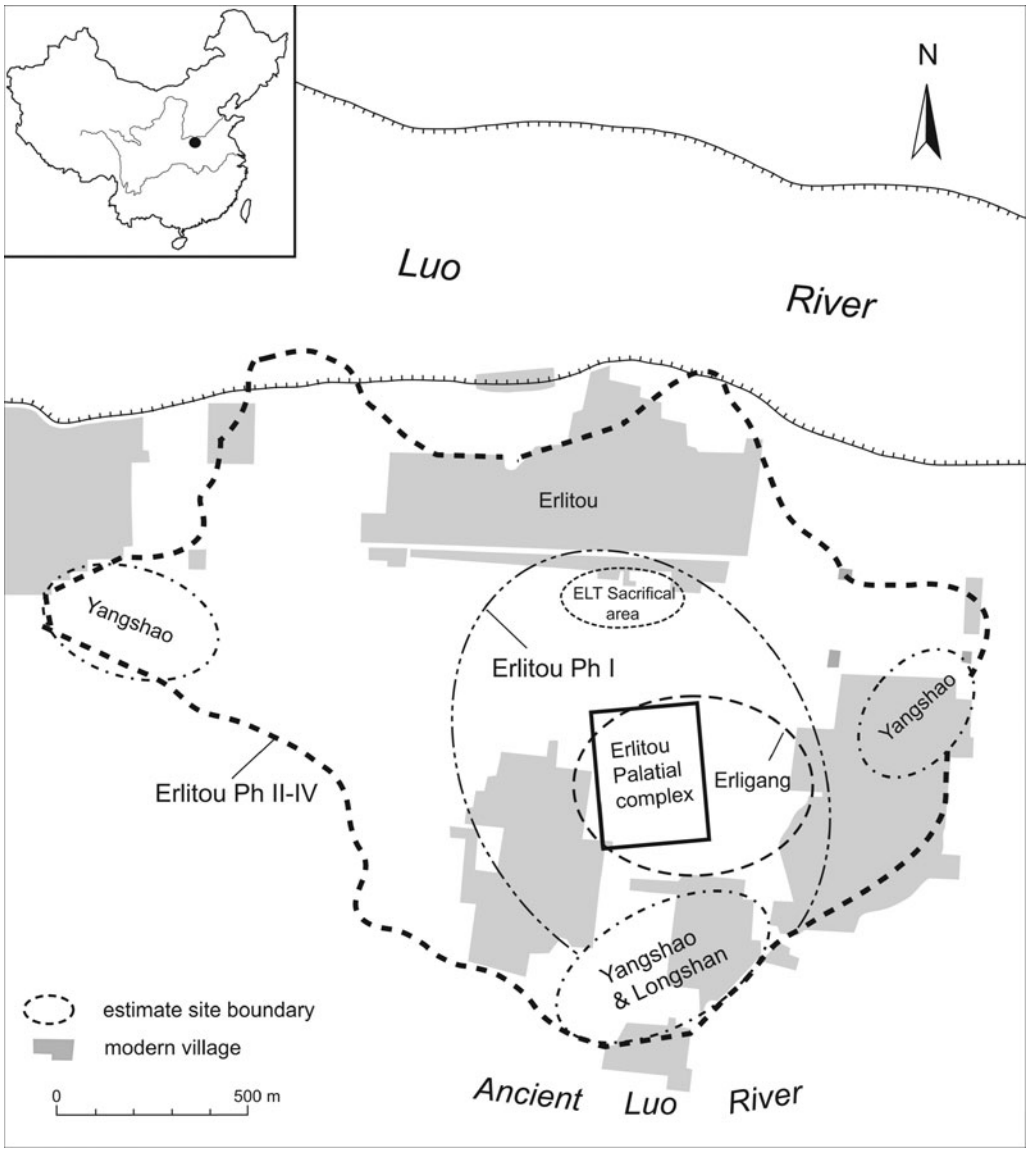


Figure 1. Estimated occupation areas at the Erlitou site, from the Yangshao to Upper Erligang period.

In ***Erlitou Phase I***, the site measured at least 100ha (Figure 1) and appears to have grown into the largest centre in and beyond the Yiluo region. Such a rapid expansion can only be explained by migration from surrounding areas. Artefacts unearthed from this phase include many elite items, such as white pottery, ivory and turquoise artefacts and bronze tools (Institute of Archaeology 1999), but the settlement layout is unclear, due to severe disturbance of the Phase I deposits by later occupations.

Erlitou Phase II: The site expanded to its maximum size, 300ha, and a palatial complex (12ha) emerged in the south-eastern area, marked by four intersecting roads, about 20m wide and extending on a N-S and E-W axis (Figure 2). A number of medium-sized rammed-earth

foundations and burials spread over the north-eastern and north-western areas outside the palatial complex. Within the complex, there were two rammed-earth foundations (Palaces no. 3 and no. 5) situated side by side, a drainage system made of wooden structures, and a large area of rammed-earth in the south of Palace no. 5. While the size of Palace no. 5 is unclear due to the lack of excavation, Palace no. 3 appears to have been a large complex of structures, no less than 150m long and 50m wide, consisting of three courtyards (Figure 2). Two groups of elite burials were unearthed from the courtyards. Rich grave goods from these burials include bronzes, jades, lacquer wares, white pottery ornaments, proto-porcelain vessels, turquoise artefacts, and shell and cowry ornaments. Burial no. 3, for example, contained a skeleton of an adult male, 30-35 years in age, which was accompanied by a large number of grave goods, including bronzes, jades, lacquer, ceramics and cowries (Figure 3). A bronze bell was found near the hand of the occupant, and a dragon-shaped artefact made of about 2000 pieces of turquoise and jade, which may have been originally attached to some perishable material, was placed on top of the skeleton (Figure 4). This is the first time that elite burials were found within the palatial complex at Erlitou (Erlitou Working Team 2005b).

A section of parallel wagon tracks, more than 5m long in the excavation area, was found along the road at the southern side of the palatial complex. This is the earliest evidence for the use of a wagon in China, but it is unclear whether animals or humans were used to pull the vehicles. The distance between the wheel tracks is 1m, suggesting that the Erlitou vehicles were much smaller than the late Shang chariots unearthed at Anyang, which were drawn by horses (Erlitou Working Team 2004b).

A bronze casting foundry was established in the south-east of the site, about 300m south of the palace complex's southern road. Two sections of rammed-earth wall, about 1m wide and connected at a near-90° angle, have been found to the south of the palatial complex; the remaining E-W wall measures more than 100m, and the N-S wall more than 80m. These walls may have been parts of an enclosure; unfortunately, the southern section of its eastern wall is covered by a modern village, and its putative western and southern walls are to be investigated (Figure 2). Although the size of this enclosure is unknown, judging by its location it may have been built to embrace the area where the bronze foundry was located. There may have been other types of craft production located within this enclosure, such as turquoise workshops, which currently date to Phase III. Given that many turquoise artefacts from Erlitou Phase II have been unearthed at the site, it is possible that those objects were made on site.

These remains indicate that Phase II witnessed the beginning of full-fledged prosperity at this urban centre, and the primary urban planning had already been completed.

Erlitou Phase III: The urban settlement appears to have continued to prosper, and the general urban layout, as defined by the locations of the palace complex, roads, bronze workshops and workshop enclosure, remained consistent with that of Phase II (Figure 2). However, there are several new developments. First, rammed-earth walls, about 2m in width and in parallel to the four intersecting roads were constructed around the palatial complex (10.8ha), forming a palatial town. Second, Palaces no. 3 and no. 5 were abandoned, and Palace no. 3 was replaced with two structures (Palaces no. 2 and no. 4) situated along a N-S axis on the eastern side of the palatial town. Meanwhile, a group of structures was built in the

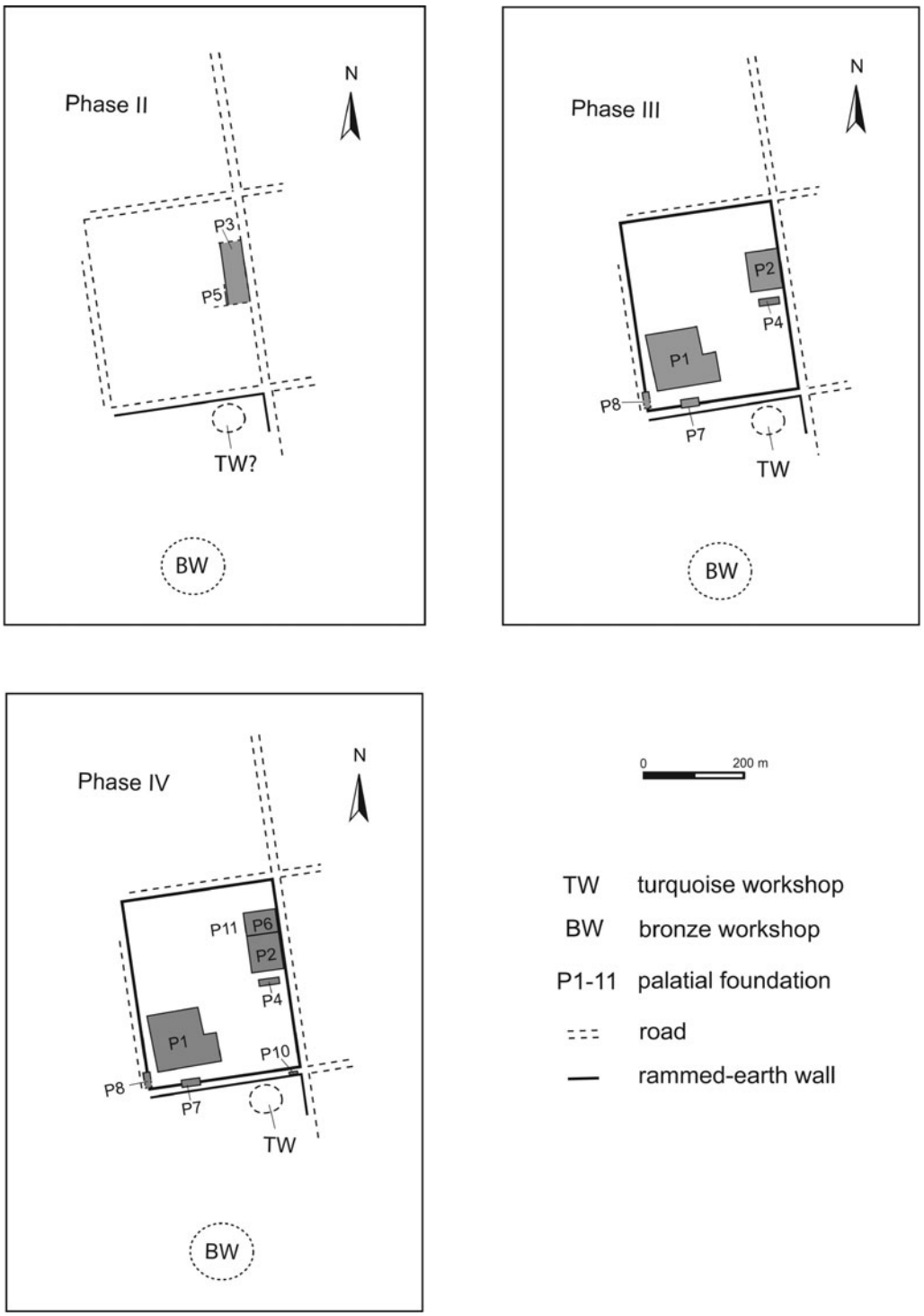


Figure 2. Palatial complex and prestige-goods production area at Erlitou, Phases II-IV.

south-western part of the palatial town (Palaces no. 1, 7, 8, 9), amongst which Palaces no. 1 and no. 7 appear to have also been situated along a N-S axis. This layout marks the beginning of a highly regulated palatial pattern. Third, while the new palatial enclosure and a number of large buildings were constructed, domestic features, such as water wells and storage pits, were dramatically reduced in number within the palatial town. This phenomenon seems to point to special functions associated with the palatial area, which became a more privileged and exclusive locale, occupied by small elite groups for conducting particular activities. Fourth, within the workshop enclosure, an area of some 1000m^2 situated in the northern section appears to have been devoted to the production of turquoise artefacts, indicated by the distribution of turquoise wasters in the area. A number of turquoise-inlaid bronze plaques found in elite burials at Erlitou may have been the products of these workshops. In addition, the bronze foundry began to produce ritual vessels, mainly *jue* and *he* drinking vessels.

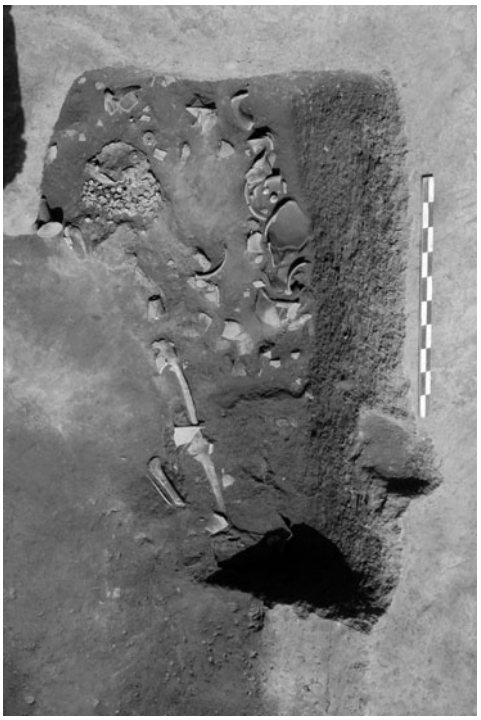


Figure 3. Burial no. 3 found within the palatial complex at Erlitou, Phase II.



Figure 4. Turquoise dragon and bronze bell found in burial no. 3 at Erlitou, Phase II.

Erlitou Phase IV and ***Lower Erligang***: Cultural deposits of this stage are concentrated in the central area and scattered in the periphery of the site. However, the settlement size remains the same as during the previous phase (300ha). All the palatial structures built in Phase III, the turquoise and bronze workshops, the palatial and workshop enclosures, and the four intersecting roads were continuously in use (Figure 2). In addition, at least three new structures were constructed. In the eastern part of the palatial town, Palace no. 6 (2500m^2 in area), an architectural compound, was built to the north of Palace no. 2; Palace no. 11, whose size is to be determined, was built immediately west to Palace no. 6. On the eastern section of the road between the palatial complex and workshop enclosure was a newly constructed rectangular-shaped rammed-earth foundation, Palace no. 10; it measured 20m in length and 9m in width (Zhao *et al.* 2006).

In the turquoise workshop area, a pit filled with several thousand pieces of turquoise wasters was found. Many of the pieces show traces of cutting, grinding and drilling. The bronze foundry continued to produce tools, weapons and ritual vessels, and the bronze vessels unearthed from the Phase IV burials increase in number, type and quality as compared to previous phases.

Erlitou Phase IV used to be interpreted as the beginning of the site's decline, mainly because the largest palace (no. 1) appeared to have been abandoned. However, new excavation and research suggest that the situation was just the opposite. As all the Phase III palaces, including Palace no. 1, were still functioning, and new constructions were ongoing (Palaces no. 6, 10, 11), Erlitou seems to have been continuously developing as the largest urban centre in the Yiluo region during Phase IV.

Few remains at Erlitou are datable to the early phase of the Lower Erligang period (*c*. 1600-1450 BC). There are two possible explanations: First, the site may have been depopulated for a period of time after Phase IV and before the Upper Erligang phase. Second, population declined but did not disappear, and residents may have continued to produce and use pottery of Erlitou Phase IV style until the Upper Erligang phase, thus giving the impression that the Lower Erligang phase is nearly absent from the archaeological record. Given that the dates of Erlitou Phase IV (*c*. 1564-1521 BC) and Lower Erligang period (*c*. 1600-1450 BC) are partially overlapping (Liu 2001), the second explanation is more plausible.

Upper Erligang phase: Cultural deposits of this phase (*c*. 1450-1300 BC) are concentrated in the area of the previous palatial town, measuring about 30ha in area (Figure 1). The Erligang remains include small houses, ash pits and burials, which are superimposed on, or have broken into, the Erlitou palace foundations. This urban centre seems to have been reduced to an ordinary village after some 300 years of prosperity.

There is no evidence that Erlitou's collapse was related to fire or warfare, but exactly how it happened is still unclear. What is certain is that production of elite-goods, particularly of bronzes, completely stopped at the site after Phase IV. This coincided with the rise of a walled city at Zhengzhou (13km^2 in size), some 85km east of Erlitou, where the production of bronze tools, weapons and ritual vessels was a major urban component (Liu & Chen 2003: 92-99; Yuan & Zeng 2004). The metallurgical technology and bronze styles found at Zhengzhou show strong continuities with those of Erlitou (Zhu 1995), suggesting a close relationship between the two centres. Erlitou's decline may have been a strategic decision,

involving migration of the Erlitou urban population, including craftsmen, to the Zhengzhou area.

Erlitou urban planning and population

Erlitou shows some regular patterns in urban planning. Its southern boundary was defined by the ancient Luo River (Figure 1), suggesting that the settlement had easy access to the river system, which was probably one of the primary means for intra- and inter-regional transportation.

The palatial complex was located almost in the centre of the site, and residences mixed with burials belonging to the minor elite were concentrated in the east and south-east areas adjacent to the palatial complex. This general area, inhabited by elite groups of different ranks, witnessed the longest occupation at the site, forming the core of the urban expansion. A ceremonial area appears to have been situated in the north to the palatial complex, as indicated by special forms of buildings and attached burials (Figure 1). Enclosed bronze and turquoise workshops were located immediately south of the palatial complex, suggesting close controls of the production of these prestige goods by the high elite, and the craftsmen may have been attached specialists. This core area of the Erlitou site (including the palatial complex, ceremonial area, attached craft workshops, and elite residences and burials) measures about 70ha in area and dates from Phase II to Phase IV. Commoners' residential areas appear to have been sited in the western and northern periphery of the site, as indicated by small houses and burials (Xu *et al.* 2004: 26).

Erlitou seems to lack regular burial areas designated for the dead. Excavations at Erlitou have yielded isolated tombs or small burial clusters consisting of a few tombs arranged in rows. These tombs have been found all over the site in all contexts – in palatial courtyards, near or underneath ordinary residential houses, and under roads. None of these burial locations appears to have been used for a relatively long period of time, as tombs and houses are often superimposed on each other. It has been argued by anthropologists that a formal bounded disposal area, used exclusively for the dead, is indicative of a society with a corporate group structure in the form of a lineal descent system (Goldstein 1981: 61). It is notable that many Neolithic sites (Liu 1996), and the late Shang capital at Anyang (Tang 2004), have revealed well-defined lineage cemeteries as an important component of settlements. The burial pattern at Erlitou is in sharp contrast to this long-held mortuary tradition in ancient China. Therefore, the lack of such an organised and formal disposal area at Erlitou may suggest a dearth of such lineal descent systems.

Erlitou's mortuary pattern, or rather, its lack of pattern, may be related to the population components of this urban centre. Given that Erlitou was most likely first formed by populations which came from the surrounding areas, it is not surprising that these first migrants came as many different small kin groups, with no overarching kinship tie connecting all members of the urban community. The lack of stable cemetery sites and frequent alterations from burials to houses in the same areas may also suggest that a population tended to move frequently. This scenario seems to echo a general settlement pattern in the Erlitou culture region, meaning that rapid territorial expansion was accompanied by a population movement, who were the Erlitou material carriers, moving

to the resource-rich periphery (Liu & Chen 2003). We argue that the Erlitou population was characterised by many small and unrelated kin groups, who were bound together by an urban setting. What remains unclear, however, is to what extent these Erlitou population groups were involved in farming or associated with particular types of craft specialisation. Further excavation and research will be able to provide more data to answer these questions.

The Erlitou settlement and burial patterns suggest that the Erlitou population could not have derived from one kin-related ethnic group, such as the assumed Xia or Shang people, as many have believed. It is not surprising, therefore, that efforts made by archaeologists to search for a single ethnic origin of Erlitou have been, and will likely continue to be, fruitless.

Erlitou and the Xia-Shang transition: an archaeological dilemma

Erlitou was discovered in 1959 when Xu Xusheng led a group of archaeologists to survey 'the ruins of Xia' in the Yiluo basin. Xu interpreted Erlitou as very possibly the capital, Bo (or Po), of King Tang of the Shang, which was said, according to ancient texts, to have been located in Yanshi (Xu 1959). Tang is believed to have been the founding king of the Shang dynasty who conquered the Xia and established a capital named Bo. To Xu, the location and rich material deposits found at Erlitou seemed to be a perfect match for the capital Bo. This opinion dominated academic circles for nearly two decades, until Zou Heng proposed that Zhengzhou was the capital Bo of Shang, while Erlitou was a capital of Xia (Zou 1978; 1980). This new interpretation, mainly inspired by the discovery of the Zhengzhou Shang city, triggered long debates about the dynastic identities of Erlitou. Many proposals were made; except for Phase I, all three of the other phases of the Erlitou site have been assigned to either Xia or Shang by different scholars. For the excavators at Erlitou, the dominant view was that the Xia-Shang transition occurred at the time between Phase II and Phase III. This is because Phase III seems to show a rapid development, so it must be presumed to reflect some major political change, namely dynastic transition (Erlitou Working Team 1974; Yin 1978).

In the 1980s, a fortified city was found at Yanshi, known as the Yanshi Shang city (200ha in its heyday, *c*. 1600-1400 BC), some 6km north-east of Erlitou. The initial construction of Yanshi appears to have been contemporary with Erlitou Phase IV. The Yanshi site was immediately identified as an early Shang city by the excavators (Henan 2nd Team 1984; Luoyang Hanwei Gucheng Working Team 1984). This discovery provoked a new wave of debates focusing on the relationship between Erlitou (representing Xia or Shang) and Yanshi (presumably Shang). By the end of the 1990s, most archaeologists had reached a consensus that Erlitou Phases I-III represents the late period of the Xia, while Erlitou Phase IV together with Yanshi and Zhengzhou represents the Shang. This argument is mainly based on the archaeological data that Erlitou suffered a marked decline during Phase IV, when Yanshi grew into a fortified town. These phenomena are believed to indicate the text-derived traditional event, that Shang (Yanshi) conquered Xia (Erlitou) (Gao *et al.* 1998).

The core evidence for the decline of Erlitou in Phase IV is the abandonment of Palace no. 1, an architectural compound of 9600m^2 in size. It comprised a single edifice with a large front courtyard, which was then enclosed by walls with roofed galleries. A layer of rammed-earth foundation, about 2m thick, covered the entire compound. The main palatial

structure (30 × 11m in size), made of wattle-and-daub, was built on top of a rammed-earth platform (900m^2 in size and more than 3m in thickness) (Institute of Archaeology 1999: 138-44). According to the early report, this palace was built in early Phase III (Zhao 1987). But a re-examination of the excavation record suggests that it was built no earlier than the early part of Phase III, as suggested by the fact that a burial (M22) dating to the early Phase III was situated below a depositional layer (Layer 6), which was superimposed by the foundation of Palace no. 1 (Xu 2006). According to the excavators, Palace no. 1 was then abandoned in Phase IV, as indicated by burials, hearths, pits and a kiln, all dating to Phase IV, intruding into the palace foundations (Zhao 1987). This conclusion seems over-simplistic. Two questions need to be answered: does Phase IV really show a decline other than in the condition of Palace no. 1? And is the evidence of intrusions into Palace no. 1 during Phase IV sufficient to argue for an abandonment? The answer to the first question is obviously negative. Based on the results of new excavations and research, as discussed above, the palatial complex experienced more construction than ever before, and attached craft specialists continued to produce prestige items. To answer the second question, we need to re-examine the contextual information relating to Palace no. 1, including dates and locations of all features associated with this structure.

Palace no. 1 was associated with two water wells, 16 human burials, two pits containing animal bones, 64 ash pits and one kiln. These features, predominantly dated to Phase IV, are mostly situated outside the rammed-earth compound, while few are located inside the compound (Figure 5). It is notable that the opinions about the date of Palace no. 1's abandonment have changed through time. In the early excavation report, all datable features were assigned to Phase IV, and many of the burials were regarded as human sacrifices associated with the palatial structure (Erlitou Working Team 1974). This implies that the palace was built in Phase III and still in use during Phase IV, a view which is consistent with the opinion, held by the excavators in the 1970s, that the Xia-Shang transition occurred in the beginning of Phase III, so that Erlitou Phases III and IV all belonged to the Shang. However, since the 1980s there has been a major change of opinion regarding the nature of Palace no. 1. In the excavation report published in 1999 (Institute of Archaeology 1999), some tombs and pits, which had been dated to Phase IV or considered undatable, were re-assigned to Phase III, with the result that the palace compound came to be interpreted as having been abandoned between Phase III and Phase IV. This shift of interpretation was not based on any new discovery made at Erlitou, but apparently coincided with the development of a new idea, that the Xia-Shang transition happened at the time between Phase III and Phase IV, according to the excavations at Yanshi (Xu 2006).

When we mark all the features associated with Palace no. 1 on the map, it is not difficult to realise that most features, including pits and tombs, are situated around the palace compound, while few are located inside the courtyard. No residential structure, other than the main edifice, was newly built in the area. These considerations suggest that the pits and tombs were remains of domestic and mortuary activities associated with the existing palace. Given that pits and burials were often placed in close proximity to residential buildings throughout the Erlitou site, it is not surprising that people within the palaces also practised the same way of life. Moreover, some human burials and pits within the compound may have been sacrificial in function, associated with ritual activities held in the palace.

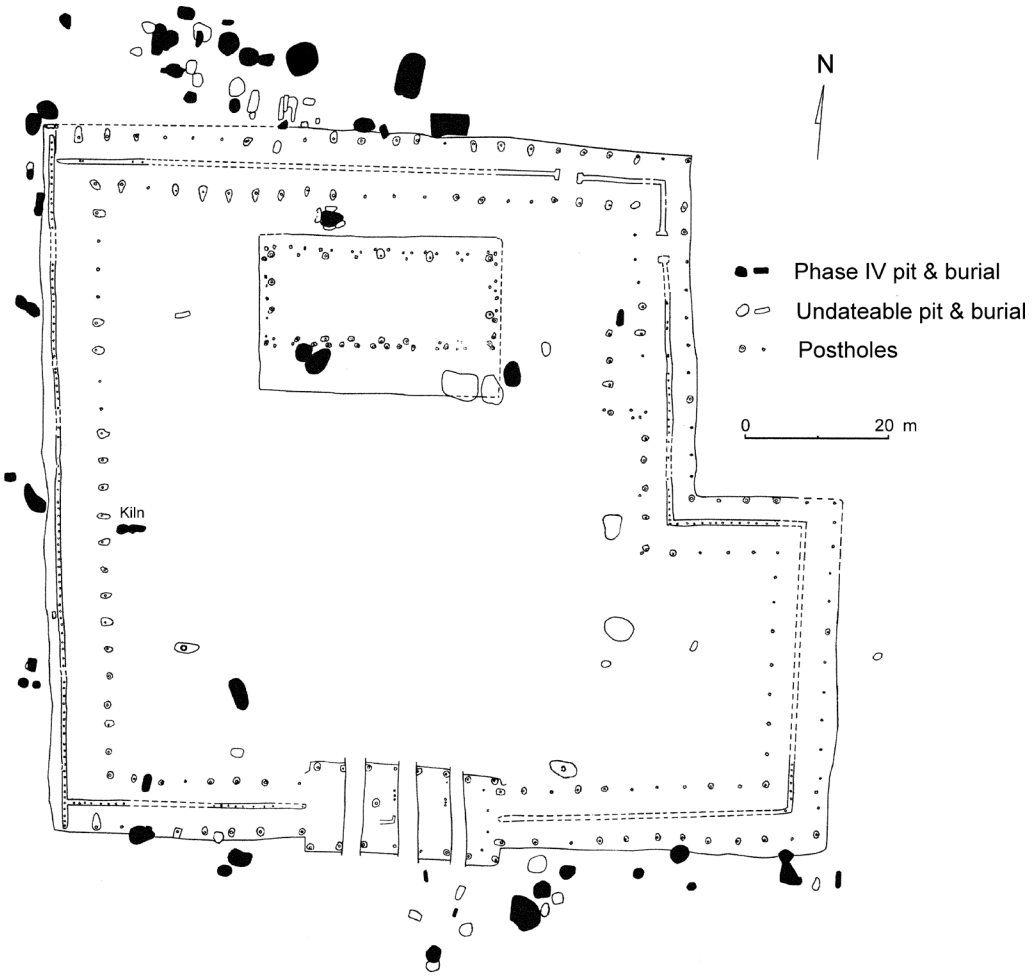


Figure 5. Palace no. 1 and associated features, Phase III-IV at Erlitou.

Considered in this context, there is no evidence that Palace no. 1 was abandoned because of the intrusion of domestic features. Rather, those features are material remains associated with palatial activities. Therefore, there is no evidence for the decline of Erlitou immediately after Phase III. Changed views about the fall of Erlitou are the results of altered preconceptions about the Xia-Shang transition, and archaeological data appear to have been manipulated to fit into assumed dynastic chronologies. At this juncture, we see that archaeology has lost its innocence as an independent scientific discipline and become a convenient tool for historical interpretations. Should archaeology be subordinated to a goal for reconstructing dynastic chronologies? Before addressing this issue, we need to clarify what the dynastic chronologies for the Xia and Shang might be. They have been treated by many Chinese scholars as real history, but are they history?

Myth, legend, history and archaeology

The earliest written record containing names of Shang kings consists of the oracle-bone inscriptions unearthed at Yinxu (*c*. 1300-1046 BC), the late Shang capital found in the modern city of Anyang, Henan province. These inscriptions, nevertheless, made no mention of the Xia and revealed no chronology of the Shang. The chronologies of the Xia and Shang appeared later in a number of ancient texts, among which the most frequently referred to include *Guben Zhushu Jinian* (Ancient Bamboo Annual), a third-century BC text reportedly recovered in AD 280, and *Shiji* (Records of the History), written by Sima Qian around the first century BC. These were authentic documents, but written more than 700 years after the existence of Shang. Based on his study of the oracle-bone inscriptions from Yinxu in the 1920s, Wang Guowei was able to match many names of the Shang kings in the bone inscriptions to the king list in the Shang chronology in *Shiji* (Wang 1959a & b). He then concluded that the Shang chronology in *Shiji* was primarily reliable, and, by the same token, also inferred that the Xia chronology in ancient documents was credible (Wang 1994: 52). This opinion has become the dominant view among Chinese archaeologists and historians. Archaeologists believe that it is necessary to search for the cultural remains of the Xia people and Xia dynasty, and the final goal is to reconstruct the history of Xia based on archaeological data combined with the historical record (Institute of Archaeology 2003: 21-23).

This general approach to the archaeological reconstruction of the Xia and Shang chronologies suffers a major deficiency: confusion between *historical chronicle* and *chronology of oral tradition*. The former intends to record accurately the temporal sequence of real historical events, while the latter cannot be measured in absolute time frames, since they were *'designed to develop and transmit those aspects of the past which were deemed important, and absolute dating was never, nor could ever be, one of these'* (Henige 1974: 2). These two types of information are often presented as integrated belief systems in ancient texts, since ancient people did not view them as separated entities. However, for modern archaeologists and historians, myth and history need to be analysed independently.

To separate myth from history of the Xia and Shang, we need to answer two questions. First, was there a Xia dynasty? There are two competing views regarding the historicity of Xia. While many archaeologists and historians tend to believe in the authenticity of the Xia dynasty (e.g. Chang 1999: 71-3; Childs-Johnson 1995; Li 1997; Gao *et al.* 1998), a considerable number of scholars are sceptical about the reliability of textural information relating to Xia (e.g. Karlgren 1946; Birrell 1993; Bagley 1999: 131), and regard the Xia as a legendary dynasty created by the Zhou people (eleventh-third century BC) (e.g. Keightley 1978; Allan 1991; Thorp 2006: 57-61). For example, Keightley holds that the Xia kings, such as Yu and Jie, were Western Zhou fabrications (Keightley 1978: 432-3), and Allan (1991) further suggests that the Shang may have had an ordinary myth of the Xia as a previous people who were their inverse, but not as a dynasty. This myth, according to Allan, was later transformed by the Zhou into the story of an historical dynasty which was conquered by the Shang. This new interpretation was made in the beginning of the Western Zhou dynasty, in order to justify their conquest of Shang under the mandate of Heaven (Allan 1991: 57-73). These arguments are plausible given that no contemporary writing of

the Xia has been found. At present, there is no way to prove the existence of the Xia as a dynasty, although there may have been a Xia people in oral tradition among the Shang and other contemporary peoples in the later second millennium BC. It is equally possible, nevertheless, that the Xia was an important political entity prior to the Shang, regardless of whether this was a dynasty, state, or chiefdom.

The second question relating to the reconstruction of chronology is, when were the Xia and Shang chronologies first made? As mentioned above, although the oracle-bone inscriptions are the earliest written record containing any temporal sequence of a dynasty in China, they provide no chronology as to the duration of each king's reign. Since the inscriptions were made to record ritual processes, they were not intended to document accurately the length of the kings' reigns, or such information was not considered important to record. As Keightley observed, only during the last Yinxu phase does a consistent record of reign years appear in sacrificial cycles, but it seems that at this time Shang may themselves have had no clear idea of the length of kings' reigns in the early period. Therefore, it is doubtful whether even the Shang recorded a fully accurate Shang chronology and transmitted it to the later dynasties (Keightley 1978: 427), and even more unlikely for the putatively earlier Xia chronology.

Guben Zhushu Jinian is the earliest document which uses long year counts to indicate reign years, but, as Keightley (1978) pointed out, this work is a Zhou product and its chronologies are unreliable. In *Jinian* more detailed reign years are given to more remote prehistory, which is unhistorical. It also records some incredibly long reign lengths for the Xia kings – Yu was on the throne for 45 years, Houmang for 58 years, and Buxiang for 69 years. This may be indicative of Eastern Zhou period (eighth-third century BC) writers' commonly observed metahistorical practice: *'the further away a dynasty was in time, the more details one was free to invent'* (Keightley 1978: 433).

It is clear that the Xia and Shang chronologies appearing in ancient texts are not historical chronicles, and the kings in the early part of genealogies are likely to have been created, compiled, and modified in a backwards projection. Therefore much of the Xia and Shang royal genealogies should be understood as chronologies of oral tradition.

Ancient China is not the only society which was obsessed with royal genealogies to account for the remote past. Sumer, Egypt, Maya, and many other civilisations all had written records demonstrating their deep and impressive histories, which were derived from oral traditions. According to Henige's (1974) systematic study of royal chronologies from many ancient dynasties, a range of chronological distortions can occur when dealing with king lists, genealogies and other putative indicators of the duration of the past in oral societies. Genealogies may be foreshortened, by telescoping; in this case only the first few founding generations and the most recent four to six legitimising generations are remembered. In contrast, and more commonly, genealogies may be artificially lengthened, a situation where an exaggerated notion of the length of the past can be observed in king lists (Henige 1974: 27-42). The reasons for genealogies being so commonly used and manipulated by rulers are almost universal: *'genealogies can project perception beyond the circumscribed spatial and temporal boundaries within which most such societies perforce exist.'* Therefore, in many situations *'genealogies become all-purpose tools, substituting for an array of unavailable mechanisms for social and political regulation'* (Henige 1974: 55).

There are ample examples that royal genealogies show distorted durations. The Sumerian King List, for instance, was composed *c*. 2100 BC, presenting a list of the dynasties that had ruled Mesopotamia to that time. It showed some 115 rulers in consecutive order, but in reality these were kings belonging to different city states, many of which coexisted contemporaneously rather than sequentially. As a result of this chronological distortion, the Sumerian King List created a duration of over 1900 years of rulers for a historical period of 600 years (Henige 1974: 42). The hieroglyphs on an early Maya monument dating to the first century BC trace the starting point of the important calendrical account back to 3114 BC (Coe 1976: 112), which is a time more than 1000 years before the first agricultural communities appeared in the region (Joyce 2000: 74). Maya monumental inscriptions served the primary purpose of glorifying the rulers and their lineages, so a long history of elite activities was thus created within a social, political, and religious context centred on lineage continuity and worship of ancestors (Coe 1976: 121). Inca and Aztec kings also rewrote their histories and belief systems, claiming their sacred connections to the Sun God in order to justify their political, economic and military expansions (Demarest & Conrad 1982). This is not to say that all historical documents are political propaganda, but there are obvious political motivations for rulers to create and manipulate king lists and genealogies, and the past is always re-interpreted within contemporary concerns.

There is no reason to believe that historians in ancient China were immune from political motivations when making royal genealogies. In fact, many types of distortion discussed by Henige (1978) can be seen in the Xia and Shang chronologies, which are likely to be a combination of legends and realities, and of oral traditions and historical accounts. It is possible that some names of prehistoric kings mentioned in oracle-bone inscriptions and later texts refer to actual individuals in oral traditions passed through generations. However, these king lists were not complete accounts or accurate sequences of the dynastic history, and various durations assigned to the Xia and Shang dynasties by historians hundreds of years later should not be taken as temporal frameworks equivalent to historical chronicles. This is simply because the Xia and early Shang genealogies were largely based on legends to suit political agendas – to claim legitimacy for the current rulers existing long after the individuals designated in the king lists. What we need to investigate first is, why and how the chronologies were created, rather than uncritically applying them directly to archaeology.

Conclusion

Erlitou is one of the most important early sites, which holds many answers to inquiries concerning the formation of state and civilisation in ancient China. For more than 40 years of excavation at Erlitou, much attention was placed on its ethnic and dynastic affiliations, but little progress has been made. This approach has overshadowed other research orientations, such as craft production, agricultural practice, urban population parameter, and urban-rural interactions. As a result, we know little about the political economy of this first urban centre in China.

When a Chinese official, Song Jian, was impressed by Egyptian royal genealogy during a trip to Egypt and called for the Xia-Shang-Zhou Chronology Project to reconstruct an accurate timeframe for early Chinese history (Lee 2002), this project was apparently a

kind of political propaganda. As a politician, Song Jian may be excused for being unaware of the problems behind the dynastic chronologies existing in all civilisations. However, historians and archaeologists have responsibilities to acknowledge and understand these problems. Archaeology and legendary history are different disciplines, which need to be studied separately and in their own terms. On the one hand, with no pre-Yinxu writing system found up to now, we have no evidence to either prove or disprove the ancient textual accounts about the Xia and early Shang history. Therefore, it is a historical inquiry to scrutinise the historical facts and separate them from myth and legend in dynastic chronologies. On the other hand, the rich archaeological remains from several early urban sites can be subjected to multidisciplinary research, to understand the processes of state formation. It is an archaeological investigation to analyse spatial and temporal dimensions as well as the social development of urbanism in early China. These two sets of data may be eventually compared after each has been properly dealt with.

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