The conceptual compression of space and time as intimated in the depiction of the horse in China, circa 1250 BCE-CE 400.

Robert Jones
University of Louisville

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THE CONCEPTUAL COMPRESSION OF SPACE AND TIME AS INTIMATED IN THE
DEPICTION OF THE HORSE IN CHINA, CIRCA 1250 BCE-CE 400

By
Robert Allan Jones
B.A., San Francisco State University, 1979
M.A., National Taiwan University, 1984

A Dissertation
Submitted to the Faculty of the
College of Arts and Sciences of the University of Louisville
In Partial Fulfillment of the Requirements
For the Degree of

Doctor of Philosophy
In Humanities

Department of Comparative Humanities
University of Louisville
Louisville, Kentucky

May 2023
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A Dissertation Approved on
April 14, 2023

By the following Dissertation Committee

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Prof. Patrick Pranke

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Prof. Paul Nicholas Vogt
DEDICATION

This dissertation is dedicated to
My mentor and guide

Prof. Kai-yu Hsu 1922-1982

who gave me invaluable educational opportunities
and determination to continue my studies of
ancient China.
ACKNOWLEDGEMENTS

I would like to extend a heartfelt thanks to my dissertation advisor, Prof. Delin Lai, for his many years of guidance from the inception of this dissertation, and for his many invaluable suggestions and ideas that have been incorporated into it. I am also thankful for the input and advice from my dissertation committee members, Profs. Christopher Fulton Patrick Pranke, and Paul Nicholas Vogt. I would also like to thank the University of Louisville Writing Center for all the help provided in the compositional and technical writing of this work.

I would also gratefully acknowledge the advice and assistance of my many professors at the University, who encouraged me to keep in mind my dissertation topic even when writing research papers that may have had little to do with horses or China. I’d like especially to thank Prof. Annette Allen, Dr. Linda Gigante, Prof. Simona Bertacco, Prof. John Gibson, Prof. Scott Levi, and Prof. Robert St.Clair for their encouragement, assistance and advice.

I also want to thank my wife Stewart Lussky for her patience and encouragement over these many years, and for the many conversations we had about China, art and horses.
ABSTRACT
THE CONCEPTUAL COMPRESSION OF SPACE AND TIME AS INTIMATED IN THE DEPICTION OF THE HORSE IN CHINA, CIRCA 1250 BCE-CE 400

Robert Allan Jones
April 14, 2023

This dissertation examines the horse in ancient China, from before its domestication in the 13th century BCE to the fourth century CE. The revolutionary utilization of the mounted horse influenced contemporary concepts of time and space, which can be observed in both the language and art, especially from the fourth century BCE on.

The Introduction reviews the history of equid domestication in Eurasia, horserrawn vehicles and riding, then explores the introduction of horse-drawn chariots from Shang China to its decline in Eastern Zhou. Chapter 1 examines the rise of cavalry in China in the fourth century BCE, and looks at the administrative, martial, symbolic and religious roles given the horse up the Han dynasty. Chapter 2 examines the early Chinese world view as dictated by space and geography, and how the horse came to help to expand that world. Chapter 3 looks at early concepts of time and how they evolved up to the Han, and how the “language of the horse” supports this. Chapter 4 examines in depth the evolution in the rendition of the horse from the Late Shang to the post-Han periods, an evolution which reflected and echoed changes in perceptions of time, speed and duration.
The concluding Chapter 5 summarized the material and argues that the utilization of the horse was a force that helped bring about contemporary changes in spatio-temporal conceptions in the early imperial age.

In sum, the evidence provided by this research into the art, language, historical sources and philosophical writings support the writer’s conclusion that the horse, as a revolutionary technological mechanism (albeit of flesh and blood) of communication and war, was instrumental in the formation of empire, and that the horse, due to its inherent characteristics of speed and power, came to be expressed, through its artistic renderings, in writing and language, as embodying a vector for change, in bringing distant provinces and new conquests closer together, in the temporal sense, by breaking down barriers of time and space, and that the horse became the ideal vehicle by which the deceased could travel to the world beyond death.
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METHODOLOGY

It will be helpful to provide an outline and synopsis of this dissertation and provide some background to the aim, rationale and methodology behind it. Since the overall content is complex and challenging, providing a clear statement of what the writer is attempting to elucidate and argue would assist the reader.

Aim

The aim of this dissertation is to research and provide scholarly, written and artifactual evidence that the adoption of the domesticated horse by the ruling house of the Late Shang dynasty in the thirteenth century BCE had a lasting influence on the unification of China more than a millennium later. The author seeks to provide evidence that horse riding and cavalry allowed the contemporary concepts of space and time to expand as imperial control spread farther afield, and that the horse was the vector through which this change occurred. It is the writer’s aim to provide sufficient documentation to support the contention that the utilization of the horse, through its inherent characteristics of swiftness and power, led to differing views on contemporary time and space.

Rationale

A study of the horse and its transitional and revolutionary influence in early China cannot begin without a survey of the early presence of the horse in Eurasia, its domestication and the spread of its utilization as both a draught animal for wheeled vehicles, and, later, as a
mount for riders. Providing this background matters, since, for one, it allows the writer to gain competence in understanding the history of horse domestication in Eurasia and to be able to bring that knowledge to bear on the horse’s presence in early China. Second, it provides a rationale for looking at the most recent scholarship on horse domestication inside and outside China, so that new information provided by the most recent published studies can be presented to the reader. Third, (and perhaps the most elusive and intriguing), it is an attempt to understand why and for what purposes the horse—a highstrung, jittery and often hard-to-control creature even now—was even considered by humans to be fit for domestication, as compared to those creatures more easily domesticated such as the pig, sheep, goat and ox.

The Introduction and each chapter of the dissertation will iterate the underlying rationale for the study, that the presence of the horse was a driving force in technological advancements in transportation, communication and war, which in turn initiated a change in contemporary concepts of temporal duration and spatial positioning. The horse can also be viewed as the most important dynamic agency for the increase in the speed of the diffusion of technology, in conflict, and in trade and intercultural exchange in Eurasia during the intensification of contact that came to exist only after its domestication.

The introduction and spread of horse-back riding in the first millennium BCE revolutionized communication and warfare across Eurasia. The adoption of cavalry by the Chinese from the northern nomads ca. 300 BCE and the subsequent popularization of horse riding in China in the Han period brought about parallel institutional changes in government, warfare and society. At the same time, earlier mythological and metaphorical symbolism associated with the horse expanded in society, eventually becoming a popular artistic motif, especially in funerary art. In that context, the horse came to be perceived as the ideal, preferred mount upon which the deceased could travel to the world beyond.
This perception of the horse was a direct outgrowth of its inherent qualities of swiftness and power, which beginning in the Zhou period materialized in imaginative literary images of it as a creature akin to the dragon, possessing the ability to ascend beyond the limiting confines of this earth. Hence its increasingly common symbolism for speed in art, in the “flying gallop” motif or as a flying (winged or not) creature, the first representing a technological innovation, the second as a metaphorical representation of its perceived qualities.

Methodology

For this dissertation to be successful, a number of different disciplines must be brought to bear upon the thesis, including ancient history, art and aesthetics, linguistics and literature, mythology and religion, cultural anthropology and archaeology, as well as biology and environmental science, since the topic in question deals with a myriad of questions about the relationship between horses and humans, and the political, cultural, technological and geographical environments in which that relationship flourished. Where it may be useful in contributing to a deeper appreciation and understanding of the several issues in the dissertation thesis, comparisons may be made with examples that manifested in other geographical regions and chronological periods where the utilization of the horse was influential. The purpose of this is to give the reader a broader comprehension of the complexity, dynamism and uniqueness of the issues involved. This may involve discussions, for example, on the replacement of chariotry by cavalry forces; the influence of horse riding on the speed and geographical scope of military campaigns and communication; the mythology of the horse; its artistic renderings; even, perhaps, on the influence of horse riding on clothing styles.
There is reason for the writer to avoid regurgitating the vast amount of research and writing that has already been done on the pre-domesticated horse in Eurasia, its subsequent domestication on both ends of the continent, the introduction of the horse and chariot into West Asia and into China, and the details of sacrifice and ritual in Shang and Zhou burials and other usages. Although a succinct introduction is necessary, this dissertation’s methodology is to focus on the roles the horse was given, the significance of its influence due to its swiftness and power, and its intimate association with royalty and the spiritual world in early China.

The presence of the horse in Chinese society had a lasting impact on communication, transportation, and technology, and this influence is seen in art and aesthetics, literature and even philosophy. The horse came to be perceived as a revolutionary mechanism; through its swiftness, it reduced time and space within the conceived world view of early China, so much so, that the horse came to be seen as a creature imbued with magical powers that changed the Chinese experience of the world and the beyond.

Original contributions

It is essential for the writer to elucidate what he attempts to prove in his thesis, not only through the valuable scholarship of others in this dissertation, but also in the original contributions that he hopes will be part and parcel of this work. There are three original and significant additions to the research of the horse in early China that contribute to a further understanding of the overall topic.

The first contribution is to provide compelling evidence to support the theory that the introduction of the horse to Chinese society brought about an observable change in
conceptual notions of time and space, particularly in the late Warring States to the Han period, through examinations of language, literature and mythology.

The second contribution, closely related to the first, is the treatment of the aesthetic expression of the horse in early China and later depictions of the horse in motion, reflecting not only developments in the aesthetic treatment of the horse, but also the changes in transportation and the aforementioned social concepts of time and space in early China. The depiction of the flying horse in the Han period, winged or otherwise, provides evidence for the relatively new social convention that the horse, providing the fastest mode of transportation of the era, allowed the quickest turnaround in communication in an expanding empire, and was a revolutionary vehicle of bird-like swiftness that broke down barriers set by the vast spatial distances of the Qin and the Han empires.

The third contribution is to offer a new interpretation of how we may view the northern frontier in early China. The writer provides a new way of looking at the construct of Chinese-nomad interaction on the frontier which occurred from ca. fifth century BCE to the third century CE, applying ecological concepts and terminology in offering a new interpretive “socio-cultural ecotone” theory.
INTRODUCTION:

HISTORY: THE DOMESTICATION OF THE HORSE IN EURASIA WITH PARTICULAR ATTENTION TO CHINA

No other animal had a greater impact on China’s real and imagined history.

— Annette L. Juliano (2005: 419)

The Introduction examines the history of the horse in East Asia and China leading up to and including its use as a chariot draft animal in the Shang and Zhou dynasties, and ending with decline of the chariot’s utilization in the late Warring States period. This encompasses the horse’s earliest association with humans and its earliest domestication in Eurasia. With the adoption of the horse in China by the Shang elite, its role as chariot draft animal and sacrificial offering in the pre-imperial age of the Shang and the Zhou period is then examined. The adoption of the horse in China as cavalry mount and as a speedy vehicle integral to the burgeoning communication system in the service of royal and imperial expansion are pertinent to this aspect of the study. The argument that eventually will be made is that the horse’s adoption should be considered a technological innovation, and that the horse’s long association with nobility and the ruling house enhanced it as a symbol of the king’s power and of the imperial state. An examination of
horse-related language reveals its perceived qualities, while a close look at the evolving image of the horse is offered, starting with the Late Shang period (ca. 1250 BCE) up to the fourth century CE, providing a foundation for viewing the horse as a symbol for changing concepts of space and time in the early imperial age.

Chapter summaries

In this dissertation there will be content that overlaps from chapter to chapter, reflecting the complexity and interconnectedness of the overall subject. Below are summaries of the contents of each chapter and the research that will be introduced.

Introduction. History: The Domestication of the Horse in Eurasia with Particular Attention to China.

In the Introduction, an overview is provided of the history of early domestication of the horse, beginning with a look at the several species of Equus which roamed Eurasia, its early domestication and utilization. Following a look at the presence of Equus in predynastic East Asia, the horse’s role is examined in its initial adoption in the Late Shang period, in its association with the Bronze Age royal elite, and its utilization as chariot draught animal and its role and significance in royal funerary sacrifices. Chronologically, the Introduction addresses these roles up to the transitional period of the late Eastern Zhou, ca. 300 BCE. Following this discussion, the decrease in chariot utilization in the Eastern Zhou is examined and the reasons for this are identified.

---

1 The appearance of horseback riding in eastern Eurasia, however, and the later adoption of cavalry in China is more fully addressed in Chapter I.
Chapter I. Politics: The Horse, Territorial Expansion and Control.

This chapter explores the adoption of the horse as cavalry mount in the service of royal and imperial expansion. The first part examines the appearance of horse riding in Eurasia and examines the argument as to whether the chariot or horseback riding came on the scene first. A more detailed examination is done on the Chinese adoption of mounted cavalry from the nomads and the search for and successful procurement of superior horses that led to the eventual domination of the Inner Asian steppe by the Chinese during the Han period. Royal and imperial bureaucracy dealing with horse management is addressed. From the first mounted Chinese forces organized in the 4th century BCE to the expansion of mounted forces in the Qin and the Han, the horse is looked at in its utilization for defense, conquest, communication and imperial control, continuing to take on a royal mantle (begun during the Western Zhou), thus becoming through this association a symbol of the ruler’s power.

Chapter 2. Space: The Horse and Early Chinese World View.

This chapter discusses relevant theoretical aspects which contribute to the argument presented. This includes how peoples of the Late Shang dynasty (ca. 1250-1045 BCE), Zhou (1045-253 BCE) and of later periods viewed their proper place in the geographical world of the aforementioned periods. Important to the study is how the Chinese viewed and dealt with those who resided outside of their own physical, geocentric boundaries. Specific to the study is the contact with and relationship of the Shang and the Zhou with the non-Chinese pastoral peoples who lived to the north and northwest, particularly with those involved more or less in the raising of horses and their utilization as mounts from ca. 500 BCE on. How the presence of the domesticated horse in this increasingly
expanding world influenced this relationship is central to the dissertation’s aim. The initiation of the imperial age and its geographical expansion with the establishment of the Qin (221-210 BCE) and Han (206 BCE-CE 220) dynasties is integral to the study in the widespread adoption and need for the horse in warfare, land transportation and communication across a far-flung landscape.

Chapter 3. Time, Language and the Horse

This chapter expounds upon the traditional concepts of time and temporal progression in early Chinese thought, much of it through calendrical records and philosophical writings. It examines how these concepts evolved up to, and through, the Han period. The writer will attempt to show how these temporal concepts were inextricably associated with spatial concepts in the expansion of empire beginning ca. 221 BCE, which cannot be disassociated with the utilization of the horse for war and communication. Examples in equine-associated language, and literature of horses are utilized to support this. Changes in contemporary language related to the speed of communication are compared to some modern language metaphors of time, place and speed.

Chapter 4. Art: The Horse as a Symbol and Metaphor.

This chapter addressed the depiction of the horse ca. 1250 BCE to ca. 400 CE, in imperial, ritualistic, funerary, mythological and religious contexts, as supported by textual evidence and art of the period. The horse is a subject well-covered in the history of Chinese art, and this chapter will follow the early chronological evolution of the image, employing the graphic evolution to support the argument in Chapter 3, that the later horse images of the era under study reveal a change in social concepts of space and time. Of special foci will be the horse-related material from the First Emperor’s Tomb,
and the ceramic and bronze horses and paintings from Han and later tombs, evidence of the horse’s association with the power of ruling houses, material that can be seen as metaphor for political and moral authority, and as a symbol of both spiritual and human virtue. Barbara Chapman Banks writes that the depiction of the horse in Chinese art expresses “. . . the webs of meaning that have joined to give the horse a place of overwhelming importance in Chinese consciousness” (1989: 2). Of special focus is the depiction of the flying horse as a metaphor for its spiritual power and as evidence to support the dissertation’s central argument that this led to conceptual changes in space and time. Integral to the discussion is the mythicization of the horse through its association with royalty and with its sacred role regarding the afterlife. A plethora of new archaeological material exists to support and illustrate this chapter.

Chapter 5. Summary and Conclusions.

The final chapter summarizes the research and offers a concluding argument that the introduction of new technology to China in the form of the horse as ridden mount in the late 4th century BCE began a subtle yet transformative evolution in early Chinese conceptions of time and space, and that the horse, as the prime mover of this change, in the innovative depictions of a swift–even flying–steed represented a concrete as well as symbolic and metaphorical expression of this change in temporal and spatial concepts, leading to the “collapse” of said concepts into more easily understood notions by artists and the people who appreciated their works.
Background to the Horse in Eurasia

The genus *Equus* includes a number of species, some of which are familiar to us, and others not so much if at all. *Equus* does not appear until the Miocene Age about five million years ago but numerous predecessors to the genus lived much earlier (Davis 2007: 3-5). Regarding the ungulates (to which horses belong), Clutton-Brock (1992: 1718) writes that the Equidai, which includes asses and zebras, are the most highly evolved of the Perissodactyla order. The earliest dates back 65 million years ago when the small mammal *Hyracotherium* (*Eohippus*) inhabited North American forests. Equids eventually evolved into grazers and dispersed into grasslands, inhabiting South and North America, Asia, Europe and Africa, but eventually disappeared from the Americas.

*Equus* in its various forms persisted through the Pliocene and Pleistocene and into the current Holocene eras. The differences between existing species of *Equus*, including the modern horse (*Equus caballus*), onager (*Equus hemionus*), ass (*Equus asinus*), and Przewalski’s horse (*Equus przewalskii poliakoff*), all of which were known to--and exploited by--early humans, have been essential in studies to determine both the distribution of the genus and the origins of domestication.

The distribution of *Equus* prior to domestication in Eurasia has been well addressed, but for the purposes of this study, a brief introduction to that distribution is offered (refer to Map 1). Following a short discussion of the evidence for domestication of the horse in West and Central Asia and in the Middle East, aspects of its domestication in East Asia and in China in particular will be discussed. (An examination of the appearance of horse riding in Eurasia and China is discussed in Chapter 1).
Domestication of the horse in the Eurasian steppe.

Disagreement has been rife regarding the dating of the earliest domestication of the horse in Eurasia, both as a draught animal and as a rider’s mount. Much of the controversy is based upon two suppositions: one, that certain modifications to the dentition of horses is indicative of the assumed use of bits and other controlling devices utilized for pulling and riding that were found in early bronze-age sites associated with human occupation; and two, that the appearance in the early archaeological record of man-made objects interpreted to be associated with pulled vehicles or mounted riding is indicative of the progression of technological change from horse-drawn wagons and chariots to mounted horse riding. The scientific dating of sites and the archaeological interpretation of artifacts has contributed to some of the confusion regarding accurate dating of both uses of the horse in the ancient record. A recent study of the DNA in horse remains has provided some clarification of the earliest domestication (Orlando 2021). These topics will be addressed in the next section.

It is generally accepted that the earliest utilization of the horse by humans had nothing to do with domestication. Sites of human occupation from Europe to northern China reveal that the consumption of horsemeat was commonplace. Drews (2004:10-11) points out that by the nineteenth century scholars were already aware that horsemeat was a staple of the human diet during the Ice Age. He writes “Even in Spain and Britain the horse was apparently still a significant game animal as late as 10,000 BC.”

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2 Refer to Kelekna (2009: 41-44), who describes the various arguments back and forth in theorizing the dating for early horse domestication among writers such as David W. Anthony, Dorcas Brown, Stanley Olsen and Robert Drews.
Olsen agrees with this position, stating that “...[i]n no way should this association [of hominid and equid remains], at this early date, be regarded as an indication of anything beyond the fact that the equids were probably selected as an additional source of food along with the other animals that occurred with the hominids” (1988: 161). However, this association did not preclude the possibility of eventual domestication, and Olsen holds that due to the long-lasting close contact of *Equus* and *Homo*, its taming and eventual domestication was a very probable outcome (161).

David Anthony concurs (1994: 185) that the most likely purpose of domesticating wild horses was to acquire a plentiful source of meat. With regard to evidence found at the site of Botai-Tersek in northern Kazakhstan (3700-3000 BCE), he and Dorcas Brown note that “Horses probably were domesticated as an inexpensive source of winter meat by people who already possessed herds of domesticated cattle and sheep. . . . Tame horses could have been kept near the settlement by restraining them with ropes or leather hobbles (leg restraints) that permitted a walk but not a run” (Anthony and Brown 2011: 137). Horses are able to fend for themselves in the winter months by being able to scrape snow away with their hooves to access the underlying vegetation, something that cattle and sheep are not able to do. Thus, mixed herds of the three species may have contributed to domestication.

Wild horses were important to the process of eventual domestication where humans consumed them in the Eastern European steppes, and settlements from the Dnieper to the Ural rivers contained many horse bones. Sites dating to about 4500 BCE most likely contain the remains of domesticated horses, contend Anthony and Brown (2011: 133). At the site of Khvalyusk on the Volga River in Russia, which dates
to ca. 4700-4200 BCE, graves included the bones of horses, as well as those of cattle, sheep and humans. At the Early Eneolithic settlements at Ivanovskaya and Varfolomievka in Russia, while horses remained the principal meat animal, Anthony and Brown feel that if these were domesticated, these were the very first to be domesticated (140). Additional evidence points to domestication: “[R]ecent discoveries indicate that Botai horses were milked, their dung was collected and discarded in the settlement, they were butchered in the settlement, their meat and milk constituted most of the Botai diet and their breeding possibly was manipulated. All of these indicators point to domestication” (146). New DNA-based research on equid remains in Central Asia, however, provides strong evidence that it was one particular breed of domesticated horse which became prevalent in the steppe regions originated in the Volga-Don region, and that the modern horse is a descendent of this particular breed, replacing all other domesticated breeds. Indeed, writes Orlando et al, “modern domesticated breeds do not descend from the earliest domestic horse lineage associated with archaeological evidence of bridling, milking and corralling at Botai, Central Asia around 3500 BC” (Orlando et al 2021: 634).

The Invention and Spread of the Chariot.

In addressing this topic, it is useful to first look at the invention of the wheel and the earliest wheeled transport in the Eurasian steppe region as well as in the Near East, regardless whether wheeled vehicles were pulled by horses or other domesticated animals. Once we understand the archaeological context of the earliest appearance and
spread of wheeled transport as well as that of the chariot, we can address its appearance in Bronze Age China with confidence.

*The wheel.* Below is a summary of the earliest evidence for the wheel, followed by the history of the wheel’s evolution from solid wooden planks to spoked versions. There are several types of media that provide evidence for the appearance of the wheel ca. 3400 BC. The following media (adapted from Anthony 2007: 65-75) include first written signs for wagons; two-dimensional images for wagons; three-dimensional models of wagons; and preserved wooden wheels and wagon parts.

With regard to the first, clay tablets from level IVa at the end of the Late Uruk period Eanna temple in southern Mesopotamia show the earliest written sign for a wheeled wagon, and dates to ca. 3300 to 3100 BCE. This sign appears three times in some of the oldest written documents in the world (Figure I.1).

Regarding the second form of media (two-dimensional images of wagons), a depiction of a four-wheeled wagon with harness pole and yoke appears on a clay mug from the Trichterbecker culture in the settlement of Bronocice in southern Poland. Dating to ca. 3500-3350 BCE, it is the “oldest well-dated image of a wheeled vehicle in the world” (Anthony 2007: 67). Two other images have been found, one from the Warberg culture in central Germany, ca. 3400 to 2800 BCE; and the other a repousse image which might show a yoke, wheel, cart and draft animal, from the Novosvobodnaya culture near the mouth of the Volga River (Figure I.1).
As to the third type of media (clay models of four-wheeled wagons), those from the Late Baden culture in eastern Hungary, ca. 3300 to 3100 BCE, are the oldest accurately dated three-dimensional models found to date (Figure I.1).

Regarding the fourth and last type (preserved wooden wheels and cart parts), over 250 four-wheeled wagons and carts were found under earthen burial mounds (or kurgans) in the Russian and Ukrainian steppes. The earliest date to between 3300 and 2800 BCE. These discoveries are invaluable in that they give us excellent information on wagon construction. Wheels were 50-80 cm in diameter, and most were made of two or three planks “cut in circular segments then doweled together with mortice-and-tenon joints” (Anthony 2007: 70), while lynchpins secured the naves to the axles. The width of the wagons was one meter and the length two meters. Additional wagon and cart parts have been found in Switzerland and southwest Germany belonging to the Horgen culture of ca. 3200 BCE.

While the spread of wagon technology was relatively rapid in Eurasia and the Near East, Anthony holds that it is difficult to say where the technology was originally invented. He cites the use of sledge prototypes in Mesopotamia and “bent-wood” sleds in Europe (Anthony 2007: 73-74) but the technology seems to have spread to much of Europe and the Near East between 3400 and 3000 BCE. There is linguistic evidence that in Late Proto-Indo-European (PIE), words for wagons and wheels appear, in which “the full wagon vocabulary, probably was spoken after 3500 BCE” (Anthony 2007: 75). Vehicles with both two and four wheels appear in Mesopotamia ca. 2800 BC. At that time, a type of two-wheeler was a predecessor to the mount. Littauer and Crouwel (1996: 3)

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3 This style of wheel seems identical to similar wooden wheels found in western China, discussed below.
936) write that “[w]heeled vehicles flourished: the ‘straddle car’ developed a more comfortable saddle seat, padded by a leopard skin. Four-wheelers appear in military contexts. Wheeled vehicles are also represented as conveyances of the gods.” They assert that the steppes also saw wheeled vehicles in the late 4th and 3rd millennia BCE, oxdrawn wagons with four wheels with a light superstructure and very fast. However, “In the Near East, . . . by the late 3rd millennium BC, fast, single-person, equid-drawn two-wheelers had been in use for many centuries. The domestic horse is depicted there by the 23rd - 21st centuries BC” with bits (937). They suggest that the prestige value of the Near Eastern two-wheelers is what inspired imitations on the steppes (938).

The differences between wagons and carts on the one hand and the chariot on the other are substantial, and it is important to distinguish a chariot from the others. The definition of a chariot provided by Littauer and Crouwel is useful (1996: 934): a “. . . light, fast, usually horse-drawn vehicle with two spoked wheels: its crew usually stood.” The oldest horse-drawn chariots appeared in the southeast Ural steppes in the Sintashta culture, which dates from ca. 2100-1700 BC (Anthony and Brown 2011: 155). But Littauer and Crouwel hold that the wheel gauges and nave lengths made them “impractical at speed and limit[ed] its manoeuvrability. These cannot be true chariots” (1996: 934). True wooden chariots were discovered at Lchanshen in Armenia, but their design, however, did not make them candidates for serving as battle chariots (Pogrebova 2003: 402-403). These discoveries and the discussion about them serve to provide a good foundation for the argument for the spread of wheeled vehicles into East Asia.
The appearance of the spoked wheel. One of the most important innovations in the technology of the wheel was the replacement of the solid wheel body with a spoked wheel. With this innovation, the draft (i.e., weight) of the conveyance was reduced considerably. This reduction of weight was directly responsible for an increase in speed. Thus the introduction of the spoked wheel was central to the innovative technology that made the chariot an effective tool of the steppes, whether it was for war or for other purposes.

Anthony (2007: 402ff) challenges the long-held notion that steppe chariots were poor imitations of Near Eastern chariots. The opposite may have been a truer situation when he writes (403):

Chariots were invented earliest in the steppes, where they were used in warfare. They were introduced to the Near East through Central Asia, with steppe horses and studded disk cheekpieces. The horse-drawn chariot was faster and more maneuverable than the old solid-wheel battle-cart or battle-wagon that had been pulled into inter-urban battles by ass-onager hybrids in the armies of Early Dynastic, Akkadian and Ur III kings between 2900 and 2000 BCE.

According to Anthony, the earliest steppe chariots probably appeared before 2000 BCE. He cites five graves of the Sintashta culture in which impressions of spoked wheels have appeared. In contrast, the oldest images of true chariots with “two spoked wheels, pulled by horses rather than asses or onagers, controlled with bits rather than lip- or noserings, and guided by a standing warrior, not a seated driver--appeared about 1800 BCE, on Old Syrian seals” (403; italics added by Anthony). The oldest images in Near Eastern art of vehicles with two spoked wheels appear on seals from Karum Kanesh II, dating to about 1900 BCE. The spoked chariot also appeared in the bronze age Afanasievo culture in Inner Asia and will be discussed in the next section on intercultural connections across Eurasia.
Intercultural Interconnections Across Eurasia

By the late 4th millennium BCE, cultural interconnectedness appeared in the Yamna (or Yamnaya) horizon across the steppes from the Dnieper to the Caspian. Anthony writes (1986: 297), “Revolutionary changes in transport technology--riding and pack horses (high-speed long-distance transport) and oxdrawn wheeled vehicles (high-volume transport)--undoubtedly contributed to the trend.” With the earliest wheeled vehicles in the region found in a Yamna grave on the lower Dnieper dating to about 3100 BCE Anthony contends that with the Yamna horizon, there appeared a “major economic change in the steppes, a reorientation towards the active and efficient exploitation of steppe resources . . . but did not diffuse across the steppes to the east until stock breeding, limited agriculture, the domesticated horse, and perhaps wheeled vehicles were adopted by the river-valley occupants of the lower Volga-middle Don steppes” (298), and may have spread across all of Central Asia, far east as the Altai Range. In his discussion, Anthony contends that “population movements would have been an entirely predictable product of the initial use of horses as mounts in the North Pontic steppes” (301). The chronological date that horses as mounts reached the farthest western fringes of North China is important to this study, but we know from the archaeological evidence that it was not horse riding which first characterizes the domestication of the horse in China, but as a draught animal entirely associated with the chariot. This will be further addressed below and in Chapter 1 as well.

Anthony (2007: 310) writes that the later Afanasievo sites in the Altai region contained the bones of the earliest domesticated cattle, sheep, and horses. “At the
Afanasievo settlement of Balyktuyul, domesticated sheep-goat were 61% of the bones, cattle were 12%, and horses 8%.” He continues (Anthony 2007: 456-457):

Chariot technology, horses and horseback riding, bronze metallurgy, and a strategic location gave steppe societies an importance they never before had possessed, . . and chariots appeared across the ancient world from Greece to China. The road from the steppes to China led through the eastern end of the Tarim Basin, where desert-edge cemeteries preserved the desiccated mummies of brown-haired, white-skinned, wool-wearing people dated as early as 1800 BCE.

Anthony argues that by the time of the Xia dynasty, which was the first recognized (albeit proto-historical) Chinese state that appeared ca.1800 BCE, there was a sharing of innovations with the West: “The Srubnaya and Andronovo horizons had transformed the steppes from a series of isolated cultural ponds to a corridor of communication. That transformation permanently altered the dynamics of Eurasian history” (2007: 457).

E. E. Kuzmina (1998: 63-93) discusses at some length the Andronovo and Afanasievo cultures, their likely influence on the introduction of the horse and chariot to China, and their possible connections to the remains of the mummified Europoid remains found in Xinjiang, as seen through their funeral rites. The Afanasievo culture's economy was mixed, and both horse bones and solid wheels appear. She points out that cart wheels that are similar in form abound in the Yamnaya cultural monuments (Kuzmina 1998: 70). Two wooden rimless cart wheels were discovered in Xinjiang at the Qizilchoqa cemetery near Qumul (Figure I.2), which may be related to those found in the Yamnaya sites (Wang 1999: 62, 68). Mallory and Mair indicate the dating of the cemetery to be ca. 800-550 BCE, later than the appearance of the spoke-wheeled chariot in China, but

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4 Evidence that the Yamnaya may have been the first Eurasian culture to introduce mounted horse-riding is discussed in Chapter 1.
certainly a continuation of a local custom (refer to Mallory and Mair 2000: 143, Figure 64).

Regarding the wheel and cultural associations, they write that three-piece disc wheels and hubs were found in the tombs but there is no evidence that the wheel was independently invented in China, and that the “. . . general range of the earliest vehicles in Eurasia runs from Southwest Asia northwards across the Caucasus and then spans Eurasia from the Netherlands to the Yenisei (the Afanasevo [sic] culture or, more certainly, its successors the Okunevo and Andronovo cultures)” (Mallory and Mair 2000: 142-143).

The Afanasievo culture spread to the Altai Mountains, along the Yenisei River into Tuva and western Mongolia. It was the people of the later Andronova culture that Kuzmina cites as being the inventors of the light war chariot, with swift, light horses being selected for pulling chariots (Kuzmina 1998: 73). A number of authors believe that the people of the Afanasieo and Andronova cultures are in fact the Tocharians of the Tarim Basin. Mallory and Mair (2000) argue that people of the Afanasievo culture, speaking a branch of Proto-Indo-European (PIE), migrated from the Altai into the Tarim Basin and that the Europoid mummies found there represent Tocharian speakers. Anthony (2007: 311) surmises that if they are right, then “. . . late Afanasievo pastoralists were among the first to take their herds from the Altai southward into the Tien Shan, and after 2000 BCE their descendants cross the Tien Shan into the northern oases of the Tarim Basin.”

William G. Boltz writes that since Tocharian was a centum language, this “. . . implies that Tocharian speakers were present in the area of Chinese Turkestan from very early, certainly prehistoric, times.” The mummies “. . . may well be the remains of the Tocharian speakers which the ‘age and area hypothesis’ puts in the area of Chinese Turkestan as early as about 2000 B.C.” (1999: 86, 87), Boltz does not dispute
Possibly associated with the Afanasievo culture is the discovery of spoked wheels found in Dulan in Qinghai province, south of the Tarim Basin, and dated to ca. 2000-1600 BCE (Linduff 2003: 144), although the interpretation of the carbon-14 dates has come under some scrutiny. Both Linduff (2003: 144-145) and Wan (2013: 25) point to the Gansu Corridor as the most likely route of transmission of the domesticated horse into China. Still, the more northern grasslands and steppe regions north of the Altai cannot be ruled out as avenues for transmission.

Mallory discusses in some detail both the Afanasievo and Andronovo cultures and their possible origins and spread (1989: 222-231), but what is rather more important here is the technological and structural similarities between the spoke-wheeled chariot of Central Asia and that of Shang China, to be discussed below. Finally, since the connection between early dynastic China and the Northern Zone has been discussed at length,\(^6\) this will also be addressed below in the discussion on the appearance of the chariot at Anyang, the last Shang capital.

**The Domestication of the Horse in East Asia**

In this section the writer will mostly confine his discussion to the appearance of horse domestication in East Asia and especially in North China, although it is important to refer to studies on domestication in general. The discussion on the cultural connections across Eurasia responsible for the appearance of the domesticated horse in North China lays a framework for addressing the date and locality of horse domestication in East Asia as

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\(^6\) Refer to Bagley 1999: 221ff; Csorba 1996; Di Cosmo 1999; Lin 1986; Shelach 2016.
supported by some of the more recently uncovered evidence and interpretations. Here the writer summarizes what has been discussed above and poses questions which may relate to the topic at hand.

As examined above, approaches to the topic of horse domestication vary widely, both with regard to identifying what constitutes domestication (or progression toward domestication) and what evidence there is for domestication and how it is interpreted. There is some disagreement and much of this discussion (contested or not) is based upon archaeological evidence such as the remains of horses found at various sites of human occupation, bit wear, and scientific data such as radiocarbon dating. Among the topics that writers on this subject address are the following, only some of which will be addressed in this chapter, and some of which has already been discussed and is summarized here.

First, it is generally agreed that wild horses in the Paleolithic and Aeneolithic periods were hunted for food in East Asia, as they were in the Eurasian steppe. A logical question arising out of this archaeologically supported contention is whether (and if so, when) the horse was subsequently raised (as opposed to captured) for meat and milk. That leads to the supposition that if horses were raised as sources of food other than meat, they must have been to a certain extent tamed to become used to the proximity of humans.

Secondly, if such a taming of the horse happened, as it must have for other animals in the process of domestication such as the pig, goat and sheep, to what end was such training? Was it to utilize it as a secondary source of food (e.g., horse milk), as a pack animal, as a draught animal for pulling carts or wagons, or for riding? All of these
possibilities have been looked at, and some scholars theorize that riding appeared very early in the domestication process for the purposes of hunting and herding. They hold that only later did mounted riders utilize this advantage for raiding, and that organized cavalry appeared much later in the Bronze Age and was utilized for warfare. This topic will be directly addressed in Chapter 1.

Third, did the appearance of wagons, carts and chariots predate or postdate horse riding? Here there is much discussion as to the purpose of wheeled vehicles, whether they were used at first for transporting belongings, for hunting, for war, or as status symbols. There is also much discussion regarding the horse as a draught animal for these wheeled vehicles, since we know that other animals such as oxen and onagers were also utilized for the same purpose. Important to this study is the appearance of the chariot, as mentioned above, since the earliest domesticated horses in the Chinese cultural context were associated with the first appearance of the chariot in North China in the Late Shang.

Before we address domestication in East Asia, we must first have a grasp of the presence of Equus in East Asia and especially North China. Fossilized bones of horses, along with the remains of other animals utilized as food, have been found in sites of various stone-age cultures in North China. Horse bones dating from the Middle Paleolithic were found at Zhoukoudian near Beijing, the site where Peking Man (Homo erectus pekinensis) was first discovered (Chang 1986: 44-45), and contemporary to the fauna of Peking Man 300,000 to 500,000 years ago. The remains of Hipparion, ancestor to the modern horse, was also found in north China (Olsen 1984: 62). Regarding the species of Equus found in China, Olsen reports in a later paper (1988: 160) that of the seven species of Equus that have been reported from the Pleistocene and Holocene in
north, northeast and northwest China, with the following from more recent times: *Equus caballus*, *Equus przewalskii*, and *Equus sanmeniensis*.

The site of Xujiaoyao near Datong in Shanxi province north of Beijing produced both archaic *Homo sapiens* and horse remains (Shelach-Lavi 2015: 31). Dating to the Middle Pleistocene at the end of the Riss–Wurm interglacial period (about 100,000 BP), it is somewhat later than the Zhoukoudian site. Archaeological excavations of the Zhoukoudian Layer 3 in 1974 and 1976 revealed the remains of over 20 animal species, including Przewalsky’s horse and the Asiatic wild ass (Jia 1980: 38). Later excavation work near the ancient shoreline of Lake Datong also revealed primitive settlements in which “[m]ost of the fossils found were wild horse skeletons, no less than 91 in all,” which the excavators assumed “. . . could have been hunted down with the new weapon—the bolas, which vastly extended the hunters killing range by entangling the animal’s feet and bringing it down to be killed” (Jia 1980: 39).

At later Neolithic sites, horse remains have been found at the Yangshao Culture site of Banpo near Xi’an in Shaanxi province (ca. 6000 BCE). Ho (1975: 94–95) points to the discovery of horse remains there as well as at Gaodui in Henan, and he cites the Chinese authors of the report on the remains as saying that the horses (as well as cattle) may have been “‘domesticable’ but not necessarily ‘domesticated’” (Ho 1975: 94). Other sites include those of the Qijia culture (ca. 2500 BCE) where the remains of horses and other animals have been found (Chang 1986: 282). The later Neolithic site of Hongshanhou near Chifeng in North China produced bones of horses, as well as those of cattle, sheep and pig (Chang 1977: 189). Linduff (2003: 143, table 11.1) lists 12 neolithic

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7 The bola as a weapon in Asia, if it actually existed as Jia’s report seems to assume, has not been well studied.
sites in west/north, central and northeast/east China where there were reported remains of horses dated ca. 4000-1500 BCE. She writes that there were no unequivocal signs of domestication such as horse trappings or chariots found in excavations (Linduff 2003: 142). Yuan and Flad concur (2003: 111), though stating that only seven Neolithic sites (rather than 12) have produced horse bones, all in the north and that the sites provided no evidence of domestication. There is no question that the horse was represented in the fauna of North China, but there is little evidence of domestication at this early date. Wan’s suggestion (2013: 22-23) that the presence of horse remains in late Neolithic sites in China indicates that the domesticated horse had spread into China by the end of the third millennium BCE does not hold up to much scrutiny (Linduff 2003: 142), as we shall see in the next section.

**Introduction of the domesticated horse to China**

The appearance of the domesticated horse in early China was inextricably associated with the introduction of the chariot. Archaeological evidence shows beyond doubt that the two were associated and appeared in the chronological record at the same time.\(^8\) No horse remains have been located at sites belonging to the period designated as “Xia” (ca. 2000-1600 BCE) or to earlier Shang sites prior to the Anyang period, and even in Anyang itself (Yuan and Flad 2003: 111).

A long history of archaeological investigation reveals that the horse was first utilized in the Late Shang period (ca. 1250-1045 BCE) as a draught animal for chariots

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\(^8\) Yuan and Flad (2003) present a succinct summary of the scholarship on domestication of horses in China, and generally agree with the general consensus that it did not occur until the Late Shang period.
employed by the Shang royalty and other elites (refer to Map 3). Its appearance, as mentioned, seems to be relatively sudden with little indication of a gradual development, strongly supporting the contention that the technology of the chariot and horse was a borrowed appropriation from outside of the Shang homeland. Chinese and Western scholars of early Chinese history have addressed this issue. Chinese archaeologist Chow Ben-shun states that “According to the presently available archaeological evidence, the presence of the domesticated horse in the Central Plain area of North China did not come about until a little earlier than the thirteenth century B.C., i.e., the early Yin [Shang] Period of the King Wu Ting’s reign” in Anyang, the last capital of the Shang dynasty (quoted in Olsen 1988: 163).

Without doubt, horses were known to those who inhabited North China in the late Neolithic and Early Bronze Age periods, but the process of their domestication would most likely have taken a different form from that of other animals such as cattle, sheep and goats, which are relatively manageable. Horses, as Olsen points out, are often unmanageable, high strung, and the stallions often aggressive, “. . . capable, even after centuries of domestication, of inflicting serious and at times fatal injuries to humans and other animals that venture too close” (1988: 163). Thus the process of horse domestication, taming and training required close attention to mitigating the horse’s generally excitable and skittish nature. Since the grass-grazing *Equus* species flourished

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9 Personal note: in 1887, my great-grandmother’s second husband died after he was thrown from a horse in South Dakota. That did not, however, dissuade my grandfather from being a cowboy there for a number of years.

10 Yuan and Flad examine one aspect of horse control, the utilization of castration of stallions as depicted in the terracotta sculptures found in the mausoleum pits of the First Emperor’s tomb complex in Lintong, Shaanxi. They do point out that this evidence is much later (ca. 210 BCE) than the period discussed here (2003: 114-115, 125, Figures 6.1 and 6.2).
in the northern steppe regions of Eurasia, an area where there was also human habitation, it is worth examining recent scholarship on the domestication of the horse in the region and from whence the chariot may have arrived in Shang China, then consider its accuracy.

Wheeled Vehicles in East Asia and Early China

In this section the writer discusses, first, the introduction of the domesticated horse and the chariot into North China from Inner Asia; second, the proliferation of the chariot during the Shang and the Western Zhou dynasties; third, the technology and structure of the chariot in China; and fourth, the chronological sequence of chariots to riding, and the chariot’s gradual decline beginning in the Spring and Autumn period into the Qin and Han, a trend that reduced, then nearly eliminated, the chariot as a war platform in China.

Olsen points out that once the process of domestication of the horse begins, morphological changes are relatively minimal, but “. . . once the horse was established as a beast of burden, whether as a mount or as a prime mover of wheeled vehicles, we then have trappings and gear that are associated with these cultural devices” (Olsen 1988: 176). These trappings then become the focus of studies to determine the geographical origins and spread of domestication, accurate chronology, and innovative progression from the earliest appearance to more sophisticated methods of transport. Those scholars who have examined early morphological changes in dentition determined to be the effects of the use of harnesses and bits are often limited to the lack of physical evidence manifested in surviving artifacts, which were most often organic and decay quickly.
One of the ongoing controversies about horse domestication is whether the domesticated horse was first used to pull wheeled vehicles or for riding, as mentioned earlier. This question has been clearly addressed and sufficiently answered with regard to China, as both the archaeological and historical records have provided evidence that, at least in China, the horse as a draught animal appeared about nine centuries prior to its utilization as a mount by Chinese forces. While non-Chinese tribes to the north and northwest of the Shang state most likely utilized the domesticated horse for chariotry before the Chinese did, it is with regard to the adoption of the chariot by the Chinese that the writer will address here.\textsuperscript{11}

The history and development of the chariot, war-wagon, cart and other wheeled vehicles in early Eurasian history, both in the West and in China, have been addressed in many articles and books and previously touched upon in this Introduction.\textsuperscript{12} The transmission of the chariot into China requires a look at the contemporary Bronze Age cultures which existed west of the Shang polity in the region of the Altai Mountains.

The appearance of the chariot in the Shang capital Anyang ca. 1250 BCE was abrupt enough that most scholars have come to view this as an example of cultural importation (Linduff 2003: 154; Piggott 1974; Shaughnessy 1988: 190). Except for one instance, there have been no prototypes of the horse-drawn chariot, battle wagon or cart

\textsuperscript{11} Song Jianhao’s contention (1996: 206) that horse riding and cavalry was already practiced in the Shang is a minority view, and will be examined in Chapter I.

\textsuperscript{12} Some of these works overlap in their treatment of the chariot in the West, in Central Asia and China. On the appearance of the chariot in western Eurasia, see Anthony 2007; Anthony & Vinogradov 1995; Chechushkov and Epimakhov 2018; Cotterell 2005; DiMarco 2008; Jacobson 1990; Littauer & Crouwell 1996; Piggott 1974, 1978; Pogrebova 2003; Watson 1966, 1971. For studies which focus on or discuss domestication and the chariot in China, see Bagley 1999; Chang 1980; Di Cosmo 2002; Linduff 2003; Lu 2011; Mair 2003; Olsen 1988; Piggott 1978; Rawson, Chugunov, Grebnev and Huan 2020; Shaughnessy 1988, 1989; Shelach-Lavi 2015; Sun 2014; Watson 1978; Yuan and Flad 2003.
discovered anywhere in north China that predate the Anyang finds. The wooden rimless wheels mentioned above, found at Qizilchoqa, Xinjiang can be discounted since the site from which they were excavated was outside China proper during the Shang period, and indeed cannot be considered as chariot wheels.

Shaughnessy treats the issue of evidence of importation from Central Asia in some depth (1988: 200-206). He concurs that the earliest evidence for chariots was found along the Sintashta River east of the Ural Mountains, and the site, containing abundant Andronovo pottery, is dated to about the middle of the second millennium BCE. The Sintashta chariots were characterized by spoked wheels, very different from those from the West Asia. Two additional well-preserved chariots were found at Lchashen and date to ca. 1500 BCE. The rectangular bodies with mid-placed axles and wheels with twenty-eight spokes, “. . . represent an already fully developed chariot form” (Shaughnessy 1988: 201).

According to Linduff (2003: 154, citing E.E. Kuzmina 1994: 38), “The sites in closest proximity to Anyang where chariots, sometimes with teams of bridled horses, were found in warriors’ graves are at Sintasta, Ulyubay, Valjanka IV, Berlik and Satan cemeteries in the Urals and Kazakhstan.” She and Shaughnessy (1988: 215) agree that according to Shang oracle inscriptions, chariots were prized booty to be seized from their adversaries to the west of Anyang.

Chechushkov and Epimakhov write that the Sintashta finds are the first actual chariots, and by the Late Bronze Age they were an important part of a ‘chariot horizon’ “. . . which represents a rapid extension of the chariot complex to the vast areas of Northern Eurasia” (2018: 437, 441). They cite Kuzmina’s view that the Andronovo
people utilized horses of three breeds: little, medium and large, the last being a chariot horse, “... the rare and prestigious possession of social elites and the predecessor or the Akhal-Teke horse” (443).

Piggott (1974) looks closely at the remarkable similarities that associate spoke-wheeled chariots found at Lchashen in Armenia in the Transcaucasus, and at Anyang. The Lchashen chariot burials date from before the 14th century BCE to the end of the 12th century BCE. The appearance of the chariot in China falls within this period, but what is more relevant is the similarities in construction that are shared by the Lchanshen and Anyang chariots. Piggott’s detailed description is worth quoting at length (1974: 1819):

The peculiar features of the vehicles from Lchashen are first, the wide but shallow proportions of the body; second, the railing at the sides and back but not the front; and finally, the high number of spokes and the felloe made of two half-circles of bent wood. All these details differentiate the vehicles from any ancient Near Eastern chariot known to us from surviving examples, models or pictorial representations. Turning however to China, the soil-grooves indicate a very small square body for the well-known Shang chariot from Tomb 175 at Ta-ssu-k’ung-ts’un [Dasikongcun]. . . . The variant versions of a high front to an almost square body, typical of ancient Western Asia, do not seem to be found in China. . . . The construction of the wheels seems even more significant. Early chariots in the Near East have at first light wheels with four spokes, later move to 6 or 8, and only finally and exceptionally, in the later Assyrian wheels with massive composite felloes, up to 16. . . . In China on the other hand lightly built wheels, with usually from 25 to 30 spokes are standard . . . and the Pazyryk carriage has wheels with 34 spokes. These numbers compare well with the 28 spokes at Lchashen.

The particular construction of the felloe and the number of spokes in the wheel are cited by Piggott as “... too specialized to be dismissed as coincidental, or the result of parallel development, and perhaps the more so since the sudden appearance of the

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13 The felloe is the outer rim of a wheel to which spokes are fixed (Oxford Dictionary).
14 For the location of the Pazyryk tomb, refer to Map 2.
chariot with paired-horse draught in later Shang times itself demands explanation, quite apart from any technical details” (Piggott 1974: 18). He concludes that “. . . Ferghana [in present day Uzbekistan] might have constituted an easterly outpost of the Andronovo culture in the second millennium BC, and that within such a cultural continuum the earlier contacts between the wheelwright’s techniques of the Caucasus and China. . . might have been effected” (Piggott 1974: 23).

While a number of writers argue that the chariot was invented in the steppe region and spread eastward and westward from there, a few still hold that it was a product of the Near East. Pogrebova (2003: 404) writes that the ”. . . evidence enables one to suggest that the population of southern Transcaucasia became familiar with chariots under the direct influence of the Near East, when it had been borrowed primarily as a marker of a high social position.” The argument is made that the spoke-wheeled chariot was too light for combat and was merely a prestige object. A study of petroglyphic images of wheeled vehicles, both two-wheeled and four-wheeled, found in Mongolia and South Siberia, show a lack of human aggression. Jacobson (1990: 86) argues that the lack of such representation in the petrolithic record hints that warfare was not as valued as ritual activities, and if one were to try to find in the record such evidence for warlike cultures, “it will have to be found with reference to that supposed instrument of war and prestige, the light two-wheeled vehicle or chariot.”

**The Horse and Chariot in the Shang Dynasty**

Li Chi, the eminent archaeologist who initiated the first excavations at Xiaotun, Anyang in 1928, recognized early on that there were aspects of Shang culture which differed
remarkably with the previous Neolithic cultures of the North China Plain. He enumerates the main cultural characteristics of the remains at Xiaotun which differ from pre-Shang remains, including the presence of a well-developed writing system and the use of chariots (Li 1957: 15). He writes that “None of the . . . six cultural traits could be linked, as far as is known, in even a remote way to the Yangshao and the Lungshan cultures. They also differ among themselves in the degree of the suddenness of their emergence from a total obscurity in the Neolithic time to the foreground of the historical scene” (Li 1957: 16).\(^\text{15}\) This early observation is still held for the most part by scholars today.

However, Thorp’s statement that ”No evidence for Shang use of horses predates the Yinxu period” (2006: 171), should be taken with a bit of caution (refer to Map 4 for sites with Shang period horse remains). Chen writes that ”. . . the earliest evidence for the use of a horse-drawn wheeled vehicle in China is wheel impress traces of two wheels, 1.2 m apart, found in the Yishi Shang city\(^\text{16}\) of Henan, along with one bronze axle cap” (Chen 2002: 75), and he states that other than this example there is no other evidence to point to the use of wheeled vehicles in Early Shang. Most scholars agree that the chariot was an import from outside. ”The first chariots appear in [the Yinxu] period II as fully realized, sophisticated machines pulled by two horse teams,” writes Thorp (2006: 171). Shen cites about a dozen examples from Anyang sites (2003: 75), and indicates a larger number, both from Anyang and elsewhere. To date, a total of forty-one Shang horse-drawn

\(^{\text{15}}\) A number of scholars have addressed the chariot in early China, specifically the chariot in the Shang period (refer to Bagley 1999; Chang 1980; Cotterell 2004; Li 1977; Lu 1993; Piggott 1978; Sawyer 2011; Shaughnessy 1988; Shen 2002, Sun 2014, Wan 2013, among others).

\(^{\text{16}}\) “Yishi” is most likely a typo and should probably be “Yanshi”, a city in Henan where the well-known excavated site of Erlitou predates the Shang. (See Sun 2014: 175, who also discusses this discovery). Periods I-IV from Erlitou date from ca. 1900-1500 BCE, while the Early Shang site of Erligang in Zhengzhou dates from ca. 1600-1300 BCE. Middle Shang dates from ca. 1300-1200 BCE and Late Shang is from ca. 1250 to 1050 BCE (Thorp 2006: 64).
chariots have been recovered from three archaeological sites in northern China. Only four of them were found outside Anyang: one from Laoniupo in Shaanxi and three from Qianzhangda in Shandong. In addition, numerous horse-and-chariot fittings were unearthed from the Anyang site and from sixteen locations outside Anyang, all dated to the Late Shang.  

As mentioned above, these "fully realized" machines are strong evidence that they were introduced from elsewhere, which Chen acknowledges. No chariots or even horses have been excavated in the pre-Anyang Shang sites at Erligang or Zhengzhou. Shaughnessy's contention that chariots existed in China ca. 1200 BCE only at Anyang needs to be modified considering Chen's observation above, but their existence in Central Asia ca. 1500 BCE, suggests a typological continuum between the two regions. He compares their typological similarities, which, in his view, leaves no doubt as to their connection. In alignment with Li Chi’s observation, Shaughnessey categorically states, "... there is not a single feature of the early Chinese chariot that is unique to China" (Shaughnessey 1988: 207). To support this thesis, he cites the number of spokes that both the Transcaucasian and the Shang chariots have: 28 for the Lchashen chariots and between 18 and 26 for the Shang chariots; the location of the axle under the middle of the chariot box, rather than at the rear in most other types; "... free-turning hubs mounted onto a fixed axle secured with tubular bushings that are set with a linchpin, and two-piece bent-wood felloes into which the spokes are morticed" (Shaughnessey 1988: 207-208).

Yet Shen points out (cited below) that there were a few unique features that characterized the Shang chariots.

With the introduction of the light spoke-wheeled chariot into Shang China ca. 1250-1200 BCE, there is some indication of its use in warfare. Lu (1993: 830-831) argues that the earliest chariots in China were mainly used in war, but were also symbols of honor and status, and were included in primary ritual sacrifices as a primary object (Lu 1993: 834). While ancient texts from the subsequent Zhou period attest to its use in combat, there is minimal textual evidence for that particular use in the Shang period, as addressed below.

Shaughnessy discusses in some detail the occurrence of the graph *che* 車 (vehicle) in the oracle bone inscriptions from late in Wu Ding's rule (1988: 213-221). Only sixteen occurrences are recorded, and five of those are considered personal or place names (Figure I.3). The graph is not consistent, and Shaughnessy ascribes this to the recent acquisition of the chariot into the kingdom and prior to the graph becoming standardized. He points out that the inscriptions fall into two types: "... those pertaining to the Shang king's personal use of chariots, and those pertaining to its use by (western) enemies of the Shang state" (Shaughnessey 1988: 215). The second type, which appeared later, pertains to only two inscriptions dealing with chariots in battle, and are later than inscriptions dealing with hunting. They state, significantly, that it was the enemies of the Shang who had battle chariots, and not the Shang (Shaughnessey 1988: 218). The Shang also recorded the capture of horses, chariots and weapons from the enemy in a victory around the end of the twelfth century or beginning of the eleventh century BCE, but the
paucity of records may indicate that chariotry, according to Shaughnessy (1988: 220, 221),

... had not yet become a prominent part of the military, nor a deciding factor in military success... What we do see, on the other hand, is evidence of chariotry's first tentative military use by enemies living on the western border of the Shang kingdom. Since these peoples were directly on the route of transmission between Shang and the Ordos region and beyond, it would not be surprising if they were somewhat more advanced in the use of chariotry.

A description of the chariot appearing “fully realized” at Anyang, the last capital of the Shang dynasty, has been only cursively offered. A fully technical description of the Shang chariot’s structure and mechanisms is not needed, as it is peripheral to the main topic. However, pointing out indigenous developments and uniquely local characteristics, as well as outside influences, will be pertinent to the discussion. This will be followed by a discussion of the role that horses took as chariot draught animals and sacrificial objects. Finally, a short examination of the horse-and-chariot during the Western and Eastern Zhou periods, the apex of its popularity and subsequent decline, will conclude the Introduction.

Piggott's comparison of the Lchanshen and Anyang chariots has been provided, and Shen (2002: 75-83) also gives a succinct description and illustrations of the Shang chariot’s structure and parts. He points out that while they were very similar to chariots from outside China in Central Asia, they had some original aspects such as characteristic bronze fittings in particular, the “bow-shaped object” (the use of which is still debated, but could have been used as a driving device or the central part of a compact bow. Wan 2013: 36).18 While the wooden and leather organic parts of the chariots have rotted away,

18 A more sophisticated harnessing system appeared as a later development, discussed in the next section. For further information regarding the “bow-shaped object”, see Lin Yun 1998.
bronze horse and chariot fittings were found in situ, indicating how the chariots were structured. Shen’s description is worth quoting at length (Shen 2002: 25):

Generally, the Shang chariot was pulled by two horses harnessed on either side of a draught-pole and joined by a yoke that was attached at right angles to the forward end of the pole. The horses were harnessed to the yoke by means of yoke saddles, which were suspended from the yoke and probably sat just above the withers of the horses. The draught-pole was about 2.6-3.0 m long and probably made of a single piece of wood, which passed under the chariot box and sat directly on top of the axle. The chariot box was usually rectangular, though some oval examples have been found. Unlike chariots from the Near East, the Shang chariot box was mounted centrally over the axle. The sides of the box were made from more than twenty evenly spaced posts or uprights connected with a few horizontal bars. Entrance to the box was from the back. The wheels had eighteen or more spokes and ranged from 125 to 150 cm in diameter (75).

The chariot in the Shang period is considered to have been used for hunting and war, although, as mentioned above, there is minimal evidence for the latter usage. It is evident from burials that the horse and chariot as a unit was a prestigious item, associated solely with the privileged classes, as they are only found in burials associated with those classes. The role of the horse-and-chariot unit as sacrificial offerings, often accompanied by a driver, is an indication of its association limited to royalty and the elite of the Shang state. This association gave impetus to the rise in symbolic meaning of the horse (as well as that of the chariot) and its spiritual affiliation with the world beyond, an important topic that will be discussed in later chapters.

Burials usually contained a chariot, two horses and a sacrificed driver; sometimes there was another person buried as well (Figure I.4), and occasionally a dog. Wan (2013: 32) describes the four types of pit burials: 1. Burying the horse and chariot as if in use, with the horse attached to the chariot. Most fall into this category; 2. The horse is not attached to the chariot, with the axle and wheels buried separately. This is very rare; 3. A whole chariot and a disassembled chariot are buried in the same pit. This mode is seen
only once; and 4. For horse-only pits, the horses are killed and buried in one of four ways: “back-to-back, back-to-abdomen, abdomen-to-abdomen, and curled” (Wan 2013: 32).

Horse-and-chariot pits were usually found in pairs, often matching in content and style of the objects included within the pit. While almost all chariots found at Anyang had straight yokes, a curved yoke was excavated in Guojiazhuang, confirming that the form of chariots depicted in the oracle bone script with curved yokes existed in the Shang (Shen 2002: 76-77).

Shang oracle bone inscriptions of the time hint at the new status of the horse. Yuan and Flad cite an oracle bone record which states “The king fed horses in the stables” (Figure I.5) and point out that “. . . no such inscriptions describing the king feeding cattle, sheep, dogs, chickens, or pigs have ever been identified” (Yuan and Flad 2003: 112). The king’s involvement in any way in the raising of horses points to their burgeoning significance. The ubiquitous presence of the horse as sacrificial offerings in royal burials strongly supports the increasing status of this animal in the Chinese world. This will be further discussed in Chapter 1.

The Horse and Chariot in the Zhou Period

The overthrow of the Late Shang dynasty by the Zhou people is attested to in ancient texts. Bronze inscriptions from the period also provide evidence for the role of the horse-and-chariot in the conquest. Below is a general description of the roles both the horse and the chariot took in the Zhou period, from the conquest to ca. 300 BCE, since their association in the period is intrinsically linked together.
The Zhou people resided to the west of the Shang state in the Wei River valley in present day Shaanxi province. Originally a vassal state of the Shang, the Zhou, toward the middle of the eleventh century BCE, along with a number of allies, rebelled against the Shang and defeated it at the battle of Muye in 1045 BCE, ending the Shang dynasty.\textsuperscript{19} What is pertinent to this study is not the reasons for the rebellion, but the use of the chariot in the battle of Muye. The \textit{Shiji} records that the Zhou forces sent three hundred war chariots into battle. In addition, its allies deployed four thousand war chariots to join the attack on the Shang (Hsu and Linduff 1988: 94).\textsuperscript{20}

Hsu and Linduff, in looking at the Zhou chariot itself, state that it was rather similar to the Shang chariot, and "did not provide a military advantage" (1988: 85).\textsuperscript{21} It may be that the Zhou, located to the west of the Shang, may have had the chariot for some time prior to its appearance in the Late Shang dynasty. Since most scholarship recognizes that the Shang chariot was introduced from a chariot-using culture to the west--most likely from the Andronovo culture--the Zhou may have integrated it into their society before the Shang did. The many horse-and-chariot burials in areas considered to be predynastic or Western Zhou territory (May 5) also hint that Zhou chariot technology may have been more advanced than that of the Shang, as the chariots are more elaborate (Wan 2013: 46-47). The increasingly important role and status of the horse is indicated in two innovative features: the first is the appearance of one of the earliest four-horse

\textsuperscript{19} The precise year in which the battle was fought is unclear, due to difficulties in aligning the Shang and Zhou calendars. Hsu and Linduff note that it could be anywhere between 1122 and 1027 BCE (95). Today, however, Chinese scholars have designated that the year 1045 BCE should be cited as the first year of the Western Zhou dynasty, and therefore accepted as the year of the battle.

\textsuperscript{20} Ancient writings, in describing the size of armies and casualties, are often unreliable.

\textsuperscript{21} Table 3.1 in Hsu and Linduff provides a comparison of measurement for four Shang and six Western Zhou chariots, as well as later chariots (Hsu and Linduff 1988: 86-87).
chariots ever discovered, from M168 in Fengxi, Shaanxi (Wan 2013: 46); and second is the discovery at the site of Beiyao in Luoyang where pits with only horses and no chariots or chariot parts were found, showing a clear difference between Western Zhou and Shang treatments of the horse in this context (Wan 2013: 52-53).

The change to the use of four horses from the standard two for the Shang chariots is notable but more importantly during the Western Zhou, the horse-and-chariot became essential as a military platform in warfare and as a symbol of status. Sawyer writes (2011: 332), "The chariot soon became a symbol of power, and being the army's most visible component, a means for assessing the strength of states." By the end of the Spring and Autumn period of the Eastern Zhou (Map 6), a number of contending states were supposedly fielding thousands of chariots, a fearsome if expensive weapon of war. The symbolism which the horse personified, due to its inextricable relationship with the chariot, the ruling class that wielded it, and its association with the spiritual world through its frequent usage as sacrificial animal in the Zhou period, is examined in depth in a later chapter, but is summarized here.

By the Zhou period, the importance of horses had increased manyfold as the horse-drawn chariot became increasingly crucial in war. We know from inscriptions that breeding pastures and officials in charge of horse breeding and maintenance were also essential to the function of the court. Mu Wang, the fifth Zhou king (reigned 947-928 BCE), was apparently inordinately fond of horses. A foal-shaped zun from Meixian dated to his reign so indicates such a fond familiarity with horses (Figure I.6). Hsu and Linduff (1988: 139) describe it and other examples:

The inscription of the body of the tsun [zun] says that the king first handled a foal and then bestowed on the owner of the bronze two young colts. Two more
inscriptions appear on the lid, each of which give the specifics of these two horses, facts probably related to their breeds. The ceremony that is described, the handling of a new foal by the king himself, points to the importance of good breeding horses.  

Another bronze inscription from the time of King Xiao (r. 897-888 BCE) indicates a gift of 32 horses, and a later text records that in the reign of King Yi (r. 887-858 BCE) the Zhou captured one thousand horses in a battle against the Rong people. There was a realization in this period that establishing grazing and breeding pastures was essential for raising a sufficient population of equine stock to supply the needs of the royal court for war and other purposes. Therefore, the ducal house of the state of Qin in the Wei River Valley was entrusted by the Zhou royal house with the raising of horses (Hsu and Linduff 1988: 139-140). There was also a realization that China's physical environment was for the most part occupied by settled agricultural farmers, and that the pastoral environment needed for raising horses could only be found in the more arid steppe and grasslands of north and northwest China, areas where conflict with non-Chinese tribes was common. Hsu and Linduff (1988: 140) point out that the Qin had "... for a long time maintained friendships, and even marriages, with the Western Jung [Rong], the non-Chou [Zhou] people" who inhabited the region to their west. The training of horses to be more docile to human control also had high priority (Sawyer 2011: 347-353) and it appears that King Mu was aware of the need for such training.

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22 See also Hsu 1984: 183-186. This zun will be examined in Chapter 4. King Mu's love of horses provided the basis for later legend and folklore in his celebrated travels touring his kingdom in a chariot pulled by eight magical horses possessing the ability to fly. This will also be discussed in Chapter 3.
23 This was to become a crucial element in Chinese-Xiongnu conflict during the Western Han.
24 Sawyer's treatment of the horse in China (2001: pp. 345-358) provides an excellent look at the horse's training, its role and effects, and "horsepower".
During the Spring and Autumn Period (771-465 BCE), the chariot was well utilized in war. The Zuozhuan records a number of battles in which chariot forces played an important part. In one, Qin defeated Jin at Han in 645 BCE through superior chariot tactics. At the battle of An between Qi and Jin in 589 BCE, eight hundred chariots were in play (Cotterell 2005: 186, 177). The increase, however, in the sizes of infantry armies, especially during the subsequent Warring States period (Map 7), also saw the decrease in the use of the chariot. The introduction of cavalry forces as an adjunct to infantry ca. 300 BCE spelled the end of the horse-and-chariot as a major military component in battle, but states continued its utilization as mobile command platforms in war and as processional vehicles for the court, even though this trend had already begun earlier. This trend will be discussed further below.

The practice of placing horses in or near tombs as sacrificial offerings continued in the Western Zhou and later, not only for the royalty but also increasingly for the less well-connected.25 The important roles bestowed upon the horse were ones of practicality in war, of status at the court, of the spiritual in funerary sacrifices, and of metaphor in legend and folklore, addressed in subsequent chapters. The inherent qualities of the horse (its power and swiftness) and the perceived qualities (its beauty and its association with royalty) made it increasingly valuable and visible in the funerary rites and the art of the period.

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25 Near the city of Linzi, Shandong, was found a large horse pit near the tomb of Lord Jing of the kingdom of Qi. It was 200 meters long and containing more than 600 sacrificial horses (Lu 2005: 233).
Decline of the chariot.

The Eastern Zhou was an era that witnessed increasing disunity among the ducal states due to the weakening of Zhou royal house’s power and influence. There was also a burgeoning of hegemonistic state power, leading eventually to a period in the later Eastern Zhou that was consumed by interstate rivalry and warfare, appropriately called the Warring States Period, which began in 481 BCE and concluded when the state of Qin completed the conquest of all contending states in 221 BCE.

While the earlier Spring and Autumn period (771-481 BCE) of the Eastern Zhou witnessed the continued popularity in the use of the horse and chariot and the increasing size of chariot forces in the frequent conflicts, later, because of the remarkable increase in the size of infantry armies, the chariot’s utilization began to decline, its use relegated more and more to a still important tactical role of mobile command platform.

There were instances where chariot forces were overwhelmed by infantry, a warning to those states which did not look for alternatives. Cotterell suggests (2005: 249) that due to the rise in conflict during this period, the expense of putting chariot forces in the field began in turn to impose financial burdens upon the feudal states. This burden began to force upon them a change in military tactics, with a recognition that the cost of infantry was considerably less than that of chariotry. By the end of the Warring States period, chariot forces had been reduced considerably in favor of infantry and cavalry and a typical military force comprised, as the Zhanguoce 战国策 put it, “one thousand chariots, ten thousands of cavalry and hundred thousands of foot soldiers” (Cotterell

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26 While Cotterell’s view about the burgeoning cost of chariotry seems reasonable, it needs more documentary proof that this was indeed an important reason for the trend in abandoning the use of chariot forces at the time.
a military force in which the second and third contingents eventually pushed the first into near oblivion. Since a chariot had a detachment of footsoldiers, the mounted horse, which maneuvered independently of any infantry force, increased the speed of military forces and was less subject to obstacles dictated by terrain. Lastly, the harnessing system prior to the fourth century BCE had a negative impact on the power and speed of the chariot horse. These will be more fully examined in the next chapter.

Among the reasons for the decline in use, besides the burgeoning cost of building and maintaining large chariot forces, there was also the factor of the challenge in raising sufficiently large numbers of draft animals needed to pull them. The relative difficulty in the manageability in the increase of the size and the maintenance of mounted forces put into the field by the contending states during the Warring States period in the end gave each state an advantage depending on each state’s ability to raise sufficient numbers of horses.

In contrast, Sawyer points out the maintenance, logistical and environmental challenges that chariots posed (2011: 375ff): maintaining horses required them to be well taken care of; they were vulnerable to enemy weapons such as arrows and other piercing weapons; chariots and harnesses had to be constantly maintained and subject of repairs due to the limited durability of component parts, catastrophic if failure occurred during combat; the challenges of terrain, including heavy vegetation, depressions, permanent bodies of water; challenges of the southern climate and terrain posed to horses acclimatized to the drier steppe climate and relatively level landscape, and, of course, 

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27 Starting in the Late Shang dynasty on, the chariot was usually escorted by contingents of infantry, so one can be confident that throughout the period when the chariot was utilized in China, a command that included chariot and foot soldiers was a well-established military tactical element. The later addition of cavalry made chariots as battle wagons virtually obsolete.
hilly and mountainous terrain. Combat between the contending states increased more frequently in the south of China, the terrain of which, hilly or not, was often unsuitable for the use of chariot forces, which encouraged the spread of infantry and horse riding and the decline of the chariot. The challenges that terrain posed for chariot forces was addressed in early martial works.

According to Sun Ji (2014: 182), changes in battlefield topography led to changes in the use of chariots and carriages. In the pre-Qin period “. . . the importance of infantry foot soldiers and cavalry increased. The chariot soldiers were gradually transformed into military supply teamsters (zizhong bing), and the vehicle’s main function changed from doing battle to [supply] transport, thus the demand for speed was reduced.” While the chariot was still frequently utilized as command platforms in battle, the integrated infantry and cavalry armies came to replace it in priority and importance.

The work Sunzi Bingfa 孫子兵法 (Sunzi’s Art of War) addresses the challenges that terrain posed to chariots as well as to other combat contingents (Sun Tzu 1988: 143-147), but the military treatise Liu Tao 六韜 (Six Strategies) discovered in an early Han dynasty tomb at Yinqueshan, Shandong province, enumerates clearly such challenges (Sun Bin 2003: 2). Sawyer (2011: 381-382) provides a summary of the operational problems that terrain would have offered:

Terrain on which there is no way to withdraw after advancing is fatal for chariots. Passing beyond narrow defiles to pursue the enemy some distance is terrain that will exhaust the chariots. Terrain on which advancing to the front is easy but to the rear is treacherous will cause hardship for the chariot. Penetrating into narrow and obstructed areas from which escape will be difficult is terrain on which the chariots may be cut off.

If the land is collapsing, sinking, and marshy, with black mud sticking to everything, this is terrain that will labor the chariots. When the terrain is precipitous on the left but easy on the right and there are high mounds and sharp
hills, it is terrain contrary to the use of chariots. Terrain in which luxuriant grass runs through the fields and there are deep watery channels throughout thwarts the use of chariots. When the chariots are few in number, the land easy, and you are not confronted by enemy infantry, this is terrain on which the chariots may be defeated. When water-filled ravines and ditches lie to the rear, deep water to the left, and steep hills to the right, it is terrain upon which chariots will be destroyed. If it has been raining day and night for more than ten days without stopping and the roads have collapsed so that it’s not possible to advance or escape to the rear, it is terrain that will sink the chariots.

In addition to the challenges seen here that the natural environment posed, the type of throat-and-girth chariot harness used prior to the fourth century BCE also had a negative impact upon the power and speed of the horse, since it restricted the breathing of the horse when pulling a chariot. Only with the invention of the trace (brace-strap) harnessing system in the late Warring States period was the horse released from this suffocating method to realize its true potential as a draught animal (Sun 2014; Cotterell 2005: 42). While there was parity in speed between opposing chariot-supported armies fighting in the Zhou period, there also existed a parity between opposing cavalry forces from the late Warring States into the Han, and it soon became obvious that cavalry was superior in terms of strategic and tactical deployment, since cavalry was capable of a greater swiftness and maneuverability in tactical maneuvers than were infantry and chariotry.

While the chariot as an elevated and mobile command platform continued to be utilized by commanders well into the Warring States period, it was no longer in the interests of the kingdoms to put into the field chariot units that could be countered and neutralized by foot soldiers. Once cavalry was introduced, new strategies and tactics were bound to replace those originally assigned chariot forces. In the following chapter, the
appearance of horse riding in eastern Eurasia will be addressed prior to a discussion of the adoption of cavalry by the Chinese.

**Conclusion**

A background to the history of the horse in Eurasia and the process of its domestication, and its eventual role as draught animal are presented as a foundation for realizing the importance of the horse in Eurasian, and especially East Asian, history. The invention and spread of wheeled vehicles, including that of the chariot, had fundamental and lasting consequences for China with the adoption of the horse-and-chariot from non-Chinese peoples to the west in the Late Shang dynasty.

An overly detailed examination here on the use of the chariot in the Eastern Zhou period is unnecessary, since the focus of this dissertation is on the transitional changes brought about by the adoption of horse riding in China, and not by the horse in its role as chariot draft animal.\(^\text{28}\) The chariot is addressed in this Introduction since the appearance of the horse in China is inextricably linked to it, and only an abbreviated examination of the horse and chariot in the Eastern Zhou is provided. Chapter 1 looks at the role of the horse in the transition from chariot draught animal to cavalry mount starting in the late Warring States period into the Han, due in part to the increase in the size of infantry armies and the introduction of cavalry, both of which negatively impacted the use of the chariot.

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\(^\text{28}\) Xiang Wan’s 2013 dissertation “The Horse in Pre-Imperial China” deals with this topic thoroughly.
CHAPTER 1
POLITICS: THE HORSE, TERRITORIAL EXPANSION AND CONTROL

*The superlative horse—one that raises no dust and leaves no tracks—is something evanescent and fleeting, elusive as thin air.*

*Liezi*, Book 7: Causality

**Introduction**

Much academic discussion has ensued over the past few decades regarding which technological innovation in transportation appeared first: horse riding, horse-drawn carriages and wagons, or horse-drawn chariots. The discussion and associated range of opinions can be considered more historiography than history, since the archaeological evidence that has come to light has been utilized to support different and sometimes conflicting theories.

The horse as a draft animal associated with carriages, wagons and chariots appeared very early, and the relatively later appearance of the chariot in Eurasia had lasting consequences for China, well before the adoption of horse riding by the Chinese.

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29 Translation from Giles 1959: 104.
By the late Eastern Zhou period, the popularity of the chariot as a war-wagon had begun to fade, replaced by massive infantry armies supported by cavalry forces. The reasons for this decline have already been addressed. We now turn to an examination of the adoption of cavalry and the increase in popularity of horse riding in eastern Eurasia and especially China. This transition in transportation modes led to important tactical, strategic and social changes in war, governmental administration and communication systems, and society at large, due to the influence of the roles that the horse was given from the late Warring States period on. The Chinese view of the horse itself went through profound changes during this period because of its impact on society and technology, and as a metaphor for, and symbol of, changing ideas about space/distance and time/duration.

**Early Horse Riding in Eastern Eurasia**

As previously mentioned, there is some disagreement as to the contention that horse riding appeared prior to the use of the horse as a draught animal in eastern Eurasia. While there has also been much debate on the first appearance and location of mounted horse riding, there is much agreement on the impact that horse riding had on world history. Anthony and Brown, in an early paper (1991: 22), emphasized the revolutionary aspects of the introduction of horseback riding when they wrote, “Horses, not wheels, provided the first significant innovation in human land transport, with an effect comparable in scope to that of the introduction of the steam locomotive or private automobile.” William Taylor of the University of Colorado Museum of Natural History states that horse domestication had

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30 Published research by David Anthony and collaborators have provided much evidence and interpretations for the early appearance of horse domestication and riding. Anthony 1986; 1991; 1992; 1994; 2007; Anthony and Brown 1991; 2003; 2011; Anthony and Vinogradov 1995; and others.
huge consequences, “leading to incredible, widespread, and lasting social transformations across the ancient world. Horses were an order of magnitude faster than many of the transport systems of prehistoric Eurasia, allowing people to travel, communicate, trade and raid across distances that would have previously been unthinkable” (quoted in Strickland 2021). Dietz (2003: 189), regarding the speed that horses provide, writes that “Without doubt, the introduction of rapid transportation of goods and people had enormous consequences for social, political and economic structures . . , access to the speed of the horse is presumed to have caused a form of ‘mobile revolution’ similar to that brought about by the invention of motor-drawn vehicles nearly six thousand years later.”

According to Anthony and Brown (1991: 36), no matter when horseback riding was introduced, its importance cannot be dismissed:

The beginning of horseback riding at about 4000 BC represented the first major innovation in land transport technology. Horses doubled or tripled the distance that humans could travel per day, while increasing the speed of movement by approximately the same factor. Resources, markets, allies, and enemies that had previously been beyond effective reach became reachable. . . , instruments of movement (horses, later, ox-wagons) became symbols of prestige and wealth. [But] horseback riding was not immediately adopted everywhere, a fact that emphasizes the all-important distinction between the initial appearance of a new technology and its adoption within particular social contexts. In the lowlands of Mesopotamia and Egypt horses were absent from the natural fauna, and their usefulness as mounts in military and transport context might have been reduced by the presence of walled cities and more effective means of river transport.

This theoretical scenario could well have been initiated during the earliest true domestication period. Anthony and Brown (2011) assert that archaeological evidence

31 The impact of the introduction of increasingly fast transportation technology will be briefly explored in Chapter 3.
supports the view that the earliest equid domestication occurred in the steppe. They argue that it also supports the contention that horse riding predated the use of the horse as draft animal, a perspective which is still being debated. As we shall see, this scenario did not at all apply to the Chinese situation.

Olsen judiciously observes that we may never be able to identify the earliest date and exact locality for the domestication of the horse, since once domesticated, “domesticated horses found their way to distant regions within a very short time indeed” (S. Bokonyi, quoted in Olsen 1988: 173). The reasoning for that is stated further by Anthony and Brown that a non-metric indicator of domestication is the spread of horse exploitation “into regions outside the western Eurasia steppes and lower Danube valley during the late fourth millennium BC” (Anthony and Brown 2011: 143). This rapid distribution is attributed to the ability of humans to utilize the horse as a mount for quick transportation, allowing them to quickly spread this new and revolutionary technology throughout the steppe region. The people of the Botai-Tersek culture in the steppes of northern Kazakhstan (ca. 3600-3100 BC), were, according to Anthony and Brown (2011: 143), “... horse-herders and hunters who rode domesticated horses and hunted wild horses.” There is an issue with this outlook, since these horses may not have been the ancestors of the modern domesticated horse (Orlando et al 2021), as will be shortly addressed.

Anthony discusses in some detail (1986: 295) his contention that horse domestication, other than purposed as a food resource, perhaps began in riverine and forested environments north of the Black Sea in the 5th millennium BCE, but subsequent stresses on those environments allowed the introduction of the domesticated horse to
transform the Dnieper Donets culture. They contend that in the later Sredni Stog culture (late 5th millennium BCE), horses were already being used as mounts, “effectively changing the distribution of . . . resources. Riding would have expanded the size of potential exploitative territories by a factor of five” (Anthony 1986: 295).

According to Anthony and Brown (1991: 22), the earliest evidence for mounted horse riding, based on the detection of dental bit wear, is purported to have been found at the settlement site of Dereivka in Ukraine and initially dated to ca. 4000--3500 BCE (refer to Map 2). However, subsequent radiocarbon testing of the particular horse remains utilized for the initial determination revealed a much later date, to the Scythian period (700 to 200 BCE), and that the remains were from a later intrusive horse burial within the settlement parameters (Drews 2004: 15). The identification of what have been termed “antler cheekpieces” used as parts of bridles is also disputed by Drews (2004: 15-19). Anthony concedes that that may be so, but he and Brown contend that bit wear on seven teeth from Botai-Tersek “represent the oldest direct evidence for horseback riding. But horseback riding might have started up to a thousand years earlier in the Dnieper-Ural steppes at places like Khvalyvsk” (Anthony and Brown 2011: 152). But bit wear was not restricted to horses that were ridden and is observed on the dental remains of draught horses as well. However, these early dates may now be considered inaccurate, as new research has revealed that horse riding may have first occurred somewhat later, as will be discussed below (Trautman et al 2023).

In contrast to the determination of bitwear on equid dental remains in Eurasia to indicate domestication, an early depiction of horse riding appears on a clay tablet sealing belonging to Abbakalla of Ur and dated to ca. 2030 BCE (Drews 2004: 32-33, Figure 3.2)
(Figure I.1). Littauer and Crouel (1979: 35) point to an even earlier seal-impression found at Kish dating from the end of the Early Dynastic period to the beginning of the Akkadian period, about 2400-2300 BCE. They note that with regard to this seal-impression and others, “. . . all the riders are male and they ride bareback and astride” (Littauer and Crouel 1979: 46), a clue that saddles and stirrups had not yet made their appearances.

Anthony and Brown contend that the only real evidence for horse domestication is ascertaining bit wear on equid teeth. Accepting this as true, they contend that “. . . at 4000 BC, centuries before the invention of the wheel, a bitted horse could only have been a mount” (1991: 23). As mentioned above, this early date needs to be revised, and may be subject to revision with the publication of a recent study of the DNA of gathered horse remains from Iberia, Anatolia and the steppes of Western Eurasia and Central Asia. Orlando et al (2021) summarize their conclusions thus:

Domestication of horses fundamentally transformed long-range mobility and warfare. However, modern domesticated breeds do not descend from the earliest domestic horse lineage associated with archaeological evidence of bridling, milking and corralling at Botai, Central Asia around 3500 BC. . . . [T]he genetic, geographical and temporal origins of modern domestic horses have remained unknown. Here we pinpoint the Western Eurasian steppes, especially the lower Volga-Don region, as the homeland of modern domestic horses. . . . [M]odern domestic horses ultimately replaced almost all other local populations as they expanded rapidly across Eurasia from about 2000 BC, synchronously with equestrian material culture, including Sintashta spoke-wheeled chariots. . . . Our results reject the commonly held association between horseback riding and the massive expansion of Yamnaya steppe pastoralists into Europe around 3000 BC, driving the spread of Indo-European languages. This contrasts with the scenario in Asia where Indo-Iranian languages, chariots and horses spread together, following the early second-millennium BC Sintashta culture (634).

New research has produced evidence that the earliest horse-riding in Eurasia appeared in the Yamnaya culture (Trautmann et al 2023). The authors point out that the
two components of horse-riding that should considered together are the horse as mount and the human as rider. They summarize their research below (2023: 1):

 Alterations associated with riding in human skeletons . . . possibly provide the best source of information. . . . [W]e report five Yamnaya individuals well-dated to 3021 to 2501 calibrated BCE from kurgans in Romania, Bulgaria, and Hungary, displaying changes in bone morphology and distinct pathologies associated with horseback riding. These are the oldest humans identified as riders so far.

The Appearance of Mounted Horse-Riding in Early China

This section examines both historical and archaeological evidence that points to the first appearance of East Asian horse riding in Inner Asia and in China. There has been much speculation as to when mounted horse riding first appeared on the frontiers of early China as well as in China proper, based on historical records, archaeology and surviving works of art, covering its appearance both among non-Chinese peoples of the north and northwest and in the northern Chinese states of the late Eastern Zhou period.

Archaeological work by Taylor et al (2017: 153) in northern and central Mongolia has uncovered evidence of early horse riding in the Deer Stone-Khirigsuur period (ca. 1200-700 BCE), perhaps "... the first mounted horseback riding in eastern Eurasia. . . " While we can be assured that horse riding in eastern Eurasia occurred well before it appeared within the Chinese states, many scholars have come to agree that its first appearance in China probably occurred in the mid-fourth century BCE, prior to the celebrated record of King Wuling of Zhao’s adoption of cavalry from the Hu as recorded in the late Warring States text Zhanguoce 戰國策. That the northern nomadic peoples already rode horses during the Spring and Autumn period is hinted at in the Zuozhuan 左傳 (Creel 1965: 656), and some scholars suggest that mounted nomads appeared in the
fifth or fourth century BCE (Creel 1965: 656; Goodrich 1984). This relatively late appearance of horse riding on the borders of China is a conservative view, as more recent archaeological evidence lends credence to an earlier appearance.

It has been suggested by Anthony and Brown (2011: 43) that around 3700-3500 BCE horse-mounted human migration crossed the northern Kazakh steppes from the Volga-Ural steppes to the west and to the Altai Mountains to the east, and there introduced domesticated cattle, sheep and horses to the Afanasievo culture. However, evidence for such an early date is lacking. More recent research supports the much later appearance in northwest China of mounted riding in the mid-fourth century BCE, in the excavation of sites in the northern foothills of the eastern Tianshan Mountains in Xinjiang (Li et al 2020: 29569). The authors state that this study

... provides insights into the emergence and adoption of equestrian technologies in China. Analysis of ancient horse bones from Shirenzigou and Xigou in eastern Xinjiang demonstrates that pastoralists along China’s northwest frontier practiced horseback riding and mounted archery by the fourth century BCE. This region may have played a key role in the initial spread of equestrian technologies from the Altai region into the heartland of China’s early settled states.

While this report confirms that horse riding already existed in northwest China by the fourth century BCE, the unearthing of a small cast Bronze Age horseshoe-shaped object from Inner Mongolia reveals the existence of riding much earlier. Excavated in the 1970s from Tomb 3 at Nanshan’gen, Ningcheng county, Inner Mongolia, it portrays a horse and rider chasing a rabbit (Figure I.2). According to Linduff (2006: 312; 311, fig. 12b), it “provides clear evidence for horseback riding in the area by the eighth century

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32 Song’s contention (1996: 206) that horse-riding appeared during the Late Shang period is not supported by evidence at this time and is discussed in the next section.
33 So and Bunker propose that evidence for early riding in northern China appeared as early as the 6th century BCE (1997: 29).
BC.” 34 Shelach (2009: 136) cites this object as well as found horse bits to argue that horse riding existed in the Northern Zone in the early first millennium BCE, but it is unclear as to whether it was a “significant war device" at this early time. An early Xiongnu burial from the site of Xibi’erke in the northwest region of the Altai Mountains and dated to the fifth- to third-centuries BCE gave up a bronze plaque depicting a saddled horse with girth strap and harness (Wu’enyuesitu 2008: 344; 345, fig. 214).

**Horse Accouterments as Evidence for Riding**

*Saddles.* With regard to riding, evidence of the presence of saddles and other equid accouterments have given a relatively clear idea of the development of the horse as a draught animal and as a mount. Goodrich (1984) examines the form and style of early saddles featured on sculpture and other mediums. In some ways, the term “saddle” is too specific to justify its use, given the simplicity of some of the earliest saddle pads he looks at. However, given the evidence provided by the terracotta cavalry horses from the First Emperor’s tomb complex seen depicted with saddles, we have a general notion of such equine accouterments. Given that saddles are usually made with perishable materials, few if any of the earliest saddles utilized in China have survived. Archaeological excavations in the arid region of Xinjiang during the last few decades, however, have unearthed saddles which date variously from the fifth to first centuries BCE. Unearthed from a grave at Subeshi near Turfan in eastern Xinjiang was a perfectly preserved leather saddle, along with a bridle, iron bits and even a horsewhip (Wang 1999: 110, 111). The cemetery dates

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from the fourth to second centuries BCE, that is, from the Warring States period to Western Han (Figure I.3). 35

*Bits and Bridles.* While Anthony and Brown state that, “a bitted horse could only have been a mount” (1991: 23), this may not be entirely accurate, since bits were also used with chariot horses. A snaffle bit from the Spring and Autumn period found at Bianjiazhuang, Longxian, Shaanxi dates to the 8th century BCE. Although the commentary does not state exactly if it came from a chariot horse or one that was ridden, it does describe its use where the “... reins would have passed through the bit rings to be handled by a rider” (Jian and Sung 2017: 10, Figure 8) or by a chariot driver. The accompanying illustration of a chariot indicates the placement of the snaffle bit. The discovery and examination of horse bits in northern regions extending from Manchuria in the east to Xinjiang to the west has offered support for the existence of horse riding in pre-Qin times. Shao examines this evidence in his article “A study of pre-Qin metal horse bits of the northern regions” (2005). He points out first that the earliest metal horse bit found in China was one excavated from a tomb in the Western Area at the Shang capital city at Yinxu dating from the Late Shang period (13th to 12th centuries BCE), while metal bits from the north of China were of generally of later date (96).

Shao (2005: 104) has identified five basic bit styles that have been determined from tomb contexts to date from mid-Western Zhou to the late Spring and Autumn and Warring States periods. Those of Type A are determined to be from mid to late Western Zhou (10th to 8th centuries BCE); Type B from late Western Zhou to early Spring and

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35 A horse pit in a cemetery at Sampula, southwestern Xinjiang in Luopuxian near Khotan, gave up a grass-stuffed saddle along with a colorful woven saddle blanket (Xinjiang Uygur 2001: 12; 15-16, Figures 14 and 15). The Sampula cemetery dates approximately to the Han period.
Autumn (8th to 7th centuries BCE); Type C also from late Western Zhou to early Spring and Autumn; Type D from Late Spring and Autumn to early Warring States; Type Ea late Spring and Autumn period; and Type Eb from the transition period between Spring and Autumn and Warring States. While bits may have been utilized to help maneuver chariot or other horse-pulled vehicles, Shao states that “no matter what, it is only when the horse bit appeared that people could even better control horses and horse riding would gain real popularization and development” (Shao 2005: 96).

In another study, Han Jianye identifies two cultures in Xinjiang in which metal bits were identified as part of the cultural assemblage, the Subeixi Culture in the eastern Tianshan and the Chawuhugoukou Culture in the northeastern Tarim Basin (Han 2007: 53ff, especially 63, fig. 43 and 72, fig. 58). The date range for the Subeixi Culture is as early as 1100 to as late as 100 BCE; the Chawuhugoukou Culture dates to perhaps the 8th to 4th centuries BCE. The chronology is based upon Carbon-14 dating (Han 2007: 36).

Lastly, So and Bunker point to the new bitting system originating from the Eurasian steppes, describing in detail that “. . . each end of the mouthpiece terminates with a large loop through which an S-shaped cheekpiece is fitted. This type of bridle was introduced into China during the late Eastern Zhou period and can be seen on a cavalry horse from the Qin Shihuangdi burial complex and on Han bits” (So and Bunker 1997: 29).

**Arguments Against Horse-riding in the Late Shang dynasty.**

Sawyer cites a number of Chinese scholars who contend that a mounted courier service existed as early as the Shang dynasty. He writes (2011: 228):

Reports of enemy action were rapidly transmitted over an incipient network of road and rivers by utilizing widely scattered state guesthouses and hostelries where
horses, provisions, and lodging were maintained. In addition to boats, chariots, and runners, it is claimed that some sort of “pony express” may have existed, horses in the Shang being ridden primarily for this sort of mission and possibly battlefield command rather than employed for cavalry. The system’s efficiency is well attested by reports of T’u-fang aggressiveness being routinely received within twelve days from 1,000 li, or about 350 miles away.\textsuperscript{36}

However, as far as has been archaeologically determined, there is little evidence of horse riding by either the Shang or by non-Shang peoples at that time to support such a claim. The earliest possible mention of horse riding—by Chinese or other peoples—comes from a much later passage in the \textit{Zuo zhuan}, as mentioned earlier. Needham writes (1971: 34-35), however, that “Shang records of the -14th century. . . speak of systematic reports from frontier regions, a fact which gives colour to the \textit{Shuo Wen}’s definition of the term \textit{yu} as ‘a station on the border for the transmission of dispatches’.” It is unclear whether he or those he cites indicate that the dispatches were to be transmitted on horseback.\textsuperscript{37} (This aspect of horse use is discussed below in the section on communication). Needham continues (1971: 35):

In the fragmentation period of Chou [Zhou] feudalism each potentate had his own system of tracks, but in the heyday of the Chou High Kings there had been full centralization; as we may see from the saying of Confucius, reported by his greatest exponent [Mengzi], that “the radiation of virtue is faster than the transmission of (imperial) orders by stages and couriers (\textit{chih yu}).\textsuperscript{38}

The metaphorical meaning of what Confucius said is quite clear, but again what is not is whether such transmission was on horseback. This is important to the discussion of

\textsuperscript{36} Refer to footnotes 18 and 19 in Sawyer (p. 466) for the writers who have proposed such a usage.

\textsuperscript{37} The relatively faster speed of dispatches being sent between locations is not necessarily indicative of the use of horses. Stone-Miller in her book chapter on Incan architecture and roads, writes “. . . with a system of runners, each sprinting a short distance, the Incas were able to send messages more swiftly than the Spanish on horseback, as an early Colonial experiment proved” (1995: 193). Of course the mountainous character of Peru as well as the construction of the Incan roads proved to be obstacles to the Spanish.

\textsuperscript{38} Vogt (2023) has doubts about “full centralization” during that period of the Zhou. Needham (1971:1-34) writes in detail on the history of roads and road building in China, comparing them with Persian and Roman roads in the West. His examination of the post-station system (34-38) is especially relevant to the study.
the existence of communication systems put in place during the late Eastern Zhou in China and elsewhere, and this does not provide supporting evidence of the presence of horse riding in the Shang period. Post relay stations set up by both the Romans and Persians, somewhat contemporary to that of imperial China, depended upon dispatchers on horseback, and such courier systems will be compared with China’s in the section on the communication systems of the Qin and Han periods.

**Government Horse Administration in Early China**

Although cavalry eventually replaced the chariot as the most effective horse-powered war machine and horse-riding as the swiftest mode of transportation and communication, the management of horses had to come early with the territory, whether it was during the Shang or the Han dynasties and every period in between. Before we can begin a discussion of the forces that changed society, warfare, religious beliefs and mythology through the increasing prevalence and popularity of the horse in China, we should look at how the horse and horse-related affairs were managed by the various government administrations, from the Shang period to the Han.39

The presence of domesticated horses in the Andronovo culture in the Gansu corridor and the adoption of the horse by the Shang points to an association of the Shang with groups of nearby horse-using peoples. The combined introduction of domesticated grazing animals (horses, sheep and cattle), transportation innovations, and the

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39 Wan provides an overview of horse breeding management in the Qin kingdom during the Warring States period, based upon the Shuihudi bamboo documents of the third century BCE, as well as the Zhou Li, and points out the differences between the two, the latter being more utopian and the practical, which the Shuihudi documents fall into. Refer to Wan 2013: 118-128.
emergence of new technologies revolutionized the Andronovo peoples in the third millennium BCE, according to Linduff (141). The Shang term “ma fang 馬方” (i.e., ‘horse territory’) for the horse-using people to the west indicates an active association and interaction with these people, who we can probably identify as belonging to the Andronovo culture, and from whom the Shang most likely adopted the horse and chariot.

It is also likely that with the adoption of this new technology from the western peoples, the Shang would also have had to capture or otherwise recruit non-Shang trainers and craftsmen to deal with horses and chariot manufacture and maintenance to bring to Anyang, and perhaps chariot drivers as well. The Mafang may have been at first an enemy of the Shang, as there are a number of references to attacks on the Qiangfang 羌方 confederation, which included the Mafang. In the post-Wuding period there are references to the Duomaqiang 多馬羌 (Qiang of Many Horses), who were allied with the Shang, eventually becoming the Duomaya 多馬亞 (Many Horse Guard) (Linduff 2003: 155). In the conclusion to her article “Late Shang Appropriation of Horses in China”, she writes (2003: 157) that the Shang

. . . probably maintained their stables only through frequent contact, both cordial and hostile, with non-Shang groups. Intensive breeding and training is not indicated in dynastic lands before that time and further support the notion that alliances with groups to the west and north of Anyang provided the best sources for horses, but also for breeders and trainers as well as equipment.

Evidence for the administration of horses and horse raising during the Shang dynasty is found in the oracle record. Linduff (2003: 140) states that there is “. . . unequivocal evidence of the use of trained, domesticated horses in a controlled ritual setting as early as 1250 BC.” There are many references to horses and horse raising in the Shang oracle record, providing evidence that there were many breeds of horses,
often given names based upon their color or other special characteristics (Wang 1980-81: 100; see also Shaughnessy 1988: 235-236). A previously mentioned oracle source (Figure 1.4) indicates the special status that horses gained with a record of the king’s visit to feed the horses in the stables (Yuan and Flad 2003: 112).

The Shang archaeological record has also provided evidence for the borrowing and mixing of horse gear and weapons, possibly from the Di people, who Hsu and Linduff (1988: 50) describe as “both nomadic and seasonal pastoralists.” The Duoma Qiang (Qiang of many horses), who surrendered to the Shang were also horse herders (Hsu and Linduff 1988: 58). Later, especially under King Mu, the Western Zhou desired to breed their own fine horses. The state of Qin in the west was entrusted with raising horses, skills acquired by them from horse-raising peoples in the region (Hsu and Linduff 1988: 139).

The graph 马, used as a surname, as names for horse raising peoples, and in titles of military units, has been found on bronze vessels as both a decorative motif (examined in Chapter 4) and integrated into inscriptions. A 鼎 tripod now in the British Museum and dated to the early Western Zhou is inscribed “ma yang xian fu yi 马羊先父乙”, with two horses rendered more as images than as graphs, and repeated to flank the inscription (Figure 1.4). The significance of the tripod and its inscription may indicate that the image of the horse represents a clan sign (British Museum 2022).

These particular horse images on the tripod more closely resemble that of the wild steppe.

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40 Rawson, Huan and Taylor discuss the acquisition of horses by the Zhou in detail in “Seeking Horses: Allied, Clients and Exchanges in the Zhou Period (1045-221 BC)” (2021).
pony or Prejevalski’s horse. However, the usage of the image does suggest the growing importance of the horse to the nobility in the Western Zhou.

**Government Administration.** Here we examine some of the offices of government administration responsible for the acquisition of horses through trade and tribute and breeding, and the care and management of horses. It eventually became necessary for the state and imperial administrations to set up bureaus that dealt exclusively with horse-related affairs. A long history of such offices dating to the Late Shang and Western Zhou periods established the precedent for such administration. The royalty of both dynasties saw that the horse was essential in maintaining both martial and ritual superiority, and realized that the administration of breeding and management of equine-related affairs was part and parcel to keeping this superiority.

Early records on rites and administration mention the training of horses. We have already seen that one of the Shang kings visited the horse stables. The *Zhou Li* 周禮 of the following Zhou period has a passage which states, “Jiaotao, gongju, zhiju” (“instruct the tao, work with and manage foals”). A calendar for raising horses is found in the “Yue ling bian” section of the *Li ji* 礼记 (Cheng 2014: 23). Needham, citing the early historical work *Shu Jing* 書經 (and supported in the later work *Zhou Li*), with regard to the roles that the *wu* 巫, or shaman, took on in state religion, writes that one role was involved with horses (1956: 135): “It may be significant, in view of the probable northern steppe component in this element of Chinese culture, that a special category of *wu*, expert

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42 A *tao* is a foal three to five years old.
in the care and cure of horses, is described.” 43 This is evidence that the horse was taking on another significant role in the period examined

By the Qin and Han dynasties, the government bureaucracy that dealt exclusively with horses and horse-related matters was quite elaborate, and under the Han the official in charge of horses ranked eighth in status among the administrative ministers (Creel 1970: 303). Offices and positions, such as Grand Coachman, oversaw horses for the army, imperial stables and imperial carriages. Each of the thirty-six official pastures fell under the responsibility of a Master Herdsman. There was even a Prefect of Flintyhoofed Horses (kunti ling 崑踶令), referring to a special breed of horse in use; and a Stables for Tall Horses, referring to the larger horses brought into China from Ferghana (Bielenstein 1980: 34-35). The Superintendent of Transport (taipu 太僕) was, according to Loewe (2006: 27-28), “responsible for supplying carriages and horses for imperial use and for the army, and for stock breeding for those purposes. His subordinates controlled at least thirteen sets of stables in Chang’an and perhaps as many as thirty-six pasture grounds.”

Horse Breeding and Acquisition. An important part of horse management was the administration of horse breeding stock. The adoption of the domesticated horse by the Shang from non-Chinese peoples of the north and northwest in the 13th century BCE necessitated the establishment of an official administration system to deal with and manage breeding, the employment of horse specialists, and the securing of breeding

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43 In footnote d to this comment, he also points out that “Wuma [巫馬] became a family name. One of the disciples of Confucius bore it.”

44 Bielenstein provides a list of officials in charge of horses for cavalry and carriages during the Han (1980: 34). Hucker in A Dictionary of Official Titles in Imperial China (1975) also compiles the many official positions related to horse management, cavalry and chariots.
pastures suitable for this enterprise. The challenge to this was that the northern frontiers were increasingly populated by often hostile nomadic peoples who also placed great value on horses native to and raised in the grassy steppes of Inner Asia. This could sometimes lead to conflict between the pastoral peoples of the steppe and the settled farmers of central China. The alternative of establishing pastures for raising horses in areas farther to the south where the nomads may have less influence was viable, but not always practical, especially in southern China where the terrain and the herbaceous ecological environment was not always ideal for the raising of horses. In the memorial that Minister Chao Cuo 龔錯 gave to the Han emperor Wendi in 169 BCE, among the number of proposals was the establishment of horse-breeding programs, since large-scale breeding programs were not common during the Han. There were some breeding grounds in the northern and northwestern frontier regions, but not elsewhere. Chao Cuo proposed that “... for each horse sent to the government a family would have three men of draft age exempted from military service. This was immediately put into practice by the emperor” (Chang 2007: 150-151). In 155 BCE, Chao Cuo was appointed imperial secretary, and he followed through on establishing a system of breeding pastures. Thirty-six pastures were set up in the northern and western border areas and a total of 30,000 male and female slaves were sent to the pastures to care for the horses. Horse numbers soon increased to 300,000; by the time of emperor Wudi, who took the throne in 141 BCE, the horse population had reached over 450,000 (Chang 2007: 151).

45 Jingdi ordered the execution of Chao Cuo in 154 BCE in order to appease the kings, about whom Chao had warned the emperor of their growing power (Loewe 2006: 101).
One historical development important to the evolving political situation in the Han period was the opening up of the Western Regions (Xiyu 西域) during the reign of Han Wudi in the late second century BCE, a result of the search for allies against the nomadic Xiongnu. The main outcome of the arduous mission taken by the emperor’s envoy Zhang Qian was the expansion of the empire’s geographical size, discussed below. Parallel to this was an expansion in the conceptual Chinese view of geographical space and of the external world around them. The reasons for this expansion, while initiated to secure political allies, eventually transitioned into a search for and procurement of superior horses from Central Asia, a reason that never truly abated.

Liu Che 劉徹 took the throne after emperor Jingdi’s death in 141 BCE, taking the title Wudi 武帝, the Martial Emperor. At that time interaction with the Xiongnu was increasing and the nomad pressure on the northern frontiers of the Han empire (Map 9) was becoming a clear danger. Wudi had become well aware of the threats the nomads posed, and in 138 BCE devised a plan to ally the empire with a northern tribe, the Da Yuezhi 大月氏 (Greater Yuezhi), which the Xiongnu had defeated. The Yuezhi fled to the west, and Wudi sought an ambassador who would be able to seek such an alliance against the Xiongnu.

Zhang Qian and the Acquisition of Superior Horses. Here, the discussion of the historical expansion of the empire and the conflict with the nomadic Xiongnu cannot be complete without addressing the impact the journey of imperial envoy Zhang Qian 張騫 had on the imperial expansion of the Han dynasty. Zhang Qian’s decade-long adventure not only led to expanding imperial control into the western regions, but it also led to a change in the
conceptual view of the Chinese about geographical space and time. The search for allies precipitated the procurement of superior horses, and led to an expansion of trade and the establishment of the Silk Road (Map 10) connecting China and the West.

Zhang Qian, a native of Hanzhong, Sichuan, was selected to lead a contingent of 100 to the west and seek out the Da Yuezhi. He was captured by the Xiongnu and held for a decade, but eventually escaped with his Xiongnu wife, child and a Xiongnu servant. They fled west (without doubt riding swift horses) for 20 to 30 days (Sima Qian 1993: 232) and eventually arrived in the kingdom of Dayuan 大宛 in the Ferghana Valley in present day Uzbekistan. The leader of the Yuezhi, following their conquest of the Hellenistic kingdom of Bactria that was in power previously there, was not interested in an alliance. However, Zhang Qian noticed a few things: he surmised the existence of India, he observed Chinese silk in the local markets, and he became aware of a new breed of horse, which he called “heavenly horses.”

Zhang Qian’s attempts at forming an alliance with the Yuezhi failed, and he eventually returned to Wudi’s court in 126 BCE. On the return journey he was recaptured by the Xiongnu and held for another year before yet again escaping. Upon hearing Zhang Qian’s report, Wudi expressed deep interest in the Western Regions. According to Yu (1986: 407),

Zhang Qian’s failure turned out, however, to be the beginning of Han China’s success in its subsequent western expansion. It was largely owing to the information about the Western Regions brought back by Zhang Qian that the Han court later decided to make its first diplomatic overtures toward some of the small states in that area.

A second, larger delegation under Zhang Qian was sent in 115 BCE, with cattle and sheep and large quantities of gold and silk goods. The delegation made contact with
the Wusun 烏孫, Dayuan 大宛 (Ferghana), Kangju 康居 (Sogdiana), Daxia 大夏 (Bactria) and Yutian 于闐 (Khotan).

The emperor’s knowledge of the superior horses of Dayuan led him to send another delegation to the Dayuan city of Ershi (Sutrishua) to secure a breeding stock of the superior horses and brought luxury gifts and a sculpture of a golden horse. The delegation was, however, not only not given horses, but were murdered after they left Dayuan. As a result, in 101 BCE, Wudi sent military expeditions under General Li Guangli to attack Dayuan. The first one failed, but the second expedition, better planned than the first, was successful, and the victorious Han troops returned to the capital with a number of Ferghana breeding stallions as well as other horses. The second expedition therefore not only obtained a superior breed of horse, but the nature of the expedition itself—the distance and time it took to march to Dayuan and back, as well as the duration to do so—helped to change the Chinese perception, and to acknowledge that only with the horse could the empire expand and control its territory.

*Horses and Trade.* In the trade between the Chinese states of the late Eastern Zhou and the culturally distinct groups of the northern frontier regions, one of the most important trade items was horses. So and Bunker point to an entry in the *Zhanguoce* indicating that “. . . the most important commodities for the Eastern Zhou state of Zhao were the horses of Tai [Dai], . . . the coursers of [the] Hu, . . . and the jades of the K’unluns [Kunlun Mountains]” (1995: 24-25). Jagchid and Symons (1989: 80) state that “Horses were the most important domestic animal in the nomad’s world and the item of trade most coveted by the Chinese. In times of peace, Chinese peasants placed a higher value on the
plowpulling ox, but in times of turmoil, if the Chinese were to defend themselves successfully, it was absolutely essential that the court acquire the superior horses raised in the lush grazing areas north and west of China.”

Han emperor Wudi placed great importance in obtaining superior horses from peoples of the north and northwest. His attempts, ultimately successful, to obtain the so-called Heavenly Horses (tianma 天馬), Blood Sweating Steeds (liuxiema 流血馬), Dragon Horses (longma 龍馬) and Sacred Horses (shenma 神馬) from non-Han peoples such as the Wusun, Yuezhi, and others, strengthened the Chinese mounted forces and added to the quality of horses used in ritual.\textsuperscript{46} Creel (1965: 665-666) writes that horses played an important part in the silk trade as well, as recorded in the Shiji and the Han Shu.\textsuperscript{47} The Shiji records a merchant in the third century BCE during the Qin dynasty who traded with the Rong to the north (Sima 1993: 440):

Wuzhi Luo raised domestic animals, and when he had a large number, he sold them and brought rare silks and other articles which he secretly sent as gifts to the king of the Rong barbarians. The king of the Rong repaid him ten times the original cost and sent him domestic animals until Wuzhi Luo had so many herds of horses and cattle he could only estimate their number roughly by the valleyful. The First Emperor of the Qin ordered that Wuzhi Luo be granted the same honours as a feudal lord and allowed him to join the ministers in seasonal audiences at court.

In the first century BCE work Discourses on Salt and Iron, a high Chinese official speaks of the buying power of Chinese silk goods for the purchase of good horse stock from the Xiongnu nomads, “... using the non-essential to trade for the fundamental,” and stating that “... a single length of plain silk secures from the Hsiung-nu [Xiongnu] goods

\textsuperscript{46} Wudi may also have been well aware of the philosophical concept of ‘timeliness’ shiji 時機, that is, taking timely advantage of an opportunity for one’s own advantage. This concept is discussed in Chapter 3 on Time.

\textsuperscript{47} Shiji, 129.15-16; Han Shu 91.5b-6a.
worth many pieces of gold, thus draining away the resources of our enemy” (cited in Creel 1965: 666).

The Chinese state during the Han was always in need of horses, especially toward the end of the dynasty and into the subsequent post-Han Period of Disunion. Yu writes that this was especially notable “. . . in the age of the Three Kingdoms when war was characteristic of the political scene. Thus, the trade [in horses] developed to such a large scale that in 222 the Hsien-pi [Xianbei] escorted, with 3,000 cavalrmen, some 70,000 head of cattle and horses to trade with the Wei government on the northern border” (Yu 1967: 110). In addition, “barbarian markets” were set up along the northern frontier. In the Gansu city of Gucang, one market met four times a day, and livestock was an essential part of trade, with the exchange of silk for horses probably the most important aspect of such trade (Yu 1967: 200).

Once the Western regions were opened up to Chinese delegations, we see the first historically documented exchange of goods between the region, and trade along the Silk Road (a term not adopted until 1877, however), became a reality. The Chinese sought horses, but also obtained jade, wine, spices, woolen fabrics, grapes, pomegranates, sesame, broadbeans and lucerne (alfalfa) from the western countries, while in the earliest stage of trade the principle goods exported from China were silk and gold (Sadao 1986: 579).

*Horse Branding.* Little is written regarding this aspect of horse management even in Chinese sources. As part of the administration of horse breeding and management, as

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48 Sadao lists a large variety of commodities that the Chinese were able to trade. See Sadao 1986: 578-579).
well as chariot and carriage maintenance, a branding system for horses and carriages was put into use as early as the Warring States period. While surviving branding seals are relatively rare, their existence reveals that this was part of the management system for horses and vehicles. The earliest identifiable branding seal belonged to the state of Yan, inscribed “Tang du cui che ma” (cart and horse of Tangdu), square, 9 cm on a side (Figure I.5). Another Warring States period seal, said to come from either Yizhou, Weixian in Shandong, or Yixian in Hebei, is inscribed “ri geng du cui che ma” 日庚都萃车马. Cao Jinyan (2021: 29) comments that this . . . is a seal from a collection of chariot horses from the Zhou city of Rigengdu. . . . It is square, 2.2 cm [on a side]; on all four sides there are openings in the bronze [handle] like a square brush pot. Inside it there are several horizontal posts supporting its interior. I suspect it is an ancient horse branding seal. The pipe can be heated. . . . The inscription ‘re gen du’ is the place name for the Yan capital city. ‘Cui che’ is an auxiliary vehicle. . . . ‘Rigeng du cui che ma’ therefore points to the horses that auxiliary vehicles are used by the Rigengdu government offices. Li (1985: 407) finds that the style of characters on this branding seal is identical to those found on Yan seals and differs from Qi seals, and considers that it most likely came from Yixian, Hebei, and therefore from the state of Yan. 50

50 Other than a very few Chinese sources on branding seals, there are even fewer treatments on Chinese branding in Western languages, be it on horses or other objects. One is in Sun (2010: 80-81), who illustrates three branding seals, one of which is discussed in this section. Li (1985: 406-407) discusses one of these as well. Viet (1985: 108, 237, Plate LXXXI, Figs. 1a, 1b) illustrates the same seal, from the state of Yan, inscribed “Tangdu cui chema”. Refer also to Luo 1981: 38-39; Cao 2002: 29-31; Ye 1997: 3, 89, 106; Sun 2003: 63. Branding seals were not utilized exclusively for horses and carts, but also for branding timber sourced from government-run forest reserves, as illustrated in wooden materials from the Western Han Mawangdui tomb in Changsha. Branding was used as well on lacquer ware (Cao 2021: 28-29). Wong and Yao illustrate two other branding seals from the Warring States period, one inscribed “zuo heng dian mu 木” (2000: 52, Figures 16, 17), both of which are of vertical tubular shape; and a carriage seal “zhong jun – che” 中軍囗車 (51, Figure 9).

50 Ye Qifeng 叶其峰, one of the foremost scholars of bronze age seals, also identifies the seal as from the state of Yan (1997: 89).
Branding seals continued to be utilized into the Han period, establishing an acceptable method to assist in overseeing the administration of horse-related affairs. Sun (2007: 17, 18) illustrates a Western Han branding seal, dated to 147 BCE, inscribed “Qiu hou qi ma” 遵侯騎馬 (cavalry of Marquis of Qiu), 7.8cm by 7.85cm. Luo (1981: 39) illustrates another Han brand, inscribed “Ling qiu qi ma” 靈丘騎馬 (cavalry of Lingqiu), Lingqiu being a county near Datong in Shanxi province in north China. Several additional seals, the large sizes or inscriptions of which may indicate that they are branding seals, are illustrated in Zhongguo Meishu (1999: 70-72) and dated to Western Han. One (page 72, Fig. 469) is inscribed “Fu tai 邘駘”, the second character tai meaning an inferior horse, perhaps utilized to identify the quality of horses being branded. Fu 邘 was a county in southwest Shandong in the Han dynasty. Another (page 71, Fig. 465) is inscribed “Chang qi 常駘”, “cavalry of Chang”, Chang being a county in southeast Shandong. We can see that the use of brands was an important tool to manage horses and horse-related equipment under the administration of government agencies from an early age. The presence of branding seals emphasizes the role that the government played in the official management of horses.

**The Horse and Communication.**

With the adoption of cavalry by many of the pre-imperial contending states after 300 BCE, the appearance of horse riding itself outside of the military environment became increasingly popular. Cavalry provided swiftness and surprise in warfare, but in administration and communication, the horse additionally provided a comparatively
speedy courier service between the court and outlying areas within each contending state. This introduced a revolution in communication which may have begun in the Qin dynasty (Map 8) under the First Emperor and culminated in the subsequent Han. A painted rendering of a horse-riding courier is seen in tomb M5 at Jiayuguan, Gansu and dating from the Wei to Jin periods (220-419 CE) (Figure I.6) (Han-Tang Bihua 1974: Figure 45; Fontein and Tong 1976: 54; 70, Fig. 71; Crespigny 2017: 24).

Despite the deeply held belief about their own cultural pre-eminence, the Chinese did recognize that there were certain superior and desirable commodities that were not produced in China. One of these, as Creel (1966: 665-666) points out, was a superior breed of horse, and the Chinese admitted as such. In the end, the advantages of the adoption of horse riding eventually came to outweigh any disadvantages. The speed of the cavalry horse clearly gave great advantages to military campaigns, and not just to counter nomad cavalry. In the Warring States period, the domains of the remaining states—and the sizes of their armies—became much larger due to the inexorable annexation of smaller states. Larger areas to control with more urban centers to connect led to a need for more rapid and efficient communication and trade systems. The speed of communication in the newly established empire was of essential importance. The horse was the ideal method for communication, especially in the northern grasslands, where intensive irrigated paddy agriculture, unsuitable for horse raising, was absent. It was obvious that communication of vital dispatches between rulers, commanders and their forces could be most speedily done via a system of staging posts (“yizhan”驛站）

51 The character yi in yizhan has the meaning of “passing on” or “passing along.” It contains the radical for ‘horse.’
utilizing mounted couriers. For over two thousand years, horse riding was by far the fastest mode of land transportation prior to the introduction of the railroad. Through an examination of the postal courier system we can see how communication was utilized using the horse in the Qin and Han empires.

According to Zhou Huibin (2020), a postal system had already been established by the late Zhou period. With the establishment of the Qin central administration, the capital Xianyang became the system’s central location. With the building of highways, postal stations were built that provided food and shelter, along with stables for changes of horses. Guidelines for the earliest mounted courier service was termed ‘Xing shu lu 行書律’ (Regulations on traveling documents). During the following Han period, the postal system was regionally administered by zhou 州 (province), jun 郡, (prefecture) and xian 縣 (county). Han Wudi established four jun in the Hexi (Gansu) Corridor, at Dunhuang, Zhangye, Jiuquan and Wuwei, and had two strategic passes occupied (Yumenguan and Yangguan), to quickly facilitate communication. Zhou (2020) writes that “during the Three Kingdoms period, the state of Wei established [the position of] “you yi ling 郵驛令 or postal courier officer. With the graphs you and yi combined, this indicates in China’s postal history the first departmental statute.” Zang Rong writes (n.d.: Chapter 2):

Other than the horse being the main [method] of the “yizhi 驛置” relay postal communication during the Han, they especially used the “you 郵” postal system for all the short-distance on-foot document transition methods. Regulating this kind of short-distance foot travel to deliver document correspondence structure was termed “youting 郵亭“ (postal pavilion). The ting-pavilion was also used by communication messengers on foot and as a rest station. During the Han, the appellation ting was even more common, and the postal station messenger service was on a large scale. This kind of foot-travel was generally done by passing [documents] via relays. There is in the Han Jiu Yi’s 漢舊儀 a [statement] that
points to this: “Shi li yi ting, wu li yi you, you ren ju jiang, xiang qu er li ban 十里
一亭，五里一郵，郵人居間，相去二里半” (Every 10 li is one ting, every 5 li
is one you, and the postal worker’s house is in between, with a distance of 2.5
li). . . The youting 郵亭 couriers worked by relays every two and a half li.
Scholars have verified that up to now in Hebei and other places there are still
place names that have the term “erliban 二里半” (two and a half li) in them,
pointing to a system in ancient times that had been handed down.

With the establishment of postal stations and the hiring of couriers to enable quick
communication, a local ‘commune chief’ (tingzhang 亭長) was assigned to take
responsibility for maintaining the stations (youting 郵亭; sometimes called zhuanshe 傳
citing the Eastern Han work Feng Su Tong 風俗通 by Ying Shao 應劭, state that the
postal relay stations were ten li apart (about five kilometers), providing food and
accommodation for both couriers and for official travelers (refer also to An and Xiong
2007: 694ff). Xui Li (1994: 32), on the other hand, writes that the stations were
established 30 li apart (about 15 kilometers), which to the writer is more plausible. It is
important to point out that for both practical reasons and common sense, couriers would
not be expected or required to stop every five kilometers at a relay station for
accommodations or food, unless they were on foot. However, a change of mounts may
have been needed at each successive or every second or third station. Zang Rong
continues (n.d., Chapter 2):

Postal stations (yizhi 驛置) point to facilities for long-distance mail delivery of
documents. Urgent and important documents were both sent using this (method)
for transmission during the Han dynasty. The strong points of the yizhi was the
speed of transmission, and generally by light-weight vehicles and by fast horses.
The distance between yi postal stations was generally 30 li, and was termed zhi 置. Yizhi postal stations were well-equipped beforehand with vehicles and horses,
whenever necessary to provide for quick use of the postal couriers.
According to Xui (1994: 32), by the Tang dynasty, there was a total of 1,639 stations established throughout the empire, reflecting the importance that quick long-distance communication took from the Qin-Han period on.

Qin and Han highway systems. Prior to unification, increasing contact between the states led to improvements in highways and waterways. Early on, the Zhou government “... built highways, straight and having a solid surface, presumably for military purposes. Trees were supposedly planted along the roadsides and watchmen appointed to maintain the road” (Hsu 1965: 116-117). During the Warring States period, communication was better than before, but with unification by the Qin in 221 BCE, the First Emperor instituted a number of reforms, construction projects and standardizations which were to have lasting consequences for the Qin and subsequent dynasties. Among those that have a relevance to this study was the building of an imperial highway system, the total length of which is estimated to be roughly 6,800 kilometers. Derk Bodde (1986: 61) describes it thus: “Beginning in 220 [BCE], a series of imperial highways, known as speedways (ch’ih-tao),52 were built in a large arc radiating from Hsien-yang [Xianyang] toward the north, northeast, east, and southeast; few major roads went very far west because of Hsian-yang’s location near the western edge of the empire.” A map of the highway system (published in Yu 1997: 72, fig. 76) shows that the two major highways began at the capital Xianyang, one running east through Hebei and Shandong to the seacoast, the

52 The translation of ch’ih-tao [chidao 馳道] as “speedways” does not fully embody the meaning of the term, essential to the study here. “Chidao” is literally “galloping road”, implying the use of a swift horse-mounted courier service which increased the speed of cavalry and communication by several factors. Courier stations were located conveniently where the mounted messengers could change horses or overnight, very similar to that of the Pony Express of the western United States in 1860-1861. According to Lewis (2007: 55), “The transportation system included rest houses where travelers could eat and sleep, as well as relay buildings and post stations where messengers exchanged horses for fresh ones.”
other running south into Jiangsu and Zhejiang, and helped to “consolidate the unified multiethnic country and facilitate economic and cultural interflow” (Yu 1997: 76), as well as provide fast deployment of troops if needed and to facilitate quick communication. The First Emperor also had another highway built to deal with the increasing pressure by the mounted Xiongnu nomads to the north. Bodde continues (1986: 61):

Beginning in 212 [BCE], the empire’s most important general, Meng T’ien [Meng Tian], was ordered to construct a major north-south highway known as the Straight Road (chih-tao [直道 zhidao]). It began not far north of Hsien-yang, at the emperor’s summer palace at Yün-yang [Yunyang], from which it proceeded northward into the Ordos desert, then crossed the northern loop of the Yellow River, and finally ended at Chiu-yüan [Jiuyuan] (the modern Wu-yüan [Wuyuan], some one hundred miles west of Pao-t’ou [Baotou] in Inner Mongolia), a distance of around 800 kilometers.

This section of the highway system was specifically built to help occupy the Ordos region and drive the Xiongnu forces out. This was temporarily successful until the fall of Qin in 206 BCE led to a hiatus in imperial control of the region and the reoccupation of the Ordos by the Xiongnu. With the establishment of subsequent Han imperial control, incursions by he Xiongnu along the northern frontier continued and indeed increased, forcing the court into formulating policies of intermittent appeasement and conflict.

How the horse’s inherent quality of swiftness revolutionized communication is addressed in the following section.
The Horse as Revolutionary Technology

It would be helpful to understand just how revolutionary the adoption of horse-riding was for a nation which depended overwhelmingly on the carriage, chariot and wagon for transportation prior to the Warring States period. As a comparison, consider what Kelekna writes (2009: 65), that with “. . . the appearance of the light horse-drawn chariot, speed of travel was dramatically increased by a factor of 10, from 3 km per hour for ox draft to 33 km hour for the [horse-drawn] spoke-wheeled chariot.” Mounted riding was revolutionary, she continues, in that “High-speed riding constituted a radical innovation in human locomotion. It dramatically reduced geographical distance, forever changing the sociopolitical landscape.” A comparison of the speeds of humans and horses is also illustrative of this major technological advance. The aforementioned speed of a chariot is debatable, as it depends upon topography and duration, as does the speed of a horse. A human walks at 3 to 5 kilometers per hour (kph), and runs about twice that. On the other hand, a mounted horse walks at 5 to 6.5 kph, trots at 13 to 16 kph, can canter at a lope at 16 to 27 kph, and gallops an average of almost 50 km kph. Thoroughbred racehorses can run over 65 kph for short distances (Ultimate Horse 2010). If we consider the influence of topography and duration, a fit person can walk ten hours a day and can cover 40-48 kilometers. A horse and rider, while theoretically able to cover 130 to 160 km per day at a trot in the same period of time, can usually only cover twice that of a man. In 1886, American military dispatch rider Frank Hopkins, subject of the recent movie Hidalgo, rode 2900 km in 31 days, averaging 93 km a day, riding no more than 10 hours a day. American Quarter horses are by far the fastest, even faster than Thoroughbreds, and have been clocked at 75.6 kph (Ultimate Horse 2010).
The relay dispatch rider, on the other hand, could cover an astounding distance within the systems of stages that provided fresh mounts every 40 km or so. While a horse cannot gallop for a full day, post stages where riders change horses at set intervals can greatly augment efficiency and increase the speed of communication tremendously. This system was in place by the Qin dynasty in China, as described above. Roman military couriers could cover 385 km in one day; Mongol “Arrow Messengers” rode 400 km per day (Kelekna 2009: 188, 382). Pony Express riders in 1860 rode the thirty-two hundred kilometers from St. Joseph, Missouri, to Sacramento, California, in ten days (Edwards 2010: 24-25). They averaged 14.5 kph over a 40-km stage (Ultimate Horse 2010). The Pony Express system included 186 stations and horses ran at full gallop in 10-12 mile segments “judged to be the maximum distance that a good mount could maintain a speedy clip,” each rider covering a little over 200 km at one stretch. In March 1861, a record was set for transcontinental delivery: 7 days, 17 hours (16.53 kph average) (Edwards 2010: 24-25).

Numbers reveal the capability of the military horse as well. While it was from a much later period, the mounted Mongol army advanced 110 km per day according to Kelekna (2009: 383). De Marco (2008: 139) is more explicit and limiting when he writes:

The Mongol armies were extremely mobile—able to move twice as fast as their enemies. This mobility, combined with their ability to synchronize the movement of multiple columns, allowed them to always have the initiative. . . . When battle was not imminent, the average movement was 14 miles [22.5 km] a day. A Mongol army could cover 40 miles [64 km] a day and up to 60 miles [96.5 km] in a day if unusual conditions required it. In 1221 Genghis Khan moved his army 130 miles [209 km] in two days. In 1241, Subotai moved his army 180 miles [290 km] in three days through snow.
Fire and smoke signal communication. Communication systems in early China were not always via horse courier services. Quick communication sans horse-based staging posts is seen in the signal towers built along the line of the Han wall in the Western Regions, which were utilized to send signals indicating enemy attacks. The towers were built about two and a half miles apart, the perfect distance for observing fire signals at night and smoke signals by day. These signals were to be sent quickly, to be received all along the defense line, and even as far as the capital within a few days. Loewe (1967: 102-103) describes the system of signaling, based upon the inscribed wooden slips found in the region of Juyan 居延 in the Zhangyi 張掖 commandery, along the Edsen Gol River in today’s Gansu province. It is possible that the method was based on the previous Qin dynasty practices, but it was definitely practiced before the extension of the wall or other defenses were extended to Dunhuang or Juyan. Recorded in the Han Shu 漢書 and the Shi Ji 史記 are references made by Jia Yi 賈誼, and there is an account of an incident of 158 BCE, when the news of enemy incursions was transmitted to Chang’an by means of beacon-signals (Loewe 1967: 102). Loewe continues:

In the watch-towers of the north-west, sections were duty bound and properly equipped to maintain regular contact with neighbouring posts by means of routine signals. These were made at set times, with the use of flags or smoke-baskets by day, and flaming torches by night; and a surviving specimen of the reed torches that were used has been found at a site lying well beyond the defenses of Tunhuang [Dunhuang], at Lou-lan. On observation of a signal, a section was obliged to repeat it, thus acknowledging its receipt visually to the send, and simultaneously relaying it to the next section along the line; and at platoon, or

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53 The wooden slips found at Juyan (Etsin-Gol) number some 10,000. They were found by the Sino-Swedish expedition of 1927-34 and were from garrison posts dating from 102 BCE to CE 137 (Pirazzoli’Serstevens 1982: 124, 125). For a detailed examination of the Juyan fragments and their discovery, see Loewe 1967, vol. 1, p. 1-15.

54 At the Han-period signal tower site Yumenguan 玉門關 near Dunhuang, bundles of reed-grass never used for signaling are displayed in situ near the tower (refer to Cheng 1987: 121, 122 for photographs of the bundles.
company, headquarters a written log was kept as a record of the exchanges. . . . Emergency signals of a different type were made by lighting stacked wood-piles to convey the news of enemy activity, and considerable importance was placed on the familiarity of officers and men with the code of signals, i.e. the different uses of smoke, flags, torches and wood-stacks. Some idea of the standing instructions whereby signally was regulated can be gathered from [some of the wooden] strips. (Loewe 1967: 102-103)

However, as Stein points out, “[n]o doubt such a system of optic telegraphy was insufficient to assure the rapid transmission of warnings at all times or for the communication of important particulars. Hence the need for mounted messengers repeatedly mentioned in the records, who by relays of horses kept ready at relay stations could cover distances at great speed” (1912: 153). The aforementioned horse-mounted courier depicted on a tomb wall from Jiayuguan in Gansu province (Figure 1.6) is such an example (Fontein and Tung 1976: 70, figure 71).

**The Introduction of Cavalry to Early China**

The introduction of cavalry by the Chinese at the end of the 4th century BCE eventually led to it becoming a major military force in combating threats from the north. Incursions of the mounted Hu in the 4th century BCE allowed the nomads “. . . speed, mobility and freedom in targeting, immediately spreading the requirements of static defense over much larger areas” (Sawyer 1993: 367). According to Chinese military works of the period, especially the *Sun Bin Bingfa* and the *Liu Tao*, regarding Chinese armies employing mounted forces, “. . . the cavalry provides mobility; frees the army from having its main assault weapon (hitherto the chariot) confined to level terrain; and permits the development of unorthodox maneuvers” (Sawyer 1993: 368). While the cavalry arm of the First Emperor’s army consisted of about ten percent of his forces, by
the time of the struggles in establishing the Han dynasty ca. 210 BCE, Liu Bang’s elite cavalry was about twenty percent of his forces. During Han Wudi’s reign, in one campaign to the west between 128 and 119 BCE, the mounted forces numbered one hundred thousand cavalry (Sawyer 1993: 368).

As has been pointed out, archaeological investigation in the Tian Shan Mountains has confirmed that horseback riding was already in practice in that region by the fourth century BCE (Li et al 2020). The presence of horse bits in the northern frontiers also indicates riding in the pre-Qin period. This evidence points to its use by non-Chinese horse-riding people. Whether this evidence indicates the use of cavalry or other mounted forces is not clear. But its adoption by the Chinese was inevitable. Lau and Ames (2003: 32-34) write that cavalry was introduced in the mid-fourth century BCE, and that authorship and passages in the *Sun Bin Bingfa* 孫臏兵法 support this contention. They write that “The fact that cavalry is mentioned frequently in *Sun Bin* makes sense only if we revise the date of the earliest use of cavalry backwards to the middle of the fourth century BCE to predate the historical Sun Bin, or more plausibly, if we separate the historical Sun Bin from the authorship of the *Sun Bin* and date the text from the third century BCE” (Lau and Ames 2003: 33-34), since the dates of Sun Bin’s life (ca. 380-316 BCE) fall well prior to the best known account of its introduction by Zhao in 307 BCE.

That account of the Chinese adoption of cavalry forces comes from a passage in the *Zhanguozce* 戰國策 (Strategies of the Warring States), describing the debate between Wuling 武靈, king of the northern state of Zhao 趙, and his ministers in 307 BCE, regarding his desire to adopt the tactics of cavalry and mounted archers from the
marauding Hu nomads. He eventually persuaded his staunchly conservative critics, who objected on the grounds that to adopt “barbarian” ways (e.g., wearing trousers a la Hu, riding horses, etc.) was an abandonment of traditions which made the Chinese states “civilized.” King Wuling prevailed over all objections, however, and Zhao, for both offensive and defensive reasons, instituted the one of the first known cavalry forces organized by a Chinese state (Di Cosmo 2002: 134-135; Crump 1970: 296-307; Kalekna 2009: 140ff). A passage from the Zhanguoce indicates that this was a forward-thinking move: “Someone who would shape today by the lessons of yesterday will never understand a revolutionary idea. . . . The king thereafter, in barbarian garments, led his horsemen against the Hu leaving by the Gate of No Horizons. Crossing over the Chiuhsien [Jiuxian] fastnesses and penetrating the canyons of Wu-ching [Wujing], he reached the midst of the Hu and opened a thousand li of territory” (Crump 1970: 303, 307). Within a very short time, the kingdom of Zhao rose to become a regional power in the north and one of the strongest states during the Warring States (Wan 2013: 103). Despite the adoption of cavalry, however, it was not necessarily the only method utilized against nomad aggression. “Building walls was at the time the most common and effective means of defense until the reign of Emperor Wudi the Great of the Former Han Dynasty” (Wan 2013: 104).

By the middle of the third century BCE, according to Li (2013: 200), cavalry had been introduced even to the state of Chu in the south, the topography of which was not ideal for the employment of mounted forces. Sources indicate that Chu had as many as 10,000 cavalrymen, a figure also recorded for Qin and Zhao, and cavalry gave Chu a tactical advantage in the fighting between Han and Chu after the fall of Qin, leading
eventually to a greater emphasis on horse-mounted forces than on chariot forces. A rare Chu bronze horse sculpture (Figure 1.7) from the period of mid to late Warring States was found in Tomb No. 2, Jiuliandun, Zaoyang, in Hubei province (from Hsing 2017: 66, Figure 61).

While Chapter 4 deals with the art of the horse in this period, evidence that shows what Warring States cavalry may have looked like is found in renditions of cavalry horses and riders dating to this period. A pair of earthenware horses and riders (Figure 4.12) found in a tomb in Xianyang, Shaanxi and predating the First Emperor by almost a hundred years, provides an insight as to early cavalry from the Warring States Qin kingdom and its possible connection to nomad soldiers. Li and Sung (2017: 55) write: “Thought to be the oldest known depiction of cavalrymen ever found in China, this mounted warrior displays many distinct features associated with neighboring nomads: a round face with a prominent nose, a tunic that folds toward the left (the garments of all Chinese terracotta warriors near the First Emperor’s tomb fold toward the right), a close-fitting cap with a wide brim, and riding trousers and boots.”

With regard to the most appropriate breed of horse that could be utilized for mounted forces, Creel points out that those who selected horses for war, particularly during the fourth century BCE, had to select superior rather than ordinary horses “. . . in speed, agility, and stamina. . . [and] the successful use of cavalry in war required three things: the mastery of the technique of riding and using the paraphernalia of cavalry warfare; the technique of training horses for war; and the breeding of, or acquisition of, horses suitable for mounted warfare. . . .” (1965: 649). This was a constant challenge for

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55 While Li and Sung’s volume depicts only one of the pair, both are seen in Cooke 2000: 119, Plate 96.
the royal and imperial courts from the Warring States period until well into the Han dynasty. As an example, of the two types of horses we see in the First Emperor’s terracotta army—chariot horses and cavalry horses—a number of scholars note that the two breeds seem distinctly different, the first type being smaller and stockier than the cavalry mounts, which are taller and less stocky. The solution to the acquisition of suitable cavalry mounts came in several ways: breeding, trade and tribute.

“Using Barbarians to Fight Barbarians: yi di zhi di 以夷制夷”. Even though Chinese fighting forces would be vastly improved by the adoption and implementation of cavalry, Shaughnessey (1988: 234) points out that “. . . familiarity with horses does not at all imply the type of control over horses necessary before cavalry can develop into an effective fighting force.” It would take some modification in the formation of cavalry forces and debates as to which people were most suitable to be cavalry troopers during the Western Han dynasty before Chinese cavalry forces became truly effective.

Due to the perceived advantages provided in speed and surprise, cavalry became an invaluable adjunct to the massive infantry armies which the various states sent into battle during the Warring States period, even if only comprising a small percentage of all forces and only in a supporting role while providing limited strategic or tactical support. The early Warring States martial treatise Sunzi 孫子 does not address the use of cavalry, and reserves its advice to the use of chariots. In contrast, the late fourth century BCE martial work Sun Bin,56 besides encouraging the use of cavalry on more rugged terrain

56 Regarding the discovery of the two texts from the same tomb at Yinqueshan, Shandong in 1972, see Li 2013: 201-202.
than chariots could traverse, there were ten benefits of the use of cavalry. Lau and Ames (2003: 179) provide a direct translation:

Sun Bin said, ‘The use of the cavalry has ten advantages. The first is engaging the enemy when he first arrives. The second is taking advantage of the enemy when his back is unsupported. The third is giving chase to the scattered and attacking the disorderly. The fourth is striking the enemy’s rear when engaging him, and thus putting him to flight. The fifth is intercepting enemy provisions, and cutting off his communication lines. The sixth is destroying his landings and passes, and razing his bridges and trestles. The seventh is taking him by surprise where he is unprepared, and making unexpected attacks on him before he can group himself. The eighth is attacking him when he is lax, and going by way of places where it would never occur to him you would go. The ninth is burning his stores, and emptying his markets and his villages. The tenth is plundering his fields and his countryside, and carrying his youths off in bondage. These ten are the advantages of cavalry warfare. The cavalry is able to split off and to join, to scatter and to gather. It can turn up at a rendezvous a hundred or even a thousand li away. It goes out and returns without interruption, and thus is called a ‘force that can split off and join’.

These advantages clearly indicated a shift in the usage of the horse from chariot draught animal to cavalry mount in military campaigns, which in turn predicated a fundamental change in how the horse was looked upon both in war and in society as a whole. Once cavalry was adopted and integrated into the military of the various Warring States kingdoms, even then it did not become the major tactical force in the armies of the time. One of the problems that rulers saw both in pre-imperial and imperial times was the lack of experience the Chinese had with horse-riding and cavalry. As mentioned above, Creel (1965: 649) points out that to be successful in war, three things were required: mastery of riding and using cavalry gear, training horses for war, and breeding and acquisition of suitable horses. These conditions led to the recruiting of nomad troopers to fill in the ranks of the cavalry. Lewis (2007: 139) writes out:

Expeditionary armies were distinct from the standing armies, and drew their forces primarily from resettled barbarians. Most of the cavalry in the campaigns of the first century A.D. that destroyed the Xiongnu confederacy consisted of nomad
soldiers. The Han founder had already employed tribal soldiers during the civil war. After the reign of Emperor Wu, these tribes were usually classified as “dependent states” and allowed to keep their own leaders and customs, under the supervision of a commandant. But the Eastern Han went beyond the policy of “using barbarians to control barbarians”… From this evidence it is clear that after the middle of the first century A.D. the primary source of mounted warriors was non-Han soldiers.

This perceived lack of capable Han riders for mounted forces, however, began somewhat earlier in the historical picture. Creel writes that “… the Chinese would never be the equals of the nomads in the employment of cavalry horses in war” (1965: 677).

Chao Cuo (d. 154 BCE), minister to two Western Han emperors (Wendi, r. 180-157, and Jingdi, r. 157-141), pointed out to the emperor that “… the territory of the Hsiung-nu [Xiongnu] and the skills it demands are different from those of China. In climbing up and down mountains, and crossing ravines and mountain torrents, the horses of China cannot compare with those of the Hsiung-nu” (Creel 1965: 657). This not only could apply to the horses but also to the riders themselves, for even in the early Han dynasty, riding horses was perhaps seen as somewhat strange and even foreign, according to Creel. Chao Cuo’s “… remedy was not for the Chinese to become better cavalrmen, but rather to enlist barbarians to fight barbarians” (Creel 1965: 670, n. 100). Chao Cuo saw the building up of large cavalry forces as the only way to combat the Xiongnu. Recruiting nomads to fight nomads was the only practical method to keep them at bay.

In his memorial to the Han emperor, Chao Cuo pointed out that “On dangerous roads and sloping narrow passages they [the Xiongnu] can both ride and shoot arrows; Chinese mounted soldiers cannot match that. They can withstand the wind and rain, fatigue, hunger and thirst; Chinese soldiers are not as good” (Di Cosmo 2002: 203). Besides “using barbarians to fight barbarians”, Chao Cuo proposed that surrendered
nomads be utilized to guard the frontiers under Chinese officers. This “meant simply the incorporation of foreigners within the Han military forces as a defense against the northern nomads” (Di Cosmo 2002: 204). What Chao Cuo was able to see and understand was the realization that the Chinese riders were not equal to the horse-riding nomads; if swiftness in campaigning was essential to success on the battlefield, it could only be obtained through the recruitment of cooperating nomad horsemen. The Emperor Jingdi followed up on Chao Cuo's suggestions.

From Yangling, Jingdi’s tomb complex outside of Xi’an, among the terracotta cavalry riders found during the excavations, there was found a “dressed-type female cavalry soldier figure” (Han Yanglin Bowuguan n.d.), one of many cavalry soldiers (Figure I.8a), with distinctive facial features that are very different from those of other figures unearthed and could very well portray a nomad rider. Another figure (Figure 1.8b), which was also mounted on a wooden horse since lost through decay, most likely facially represents the local people more, whether they were infantry soldiers, maids or servants.58 The authors of the museum’s volume Han Yangling point out (Shaanxi Sheng 2001: 9) that “Among the mounted figurines unearthed in the accompanying pits in the south area, there are some with their cheekbones sticking out. The hairdo of these figures is also peculiar”. While they do not explicitly say that these features indicate those of nomads,

57 What may be surprising is its identification as a female warrior. For illustrations of mounted cavalry soldiers who more resemble the more standardized depictions of Han soldiers and other figures found in the tomb pits, see Shaanxi Sheng Kaogu Yanjiaosuo, ed., 2001: 9-10, Figures 16 and 18. Ma and Wang indicate the cavalry figures as well as infantry were recovered from pit no. 13 (2001: 25. On page 21, Figure 12 shows the cavalry horses and figures in situ).
58 Four typical figures from Yangling are also illustrated in Sun 2017: 114-115, Figures 35, 36a-c. Illustrations of eleven animal figurines, including horses, from the same tomb complex can be found on pages 174-177, Figure 98.
Lai et al (2011: 121; see also p. 61, fig. 23, p. 120, left top and bottom figures) write that “Some scholars have suggested that the rider with prominent cheeks is a warrior from a non-Chinese ethnic group.”

The employment of nomad soldiers for cavalry forces continued into the Eastern Han period, especially during the first three reigns, when Xiongnu raids and incursions became so intense that it led to the depopulation of vast regions in the north and flight to the south. The Eastern Han rulers recruited resettled nomads to provide manpower for cavalry forces which eventually destroyed the Xiongnu confederacy (Lewis 2007: 25, 139). In the next section, we look at cavalry gear and usage in the Qin and Han periods.

*Cavalry in the Qin.* While historical records confirm that the northern kingdoms began to employ cavalry forces during the Warring States period, it was during the short-lived Qin dynasty (221-206 BCE) that cavalry became an essential military adjunct. The discovery in 1974 and still ongoing excavation of the First Emperor of Qin’s necropolis has provided invaluable evidence on how cavalry was utilized as well as realistic life-size terracotta representations of cavalry steeds and cavalrymen. About 7000 figures and 500 cavalry and chariot horses have thus far been excavated. Many of them have been restored and are on display in the original pits at Lintong, Shaanxi. A few, including a cavalry soldier and horse (Figure I.9), have traveled extensively as objects in international exhibitions. The evidence provided by the terracotta horse and rider and archaeological context has allowed us to confirm the form of much of horse gear, weaponry and dress utilized in the period, much of it demonstrating China’s debt to the
northern nomads in its appropriation of mounted warfare and horse-riding gear. So and Bunker (1995: 29) write:

A comparison between the saddles and bridles worn by the cavalry horses from Qin Shihuangdi’s terracotta army and those excavated at Pazyryk in southern Siberia clearly demonstrates the Chinese debt to the mounted tribes of the Eurasian steppes, not only for the technology of riding astride but for the riding gear that facilitated the practice.

According to Kelekna (2009: 141), “Qin cavalrymen were also using saddles with retentive molding at cantle and pommel, a haunch breeching strap, and central girth.” The bits and bridles, as mentioned before, owed much to Eurasian steppe nomad styles, as seen on the cavalry horse depicted in the exhibition catalog The Great Bronze Age of China (p. 342-343, Figs. 101, 102) with the ends of the mouthpiece terminating in large loops through which S-shaped cheekpieces are fitted (So and Bunker 1997: 29). Only one example of a bridle has been successfully reassembled, from Trench 14, according to Hearn (1980: 371), who describes it in detail: “The bronze mouthpiece of the snaffle bit terminates at either end in a ring. These rings ride freely along two S-shaped guides fastened top and bottom to the forward straps of the headstall; two leaf-shaped pendants, one suspended from each bit ring, connect the bit with the reins.” The bridle was made of bronze wire strung with stone beads, bronze reins made to imitate leather, so that they “might survive underground forever.”

From archaeological discoveries, we know that Qin cavalrymen wore clothing more appropriate to riding than what infantry foot soldiers might wear: long pants and short boots in the nomad style, leather caps and short protective vests with no shoulder guards made of sewn leather patches (Figure 1.9), all purposed to facilitate mobility on horseback. The rider from Pit 2, one pair of 116 sets of cavalrymen and horses, holds the
reins of a saddled horse. The horse is 210 cm in length and 180 cm in height, while the standing cavalryman is 185 cm high. The horses have saddles and bridles, but no stirrups, an accouterment which did not appear until the third century CE. Without stirrups, writes Lai et al, “they would have been difficult to mount and control” (2011: 111). According to Li and Sung, however, “The robe and armor depicted would have allowed him to pivot his torso when shooting on horseback and to mount or dismount his horse quickly” (2017: 80).

The cavalryman is not holding any kind of weapon, nor is one attached to the horses. However, there is evidence as to what weapons were employed. Hearn writes: “Since two bronze crossbow trigger mechanisms and the remains of six quivers filled with eighty to one hundred arrows each were discovered in the same trench with this figure, it is likely that he was armed with a crossbow” (1980: 371; see also Cooke 2000: 37-38).

Cavalry in the Han. The utilization of cavalry during the Western Han, according to Yang Hong (2017: 24, 26), goes back to the conflict between the states of Chu and Han after the overthrow of Qin, in which the future first emperor of Han, Liu Bang, utilized chariot forces against Xiang Yu’s army to little avail. Yang Hung writes (2017: 26):

[He] initiated his revolt against the Qin at Pei, the structure of his army followed the Qin model, giving priority to chariots and infantry over a comparably weaker cavalry. Later, however, in his battle for supremacy against the Chu warlord Xiangyu (232-202 B.C.), Gaozu [i.e., Liu Bang] came to recognize that cavalry forces were indispensable in battle after the Chu cavalry arrived in great numbers at Xingyang, where the Han army was stationed.

Northern nomad forces began to make themselves felt along the northern Qin frontier in the third century BCE, but it was not until the subsequent Western Han
dynasty that they became a palpable threat to the survival of the dynasty. Infantry forces were unable to counter nomad raids and so it was clear to the court that an expansion of cavalry forces was the only way to deal with the situation. The Han general Ma Yuan was fully cognizant of the importance of the horse in countering the nomad threat and he had a bronze statue of a horse cast and inscribed, “Horses are the foundation of military might, the greatest resource of the state” (Creel 1965: 659; Kelekna 2009: 149).

By the time the emperor Wudi took the Han throne, a long period of relative peace had given the empire time to develop cavalry forces, and the use of both cavalry and the crossbow (a Chinese invention) allowed Han forces to successfully fight the Xiongnu not only at the frontier but also deep inside nomad territory (Li 2013: 275). Engagements with the Xiongnu during the Western Han were not always successful. In 129 BCE, five generals, each deploying armies of 10,000 cavalrymen, were sent to attack the Xiongnu from five different directions. Two armies were utterly defeated and two failed to engage the enemy, but the fifth army, under the command of the young general Wei Qing, was able to capture the spiritual center of the Xiongnu, Longcheng (Li 2013: 273). Wei Qing’s successive victory in retaking the Ordos region from the nomads two years later helped the Han to change the balance of power in the region and it was resettled by Chinese farmers. To do so, writes Li (2013: 273),

Han horsemen had to be better trained and better equipped, and they were indeed able to outmaneuver the Xiongnu forces even in cases where the Xiongnu outnumbered the Han soldiers. This was typical in the campaign of 121 BC when the light-cavalry general Huo Qubing led an army of 10,000 cavalrymen going west, traversing the territories of five Xiongnu tribes in six days and forcing king Hunye to surrender with 40,000 soldiers.

In a subsequent campaign in 119 BCE, Wei Qing and Huo Qubing were able to lead a huge Chinese army of cavalry and infantry into northern Mongolia where the
Chinese won a decisive battle near the present capital of Ulan Bator, inflicting serious damage to the Xiongnu empire (Li 2013: 275).

Yang Hong (2017: 27) writes that cavalry action against the nomadic Xiongnu during the Western Han transformed warfare: “Giving primacy to the cavalry as its main military force and to iron weapons on the battlefield, the Western Han effectively turned the page on pre-Qin chariot warfare and bronze weapons, thereby transforming the theater of war in the history of ancient China.”

With regard to weaponry utilized by Han cavalry forces, we are fortunate that there are plentiful sources which we can refer to which depict how cavalry forces were deployed. Much of this evidence has been revealed through archaeological excavations of Western and Eastern Han tombs, including that of Yangling, the tomb of Emperor Jingdi near Xi’an; the cemetery at Yangjiawan near Xianyang; and various Han tombs throughout China, especially the Eastern Han tomb in Wuwei in Gansu province, as described below.

*Yangling, Xi’an, Shaanxi province.* The tomb complex of the Han emperor Jingdi has produced a very large number of terracotta figures of humans (civilian and martial) and animals (horses, oxen, sheep, goats, dogs and even chickens), all in miniature scale (Lai 2011: 119). Most of the human figures had wooden arms and woven clothing, which have decayed since their burial ca. 141 BCE. Cavalrymen are molded with bowed legs, as if astride their horses. Unfortunately, the cavalry horses were of wood and have not survived. However, some of the miniature metallic weapons have survived.
Yangjiawan, Xianyang, Shaanxi province. At this site, situated 22 km northeast of Xianyang, a number of tombs were discovered from which numerous pottery figures of humans and horses were recovered. “Of the eleven burial pits excavated, six contained more than 580 cavalry figures. . . . Although the figures are rendered in less detail than the Qin terracotta warriors, Han artists took care to imbue them with a sense of realism” (Lai et al 2011: 115). Both horses and cavalrymen are ceramic, with armor and dress painted or incised. No reproductions of weapons have been found, however.

Leitai tomb, Wuwei, Gansu province. This Eastern Han tomb in Wuwei produced what is perhaps the most famous of all horse sculptures in China, the so-called “Flying Horse of Gansu” (which will be discussed at length in Chapter 4). However, the Flying Horse is only one of thirty-eight bronze horses found in the tomb. Of these, seventeen of eighteen horse-mounted soldiers in the procession of carts and riders are holding lances and long halberd-lances in their right hands. The horses stand at 40 cm in height and are standing on four feet (Gansu Bowuguan 1994: Fig. 76). The cavalrymen wear long trousers and flat-topped caps. While some of the carriage and chariot horses from the same tomb have bridles depicted, the cavalry mounts do not. (Refer to Chinese Exhibition 1975, figs. 218-234).

These examples of renditions of cavalry dating from the Qin, through the Western Han and into the Eastern Han are invaluable since they give us more than a cursory look at the cavalry of the period, their dress, weaponry, bridles and other accoutrements.
Conclusion

This chapter has provided an overview of the situation in China ca. 300 BCE into the Han period, when the horse as a mount entered the political scene as a technological innovation for China as a whole. Horse riding in Eurasia predated that in China, and the argument that it existed in the Shang dynasty is not well supported. Instead, evidence points to the appearance of horse riding in China proper possibly in the fifth century BCE or later, even though the earliest written records indicate its adoption ca. 307 BCE by the state of Zhao. The revolutionary employment of the horse as a cavalry mount, as courier mount in the imperial communication system, as well as a mode of transport for royal and imperial personages, had lasting consequences for China. Its importance in these roles discouraged the practice of horse sacrifice in royal or otherwise aristocratic funerals. Instead, its image, in sculptures and paintings in tombs, became a spiritual and metaphorical substitute for sacrifice. This will be covered in Chapter 4.

The debt that China had in the late Warring States period to the nomadic tribes of the northern frontier areas in its adoption of the horse as a mount for riding cannot be underestimated. The adoption of cavalry by the contending states ca. 300 BCE, quickly replacing the chariot as the main horse-dependent martial force, led relatively quickly to the unification of China by the Qin in 221 BCE. The subsequent Han dynasty, forced to deal with the mounted Xiongnu threat from the north beginning in the middle of the second century BCE, expanded the role of cavalry in its northern campaigns, at first recruiting nomads to serve in cavalry units but eventually also able to employ Chinese as cavalrymen as they became more familiar with riding. By the late second century BCE, Chinese cavalry forces were successful in their campaigns against the nomads.
The expansion of the use of the horse also led to a parallel expansion in the imperial bureaucratic administration of horse-related affairs, which included the acquisition, breeding, training and management of horses for cavalry, riding and as draught animals for chariots and carriages. The search for superior breeds of horses led to the expansion of Chinese-controlled territory in the north and in the far west, the latter following Emperor Wudi’s successful expeditions to Central Asia to acquire such superior breeds.
CHAPTER 2

SPACE: THE HORSE AND EARLY CHINESE WORLD VIEW

*Art is how we decorate space, music is how we decorate time.*

--Jean-Michel Basquiat

**An Introduction to Space and Time in Early China**

Before we begin a thorough discussion in this chapter of spatial concepts in early China, it would be helpful to take a short but preliminary look at the inextricably connected concepts of space and time in China and how they relate to the thesis of this dissertation. Temporal concepts will be more thoroughly addressed in Chapter 3.

Spatio-temporal conceptions are part of the human condition and experience. In fact, space and time are difficult to separate. In ancient China as well as elsewhere, the two were intimately intertwined. Scheuerman (2018) writes that “Geographical distance is typically measured in time. . . . The human experience of space is intimately connected to the temporal structure of those activities by means of which we experience space.” While we do not always consciously realize the relationship, it has always been there, even before new transportation technology began to inexorably reduce the temporal duration needed to travel between geographical locations and before modern communication technology eliminated the temporal obstacles for connecting with others who are not within the reach of our personal space.
The thesis of this dissertation, besides addressing the so-called collapse of space and time, is to look at how early Chinese writers interpreted both concepts and how they applied their interpretations to temporal cycles of human experience and spatial locations near and far.

The aim of the dissertation is to provide an answer to the question of whether the introduction and popularization of horse riding in the late Warring States, Qin and Han periods initiated a change in the conceptual views of time and space. If so, it may have been because the obstacles presented by the newly extended, vast geographical space of imperial China had been conceptually reduced through the revolutionary innovation of horse riding that increased speed in communication and transportation.

The concept of space fixed in time is defined by the human limitations of movement. Prior to the popularization of horse riding in China in the 3rd century BCE, speed was limited to how fast a man could walk or a boat could float, or a wagon or chariot could move. Velocity or speed is relative to the observer who is always cognizant of his own limitations; thus, humans always seemed to have the desire to fly as quickly as a bird, a yearning which finds its place in literature and art.

The early Chinese world view closely pertains to conceptual space. The way the Chinese saw the world around them led directly to the construction of a socio-political structure that had far-reaching consequences for centuries. Strong associations were made with the cardinal directions, which eventually had lasting geopolitical consequences. The earliest written records concerning Chinese concepts of space, territoriality, borders, frontiers and margins are attested well in the Shang oracle record. The four cardinal directions were utilized to indicate specific lands, such as *dongtu* 東土 (eastern lands),
and a term for more distant lands, *fang* 方, was similarly utilized. The concept continued into the Zhou period, with an association of marginal peoples with the cardinal directions becoming a standard rhetorical phrase in the writing of the time. Space was also defined by the distance between settlements. In the Shang and Zhou periods, settlements were fewer and farther apart, but in the late Eastern Zhou, a larger population, the appearance of commercial and industrial centers, and the distance between villages, towns and cities shrank because more of them made them closer together. This “shrinking” environment of closer-connected communities encouraged not only intra- and inter-regional interactions, but also between Chinese and non-Chinese peoples in the diffusion of cultural and technological elements.

With this overall shrinking environment and advancements in transportation technology brought about by the introduction of the horse, the concepts of space and time existing within the purview of Chinese civilization and the influence it had on peripheral regions began to go through conceptual changes that were expressed in administration, philosophy, literature and art. We must take the Late Shang as the basis for comparison since it provides the earliest written record, in order to observe how these changes accelerated in the late Eastern Zhou, Qin and Han periods. The evolution of the concepts of time and space in early China emerged and changed as the empire expanded, along with their influence on a coevolving society. The horse became the connecting tissue that held it together and can be said to have helped expand it.
Concepts of Space in Early China

Let us begin by addressing the relevant theoretical aspects of space which contribute to the writer’s argument. How people of the Late Shang (ca. 1250-1045 BCE), of the Zhou (1045-253 BCE) and of later periods viewed their proper place in the geographical world of their time is essential for our understanding. Important to the study is also how they viewed and dealt with those who resided in territories outside of their own physical, geocentric boundaries. Specific to the study is the contact with, and relationship between, the Shang and Zhou peoples and non-Chinese pastoral cultures who lived within or beyond the frontiers to the north and northwest, especially those involved in the raising of horses and their utilization as chariot draft animals and mounts, particularly from ca. 500 BCE on. How the presence of the domesticated horse influenced this relationship is central to the dissertation’s aim.

In approaching this subject, the writer considers that also understanding the nature of the metaphorical qualities of the frontier in the contexts of economics, geography, culture and socio-political constructs will contribute to the writer’s argument. Part of the discussion will relate to theories of socio-cultural evolution and cultural hybridity that deal with the factors that contributed to the formation of the Chinese worldview.

Fundamental to the discussion of the early Chinese worldview, frontier relations, and socio-cultural interaction is that these topics relate directly to the spatial concepts in early China that are intrinsic to the overall aim of the dissertation, in that the fundamental constructs of space are integral to those of territoriality, borders and boundaries that the early Chinese formulated as political, cultural and social constructs, which developed and changed over time. The initiation of the imperial age with the establishment of the Qin
(221-210 BCE) and the Han (206 BCE-CE 229) dynasties and their geographical expansion is integral to the study in the widespread adoption and need for the horse in warfare, land transportation, communication and status across a far-flung landscape.

**Cardinal Directions in Early China**

The way the Chinese saw the world around them may have led directly to the construction of a socio-political structure that for centuries had far-reaching consequences for interregional and international relations. Strong associations were made with the cardinal directions, leading to eventual geopolitical consequences. An understanding of how the Chinese saw and treated states and peoples which fit or did not fit within the structure of their world view is essential to an understanding of spatial concepts in early China. Given the shape of the world from the Chinese perspective, those topics take on a somewhat different perspective as seen in early Chinese written records that deal with concepts of space, territoriality, and borders.

Concepts of directional space are found as early as in the Shang oracle record, in the four cardinal directions of north, south, east and west. The east-west axis being the primary one, with the north (the direction of the “cold and the dead” on the inauspicious left hand) the least important, and the south (a direction of “warmth and the living” on the auspicious right hand) the good side (Keightley 2000: 86). The Late Shang cosmology was built upon a grid composed not only of the four cardinal directions, but also upon temporal changes observed in “...seasonal changes in weather and in the motions of the sun, moon, and stars” (Keightley 2000: 122).
The cardinal directions were also utilized to indicate the locations of specific lands, e.g., *dong tu* 東土 (eastern lands), and *xi tu* 西土 (western lands). The word *tu* 土 (soil, earth) referred to the rural farmlands surrounding the capital and probably under direct royal control. The term *si tu* 四土 (the four lands, e.g., the lands of the four directions), while it does appear in the record, was rarely used (Keightley 2000: 61). The term for more distant lands was *fang* 方, and was similarly utilized to express the meanings of side, border, country or region, or border-country (Keightley 2000: 66, n. 25). It was subject to modification through the use of cardinal directions, and the term *si fang* 四方 (the four borderlands or regions) also appears but is relatively rare. They are the regions of the Shang’s tributary states and enemies, which are often named in the oracle records. As many as thirty-three different *fangs* are recorded, with Period I of the Late Shang having the most mentioned (Chang 1980: 248). The eight most frequently mentioned *fang* are the Gong, Tu, Qiang, Zhou, You, Ren and Yü (1980: 248-253). The locations of these *fang* are generally verifiable in the record. Chang(1980: 252-253) writes that the

Shang was encircled by the Tu Fang in the north (northern Shanxi, Gong Fang in the northeast (northern Shaanxi), Qiang Fang, Zhou Fang, and Zhao Fang in the west in central Shaanxi and vicinity, You Fang in the south in the middle Han River valley, Ren Fang in the east in the Huai river valley and coastal Jiangsu and Shandong, and Yü Fang in the northeast in central Hebei. 59

As we have seen, as early as the Late Shang, the idea of regions identified and named by positioning them at cardinal points inside and outside the political control and influence of the Shang court had already been established. The application of these concepts continued into the Zhou period, with the association of certain non-Chinese

59 The Wade-Giles romanization has been replaced with pinyin romanization.
peoples with specific cardinal directions. The association of marginal peoples with the
four directions became a standard rhetorical phrase in the writings of the time. The Zhou
Li 周禮 identifies an office in charge of the barbarian periphery, identified by the
number of named tribes which are already associated with the cardinal directions: *si yi* 四
夷 (four Yi of the east); *ba man* 八蛮 (eight Man of the south); *wu rong* 五戎 (five Rong
of the west; and the *liu di* 六氐 (six Di of the north) (Duman 1981: 29). In a passage for
the 17th year of Duke Zhao as recorded in the *Zuo Zhuan* it is stated, “I have heard that,
when the officers of the son of Heaven are not properly arranged, we may learn from the
wild tribes [i.e., the *si yi* 四夷, the four Yi tribes] around us. The remark seems to be
true” (Legge 1983: 666, 667). In effect, these tribal names oftentimes became the
metaphorical personifications of the directions.

**Chinese Concepts of Geographical Space and Boundaries**

In transitioning from the previous section on cardinal directions to this section on
geographical space, it would be useful to take a look at some of the other terms for the
frontier and geography in China as an introduction to ancient concepts of space and
distance. There are a number of different words in Chinese which bring across the
meaning of frontier, border, or margin. One of these, *bian* 邊, is the most ambiguous in
nature. Its various meanings are: side, border, edge, margin, bank (of a river), a
boundary, or the frontier. Another word, *jiang* 疆, carries more of a political or cultural
meaning of boundary, border, or frontier. One other character, *chui* 垂, (from *chui* 垂), is
also more precisely a frontier. Combination of some of these character-morphemes form
complex words and stress the idea of political or cultural borderlands: *bianjiang* 邊疆, *jiangbian* 疆邊, *bianchui* 邊陲, and *bianyu* 邊隅. All share the meaning of frontier. ①

As mentioned, the oracle bone inscriptions from the Late Shang dynasty (ca. 1250-1045 BCE), the word *fang* 方 (place, region) appears, referring to the lands and peoples of the surrounding or outer regions. The *duo fang* 多方 (many *fang*), *ma fang* 馬方 (horse *fang*), and *duoma fang* 多馬方 (*fang* of many horses), often appeared in the written record, in the “Duo fang” chapter of the *Shangshu* 尚書, for example. ②

Military expeditions were regularly sent to battle the various *fang* (Ding: n.d.: 269-291). In the *Shi Jing* 詩經, China’s earliest poetry anthology, the word *fang* is used to indicate outer regions and their inhabitants. A verse in poem 132 (Waley’s translation 1960: 124), describes such an expedition using the term *fang* to indicate the outer regions and their inhabitants. Here King Xuan (r. 827-782 BCE) orders his general Nan Zhong to the border area to defend against the marauding Xianyun, a northern people oft mentioned in early texts:

The king has ordered Nan Zhong

To go and build a fort on the frontier (*fang*).

① In more recent Chinese political history, the conquest (re-conquest, really) of present northwest China by Qing forces in 1884 resulted in the incorporation into the empire of the new province of Xinjiang 新疆, ("New Frontier"). The graph *jiang* 疆 is an interesting one. Its original form was the right side component of the modern form. It is made up of two pictograms of fields (*tian* 田) separated by three fences or other identifiable border (一), a very clear image of boundaries. Modern Chinese tour guides tell Chinese tourists to Xinjiang that the meaning of the graph is actually a map of Xinjiang, with cultural components thrown in to boot. On the left, people who live off the land *tu* 土 and who use the bow *gong* 弓 for subsistence (e.g., the nomads), live in a land where three mountain ranges (respectively, north to south, the Altai, Tianshan and Kunlun, represented by the straight lines) separate two large basins (Zungarian and Tarim, represented by the graphs for field). This is a great story but has little to do with reality.

② In modern Chinese of today, *difang* 地方 ("place of the earth") is the colloquial term for a "place."
To bring out the great concourse of chariots,
With dragon banners and standards so bright.
The Son of Heaven has ordered us
To build a fort on that frontier.
Terrible is Nan Zhong;
The Xianyun are undone.\(^{62}\)

**Early Chinese Socio-Political Views of the World Around Them**

In this section we address the world view of the early Chinese, as it directly pertains to their relationship with peripheral peoples, especially those from whom they obtained the horse and chariot. The way the Chinese saw the world around them led directly to the construction of a socio-political structure that for centuries had far-reaching consequences for interregional and international relations. An understanding of how the Chinese saw and treated states and peoples which fit or did not fit within the structure of their world view would be useful before delving into the complexity of frontier policy.

Just what was the shape of the world from the Chinese perspective in the first millennium BCE? The 3rd century BCE thinker Zou Yan (305–240? BCE), a native of Qi and who lived shortly after Mencius (Fung 1960: 135), was a proponent of the Yin-Yang school of thought. He proposed a nine-zone geographical system for the world, whereby the world was divided into nine continents (\textit{da jiuzhou} 大九州) separated by

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\(^{62}\) While Waley translates \textit{cheng} as “fort”, Legge translates it as “wall”, but it can also be translated as “city wall”, “city” or “town.” Refer to http://etext.virginia.edu/chinese/shijing/AnoShih.html. Accessed April 29, 2022. Note that Waley translates \textit{fang} as frontier, based on the established relationship between forts and defense against non-Chinese peoples.
Chapter XIII of the *Lü Shi Chunqiu* 呂 氏春秋 further developed Zou Yan’s theory: “Heaven has nine fields; Earth has nine continents; the land has nine mountains; the mountains have nine passes. There are nine lakes, eight kinds of winds, and of waters there are six rivers” (Fung 1952: 167). It provides the dimensions of this territory: from east to west, 28,000 *li*; from north to south, 26,000 *li*. The world outside which encompasses all is 597,000 *li* from east to west and the same from north to south (Fung 1952: 167-168).

In this theory, China was only one region positioned on one of these continents, but it is not clear whether China occupied the central position on its continent. Yu Ying-shih elaborates (Yu 1986: 377-378): “China occupies only one of the eighty-one divisions of the entire world. . . . As Tsou Yen’s [Zou Yan’s] theory increasingly gained currency, China’s self-image of its geographical situation underwent a fundamental change. The classical identification of China with ‘all under Heaven’ (*t’ien- hsia*) [tianxia 天下] gradually gave way to the more realistic idea of China as that which lies ‘within the seas’ (*hai-nei*) [hainei 海内].” 65 This theory demonstrates that the early Chinese, at least as it pertains to geography, did not always view China in a geocentric manner as the center of the world, but recognized that other continents and other

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63 Zou Yan’s ideal world, as much as was the construct of a nine part system, was in turn influenced by the concept of the nine-part “well-field system” (*jingtian* 井田), where a farmer’s land was divided into nine equal parts (resembling the Chinese character for well *jing* 井), the center square ideally reserved for growing crops to support the ruler as a form of commoners’ tribute or tax.

64 According to Hill (2009: xx), the measurement *li* remained stable in the Qin and Han periods. The Han *li* was calculated by Homer Dubs to be 415.8m (in Hill 2009: xx).

65 Wolfram Eberhard writes that in Zou Yan’s theory, China was positioned on the southeastern continent, and not located in the center. Because of this, he argues that Zou Yan’s ideas were strongly opposed by other thinkers and had little lasting influence (Eberhard 1982: 99).
countries existed, some perhaps equal to China in their level of civilization. However, a different view of the world eventually becomes prominent and influential.

The ancient Chinese work *Shanhai Jing* （山海经）（Classic of Mountains and Seas）, which dates from the early 3rd century BCE to earlier centuries CE (Birrell 1999: xxxix), is a geographical work that names and describes the lands inside and outside the boundaries of China. In its eighteen books, the land is divided into zones that expand outward from the central core area. Books one through five cover the regions of the Mountains of the South, West, North, East and Center. Books six through nine cover the Regions Beyond the Seas: South, West, North and East. Books ten through thirteen cover the Regions Within the Seas: South, West, North and East. Books fourteen through seventeen describe the Great Wildernesses of the East, South, West and North, and the final book, eighteen, generally covers the Region Within the Seas.

As one can observe from the above regions, the lands described form concentric regions beginning with the central regions of what would be considered China Proper. We see in the work the binary concepts of “core/periphery” and “Chinese/barbarian” that were introduced in the Zhou period. The place names and descriptions of the people within these concentric regions also diverge in makeup as one gets further from the center, and the outermost ring is composed of the great wild lands. There is “The sense of well-being, of order and harmony that pervaded the first five books,” writes Anne Birrell (1999: xxix). She continues that it

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66 This idea is supported with the application of the term “Da Qin” 大秦 to the Roman world in the later, Eastern Han period. The meaning of “Da Qin” is “Great Qin”, referring to the short-lived dynasty of the First Emperor (221-206 BCE). It is a term nonetheless that Rome may have been seen as equal in power to the Qin.
. . . gives way to the notion that beyond the sacral land of China are horrifying places and monstrous people. The mellifluous and auspicious place-names disappear, to be replaced by grotesque and ludicrous names for foreign parts. Abusive graphs represent the names of these countries and their peoples belong to an overall authorial strategy which aims to establish a line of demarcation between Chinese culture and that of others. 67

The concept of the four directions was eventually expanded to include a fifth direction, the center. This was fully developed during the Western Han dynasty but originated much earlier. In the 3rd century CE commentary by Sima Biao on the Daoist work Zhuangzi of the late Warring States period, he wrote that "... the world has no compass points; therefore (from one point of view) whenever we may happen to be is the centre; cycles have no starting point, therefore whatever period we may happen to be in is the beginning" (in Needham 1954: 192). This statement also has implications for early temporal concepts, which will be addressed later. In the Analects, Confucius placed priority upon he who rules through moral force (de 德), likening the ruler's central place to the North Star and those stars which encircle: “The Master said, He who rules by moral force (te) is like the pole-star, which remains in its place while all the lesser stars do homage to it” (Lunyu 論語: "Wei zheng 為政"; translation from Waley 1938: 88).

The center was thus imbued with moral certitude, and as the premier direction it not only indicated the political nexus of the Chinese state and its civilization but was naturally the central perspective from which the individual person, from the lowly peasant to the emperor, viewed the rest of the world, from the context of their place within it, be it village or court. This concept gave institutional authority for such personal

67 An example of the abusive graphs for non-Han peoples is the name given to the northern Xianyun 獛狁 people. The two characters utilize the “dog” radical quan 犬, as it is written in the Shi Jing poem number 168 “Chu Che” (出車). (Waley 1960: 124; Shi Jing 1997: 96).
perspectives, for with the center as the defining direction, all other directions are merely relational and relative to the central position. With the center as the primary directions, all other directions defer to it.

With the establishment of the concept of five directions, specific attributes are given to each of them, including their association with non-Chinese peoples, with strong implications on how the Chinese viewed and dealt with peripheral peoples. The center is reserved for the Chinese. As one moves away from the center, the idea of peripheral directions becomes increasingly palpable, but the force of centrality becomes stronger as well, eventually overpowering in concept the other directions. In effect, the four directions merely become less important attributes of the center, as is manifested in the “Mingtang wei” chapter of the Liji (Vogt 2023).

The attitude of the Chinese toward the barbarian comprised a subjective view that they themselves were an advanced and civilized people who were sure of the superiority of their culture, institutions and way of life. “From the very earliest centuries of Chinese history,” writes Wilkinson (1998: 694), “the in-group visualized its relations with out-groups in hierarchical terms with the ingroup at the top and center.” We can see this clearly in the Classic of Mountains and Seas, and the relationship was institutionalized during the Han dynasty.

Another concept that was greatly influential and which also had ancient roots was the Five Zone (wufu 五服) theory of the world, references to which which appeared relatively early in the Shu Jing 書經 (Yu 1986: 379, n. 6). According to this theory, the world was divided into five concentric and hierarchical zones or regions. With reference to the Han application of this theory, the Five Zones were: Tianfu 天服, the central (or
celestial) zone, which was the royal domain, under direct rule of the emperor. The royal
domain was immediately surrounded by the *houfu* 侯服, the lord’s zone, composed of the
Chinese states established by the emperor. Beyond the *houfu* was the *suifu* 綏服, the
pacified zone (or *binfu* 賓服, “guest zone”), Chinese states conquered by the reigning
dynasty. Outside of this was the *yaofu* 要服, or controlled zone, where the Man and Yi
barbarians lived and were supposedly under Chinese (though somewhat loose) control.
And, finally, outside the controlled zone was the *huangfu* 荒服, or wild zone, where the
Rong and Di barbarians lived, beyond the control of the Chinese and who were their own

The focal point of civilization was in the capital of the country, actually in the
emperor’s palace, the palace that was also the center of power. In a schematic
outlines a picture of the world emanating from this focal point. First comes the
capital of the country, which was surrounded by concentric squares (because the
earth at that time was thought to be square, covered by a round heaven or sky)--
first the province in which the capital city was located, then the inner provinces,
the outer provinces, and so on to the end of the world. Square by square, the
power of the emperor, and civilization in general, diminished. In the outside
squares the inhabitants certainly did not know that they belonged to China and
were under the (theoretical) rule of China’s emperor, nor even of China’s
existence.

Within the context of the Five Zone theory (and well before its appearance), the
capital and the center of civilization of the proto-Chinese states were at the center,
geographically along the middle reaches of the Yellow River. The term *zhong* 中 (middle
or center) appears early and refers to the Central Plain of northern China as well as to the
“middle states” that formed during the Eastern Zhou period. The traditional concept of
China as the *zhongguo* 中國 (“Middle Kingdom” or “State in the Center”) probably
appeared only after the establishment of imperial control over an expanding empire, since
we see with Zou Yan’s Nine Zone concept that some Chinese were aware that the country was not necessarily in the center and the only country in the universe. But because control came from the centralized government in the center of the country, such control—and attempts at control—expanded outward through the Five Zones to regions far beyond their administration.

While theoretically an ideal type, nevertheless the Five Zone system was utilized by the Han state as a practical working theory to classify barbarian peoples and to set state policy regarding the status of foreign rulers and tribute. For example, a Han official in 51 BCE argued that Huhanye, the ruler of the Southern Xiongnu who had submitted to the Han, be treated as a head of state and not as a subject, since he belonged to the Wild Zone, and could not be expected to pay regular homage and tribute to the Chinese court (Loewe 1986: 196-197).

While the concepts of cardinal directions and associated lands and peoples have a long history in China, we can see another approach to early concepts of space in architecture and urban planning. Chinese architecture is notable for its directional positioning vis-a-vis the cardinal directions, and for its symmetry, both components of spatial concepts in architecture and important constructs in geomantic planning (refer to Wheatley 1971: 411-476). Palace structure, residences (of both the living and the dead), and temple buildings are all built in accordance with socially-accepted concepts of placement. City and town planning in ancient China was in accordance with directionally sanctioned grids and enclosing urban walls. The concepts of inner/outer and center/periphery were from very early times a noticeable tendency in architecture, clearly
expressed in, and derived from, the use of walls. These concepts became a rhetorical tool in dividing the known world.

Space was also defined by the distance between settlements. In the Shang and Zhou period, settlements were farther apart than in the following periods. Keightley (2000: 56-72), citing the Shang concepts of (capital) city, *situ* 四士, and *fang* 方, proposes the model of the segmentary configuration for the Shang state, in which, according to Southall, "... territorial sovereignty is recognized but limited and essentially relative, forming a series of zones in which authority is most absolute near the centre and increasingly restricted toward the periphery, often shading off into a ritual hegemony" (in Liu and Chen 2003: 170). In the Zhou periods, with a burgeoning population and the appearance of new commercial and industrial centers and associated settlements, distance between towns, villages and cities shrank. Networks were made up of major urban centers and peripheral towns which were becoming interdependent economically and politically. Centers and peripheral towns were linked via overland routes or by river channels. The "shrinking" environment of closer-knit communities also encouraged interregional interaction, including that between Chinese and non-Chinese peoples in the diffusion of cultural and technological elements. This will be discussed below in the section on frontier theories.

Lastly, in contrast to Keightley's view, Bruce Trigger places the Shang state in the territorial-states model, "... a political entity with a single ruler who controlled a large area through a hierarchy of provincial and local administrators and administrative centres" (in Liu and Chen 2003: 18-19), with a two-tiered economy and capitals which were moved periodically, the latter the result of the slowness of communication (Liu and
Chen 2003: 19). The suggestion is that capitals were moved so that the king and his officials could better administer an ever-expanding state. As the speed of communication increased and spatial relativity decreased, it is likely that the need for moving the capital also decreased. We know that in the Zhou period the royal capital moved only once from its original locality in the Wei River valley, and that as a result of invasion (Hsu and Linduff 1988: 258ff). It is noteworthy that the use of the cart and chariot became increasingly important during the Zhou, a development that was more likely stimulated by the need for quicker, more efficient communication and transportation that eventually resulted in the replacement of the chariot by horse riding and cavalry.

How the Chinese in the Han period viewed geographical space and distance was in some ways parallel to how people view it today. Space and time are interrelated when it comes to distance: both can be measured in calculating length or distance in inches (cun 寸), feet (chi 尺) or longer (li 里), although distance between geographical locations can, and often was, calculated in in days, weeks, months or years of travel. More metaphorical and general expressions of great distances were terms like “wanli 萬里” (10,000 li) or “wujiang 無疆” (without borders or boundaries, i.e., boundless). “Not only is time infinite in span;” writes Fang (1996: 247), “space, likewise, is infinite in scope.” By the Later Han period, there were attempts to measure distances as accurately as possible, “... which have proved to be surprisingly accurate, especially in areas controlled by the Chinese,” according to Hill (2009: xxi), although

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68 The Han foot (chi) is calculated to be 0.231 meters or 9.095 inches. The li is calculated to be 415.8 meters (Hill 2009: xx-xxi).
“occasionally, especially over longer distances, and for places far from China, the figures given are wildly out.”

**Mapping Space: Cartography in Early China**

In addition to the writings that have come down to us from the pre-Qin to the Han period, there is concrete evidence available that indicates how the early Chinese literally viewed and expressed the world around them. There are two devices that allowed the visual depiction of space in early China: cartography in the form of maps, and in art, in the related formats of landscape painting and the handscroll, both of which expressed space as the Chinese perceived it. The latter will be examined in Chapter 4.

As has been examined above, the view of the arrangement of the earth into nine parts, according to Shaughnessy (2000: 128), is an important transformation in Chinese intellectual history. “The adaption of a four-directional arrangement of the earth to an arrangement in nine parts, . . . is one of the most interesting transformations in Chinese intellectual history.” He elaborates:

It stood at the center of Chinese statecraft in the form of the Ming tang (Hall of Light), one of the most important ritual sites in the imperial capital (and the forerunner to the Tian tan, or “Altar of Heaven,” that still stands in Beijing). The Hall of Light had a cruciform shape, with four outer chambers surrounding a central hall. The ruler was to proceed from one chamber to the next in accordance with the season, returning also to the center at prescribed moments. In this way, he could regulate both space and time (2000: 128-129).

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69 The writer does not examine the compass, a Chinese invention, in this dissertation, since there is already extensive writings on its origin and history. The lodestone compass dates as early as the fourth century BC. In his book, the Warring States philosopher Han Fei refers to it when he writes, “Subjects encroach upon the ruler and infringe his prerogatives like creeping dunes and piled-up slopes. This makes the prince forget his position and confuse west and east until he really does not know where he stands. So the ancient kings set up a south-pointer, in order to distinguish between the directions of dawn and sunset” (Temple 1986: 151). South was for the ancient Chinese the primary direction. For a succinct history of the compass, refer to Temple (1986: 148-151), who summarizes Joseph Needham’s research on it.

70 According to Loewe, the iconography is seen at the religious site of Piyong where it was designed as a circle enclosing a square (Loewe 1986: 684). That expression of the relationship of the earth and heaven is
A number of maps have survived that have been recovered from pre-Qin, Qin and Han tombs; there are also plentiful references to maps in early documents. Mapping is closely related to the depiction of local geography. Needham (1959: 497-498) points out that the earliest Chinese characters include pictographs for river (chuan 川), mountain (shan 山) and field (tian 田), and adds that “... bone and bronze forms of the character which came to mean ‘map’ (tu 圖) actually show a map. ... it would not be far off the mark to guess that the pictographic character of Chinese encouraged the idea of mapping.”

As has been pointed out, early Chinese cosmography conceived the heavens to be round and earth square. The Yugong 禹貢 (Tribute to Yu), a chapter in the fifth-century BCE text Shujing 書經, is the earliest geography of China. It implies a design of concentric squares, from the central royal domains to the outlying wildlands, based upon the cosmological doctrine of a square earth as well as natural features and characteristics (Shaughnessy 2000: 128; Needham 1959: 501).

The probably apocryphal story about the Nine Tripods of Zhou in the Warring States mytho-geographical book Shan Hai Jing 山海經 relates that the tripods were cast with maps and pictures on them (Needham 1959: 503). The term ditu 地圖 (i.e., map) is also seen in the architecture of the Temple of Heaven (Tiantan 天壇) in Beijing, and while dating much later (1420 CE), is evidence of the continuation of the concept. The two main structures, the Hall of Prayer for Good Harvests (Qiniandian 祈年殿) and the Circular Mound (Yuanqiu 圓丘), are circular and thus symbolize Heaven. In contrast, however, to the Piyong site, the design of the Circular Mound is the reverse, in that the circular mound representing heaven is enclosed within the square courtyard representing earth. Another example of this is the pelorus found at the Yangling tomb site of Western Han Emperor Jingdi near Xi’an. The circular stone has carved lines indicating the four directions and set within a square-shaped bulding (Shaanxi Sheng 2001: 4: 18-20, Figures 33 to 36).

71 Paul Nicholas Vogt is sceptical of the view that Needham expresses in arguments like this that try to extrapolate from the visual character of Chinese (personal communication 2023).
mentioned in the *Zhanguoce* 戰國策 (Needham 1959: 535), and the first use of the term *yuditu* 輿地圖 appears, “... derived from the conception of earth as a chariot and heaven as a chariot-roof [canopy]. ... in -117 [117 BCE], when maps of the whole empire were submitted to Han Wu Ti in connection with the investiture of three of his sons as feudal princes” (Needham 1959: 536).

The maps or charts fall into two general categories: local charts and those which cover more extensive geographical areas. The first type is made up of plans or diagrams of local settlements or royal capitals. The bronze map measuring 94cm illustrating the Warring States period Zhongshan royal cemetery is an example of this kind of mapping (Lu 2002: 234-235, figure 7.44), and while detailed, it is small in scale and limited in geographical scope.

Maps of the second category have been found in Qin and Han tombs, and while it has not yet been verified through archaeological excavation, the best known is the relief map assumed to be inside the tomb constructed for the First Emperor of Qin in 210 BCE, as described by Sima Qian in the *Shiji* 史記:

In the tomb-chamber the hundred water-courses, the Yangtzi River and the Yellow River, together with the great sea, were all imitated by means of flowing mercury, and there were machines which made it flow and circulate. Above [on the ceiling] the celestial bodies were all represented; below [presumably on the floor or on some kind of table] the geography of the earth was depicted. (Temple 1986: 179). 72

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72 Mercury contamination has been found in the soil adjacent to and on the tumulus. John Man writes: “In 1982 researchers undertook a series of 560 drillings into the tomb and its surroundings to test for the presence (or absence) of mercury vapour. ... All the soundings round the edge of the tomb showed no more than background traces of mercury vapour: less than 70 parts per billion. But actually on the tomb, 120 results (20 per cent), all crowded together around the middle, mainly on the south side, showed double the background reading, with a sharp peak of eight results at four times that level, one of which recorded over fives time the background reading” (2008: 263-264). Li Bing-wu adds: “Modern science has offered
There are mentions of maps in the *Shiji* 史記 as well as in the *Zhanguoce* 戰國策. In the former, there is the famous story of the assassin Jing Ke 荊軻 who tried to kill the future First Emperor of Qin in 227 BCE. Jing Ke brought maps that the king had demanded; folded within was hidden a knife with which Jing Ke would try to kill the king (Figure 2.1) (Needham 1959: 534). In the latter, the assassination attempt is well-narrated in the chapter “Yan Taizi Dan zhiyu Qin 燕太子丹質於秦” (Prince Dan of Yan as Hostage in Qin) (Crump 1998: 130-137; *Zhanguoce* 1973: 420-426).

Lai (2015: 172) describes a set of seven maps drawn on wooden boards from a Qin tomb in Fangmatan near Tianshui, Gansu, dating from about 239 BCE:

The maps illuminate how space was conceived while testifying to the importance of maps as burial objects. Moreover, the maps display sophisticated mapping skills and are organized around important geographical features such as mountain ranges, river flows, populous settlements and economic centers, and even roads. The maps also cover fairly extensive territories. Calculations for a two-part map from Fangmatan suggest that it depicted an area of 47,520 square (modern) *li*.

Three maps were found in Tomb 3 at Mawangdui, Changsha, dated to 168 BCE in the Western Han. They included a “topographical map of the southern region of the kingdom of Changsha, a military map of the same region indicating garrisons, and a town-plan” (Pirazzoli-’tSerstevens 1982: 56; refer also to Yu Bing 2008: 87-88). They cover a large area, including (present-day) Hunan, Guangdong and Guangxi provinces. He writes (1982: 210) that the accuracy and quality of them remained unsurpassed during the Han dynasty, “. . . at least until the second or third century A.D., when the grid system of map-making was adopted.” He continues (1982: 209-210):

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Evidence that there is a large quantity of mercury in the underground palace . . . Because of its vertical volatilization, the center of the earth-rammed mound is unusually dominated with strong mercury over an area of 12,000 square meters, and registers a mercury level more than tenfold as high as the surrounding area” (1994: 8).
The two [topographical] maps are painted on silk. One is topographical (96x96cm) with a scale of about 1:180,000; the other is military (78x98cm) with a scale of 1:80,000 – 100,000. They are graphic representations of the region of the upper Xiao shui, in the south of Hunan province, north of Guangxi province and north-west of Guangdong province. In conformity with Chinese cosmology, the south is shown at the top and the north at the bottom. The maps show the relief, the rivers and roads as well as towns; placer-names are inscribed within the symbols. The lines of the rivers become thicker with the widening of the rivers towards the mouth.

The military map [refer to p. 56, figure 29] shows the defensive positions of the kingdom of Changsha during the war that followed the invasion of the kingdom by the king of Nan Yue in 183 B.C. On the topographical map mountains are indicated by a double irregular wavy line: here they are delineated by a single fine line terminating in a loop or a lanceolate shape; each summit is represented by a trilobed and hatched symbol reminiscent of the character shan (‘mountain’); a black dot corresponds to the trefoil on the other side of the line. The whole effect is reminiscent of the spiral ornaments on contemporary lacquers and textiles. Garrisons are represented by toothed rectangles and the name of the camp commander and his title inside. In the centre of the defensive position the headquarters, a five-towered fortress, is indicated by a triangle underlined in red and black. . . . Villages are symbolized by a red circle; the map gives the name, the number of inhabitants or the state of the place as a result of the war, e.g. ‘35 families, all have left’ or ‘now uninhabited.

Lai (2015: 172-173) writes that the maps are “defined by their depictions of river flows and emphasize riverine transport and military mobilization. . . . Given the high degree of detail, these maps suggest a population traversing a tame landscape.” One of the maps depicts the earliest city map so far discovered in China. Xu (2002: 274) writes: “. . . this map shows that the city was divided into eastern and western districts. The main architectural buildings are concentrated in the southeastern inner city in which the local government buildings were located.” Xu states (2002: 274) that this kind of layout was also found in city maps found in murals from the Han tomb in Helingor, Inner Mongolia (Neimenggu 1978), and in a city map in the mural discovered in a Liaodong tomb in Korea. Lai (2015: 173) contrasts the Fangmatan maps with the Mawangdui map in that
... the seven maps from Fangmatan can be understood more abstractly as projecting a landscape based on three different perspectives: geographic terrain, administrative zone, and economic or military affairs. Thus, in another way the maps represent a conceptual ordering of space.

While the Fangmatan maps certainly do represent those perspectives, the two topographical maps from the Mawangdui tomb also include the same perspectives, perhaps revealing a continuation of a cartographical system established in the Qin period.

A qualitative cartographical system of grid patterns was introduced in the Eastern Han by Zhang Heng 張衡 (78-130 CE) (Needham 1952: 557), which allowed a more accurate measurement of geographical space. As recorded in the *Hou Han Shu* 後漢書, he is said to have “cast a network of coordinates about heaven and earth, and reckoned on the basis of it” (網絡天地而算之). Later, in the Western Jin dynasty 西晉 (265-317 CE), Pei Xiu 裴秀 (224-271 CE) created a map which he presented to the emperor. Pei elaborated on the essential value of Zhang Heng’s grid pattern. Among the topics in the preface as recorded in the 35th chapter of the *Jin Shu* 晉書, he wrote:

... [R]eferring back to antiquity, I have examined according to the *Yu Gong* 山水 the mountains and lakes, the courses of rivers, the plateaus and plains, the slopes and marshes, the limits of the nine ancient provinces and the sixteen modern ones, taking account of commanderies and feifs, prefectures and cities, and not forgetting the names of places where the ancient kingdoms concluded treaties or held meetings; and lastly, inserting the roads, paths, and navigable waters, I have made this map in eighteen sheets. (in Needham 1959: 539).

He then enumerated the six principles of map-making (in Needham 1959: 539-540):

1. The graduated divisions, which are the means of determining the scale to which the map is to be drawn.

2. The rectangular grid (of parallel lines in two dimensions), which is the way of depicting the correct relations between the various parts of the map.
(3) Pacing out the sides of right-angled triangles, which is the way of fixing the
lengths of derived distances (i.e., the third side of the triangle which cannot be
walked over).

(4) (Measuring) the high and the low.

(5) (Measuring) right angles and acute angles.

(6) (Measuring) curves and straight lines.

Of considerable importance relating to the measure of relative distance, Pei Xiu
wrote that “If one draws a map without having graduated divisions, there is no means by
which one reduces what is near and what is far” (Needham 1959: 540).

We see in the creation of maps in early China the importance given to accurately
assessing and depicting three-dimensional geographical features such as rivers, hills and
mountains on a two-dimensional surface. Even more important is the expression of
human-related features such as roads, villages, cities and garrisons and the distances
between them that were essential for asserting the political, military and social
environments that were in force at the time when the maps were drawn, an expression of
spatial concepts which were becoming increasingly common during this time.

**Frontier Theories**

The historical significance given to margins, borders and frontiers is a subject that has
been frequently addressed, both as it pertains to the treatment by American historian
Frederick Jackson Turner (1994) and in the works of various Asianists, especially Owen
Lattimore (1962). It is the writer’s intent that the approach to the perception of the
frontier by the early Chinese will be partly along the lines of metaphor. However, an
overview of the theories of social-cultural evolutionism that have a long pedigree, both in the West and in China, will be examined in Chapter 3: Time.

Green and Perlman (1985: 4), in their work on frontiers, boundaries and open human systems, cite the *Oxford English Dictionary* definitions of frontier as “‘the frontier’ of a society; and ‘that part of a country which fronts another country’. As the ‘front,’ the frontier defines a *cultural boundary*.” They continue:

> Obviously, the concepts of frontiers and boundaries are very closely related. Frontier studies direct their attention to the peripheries or edges of particular societies, and the characteristics of the groups occupying that space. As a complement, boundary studies examine the interactions that occur at these societal edges. On the one hand, frontier research addresses questions about the causes of political and economic expansion into new habitats, and its effects on indigenous societies and ecological systems. Boundary research such as the study of trade, on the other hand, focuses on the social, political, and economic factors that guide the interaction between societies.

This relationship between frontier and boundaries then becomes integral in the study of how the early Chinese viewed both themselves and those who shared neither the same geophysical territory nor the same socio-cultural views of the world around them. Much of this is based upon the diverse economic subsistence systems that the Chinese and their neighbors practiced, at times different enough that they impeded the expansion of territory beyond the frontiers and boundaries which bordered them. This was especially acute in the north and northwest regions of China and Inner Asia, where the relatively arid geoclimatic environment at times discouraged the expansion of control by China, whose economic system was based on an agricultural system that developed in geographical regions that provided sufficient rainfall. The peoples who inhabited the northern and northwestern steppes, on the other hand, had developed economic
subsistence systems based upon pastoralism and, later, a nomadic lifestyle dependent upon seasonal movement between pastures, as well as on war and trade.  

The concept of contact zone introduced by Pratt is a useful term to describe the interaction between the Chinese and their northern neighbors. It is, according to Pratt (1992: 8), “. . . the space of imperial encounters, the space in which peoples geographically and historically separated come into contact with each other and establish ongoing relations, usually involving conditions of coercion, radical inequality, and intractable conflict.” Of interest is that while Pratt’s contact zone was meant to describe Colonial and Post-Colonial interactions which favored the Europeans, it can also be applied to the Chinese-nomad interaction that in fact did not favor either side, as power and influence fluctuated between them for nearly 1500 years, with nomadic or semi-nomadic nations periodically ruling over some or all of China. Pratt’s concept was one factor that influenced the writer’s proposal regarding Chinese-nomad interaction, discussed below.

The contact zone does not fall into the category of a functional, dynamic process, but is a territorial zone wherein certain processes take place. That is, the contact zone is not an action which brings about the colonization and subjugation of areas inhabited by other peoples; nor is it a process that eventuates in cultural changes. It is not dynamic in its inferences but is only the conceptual and geographical framework within which such actions occur. The processes of cultural interaction, such as hybridization and

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73 Migratory pastoralism can fall into two main categories depending on typographical features of the land. The one which we are most familiar with is the (circular) migration in which herds are moved from one pasture to another after grass is depleted and where the geography is relatively level; the other is transhumant migration in more mountainous regions when herds are moved up in elevation as grass appears higher in mountain meadows as the summer progresses.
transculturation,74 are more theoretical in their treatment and based upon studied observation by those who have proposed the terms. These processes, as opposed to the concreteness of territoriality, are more dynamic and flexible in their applicability in any given environment.

It is also important that we understand that societies are open, as Green and Perlman emphasize (1985: 9), and that the existence of frontiers and boundaries does not discourage or prevent interaction, despite any attempts to limit such interaction, as is well attested in Chinese history. “Such interactions,” writes Feuer (2016: 6), “often, but not always, have a spatial component. . . . [C]ertain kinds of interactions occur more frequently or have a different nature in peripheral zones than in the center and that spatial distribution may influence the nature of such interactions.”

To fully understand the implications of the frontier concept in China, it is essential to comprehend the cosmological view of the ancient Chinese, how they saw themselves and how they contrasted themselves with non-Chinese peoples, and the perceived place of both in the cosmological universe. Space in cultural and archaeological contexts is divided into core and periphery, where “the core is perceived as superior to the periphery, with all the connotations and value judgements that typically involve a sense of superiority/inferiority” (Feuer 2016: 5). This perception is certainly not limited to the ancient Chinese view of the world, but it did contribute strongly in shaping their socio-political and cultural views of the world beyond their own.

74 Hybridization: “The ways in which forms become separated from existing practices and recombine with new forms in new practices” (Nederveen Pieterse 2004: 64). Transculturation: “. . . how subordinated or marginal groups select and invent from materials transmitted to them by a dominant or metropolitan culture. . . [and] is a phenomenon of the contact zone” (Pratt 1992: 6).
To view the frontier as a metaphor in Chinese socio-political thought, the writer discusses themes such as the Five Zone theory in ancient China and definitions of borders, margins and frontier, and ecology.  

**Chinese Views of the Frontier**

While historians of America may be familiar with Frederick Jackson Turner’s theory of the American frontier, application of his concept to that of China is rather limited but useful for discussion. To better understand the Chinese view of the frontier, it would be worthwhile to compare their different approaches. Turner’s definition of the frontier is as much sociological and cultural as it is geographical. It is (Turner 1998: 33), “. . . the outer edge of the wave [of western expansion]--the meeting point between savagery and civilization.” While this view on the surface seems to correspond to the Chinese socio-cultural view of the frontier, for Turner the frontier was more accurately an ever-westward-moving region of free, unoccupied land, defined irrespective of climate and topography, and which disappeared at the rate that the measurable population of white settlers appeared. The frontier was not an obstacle, but an opportunity. Indeed, to Turner, it shaped the American character.

In contrast, the frontier in China fluctuated but remained generally constant over thousands of years. With regard to the northern regions, the reason for this was the vast arid zone we know today as the Gobi Desert, “. . . a physical limit . . . set to the bounds of

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75 Although it is not part of this discussion, anthropologist Marvin Harris’ theory of cultural materialism puts into perspective the dynamic economic and cultural factors that contributed to the formation of the perception of the frontier in the context of this geo-cultural region. Refer to his work *Cultural Materialism: The Struggle for a Science of Culture*, Altamira Press, 2001, 50ff.
civilization,” writes C. P. Fitzgerald (1964: 4), “beyond which the northern nomads might live, or die, as they would; their realm was no part of China.” One of the most important differences between the American and Chinese frontiers was the relative balance of power between the Inner Asian nomads and the Chinese, as compared with that of the Native Americans and the white pioneers. The nomads, while numerically fewer, had military parity with the Chinese, sufficiently strong throughout history that the northern frontier was always considered the direction from which invasion invariably came. Boardman (1957: 109) succinctly summarizes the difference in importance given the frontier: “For American frontiersmen, the frontier was the perpetrator if not the creator of progressive institutions. For the Chinese, it proved an impediment, delaying necessary change.”

Owen Lattimore is perhaps the most important pioneer in the study of the frontier relations between nomadic and settled cultures. He described the general line of the Great Wall that lay between the northernmost states of China and the nomadic regions to the north as “... one of the most absolute frontiers in the world” (1962: 21). For him, according to Honeychurch and Amartuvshin (2006: 258), this frontier divided climates that determined a division that was “... as much socio-cultural as political and it marked the division between pastoral nomadic and sedentary, agricultural societies.” He saw nomads and Chinese farmers as “... separated by a boundary that was at once ecological, economic and political” (Di Cosmo 1994: 1092). Under the influence of Anatoly Khazanov, Lattimore eventually modified his views about the absolute autonomy of the nomads. Khazanov provided persuasive study that supported the idea of the “nonautarky” state of the pastoral nomad society (Di Cosmo 1994: 1092-1093).
For the Chinese in general, the frontier was not a place that was generally friendly to an agrarian, settled lifestyle. Always hungry for new land, Chinese farmers considered the desert and the steppe, being lands of inadequate rainfall, unsuitable for agricultural cultivation and therefore wasteland. Only those who specialized in taking advantage of these vast arid grasslands could survive. Some Chinese adapted to the pastoral lifestyle, but most Chinese probably only envisioned colonizing beyond the frontier if the ecological makeup of the environment allowed for agriculture and considered the frontier to be a buffer zone between civilization and barbarity. This buffer zone expanded and contracted as the fortunes of politics and war caused the empire to expand and contract, and while it was a dynamic frontier in a political sense, the frontiers of agriculture never expanded beyond the historic geological limits.\(^76\) (This will be expanded upon in the section on socio-cultural ecotones).

Lattimore points out that the line of the Great Wall coincides with the general limit of agriculture and therefore of sufficient rainfall, and that the Chinese and (sometimes) the nomads recognized the Wall as being the official border between the two empires. In the first international treaty that the Chinese ever signed with a foreign power (the Xiongnu) in 198 BCE, one of the terms of agreement was that the Wall was to be recognized as the delineation between the two powers. Both sides agreed not to venture beyond the frontier as marked by the Great Wall, an agreement not kept for very long by either party.

\(^{76}\) In recent travels through Mongolia, I witnessed agricultural fields, abandoned and fallow, everywhere in the fertile but arid steppe area of the country, due to the breakdown of the well irrigation systems when the Soviet support of Mongolia came to an end in 1991. Agriculture was developed during the Communist era under Soviet influence, but abandoned when it proved to be too difficult to maintain.
In desert frontier areas conquered by China in the early imperial period, the Chinese sought to bring their agrarian-based society with them through a system that employed farmer-soldiers called the *tuntian* system (Yu 1986: 402). These garrisons were set up only in the areas where agriculture was possible. While this system was not always successful, it was sufficiently so for the Xiongnu to recognize the threat that these agricultural garrisons posed and to destroy them whenever possible. The system was set up not only to make the garrisons more self-sufficient, given the difficulty of supplying the line of forts over hundreds, even thousands, of miles, and as a source of supply and support for the numerous annual diplomatic missions to the regions, but also for the soldiers to carry with them metaphorically the economic and social system that they were defending.

Early Chinese views of frontier areas were based in part on the Five Zone theory previously discussed, but with regard to the northern frontier, this was reinforced by the cultural and social differences between the Chinese and their nomad counterparts as they perceived them. In accordance with this view of the frontier, the barbarians were termed the “peoples of the submissive wastes”, as Sima Qian called them (Sima 1961: 156). But Eberhard proposes (1982: 99) that the frontier, as a kind of border, did not really exist in earlier Chinese thinking: “Even the Great Wall was not a border in our sense, although it had gates and battlements and was guarded by Chinese soldiers. This wall was comparable to the walls around a city–it was for the protection of some area that was often attacked by non-Chinese.”

Given the concept of the dichotomy of inner and outer regions, of the hierarchical divisions of ever-widening zones of increasing barbarism (and ever narrowing zones of
civilization), the frontier and the Great Wall epitomized both the great division between "the steppe and the sown" and the accompanying differences in culture, society and civilization. The frontier was the liminal place "beyond the wall", where civilization—the Chinese way of life—disappears. A place of monsters and unknown dangers, of barbaric people with strange and foreign ways, it was for most Chinese a place not for colonization, but to avoid. This is further explored in the next section.

Frontier Reservoirs and Socio-Cultural Ecotones in the Frontier Regions

Considering the complexity of frontier relations during the pre-imperial and early imperial periods, scholars of frontier relations are compelled to treat the relationship between the Chinese and the non-Chinese in some depth, as have Lattimore (1940, 1962), Barfield (1989), Jagchi and Symonds (1989), and DiCosmo (1994a, 1994b, 2002). Lattimore's theory of the "frontier reservoir," proposed in 1935, figures prominently in many of his works on frontier interaction (1935; 1962: 115-116; 1940: 238-251). In his discussion of the frontier, he writes (1940/1962: 238), “[T]hat which was politically conceived as a sharp edge was persistently spread by the ebb and flow of history into a relatively broad and vague margin.” He writes (1962: 113):

Although Chinese state theory repeatedly tried to make the Frontier an absolute line of demarcation, it remained obstinately a margin or zone of differentiation. Even the southern and northern edges of this margin were not absolute but shifted according to the varying range of efficient action, in offense or defense, at different periods, of tribal society in the steppe and the agriculturally based society of China. (1962: 113)

He continues (1962: 115):

The linear Frontier never existed except as a concept. The depth of the trans-Frontier, beyond the recognized linear Frontier, made possible a historical structure of zone, which varied from time to time. These were occupied by a
graduated series of social groups, from partly sinicized nomad and semibarbarized Chinese, in the zone adjacent to China, to steppe peoples in Mongolia, forest peoples in North Manchuria and Urianghai, and peoples of the plateau in Tibet, of whom the more distant were virtually unmodified by such attenuated contacts as they had with China. The oasis peoples of Chinese Turkistan formed another group, with special historical functions. Within this graduated series those groups that adjoined the Great Wall held the (inner) "reservoir" of political control over the Frontier. By origin and in function they were ambivalent social bodies, which could either serve Chinese control of the Frontier or become auxiliary to attacks on China, which originating in the (outer) "reservoir" of tribal conquests, in the depths of the trans-Frontier or Outer Frontier, swept with them the peoples of the inner reservoir zone or Inner Asia.

Lattimore's approach to the various gradations of groups is posited in the ultimate and inevitable functions and actions of the groups in their relationship to the vagaries of frontier interaction. In this section, the writer is less concerned with the groups' ultimate interactions as he is with their distribution, although it is important to note that the environmentally- and culturally-determined behavior of each group had a lasting effect on the distribution or lack thereof of each group itself.

Many factors were at work to diversify the frontier zone; not the least important were environmental factors, especially in the variations of climate which are determined by geography, topography, latitude and season. "Along the frontier," write Jagchi and Symons (1989: 1832), "subtle changes in the environment occurred, contributing to the diversity of farming and nomadic activities undertaken on these lands." Environmental factors were subject to changes in climatic patterns, with effects often recorded in the histories.

77 Of particular note is Barfield’s comments about Lattimore’s contributions to the study of Chinese-nomad interaction, as “a landmark contribution” (Barfield 1989: 11).
Boundaries and frontiers, as has been stated before, while seen as “statements” of separation, often are not able to prevent interaction beyond a boundary and within a frontier. Feuer (2016: 5, 6) writes

Not only do boundaries—social, symbolic and spatial—recognize, enforce and maintain such separation, but zones of increasing or decreasing integration also often imply greater or lesser degrees of similarity in terms of a wide range of attributes. . . . [And] are related to the concept of ecumene (from the Greek oikumene), defined by Kopytoff as ‘a region of persistent cultural interaction and exchange’.

These zones of increasing or decreasing integration and interaction are important in the writer’s proposal to define an interpretation of such interaction.

Studies of frontier relations in China are reasonable in their approaches and it is not the writer’s intent to dispute these studies. However, the writer does want to suggest an alternative variable and context that can be utilized in reference to the human and cultural complexity of the frontier regions of northern China. In considering the definition and usage of the biotic term "ecotone", it is an apt analogy for the kind of environment that helps to determine and define the variability and limits of human geography in the area. The following definition of ecotone was proposed in 1987 as a general concept in the ecological sciences (Holland 1988):

“Ecotone: a zone of transition between adjacent ecological systems, having a set of characteristics uniquely defined by space and time scales and by the strength of the interaction between adjacent ecological systems” (Gosz 1993: 369).

The concept is illustrated in Figure 2.2. There is a varying range of biotic populations within the zone of study, ranging from one uniquely delineated ecological core area (e.g., forest) to a different but adjacent core area (e.g., grassland). The zone of transition, the width of which could vary greatly, occurs where these two core areas lie
adjacent to each other. As the elements of each core extend into the other, the environment becomes a patchwork of both forest and grassland, one eventually disappearing as the contrasting core area ecology becomes completely dominant.

A variation based on the definition of ecotone can be easily applied to the complexity of human occupation of the frontier regions with a substitution of core areas of biotic components with core areas of human cultural and ethnic occupation and the various scales of interaction in the adjacent zones. With this in mind, the writer proposes the following term and its definition as it applies to frontier occupation:

*Socio-cultural ecotone:* A zone of transition between adjacent cultural systems and communities, having a set of characteristics defined by space and time scales, by unique cultural elements, and by the strength of the social interactions between adjacent cultural systems.

This concept was originally proposed by the writer in a paper (Jones 2009b) and the term utilized at the time was "cultural ecotone." The writer has since come to view that "socio-cultural ecotone" implies social and cultural interaction, while "cultural ecotone" may imply only material differences between core areas. As the ecotone's range of study is limited to the biome, the socio-cultural ecotone is limited to human presence, activity, interaction and seasonal variations. What is additionally useful in the adaptation of the term for frontier studies is that there are characteristics of concepts that coincide, especially space and time, climate, geography and topography. While the analogy can only go so far, we can still envision that the study of the type and scale of economic,
political and other socio-cultural factors for biotic variability is a feasible approach to the human cultural landscape in the frontier regions.  

Similar to a biotic ecotone, the socio-cultural ecotone expands and contracts, depending upon the political climate. One can even talk about "cultural invasives," as a parallel to biotic invasives, when non-native species of plants and animals invade a zone in which they may cause damage or otherwise influence and change the native biome. Indeed, in the history of frontier relations in north China, invasions of one core area by people of another were a standard and predictable facet of its history, and dependent upon climate and seasons, and martial power and warlike characteristics of the interacting cultures.

**Frontier as Metaphor in China**

Metaphors, according to St. Clair (2001: 144), “. . . pervade a person’s thoughts, shape their judgements, and structure their language. As a matter of fact, metaphor provides evidence that people organize their experiences in terms of a small number of image schemes. Consequently, much of human reasoning is metaphorical and based upon experience that people have embodied in their own cultures.” For a Chinese example, the metaphor of the wall helped define the Chinese experience and establish a cultural uniqueness.

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78 Of interest is Barfield’s comments on Lattimore’s “geographical approach”. Barfield notes that “. . . we would be more likely to label [it] cultural ecology” (1989: 11). The writer’s proposed concept of “socio-cultural ecotone” was not derived from Barfield’s suggestion, but it now seems to be a worthy predecessor to my own proposed concept.
Borders, like walls, as compared to frontiers, are ostensibly created to indicate stability and promote isolation, but they are not stable in a historical sense, nor are they isolating. The border is a construct made to try to instill a sense of identity and separation from the Other. The concept of borders is fraught with the ambiguity and uncertainty of the liminal qualities of space, location, culture and time. The ideas of border, margin and frontier further embody a conceptual confusion of theories regarding how we as humans see ourselves and others. Borders, in our minds, encourage the delineation of human populations based on “different” or “exotic” cultures, languages, economies, political systems, religions, and races, among other things. But Gupta and Ferguson write that the “assumed isomorphism of space, place and culture results in some significant problems” (1997: 34), in that a border is most often defined in the modern geopolitical meaning of “a narrow strip along steep edges” (Anzaldúa 1987 [2012]: 3), as the visible lines on a world map. As anthropologists, Gupta and Ferguson (1997: 48) write that “. . . the fiction of cultures as discrete, objectlike phenomena occupying discrete space becomes implausible for those who inhabit borderlands,” which . . . make up just such a place of incommensurable contractions. The term does not indicate a fixed topographical site between two other fixed locales (nations, societies, cultures) but an interstitial zone of displacement and deterritorialization that shapes the identity of the hybridized subject. Rather than dismissing them as insignificant, as marginal zones, thin slivers of land between stable places, we want to contend that the notion of borderlands is a more adequate conceptualization of the “normal” locale of the postmodern subject.

Frontiers, like any boundary or border, are numinous entities, places of transition, of crossing over. The writer’s “socio-cultural ecotone” is more in line with the interstitial hybrid dynamic of transition. Borders are more limiting in a conceptual sense.
Boundaries are constructs created or perceived by us culture-bound humans. We are “bound” to them, because these borders are perceived as lines of cultural demarcation that we ourselves have constructed and depend upon for identification of ourselves and of the Other. Nederveen Pieterse (2004: 104) writes:

[I]t is through cultural codes that boundaries are experienced, lived, upheld. We could follow this with a history of boundaries—boundaries of clan, tribe, language, region, culture, civilization, empire, religion, state, nation, race, ethnicity, and a history of centrisms, that is, hegemonic positions of power and points of view from which social landscapes have been viewed, mapped, and defined. At no time have these boundaries precluded crossborder contact, though attempts have been made to control them. We could then follow with a history of boundary and border crossing, smuggling, piracy, cross-cultural traffic, migration, travel, diaspora, pilgrimage, trade: the hybridity angle on history unsettles the boundaries as well as the codes that sustain them.

What of the Chinese metaphorical concept of the frontier? The domains of the physical landscape and of a stressful human emotional state are combined to “. . . create a new frame, a conceptual blend” (St. Clair 2001: 146). In the most elementary sense, the frontier was savage and barbaric. It was danger, a notion that encapsulated the idea of the liminal cultural and ecological ambiguity of transitioning from civilization to savagery and back again, from agriculture to pastoralism, from animal nature to human culture, from illiteracy to literacy, from land of little rain to land of ample water. It embodies a dangerous journey. Perdue (2005: 42), regarding a much later situation during the Qing dynasty but which can be applied to earlier history, writes:

The frontier zone was a liminal space where cultural identities merged and shifted, as people of different ethnic and linguistic roots interacted for common economic purposes. Most Han Chinese officials found this environment hostile, abhorrent, and alien. The Manchu and Mongol colleagues did not find it so strange. The idea of Chinese turning native, abandoning the essential elements of civilization and preferring a mobile life, shocked established powers but attracted others. . . . Frontier peoples have ambiguous loyalties.
In the histories, there are numerous instances of Chinese "renegades" who had "gone over" to the other side. Sometimes this was by force, as with captive soldiers or their commanding generals. The family of General Li Ling of the Western Han dynasty suffered extermination under Han Wudi because the general went over to the Xiongnu after being captured. In other instances, Chinese voluntarily went to the courts of the nomad chiefs to act as political advisors or councilors, a long-established practice in China among ambitious Chinese philosophers and administrators. Zhongxing Shuo, Chinese guardian of a Chinese imperial princess sent to marry the Xiongnu king, was at first unwilling to go, but once there he became a strong ally of the Xiongnu and vigorously defended the nomad way of life to Chinese envoys (Sima 1961: 170-171).

In addition to the frontier, the building of the Great Wall along the northern frontier also helped to shape the concept in China of the “. . . relative dichotomy between the inner and outer areas” (Yu 1986: 382). Administrative control of the empire was institutionalized generally in accord with the Five Zone theory, with inner and outer commanderies (read: provinces), depending on their proximity to the frontiers.

On another level, the frontier also meant freedom. It was a place where one could be free of restrictions of the Chinese state and civilization, where the rules and restrictions of civilized behavior and norms could, if for a time, be lifted. For Turner (1994: 59), "For a moment, at the frontier, the bonds of custom are broken and unrestraint is triumphant.” It was a place where identities became blurry, and where environments, both cultural and ecological, merged. Perdue's (2005: 41-42) description of the frontier is worth quoting at length:

The borderlands between the core of China and the farthest nomadic pastures were a zone of frontier interaction, a 'middle ground' where peoples following
radically different ways of life adapted to one another and to the environment. Because the steppe was filled with people constantly on the move, all those moving through it had to adopt to some extent the customs of the nomads, those best suited to life in the steppe. Chinese armies ate more meat than they would at home and got used to traveling with herds of animals. They had to leave their forts and stay in tent encampments. They used horses and cavalry forces much more than in the interior and had to deal with recalcitrant camels and mules instead of docile oxen pulling carts. Merchants and other professional caravan men likewise changed their ways on the frontier. As Lattimore noted during his trip through Mongolia in 1926-27, 90 percent of the caravan men were Chinese who had cut their links to settled fields, ancestral homelands, and heartland customs. On the caravan routes, they made offerings to gods of fire and water, not ancestral deities; for clothing, food and drink, they relied on sheep, not pigs and chickens. The trade frontier was a social space in which core ethnic identities had to bend to fit rigorous geographical conditions. Mongols on the caravan routes had to put up with more restricted mobility than they could gain in the broad pasturelands; Chinese became accustomed to a life of much greater wandering than their settled peasant confreres in the interior.

Unlike symbols and metaphors for speed and swiftness in early China (such as the arrow, a bird in flight, the flying gallop for horses, etc.), it is somewhat challenging to find and identify symbols and metaphors for spatial concepts. Spatial measurements, especially with regard to geographical distances, are commonly found in historical chronicles. However, literary metaphors for space and distance, while they do exist, are relatively rare. The former includes \textit{cun} 寸 (inch), \textit{chi} 尺 (9.095 inches) and \textit{li} 里 (415.8 meters), while for the latter terms and phrases such as “wanli” 萬里 (ten thousand \textit{li}), often merely refer to vast distances (as it is used in the ancient term for the Great Wall: “wanli changcheng” 萬里長城: “long wall of ten thousand \textit{li}”). Here appears what might be viewed as a metaphorical contradiction. While the term seems to symbolize a vast distance, the Great Wall symbolized to a greater extent an interruption of spatial distance, a border which was a limiting concept rather than one which symbolized vast distances.
There are words in Chinese that indicate the limitation on, and interruption of, spatial distances, such as the terms such bian, jiang, and chui as already discussed, as well as the word for wall (cheng 城), which was both metaphorical and physical.

On the other hand, there are also symbolic objects which represent space and distance found in early literature. In the Daoist work Zhuangzi, a great creature is described thus:

In the northern darkness there is a fish and his name is K’un [Kun]. The K’un is so huge I don’t know how many thousand li he measures. He changes and becomes a bird whose name is P’eng [Peng]. The back of the P’eng measures I don’t know how many thousand li across and, when he rises up and flies off, his wings are like clouds all over the top (Watson 1970: 19).

Thus the Kun-Peng does come to symbolize vast distances in the way the sky or the horizon may as well.

One might consider the depiction of the horizon as symbolic of space, although depictions of the horizon are found mostly in Chinese paintings of later periods. One of the Chinese words for horizon, however, may provide contextual and conceptual clues, such as the word ya 涯, translated variously as border, horizon, limit and shore. The Zhuangzi also addresses this in the passage “wu sheng ye you ya, er zhi ye wu ya” 吾生也有涯，而知也無涯 (“Our life is limited, but knowledge is not”). 79 But where ya may symbolize horizon (by which we mean the limit of the farthest place visible), its context does point to limitations that imply its other meanings of border, limit and shore. The character ya 涯 itself is an associative compound ideograph composed of earth on top of earth 圭, as an earthen wall 場 protecting the land from water 氵.

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79 Watson translates the passage as “Your life has a limit but knowledge has none” (1970: 50).
The *Zhuangzi*, as mentioned, emphasizes the boundaries of our perceptions, for both space and time. Chapter 17 has the passage: “You can’t discuss the ocean with a well-frog—he’s limited by the space he lives in. You can’t discuss ice with a summer insect—he’s bound to a single season” (Watson 1970: 175-176).

He speaks of our perceptual limits in metaphorical form to emphasize that the travels of men are indeed limited and our understanding of the world is confined to our immediate surroundings and experiences (Fung 1952: 201).

**The Wall and the Chinese Worldview**

An alternative to aggressively taking on the nomad forces was to construct a strong defensive line along the northern frontier in the form of walls and lines of watch towers for urgent communications. The construction of the Great Wall, parts of which began during the Eastern Zhou period, separated the perceived Sinitic world from that of the non-Chinese nomadic world. Such a massive defensive strategy was utilized into the Ming period, but not consistently, especially when China was either allied with certain groups to the north (like the Uighurs during the Tang) or when the entirety of China or merely certain northern territories were controlled by nomadic peoples, as happened during the Southern Song, the Yuan and the Qing dynasties.

However, the construction and constant rebuilding of the walls along the northern frontier for nearly two millennia had a profound effect on the view of the Chinese toward the outside world, in that it assisted in helping to define the Sinitic world, as opposed to that which was both distant as well as strange and foreign, a world that was pictured in

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80 Fung translates the latter metaphor thus: the insect “. . . is restricted by his time” (1952: 201).
the early work *Shanhaijing* (Classic of Mountains and Seas), which dates from the third century BCE to the first century CE. Sections 14 to 17 describe people and places—albeit often mythical and fantastic—that appear at the very edge of Chinese culture and civilization (Birrell 1999: xv). The juxtaposition of the view toward foreign peoples and places and the positioning of the Great Wall mutually reinforced the separation of these two worlds. Bodde (1986: 63) notes that “. . . there is little doubt that the Chinese, throughout their history, have been more wall-minded than any other people. To what extent the Great Wall achieved its assumed purpose of separating the sedentary agrarian Chinese from the pastoral barbarians has long been a matter of controversy.” Reiterating what was written earlier in this chapter, Lovell writes (2006: 36):

Chinese prejudices against the northerners sprang directly from a stridently Sinocentric worldview that, like the idea of China itself, came into being during the second and first millennia BC. As Chinese geographical orthodoxy had it, China—the full extent of the world as it was then known to its inhabitants—was divided into concentric zones: the inner were ruled directly by the Chinese king, the outer were occupied by subordinate barbarians. Although the belief that China occupied the centre of the civilized world was not fully refined and institutionalized until the Han dynasty. . . , as early as the Shang the Chinese state began devising the diplomatic protocol that dominated Chinese foreign relations until the nineteenth century.

A good insight of the views of the early Chinese toward those who did not share or embrace their own perception of the world is exemplified in the chapter of the book *Zhanguoce* (Intrigues of the Warring States), which describes the interaction between King Wuling of Zhao and his Confucian advisors on the subject of adopting cavalry from the northern mounted Hu and their clothing, which was best suited for riding. The king’s advisor Kongzi Cheng, in his admonition to the king, said to him (Crump 1970: 298):
I have heard the Middle Kingdoms described as the home of all wisdom and learning, the place where all things needful to life are found, where saints and sages taught, where humanity and justice prevail, where the *Book of Odes*, the *Classic of History* and the *Cannons of Ceremony* and *Music* are used, a country where extraordinary skills and uncommon intelligence are given hearing, a land looked up to from afar, and a model of behavior for the barbarian. But now the king would discard all this and wear the habit of foreign regions. Let him think carefully, for he is changing the teachings of our ancients, turning from the ways of former times, going counter to the desires of his people, offending scholars, and ceasing to be part of the Middle Kingdoms.

The king’s response was to justify such adoptions by arguing that since ancient times, customs and traditions in China had changed and differed from the present situation, and so such adjustments were reasonable, “so the changes, past and present, could not be made regular by the wisest of men; and the costumes of those near to him and far away could not be made identical by the greatest sage” (Crump 1970: 299). He continued, in response to another advisor, Chao Tsao, who argued that the Chinese states have no connection with barbarian customs or activities and that Zhao should not depart from established custom. The king responds by saying, “The ways of the past are not the ways of today. . . , why then should our laws be those of antiquity?” (Crump 1970: 302).

The views of the king’s Confucian advisors reflect their conservative take on the world and the people around them, views that guided the early Chinese throughout their historical relationship with non-Chinese peoples.

Another reason that may have guided King Wuling in making his decision was that the hilly topography of Zhao limited the utilization of chariots, the use of which was already declining in China by the fourth century BCE. The mounted cavalry rider was a solution to the impediments that mountainous terrain posed to the use of chariots. As the writer pointed out in the Introduction, both military strategists Sunzi and Sun Bin recognized and enumerated the challenges that terrain posed to chariots (Sun Tzu 1988:
which can be summarized with a single statement from the Liu Tao (Six Strategies): “Terrain on which there is no way to withdraw after advancing is fatal for chariots” (Sawyer 2011: 381). Sawyer (2011: 353) comments that “Thorough knowledge of the terrain was vital for avoiding impediments and effectively exploiting the topography so as to reduce the burden on the animals”. King Wuling would have been very cognizant of Zhao’s topography and the challenges it presented, and of which the mounted Hu cavalry already would have been taking advantage.

The use of long walls to defend against the mounted nomads was a development in the overall plan for strategic defense of the northern states and, later, the empire. Wall building had started during the Warring States period, but then it was for the most part along borders with other Chinese states. With unification under the Qin, according to Lewis (2007: 130), “Wall building reached its climax with Qin’s construction of a single system of walls and watchtowers to mark its expansion into the steppe. In the immediate wake of this development, and to some degree in response to it, the nomadic peoples were united into a single great empire under the Xiongnu tribe.” His comment that the increasing nomad threat might have been a response to the building of the wall is an interesting observation, in that it would have appeared as a direct challenge to the nomads, whose burgeoning strength reinforced their probable need and desire for additional consumer and luxury goods that they could not produce themselves. The wall would have symbolized a refusal to interact. But the Chinese did not completely ignore a certain opportunity, since it benefited them: the acquisition of superior horses.
The Horse, the Wall and the Chinese Worldview

While there were objections to King Wuling’s proposals for the adoption of horse riding and the costumes associated with it, the Chinese did not completely reject all things foreign, as the procurement of horses from the pastoral peoples to the north and west throughout the historical period attest, and they indeed recognized that horses from the northern steppe and Central Asia were in fact superior to their own, smaller breeds (Cooke 2000: 37). The search for perceived superior breeds led to extensive expansion of territory and a dramatic increase in inter-regional contacts beginning in the Western Han.

The worldview of the Chinese that encompassed the role that the horse played from the Warring States on comprised two different but related aspects, the first being the more domestic view of China’s place within its own world bounded by its political and cultural traditions and the territories it controlled that could be traversed with the indispensable help of horse-led chariots and carriages. This is exemplified by the imperial tours that Qin Shihuang took when inspecting his newly won territories, and by the implementation of horse-mounted courier services that helped to keep the expanding empire in communication with the capital. The second view related to the ever-expanding imperial territories and the search for the Superior Horse from the world outside of its control and governance. This is exemplified by the fascination of the Han emperor Wudi in his quite expensive quest to obtain the best horses from Ferghana, a quest that led to expansion of imperial control and influence into Inner Asia, which were the Western Regions of that time (present day Gansu and parts of eastern Xinjiang). One can “blame” the beginnings of such expansion of China’s worldview directly on the horse.
One cannot end this chapter without mentioning—even emphasizing—the impact and influence the Han envoy Zhang Qian’s journeys to the Western Regions was on the realization of how vast the world really could be, as his journeys took him to places where Chinese had never been or heard of, at least in recorded history. Just the duration it took Zhang Qian to get from the Inner Asian location where he was held captive by the Xiongnu to Dayuan (and not from the capital Chang’an) was 20 to 30 days (Sima Qian 1993: 232). This was certainly on horseback, to avoid being recaptured by the horseriding Xiongnu. If they rode 40 miles (64 km) a day, the distance they covered could be calculated to be anywhere from 1300 to 1900 km. Yu (1986: 410, n. 95) notes that the distance from Chang’an to Ferghana is between 5070 and 5200 km, “...very far from the Han empire, and [Li Guangli’s] campaign involved numerous logistical difficulties for the Chinese army. However, it was determined to take the risk in order to obtain the fabled horses of the region and to demonstrate Han military strength.” Not only was the distance a challenge for an army, but the duration of General Li’s two expeditions lasted four years and was “the most expensive to be mounted in the entire history of the dynasty” (Yu 1986: 410). The eventual result was expansion of the Han empire well into Inner Asia, today’s Xinjiang province.

The expanded universe, first of the unifying Qin dynasty and then of the consolidated Han, necessitated a mechanism to connect the dots, so to speak, between the capital and the outlying reaches of the empire. There was no better mechanism at the time to fulfill this requirement than the horse. The Chinese of these two dynastic periods increasingly utilized the horse in many ways: administratively, socially and martially, and they were not ignorant of the roles that the horse had taken on in the earlier Zhou
period. Indeed, the roles in some ways expanded as did its utilitarian uses. The chariot
draught horse transitioned to the mount of cavalry forces. Government systems came to
depend upon the horse for quick transmission via courier services as well as fast
deployment of mounted forces. As the Sinitic world expanded, the horse became the
connecting tissue that held it together. In war, and particularly regarding conflicts with
the northern nomad mounted forces, infantry was no longer an effective force, and was at
times even a disadvantage in its inability to counter nomad attacks. The swiftness of the
nomad incursions had to be met with equal swiftness by the defenders, otherwise the
empire would fall. The only way that the Chinese could effectively counterattack was on
horseback. The horse was therefore the ideal vehicle with which to burst through the
limitations of frontier, wall and border.

Does the wall relate to the horse in any other way? Would the presence of such
an obstacle as the Great Wall discourage the effectiveness of the horse as a mounted
vehicle for military use? These are challenging questions. Starting chronologically in the
second century BCE and continuing into the first and second centuries CE, one can
observe in the contemporary literature and art the appearance of horses with the seeming
ability to fly, both within the Chinese cultural sphere and, later, in the nomadic sphere.
The concept of the horse as a mythical flying vehicle for humans conceptually allowed
the rider to fly over any and all obstacles, including the Great Wall. The appearance of
the winged horse in nomadic Xianbei mythology and art during the Eastern Han and later
may also have symbolized a desire to fly over the limits that the Wall imposed on them
for their increasingly frequent incursions into northern Chinese territories.
While the burgeoning emphasis on strong mounted forces and swift communication gave the horse an important role in the Chinese worldview that never abated, there was another aspect of the horse that became commonplace, that of the horse as the mount by which the deceased reached beyond the present world and entered the next. The netherworld was a place which had no bounds, no limitations, yet there were obstacles and boundaries to overcome that only the spiritual horse could provide. Hence, as the physical vehicle by which men reached the farthest distance of the living, observable world, the horse became as well a vehicle to the unseeable underworld, to become the symbol of the deceased’s voyage into the unlimited world of the Yellow Springs. This will be more thoroughly discussed in the subsection in Chapter 4 devoted to the art of the flying horse and its symbolism.
CHAPTER 3
TIME, LANGUAGE AND THE HORSE

Life is over as quickly as the passing of a swift horse glimpsed through a crack in the wall.

--Zhuangzi

This chapter is divided into two sections, the first dealing with time; the second dealing with language. Section 1 begins by expounding upon the inextricable relationship of time and space, especially in early China. Traditional concepts of time in early Chinese thought are discussed, through calendrical systems and philosophical writings, and the writer addresses how these concepts evolved up to, and through, the Han period. In attempting to show how these temporal concepts are so closely associated with spatial concepts during the expansion of empire beginning ca. 221 BCE (explored in Chapter 2), the writer will argue that they are associated with the utilization of the horse for war and communication.

Section 2 will provide examples in contemporary equine-associated language and new (for that era) expressions that convey swift movement and communication. These ancient ways of expression are compared to selected modern language metaphors and

images of the 19th century CE when mechanized modes of transportation and communication were introduced. While it is helpful to observe that the modern introduction of such modes of transportation brought about a revolution in the concepts of time and duration, its measurement and standardization that changed how we conceived and interpreted the observable increase in speed in movement across the spatial landscape, this process was not so obvious in China. However, any innovative form of communication that increased its swiftness across expanses of space resulted in, as Cairncross puts it, the ‘death of distance’ (1997: 1), or at least its shrinkage. She writes that “Technological change has the power to revolutionize the way people live. . . . It will alter, in ways that are only dimly imaginable, decisions about where people work and what kind of work they do, concepts of national borders and sovereignty, and patterns of international trade.”

The observable and recorded perception in the changes in the speed of modern communication has a parallel but limited phenomenon in early China, which, as the writer will attempt to prove, is associated with the introduction and popularization of the horse. In Chapter 4, images of the horse, expressed in bronze and pottery sculpture, painting, and other forms of art, from the earliest appearance in the Shang and up to and including the post-Han period, are utilized to support this theory.

**Time and Space, Today and Yesterday**

In addressing temporal concepts in early China, it should be noted that time and space in ancient China were perceived as intimately intertwined; thus space, distance and position, as examined in Chapter 2, cannot be entirely excluded from this discussion.
In the introduction to their book *Time and Space in Chinese Culture*, Huang and Zurcher (1995: 3) succinctly state that “. . . time (then, now) and space (here, there) are the indispensable overall forms of the human mind to organize sense data from the outside world, so as to intelligibly mould our experience.” Regarding how the two relate, to reiterate what Scheuerman (2018) wrote, “Geographical distance is typically measured in time. . . . The human experience of space is intimately connected to the temporal structure of those activities by means of which we experience space.”

A number of examples illustrate how this concept is universally shared. In today’s world, we measure our air travels by the hours it takes to get from here to there, not by the miles or kilometers flown over. When we travel by car, we typically look at the miles to be driven, but consider more so the speed of our mode of transport in order to deduce the amount of time it takes to travel the distance. Our phone’s map app gives us the distance from A to B but also provides variable time durations, depending upon various routings. We seem not to be able to avoid the relationship between time and space. Yet this relationship has always been there, even before new transportation technology began to inexorably reduce the temporal duration needed to travel between geographical locations. The “human experience of space” was and is experienced through encounters with temporal episodes produced by the perceived eternalness of, and measured by, mere human locomotion. The technological innovations of chariot and horse riding, of steam ships steam locomotives, and of the bicycle, automobile, and airplane, have all disrupted and upended that eternal benchmark of foot-travel. In its place, the world, be it local, regional or global, became perceptually much smaller. An
errend that might have taken an entire day two centuries ago now becomes an abbreviated coda in a full day’s score.

**Early Concepts of Time in China**

There are universal standards by which time, even in so-called primitive societies, is measured and held to: the day, the lunar month, the seasons, and the solar year. The importance of time and its passing held great weight among the diviners for the Shang kings. We can see from oracle bone records that periods of time were defined according to natural, human and arbitrary intervals. There were the dependable periodic rhythms of the sun, the seasons, the moon and the stars; the annual manifestations of autumnal color, spring sprouting, snow and wind. “[S]uch events defined the peasants’ conception of time,” writes Keightley (2000: 18), “which was inextricably linked both to their varying work patterns, daily and seasonal, and to the rain, wind, heat, and cold that the Powers sent down upon them.” Where cycles were obvious, divisions were made, but arbitrary recorded events such as anniversaries of births and deaths, the appearance of comets, or unusual weather and geologic events could influence the cyclic aspect of time as well.

The thesis of this chapter is not so much to address the so-called collapse of space and time, but to look at how early Chinese writers interpreted both concepts. This section is chiefly devoted to examining early concepts of time, but within its eternal relationship with space. The conclusion will attempt to answer the difficult question of ascertaining whether or not the introduction and popularization of horse riding from the late Warring States through the Han periods initiated a change in the conceptual views of space and time when the obstacles presented by the newly extended and vast geographical space of
imperial China during the Qin and the Han periods were reduced through the revolutionary innovation of horse riding and its influence on the application of increased speed in communication and transportation.

**Time, Movement, Change, Speed**

Spatio-temporal conceptions are part of the human experience, and in fact, space and time are difficult to separate. In ancient China as well as elsewhere, the two were intimately intertwined, as exampled by the contemporary term for “time” in Chinese, *shijian* 時間, a combination of the word *shi* (time) and *jian* (space). This will be further addressed below.

The earliest records from China provide us today with the following description of the calculations based upon temporal changes that appeared in the natural cycles of day, month and year.

The Shang year, divided into seasons, months and days, were gathered into 60-unit sexagenary cycles determined based upon the *tiangan dizhi* 天干地支 (“heavenly stems and earthly branches”) system of calculating time. The day (*ri* 日) was divided by natural and social events: *ming* 明 (dawn); *dacai* 大采 (about 8 a.m.); *xiaoshi* 小食 (small meal); *zhongri* 中日 (midday); *ze* 昃 (afternoon); *dashi* 大食 (great meal); *xiaocai* 小采 (about 6 p.m.); *zhuo* 斬 (the time of transitions from one day to the next); and *xi* 夕 (night) (Keightley 2000: 20). Arbitrary events that appeared in the cyclic aspects of time were recorded and sometimes included in the calendar as an annual event worthy of remembering as anniversaries.

Needham states (1959: 396) that
The most ancient day-count in Chinese culture did not depend on the sun and moon at all. It was the sexagesimal cyclical system... a series of twelve characters (the so-called ‘branches’; chih) being combined alternately with a series of ten (the so-called ‘trunks’ or ‘stems’; kan) so as to make sixty combinations at the end of which the cycle started all over again. These characters are among the commonest on the oracle-bones of the mid-2nd millennium, and in the Shang period they were used strictly as a day count. The practice of using them for the years did not come in until the end of the Former Han in the 1st century, but thenceforward both uses continued till modern times. 82

Vogt (2023) points out the most important aspect of Shang timekeeping:

the use of the tiangan for the days of the ten-day week, combined with the Shang habit of naming ancestors posthumously with the day names, presumably those of the days on which those ancestors received offerings. Although our knowledge of Shang life is biased by the nature of oracle bones, it seems that ritual considerations were the primary factor shaping the Shang conception of time. The major Shang offerings, by the end of the period, had become a systematic ritual calendar that traced the sequence of a lunar year. This association was so strong that the Shang (and the early Western Zhou after them) used the term si 祀, "offerings," for the concept of "year".

The solar and lunar calendars and the constant corrections needed to keep them as accurate as possible were a major responsibility of rulers from the earliest days. The Han continued the Qin calendar, but in 104 BCE Emperor Wudi declared a “Grand Beginning” of the Five Phases cycle and had the calendar modified to fit his purposes. Sima Qian includes a “Treatise on the Calendar” in the Shiji.

While the concept of the Five Phases (wu xing 五行) can be viewed as part and parcel to the Chinese worldview beginning in pre-Han times, it also reflected a relatively new chronological (albeit cyclic) approach to time. Warring States cosmologists, especially Zou Yan, employed the theory of the Five Phases, which held that each phase followed the last in a regular pattern, and “. . . each dynasty was associated with a particular phase. Since the Zhou dynasty ruled by the power of fire, its natural successor

82 The Chinese term is “tiangan dizhi” 天干地支.
[Qin] would rule by water, the next phase in the cycle” (Hardy 1999: 177). The concept of the Five Phases stood in contrast to the traditional thought about the causes of dynastic succession, which was thought prior to this time a result of moral degeneration of the old and the virtuous behavior of the new, but “... rather, the replacement occurs in the course of the natural and inevitable cyclical process of struggle ... and victory” (Vitaly Rubin, in Hardy 1999: 187). The notion of the Five Phases contrasted but did not necessarily conflict with the (by then) centuries-old concept of the Mandate of Heaven.

Wu Hung discusses the subject of dynastic renewal and how it related to the Mandate of Heaven (tianming 天命) and correlative cosmology, the latter being a state in which all things exist in dynamic relationships and interaction (Wu 2022: 69). He writes:

This cosmology gave rise to a prevailing historiographical approach, that the rise and fall of dynasties followed the pattern of Five Phases (wood, fire, earth, metal, and water). The theory of the Mandate of Heaven, on the other hand, justifies dynastic transfers. In this theory, which also originated in pre-Qin time, once a man receives Heaven’s Mandate to establish a new dynasty, even if he is from a humble background, he will become the Son of Heaven and the sovereign of all on earth.

Shaughnessy provides a clear assessment of what the Five Phases entailed and how it differed with the earlier worldview (2000: 123):

The earlier categorization of the world into four parts—Azure Dragon, White Tiger, Red Bird, and Black Turtle; east, west, south, and north; spring, autumn, summer, and winter—was transformed by the early third century BCE into a grand scheme dividing all matter into five parts. This transformation was probably originally achieved by the addition of the “center” to the four cardinal directions, but its standard representation came to be as five “elements” or “phases” (wuxing): wood, fire, earth, metal, and water. These elements, conceived not as inert substances but as sorts of constantly evolving energy, were thought to be elemental to all matter.83

83 Note that Hardy’s sequence and that of Shaughnessy do not match.
Lewis (207: 65) writes that Emperor Wudi began the use of “. . . reign periods named for a great event or achievement that the emperor wanted to immortalize.” Precise calendars in the Han were needed for more practical purposes: “. . . to control payment of salaries, timing of transfers or promotions, and granting of leaves from office. They were also necessary at the frontiers to track military duty and to co-ordinate actions across the northern border.” He continues (2007: 65-66):

Chinese calendars were based on the lunar months, but since the lunar month varies between twenty-nine and thirty days, a formal calendar ensured that everyone in the empire knew which months were twenty-nine days and which ones were thirty. And since the solar year of approximately three hundred and sixty-five days, which controls the seasons, is not precisely twelve lunar months, every few years an extra “intercalary” month was added to synchronize the two.

Temporal Terminology in Early China

Let us begin here with more recent terminology related to time and work backward. As previously mentioned, the contemporary word for “time” in Chinese is *shijian* 時間, a combination of the individual graphs for time (*shi* 時) and space (*jian* 間), i.e., “time intervals” (Karlgren 1966 [1949]: 380, 178).

In the earlier, classical form of *jian* 間, the graph has ‘door’ and ‘moon’ (the alternative with “sun” being a ‘later vulgar form’. Karlgren 1966 [1949]: 178-179). Both characters, older and newer, are categorized using celestial phenomena--the moon and the sun--that allowed humans to determine and record the passage of time. That graph, combined with *shi* 時, indicated the dependence upon the monthly lunar cycle and daily solar cycle for determining and recording time. *Jian* 間 (which also carries the meaning of “room”) is a combination of *men* 門 (door or gate) and *yue* 月 (moon), an associative
compound graph implying viewing the moon through a door. Jian 閒 also carries the meaning of kongxi 空隙: void, space; gap, interval, opportunity, chance, crack, “gap between two objects”, and “gap in time between two events” (Karlgren 1966 [1949]: 178-179). The latter two definitions are important, as such gaps and intervals relate to both space and time.  

Another word that means a ‘point in time’ or a ‘duration in time’ is the double graph shihou 時候. Two meanings of the second graph are ‘target’ and ‘to shoot an arrow’, the latter possibly implying swiftness.

Another double-graph word that combines an additional word for space, yu 宇, with a different word for time, zhou 宙, to form yuzhou 宇宙, which encompasses the spatio-temporal universe. The Mohist Canon from the Warring States period discusses the relationship between space and time. Fang and Zhou write (1996: 57):

Yu incorporates different places. . . jiu [zhou] is composed of different times. . . [while] ‘yu’ embodies east, west, south and north. . . and jiu encompasses past and present, dawn and dusk. It can be seen that ‘yu’ refers to space and ‘zhou’ to time. ‘Yuzhou’ is thus the unity of space and time. . . The passing of time and changes in space are closely interrelated. Space and time are unified in the motion of matter.

A term that appears in early writings that related closely to the contemporary ideas of time, and how to take advantage of it, is that of ‘timeliness’, shijī 時機 (literally ‘timely opportunity’) or tianshí 天時 (literally ‘heaven's time’, i.e., ‘the right time’). Lin (1995: 98) writes,

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84 With reference to the graph shì 時, Morihashi (1969, v. 5: 850), lists only the classical compound shìjiān 時間.

85 The meaning of the word shihou, in the adverbial term deshihou 的時候, is ‘when’ or ‘while,’ as in “when I go to work” or “I listen to music while driving.”
The commentaries present time and position as bound up with actual human life. The present time in the context of guiding people in the effective utilization of time, how to seize a fleeting opportunity, how to keep pace with events. . . . The principle of timeliness entails acting at just the moment, being neither too hasty nor too slow.

Lin points out that the post-Han philosopher Wang Bi 王弼 (CE 226-249) placed much emphasis on time, as well as on position. Fung (1995: 105) writes, “Whenever he discussed position, he mentioned not only location . . . but also opportunity, opportune moment, chance.” Fung (1952: 391) adds that “The word ‘timely’ is used in many ways, such as waiting for what is timely, the timely movement, the timely completion, the timely change, the timely use, the timely meaning, the timely development, the timely release, and the timely standard’ (1952: 391). It is with regard to the term ‘timely use’ or ‘timeliness’ that the writer here will utilize to make a certain point to support his thesis.

According to Cheng (1974, 1994), the concept of time in ancient China is also manifested in observable change (yi 易). The concept of change equaling time is an intriguing approach, in that if we subscribe to this view, we perceive time passing as evidence of change, and visa versa. In the Chinese characters for time (shi 時) and change (yi 易), we see an ancient semantic relationship between them in that the latter is also categorized by the presence of the signific ri 日 (sun).86 Here both time and change are connected linguistically through the defining category of that which helps to determine the passage of both. The sun, in both its daily and yearly sequential cycles, is the primordial determinant of temporal transition, at least in terms of its written representation. Early observations of the passage of time are seen in the Lunyu 論語 of

86 Vogt (2023) points out that one should consider the term hua 化, "transformation," that refers to the general changes occurring in the natural world.
Confucius, in the *Shijing* (Classic of Poetry), and in other early works and sayings, which mention the passing and the fleetness of time, exampled in the ancient metaphorical expression “guang yin si jian 光陰似箭 ” (time flies like an arrow), and other early sayings.

Fang (1977: 240) looks at time along the following line of thought, which is associated with the *Book of Changes*:

What is time? The essence of time consists in change; the order of time proceeds with concatenation; the efficacy of time abides by durance. The rhythmic process of epochal change is wheeling round into infinitude and perpetually dovetailing the old and the new so as to issue into interpenetration which is continuant duration in creative advance. This is the way in which time generates itself by its systematic entry into a pervasive unity which constitutes the rational order of creative creativity. The dynamic sequence of time, ridding itself of the perished past and coming by the new into present existence, really gains something over a loss. So, the change in time is but a step to approaching eternity, which is perennial durance, whereby, before the bygone is ended, the forefront of the succeeding has come into presence.

As suggested in Chapter 2, the concept of space fixed in time is defined by the human limitations of movement. Prior to the popularization of horse riding in the 4th to 3rd centuries BCE, speed was limited to how fast a person could walk or a boat could float or a wagon or chariot could move. Velocity or speed is relative to the observer who is always cognizant of his or her own limitations; thus humans always seemed to have the desire to fly as quickly as a bird, a yearning which finds its place in literature and art. This will be further addressed in Chapter 4.

With the overall shrinking environment and the advancements in transportation technology from the late Warring States period to the Eastern Han, the concepts of space

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87 Here the term for time here is *guangyin*, literally "brightness and shade (darkness)", implying temporal changes imposed by the daily solar cycle.
and time that existed within the purview of Chinese civilization and the influence it had on peripheral regions began to go through conceptual changes which were expressed in administration, philosophy, language, literature and art. We see from the evolution of the concepts of time and space in early China, along with their influence on a coevolving society, that they had subtle but profound influence.

The first millennium before the common era saw technological innovations and developments in China that began to mitigate human limitations when it came to speed. At first, the chariot allowed men to travel without much exertion, even though it entailed much craft, skill and training of both man and beast. However, the adaptation of the horse as a ridden animal vastly expanded the human ability to travel far and fast. The relative quickness of mounted horses in various situations, including communication and war, was provided in Chapter 1.

Subjective and Objective Concepts of Time and Borders in Early China

Let’s begin here with two questions. How do humans determine whether time is an objective or a subjective phenomenon? Is it both subjectively and objectively measurable? Objectively, time passes at the same rate whether or not our subjective feelings or observations say that time passes quickly or slowly. Does then the idea of the "collapse of time" fall within the venue of a subjective, psychological assessment?

As mentioned previously, there are universal standards by which time and its passage is measured and held to: the day, the lunar month, the seasons and the solar year. Depending upon seasons and latitude, these standards can vary and the day is much harder to measure and calculate due to variations in the length of daylight and darkness,
again determined by latitude, but it is measurable. However, calendrical time is different from conceptual time. Within our subjective experience, time and change seem to pass more slowly or quickly, yet we can still verify through objective means that the said specifically determined time period and transition did not pass at differing rates.\textsuperscript{88}

As humans, we of course depend upon language for communication, which ‘. . . looms up imperceptibly out of a horizonless past’ (Anderson 2006: 144-145). When we talk of languages and the interaction between those who communicate or try to communicate in translingual situations, we are describing linguistic liminality, a linguistic positioning on both sides of the translingual borderland.

Even though Anderson’s “horizonless past” refers to a time without borders, it can be contrasted with our concepts of time as a past \textit{with} borders. Humans have always placed borders on the past with the chronological constraints of time divisions based on historical events: the birth of Christ, Mohammed’s hegira, the establishment of a dynasty; celestial patterns (which provide lunar and solar calendars with days, months and years); or mathematical constructs, giving us decades, centuries and millennia. If we are attentive, we see that these chronological divisions overlap, providing the more observant with a confusing depth of times and events. Thus, the measurement of time is similar to the concept of the border, which we can think of as a clear, narrow division between localities, as well as the interstitial zones between different societies and cultures.

\textsuperscript{88} Recent studies have shown that the human perceptions of time are influenced by the rate of the heartbeat. Barry (2023) summarizes some of the research: “It is a truism that time seems to expand or contract depending on our circumstances: In a state of terror, seconds can stretch. A day spent in solitude can drag. . . . A study in time perception conducted during the first year of the [Covid] lockdown in Britain found that 80 percent of participants reported distortions in time, in different directions. On average, older, more socially isolated people reported that time slowed, and younger, more active people reported that it sped up.” This helps humans manage trauma, “in which instantaneous experiences are remembered as drawn out.”
Transcultural chronological divisions are broad and similarly challenge us to see any overlying method to the madness. They are like real borders: a broad sweep that is never sharp and clear. The year 2020 in the Western calendar was the year 1441 in the Islamic calendar; according to the traditional Chinese calendar it was 4717.

Theories of Socio-cultural Evolutionism

Since one cannot fully segregate space from time, let us consider the concept of progressive temporal evolution. To fully understand the implications of cultural perceptions of one people toward another, it is useful to explore in the history of thought the idea of progressive stages of societies. The writer considers the modern theory of socio-cultural evolutionism to be born of a Western philosophical tradition and concepts of linear time and history, although it appears in similar form in early Chinese writings as well. In this respect, it is critical to understand that this theory is an essential part of both Hegelian-based Marxist theory and of a Weber-based Western view of universal progress, both approaches being “. . . a single-track universal process of evolution through which all societies, some faster than others, are progressing. . .” toward a utopian society of one sort or another (Nederveen Pieterse 2004: 49). The relationship between a perceived progression of civilization and the idea of temporal progression is addressed here.

The antecedents of the origin and development of this theory appear in early writings, both Western and Chinese. In Hesiod’s Works and Days (ca. 700 BCE), successive ages of humankind are proposed, using mostly the metaphors of various metals: the ages of gold, silver, bronze, heroic, and iron appear one after another. While the succession is described as a devolution in the quality of human life, the linear
progression is the direction that the history of mankind is thought to have taken. Lucretius (ca. 98-55 BCE) wrote in De Rerum Natura that “. . . the earliest weapons were the hands, nails and teeth; then came stone and clubs. These were followed by iron and bronze, but bronze came first, the use of iron not being known until later” (Chang 1986: 5, n. 5).

In China, the idea of successive ages also has a pedigree, including that of the progressive degeneration of society. In Yuan Kang’s 袁康 book Yue Jue Shu 越绝书 of the Eastern Zhou, Feng Huzi 风胡子, an Eastern Zhou philosopher, is credited with saying to the King of Yue 越王: 89

In the Age of Xuan Yuan, Sheng Nong, and He Xu, weapons were made of stones, for cutting trees and building houses, and were buried with the dead. . . ; In the Age of Huang Di, weapons were made of jade, for cutting trees, building houses, and digging the ground, . . and were buried with the dead; In the Age of Yu, weapons were made of bronze, for building canals. . . and houses. . . ; at the present time, weapons are made of iron. (Chang 1986: 4-5)

The idea of progressive states of human social and technological evolution continued to appear in different literary and social contexts. In the 19th century, following the publication of Darwin’s Origin of Species in 1859, social scientists began to apply Darwinian concepts analogous to the conditions of societies around the world, in essence justifying the success and power of Western colonialism and imperialism. But while biologist Darwin did not imply a deterministic future for the human species and left human evolution open-ended, social scientists devised a higher path for humankind. Whitney writes in the mid-19th century, “Modern science claims to be proving, by the most careful and exhaustive study of man and his works, that our race began its existence on earth at the bottom of the scale, instead of at the top, and has been gradually working

89 The Wade-Giles romanization in the original has been changed to modernized pinyin.
“Modern science”, as a result, began to give the veneer of scientific credence and justification to the classification of contemporary human societies as belonging to stages of evolution, from the primitive hunters and gatherers at the bottom, to Western–especially European–society at the top.

This utilization of a multi-stage progression from primitive to advanced social evolutionary stages seems thus to have been a universal theme found among writers of certain metal-using and literate civilizations. The symbolic elements of stone and metal are metaphors for the progressive advances of humankind, for good or for bad. Levi-Strausse’ idea of the raw and the cooked contributes to this idea (Levi-Strausse 1969: 335). The analogy is apt, for if stone is equivalent to uncooked food and the natural state of primitive humankind and animals, then metal, being processed in a way similar to the cooking of food, represents a metamorphosis, the results of which are culture and human civilization. The contrasting pair of opposites, raw and cooked, also appears in ancient China (and in modern spoken Chinese) with references to the natural and uncultured as opposed to the cultured and civilized peoples.

The idea of the cooked versus the raw is one that surfaces early in writings. It seems a natural metaphor among people who place high value on food. The Chinese are world-renowned for their cuisine, but one of the basic characteristics of Chinese cooking is that it is indeed cooked! Raw meats and vegetables can be safely said to be mostly outside the vocabulary of Chinese cooking. In ancient China, the words raw and cooked were adjectives that referred to those barbarians who were uncivilized (and hence ate raw meat) and those who were partly or fully assimilated into Chinese culture (and thus

90 The quote is from the reverse of the title page of Morgan 1908.
cooked their meat). Early use of such terms as applied to those two kinds of peoples (in this instance those to the south) were *shufan* 熟藩, ‘cooked barbarians,’ and *shengfan* 生藩, ‘raw barbarians’ (Wilkinson 1998: 682).\(^9\)

The American social scientist Lewis Henry Morgan theorized in his most influential work *Ancient Society* that mankind had progressed through a number of stages. “The principal institutions of mankind,” he wrote in the preface, “originated in savagery, were developed in barbarism, and are maturing in civilization.” While Morgan has been savaged for this work by later anthropologists like Claude Levi-Strauss and Paul Mercier (Terray 1972: 9-10), the Marxian construct of social evolution took its cue from Morgan. Engels elaborated on Morgan’s scheme in his 1884 work *The Origin of the Family, Private Property and the State* (1902). While Morgan studied ancient societies, Engels applied the theory to both ancient and modern societies. He based his analysis on three assumptions: first, that all contemporary societies can be ranked within the structure; second, that there are innumerable stages between primitive and civilized; and third, that all societies progress in the same sequence but at different rates.

In China after 1930, Marxist social scientists under the influence of Kuo Mo-jo applied a multi-stage system to social evolution. Elaborating on Morgan and Engels, the sequential scheme of evolving societies was expanded to primitive, slave, feudal, with socialist and finally communist stages yet to emerge. Kuo was the first to apply the Marxist theory of socio-cultural evolution to ancient Chinese history (Chang 1986: 1819). The Chinese archaeologist Tong Enzheng described the “intellectual straightjacket” that

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\(^9\) The words *sheng* (alive or raw) and *shu* (ripe or cooked) are even today part of modern Chinese. *Shengren* 生人 (i.e., ‘raw person’) means “stranger”; *shuren* 熟人 (i.e., ‘cooked person’) is “an old acquaintance.”
restrained Chinese scholars in their exploration of the Bronze Age. He writes (as quoted in Higham 1996: 8-9):

For the past forty years, Chinese scholars doing research on ancient societies have been forced to tailor their interpretations to a single approved model. This model is the unilineal evolutionary model proposed by the American Henry Morgan in the 19th century. . . . As a result of Engels adopting and systematically developing this model, . . . it was branded with the mark of Marxism and thus above reproach. It was later further simplified and taken to a greater extreme by Lenin and Stalin. After 1949, it became, in China, a sacred formula and rigid doctrine.

It is essential here to emphasize that the Chinese interpretation of Marxist theory of social evolution comfortably fit the traditional and very ancient Chinese ideas and assumptions about where hunter-gatherers, pastoralists and farmers were located on the socio-cultural ladder of progress and in the geographical maps of the world. This will be elaborated below.

**Social Views of Time and Temporal Progression**

The ancient Chinese were of course aware of the passage of time in their lives, for their lives were inseparable from the days and nights, months, seasons and years. In the *Lunyu* (Analects), the passage, “The days and months pass, the years are not on our side” expresses the idea that time is passing, but not necessarily the events that make them up (Harbsmeier 1995: 57-58). In the *Shi Jing* (Classic of Poetry) dating from early in the Zhou period, two lines from Poem 114 (Waley 1960: 199) expresses the sense of *carpe diem*, that time indeed does fly by:

The cricket is in the hall / Our field-waggons are at rest

If we do not enjoy ourselves now / The days and months will have fled away.
There is a view that strives to emphasize the lack of a linear progression in Chinese concepts of time. It is asserted that in the historical approach to recorded events, these do not represent events that produce aftereffects and consequences in the future, but as actions for those who lived after to model their own behavior upon. Concepts of historical and social progression, however, were not lacking in the Chinese written record. The idea of successive ages, one with accompanying progressive technology, the other which described social developments, had a pedigree. Let us reexamine a bit what was discussed earlier. With regard to the first, as pointed out earlier, in Yuan Kang's 袁国王 book Yue Jue Shu 越絕書, Feng Huzi 風胡子, is credited for telling the King of Yue about the ages of stone, jade, bronze and iron (Chang 1986: 4-5).

The "Gongyang Commentary" of the Spring and Autumn Annals also sets out a social theory of three stages. He Xiu (129-182 CE) of the Eastern Han elaborated the theory as a "record of the process through which Confucius ideally transformed the age of decay and disorder into that of 'approaching peace,' and finally into that of 'universal peace'" (Fung 1962: 201-202), though this could only have happened had Confucius the power and authority to do so.

The "Li Yun" chapter of the Li Ji 礼記 also sets out three stages of social progress: the first stage is a world of disorder; the second, "small tranquility," and the third, "great unity." Fung (1962: 202-203) comments that "Though the author of the Li Yun put this great unity into a golden age of the past, it certainly represented a current dream of the Han people."

We have already looked at the Western parallels to Yue Kang’s chronology of technological progression, in Hesiod's Works and Days using the metaphors of various
metals, and in Lucretius’ poem *De Rerum Natura* about the progression of weapons from the earliest days to his day (Chang 1986: 5). We can see from the existence of these theories of progressive technological and social stages that while they merely state the stages without commentary on the reasons for such evolutionary progress in the human experience, it is important to put these stages into the context of temporal progression, ones which acknowledge, first, that there was indeed a temporal sequence of social (at least theoretical) and technological changes that indicated improvements in the human condition; and, second, that a conflicted past that progressed toward a more virtuous present would bode well for the future. Hope, as contextualized in these stages (or in any context), is, without argument, future oriented, a setting of human aspiration into an environment that temporally occurs after the present, therefore an important aspect of the social concept of time and temporal change.

*The “Annihilation” of Time.* This dissertation focuses on a conceptual “compression” of space and time in ancient China at a specific chronological era and in a limited scope. We can allow that such a collapse is perhaps understandable from a more modern approach, in that time intervals, as related to space intervals, seem to shrink; we can get from point A to point B in faster time, with all the social, economic and political implications being influenced as a result, and the effect upon our awareness of time and space is measurable: we “feel” that places far apart become closer together, that long durations become shorter. To return to Scheuerman’s assertion (2018) that “Geographical distance is typically measured in time,” he adds:

> As the time necessary to connect distinct geographical locations is reduced, distance or space undergoes compression or “annihilation.” The human
experience of space is intimately connected to the temporal structure of those activities by means of which we experience space.

This perceived “annihilation” or reduction of time is a psychological adjustment to previous experiences which were taken for granted. With increased familiarity, it becomes the new standard, yet always subject to future adjustments, resisted or not. Yet that perception of time reduction is not merely a psychological adjustment but is also the acceptance of the consequences of the pragmatic effect that the use of new technology has upon old concepts. As new technology increased speed, distance seemed to shrink. Duration of time between locations was reduced in our consciousness as well, with the eventual effect that it came to fully possess our subconscious perception and experience of time and space. We take this new perception for granted. We no longer try to grasp how people who lived and experienced time and space prior to the introduction of such new technology and how they perceived and took for granted their contemporary ideas of speed and duration. To put the acceptance of changes in time and space in the context of historical change, one can quote Silberstein: “There is thus far an intrinsic similarity, a kind of coordinateness, between space and time, or as the Time Traveller, in a wonderful anticipation of Wills, puts it: ‘There is no difference between Time and Space except that our consciousness moves along with it’” (quoted in Capek 1981: 434-435). While this thought may reflect how humans may deal with the concepts, it also suggests how our consciousness evolves in its acceptance of changes in how we deal with time and space.

Lastly, we can put this discussion on time into the context of Chinese historical narrative of the period studied. In Sima Qian’s history Shiji, he took specific note of how long certain geographical travels took. The first journey of the Han envoy Zhang Qian to the Western Regions lasted about thirteen years (139-126 BCE), although eleven of those
years he spent in Xiongnu captivity. General Li Guangli’s two expeditions lasted four years (101-97 BCE). Various delegations were sent to Central Asia, often with the intent of obtaining the fabled Dayuan horses. In Sima Qian’s chapter “Account of Dayuan” in the *Shiji*, he writes (Sima 1993: 240-241) that the emperor “. . . sent a constant stream of envoys to that region to acquire them. . . . In the course of one year anywhere from five or six to over ten parties would be sent out. Those travelling to distant lands required eight or nine years to complete their journey, while those visiting nearer regions would return after a few years.” The awareness of the duration that these expeditions and delegations took to travel to the Western Regions and return must have had an impact on both views of time and space during the mid-Western Han, with the knowledge that the world was larger than previously thought, and that time and duration would be a factor in expanding and administrating the empire.

**Language, Time and the Horse**

In this section we look at Chinese words, expressions, and literary excerpts that relate in one way or another to the horse and its recognizable inherent characteristics of swiftness and power.

The preliminary examination of early spatio-temporal concepts in Chapters 2 and 3 gives a foundation for a discussion of the horse in its transitional context in roles that brought subsequent transformative changes in concepts of space and time of the period studied. As with the progressive changes in concepts of time during this early period, there were also progressive changes in socio-political utilization, in its expressive rendering in art, and its influence on writing and literature.
The study of the early Chinese written language, especially that of the written Bronze Script of the Eastern Zhou, shows that the archaic character for ‘horse 马’, which appeared as early as the Late Shang Dynasty, began to be utilized as a radical (aka signific ⁹²) for words relating in some way with the horse (Figure 3.2 and 3.3). In the earliest appearance of the glyph for horse, it was given several meanings and associations: horse, a personal name, the title of a military unit (duoma 多馬), and the name of certain horse-raising peoples residing to the west or northwest (e.g., duoma qiang 多馬羌) (Shaughnessy 1988: 236). Here, however, the writer will be examining how the word and glyph came into use as associated with horse-related affairs.

Written Language Relating to the Horse.

According to Mair (2003: 175), when the graph for horse first appeared during the Late Shang period, the graphs for ovicaprids (e.g., sheep and goats) and bovines were already highly stylized, along with those for pig and dog, while those for the horse were quite representational as a pictograph. “This strongly suggests that the Chinese acquired the domestic horse considerably later than they acquired sheep, goats and cattle.” However, in the period from about 1200 to 1050 BCE, the graph underwent increasing abstraction, as seen in Figure 3.2, with the earlier forms seen to the right and later to the left.⁹³

⁹² A radical (also termed signific) is a classifier utilized in the Chinese writing system. There are 214 radicals in the traditional system, each utilized to place each and every character into groups related to the meaning of the radical. For example, the characters for river 河 and ocean 洋 both are classified through the radical for water (written 氵).

⁹³ Mair provides the following chronology for the SBI (Shell ad Bone Inscriptions) in the Late Shang (2003: 183, n. 7): I: 1200-1181 BCE; II: 1180-1151; III: 1150-1131; IV: 1130/20-1101/1091; V: 1100-1051/41.
The utilization of the glyph during the Late Shang was limited to the uses mentioned above. It was only when the written language began its evolution into a more complex form in the Western and subsequent Eastern Zhou, that it was utilized as a signific element in specific glyphs and as one element of a bi-syllabic word.  

By the Western Zhou, the graph for horse had become more schematic, with an emphasis on depicting the eye, and a de-emphasis on the legs and body. By the Han, according to Mair (2003: 175), “... the flowing mane became increasingly elaborate until, as with the current forms for the graph that are still in use today, the body and legs amount to a mere afterthought 马.”

The intended purpose of this section is chiefly to identify and highlight characters and words which emphasize the role that the horse provided in the evolution of swiftness, power, duration and even a limited “annihilation” of time in the chronologically later part of the period studied, a dynamic association that continued through the Western Zhou, Eastern Zhou, Qin and Han periods, as the importance of the horse in its practical and symbolic uses increased.

Here we examine several of those associations, including the written graph for horse; associative compound graphs relating to the horse and the uses it provided; inscriptions that include and deal with horses; and literary and historical phrases in which the horse is utilized for metaphorical or symbolic meanings. The eventual purpose of what is addressed here is the relationship between the horse and the spatio-temporal conceptual changes that were appearing in early imperial China in the Qin and Han dynasties. This is not intended to be a thorough examination of the issue, but to provide

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94 Its use as a phonetic element was very limited in the pre-Han period, as will be examined later.
sufficient evidence to support the argument of this dissertation, that the presence of the horse in early Chinese society contributed to changes in concepts of time and space.

The earliest graphs for ‘horse’ appeared in oracle bone inscriptions of the Late Shang. Shaughnessy (1988: 233-234) writes that the graph for horse occurs more frequently than that for chariot (che 車) in the record, and that it more often refers to proper names rather than the horse itself (Linduff 2003: 155), and to official offices (Ding 1956: 508), such as the term sima 司馬, which also became a common surname.

Keightley (1978: 109: n. 74) cites the scholar Kyrykov, who notes “. . . the graph for ‘horse’ . . . became more schematic as the full head was replaced by the eye and the details of mane, tail, and hooves were abbreviated.

But in numerous other cases, a fuller, more baroque form, requiring more strokes, replaced or came to coexist with a simpler one” (1978: 109, n. 74). He also refers to the view of Ting Su, who noted that the earlier forms were “. . . more pictorial than the contemporary graphs for domestic animals; this suggests . . . the possibility that the Shang had the horse rather later than they had the cow, sheep, pig and dog.” 95

*Associative compound graphs relating to the horse and the uses it provided.* Mair (2003) compares the number of graphs for ‘horse’ 馬 that appear from the Late Shang to the Western Han, and the number of graphs having the signific for ‘horse’ are:

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95 Refer to Keightley 1978, Table 26, page 218, for the use of *ma* (no. 27) during the Shang and Zhou periods.
SBI (Shell and Bone Inscription) forms (c. 1200--c. 1050 BCE) 4

BI (Bronze Inscription) forms (c. 1050--c. 700 BCE) 13

SS (Small Seal) forms (c. 100 CE) 126

He also notes (Mair 2003: 176) that “large dictionaries of sinographs now have in excess of an astonishing 550 characters grouped under the 馬 signific”, which the writer examines below.

Tsien (2004: 26, Table I; 27) writes that characteristics of the oracle script included the writing principles of pictogram, ideogram, and phonograms, the last being the rarest. Within the oracle bone record, it must be pointed out that it was not just the individual graph for horse (馬) which appeared. Other examples of all three characteristics have been found. Karlgren (1940) lists over 30 examples of these characteristics dating from the Late Shang to the Han, including, from the Late Shang, ma 馬 (135: 40a-d), bo 駁 (140: 1127a-c), and xi 驤 (130: 690c-e).

Let us begin with Bernard Karlgren’s research. In a preliminary review of his study of Ancient Chinese script and phonetics in Grammata Serica (1940), he identified 67 characters that contain the graphic element (pictogram) ‘horse’ ma 馬. In 65 of those characters, ‘horse’ is the signific (radical); of those, nine point to quick movement by horse, such as 驲 (cheng), 驅 (qu), 驀 (wu), 駱 (qin), 駰 (qi) and 駸 (zhou), all of which mean gallop, fast running, or run quickly. Nineteen characters refer to horses of different colors, which mostly date from the Zhou to the Han period. Three characters 驢 (jing), 駨 (hai), and 駴 (hai) hold the meaning of “to be afraid,” “to be alarmed”, and “frightened” and contain the radical for horse. The character 闖 (chen; alternate phonetic chuang; see
Wang 1993: 51) is a graph composed of ‘gate’ and ‘horse’, with a meaning of “protrude suddenly” in Karlgren, but can also be translated as “rush, dash, charge.” The two listed as having “ma” as the phonetic element are 驃 (“sacrifice in the open”) and 骂 (“revile, curse”). This edition of Karlgren’s work does not necessarily contain every character in pre-Han or Han writing. For example, the character 騃 (qi; to ride a horse) is not included in the work.

Xu Shen’s Shuo Wen Jie Zi 說文解字, China’s earliest dictionary dating from the Eastern Han, lists 122 characters with the signific 马 ma (in addition to the original character for horse, 马; Xu and Niu 1980: 465-469). This work does not include Shang oracle script, as the oracle bones and engraved inscriptions were not discovered until the late nineteenth century.

The Kangxi Zidian 康熙字典 (Kangxi Dictionary) contains more than 450 characters with the signific for horse. Morihashi Tetsuji’s Dai Kan Wa Jiten 大漢和辭典 (1969, juan 12: 13054-13165) compiles 525 characters (including variants of a particular character) with the signific 马 ma, though this includes characters from later periods. The compendium Zhongguo Shufa Dazidian 中國書法大字典 (Dictionary of Chinese Calligraphy; 1976: 1387-1401), which compiles characters written in Large Seal

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96 There are additional characters that possess 马 ma as the phonetic element that Karlgren does not list: 嘅 (question particle), 媽 (mom), 瑪 (agate), 碼 (sign representing a number), 笠 (to scold), 猷 (ant, dragonfly), 狷 (mammoth), 領 (headboard), 源 (name of a river), and 鷏 (name of a kind of bird [Morihashi 47225]). These may have appeared chronologically much later.

97 The character 騃 is composed of the graphs for bamboo and horse, but the meanings (“firm, solid, reliable” and “serious, sincere, true”) do not seem to relate directly to the horse.
(dazhuan 大篆), Small Seal (xiaozhuan 小篆), Clerical (lishu 隶書), Running (xingshu 行書), Grass (caoshu 草書) and Regular (kaishu 楷書) scripts, lists 104 different characters that utilize the pictogram for horse, many of which are included in Karlgren’s work cited above. Of these 104 characters, only two are shown with no Large or Small Seal forms. Hatori’s dictionary Zhuanke Zilin 篆刻字林 (A Compendium of Seal Characters; 1977) lists 54 similarly related characters recorded from early vessels and seals in Ancient (guwen 古文), Small Seal and other Bronze scripts. The work Jinshi Dazidian 金石大字典 (Dictionary of Bronze and Stone Characters) (Kang et al 1982: 590-594), lists 36 characters that appear on Han and earlier inscribed objects that utilize the pictogram for horse. Rong Geng, in Jin Wen Bian 金文編 (Book of Bronze Scripts), includes nine different Bronze Script characters which contain the pictogram for horse (1981: 567-570).

The content of the above is indicative of two things. The first is that the writing of the Zhou to the Han period reflected both the changing dynamics of the written and spoken word, and that the majority of characters and words that utilized the pictogram for horse indicates the increase in the use of the ‘horse’ signfic starting in the Zhou period, and the intimate relationship between the horse and the perceived increase of speed.98 Second, the nineteen characters which individualize horses by their colors indicate the

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98 There are other early Chinese radicals which indicate movement and sometimes imply swiftness, such as chou 是 (abbreviated as 歩) (“to walk”) and xing 行 (“go, walk, travel”). Graphs and double graph words with the “walking” radical such as su 速, xun 迅, and the compound of the two, xunsu 迅速, all mean “speedy”, “swift,” and “rapid.” However, there is little space here to examine these in any depth.

93 The character is also a metaphor for “an able and virtuous person.”
value and significance that the horse had achieved in Chinese society by the Han period, since very few other animals are described or identified in this way.

As pointed out, a few of these early characters imply power, speed, and stamina. There is ji 駨, which the Shuo Wen defines as “a thousand li horse. Sun Yang trained them” (“Qianli ma ye. Sun Yang suo xiang zhi 千里馬也。孫陽所相之”). The character zhi 馶 is defined as a “powerful horse” (“ma qiang ye 马彊也”); and peng 騎 is a vigorous, energetic horse (“ma sheng ye 马盛也”).

Linguistics: Words and Phrases Related to the Horse. This section examines the probable Indo-European origin of the phoneme ma for ‘horse’ and its evolution, as well as its possible relation to other languages. Following that, we look at the literature, poetry, and surviving idioms from the period covered that are related to the horse in description, symbolism and metaphor.

A number of scholars have argued that the Chinese phonetic for horse—ma—is of Indo-European origin. Mair (1998: 178-179) cites as possible evidence the parallel between the phonetic element “*ma” in Old Sinitic and the Indo-European element “mare”, a female horse. He compares ma, ‘horse’, with six words from western Indo-European that belong to Celtic and Germanic, noting (Mair 1998: 179) that “. . . No other

99 Karlgren has identified two graphs which identify oxes by their colors: run 牝, a brown (or yellow) ox with black lips; and li 頜, a long-haired (or black) ox (Karlgren 1966: 242-243, 386).
100 Mair writes that his comparison of Indo-European terms for horse are provided for comparative purposes only, and he does not claim any cognateness between Old Sinitic and Indo-European, and he “. . . does not rule out the possibility of borrowing during the time period discussed in this paper” (1998: 178).
95 Janhunen (1998: 179-180) also compares the pronunciation of a number of horse-related characters with Indo-European equivalents, among them bo 駥, bi 駗, li 頜, qi 驒, ju 駒, qu 驒, biao 騃, jia 駬, qi 駒, luo 駷.
IE languages have native words for ‘horse’ that derive from *markos*, and he points out that Germanic words for ‘mare’ derive from the same root.\(^9^5\)

Juha Janhunen thoroughly examines this question (1998: 415) and writes, “. . . the major languages and language families of East Asia share what appear to be reflexes of a single primary name for the horse: Mongolic (morin), Tungistic (murin), Korean (mar), Japanese (uma) and Chinese (ma). This situation suggests that the horse was introduced to East Asia from a single source, possibly by a single wave of cultural impact.” He posits that the monosyllabic ma is a medial vibrant, “yielding the reconstruction *mraq for Old or Ancient Chinese.” Janhunen continues (1998: 424, 425-426):

Assuming that Mongolic *mori as well as Sinitic *mraq (possibly received through Mongolic) are pre-Hunnic [i.e., pre-Xiongnu] borrowings from some non-Turkic Central Asian language, there are very few chances for a concrete identification of the actual source. It would, of course, be tempting to draw the early eastern Indo-Europeans into the speculations, and it happens that a word occasionally mentioned this context is Indo-European *mar(-) ko- ‘horse’ (IEWW 1.700). However, the latter word is only attested in two far-away branches of Indo-European, Celtic and Germanic (English mare), and there is no reason to regard it as anything but a secondary regional innovation in the European sphere. . . . If the East Asian words for the horse derive from Indo-European, it is difficult to explain why they are based on a root other than *ek’w-os.

What is important in the East Asian data for the ‘horse’ is . . . not the presence of occasional look-alikes elsewhere in the world, but the overwhelming dominance of the root *mori in all the major languages of the region. The linguistic evidence clearly shows that the horse was introduced to East Asia in a rather rapid wave of cultural influence, originally radiating from a single horse-breeding population in Eastern Central Asia. . . in the region of Southern Mongolia and Eastern Turkestan.

It has already been shown that the domesticated horse was introduced from outside China from the north and/or northwest, and while the written graph for the horse

駱, zhuì 駱, sao 駱, xīng 駱, jiào 駱, and ji 駱. The closeness of the reconstructed pronunciations is striking.
is purely of Shang origin, it seems that the pronunciation of the animal’s name derived from a non-Sinitic language.

*Literary phrases that include and deal with horses.* Words, literary expressions and historical phrases in which the horse is utilized for metaphorical or symbolic meanings such as the descriptive “qian li ma 千里馬” (thousand 里 horse) occur early in the written record. A few early phrases and idioms are cited below (with the original literary or otherwise written source, if determined) that contain characters for horse or horse-related meanings which imply immediacy, determination or swiftness and power:

馬到成功 ma dao chenggong; “To be victorious immediately upon the arrival of war-horses at the battlefield; instant success”; (variant: 馬道功成 ma dao gongcheng);

馬不停蹄 ma bu ting ti; “a horse gallops on without a moment’s respite; to progress nonstop”;

馬上得之 mashang de zhi; “to get something on the horse; to obtain something quickly”;

(Biography of Lu Jia, Shiji);

馬首是瞻 mashou shizhan; “take the horse’s head as a guide” (Zuo zhuan);

敢馳騁 gan chiqi; “bravely galloping” (Zuo zhuan);

馳騁千里 chiqi qianli; “gallop a thousand 里” (Liezi);

駟不及舌 sibu jishe; “a team of four horses cannot overtake the tongue; what is said cannot be unsaid” (Lunyu);
牝牧驪黃 pin mu li huang; “a black stallion or a yellow mare; don’t judge by outward appearance” (Liezi);

忽然無異騏驥之馳過隙也 huran wuyi qiji zhi chi guo xi ye; “[life] is over as quickly as the passing of a swift horse glimpsed through a crack in the wall” (“Dao Zhi 盜跖”, Zhuangzi).

In contemporary Chinese today, one word that is related to, and originates from, the recognition of the horse’s inherent superior swiftness is still in common use. That is the word “mashang” 馬上, which literally means “on the horse”, and which can be translated as “immediately”, “right now”, “at once”, and “straight away.” It most likely derives from the saying “mashang de zhi” 馬上得之, “to obtain (something) on a horse; to get something quickly,” from the “Biography of Lu Jia” in the Han dynasty historical work Shiji.101

**Conclusion: Timeliness, Language and the Horse**

We can observe in the early written language in China that the horse is treated in one way or another as a creature greatly valued in early Chinese culture. Horse-associated technology and equine accouterments also become part of the vocabulary of the era from the time of introduction. What we can observe here is that the horse, more than any other creature of the period, was valued for its power, swiftness, stamina, and appearance. In language, it took an eminent place in the expression of such inherent and physical

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101 The entry for mashang in the dictionary Ci Yuan 辭源 supports its derivation from this source in the Shiji (1976: 917).
qualities; in art, it took its place as well as in visually expressing the metaphorical and symbolic meanings ascribed to it, the subject of the next chapter.

We can draw on the language of the horse and the qualities associated with it with temporal concepts. We can consider the adoption of the ridden horse for its advantages in its qualities of superior swiftness and power as an expression of ‘timeliness’, an act done at that ‘opportune moment’ in order for humans to seize upon a fleeting opportunity and to keep pace with events, as discussed in Section 1 of this chapter. Fung Yu-lan (1960: 173) describes it thus:

Time is an important factor in the idea of being just right. It is just right to wear a fur coat in winter, but it is not just right to wear it in summer. Hence the Confucianists often use the word shih [shi 時] (time or timely) in conjunction with the word chung [zhong 中], as in the term shih chung [shi zhong 時中] or ‘timely mean.’ Mencius, for example, says of Confucius: “When it was proper to go into office, then go into it; when it was proper to remain out of office, then to remain out of it; when it was proper to continue in it long, then to continue in it long; when it was proper to withdraw from it quickly, then to withdraw from it quickly: such was Confucius.” (Mencius, Ila, 22) Hence “among the sages, Confucius was the timely one.” (Ibid., Vb, 1.).

If we look at horse riding in this manner, those who utilized such a new technology in Chinese society did it just right: they took wise advantage of speed as an opportunity to bring locations closer together. The reasoning is that speed, being a duration (jiu 久) of time (shi 時) in its relation to position/location (chusuo 處所 / weizhi 位置), allows locations to become related to each other conceptually through the ‘duration of time’ (shichang 時長).

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102 Fung also discusses shizhong elsewhere (1952), and writes that the Zhongyong 中庸 speaks of the “timely mean”, “a mean in human affairs such as Aristotle would call relative and not absolute” (371). He refers to the scholar Hui Tong, who pointed out that the word “shi” (timely) is used in the Yijing appendices 30 times, while the word “zhong” is used 71 times in the appendices (391).
While ‘timeliness’ was often taken advantage of for personal or political ambitions, King Wuling of Zhao saw this as an opportunity to strengthen and defend his kingdom, and to add to, and enhance, his legacy. In the Zhanguozen chapter on his adoption of cavalry, while the term ‘timeliness’ is not utilized, we can perceive that the king saw and took advantage of an opportunity: “Opportunities are limited by the occurrence and merit is limited by its existence,” states the king to his advisor Kongzi Cheng. “Your ruler [himself] has heard it said that ‘actions which benefit the state cannot be improper” (Crump 1970: 267). He continues (1970: 301, 303):

But men of knowledge and learning can change in accordance with what they learn; by understanding that proprieties do change, they themselves can change with the times. Thus, the man who acts on his own does not wait for others; the man who holds control in this age does not pattern himself after antiquity. . . .

There is a saying: “Choose a charioteer for his penmanship and he’ll never understand your team.” Similarly, someone who would shape today by the lessons of yesterday will never understand a revolutionary idea. A talent for following the ways of yesterday is not sufficient to improve the world of today, and the study of bygone ways will never bring about control of the present.

In these passages we can perceive King Wuling’s insight into the progression of time and the inherent, associated changes that occur within that progression. His adoption of cavalry, soon to be followed by the other states of the period, reveals that he was aware of the concepts of ‘timeliness’ and opportunity, most likely gained from his otherwise conservative Confucian advisors, but who could picture the situation more clearly and strategically than they. He responds to the admonishments of another advisor,

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Niu Zan 鈕贊, with the words: “The profit of yesterday differs from today’s. . . . What is useful elsewhere may not be here. Yin and Yang take different paths, and no one thing is proper for all seasons. This is why the worthy watch the times but the times never look to the worthy.” (Crump 306-307; italics added).105

The advantage of speed in military operations cannot be underestimated, and horse-mounted forces were utilized to seize this critical asset for success in the field. Overcoming the challenges of contemporary time and space of the early period through the use of cavalry was appropriately expressed in the section “Ten Advantages of Using the Cavalry” of the Warring States text Sun Bin Bingfa. The seventh advantage was “. . . taking [the enemy] by surprise, and making unexpected attacks on him before he can group himself. . . . It can turn up at a rendezvous a hundred or even a thousand li away” (Lau and Ames 2003: 179). The use of swift cavalry before, during and after the Han period was the only method (other than strong defensive works) in its military campaigns to offset quick attacks by rebels and nomads. One famous incident that occurred, leading to the establishment of the Han dynasty, is the final horse-mounted pursuit by the cavalry of the Han king Liu Bang in 203 BCE to defeat his rival Xiang Yu, commander of the contending Chu forces. Victory depended upon the advantage that speed gave to his forces. The pursuit of Xiang Yu and his dwindling mounted forces by Liu Bang’s cavalry general Guan Ying and his force of 5,000 horsemen eventually forced Xiang Yu to commit suicide at Wujiang. Yet even in the fraught confusion of battle, Xiang Yu’s attachment to his horse Dapple was revealed when he was forced to give him up before

he took his own life, saying, “For five years I have ridden this horse, and I have never seen his equal” (Sima 1993 I: 45, 46). Later in the Western Han dynasty, the cavalry generals Huo Qubing 霍去病 and Wei Qing 衛青 (both considered “among the rare geniuses in Chinese military history” [Yu 1986: 390]) in campaigns against the nomad Xiongnu, were well aware that swiftness was often the key to ‘timely’ success and used that advantage to the full.

If we consider the adoption of the horse as a comparatively swift vehicle for communication and war in this manner, in order to take advantage of ‘timeliness’, then we can accept its role and influence in helping to affect perceptions of time and space in early China. To utilize the meaning of the idiom ‘ma dao chenggong’ 馬到成功 to illustrate the relationship between the galloping horse and time, success can arrive quickly as if upon a horse. The Qin unification and the subsequent unparalleled expansion of empire in a strategic sense was brought about through the appropriation of horse-riding technology and cavalry almost a century before unification.

There is minimal direct influence of the various temporal and calendrical systems established by the early Chinese that can be seen to impact the administrative rule within the newly established empire. However, the writer proposes that the ‘timeliness’ of the adoption of the horse led to the eventual conquest of the various Warring States by Qin in 221 BCE, and the geographical expansion of empire by the Qin and, later, by the Han. The swiftness of the horse, as a characteristic of a technologically revolutionary mechanism in communication and war that led to establishing and maintaining imperial consolidation, along with the influence of its social and political symbolism of spiritual
power and royal status, helped to create an empire that was innovative and highly influential in local administration and in world history.
CHAPTER 4

ART: THE HORSE AS SYMBOL AND METAPHOR

Something about horses raises the human spirit and encourages the contemplation of beauty and Divinity.

--David Alexander (2010: 220)

This chapter examines the motif of the horse in art from its earliest renditions in the Late Shang dynasty to the post-Han period. The chapter concludes with an in-depth look at the motif of the flying horse in China, along with a discussion of its possible meanings and provenance. This approach not only looks at style and substance, but also at the intended purposes of the art, allowing the reader to better understand how the horse as a motif came to express contemporary changes occurring in China from the 13th century BCE to early in the common era. Also examined are various mediums utilized in art, including bronze, jade, ceramics, stone, lacquer ware, painting, relief carvings in stone and wood, and textiles, all of which had been utilized for rendering images of the horse.

The Symbolism of the Horse in Early Chinese

Prior to looking at the artistic rendering of the horse in early China, it would be helpful to examine the increasing symbolic importance the horse played in roles other than war and communication.
The Superior Horse and Its Symbolism. With the introduction of the horse and chariot into the Shang cultural and political sphere around 1250 BCE, its context from the very beginning was its association with the ruling elite. Sacrificial burials associated with the royalty and elite included horses and chariots buried together, as well as horse, chariot and driver burials. There were also graves with single or multiple horses. We can see from this evidence (and the fact that horses were not buried with non-royalty or non-elites), that the horse took on a special meaning to the ruling house. Yuan and Flad (2003: 112; 124, Figure 5) cite an oracle bone inscription (Figure I.5) that states “The king fed horses in the stables.” They point out that no such inscriptions exist which the king feeds cattle, sheep, dogs, chickens or pigs, and so this inscription emphasizes the importance of horses to the royalty and “likely refers to the symbolic role that the king played in horse rearing” (2000: 112).

The horse as a mount increased in the Qin and Han periods, its value and characteristics also began to become more prominent. In early writings, be they philosophy, poetry or other works, the special qualities of the animal were mentioned and once the horse became a ubiquitous presence in society, writings that specifically addressed the topic began to appear more frequently. Creel (1965: 654) notes that the judging of horses was a special art, and that the third-century BCE work Lüshi Chunqiu lists ten men who were skilled at such an art. One of the most famous of the horse connoisseurs was one Bo Le (伯樂). A number of pre-Qin writings mention this personage for his knowledge of horses. The passage “Bo Le Xiang Ma 伯樂相馬” in the Daoist work Liezi recounts a
conversation between Duke Mu of Qin (reigned 659-621 BCE) and Bo Le in which the former asks the latter about how to find someone who can judge horses. Bo Le replies, regarding the best horses: “The superlative horse—one that raises no dust and leaves no tracks—is something evanescent and fleeting, elusive as thin air” (Giles 1947: 105-107). Others are not so tolerant of Bo Le, and in chapter nine, “Horses’ Hoofs” in the Zhuangzi, the author tears him apart:

Then comes Po Lo. ‘I’m good at handling horses!’ he announces, and proceeds to singe them, shave them, pare them, brand them, bind them with martingale and crupper, tie them up in stable and stall. By this time two or three out of ten horses have died. He goes on to starve them, make them go thirsty, race them, prance them, pull them into line, force them to run side by side, in front of them the worry of bit and rein, behind them the terror of whip and crop. By this time over half the horses have died. (Watson 1970: 104)

What may be valuable in this passage, however, is the description of how a horsehandler may have managed horses in pre-Qin times. In the Zhuangzi, the “true nature” of the horse is described thus: “Horses’ hoofs are made for treading frost and snow, their coats for keeping out wind and cold. To munch grass, drink from the stream, lift up their feet and gallop–this is the true nature of horses” (Watson 1970: 104). In the chapter “Perfect Happiness” of the same work, the evolution of all creatures are narrated, with horses near the top of the evolutionary chain: “[P]lants produce leopards and leopards produce horses and horses produce men” (1970: 196, 196). That the horse is put on such a close level to men must justify its nature as a superior animal.

106 Also refer to http://ctext.org/liezi for the passage Bo Le Xiang Ma.
The horse coming to be viewed as a rather noble and superlative creature cannot be better illustrated by passages in the agricultural work *Qimin Yaoshu* 齊民要術 by Jia Sixie 賈思勰, a work completed later in the Northern Wei (386-534 CE) but which contained many quotes from the pre-Qin period on (Jia n.d.).

Francesca Bray (2018) describes the sections which deals with horses:

As well as raising animals for milk, wool and meat, an estate like Jia’s also relied heavily on draught animals–mules and donkeys, as well as oxen. Horses too figure prominently in the *Qimin yaoshu*: it was written at a time when the elite liked to ride horses for pleasure or everyday travel, as well as needing them for military purposes. Most of the long chapter that is supposedly devoted to ‘cattle, horses, donkeys and mules’ consists of advice for evaluating a horse–by its teeth, its proportions, its markings or the colour of the inside of its mouth. . . . Delicate and unreliable, in times of peace horses were likely as much an indulgence for the northern elite of the period as they were for devotees of fox-hunting in Victorian England. . . . Where horses are concerned, Jia Sixie offers his readers a cornucopia of special terms to roll around the tongue, and body parts to visualize–traits that an expert needed to identify, scrutinize and evaluate before purchasing or selling an animal.

The cornucopia that Jia offers is metaphorically described in verse when he writes in *juan* 6 the following description in which he equates the political ambitions of the king and his officials with different parts of the horse (Jia: n.d.):

The horse’s head is the King, wanting to expand more;

Its eyes are the Prime Minister, wanted to gain fame,

Its spine is the General, wanting to gain strength,

Its belly is the City Wall, wanting to gain length,

Its four legs are the Magistrate, wanting to be chief. 107

107 Translation by the writer.
During the imperial age of the Later Han, the auspicious nature of certain creatures associated with the opportunities given to Confucian scholars appeared in the record. These included the crimson bear, the hybrid fish and the horse. The jade horse appears only when “the ruler is pure and enlightened and honors worthy scholars”; others, such as the white horse, appear only when “the ruler hires good and worthy men for office” (Powers 1991: 258), as exemplified in the Wu Family shrine in Shandong province.

**Fine Art, Ritual Art and Funerary Art**

Prior to examining examples of horse art during the early dynastic periods, one aspect that must be addressed is the contrast between *fine art* and *ritual art*. Much of the pieces looked at here might be considered to fall within the latter category. The difference between them is relevant since many of these works were not intended for the living to enjoy and appreciate. The writer first addresses the question of ritual art and how it relates to the aims of this dissertation.

For us to merely state that these objects are “works of art” does not necessarily make them so. Doing so falls under the rubric of the “*institutional theory*” of art, according to Barnet (2015: 2), wherein an object is removed from its historical and cultural environment, which “. . . removes the object from its original context and makes it a work of ‘art’ rather than a ritual object.” While it is difficult today to pin down the beliefs in function and character held by the creators of early so-called “primitive art”, ritual objects and funerary offerings, we are aware that there are cultures which hold to the view that many objects
should not be designated as “art” and should not be exhibited. Many of the objects examined here, in the context of this dissertation, must fall within the sphere of ritual objects, as funerary offerings that were to be appreciated by the dead, not the living.

Barnet’s comment about removing an object from its original cultural context leads to the question about the differences between ritual (i.e., religious) objects and fine art, not just of context of purpose but also of location. An object created within any culture the purpose of which is to be one of religious connotation, (such as a rendition of the Buddha, for example) is considered sacred and imbued with a holy power if it resides within the locality of its proper environment, such as a temple. Removed from the original context and exhibited in a museum or a private collection, the object and its spiritual role, while being acknowledged for its representation of such a role, nonetheless is greatly lessened in its spiritual significance and meaning by its new location. The sacred space where it originally inhabited is devalued and comes to possess less inherent sacredness. It can, nonetheless, through the outsider’s intellectual curiosity and investigation, retain the symbolic nature of its inherent sacredness.  

Many early Chinese objects were created with religious, ritualistic and ceremonial purposes in mind. This is especially true for the vast number of funerary objects that make up museum collections around the world. We may

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108 It is relevant to point out that placing a sacred or religious object on exhibition does not necessarily cancel its religious or spiritual potency. The writer witnessed in some museums in Asia that small tables were sometimes placed in front of sculptures of the Buddha in any of his sacred manifestations for visitors’ offerings. What we are discussing here are images and objects that by their spiritual content were not supposed by be displayed in public, or to people not of the same religion tradition.
infer that many of the artisans who created these objects were talented experts and were often original and expressive in the creation of their works (as we shall see in the treatment of the “Flying Horse of Gansu” in this chapter). But we must also posit that in the cultural and social environments in which they lived, they may not have been recognized as “artists” *per se*, but as craftsmen and artisans who manufactured prescribed accouterments for religious and ritual contexts.

There is evidence that in early China those who practiced the fine arts of painting and calligraphy were differentiated from those craftsmen and artisans who created everything else that could be deemed decorative or utilitarian, since many (but not all) funerary goods were functional, utilitarian objects that were much in demand by the local people, be they of royal, aristocratic, or common rank. Ritual objects by their very nature are not appreciated for “beauty” or “truth” but are desired and utilized for their efficaciousness in matters of transcendent purposes that exist in spiritual, political and ceremonial rites and formalities.

This is well-examined in the great aversion that—until recently—Chinese people had to collecting funerary objects, or *mingqi* (冥器 or 明器), translated by Lai (2015: 51) as “spirit artifacts.” Fontein and Wu (1973: 14) expound on this aversion: ‘From folklore stories it is evident that the Chinese were perfectly aware of [the existence of spirit objects], but such *ming-ch’i* were still too much associated with the inauspicious event of death to be considered worthy of a scholar’s attention.”

Capon (1977: 32) points out that
much of the material that accompanied the dead to the grave was made for that purpose alone, and it would seem that the general attitude of the early historical scholars of China was that this material particularly was, therefore, sacrosanct—perhaps even more so that the earlier ritual bronzes, which were made primarily in the service of ritual rather than for burial purposes.

Regarding funerary objects, many of which were vessels imbued with a ritual or spiritual potency, Lai discusses their inherent characteristics in the context of early Chinese religion (2015: 51, 52), in which they possessed different functions and held different forms than similar objects produced for the living. He elaborates on the early conceptual use of grave goods and the development of the meaning of the term “spirit artifact” itself, which began to include new categories of grave goods. The “. . . selfconscious systematic use of spirit artifacts in funerary rites was characteristic of Warring States religious phenomena” (2015: 51), and he notes also that the concept of the spirit artifact was not based on its artistic medium or form, but on its ritual function and form, a form which “. . . resembles real objects but cannot be used,” according to the Eastern Zhou period philosopher Xunzi, not just because of their medium or form, but because they were unfinished, secondary or inferior to the real thing.

Regarding this, however, one might find a paradox: that of the reality that many objects found in tombs are of the highest quality in terms of their artistic features, often forming “. . . a sharp contrast to the spirit artifacts in terms of artistic quality” (Lai 2015: 52). This is certainly due to the custom of burying objects which may have different associations to the deceased, in that many spirit artifacts were specifically manufactured for the tomb, while others were personal possessions of the deceased, placed in the tomb for the continued enjoyment and
appreciation by the dead in the afterlife. Now that we have addressed the meaning and function of ritual art, we can proceed with our discussion on the art of the period.

**Time, Space and the Equine Landscape**

Given that the adoption and utilization of the horse in early China was seen as a technological innovation that helped the Chinese of the period to overcome the challenges of space and time, the artistic rendering of the surrounding natural world fit comfortably with the expression of the vehicle by which humans could better access and deal with it. Landscape painting, which began to appear around the time that the use of the horse became ubiquitous, not only expressed early Chinese views of the world, but also came to be the backdrop for renditions of that creature which helped to conceptually expand the geographic landscape in the minds of the early Chinese.

In Chapter 2, the writer examined the visual expression of spatial concepts through the medium of cartography. While we should not consider maps to be an artistic or aesthetic method of expressing space, another approach through which

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109 Nevertheless, early Chinese writers and philosophers such as Zhuang Zhou, Han Fei, Liu An, Ma Yuan, Wang Chong, Zhang Heng, Wang Yanshou and others did comment upon aspects of the arts (refer to Yu 1977). Zhuang Zhou, author of the Warring States period work *Zhuangzi* 莊子, was somewhat humorous in this approach to art: “Lord Yuan of Sung wanted to have some pictures painted. The crown of court clerks all gathered in his presence, receiving their drawing panels, and took their places in line, licking their brushes, mixing their inks, so many of them that there were more outside the room than inside it. There was one clerk who arrive late, sauntering in without the slightest haste. When he received his drawing panel, he did not look for a place in line, but went straight to his own quarters. The ruler sent someone to see what he was doing, and it was found that he had taken off his robes, stretched out his legs, and was sitting there naked. ‘Very good,’ said the ruler. ‘This is a true artist!’” (Watson 1970: 228).
the early Chinese visually expressed space and time is the artistic rendering of the world around them, in several mediums, including ceramic tiles and bricks, landscape and natural scenery renditions, and bronze casting.

In Chinese painting, two major schools stand out, portraiture and landscape painting, both with long histories. In certain instances, landscape painting and cartography had certain things in common, such as the depiction of geographical features like mountains and rivers, as well as the attempt to portray particular geographic locations. Here the history of the visual expression of landscape is pertinent to the subject of the dissertation, as is the visual, cartographic expression of geography in early maps.

Sherman Lee writes (1977: 9) that the earliest landscape representations date back the Late Zhou period and occur on cast metal objects, but he asserts that the motifs of trees and other natural objects on a bronze ewer “reveal a lack of interest in landscape as such, other than a magical setting for figures performing magical rites.” By the Han dynasty, an additional mode of depicting landscapes appeared on stamped pottery tomb tiles, often utilizing a mountain pattern as a base line and which sometimes used a continuous wave of mountains one above the other. He writes (1977: 11) that the landscape base line, is

... of native inspiration... [and] consists of linear and rhythmically undulating mountain symbols of a cloud-like nature. This form can be found as early as Late Chou [Zhou], being used for clouds, mountains, or even as linear decoration out of which landscape elements sprout, a fine

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110 Lee states (1977: 9) that this motif of a continuous wave mountain range is “a foreign import which can be traced to the Near East.” Sullivan agrees (2018: 124) to an extent when he writes about a landscape scene in Cave 257 at Dunhuang that depicts the story of the Buddha’s reincarnation as a golden gazelle: “The sense of open space is Chinese, as is the emphasis on linear movement; but the decorative flatness of the figures, the dappled deer and flower-sprinkled ground, have a Near Eastern origin.”
example of a decorative form preceding and giving origin to a natural one. Other stamped tiles from West China show a surprising real and spacious setting for a hunting scene based on observation and possibly evolving from such earlier representations as the bronze basin.

Lee also asserts (1977: 11) that the characteristic linear and rhythmical setting of landscapes in China, while seriously lacking in paintings, is found on many stamped or molded and glazed pottery vessels from the later Han. However, landscape elements such as trees are often utilized merely as props to indicate an outdoor setting. Pao-chen Chen (1995: 239) comments on three tomb paintings and stone engravings dating to the Han period that illustrate narratives: “. . . the representations of characters, plots, and settings are simple; figures are almost always shown acting against a blank background in a limited number of scenes; the temporal progression is unclear; and the definition of space is ambiguous” (Chen 1995: 239).

Landscape painting came somewhat later than portraiture and its beginnings seem to have appeared during the Han dynasty in palace architecture and in painted tombs of the period, which according to Sullivan (2018: 83), gave “. . . an impression of Han wall painting at a humbler level.” This can be also seen in the popularity of tomb reliefs, many of which have survived, where we can observe a solution to depth in the rendering of perspective in the use of several horizontal scenes stacked one above the nother. The first artists who began to utilize this method for showing depth would have realized in the visual perception of actual landscapes that a scene farther away is above one that is close. Cahill writes (1998: 177) that “The landscape scenes on a late Han relief tile from
Sichuan Province achieve remarkable (for that time) integrations of the pictorial materials in space, and some transcending Wu Hung writes (1997: 30) that the early Eastern Han saw innovation in the development of landscape painting. of schematic forms, but the achievement was not followed up, at least on extent objects.”

Another notable innovation during the first century A.D. was in landscape style. We can date this change to the early Eastern Han dynasty (25-220), which succeeded the Xin. A mural found in a tomb in Pinglu, Shanxi Province, for example, shows a panoramic landscape depicted from a bird’s-eye-view. Layers of rolling hills with gentle contours and lush vegetation overlap toward the horizon. The hills and the adjacent fields provide an environment for such human activities as farming and raising livestock. In both drawing style and iconography the painted hills differ radically from Han images of the mountains of the immortals, whose triadic or mushroom-shaped peaks deliberately violated observable mountain forms. Later, he adds to his earlier comments (2010: 41):

The earliest panoramic landscape representation in Chinese art. . . was found in a tiny first-century CE tomb at Pinglu, Shanxi, measuring only 4.65m long and 2.5m wide. The painting transformed the narrow interior space into a sweeping view: layers of rolling hills, with gentle contours and lush vegetation, overlap toward the horizon.

Wu Hung also points out (1997: 49) that the painting *The Nymph of the Luo River* (4th century CE) shows at least two advances in Chinese painting, “The first is the invention of a continuous pictorial narrative in which the characters reappear several times [to be discussed below]. The second is the development of landscape art—hills, trees, and streams are treated not as isolated entities. . . but as
components of a coherent physical environment.” Still, the mechanism of using reduced size for mountains and trees to indicate remoteness does not appear until much later (Wu Hung 1997: 55). To support this, Chen (1995: 239) writes that in the paintings of the post-Han period, especially in some of the Buddhist murals from the Mogao Grottoes in Dunhuang, “... the definitions of time and space become increasingly clearer and more specific than those found in the Han paintings.”

_Buddhist and Daoist Influences._ The assertion of some historians that landscape painting may have derived from Indian painting is supported somewhat by some of the iconographic scenes found in the Buddhist caves at Dunhuang. Karetzky writes (2000: 72) that the artistic sources for narrative painting can be found in Indian art: “Two Indian narrative formats of the extensive style were transmitted to China: the rectangular form with the most important event at center and secondary details drawn on the periphery and the horizontal format of continuous narration.” She comments that Han dynasty tombs with painted murals or sculpted tiles which depict images are at this time “... not told in multiple scenes nor in continuous action” (Karetzky 2000: 73), and that both the narrative technique and the scroll format were introduced into China with Buddhism and flourished beginning in the Six Dynasties period. These two formats are commonly seen in many of the earliest mural paintings in the Mogao Grottoes in Dunhuang. Duan Wenjie (2000: 11) does not dispute the influence from outside China on Dunhuang art when he mentions the “exotic” religious contents, where
the artists of Dunhuang “. . . boldly assimilated elements from foreign sources.”\textsuperscript{111} Chen points out (1995: 7) that narrative paintings from the Han to the Six Dynasties, “. . . represent complex plots in a spatial sequence of paintings. This is to treat the time sequence of plot on the canvas of space. To be effective, this conversion required artistic devices [such as] simultaneous, monoscenic, and continuous compositions.”

The earliest of the cave murals at Dunhuang date to the post-Han period. We can observe that landscape motifs such as mountains and hills were utilized to depict spatial distances as well as borders and margins within the paintings, especially in narrative mural paintings. Some of the earlier grottoes dating from the Northern Wei \textsuperscript{北魏} (Cave 257; 386-535 CE), Northern Liang \textsuperscript{北凉} (Cave 431; 398-439 CE), Northern Wei to Western Wei \textsuperscript{西魏} (Cave 249; 386-556 CE), and Northern Zhou \textsuperscript{北周} (Cave 428; 557-581 CE) illustrate \textit{jatakas} and other scenes from the Buddhist tradition with landscape motifs (\textit{Dunhuang Shiku} 1992). Lee writes (1977: 14) that mural painters in Dunhuang established “space control in a landscape as a setting for primary narrative purposes. These space cells were the means of enclosing figures; the recession of successive mountain or rock ranges was developed as a setting for more expansive story-telling”, and that the expression of “pure landscape art” was not in the interest of the Buddhist artists. Sullivan comments (2018: 124) that in the famous painting in the Northern Wei

\textsuperscript{111} Refer to Duan 1989 for examples of narrative compositions, mostly of \textit{jataka} stories: Plate 11, Cave 257 (Northern Wei); Plates 20, 22, 23, 37, Cave 249 (Western Wei); Plate 40, Cave 285 (Western Wei); Plate 42, Cave 296 (Northern Zhou); Plate 50, Cave 419 (Sui). The last is a good example of “continuous composition.”
Cave 257, that of the story of the Buddha incarnate as a golden gazelle, “. . . the simple humped hills slant back diagonally in rows like the seated figures in the Han banqueting scenes” and provides dividing lines between details of the storyline. On the lower edges of the ceiling in Cave 249 (dating from the Northern Wei to Western Wei periods), a frieze of hunters is shown pursuing game through a range of mountains, “. . . after the fashion of Han decorative art” (Sullivan 2018: 124). The natural features, the amount of which is miniscule compared to the renditions of the Buddha, his followers and humanoid spirits and deities, may have been echoes of the Daoist interest in the meaning of the universe, “especially in the manifestations of nature as a mysterious or magical power, as expressed in poetry, philosophy and literature on art of the period” (Lee 1977: 15).

Chen (1995: 244-247) writes that during the Late Han, a device appears which he terms “continuous composition”, in which temporal progression becomes clearer. Two murals, one from a Luoyang tomb and one from Holingol, Inner Mongolia, are examples of a:

. . . continuous composition [that] depicts a narrative cycle in consecutive scenes, which are woven into one organic entity with a clear sense of continuity in time and space. Temporal progression is indicated by the recurrence of certain figures, sometimes in different settings, sometimes against the same background. Through such a compositional device, the continuous pictorial flow of a narrative can be represented more particularly (1995: 244).

Chen asserts that the mural in the Holingol tomb is unusual because of its large composition and complex figure groupings, and he writes (1995: 247) that “Such a lengthy pictorial record of a deceased official’s life betrays its adoption of Buddhist narrative devices used in illustrations of jatakas and the life of the
Looking at the Dunhuang murals, it can be seen that Chinese painters assimilated Indian and Central Asian influences “both selectively and eclectically” (Chen 1995: 263), while an additional influence was the rise of Neo-Daoist philosophy and art and its interest in nature in the post-Han period. Chen summarizes (1995: 265) the reasons for this revolution in narrative art:

[W]hatever contributes to a compelling narrative, with an articulate representation of spatial continuity and temporal progression, will be selected and developed. Such a painting was apparently more easily read by common pilgrims, most of them illiterate, than was a simultaneous composition which lacks a traceable plot, or a monoscopic composition in which the narrative was cut up in pieces. This is one reason for the adoption of a continuous composition for Buddhist narratives, at least whenever the wall space permitted.

Another development in media which possibly evolved out of the continuous composition from the Late Han is the handscroll, by which the painter is able to express to the viewer the passage of both time and space as scenes in the scroll were slowly unrolled. This development can certainly be associated with Chen’s concept of “continuous composition.” Delbanco (2008) points to the handscroll’s function in depicting time and space: “The format of a handscroll allows for the depiction of a continuous narrative or journey: the viewing of a handscroll is a progression through time and space—both the narrative time and space of the image, but also the literal time and distance it takes to experience the entire painting. . . . in both painting and book, there is a beginning and an end.”

Sullivan (2018: 107) believes the handscroll possibly came to China from India via the Silk Road and the introduction of Buddhism, since the device does not appear in Han art. He describes the subject of the scroll *The Nymph of the Luo*
River by Cao Zhi, “. . . which preserve[s] the archaic style of his time, particularly in the primitive treatment of the landscape, which provides the setting for the scene where the fairy bids farewell to the young scholar who had fallen in love with her and sails away in her magic boat.”

Murray supports the contention of a Buddhist origin when she writes (1995: 17; italics added) that “the development of the handscroll as a format for painting was stimulated by the arrival of Buddhism and a new need to illustrate unfamiliar stories in detail.” In her treatment of early visual narrative in China, she adopts the term ‘narrative illustration’, which she defines as “the pictorial representation of or reference to one or more ‘events’ that occur in a sequence of time and that bring about a change in the condition of at least one character” (Murray 1995: 17). She agrees with Sullivan that the handscroll was rarely used prior to the Late Han, pre-Buddhist times in China, and her research debunks a prevalent assumption that the appearance of the handscroll influenced the narrative compositions in Buddhist art, rather than the opposite.

Regarding other advances in the arts in early China, Watson (1979: 88, 89) points out the emergence of perspective in painting and relief sculpture, in which . . . retreating lines converge and the size of objects is diminished in depth. . . . A comparison of the late Zhou representations of buildings with those of second century Han art will show how much this branch of the artist’s skull had advanced. The houses depicted at Yi-nan [Shandong] are shown from an oblique high viewpoint, which enables roof and plan to be properly related to the elevation. Both the side elevation and the plan expand slightly as they retreat farther from the viewer. This bias of perspective is regular enough in Han representations of buildings to be seen as established practice.
Conclusions. It can be thus surmised that during the period studied, certain developmental adjustments appeared in the artistic and aesthetic expressions of motifs that related to topics which contemporary artists and craftsmen saw as related to conceptually temporal themes such as biographies, seasonal changes, historical chronologies, and personal narratives. Spatial themes such as landscapes, journeys, travelogs, maps, along with the use of perspective to render architectural structures, were also techniques utilized by artists of the day. The changes seen during this period were revolutionary in their artistic expression.

While this section addressed landscape painting in particular, it is essential to point out that the landscape, as depicted in mural painting and in ceramic art, was also utilized as the backdrop within which the horse, with or without attendants and riders, becoming increasingly common—if not essential—in Chinese art, as a recognizably important motif. It is helpful to point out again that the painted depiction of the horse appeared at about the same time as did landscape painting. This aspect of art is addressed more thoroughly below and in the discussions of particular works of art later in this chapter.

The Chronological Evolution of Horse Depictions in Early China

In this section, we will examine the art of the horse from its earliest appearance in China to the post-Han period. Depictions of the horse appear in the art of the nomadic northern peoples, and these examples will be cited when appropriate. This overview, however, will chiefly cover the artistic renditions of the horse in Chinese contexts. This will be divided into the following chronological periods:
Late Shang; Western Zhou; Eastern Zhou (Spring and Autumn and Warring States periods); Qin Dynasty; Western Han Dynasty; Eastern Han Dynasty; and Period of Division in the post-Han period. Visual examples will be provided to illustrate the history of this motif. Following this overview, the writer will delve into the phenomenon of the flying horse motif rendered in the later periods of this timeline.

Several approaches can be taken in the study of the domesticated horse in China. There is its initial adoption by the Shang; its military necessity as a chariot draught animal and, later, as cavalry mount; its social symbolism and practical applications for the royalty, the elite and the general population; the administrative support it provided for long-distance communication; its possible influence on early conceptions of time and space; the metaphysical and religious roles it took on in society; and as a subject for artistic expression. Here we deal mostly with the last two topics, but it is important to note that the other, aforementioned approaches are represented in the art and archaeology of the historical period examined as well, even if, for the most part, not addressed here in depth. The diversity of the art of the horse found in various geographical regions also illustrates differing aesthetic and symbolic sensibilities inside and outside of China proper, whether or not any of them had any influential impact on the art of the other regions. Comparing images rendered in different mediums
(e.g., bronze, painting, carved relief) also reveals certain approaches to the subject which overlap in concept and style.\textsuperscript{112}

There is another—perhaps more important—rationale for looking at the artistic depiction of the horse in early China. An examination of the evolution of the rendition from the Shang period to the Han and later provides a foundation for, and evidence supporting, the theory that the horse symbolized certain changes in Chinese concepts of space and time, topics that will be examined at some length in the concluding chapter. The chronological evolution in depictions of the horse also parallel both chronological changes in spatio-temporal views that began in the Warring States period when the horse began to be utilized as a mode of speedy transportation and during the expansion of empire when swift communication was becoming an essential component of imperial administration and control.

The Image of the Horse in the Late Shang Dynasty

The historical chronicle of the horse in China dates no farther back than the Late Shang dynasty (c. 1250-1045 BCE), when the horse-drawn chariot was adopted by the ruling house from equid-raising peoples to the west and utilized for hunting and war (Shaughnessy 1988). It was utilized as well as a sacrificial animal, a funeral offering found in many royal and aristocratic tombs in the Late

\textsuperscript{112} A few studies on the image of the horse in early China have been published, among them Cheng (2014), Cooke (2000), Harrist (1997), Linduff (2006), Sung (2009, 2022) and others, some of which include material covered in this section and others which focus on later renditions of the horse. The writer is indebted to much previous scholarship that has helped in preparing this section and hopes that this dissertation may contribute to understanding and appreciating the art of the horse in East Asia.
Shang. However, while horse accouterments tended to be comparatively common in these tomb pits, images of the horse were rather rare.

It was at this time that the written pictograph for the horse (Figures 3.3 and 3.4) first appeared in the oracle-bone script (Shaughnessy 1988; 1989). The first renditions of the horse in China also date from this period, and the few depictions show them to have their hooves firmly planted on the ground, not unlike depictions of other creatures endemic to the region. A pair of bronze horses that are ascribed a Shang date in the Cleveland Museum of Art (Figure 4.1) have their backs embellished with intaglio huiwen 回紋 rectangular spirals. One of the earliest archaeologically confirmed bronze horse sculptures of Shang date (Figure 4.2) was unearthed at Yan’an, Ganquan xian, Shaanxi Province (Cheng 2014: 2, Figure 1), and closely resembles the Przewalski horse of the steppe. A pair of jade horses (Figure 4.3), also resembling the Przewalski horse, was recovered from the tomb of the Shang consort Fu Hao, dated to Late Shang (Linduff 1991:139, Figure 11.1). In addition, a bronze gui with an equid depicted on the bottom was excavated in 1985 from Tomb I in the Jingjiejun cemetery, Lingshi, Shanxi Province, dating from the Late Shang (Figure 4.4). It is thought to depict an actual animal rather than a clan insignia or pictograph (Yang 2000: 112; 114, Figure 245).

The Image of the Horse in the Western Zhou Period

This plain and unpretentious expression continues through the Western Zhou and well into the Eastern Zhou periods, when chariotomy was an essential element in
warfare. Even though these early representations of the horse in China still did not do its speed and power justice, the mythology and mysticism of the Zhou period influenced later perceptions of the symbolic regard given the horse. David Alexander’s comment (2010:220) on the view of horses in the Greek world also applies to the burgeoning Chinese view, in that “. . . something about horses raises the human spirit and encourages the contemplation of beauty and Divinity.” While of a relatively later date, one of the early myths was that of King Mu of the Western Zhou, whose love of horses led to his imaginary travels to the western regions of China in a chariot pulled by eight horses blessed with the ability to fly, each with a given name and description.\textsuperscript{113} Linduff writes (2006: 308):

By the reign of the fifth monarch King Mu (947-928 BC), horses had become the stuff of legends. King Mu’s fame was tied to his travels. In the \textit{Zuo Zhuan} . . . he is described by his desire to leave his chariot tracks everywhere. . . . In the same account, King Mu was said to have chariot pulled by eight semi-divine stallions. And as the hero of a later fictional account he even travelled in his chariot to a sacred mountain to visit the Queen Mother of the West and seek immortality.

A rare, inscribed bronze foal from Li \textit{cun}, Mei \textit{xian} in Shaanxi from the time of King Mu’s reign (Figure I.6) provides another rare depiction of the horse during the Western Zhou (Guo 1957: 1-2, Plate I.1;\textsuperscript{114} Akiyama \textit{et al} 1968: 46, Figure 65; Hsu and Linduff 1988: 138-139; Frontispiece). The Western Zhou

\textsuperscript{113} Establishing an imperial prerogative which persisted for well over a thousand years (Hsu and Linduff 1988: 138-139). Regarding the naming of King Mu’s steeds and the tradition he is considered to have established, see Sung 2009: 172-173.

\textsuperscript{114} The horse \textit{zun} from Mei \textit{xian} shown in at least two publications (Hsu and Linduff; Silvana Editoriale 1983: 130) differ from that shown in Guo’s report. The inscribed vessel cover, upon which sits a small, three-dimensional \textit{kui}-dragon handle, is depicted, whereas in the other two illustrations it is missing. Guo states that in fact there should have been a pair of bronze foals, and while two inscribed covers exist (Plate I.1.a and I.2), only one horse \textit{zun} vessel had been recovered (1957:1).
artistic expression of the bronze foal from King Mu’s time exudes anything but speed and power; neither do the four horses on the corners of another rare object from the Western Zhou, a horse-motif gui food container (Figure 4.5) from a site at Jinquancun, Lianhechong, Taojiang county in Hunan province. It utilizes four standing horses as corner decoration and four reclining horses on the bowl (Chen, Xu and Fu 2011: 70, Figure 35; Chen Jianming 2011: 27, Figure 15). The depiction of horses in southern China dating to this early period was almost non-existent, since “. . . the role of horses was somewhat limited in the hilly regions of southern China, which has undulating mountains and a cross-crossing of waterways” (Chen, Xu and Fu 2011: 70).

A jade horse excavated from Tomb 63 in the cemetery of the Marquise of Jin near Houma, Shanxi, in 1993 shows a carved intaglio cloud pattern, a strong neck with a lowered head, and four hooves placed on the ground. Its size is 5x7.7cm. The catalog caption states that it is “. . . delicately incised, and its proportion precise and anatomically correct, revealing fully the passive standstill of the horse” (Shanxi Sheng 2002: 185), which agrees with the writer’s assessment of the lack of liveliness in depictions of horses of the time. Inscriptions and artifacts point to a date to the reign of King Xuan of the Western Zhou (reigned 827-782 BCE) for the tomb (Shanxi Sheng 2002: 26).

The Image of the Horse in the Eastern Zhou

Beginning in the Eastern Zhou, the influence of a new aesthetic movement toward more realism and verisimilitude in the renditions of the horse began to appear in
the art of the period. This, of course, depended upon context, geography and
period, but the number of renditions increased substantially.

During the Warring States period, the Legalist philosopher Han Fei
provided an insight to the aesthetic challenges of the period, which hints at the
attempts in that period to render images of the horse:

A guest was asked by the king of Qi to paint a picture. The king asked,
“What is the hardest to paint?” He answered, “Dogs and horses are the
most difficult.” “What is the easiest?” asked the king. The guest replied,
“Ghosts and demons are the easiest. Dogs and horses are things people
know, and always there in front [of us], and we can’t change them.
Therefore, they are difficult [to paint]. Ghosts and demons have no forms
and are not [always] in front of us, so they are easy.” 115

Han Fei’s anecdote focuses on the perennial problem that artists face in
the creative process: that verisimilitude is dependent on familiarity, while the
imagination is not bound to reality. The depiction of fantastic creatures both East
and West, while each type is guided by accepted cultural formulas for general
forms, carries with it wide-spread acceptance of non-realism in art, such as in the
depiction of dragons, ghosts, demons, sacred horses, and, on early Bronze Age
Chinese bronze vessels, taotie 獬豸 and kuilong 畛龍 ornamentation. The
verisimilitude of the image of the horse clearly reflects this idea, as its rendition
during this period is increasingly realistic.

The stolid rendition style of the horse as seen in the Western Zhou was
destined to change after King Wuling of the northern Eastern Zhou state of Zhao
decreed the adoption of horse-mounted cavalry modeled on that of the northern
Hu nomads, an effective horse-mounted martial force that the nomads may have

115 Translation by the writer.
already been using for centuries. This change did not come quickly, as a cast bronze horse from a Warring States tomb reveals (Figure I.6). I-Tien Hsing writes (2017: 66), that “… Central Plain metallurgy developed its own distinctive style and traditions, as represented by a corpus of bronze horse figurines,” the earliest examples excavated from a mid to late Warring States period Chu tomb No. 2, Jiuliandun, Zaoyang, Hubei province (Hsing 2017: 66, Figure 61). Two very similar bronze horses ascribed a late Warring States date are in the Nelson-Atkins Museum of Art (Figure 4.6) (nelson-atkins.org) and may have come from the same casting workshop. Laurence Sickman (1968: 12; Plate 9) describes the two horses as finished with careful attention:

Though the two horses . . . differ from one another they are the same stocky breed, with long bodies and short legs. The one on the right [in Plate 9] is more stylized in the squared-off muzzle, parallel lines running from jaw to mouth, suggestions of leg muscles, and curving line extending from behind the jaw to the foreleg. It is, none the less, in proportions and stance the more realistic of the two. The treatment of the flat, semi-circular cheek is a manner that remains almost fixed in Chinese sculpture for a very long time.  

Two bronze horse sculptures (Figure 4.7) were unearthed in 1998 from Tomb No. 2 from the mausoleum of the king of Zhao in Handan, Hebei province and date to the Warring States period. While the breed of horses portrayed resemble more the Prejevalski horses of the steppe, the postures of the two renditions are much livelier than any earlier renditions. One is standing with its head lowered, and the other is shown in a trotting position. Their sizes are L 23-26cm and H 15-18.7cm (Hunan sheng 2017: 78-79, Figure 9).

116 The object numbers are 32-185/7 A and B. The size of B is 20x23.5cm.
117 In size, the left one is 21x27cm; the right one is 20x24cm.
A Late Warring States (4th to 3rd centuries BCE) bronze horse (Figure 4.8) in the Musee Guimet in Paris, is from Luoyang, Henan. The body of the horse is stocky, with four hoofs squarely on the ground reflecting the trend of the period and in its demeanor similar to other pre-Han horse sculptures. Its back has an upward arch, while the outline of the sculpture emphasizes the soft curvatures of the horse’s body. The head is small and out of proportion to the body, and serpent-like in its form. The mane is cropped short, and the ears are not pronounced. The body has curved, intaglio lines to emphasize its musculature; just above the front legs and in the center of the body are lozenge-shaped forms. In general, its appearance is more reflective of renditions of the horse in southern China, even though the sculpture’s provenance is stated to be Luoyang in north China.

Of three other bronze objects that portray horses and date from the Eastern Zhou period, one is a bronze harness ring with four horses found in the Ordos region (Figure I.2). This object (8.5x 8cm) is similar to others that are associated with nomad steppe cultures (Hunan Sheng 2017: 74, Figure 4). The other two objects are bronze helmets surmounted with small horses ascribed to date from the 7th century BCE from northeast China (Figure 4.9). Bunker (2002: 80) cites the presence of a number of such helmets now held in various private and museum collections. (Refer to Bunker 2002: 80-81, Figure 46; 82-83, Figure 47). Another example of cast images of the horse is seen in a bronze mirror (Figure 4.10) inlaid with gold and silver found in Jincun, Luoyang, which shows a hunting scene in which a mounted rider brandishing a sword is facing a leopard.
The depiction is less stylized than some other renditions and the postures of both horse and rider are realistically done. Lastly, an inlaid belt hook (daigou 帶鉤) in a private collection depicts linearly a dragon, a hunting scene with a deer and two hunters, and a carriage and driver with two people and horse (Figure 4.11).

Other equid renditions from the same period can be seen in pottery figures, sometimes of a horse alone, sometimes with riders. The adoption of cavalry by the Warring States rulers in the late 4th century BCE also saw the increasing appearance of ceramic renditions. The realism portrayed in these renditions is somewhat lacking and often detail is overlooked by the potter. One example (Figure 4.12) is a horse and rider excavated in 2003 from Liang cun, Majiawan, Xi’an in Shaanxi province (Hunan Sheng 2017: 76-77, Figure 6). Neither horse nor rider are sculpted in correct proportions. A bit more sophisticated are two horses and riders (Figure 4.13) excavated from Tomb 2, Steel Factory, Xianyang in 1995 (Cooke 2000: 119, Figure 96; Li and Sung 2017: 54, Figure 71). They are thought to be the “oldest known depiction of cavalrymen ever found in China” (Li and Sung 2017: 55). They continue:

. . . this mounted warrior displays many distinct features associated with neighboring nomads: a round face with prominent nose, a tunic that folds toward the left (the garments of all Chinese terracotta warriors near the First Emperor’s tomb fold toward the right), a close-fitting cap with a wide brim, and riding trousers and boots.

To conclude this section, the cast bronze horses described here reveal a continuing style and tradition that are much older. The posture and expression of the horse renditions from the Eastern Zhou lack crucial elements of equid
characterization, those of power and speed, features that will begin to appear in the subsequent Qin dynasty, mature in the Western Han, and culminate in the Eastern Han.

The Image of the Horses in the Qin Dynasty

Additional evidence for the conservative nature of the evolution in formal style is provided by the well-known cast bronze draught horses accompanying a chariot and a carriage, and the terracotta horses from the tomb complex of the First Emperor of Qin in Lintong, Shaanxi Province, which date from the mid to late third century BCE (Sun 2014: 83, Figure 6; 9093, Figures 13a, 13b). It is useful to understand that the indigenous horses of north China of the pre-Han period were distinct from those introduced later from Central Asia. According to Lunduff (2003: 157),

By the time of the late first millennium BC, the Qin state used horses introduced from Gansu as draught horses to draw chariots and ones from Mongolia for riding. These distinctions can be observed from the terracotta models in Qinshi Huangdi’s mausoleum dating from 210 BC. In the Pit no. 1, most are draught horses displaying pony-size bodies, short ears, thick limbs, and big hooves, all important for drawing loads. Horses found in Pit no. 2, on the other hand, have sleek bodies, long ears and long, thin legs and must be models of elegant breeds for riding. 118

It should be said that the “conservative nature of the evolution in formal style” refers not to the realism of the renditions, but to the postures of both the

118 Stanley Olsen examines the question in some detail (1984; 1988). He even suggests that the clay equine figures may not even be horses after all. He writes (1984: 63) “The shape of the head, the elongated ears and the tails resemble much more those of the onager (Equus hemionus) than those of a true horse,” and may represent an equid cross, and “not Equus caballus caballus, a conclusion shared by some Chinese archaeologists” (77).
bronze and terracotta horses, which without exception stand squarely on all four hooves. That does not imply that there were no images from the period that depicted the movement or strength of a horse. A circular ceramic end-tile in the Xi’an Museum depicts a horse in relief (Cheng 2014: 124, Figure 01). Cheng comments that while the depiction of the auspicious deer is fairly common, that of the horse is relatively rare.

A painted lacquer container, on the other hand, depicts a horse with a posture not seen elsewhere or prior to the Qin period. From Shuihudi, Yunmen, Hubei, it depicts a red horse and a flying crane on a black background, encircled by a wide, red oval border. Inscriptions that accompanied the many lacquer objects from the tombs indicate that they were manufactured in Henan province, and “. . . attest to the survival of Chu characteristics, adjusted to satisfy Qin functional and aesthetic preferences” (Yang 2004: II, 232, Figure 77d). What distinguishes this rendition is the power that the image portrays, with one of the horse’s front legs and one of its rear legs extended and flexed, as if exerting itself to keep up with the flying crane above it.

A scene found in a rare wall painting from the site of the First Emperor’s Palace (designated as palace site no. 3) in Xianyang, Shaanxi, shows a carriage and two galloping horses within a lozenge form (Hunan sheng 2017: 109, Figure 12). From the same palace site, another mural scene depicts four running horses (Figure 4.14) in what may be the earliest depiction of the “flying gallop”, and in what may be the “oldest palace mural discovered in China” (Ma et al 1997: 85,
top right figure). This mural and others are considered to be some of the finest in China to appear prior to the Han dynasty (Lai et al., 2011: 53; 54, Figure 11).

The Image of the Horse in the Western Han dynasty

After the establishment of the Han dynasty in 206 BCE, the importance that the horse acquired cannot be understated, as its utilization to defend the empire from mounted nomads and for its speed in communication became essential for imperial survival. The horse was “the foundation of military might, the great resource of the state,” said the Han general Ma Yuan (Thorp 1988: 185). In addition, in its association with social and political status and with the journey of the deceased to the world beyond, the image of the horse, in three-dimensional works made of wood, bronze, and ceramics, and in two-dimensional tomb paintings, funerary spirit artifacts, became ubiquitous.

With the widespread adoption of cavalry by Zhao and other states of the Late Eastern Zhou as a supporting adjunct to the large infantry armies of the day, mounted forces eventually replaced war chariots, thereafter relegated to roles as mobile infantry command platforms and in ritual and celebratory events. Part of a campaign of reforms included the building of an imperial communications highway system, termed chidao 驛道 (i.e., ‘galloping roads’ or speedways. Bodde 1986: 61), which was expanded during the subsequent Western Han dynasty, and discussed in Chapter 1. The adoption of such a term that describes the necessity of quick communication reveals a trend of the time in which the written character for horse (ma 马) and associated characters with the horse
radical (such as *kuai* [‘fast’] and *chiqu* [‘run quickly’]) effectively expressed the perceived swiftness that the horse represented, as was discussed in Chapter 3.\(^{119}\)

The effectiveness of horse riding in war and in communication made it increasingly commonplace in society as a whole. By the middle of Western Han, serious incursions by the mounted Xiongnu nomads from the north led Emperor Wudi (r. 141-87 BCE) to seek an alliance with the Yuezhi, a people of the northwest who had been defeated by the Xiongnu and driven into Central Asia. An imperial diplomatic envoy to the Yuezhi, Zhang Qian, became aware of a superior breed of horses in Ferghana. This eventually led Wudi to dispatch two military expeditions to obtain breeding stock. With its eventual success in 101 BCE, several breeds of these superior horses, variously called *tianma* 天馬 (‘Heavenly Horses’), *hanxiema* 汗血馬 (‘Blood-Sweating Steeds’), and *xiyuma* 西域馬 (‘Horses from the Western Extremity’), were brought to China.\(^{120}\)

\(^{119}\) The need for quick communication during the Han dynasty is also represented in the signal towers built along the line of the Han wall in the Western Regions which were utilized to send signals indicating attacks. The towers were built about two and a half miles apart, a perfect distance for the observation of fire signals at night and smoke signals during the day. These signals were to be sent quickly, to be received and transmitted along the defense line, and even as far as the capital within a few days. However, as has already been pointed out in Chapter 1, Stein noted (1912: 153), that relay stations with mounted couriers were needed for speedy communication in case of such attacks. Stein also points to stacks of ‘fascines’ found near the Dunhuang signal towers “... meant to be used for signals by fire or smoke” (1933: 187). At the Han-era signal tower site at Yumenguan near Dunhuang, bundles of reed-grass left unused for signaling are displayed in their original locations near the tower (refer to Cheng 1987: 121, 122 for a photograph of such bundles). For a more detailed description of the fire and smoke signaling system, refer to Chapter 6 in Zang’s book on the postal system (n.d.).

\(^{120}\) The episode and its consequences are recorded in ‘Account of Dayuan,’ Chapter 123 in Sima Qian’s *Shiji*: “… the emperor had divined by the *Book of Changes* and been told that ‘divine horses are due to appear from the northwest’. When the Wusun came with their horses, which were of an excellent breed, he named them ‘heavenly horses’. Later, however, he obtained the blood-sweating horses from Dayuan, which were even better. Here therefore changed the name of
From about the middle of the Western Han (206 BCE-CE 9), ritual art, in the form of the manufactured spirit artifacts (mingqi 冥器), especially those made of pottery, became increasingly prevalent (Wang 1982:146). It was also about this time that the image of the horse began to evolve and change quickly, hinted at with the painted depictions of the horse during the preceding Qin dynasty. The same conservative rendition continued to appear in tomb objects, such as the pottery horses excavated in 1984 in Yangguishan, Xuzhou, Jiangsu (Sun 2017: 117, Figure 38); in a group of horses and riders excavated in 1995 from tomb no. 2, Shuangbaoshan, Mianyang, Sichuan (Sun 2017: 117-118, Figure 39); and in the painted earthenware horses (Figure 4.15) excavated from the east pit of the Yangling mausoleum of Emperor Jingdi (r. 157-141 BCE). Sun writes (2017: 174, 176; 177, Figure 95) that the “. . . realistic depiction and large quantity of these animals [including pigs, goats, hens, dogs and cattle] might confirm efforts in Western Han funerary practices to imitate earthly estates and mansions. As indicated by historical texts, tombs were meant to contain a generous supply of the same goods and utensils that served a living person” (2017: 174, 176; 177, Figure 95).

The large number of painted earthenware cavalry horse-and-riders that were excavated from the Western Han tombs at Yangjiawan, Xianyang, Shaanxi, is indicative of the importance that cavalry took on in the first half of the second

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the Wusun horses, called them ‘horses from the western extremity,’ and used the name ‘heavenly horses’ for the horses of Dayuan” (Sima Qian 1993: 240). (Note that ‘Dayuan’ has also been romanized as ‘Dawan’ and ‘Ta-yüan’ in various translations).
of the 1,965 figures from these tombs, 583 were painted horse-and-riders (Ma Yue et al 1997: 130; 128, Figure; 130, Figure).\textsuperscript{121}

Instead of the small, stocky horses native to China that were depicted in the Zhou period as standing stolidly on their four hooves, a different rendering began to appear in the Qin dynasty and quickly gained popularity in the Han. This was the ‘flying gallop’, depicting the horse and rider at full speed with all four hooves seemingly off the ground (Figure 4.16).\textsuperscript{122} While at the time restricted to painting and relief carving due to the nature of the depiction, the flying gallop was the beginning of an artistic trend that will have expanded greatly by the end of the Eastern Han (CE 25-220). The inclusion of horse images as tomb objects (which included the mounted horse as well as horse-drawn carriages) began to be commonplace in the Western Han but became ubiquitous by the Eastern Han. The image of the horse, where it is accompanied by other symbols with magical connotations such as fusang or wutong trees (Banks 1989: 238; 273ff), became an indispensable motif in tomb art, symbolizing the transport of the deceased into the next world.\textsuperscript{123} While the parallel is not exact, one might suggest that the horse

\textsuperscript{121} Tombs 4 and 5 are dated to the reigns of Emperors Wendi and Jingdi, and it is thought that the occupants were generals. Ten pits nearby provided the figures and Wang (1982: 208) speculates that the large number of pottery figures could be a model of the large military funerary formations given to important generals after they died.

\textsuperscript{122} Depictions of the horse also appeared outside the context of tombs. A delightful bronze mirror in the Fogg Art Museum (accession no. 1943.52.156), dated to the first century BCE, depicts a line of trotting horses with mounted riders. See also Smith and Weng 1979: 70.

\textsuperscript{123} According to Banks (1989:273), there are six kinds of trees which are associated with the horse in tomb art and funerary contexts. Of the six, the fusong, sometimes translated as ‘Leaning Mulberry’ (Birrell 1993: 38), in legend is located at the world’s eastern extremity where the sun rises. Banks (1989: 281-282) writes that it is “. . . associated with red, the east, the sun, the two or three legged crow, the Archer Yi, the mulberry and the horse.” The wutong tree is sometimes called the Chinese parasol tree or phoenix tree. Banks (1989: 280) writes that “The wutong or dryandra coredifolia is famous in Chinese lore as the only tree on which the phoenix will light.
took on the role of Charon’s ferry across the River Styx, and that the horse, as transport to the other world, was as recognized and accepted in its metaphorical context in China as was Charon’s ferry in the Greco-Roman world.  

Perhaps one of the most realistic and finely wrought sculptures of a horse from the Western Han is a gilt bronze horse excavated from tomb no. 1, pit no. 5, near Maoling, Xianyang, Shaanxi in 1981 (Figure 4.17). Its size is impressive (62x82cm, and weighing 25.5kg), and it is the largest gilt bronze animal sculpture yet found in China (Berger and Casler 1994: 34-35, Figure 16; Li 1998: 128-129, Figure 45; Cooke 2000: 136, Figure 119). Wu Hung considers that it may be a model of a much larger statue of the Dayuan horse that the Emperor Wudi had cast and placed at a palace gate, known as the Jinnamen 金馬門, or Golden Horse Gate (2022: 82). This smaller gold horse is thought to have belonged to Princess Yangxinchang, a sister of the Han emperor Wudi (Berger and Casler 1994: 35).

Berger and Casler continue:

Nearby one-third life-size, it is a splendid testament to the workmanship of Han dynasty artisans. Standing tall and erect on sturdy legs, with eyes open and looking forward, ears raised, and the mouth slightly open to reveal six teeth, the horse appears both alert and strong. The triangular shape of the head imitates the characteristics of the famous horses of the Western Region (Xiyu), known in Wudi’s time as tianma, heavenly horses.

This sculpture might well represent a “Heavenly Horse” that was so prized by Emperor Wudi. The sculpture reveals an attention to details, as it is portrayed

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The phoenix, which is reputed to appear only in times of peace and prosperity, also presides over the southern quadrant of the Heavens.”

Anthony (1994:190), citing a parallel in Indo-European mythology, points out that “... the horse was often described [in] Indo-European myth as a vehicle by which the soul approached the afterworld.”
in a very naturalistic manner. It has long, slender legs, the muscles are slightly modeled and the hairs in the mane and tail are stylized with fine lines.

Another example which represents the power of both the horse and that of the cavalry in which it was the integral unit is seen at the tomb of the Western Han cavalry general Huo Qubing 霍去病, who died in 177 BCE (Figure 4.18). One of the two equine figures, carved from stone, “. . . crouched over the body of a vanquished enemy, is intended to present the animal in the act of leaping forward. This task was evidently more difficult for the sculptor than the statue of a standing horse belonging to the same monument” (Watson 1979: 88).

The Image of the Horse in the Eastern Han dynasty

Evolving aesthetics continued in the depiction of the horse in the succeeding Eastern Han (209-220 CE). Realism, while tempered by stylistic trends, was gaining ground in rendering the horse, and an emphasis began to be placed upon the characteristic attributes of the horse: its power, swiftness and temperament. The dynamic poses of the bronze horse sculptures from the tomb of Governor Zhang Yechang at Leitai, Wuwei, Gansu province, can be seen as idealized versions embodying the influential status of the “celestial horses” that were brought from Central Asia during the reign of Emperor Wudi in the Western Han. Watson writes (1979: 85) that the sculpted men, animals and carriages from the tomb represent “. . . a more realistic style, with a freshness that suggests response to new demands made on the artist and on the function of his product.”

The writer has identified two major styles of depicting the horse in the
Eastern Han. Examples of each of these styles are too plentiful for the writer to examine in detail here, therefore a limited number will be utilized to illustrate each style.

The first style is that of a portrayal that renders the horse as more realistic and natural, often seen in tomb relief compositions that illustrate the “flying gallop” and in bronze and ceramic sculptures. The most well-known of this style is seen in the bronze horse sculptures from the late Eastern Han tomb in Leitai, Wuwei, Gansu, from which the famous “Flying Horse of Gansu” (Figure 4.28) was excavated. While there are stylistic connections between this style and the following one, the realism depicted in this style is more pronounced. These will be discussed in the next section, in which the writer discusses the appearance of the depictions of flying horses in the Han dynasty.

The second style can be seen as a type that idealizes a somewhat clumsy rendition of the body and legs, and a head with a wide-open, neighing mouth, most often seen in Eastern Han three-dimensional sculptures in pottery and wood but can also be seen in some tomb wall paintings and reliefs of the same period. It is of a conventionalized and stereotyped form that emphasizes the horse’s body with rounded outlines and its power through its dynamic stance. An example of the wooden form is seen in the carved 马 carriage horse from an Eastern Han tomb from Mozuizi, Wuwei, Gansu (Cheng 2014: 35, Figure 11) and a similarly styled but painted horse from a tomb mural found in Haotan 帷, Dingbian 县, Yulin, Shaanxi (Cheng 2014: 33, Figure 09).
This style can also be seen in two works illustrated in Juliano (2005: 424, Plate 50; 425, Figure 1), which depict the horses (the second excavated from the Tianhui Shan Cliff Tomb 1 in Chengdu, Sichuan) with smooth, rounded lines, an erect neck, a head with a neighing mouth, and long, slender legs, all indicating a possible stylistic connection with horse sculpture from the south of China.\textsuperscript{125} Juliano (2005: 425) points to the horse’s taut silhouette and volumetric solidity as being of a high artistic merit.

\textbf{The Motif of the Flying Horse in Early China.}\textsuperscript{126}

What Watson writes (1978) about the appearance of realism and verisimilitude in the Late Zhou period is supported by the evidence, and one can theorize that the depiction of horses that are rendered realistically appeared about the same time that cavalry forces, royal (followed by imperial) communication systems, nomad incursions, and general horse riding became established in China. While stylized renderings that were less life-like are seen often as funerary “spirit artifacts,” realistic reproductions also became more and more prevalent.

However, in the writer’s study of the history and art of early China, especially of found art and artifacts that have come to light over the last century and a half, a notable and unusual motif appeared. As the imperial age proceeded,

\textsuperscript{125} Juliano writes that the style of this horse, with its foreshortened head and flaring nostrils may be characteristic of depictions of horses from south China from Sichuan and Guizhou. She points to a bronze horse sculpture from Guangfu, Guifu (Juliano 2005: 427, Figure 2), that offers “… the strongest parallels, with its small head with tall pricked ears and flaring nostrils, long, arching neck with cropped mane, and sturdy body with knotted tail. They differ mainly—and significantly—in the legs: the legs of the bronze Guizhou horse are very long and extremely slender” (Juliano 2005: 426).

\textsuperscript{126} This subchapter is a longer version of Jones 2023.
one quite unrealistic image began to appear—the horse depicted with wings or in wingless flight. Theoretically, while this motif may have been influenced by nomadic (in particular, by the Xiongnu or Xianbei) or Hellenistic myths (discussed later), the motif was more in line with the role the horse played in spiritual and other-worldly affairs, since it had been viewed since the days of the Western Zhou as a mythical flying creature and, later, as the ideal mount upon which the deceased rode into the world after death, and not as the rendering of an otherwise practical technological mechanism which effectively transformed warfare, communication and transportation into more efficient and swifter systems. 127

There are precedents to the appearance of winged creatures in early Chinese art prior to that of the flying horse. Four bronze winged mythical animals combining features of tigers, reptiles and birds were excavated from the late fourth century BCE Tomb 1 of King Cuo at Sanji, Pingshan, Hebei Province (Yang, ed.: 1999: 357-358, Figure 121). Winged creatures such as dragons and felines may have appeared as early as the fifth century BCE, but the origins of the motif are disputed (Yang 1999: 358).

We have already taken a preliminary look at the earliest depictions of the horse in China. Here we look at the later appearance of the flying horse motif. The rationale for looking at this specific motif is that the motif may be strong

127 The ability to fly has been a fascination to humans for millennia. Under Wang Mang’s short interregnum reign, there even seemed to have been interest in the possibility of human flight. Bielenstein (1986: 239) writes: “In A.D. 19, Wang Mang summoned men of extraordinary skills suitable for warfare. One of them had constructed two wings and flew for several hundred double paces before falling. Presumably he began the flight from one of the towers in the imperial grounds which rose to a height of over a hundred meters.”
evidence of early imperial changes in concepts of space and time, topics discussed at length in Chapters 2 and 3. Since the motif appeared around the time the Silk Road (Map 10) was first established ca. 100 BCE, the origins of the motif will be examined to see if there is evidence of its introduction from outside of China. The appearance of the motif is examined in nomadic culture, in the Tarim Basin in Western China, and in examples of possible influences from Central and South Asia.

No more precise evidence for the imaginative human view that horses could possess the ability to fly than that seen in the ancient depictions of winged horses. We are familiar with the images of Pegasus, well-illustrated in Yalouris (1975). However, the winged horse appears much earlier than in 7th and 6th century Greece, when it becomes a common motif. A cylinder seal dating from the Middle Assyrian kingdom, c. 1250-1200 BCE, depicts a rearing winged horse confronting a lion (Olson and Culbertson 2010: 100, Figure 16; Yalouris 1975: Figure 4). A Hittite seal from the 13th to 8th centuries BCE also depicts a winged steed (Yalouris 1975: Figure 2). An ivory pin from Surkh Dum, Luristan, Iran, shows a reclining winged horse and is dated to from the 8th to 7th centuries BCE (Olsen and Culbertson 2010: 106; Figure 35).

Temples, settlement sites and tombs from the Central Plain of China to western Xinjiang and from ancient India to Central Asia have produced a diverse corpus of images of flying creatures, based both on fantasy and on reality, representing the mythological manifestations of these creatures’ potential existence within and beyond this world. These include horses, dragons,
phoenixes, griffins, *makalas* and other creatures, some recognizable and others not so familiar. We address mainly the first of these, and the writer will show that the horse, which represented speed and power in more than one of these ancient cultures, is also often represented in the Chinese context as a preferred mount upon which the deceased or mystically inclined could ride to realms beyond this earthly abode. Whether the winged or flying horse appearing in the non-Sinitic cultures could have also taken on the roles that it did in China can be difficult to assess for certain illiterate nomadic societies, but archaeological context can provide some basis for judgement. A few horse-like creatures are also examined, since they may hint to a stylistic or other relationship that may have spread from one cultural region to another.

While earlier chapters in this dissertation discussed the horse as relates to different disciplines such as history, archaeology and religion, here images are examined within the discipline of artistic expression, and the renditions—in media, style, and purpose—will be looked at chronologically from Western Han to Eastern Han and later.

*Mythology, Shamanism and the Horse.* We must look back to the Eastern Zhou period to seek the foundation of the mythology of later periods. The late Warring States period work *Shanhaijing* 山海經 (*Classic of Mountain and Seas*), a mytho-geographical description of the world within the bounds of China and without, describes peoples and creatures who inhabit these places, and included the first mention of a *tianma* 天馬 or ‘heavenly horse’ which flies away when humans
appea (Birrell 1999: 45; *Shanghaijing* 1981: 87). Eastern Zhou mystics or shamans sought to transport themselves to unearthly, mystical worlds, their chosen metaphysical mount being the horse-drawn chariot. ‘The Lord of the East’, Song Seven of the third century BCE mystical work *Jiu Ge* 〈The Nine Songs〉, expresses it thus: “I touch my horses and gently drive. / The night grows pale; now it is broad daylight. / . . . / I gather my reins and my chariot sweeps aloft” (Waley 1955a: 37).

The Western Han must be recognized as center stage for the transformation of the horse from an earthly, useful creature to one which also was of unbounded spiritual worth. This most likely began in the Eastern Zhou when, according to Linduff (2006: 313), “. . . their importance as mounted parade animals emerged [and] their symbolic uses increased to include funerary and mythological journeys.” The stage was already set when the Western Han emperor Wudi sought allies and new breeds of horses, as previously discussed. In addition to seeking to strengthen the Han military by creating a stronger cavalry force, he also sought a spiritual mount upon which he himself could ascend to immortality (Waley 1955a). A divination from the *Yijing* 易經 (Book of Changes) predicted that a ‘divine horse’ (shenma 神馬) would appear from the northwest. A report had been given to him that in 120 BCE, “such a horse had emerged from the waters of the Wo-wei River” (Loewe 1974: 199). At least two poems about these superior horses are ascribed to the emperor. The first, recorded in the *Han Shu* (juan 22, 1060), is translated by the writer:
From the god Taiyi
The Heavenly Horse descends,
Stained with red sweat,
Crimson froth flowing.
It is a sign of an unexpected beginning,
The essence of amazing power
That floats like the clouds.
From the darkness it arises, galloping,
Its form giving it the power
To leap ten thousand li!
But now it is a peaceful creature,
And the dragon is its friend.

As a result of the journey of Zhang Qian and his search for allies in the war against the Xiongnu nomads, the emperor, in anticipation of the arrival of a breeding stock of superior horses, is credited as the possible author of the celebratory hymn ‘Song of Tianma’ about their imminent arrival, praising them and imbuing them with spiritual potency (Waley 1955a: 96-97):

The Heavenly Horses are coming,
Coming from the Far West.
They crossed the Flowing Sands
For the barbarians are conquered.
The Heavenly Horses are coming
That issued from the waters of a pool.
Two of them have tiger backs:
They can transform themselves like spirits.
The Heavenly Horses are coming
Across the pastureless wilds
A thousand leagues at a stretch,
Following the eastern road. . .
The Heavenly Horses are coming;
Open the gates while there is time.
They will draw me up and carry me
To the Holy Mountains of K’un-lun.
The Heavenly Horses have come
And the Dragon will follow in their wake.
I shall reach the Gates of Heaven,
I shall see the Palace of God

Such a ‘heavenly horse’ is thought to be depicted in the Eastern Han man-
made tomb cave no. IX at Jiading, near Leshan in Sichuan (Figure 4.19; Edwards
1954).

The intersection of mythology and mysticism, along with the widespread
adoption of cavalry and the increasing popularization of horse riding starting at
the end of the Warring States period, led to an eventual popularization of the
horse motif in tomb art by the Eastern Han. The flying gallop (Figure 4.15)
became a common motif that illustrated everyday life or chronicled the history of
the deceased, while the flying horse motif appeared more frequently in tombs in North China, Gansu and elsewhere, as will be discussed below.

*Motifs of Flying.* The motif of a flying horse in the Chinese art of the period takes three forms: first, that of a winged horse; second, that of a wingless horse placed within an environment of aerial space; and third, the addition of an object or objects which imply flight. These representations are incised and painted on tomb walls, cast in bronze, or sculpted in jade or clay.

The first motif, that of a winged horse, was not common in China. A jade winged horse with a feathered immortal rider (Figure 4.20) was found near the Western Han Weiling Mausoleum, Xinzhuang village in Xianyang, Shaanxi (Ma *et al* 1997: 141). It is of interest that both horse and rider have wings, the latter very much like the bronze winged fairies of the Han period and before (Ma *et al* 1997: 140). According to Cooke (2000: 137), “The rider holds onto the mane with one hand in the other holds a magic fungus (*lingzhi* [靈芝]) to the horse’s neck. In Chinese mythology, horses are thought to be closely related to dragons.

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128 An almost identical winged fairy or immortal was excavated from a tomb in the eastern suburbs of Luoyang, Henan in 1987. While Ma *et al* date the object to Western Han, Sullivan dates the figure later to the Eastern Han (2018: 68, Figure 4.3, p. 69). Sullivan writes (2018: 68) that this “. . . suggests the continuation of a tradition in the rendering of supernatural beings that goes back to the Shang and will survive into the Six Dynasties.” Such a winged immortal is well-illustrated in the detail of a jade vessel dating to the Jin dynasty (CE 265-316) in Lee (1998: Plate 19). Another example is a gold band of a crown decorated with jewels that was excavated at Kargali Valley in the vicinity of Almaty, Kazakhstan in 1939. Its decoration includes the figure of a winged fairy very similar to the one illustrated and who is mounted upon a winged dragon. Two winged horses are included but are not pictured in the plate. The date range of the object is from the 2nd-1st century BCE to the 1st century CE, contemporary to the Han. The form and style suggest it was created in China and was a trade or tribute item (Chang n.d.: 138, Plate 90). One of the winged horses, as well as the dragon and immortal, can be seen in Watt 2004: 5, fig. 2.
Both horses and dragons were endowed with the power of flight and were capable of transporting their riders to the home of the immortals.” This small jade carving provides an example of the winged being or immortal, a motif which began prior to the Han dynasty but which appears often during the Western and Eastern Han. The form is a combination of bird and human and is often paired with mythical or real creatures or objects such as dragons, tigers, deer, or cloud chariots (He 2011: 173). In this instance, the feathered immortal is riding a winged heavenly horse. Both creatures symbolize longevity and immortality. Xilin He writes (2011: 174-175):

Life and death is an eternal subject in the history of human thought, and the desire to prolong life, even the desire for everlasting deathlessness, is a quest that is intrinsic to human nature, and the acceptance of ultimate limitation yet the simultaneous attempt to transcendence is the logical development of this quest.

The immortal is a special manifestation of this quest in Han thoughts and religious beliefs. As a flying immortal, the feathered being appears simultaneously in both realms of life and death. Besides taking care of the living, he is also consoling the deceased. He is not only the model of longevity but also the messenger who guides the deceased soul to ascend to the realm of immortality.

It is here that we can see the symbolic nature in the presence of the winged horse, which provides the mount for the feathered immortal, as they are both cut from the same substantial fabric of jade that permeated the Chinese view of longevity, deathlessness and immortality.

Another example in jade from the Han period is a reclining winged horse (Figure 4.21), now in the Palace Museum, Beijing (Lee 1998: Plate 17). According to Childs-Johnson (1998: 65), it illustrates “. . . a new naturalism, seen in images of both mythical and non-mythical animals of Han date. . . . Although
stereotyped through such conventions as arched neck and suspended tail to signify liveliness and movement, these animal shapes of hardstone jade begin to turn and twist in space.”

A chariot ornament excavated in 1965 at Dingxian, Hebei and dated to the second or first centuries BCE (Figure 4.22) depicts a winged horse poised in a flying gallop along with a winged dragon and other motifs (Chinese Exhibition 1975, Figure 203; Pirazzoli-t’Serstevens 1982: 93, Figure 57 top). Wu Hung comments (2022: 81) that this winged horse “. . . was another auspicious omen during the Han. Emperor Wu was said to have seen it twice, and each time he wrote a poem in praise of Heaven’s Mandate” (transcribed above).

A Western Han terracotta reclining winged horse was found outside of Xi’an in 1991 (Figure 4.23). With a height of 39cm and length of 55cm, it is the largest winged horse to be found in China to date (Cheng 2014: 124, Figure 02; Cooke 2000: 134, Figure 116).

Han period bricks were a popular material for such scenes. Sung writes (2022: 22) that

. . . shortly after Wudi composed his Song of Tianma there was a surge of horse imagery in Han tombs. Archaeological discoveries reveal that a new style of Han tomb bricks emerged and flourished during the short period from 122 to 111 BCE of Wudi’s reign. Prior to this period, Han tomb bricks were small solid building bricks decorated with geometric patterns molded in low relief. Beginning in Wudi’s reign, hollow bricks with stamped, incised, and painted designs of auspicious animals, predominantly horse motifs, increasingly emerged. Scholars have found at least fifteen different stamped horse designs among the numerous bricks depicting horses. More significantly, the depiction of horses can be categorized into two major types: the realistic horses and the exaggerated winged horses.

Sung continues (2022: 96):
Since this surge of hollow bricks decorated with horses overlapped with Wudi’s success in obtaining both the Wogui 滥沢 horses and the superior Ferghana horses, the two types of horse images apparently refer to the dichotomous designation of Wudi’s tianma, as specified in his Song of Tianma. To reinforce the tianma’s status, the winged horses on the bricks were often accompanied by the fusang 扶桑 (tree of life) and other auspicious or celestial animals, including cranes, the vermilion bird of the South, and the white tiger of the West.

An example of this is a winged horse incised and painted (Figure 4.24) on a Han brick (Sung 2022: 23, Figure 7) along with cranes and a fusang 扶桑 tree. A similar scene is seen stamped onto a hollow tomb brick of unknown provenance (Figure 4.25), dating from the Western Han, also with accompanying birds and fusang tree that are often depicted in tomb settings (Rawson 1996: 195, Figure 100a).

Victor Segalen, in his explorations of Juxian and Mianzhou in Sichuan province, located in Pingyang a stone pillar that he dated to the Han period. Among the number of mythical beasts carved upon the pillar, a winged horse is pictured, led by an attendant (Segalen 1978: 67-69, Figure I). He writes (1978: 67-68):

... a winged horse trots rapidly, led by a thin and peculiar personage with pointed hanging sleeves who holds his reins, going before him and turning around to him, urging him on, pulling him... The horse... trots (without cantering) on his four hooves alternately. The hindquarters are rounded, the well-nourished chest is thrown back, along with the head, as if he is indignantly refusing—he, a winged monster, with his six limbs—to be led on a leash by a mere two-legged man.

The image of this horse (while not clear since the illustration was sketched by hand) is reminiscent in form and posture to both the winged horses depicted on the gilt bronze ornaments attributed to the nomadic Xianbei and to the flying horse depicted in a mural from Jiuquan, discussed below.
The motif of the winged horse had its day in early Chinese art, but by the Tang dynasty it had become increasingly rare, though its association with the afterlife continued when it did appear. A late example of this is the depiction of a winged horse engraved on the stele at the tomb of the Tang Princess Yongtai, who died in 706 CE (Hayashi 1992: 63, 72, pl. 11).

While the following example does not depict a winged horse, it does illustrate the symbolic and spiritual nature of the horse in Han tomb art. A stamped funerary brick tile dated to 59 CE of the Eastern Han, now in the Guimet Museum in Paris (Figure 4.26), illustrates the role of the horse in this type of ritual art. What is illustrative about this funeral tile is that of the four major creatures illustrated, one is a horse, pictured above the central depiction of a two-turreted building. The others are dragons (left and right) and a tiger (below). There are two human-like creatures, one in each top corner, who appear as though they are feeding the dragons. Sitting atop the turrets are small cranes. On the right side is a vertical inscription and the entire tile is bordered with lines of repeated diamond-shaped lozenges and triangles. On the left bottom is a depiction of an archer with a drawn bow aimed at a deer. The horse image does not reveal a mythical form, as it does not have wings, but its inclusion on the tile is significant. It is saddled with four hoofs on the ground, but it most certainly represents the celestial steed upon which the deceased would travel to the world beyond.

The second motif places a wingless horse in background scenery or aerial setting to indicate flying. A sacred horse (shenma) motif dating to the Jin Dynasty
(CE 265-316) is found in a tomb in Jiuquan in the Gansu Corridor (Figure 4.27). This is discussed further below along with the Leitai horse sculpture from Wuwei, but it is useful to provide some mythological context to it. In Hou-mei Sung’s discussion of the depiction of horses in ancient China, she points out that as late as the Tang and Song dynasties, horses were attributed mythological attributes. Sung writes (2022: 29) that according to Guo Ruoxu of the Song dynasty, horses were painted on an ancient scroll by Shi Daoshuo of the Western Jin in the third century CE. She quotes him and comments (2009: 173) that the horses . . . had exotic shapes and appeared more like dragons. This was first pointed out by the art historian Zhang Yanyuan of the Tang dynasty, who wrote: “Shi Daoshuo’s horses all have necks of li [fantastic creatures with features of both dragon and tiger], the bodies of dragons, and a gallop like flying arrows and flashing lightning. This is not a realistic depiction of horses at all.” This unrealistic depiction is typical of the remote era when animals were still associated with ancient mythological beliefs and cosmology. The image of an ideal horse was associated with the divine horse, or shenma, ridden by the Celestial Ruler (Tiandi). A rare representation of the divine horse is found in a third-century tomb chamber in Jiuquan [discussed below]. The horse portrayed here as part of the scene illustrating the celestial realm, indeed perfectly matches Zhang and Guo’s descriptions of the Eight Steeds of Muwang: its long arched neck truly resembles that of a dragon and its gallop is easily associated with “flying arrows and flashing lightning.”

The Flying Horse of Gansu  The third motif, that which adds an object or objects other than wings to imply flight, is manifested in one particular work of art of the time, the so-called Flying Horse of Gansu, today perhaps the most famous of all horse sculptures from China.129 This bronze horse (Figure 4.28), one of a

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129 The decontextualizing of the Flying Horse from its tomb environment made it a widespread motif in modern-day China and a popular object to reproduce. It quickly became the logo for an official government agency, the China Tourism Bureau. With burgeoning domestic and international tourism in China beginning in the 1980s, the Flying Horse of Gansu logo became a ubiquitous symbol for the convenience of speedy travel then becoming a reality. The resulting
procession of cast horses, carriages, mounted cavalry and attendants, was excavated in 1969 from the tomb of an Eastern Han official at Leitai in Wuwei county, Gansu province, a site along the already well-established Silk Road (Gansu 1974; see also Chinese Exhibition 1975, Figures 218-234). The sculpture, 34.5cm high and 45cm long, is perhaps the most familiar of all three-dimensional depictions of the horse prior to the Tang dynasty, and rightly so, as the lively sculpture captures both the inherent qualities of the horse as well as its implied symbolism. The rendering is the only example of this kind of expression of speed and flight found in China from this period or before. Pirazzoli-t’Serstevens perhaps provides one of the better appraisals of the sculpture (1982: 218):

One of the most consummate achievements in sculpture of the end of the Han dynasty [is] the galloping horse from the tomb at Leitai. . . . Here again the dominant factor is the observation and expression of posture and speed, that is, the qualities peculiar to a charger, not the study of a particular horse. The extraordinary balance of the neighing animal caught at full gallop derives from the contrast between the strength and energy of the curve of the back, the tension of the head—which is small in relation to the body—the raised tail, the lightness of the slender legs, one of which skims a flying swallow, itself a symbol of speed.

The sculpture is most likely a superb portrait of the ‘heavenly horse’, an ideal steed the knowledge of which was brought back to China from Ferghana three centuries prior by the Han envoy Zhang Qian and which came to be the most sought-after horse during the dynasty, the object of innumerable delegations and military expeditions during the Western Han. Wu Hung writes (2022: 84) that “Eventually, the heavenly horse became a generic symbol of auspiciousness and

popularity of the logo was an indication of the universal recognition of the ingenuity of the artist who originally conceived this unique approach to the horse.
immortality. But during the Han these images were often understood in a more specific sense as a symbol of Heavenly Mandate as well as a bridge connecting the Han and its neighbors."

In the sculpture’s description below, its social and other contexts are examined. Through analyzing the rendition of the horse and comparing it with the painted horse image found not far away in Jiuquan but made a century later, and with depictions of horses found in a contemporary tomb but some distance away, the motif and style and from whence they may have sprung will be suggested. The casting technology of the period was of a high caliber, as shown in the details of this sculpture (Wang 1982: 104), and the casting quality of the objects in the bronze procession is evidence of the existence of an established school of bronze casting in the region. The description above reflects the general admiration of the sculpture as noted in many other publications, such as the entry in a 1975 exhibition catalog, which states that it reflects “. . . a high level of bronze casting and sculpturing. . . . This masterpiece in ancient Chinese art is evidence of the artist’s rich imagination and skillful workmanship in bronze casting and sculpture” (Exhibition 1975b: 37).\textsuperscript{122}

The horse is galloping freely, with its front right leg and rear left leg extended, the front left leg flexed. The hoof of the descending right rear leg is

\textsuperscript{122} One question that arises about the Wuwei sculptures is the nature of the casting technique utilized, whether it was cast via the piece-mould or cire perdue (lost-wax) process. It is universally accepted that early bronze casting utilized the piece-mould process from its beginnings until well into the Han. Whether the Leitai horse was cast using the lost-wax process is difficult to determine, but we see evidence that the technique seems to have appeared in China in the late Spring and Autumn period at the earliest, and early Warring States period at the latest (Li 185: 273-274; Lu 2005: 209, 239; Rawson 1996: 263-265). It is very possible an introduction from
outside of China, where it was the standard casting technology utilized since the third millennium BCE. However, according to So (1980: 327), while the technique “... may have been known by the early Warring States period and certainly by Western Han, the method was not widely adopted placed upon a base in the form of a flying swallow, its head turned backward toward the hoof as if in surprise. The body is well-proportioned and the neck and head are slightly twisted. The horse’s mouth is open and neighing, with nostrils flaring and ears pointing backward. In addition, the head is surmounted with a flame-shaped topknot and each of the cheeks is decorated with an intaglio spiral. The end of the tail is split and seems to have a decoration.

until much later.” Rawson (1996: 264) believes that the lost-wax casting process did not catch on, due to the decline in the bronze style of the sixth and fifth centuries BCE which emphasized delicate and intricate filigree effects. Once that style disappeared, “... lost wax casting was abandoned” (1996: 125). In an earlier work, Rawson (1990: 617, 634, 643) suggests that the lostwax process was utilized in China as early as the Western Zhou, as indicated in the absence of mould marks and metal spacers on three bronze vessels dating from the early to late Western Zhou. Fahr-Becker, however, supports the view that the lost-wax process continued well beyond the Eastern Zhou period, when she writes (1999: 716) “... archaeological evidence of this process is found from the 6th century B.C., and from the Han Period it became a standard method for casting sculptures.” A strong possibility exists that the bronze Leitai sculptures were cast using the lostwax process, since other bronze pieces from the Han period provide evidence of the process, as shown in the Changxin lamp from the Western Han tomb of Dou Wan. Pirazzoli-t‘Serstevens writes (1982: 112) that the piece, cast probably in 173 BCE, “... must have been cast by the lostwax method like many Han bronzes of highly elaborate, almost sculptural form.” The absence of any perceivable mould marks or indications of chaplets on the Wuwei horse may support this contention. No exhibition catalog that I have come across indicates which casting process was possibly utilized. By Han times mould marks seem to have disappeared, and that this may mark the beginning of general usage of the cire perdue casting (Gettens 1969: 67). Hsing writes (2107: 70) that “... it is not farfetched to conclude that knowledge of the lost-wax techniques had arrived on the China Central Plain by the time of the Warring States period.” Wang Jichao accepts the possibility that “... the application of lost-wax casting in the middle Spring and Autumn period (770-475 BCE) lay the groundwork for a significant development in Chinese bronze casting, citing a corpus of bronze objects identified as lost-wax creations including additions to a zhan vessel and a vessel strand from a Chu tomb in Xiasi, Xichuan, Henan Province” (from Hsing 2017: 230, Number 43). Related, a small bronze horseshoe-shaped ring depicting two mounted riders was found in an eighth-century burial in Nanshan’gen, Inner Mongolia is suggested by Katheryn Linduff (2006: 313) to be a product of ‘indirect lost-wax’ casting. Beckwith (2009: 400401, n. 42) suggests that certain Shang chariot weapons of “northern” style may have been made with a lost-wax process.

The swallow, besides being a symbol of swiftness, is also an “... omen of approaching success, or a prosperous change. ...” (Williams 2006: 364). According to Watson (1979: 85), the flying swallow may allude to “‘Flying Swallow’, one of a famous team of nine once belonging to the emperor Wen Di (179-157 B.C.),” but may also allude to any superior horse.

The positioning of the legs to reflect movement is natural, despite a confusing comment made in the exhibition catalog The Genius of China that states: “This piece is the most remarkable
Of some significance is the apparent diffusion of one of these motifs found upon a ceramic horse (Figure 4.29) from Sichuan province now in the Musee Cernuschi in Paris (Beguin 2010: 38, figure 19). Dating from the Eastern Han, it is similar in form and size to other ceramic horses of the same era. This one, however, possesses two features which are seen on the Flying Horse of Gansu, a topknot on the head with a flame-like form streaming backward, and a raised tail with a ball-shaped decoration. Those are the only features that they share, as the general representation in the Sichuan rendition is less realistic, with a wide, flaring mouth, three hoofs on the ground and the right front leg poised as if about to trot. The neck and head are proportionally large for the body, unlike the natural proportions in the Flying Horse of Gansu. But the similarities certainly suggest a shared tradition in the aesthetic rendition of the horse and there is a possibility that such influence might have spread from Gansu to the south into Sichuan during the Eastern Han.

We usually see the Flying Horse of Gansu (as it is most often called in English)\(^{132}\) outside of its original context, decontextualized from its use as just sculpture of such a horse that has been found, and the only one which seriously attempts to represent the posture of the galloping animal. The position of the legs, while not accurate, is nearer to reality than that adopted in the convention of the “flying gallop” (italics added; 1973: 119). How the positioning of the legs is inaccurate is not explained.

\(^{132}\) In fact, the sculpture is invariably labeled in Chinese-language catalogs as “tong ben ma“ (铜奔马), “bronze galloping horse.” That does raise a question as to whether we can look at the object as representing a flying beast or whether the interpretation merely expresses the swiftness of a galloping horse. This does deserve a closer examination. Among the general public, the horse is called “ma ta feiyan” (马踏飞燕), “horse treading on a flying swallow”, or “ma chao longque” (马超龙雀), “horse leaping over a dragon sparrow.” The eminent Chinese archaeologist Guo Morou admiringly said it was a “Heavenly Horse traveling the sky” 天马行空. The 1987 book Zhongguo Meishu Cidian (Dictionary of Chinese Art), citing early texts, tries to make the case that the bird depicted is not just a “swallow” but a “dragon sparrow” (longque 龍雀) and the horse is not merely a “horse” but a “sacred horse” (shenma 神马) or “heavenly horse” (tianma 天马). On another note, a large copy of the sculpture was donated to the city of Lexington, Kentucky in 2000.
one of many grave furnishings placed in the tomb. The funerary procession includes over 100 bronze objects, 39 of them horses. Most horses are mounted, with a few of the riders carrying halberds or spears. Fourteen wheeled vehicles, including yao and fu chariots, carriages and carts with attendants and drivers, are in the procession, along with unsaddled, trotting horses, some with a raised front leg as if about to gallop off (Committee 1978, Figures 54-62). We can only speculate on the inclusion of this solitary flying horse, which, while in material, style and aesthetic form is otherwise similar to the other, more static, horse forms, is the most representative of the creature that the occupant of the tomb would utilize as a mount to carry him to existence beyond death.

By the end of the late Eastern Han, tombs of royalty, the aristocracy, officialdom and the wealthy were being furnished with many spirit artifacts (mingqi 冥器), objects which were either personal belongings of the deceased or made specifically for the grave. Often these objects would be illustrative of the deceased’s former status or position in life. This might include jewelry, mirrors, books, clothing, foodstuffs and other belongings of models, or farms and stables, modes of transportation such as boats, carriages and horses, and pottery figurines of servants and animals. Two of the enduring innovations in burials since the Eastern Zhou period which continued into the Han were the “formation of underworld bureaucracy; and . . . newly evolved conceptions of cosmology, empire, and the afterlife, the last being defined as a journey to a cosmic

by the city of Xi’an in recognition of it being the “horse capital” of the United States. (“Tong ben ma”, http://zh.m.wikipedia.org/wiki/铜奔马. Accessed 01/20/22).
destination” (Lai 2015: 12). The tomb at Leitai fit into both of these categories. Besides the free-standing funerary objects, many tombs of well-to-do people also had narrative stories or pictures of processions painted on or incised into the tomb’s walls.

Tomb murals of the Han or later more often than not depicted horses, running free, being ridden in hunt or in battle, tethered to a wutong tree or pulling chariots or carriages. While motifs of winged horses and dragons had begun to appear in the earlier Western Han dynasty, associated with spiritual quests, by the Eastern Han, the flying gallop had become a common motif, as mentioned above. Sometimes depictions of flying horses associated with immortality and shamanism existed, by then a theme already centuries old. In these murals, the swiftness of the horse was very easily rendered through the two-dimensional depiction of the flying gallop. With front and rear legs stretched out in opposite directions and no hooves touching the ground, the horse appears to be galloping at great speed, even flying. The challenge posed to, and well-answered by, the artist craftsman was how the inherent characteristics of the horse–its swiftness–could be expressed in three-dimensional form.

One solution was to simply attach wings to the horse’s body, as was done with the mythological Greek steed Pegasus. However, the solution which the Wuwei sculptor came up with was to place a hoof of an animated, prancing horse on the back of a swallow whose wings were outstretched as if flying. Regardless of whether it was the sculptor himself or a modern-day Chinese or Western
observer, the solution seems to have been the most appropriate one to give the impression of power, speed and flight in a very original manner.

**Buddhism and Flying Horses.** The technique of adding objects other than wings to imply flight can also be seen in some of the early stages of Buddhist art at Mogao Grottoes in Dunhuang, in several murals that illustrate Siddhartha's flight on horseback from his father's palace in Kapilavastu. Murals that depict each of the horse’s four hooves being lifted and supported by an *apsara* or celestial to imply flight are seen in Cave no. 278 from the Sui dynasty (Figure 4.30), and Cave no. 329 from Early Tang (Figure 4.31). Karetzky (2000: 95) points out that Kanthaka’s hooves are “upheld by celestials to prevent any noise from awakening the palace inhabitants.” The distinction, however, between flying and silencing is not critical enough to dismiss the depiction of an airborne equid.

Akiyama and Matsubara, however, identify the horse rider in Cave 329 as the Bodhisattva Manjusri (1969: 215). The motif also appears as carved relief on a Buddhist stele from the Northern Qi dynasty in the Nanjing Museum (Kadokawa 1969: Figure 168). On the Sui dynasty marble sarcophagus from the tomb of Yu Hong, in Taiyuan, Shanxi, the story is illustrated in the same way. However, in

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133 The possible influence of South Asian art on the depiction of the horse in China is discussed later in this chapter.

134 Cave 278 illustration in Scarpari 2000: 65, top right; Cave 329 illustration in *Treasures of Dunhuang Grottoes* 1999: Plate 66; for Cave 290, refer to Karetzky 2000: 81-101, especially p. 95 and p. 230, Figure 38.
place of *apsaras* holding each hoof, there are small, ribbon-like “wings” attached just above each hoof (Yang 2004: 380, Figure 115d).\(^{135}\)

Two variations are seen at the Kizil Grottoes near Kucha, Xinjiang. A mural in Cave 110 (Figure 4.32) depicts Siddhartha’s flight from his father’s palace on his white horse, whose hooves are supported by what are identified as *tianwang* 天王 (Heavenly Kings) (Xinjiang Wenwu 1999: 244, Figure 0660). Another variation is seen in Cave 14 (Chimney Cave), which shows a rider perched atop a white horse, possibly depicting Siddhartha’s departure. Beneath three of the horse’s hooves is a lotus flower, a pre-Buddhist Indian symbol that came to represent the Buddha as a universal sovereign. The earliest of the Kizil Caves is thought to be from the late third century CE and many were constructed between the fifth and mid-seventh century CE, from the Wei-Jin period to the Tang (Li Jian 2003: 20; Gies, Feugere and Coutin 2002: 76-77). One of the earliest, Cave 114, is now estimated to have been built sometime between 245 and 415 CE (Jia 2008: 132).\(^{136}\)

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\(^{135}\) Karetsky (2000: 98) also draws attention to Mogao Cave no. 280 dating from the Sui dynasty, which depicts the conception with a bodhisattva descending on a white elephant accompanied by two celestials and four attendants. However, the image in her book (2000: 232, Figure 42), while not clear enough to verify the nature of the animal, does clearly show the two *apsaras* supporting the hooves of the beast. The same scene of conception is seen in Mogao Cave no. 329 from the Early Tang, but Prince Siddhartha is here riding a black elephant, with the front and back pairs of feet placed upon lotus pads and supported by *apsaras*. (See Fan 1998: 58).

\(^{136}\) The writer has not yet come across a definitive phrase for this motif. It depends upon who is supporting Siddharta’s horse Kanthaka, be it *apsaras*, heavenly kings, or *yakshas*. For the Dunhuang renditions, the term “feitian cheng ma” 飛天稱馬 (“apsaras supporting the horse”) may be appropriate. The Chinese description of a similar illustration from Cave no. 110 at Kizil is “tianwang tuo mati” 天王托馬蹄 or “Heavenly kings supporting horse hooves” (Xinjiang Wenwu 1999: 244).
The association of Siddhartha and horses provides a precedent for the scene, and the existence of a flying horse occurs in other Buddhist writings as well. Gautama Siddhartha’s favorite horse was a white stallion named Kanthaka and it was upon Kanthaka that Gautama fled the palace of his father in Kapilavastu, in an episode called "The Great Renunciation" or "The Great Departure" (Humphreys 1962: 31). Buddhist art from various sites in India picture the two together. A Gandharan schist panel from Loriyan Tangai now in the Indian Museum Kolkata depicts Siddhartha upon Kanthaka, supported by two mustachioed *yakshas* (Chinese: *yecha* 夜叉), protectors of the Buddha, and predates the similar motif found at the Kizil and Dunhuang grottoes in Xinjiang and Gansu by several centuries (Indian Museum Kolkata 2022).\(^{137}\) The mural paintings from Mogaoku depicting the scene are certainly interpretations of this story.

A different Buddhist narrative, "The Cloudhorse Jataka" (*Valah assajataka*), tells the story of ship-wrecked merchants on an island who escaped the clutches of man-eating ogresses (*Yakhinis*) on the back of a flying white horse, a Bodhisattva who had been born as a

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\ldots \text{cloudhorse, white all over, the head of a crow, the mane like Munja grass, of magic power moving through the sky.} \ldots \text{The Bodhisat took them all up, all the two hundred and fifty traders, even those who just stood still saluting, and by his wondrous power he brought them to their country. (Davids 1929: 99)}\]

This *jataka*, also called "Simhala Avadana", is beautifully illustrated in Cave 17 at Ajanta, India, dating to the fifth century CE (Behl 1998, figures on

\(^{137}\) Thanks to Prof. Delin Lai for this information via personal communication Nov. 29, 2022.
Bhel narrates (1998: 210) that "... the Bodhisattva, who was born as a magical white horse named Bahala, was flying over the island. Seeing the sad predicament of the merchants, he was filled with compassion and offered to take them to the safety of their kingdom in Jambudvipa." This particular jataka story is also found in a seventh century mural painting in Cave 14 at the Kizil Grottoes in Xinjiang, where "... two men straddle a white horse which strides across a sea enclosed by a ring of high mountains" (Meesh-Pekarik 1981: 112; Figure 4; also refer to Akiyama and Matsubara 1969: 194: Figure 201). Victor Mair notes (2003: 183, n.1) that "The whole notion of the tianma (‘heavenly horse’) ... may derive from the same peoples who reared the horses themselves. The devasva (‘heavenly horse’) was well known to the ancient Aryans, especially as Indra’s mount.” Prof. John McLeod (2022), comments:

Devashva means ‘divine horse’ in Sanskrit, and that in Hindu mythology that’s the name given to Indra’s horse. Each Hindu god has a vahana, usually translated as vehicle and in most cases an animal—so the elephant-headed Ganesha rides on a rat, Shiva rides on a bull, etc. Some gods have multiple vehicles, including Indra who can ride either his horse Devashva or an elephant. ... I don’t think these vehicles existed in the original Aryan beliefs as reflected in the Rigveda. There, Indra rides in a horsedrawn chariot, but I don’t recall him ever being on the back of a horse or elephant. The vehicles emerged as the Aryan religion evolved into what we now call Hinduism. Some scholars have suggested that (like many other elements of Hinduism) they originated in the belief-system of peoples whom the Aryans encountered in India.

The Jiuquan Sacred Horse. A ‘sacred horse’ (shenma 神馬) that is depicted in a tomb mural dating from the Jin dynasty (CE 265-316) in the Gansu Corridor city of Jiuquan (Figure 4.27), located half-way between Wuwei and Dunhuang (Zhang 1979), expresses the second motif of the flying horse, one depicted in an
environment of aerial space. While differences appear in the depictions of tail, ears and mane (discussed below), there are a number of corresponding features of the Jiuquan horse and the Gansu flying horse which are remarkably close. These include the forms of the horses’ bodies which emphasize the graceful roundness in their curves and their straight backs, and the heads with their open mouths and flared nostrils.

Atop the head of the Jiuquan horse is what appears to be a topknot with three flares streaming backward. The feature of the Wuwei bronze horse that is closest to that is the positioning of the legs, three of which are shown with similar attitudes as to those of the Wuwei horse. The rear right leg stretches backwards while the rear left leg is positioned exactly as is that of the Flying Horse’s right rear leg, stretched forward and the hoof down. With regard to the two front legs, both renderings show the right leg extended forward. The left front legs are posed differently. On the Jiuquan horse, the left front leg is flexed and held high to the front while on the Wuwei horse, the left front leg is flexed backward. Other differences show the tail on the Jiuquan horse in a gentle S-curve and unbound, while the Wuwei horse’s tail seems to have been tied at the end with a knot. The manes are also different, with the Jiuquan horse’s mane laying fairly tight against the neck. Lastly, the ears of the Jiuquan horse seem to point forward, while those of its Wuwei counterpart point backward. The two horses’ implication of flight also differs. As has been noted, the Wuwei horse’s right rear hoof is poised upon a base in the form of a flying swallow, while the Jiuquan horse is encircled by cloud motifs, with a range of mountains depicted far below.
The Holingol Tomb  The formal pose of the flying Jiuquan horse is one that also appears in the depiction of horses found in an Eastern Han tomb mural in Holingol, Inner Mongolia (Han-Tang Bihua 1974; Neimenggu 1978; Wang 1982, Figures 89-91). While there are stylistic similarities in their renderings (Figure 4.3), the Holingol murals do not depict flying horses, though there is another important spiritual factor depicted which will be addressed below. In the Holingol tomb murals, there are two different styles utilized to render the horses. One style is similar to that of the Jiuquan horse in the depiction of the running carriage and mounted horses; the other is the more static representation of a line of standing horses which are rendered quite differently. Most of the attributes of the Jiuquan horse are seen in the Holingol mounted and carriage horses: the pose of the legs, the curves of the neck and body, the topknot on the head, and the flare of the tail. The only noticeable divergence is that the manes are closely cropped near the necks. The six standing horses have all four hooves on the ground, with postures somewhat like those of the cavalry and chariot horses from the Leitai tomb. The manes are bushy and long, and painted a darker color, as are the legs. They also lack the topknots that the Jiuquan and the Leitai horses possess (Han-Tang Bihua 1974: Figures 28-30; Wang 1982: 178).

Despite the different mediums of bronze and painting, these similarities strongly suggest a connection between the creators of the three depictions. Again, this may have been due to the possible existence of a regional school of craftsmen who learned and subsequently passed down their specific style of depicting horses.
from Dunhuang to Jiuquan and beyond. The Jiuquan and Wuwei sites are relatively close geographically, while the Holingol tomb, though generally contemporary with the Leitai tomb, is located in eastern Inner Mongolia, not far from the Shanxi border and the Great Wall. There may have been a possible influence on the artisans of the Gansu Corridor by the nomadic Xianbei and perhaps other non-Sinitic peoples of China’s north and northwest, addressed in the next section. For now, it must be assumed that the Wuwei horses and accompanying objects were conceived of and cast locally. If so, the conclusion is that most likely there was a well-established and advanced bronze casting workshop in the area, broadly influencing artisans of the Gansu Corridor and eastward. Given the number of cemeteries in the Corridor which contain the tombs of officials and well-to-do that can be dated from the period examined, the demand for those involved in the construction of tombs, their ornamentation and the manufacture of spirit artifacts must have been great. The Leitai tomb and its contents represented the wealthy elite of the period and a high point of artistic expression. The spirit artifacts and mural paintings offer us an invaluable insight into the equine-associated world in this world and the beyond.

Another, somewhat related, aspect of the connection of the horse with cosmological features, events and myths is seen on two pottery jars dating from the Western Han dynasty (Figures 4.34 and 4.35). Both depict archers mounted upon “celestial horses.” Both illustrate a “sidesaddle rider drawing the bow while upon a white heavenly horse, [which] probably shoots at the heavenly wolf star (Sirius). . . .” (Hillwood 2004: 47; 45, Figure 4). The description of the jar in the
Metropolitan Museum provides a longer explanation of the relationship

(Metropolitan 1992):

This mortuary vessel is decorated with the animated drama of a blue beast with bared fangs lunging at a mounted archer, . . . and is, moreover, one of the finest known examples of Han painting. The iconography is celestial: the blue beast represents the star Sirius, known in China as the Heavenly Wolf, and the archer is a personification of the adjoining constellation, Bow, whose arrow always points directly at the Wolf.

The Wolf is a baleful star. He governs thievery and looting and represents the Xiongnu tribes (Huns) who warred with the Han people on the northwestern borders of China. It is said that when the twinklings of the Wolf star change color, banditry will curse the land; when the star shifts from its normal position, the Xiongnu will be on the warpath. Fortunately, there is the vigilant Bow, who “punishes rebels and knows those who are crafty and evil.” Forever pointed at the Wolf, across whose body is an array of ill-boding meteors, the Bow was considered the protector of China. The mounted archer, the eternal image of the nomadic peoples of the Eurasian steppe, is shown hunting the symbolic representation of the Xiongnu.

The connection of the celestial horses with the northern nomads is significant due to the nomads’ inseparable association with the horse. The above provides a good transition into the next section, which examines the appearance and possible influence of the flying horse in nomadic cultures on that of Han China.

*Nomad and Inner Asian Art of the Flying Horse.* The flying horse existed not only in Chinese mythology but also in that of at least two nomadic tribes living to the north of China, the Xiongnu during the Western Han, and the Xianbei during the Eastern Han. The steppe lands of the frontier north of China was an environment of intense, and for the most part, negative Chinese-nomad interaction with the Wuhuan, Xiongnu and, later, the Xianbei. One of the reasons the Chinese adopted
and utilized cavalry forces in the Warring States, Qin and Han periods was to attempt to establish control over, or at least achieve parity with, the nomads in the area. One of the nomadic tribal peoples who inhabited the area from the early Eastern Han was the Xianbei (Hsien-pi), whose later rulers, the Tuoba Xianbei, founded the Northern Wei dynasty in the late 4th century CE. The sacred horse appears in the mythology of the Xianbei and is reproduced on a number of ornamental objects ascribed to them.

While Bronze Age nomads of the Eurasian steppe are well-known for belt plaques and buckles which depict equids and other steppe animals (Bunker 2002), there are a few examples of nomad-associated works which depict winged horses. A number of plaques depicting a winged horse have been excavated or are in museum collections. The British Museum houses a rare gilt bronze belt buckle found in the Ordos region of Inner Mongolia dating from the third to the first centuries BCE. It depicts two opposing winged horses, a motif which one Chinese writer attributes to be western in origin (Shen 2009: 404, Figure 17-58).

Rawson discusses a bronze plaque from the Ordos region dating from the 4th to 3rd centuries BCE showing an image in which “Two horses rearing back-to-back are attacked by wolves” (1980: 178, fig. 158; 179). What is notable is that both horses are depicted with what appears to be spiraling wing-like structures on their shoulders (Figure 4.36). She interprets (1980: 179) the striation designs on the animals as copies of wood carvings from the Altai region. If these structures

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138 The possible Central Asian origin of the motif depicting two opposing winged horses will be examined in the section on Hellenistic and Sogdian art found in China.
can be interpreted to indeed be wings, it may be one of the earliest depictions of a winged equid in East Asia, predating the Western Han by at least a century.

A gilt bronze buckle excavated in 1980 from Tomb M102 at Laoheshen, Yushu xian, Jilin province (Figure 4.37) shows a winged horse dating to the Han period (Zhongguo Lishi 2002: 172, Figure 204), while a small jar-shaped bronze plaque from the same tomb also depicts a winged horse (Pan 2007: 80, Figure 49.6). A very similar gilt ornament (Figure 4.38) is published in Kessler (1994: 75, Figure 46) and Sun Ji (1991: 425; 422, Figure 106.19), and was excavated from the Zhalainuuer site, Manzhouli city, Hulunbeier League in Inner Mongolia in 1960.139 Two gilt bronze plaques showing the same motif are in the Metropolitan Museum of Art (Bunker 2002: 115, Figure 85; Sung 2022: 22, Figure 6). The almost identical images certainly suggest that they were made at the same time in the same workshop. Pan (2007: 81) judges that the Zhalainuuer cemetery dates to early to middle Eastern Han, while the Laoheshen cemetery is more likely to range from the Western Han to middle and late Eastern Han.

In an early work, Bunker et al, in reference to one of these two plaques, states that the winged horse is “. . . derived ultimately from the Greek world but was incorporated into the Taoist pantheon during the early Han period” (1970: 139, Figure 131; 145, Number 131). She modifies her view somewhat in a later work (2002: 115), citing the existence of a Sacred Horse among the Xianbei as

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139 A similar belt buckle was also recovered from this cemetery, but the unclear image of a horse does not seem to depict a winged animal (Pan 2007: 80, Figure 4-9.10).
recorded in the ‘Diji’ section of the *History of the Wei Dynasty (Wei Shu)*, where it is written, “There is a sacred beast whose form resembles a horse while its sound is like that of an ox.” in her analysis of the pair of plaques at the Metropolitan Museum depicting winged horses, she suggests (2002: 115) “. . . the motif is undoubtedly associated with Xianbei art and had its origin in the Eurasian steppes.” Pan writes (2007: 812) that this kind of belt buckle appears well into the Northern Wei period (established by the Tuoba Wei of Xianbei ancestry) in the northern grassland region.

A spectacular silver harness ornament (Figure 4.3) that Bunker ties to the Xianbei pictures a winged stallion in relief “. . . in flight over a mountain landscape with tiny peaks and curved cloud formations” (Bunker 2002: 55, Figure 22). It is close in style to the gilt buckles found in Inner Mongolia and to those in the Metropolitan Museum.

The poses of these horses are different from those portrayed in the flying gallop motif. Here their rear legs are flexed forward as if the horses are about to jump. It is remarkable, however, how similar the equine images of these plaques

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140 Wei Shu text from Zhongguo Lishi 2002: 172. Albert Dien (1991: 40-59) provides a summary of Xianbei history, culture and funerary assemblages based on both texts and archaeology. The Xianbei migrated from their original homeland in Heilongjiang in northeast China, and a "... second move is perhaps to be dated at the end of the second century A.D. The direction is again given as southward, through mountainous country and over so many natural obstacles that they wished to stop. But led by a strange beast with the shape of a horse and the voice of an ox, the tribesmen finally emerged into the former territory of the Xiongnu, presumably modern Inner Mongolia" (1991: 41. Italics added).

141 One source which discusses cultural exchange between the East and West which the writer has not been able to access in Lin (2000). She apparently discusses the Ordos buckle motif and its implications.
are to certain portrayals of the Greek Pegasus. It was during the later Han period when the Xianbei with their horse-mounted incursions made themselves known to the Chinese as far west as western Gansu province. At the same time, while the kingdoms in the territory of present-day Xinjiang were being influenced by the art of the Hellenistic world, they were not without periodic Chinese control and influence as well. A connection cannot be entirely ruled out.

Possible Hellenistic and Central Asian Influences. The possibility of the relationship between the motif of the Heavenly Horse in China to the Sacred Horse of the nomadic Xianbei people has been mentioned. The possible influence of Hellenistic motifs seen on textiles and other objects found in western China from about the same period which depict winged horses and other creatures also cannot be ruled out. As mentioned at the beginning of this subsection, other winged beasts appear in early Chinese art before the appearance of winged horses. The bronze mythical animal illustrated in *The Golden Age of Chinese Archaeology* (Yang, ed. 1999: 357, Figure 121) is an example of early Chinese art that combines the motifs of tigers, reptiles and birds that may have possibly originated outside of China. In his description of the object, Falkenhousen writes (in Yang 1999: 358):

Winged dragons and felines first occur in Chinese art during the mid-fifth century BCE. Jessica Rawson has suggested that they derive from the Near East; they may have reached China by way of Iranian or Scythian

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142 Refer to Yalouris 1975, especially the illustrated Etruscan cup from about 420 BCE (Plate 56) and the Faliscan crater from about the same time period (Plate 57). Notable is the placement of the wing joints and the pose of the front and hind legs.
intermediaries. By the time of King Cuo, in any event, this iconography was well established throughout the area of Zhou culture.

In contrast to Rawson, though, he states that the elegant style of the bronze sculpture is “. . . light years away from any known western Asian prototypes.” However, the appearance of the flying horse in China—especially of the winged variety—is arguably different in its possible geographical origin as well as the temporal era in which it first appeared.

While there is a strong possibility that the motif of the flying horse may have originated independently in China, we can also speculate that an inspiration for the motif came from elsewhere. The Gansu Corridor, the arid, upland northwestern passage that lies between the Qilian Mountains to the south and the Gobi Desert to the north, was the most straightforward pathway connecting the early Han capital at Chang’an with the Western Regions. From the second century BCE on, westward through this corridor passed military expeditions, caravans, monks and merchants, skirting the vast Tarim Basin on their way to Central Asia and India, or eastward to China. Wuwei was a military commandery established a little more than halfway between the capital and the great cultural crossroads of Dunhuang, located just to the east of the vast and daunting Taklamakan Desert. It was through the Gansu Corridor that Buddhism was first brought into China, and Dunhuang became a major center of Buddhist art and practice along the route, as seen in the extensive grottoes at Mogaoku. However,
in the earliest of these, while Buddhist iconography included the Indian winged chimera *garuda*, winged horses were not.\textsuperscript{143}

Farther west, however, objects displaying strong Hellenistic influences have been found in the Tarim Basin, including the depiction of a Greek centaur on a textile from the Shampula cemetery near Khotan (Mair 2010: 149, Figure 38; Xinjiang 2001: 188-189, Figures 360.1-4) and woven textiles depicting winged horses encircled by Sogdian roundel patterns (Figure 4.42) from the Astana cemetery near Turfan (Cheng 2014: 137, Figure 137; Jones 2009: 26, Figure 6).\textsuperscript{144}

The Shampula cemetery dates from the first century BCE to the fourth century CE,\textsuperscript{145} and should then be contemporary to the Leitai tomb, while the Astana cemetery is later, from the third to tenth centuries CE (Mair 2010: 39, 40). The writer has noted elsewhere (Jones 2009: 25-26) that the “... use of roundels and rosettes is a Persian (Achaemenid, Sassanian and even Sogdian) motif, as seen in many extent textiles and paintings from the first few centuries of the Common

\textsuperscript{143} A number of woven textiles have been recovered from the site of Niya in Xinjiang over the last few decades, dating to the Han dynasty. In the excavated tomb of a local king, his mummified corpse was dressed in a wool caftan edged with a *jin*-silk border which pictures a number of beasts, including winged tiger-like felines, some of which have mounted human riders (Zhao and Yu 2000: 31, Plates 01-1-2 to 01-1-4). In the same tomb, a woven *jin*-silk arm-protector was found with a feline-like creature with one horn and wing, along with images of birds and a tiger. The object has a woven inscription quoting a line from the *Han Shu* which states “wu xing chu dong fang li zhong guo” (five stars [i.e., planets] appearing in the east benefits the Middle Kingdom) (Zhao and Yu 2000: 63, Plate 24). In both examples, the wings pictured are extensions from the top of the shoulders or the spine of the beasts, and not attached to their sides, as seen on winged horses.

\textsuperscript{144} Another similar textile with winged horses within a Persian-style roundel was found by Stein at Astana (Stein 1928, Plate lxix). These winged horses may reflect either Hellenistic or Sassanian influences or both. A Sassanian textile fragment depicting winged horses with riders within roundels (now in Nara, Japan) is depicted in Klimkeit 1994: 122, fig. 40 (Chinese edition). Regarding the diffusion of the Sogdian pearl roundel, see Compareti 2006.

\textsuperscript{145} The excavating archaeologists, relying on datable materials and carbon 14 dating, determined the age of the cemetery to be thus: early period from the 1st century BCE to the middle of the 3rd century CE; late period from the middle of the 3rd to the end of the 4th centuries CE (Xinjiang 2001: 43).
Era and found commonly enough in China in contexts dating from the Northern Dynasties to the Tang.” Regarding evidence of pre-Islamic Sasanian influence in western China, Matteo Campareti has explored this connection as well.\textsuperscript{146}

A discovery made at the site of Tongusbash near Aksu on the northern rim of the Tarim Basin is a moulded ceramic bowl incised with a reclining winged horse (Figure 4.43) (Xinjiang Wenwu 1999: 233, Figure 0632). While ascribed a Tang date, this unmistakable Hellenistic motif suggests an earlier date and provides strong evidence for the introduction of a Pegasus-like Sasanian rendition to the region.\textsuperscript{147}

While the following example is somewhat later than most in this study, the appearance of flying, winged horses associated with Sogdian travelers, merchants and expatriates from Persia illustrate a widespread adoption of the motif.\textsuperscript{148} Carved panels (Figure 3.37) on the Sogdian Shi Jun Sarcophagus excavated in Xi’an in 2003 “. . . represents the deceased’s multifaceted journey on the Silk Road” (Xu 2021: 145). The sarcophagus dates to CE 580, at the very end of the Northern Dynasties period. While I take exception to the author’s assertion

\textsuperscript{146} This Central Asia design has been found as far away as Japan and Spain. A Japanese-woven silk twill textile that imitates the design of an original Sasanian textile with the motif of a winged horse, mounted hunters and lions within beaded roundels, was located in the Shosin repository in Nara, and was originally held in the Horyuji Temple. It dates from the 6th to the 7th century CE (Gasparini 2019; Munson 2021: 38). A silk compound twill textile fragment with beaded roundels enclosing elephants, \textit{senmurvs} and winged horses was found in the monastery of Santa Maria de l’Estany, Spain (Perratore 2021: 41, Figure 48 and back cover). While the caption dates it to the 11th to 12th century, if we compare it to other, similar fragments, it most likely is centuries older, contemporary to the example found in Japan or even earlier.

\textsuperscript{147} The excavating archaeologists, relying on datable materials and carbon 14 dating, determined the age of the cemetery to be thus: Early Period, from the 1st century BCE to the middle of the 3rd century CE; Late Period, from the middle of the 3rd to the end of the 4th centuries CE (Xinjiang 2001: 43).

\textsuperscript{148} For an overview of the Sogdians, see Rose 2010.
that it “. . . is one of the most important Silk Road discoveries ever made,” it nevertheless helps to indicate the reach of the winged motif from Sasanian Central Asia into China prior to the Sui-Tang period.\textsuperscript{149} Much of what is illustrated on the sarcophagus is based upon Buddhist iconography despite Shi Jun’s Zoroastrian background. In the panel that shows the ‘Journey to Heaven in the Afterlife’ (Xu 2021: 163-165, Figure 13, left), two winged horses and \textit{apsara}-like winged figures fly above the deceased couple crossing the Chinvat Bridge, “. . . a structure that separates this world from the next in the Zoroastrian cosmology” (Xu 2021: 163).\textsuperscript{150} The scene and meaning of this panel are remarkably close to an illustration on a panel in the Holingol tomb in Inner Mongolia discussed above but that predates the sarcophagus by about 300 years. The scene on the latter depicts a procession crossing bridge labeled ‘Juyongguan’ 
居庸關, the name of a famous passage through the Great Wall northwest of present-day Beijing (Neimenggu 1978: 14-16, Figures 31-33; 83, top plate). Wu Hong (1997: 34) suggests “It is possible that the Great Wall, which is not far from

\textsuperscript{149} A Sasanian gilded silver plate dating to the 5th-6th century CE in the Metropolitan Museum of Art depicts two youths and winged horses. According to the object’s description, “The scene is modeled on Graeco-Roman images of the Dioscuri, Castor and Pollux. . . .” It has also been suggested that the horses are modeled on Pegasus. Harper argues against both theories (1978: 42). She writes that “. . . the Sasanian horses [on the plate] are winged, those of the Dioscuri are not. In Sasanian art, there is some evidence that horses associated with divinities have wings. A seal, once in Berlin, showed the sun-god in a chariot drawn by winged horses. On a silver plate in the Hermitage Museum, winged horses support the throne of the Sasanian king. . . . Knowing that the youths were superhuman, [the Sasanian artist] gave their horses wings.”

\textsuperscript{150} A rare silver ornament from the subsequent Tang era, now in the Shaanxi History Museum, may show Sasanian or Sogdian influence in its depiction of two opposing gilt winged horses rearing up from among the intertwined \textit{lingzhi} (magic fungus) plants. The poses of the horses and the positioning of the wings are very close to those on the Shi Jun Sarcophagus. The caption that “. . . winged horses are also called \textit{tianlongma} [celestial dragon horses] or \textit{feilongma} [flying dragon horses]. It is a kind of ancient mythical auspicious animal. Adding wings to the horses is also a way to express how extraordinary they are” (Cheng 2014: 135, Figure 13).
the tomb and which separated China from ‘barbarian lands,’ was perceived metaphorically as the boundary between life and the afterlife.” The parallel funerary scenes, though separated by centuries and hundreds of miles, capture a shared view about taking the journey to the afterlife. Connections between Sasanian Persia, Sogdiana and China have been extensively explored by Comareti (2021).

A limestone funerary couch in the Musee Guimet in Paris illustrates a similar scene with the deceased riding astride a horse in the center of the panel (Figure 4.41). Dating from the Northern Qi dynasty (550-577 CE), slightly earlier that the Shi Jun Sarcophagus, its provenance is Anyang, Henan. Curator Valerie Zaleski writes (2012: 86):

The unique place and cultural and commercial preponderance of the population of Sogdiana, at their peak before the Muslim conquest, is represented here on the stone panel . . . of the funerary couch: depicting a celebration of the Sogdian New Year, tracing, in a way, the borderline and acting mediator between the first Chinese Buddhist works of art and the oasis art of the Silk Road.

A possible continuing Persian influence on Chinese sculptural art, and particularly funerary art, might be exemplified by the winged stone horses from the tomb site of the Tang emperor Gaozong, who reigned from 650 to 683 CE (Song 2009: 173, Figure 85). While we see winged horses appear as late as the Tang, the use of this motif gradually died out, replaced by the now famous tricolor glazed horses that became widely popular.

The possibility of the flying horse motif coming from outside China been discussed. Not all who suggest a western introduction are Western scholars,
however. The association of the winged horse and the winged or feathered immortal was discussed earlier, and the possible origins of both motifs are contentious. Xilin He (2011: 165-166) looks at both sides of the controversy. He cites the scholar Xu Zhongshu who states that feathered beings and flying beasts existed in Egypt, the Middle East and India three to four thousand years before the Common Era. Xu believes that these images spread to China from Central Asia in the 5th century BCE and that they are not part of the “indigenous tradition of the Chinese people” (2011: 165). While he addresses mostly the winged immortal mounted upon a winged horse as seen in the jade sculpture found in Xianyang (Figure 4.20), one can see that Xu places the motif of the winged horse in the same category.

In contrast, Xilin He also cites (2011: 165-166) Sun Zuoyun who believes that such a tradition did indeed belong to the Chinese indigenous tradition, as indicated by pre-Han works of art. The late Warring States book *Shang Hai Jing* (Classic of Mountains and Seas) does mention the existence of a flying horse, even if its purported range is far to the west. The early Han art which depicts feathered beings and winged horses provides some evidence that the motifs may be indigenous to China and that the feathered being may have derived from the state of Chu in southern China.

*South Asian and Other Possible Influences.* The depiction of Gautama Siddhartha and his horse Kanthaka in Buddhist mural painting in Gansu and Xinjiang appear much later than the Western Han. There is little indication that the motif of the
flying horse as it appeared in the Western Han dynasty was an introduction from Buddhist India, as evidence of Buddhism in any form does not appear in China until most probably the first century CE during the Eastern Han. However, once Buddhism was well-established, the horse took on an important role. One of the earliest Buddhist temples established in China was the Baima Si (White Horse Temple, often romanized as Pai-ma Ssu) in Luoyang. The temple, rebuilt many times, is associated with the best-known story of Buddhism’s introduction to China, found in the preface to the work Sutra in Forty-two Sections, after the emperor Ming (reigned 58-75 CE) envisioned a ‘golden man’ and inquired about its meaning. Zurcher (1989: 144) recounts the story:

When one of his counselors informed him that this was a foreign god called Buddha, he sent envoys to northwestern India who returned three years later, accompanied by two Indian missionaries. For them the emperor founded the first monastery in China, the Pai-ma Ssu, or White Horse Monastery, in the capital Loyang. The story is no more than a propagandistic tale that is probably not older than the later second century. It may, however, contain a memory of the existence of Buddhism in court circles at the time of the emperor Ming, as an early and reliable historical source refers to the presence of Buddhist monks and laymen in the entourage of an imperial prince in 65 CE.

Zurcher comments (1959: 31) that the story may be apocryphal. He writes, “The existence of a ‘While Horse Temple’ . . . at Loyang . . . is not attested in contemporary sources before the year 289 AD.” The sutra mentioned can be dated no earlier than the mid-third century CE (Crespigny 2017: 93, no. 61), hinting at its later invention.

As for the name of the monastery, there are two possibilities. The above story relates to the Buddhist missionaries who arrive in Luoyang riding upon
white horses and named it “... in memory of the auspicious animal on whose back they had brought the sacred Buddhist texts” (Demievilla 1986: 824). The second possibility is that it was named after (or in honor of) the Buddha’s favorite steed, Kanthaka. No matter the origin of the temple or its name, Buddhism arrived in China much later than the appearance of the flying horse motif in the Western Han.

Despite Buddhism’s late introduction into China, we cannot ignore the South Asian influence, since the route along which Buddhism traveled into Xinjiang, Gansu and parts further east passed through the Indus Valley and up and over the Hindu Kush into the Tarim Basin, into Afghanistan and parts beyond. Gandharan art is not without similar motifs of those found in the Tarim. A copper incense burner dated to the first century BCE was found at Sirkap, Taxila, Pakistan. Its winged leogryph handle (Figure 4.4) is reminiscent of what has been found farther north in Xinjiang (Asia Society 2011: 8, Figure 3). An exquisite winged leogryph from Begram in Afghanistan is depicted as leaping from the mouth of a carved ivory makala dating from the early first millennium CE (Rowland 1966: 56, Figure 40). At Bamiyan a stucco leogryph from a somewhat later date was recovered (Rowland 104, Figure 81).\(^{151}\) A schist turban ornament from Sanghao in Pakistan depicts a winged garuda and dates to the second to third centuries CE (Asia Society 2011: 109, Figure 25), while a stair stringer with a makara-headed mythical creature with wings and a snake-like tail

\(^{151}\) These two objects were in the collection of the Kabul Museum. Their whereabouts now are uncertain.
found in Sikri is from the same period (Asia Society 2011: 127, Figure 37).

Marc Aurel Stein in his 1901 explorations of the settlement site of Niya on the southern rim of the Tarim Basin uncovered an ancient residence with wooden timbers, two having decorated wooden brackets with symmetrically positioned pairs of carved, winged “horses” (Stein 1912, Figure 98). Stein describes them as “Monsters of the composite type. . . with winged bodies, crocodiles’ heads, and the legs of a deer” (1912: 292) and could well be identified as a version of the mythical Indian creature makala (Figure 4.4). Another example is a carved decorated door panel found at the Niya site. The upper half has an elephant and human attendant while the lower half shows a griffin-like creature with horns and wings (Figure 4.46) and described as a guaishou 怪獸 (‘strange beast’). The site is ascribed a Western Han to Eastern Jin date (Xinjiang Wenwu 1999: 54, Figure 0097), but it can be seen from these architectural details and paintings from both Niya and neighboring Miran that the “dominant stylistic influences in the area came from the west and not from China” (Whitfield and Farren 1990: 142), while other architectural structures, motifs and ornamentation show strong Hellenistic influences. Such archaeological evidence indicates without doubt that fantastical combination creatures such as the griffin, makara, Pegasus and shenma existed in those parts of Asia closely connected via the ancient caravan routes. This provides some support that cultural diffusion of these motifs cannot be ruled out.
Conclusions

The aim of this chapter was to introduce and establish a foundation for understanding the history and significance of the art of the horse in early China. The introduction of the horse into the Chinese cultural sphere ca. 1250 BCE appears to have had an immense impact on warfare in particular and on society in general.

The evolving rendering of the horse as an artistic motif, from the Late Shang to the Eastern Han, reflected the growing importance and symbolism of the creature that became increasingly familiar to the early Chinese. The earliest horse renditions are somewhat unsophisticated, even clumsy, but by the Han period the image reflected a much more familiar, knowing and intimate relationship with it, even if at times it came to be somewhat stereotyped. This should indicate that the Chinese had come to consider the horse as part-and-parcel of contemporary culture and society.

Regarding the appearance of the flying horse motif, we can determine the general chronological periods that the images of flying horses appear. The earliest in East Asia (north China, Gansu, Inner Mongolia, and parts north) that can be verified through archaeological evidence date from the second century BCE during the Western Han dynasty. Despite the undisputed influence of Hellenistic (and, to an extent, Sasanian and Sogdian) culture seen in the Xinjiang region, the exact chronology of those images that have been located in the Western Regions is more difficult to determine at this time due to a lack of accessible archaeological records. In addition, this study also includes a look at certain non-
equestrian winged creatures which originated in Hellenistic South Asia or Central Asia, and hence one cannot completely exclude the possibility of the dissemination of cultural and artistic influences along the established commercial routes of the Silk Road beginning from its earliest establishment.

The examples of flying horse images illustrated in this chapter depicted in mural painting, in cast bronze, and in carved relief in stone and ceramic brick, from north China, Inner Mongolia, Gansu and Xinjiang, date from the second to first centuries BCE at the earliest to the sixth to eighth centuries CE at the latest. They show that the motif, while not wildly popular, was nevertheless present in much of Eurasia, and is illustrative of the mythological nature that the horse acquired during the period when cultural intercommunication between widely divergent regions was becoming more established during the heyday of the early Silk Road. It is noteworthy to mention that the image of a winged or otherwise flying horse does not appear in China at all until this period, so that it is possible to surmise that there was some intercultural connectedness relating to its appearance.

In addition, the appearance of the flying horse in the contemporary context of rapid imperial expansion the the Qin-Han period with the need for swift communication, hints at a shift in spatial-temporal conceptions during this period. None of the illustrated examples of flying horses in this chapter, however, date to an earlier period when the image of Pegasus was commonly seen in the western Graeco-Roman world, though most are contemporary to the Hellenistic period in Central and South Asia. Non-avian winged creatures in addition to the horse
appeared in pre-Hellenistic South Asia and East Asia, so the question whether such influences were transmitted into Inner Asia from the Hellenistic world is a moot point. Whether it was the Heavenly Horse in Han China, the Sacred Horse of the Xianbei, Pegasus in the Hellenistic-influenced settlements around the Tarim Basin, or with Sasanian-influenced Sogdian introductions from Central Asia along the Silk Road, these images represent the mythological or metaphysical meaning of the spiritual power ascribed the horse, as an ideal mount upon which the deceased or the mystically inclined could be carried into an existence beyond the present world. We see that its image changed dramatically from a static, passive and stationary creature into one that embodied movement, swiftness, beauty and power, reflective of the changes that Chinese society was going through in the Han period. The popular rendering of the horse as a funerary offering reveals to us that it not only a common tomb object, but one endowed with a divine essence that the deceased and those in mourning saw as the vehicle for the dead to transport them through the arduous spiritual journey through and beyond the frontier that separated mortal life from the intangible supernatural world.

This chapter also provided certain fundamental evidence by which the horse can be seen as the vector for certain changes in Han dynasty social concepts of space and time as seen in the evolution of its image from a stolid, not very imaginative rendering to one that represented both physical speed and spiritual swiftness. The rendered images from the Han and later form a foundation for changing concepts of space and time, since an already swift and strong horse,
now appearing winged or otherwise flying, must emphasize (as well as exaggerate) its capabilities to revolutionize communication, war and transportation, even for non-literate cultures such as the Xiongnu, Xianbei and other nomad groups. Connecting distant places in shorter intervals of time encouraged the subjective feeling that they were spatially closer together. However, while both the nomads and the Chinese would still realize that the points were still just as far apart whether one walked on foot or rode on a horse, the very experience of traveling that distance upon a horse seemed to shrink space through the abbreviation of time.
CHAPTER 5: TIME, SPACE AND THE HORSE:
SUMMARY AND CONCLUSIONS

Far back, far back in our dark soul the horse prances. . . . the horse, the horse!
The symbol of surging potency and power of movement, of action.
— D. H. Lawrence, *Apocalypse*

Summary

The preceding chapters presented a wide array of material for the reader to better understand the chronology and geography of the historical period being studied. The Introduction: History provided a foundation that underlays the lengthy time period prior to, and subsequently after, when the horse influenced numerous aspects of Eurasian cultures and societies: the pre-domesticated *Equus* in Eurasia; the process of its domestication as a draft animal for wagons, carriages and chariots; its introduction to Bronze Age China as chariot steed; and the chariot’s decline in the late first millennium BCE. We see that even then, the special abilities and characteristics of the horse imbued it with a special meaning in early Chinese society not given to any other living creature. This underlying meaning enhanced its significance in the martial, administrative, symbolic and metaphysical roles it was given.

Chapter 1: Politics looked at how the horse, following its adoption for riding, took on an indispensable role in tactical and strategic campaigns as a cavalry horse, in communication as a courier carrier, and a spiritual mount to the afterlife. A look at the
administrative bureaucracy for horse raising from the earliest days of domestication in China provided a foundation for understanding its importance in national policies regarding communication, war, expansion and control.

Chapter 2: Space examined both the concepts and the reality of geographical space and distance, but it was iterated that we often cannot separate space and time in the human experience. Concepts of geographical space and geo-political constructions starting in the Shang were examined to put into context the early Chinese worldview. In the contexts of space and time the horse eventually took on essential roles that not only brought the empires of Qin and Han into existence, but also helped to expand and control those empires.

Chapter 3: Time examined early temporal concepts in early China and also looked at how language relating to the horse from the late Eastern Zhou to the Later Han and after was absorbed into the philosophy, literature and common language of the times, often taking on the role as symbol and metaphor for the horse in its newly utilized swiftness that it provided.

Chapter 4: Art brought these discussions together in viewing the evolution of the image of the horse from the Late Shang dynasty to the Eastern Han as a foundation for the writer’s argument that the change in the image, from that of an uninspiring, impassive beast of burden in Shang and Zhou times, to one that expressed its transformation into a celestial creature imbued with the imagined power to fly; as a symbol of changing transport modes, from slow-moving vehicles to rapid, almost magical power that the empire employed for conquest and control, defense, communication, and imperial
expansion, none which were viable options prior to the adoption of mounted horse riding by the Chinese.

**Conclusions**

Beginning in the late Warring States and ending in the Eastern Han period, empire-building had reached its culmination. Changes in the Chinese view of swiftness and power were made visible--be it in language, literature, or art of the horse. This was, coincidentally, at the time that the horse’s roles became part and parcel of the many aspects of government and society. It was seen as the vehicle by which the state was able to defend itself as well as to expand, while at the same time it was the means to provide quick communication to hold the empire together. While society saw it as representing the royalty and the elite, it also came to be seen as the spiritual mount upon which one could achieve immortality or reach the world beyond the present.

We see also that beginning in the Western Han and accelerating in the later Eastern Han period, a number of factors began to influence society at large with regard to changing views of time and space and the expression thereof. These factors appeared in a number of technological, artistic, linguistic and social advancements, including the establishment of an extensive highway and communication systems, the development of cartography and grid mapping, landscape painting and the handscroll, new linguistic terms and idioms associated with speed and space, and the ubiquity of horse utilization.

The lasting significance of envoy Zhang Qian’s journey in the mid-Western Han lay not only in the introduction of superior horses, but also in the acquisition of a new knowledge about a world that the Chinese were completely unaware of. The introduction of new breeds of horses led to developments not just in raising and breeding them, but
also in efforts to facilitate transportation, communication and war, and to increase the
swiftness of such important aspects of government administration and control. The search
for, and acquisition of, better horses from outlying countries helped expand the Chinese
world and influenced a change in their perception of geographical space. Suddenly the
Chinese became cognizant that the world was much larger than what was previously
known, and they realized that the horse was the new technology that would help to bring
it back into a manageable size.

The reality that faster transportation was needed for war, defense and
communication, in order to counter the continuous threat of northern mounted nomads,
gave rise to the realization of the immediacy that it was the horse that provided the best
option in those aspects of transportation, an immediacy that no other previously utilized
mode could possibly have provided. The horse was revolutionary in its role in changing
the landscape, so to speak, of the country. Society was made aware of the vastness of
empire and of the lands beyond imperial control, and that it was only via the horse that
the farthest destinations could be reached in a timely manner: not in years, but in days,
weeks and months. The realization that the horse, being able to bring far distant places
“closer together” in less time than in previous periods, had a great impact.

The change in spatio-temporal concepts, brought about by the increasing impact
of swiftness in transportation, is also seen in studies on the intimate relationship between
space and time, and the introduction of new methods and standards by which both were
measured. While the introduction of the locomotive in the nineteenth century first
brought about unprecedented modern reforms in the measurement of space and
standardization of time, there is a big difference: in early China it was not the
introduction of speedy mass transportation, in the sense of what we have today, which had the greatest impact, but merely the realization that the swiftness provided by the ridden horse had the greatest ramifications for holding the empire together. This is a view that can be interpolated from contemporary comments regarding the horse and how its influence might have brought about changes in such concepts.

We can see this change in two capacities in the later period of the era studied, the first being in the language related to the horse; the second being its artistic renditions. In the first, there were the horse-related characters and words that appeared in the Late Shang dynasty that indicated swiftness. In the subsequent Western Zhou dynasty, there appeared horse-related phrases and metaphors which related to swiftness and to power. Later, there appeared the nominal terminology that related to how the newly-introduced horses from Central Asia were seen and referred to (e.g., ‘Heavenly Horse’; ‘Thousand Li Horse’; ‘Sacred Horse’; ‘kuai ti’; and others). This philological evolution reflects the ever-increasing importance that the horse achieved during this time.

In the second capacity, that of the artistic rendition of the horse, there is an noted evolution in its image, especially in the expression of swiftness, seen in the ‘flying gallop’ and in the various renditions of the flying horse and the popularization of its depiction of the spiritually-infused horse in funerary art.

Prior to the period in which this occurred, there is little evidence to date to support the view that swiftness was an essential aspect of the worldview. From the above evidence, it can be concluded that beginning in the Eastern Zhou period on, changes in social conceptions of time as related to space came to be manifested in the language and art of the horse. Providing tangible and persuasive evidence that the utilization of the
horse directly caused specific results and reforms, especially in the Han period, that illuminate changes in concepts and measurements of time and space is not an easy task. What we do see is that the utilization of the horse indirectly forced Chinese society and government to rethink the influence of the increased speed of communication and military campaigns and helped to rephrase time and space up to a certain and limited level. This appears in the symbols and metaphors for speed, speed that take the riders (metaphorically speaking) to distances unimaginable prior to the Late Zhou period, both practically and spiritually.

Time and space, as established traditions that lasted for centuries, were, as a matter of course, taken for granted by society at large. However, with the changes incurred through interactions with mounted nomads beginning in the 4th century BCE, royal and imperial administrations looked to the horse as the best technology (albeit of flesh and blood) suited for dealing militarily with the nomads and administratively with communication. Due to these factors, swiftness in time to deal with, and overcome, expansion in space became essential for government control. While there is no direct evidence that the adoption of the horse led directly to major reforms in temporal or spatial measurements, nonetheless administrative controls of communication systems and military campaigns began to adjust to the length and duration of the advantages provided by the use of the horse.

While we can conclude that certain revolutionary changes in temporal constructs (such as establishing time zones) did not occur during this period, we can observe adjustments in spatial concepts in the form of measurements that were introduced and utilized in mapmaking, communication systems, and in common speech. There is little
direct evidence that these adjustments in measuring distance or changes in the calendar were in fact due to the impact of the utilization of the horse in the periods studied.

This is somewhat different from the technological situation that brought about a revolution in reforming temporal and spatial standards with the introduction of modern transportation, such as the locomotive, steamship, automobile, and airplane, as well as in modern communication systems such as the telegraph, telephone and the internet, replacing signal flags, boats, and horse-mounted couriers. The appearance of the train and the resulting breakdown of time barriers in transportation and communication led directly to the implementation of a global system of time zones (refer to Appendix). However, though the horse’s role in communication in early China reduced the time of transmission from months to weeks, weeks to days, and days to hours, this did not lead directly to the same kind of temporal reform in the period studied.

During the Eastern Zhou, Qin and Han dynasties, calendrical systems and geographical measurements saw some adjustments and reforms, as discussed in Chapter 3. During the Qin, the use of the twelve animal signs (shengxiu 生肖) for counting in twelve-year cycles first became popular. The horse became the seventh in the cycle, as it remains even to this day (Wilkinson 1998: 183), but whether the adoption of the horse for this usage had anything to do with its perceived power and swiftness is unclear.152

Visual representations of changing ideas about time and space are seen in the evolving image of the horse beginning in the late Warring States period and culminating

152 The adoption of horse-riding in western Eurasia was, as has been pointed out, centuries earlier than in China. This does not reduce its revolutionary influence in the Chinese context, however. The adoption and utilization of horse riding among the Eurasian nomad, which was applied for herding, migration and war, indeed had an influence on late Eastern Zhou society, though this is based upon archaeological and secondary evidence.
in the Eastern Han dynasty. The image of a galloping steed in any context was an expression of the visualization of speed. The introduction of the image of the flying horse, one that allowed the viewer to imagine that the limits of the physical world had been broken through its imposed perception of its ability to fly as quickly as a bird, allowed society as a whole to view the horse as a mechanism that broke these limitations of time and space.

The possible influence of the mythology from the Hellenistic states transmitted from the far west may have had an effect on this transition, as hints of the Hellenistic myth of Pegasus may have reached China after the first historically-recorded contacts between East Asia and Central Asia in the late second century BCE. The appearance at about the same time of Xiongnu (and later, Xianbei) motifs of a winged horse may have had conceptual consequences on the Chinese since the earliest appearance of a winged horse in China, created by Chinese artisans, was during the Western Han, much later than their Hellenistic precedents.

This may also be seen as a parallel view of the contemporary world outside of China, where the horse allowed the Chinese, be they pilgrims, soldiers or merchants, to become more confident in exploring the new world of the Western Regions, an extremely formidable obstacle to them at the time (Lai 2022).

Horses in ancient China were bestowed with names and described in admiring terms that bestowed upon them impressive characteristics. It was upon the back of the

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153 This was also seen in nineteenth century Europe and America, where the names of some of the earliest locomotives in England are good examples of this trend to characterize the revolutionary increase in speed and power. Examples are Arrow, Catch-me-who-can, Comet, Dart, Meteor, Rocket, Samson, and Sans Pareil (McGowan 2004).
horse that the empire prospered and expanded, and for millennia they were sought after by any means available. It did not take the government long to realize that it needed to establish and manage the procurement, management, and training of horses (as well as that of riders), and to establish maintenance protocols for stables and security for pasturelands. This required recruiting large staffs to work all these aspects of horse management. This all points to the official recognition of the importance of the horse’s role in giving the empire tangible and essential advantages.

To conclude, we can draw on the language associated with the horse as well as with its later artistic depictions, both of which emphasized its associated qualities of speed and power, to connect with the evolving temporal and spatial concepts coming to fruition in the Han and later. As has been argued in a prior chapter, the adoption of the ridden horse to take practical advantage of its superior qualities of swiftness and power can be seen as a contemporary Chinese expression of the concept of ‘timeliness’, an act done at that ‘opportune moment’ that allowed humans to seize a fortuitous opportunity so to keep pace with developing events. The ‘timeliness’ of the adoption of the horse led to the eventual conquest of the various Warring States by Qin in 221 BCE, and of the vast geographical expansion of empire by the Qin and Han. The swiftness of the horse, the inherent characteristic of a revolutionary technological mechanism in communication and war, helped to establish and maintain imperial consolidation. With its social and political impact as a symbol of both spiritual power and royal status, it helped to create an empire that was innovative and highly influential in both centralized and localized administration as well as in world history. If we consider the adoption of the horse as a comparatively swift vehicle for communication in this manner, and as an expression of ‘timeliness’,
then we can accept its role and influence in indirectly helping to modify contemporary social concepts of time and space in early China that eventually came to be taken for granted throughout society.

Annette Juliano’s words (2005: 419) regarding the horse in China ring true if we consider how its presence changed the nation: “No other animal had a greater impact on China’s real and imagined history.” As has been noted many times, the horse’s influence figured strongly in early China’s social, religious, military and administrative spheres. Not the least impact was in the art of the period, which synchronized with the changes in the utilization and symbolism of the horse. This becomes especially clear in funerary art from the Western Han period on, and in the appearance of the flying horse in painting and in bronze and ceramic sculpture, symbolizing the spiritual journey to the afterlife. But it was also a metaphor for the power and swiftness of the horses from the Western Regions that the rulers were able to harness to expand and control a vast empire. That the horse also became one of the most beloved subjects in Chinese painting and sculpture is evidence of its influence up to and including the present day.
MAPS


Map 2. Asia with the Neolithic site of Dereivka and Scythian tombs at Pazyryk. (Clutton-Brock 1992: 54, Fig. 4.3).
Map 3. The external world of the Late Shang. (Li 2013: 84, map 4.1)

Map 4. Shang sites with horse remains. (Linduff 2006: 303, Figure 1).
Map 5. The Western Zhou state. (Hsu and Linduff 1988: 15, Map 2).


Map 8. The Qin Empire. (Twitchett and Loewe 1986: 41, Map 2).
Map 9. The Han Empire, ca. 108 BCE. (Li 2013: 264, Map 12.2).

Map 10. The Silk Road network, 2nd century BCE to 7th century CE (Boulnois 2004: 3031).
FIGURES

Introduction. History the Domestication of the Horse in Eurasia

Figure I.1. (Below left) (f) Written signs for wheeled wagon, from Uruk IVa, Iraq, ca. 3300-3100 BCE. (a) Wheeled vehicle design on bronze kettle from Evdik kurgan, lower Volga, Russia, ca. 3500-3100 BCE. (d) Clay model of four-wheeled wagon, Late Baden culture, eastern Hungary, ca. 3300-3100 BCE. (Anthony 2007: 68).

Figure I.2. (Above right) Rimless wooden cart wheel, from the Qizilchoqa cemetery, Qumul, Xinjiang, China, ca. 800-550 BCE. (Wang 1999: 68).
Figure I.3. Oracle bone inscription forms of the graph *che* 車, King Wuding’s rule, Late Shang dynasty, ca. ?-1189 BCE. (Shaughnessey 1988: 215, Fig. 4).

Figure I.4. (Left) Chariot burial with two horses, two human victims. From Meiyuanzhuang, Anyang, Henan, Late Shang period, 1250-1050 BCE. (Thorp 2006: 170, fig. 3.26). (Or Yuan and Flad, 2003: 122: Figure 2).

Figure I.5. (Right) Shang oracle bone with the inscription “The king fed horses in the stables.” Late Shang period. (Yuan and Flad 2003: 124, Figure 5).
Figure I.6. Foal-shaped zun from Meixian, Shaanxi. Western Zhou, King Mu’s reign, 947-928 BCE. (Zhongguo Lishi 2002, v. I: 192, Figure 202).

Chapter 1: Politics: The Horse, Territorial Expansion and Control

Figure 1.1. (Left) Earliest known depiction of horse and rider, clay tablet with seal of Abbakalla of Ur, Mesopotamia, ca. 2030 BCE (Drews 2004: 33, Figure 3.2).

Figure 1.2. (Right) Bronze ring with horse-mounted riders pursuing a rabbit, from Nanshan’gen, Ningcheng county, Inner Mongolia, China, ca. 8th century BCE. (Bunker 2002: 17, Figure 18).

Figure 1.3. (Left) Leather saddle, iron bits and horsewhip, from Subeshi, Turfan, Xinjiang, China, ca. 4th to 2nd centuries BCE. (Wang 1999: 110, top).
Figure 1.4. (Right) Bronze *ding* tripod with inscription, early Western Zhou. (British Museum. Accession no. 1973,0726.2. Accessed 9.15.22. Photo by the author).

Figure 1.5 (Left). Branding seals. From Yan (right), inscribed “Tangdu cui chema” (Cart and horse of Tangdu), Warring States period. Han seal (left) inscribed “Lingqiu qima” (Cavalry from Lingqiu) (Luo 1981: 39).

Figure 1.6. Mounted courier, from Tomb M5, Jiayuguan, Gansu, China, Wei to Jin dynasties (220-419 CE). (Jacobsen 2013: 30: Figure 2.3).

Figure 1.7. Bronze horse sculpture, from Chu tomb no. 2, Jiuliandun, Zaoyang, Hubei, mid-late Warring States period (350-221 BCE). (Hsing 2017: 66, Figure 61).
Figure 1.8. (Left, top and bottom) Female cavalry soldier figure. (Right, top and bottom) Male cavalry soldier figure, both possibly non-Chinese ethnic people. Han Yangling tomb of Han Emperor Jingdi (d. 142 BCE), Xianyang, Shaanxi, China. (Lai et al., 2011: 61, Figure 23; 120, left, top and bottom).

Figure 1.9 (Right). Cavalryman and saddled horse, Qin dynasty (221-206 BCE), from Trench 12, Pit No. 2 near the First Emperor's mausoleum, Lintong, Shaanxi, China. (Capon, 1983: 64, catalog no. 5).
Chapter 2: Space: The Horse and Early Chinese World View

Figure 2.1. Ink rubbing of Jing Ke’s attempt to kill the Qin king. Wu Family Shrine, built 151 CE, Shandong, China. (Cotterell, 1981: 144).

Figure 2.2. “Hypothetical biome transition zone” (biome ecotone). (Gosz 1993: 369). 

Chapter 3: Time, Language and the Horse

Figure 3.1. (Below) Oracle bone inscription with graphs for horse and chariot. Late Shang, Anyang period. From Yinxu. It is inscribed on the face with divinations on a ritual sacrifice to King Wu Ding and his ancestor; and on a hunt in which a chariot was overthrown and someone killed. (Allan 2005: 124, 132).

Figure 3.2. Shell and Bone Inscription (SBI) forms for ‘horse’. The earliest are to the right, the latest to the left. (Mair 2003: 175).
Figure 3.3. Bronze Inscription graphs for ‘horse’. (Mair 2003: 175).

Chapter 4: The Horse as a Symbol and Metaphor

Figure 4.1. Pair of bronze horses, Late Shang, Anyang period, ca 1250-1045 BCE. Cleveland Museum of Art. Open Access. (Refer also to Bunker, Chatwin and Farkas 1970: 85, Figure 53).
Figure 4.2 (Left). Bronze horse. Shang dynasty, from Xiasiwan zhen, Yanjiagou cun, Yan’an, Shaanxi. (Cheng 2014: 2, Figure 01).

Figure 4.3 (Right). One of two jade horses recovered from the tomb of the Shang consort Fu Hao, Late Shang (image source: www.chinafetching.com; refer to Linduff 1991:139, Figure 11.1).

Figure 4.4 (Above Left). Equid image on bronze gui vessel, excavated in 1985 from Tomb I in the Jingjiecun cemetery, Lingshi, Shanxi Province, dating from the Late Shang. (Yang 2000: 112; 114, Figure 245).

Figure 4.5 (Above Right). Horse-motif gui簋. Western Zhou (ca. 1050-771 BCE), unearthed in Jinquancun, Lianhechong, Taojiang, Hunan (Chen Jianming, ed., Hunan Provincial Museum, 2012: 27, Figure 15).
Figure 4.6 (Above). Two bronze horses. Warring States period. (Nelson-Atkins Gallery).

Figures 4.7a (left), 4.7b (right). Two bronze horses unearthed in 1998 from Tomb No. 2 tomb at the mausoleum of the king of Zhao in Handan, Hebei province and dated to the Warring States period. (Hunan Sheng 2017: 78-79).

Figure 4.9 (Left). Bronze helmet surmounted with small horse, dating from the 7th century BCE; ascribed a provenance of northeast China. (Bunker 2002: 81).

Figure 4.10 (Right). Detail. Bronze mirror inlaid with gold and silver found in Jincun, Luoyang, showing a hunting scene with a mounted rider brandishing a sword and facing a leopard. Warring States. (Kadokawa 1969, Figure 21).
Figure 4.1. Detail of inlaid bronze belt hook depicting a dragon, hunting scene with a deer and two hunters, and carriage, driver with two people and horse. Probably Warring States Period. (Private collection).

Figure 4.12 (Below Left). Horse and rider. Late 4th century BCE. Excavated 2003 from Liang cun, Majiawan, Xi’an in Shaanxi province (Hunan Sheng 2017: 76-77, Figure 6).

Figure 4.13 (Above Right). Two horses and riders. Warring States period. Pottery. Excavated from Tomb 2, Steel Factory, Xianyang in 1995 (Cooke 2000: 119, Figure 96).
Figure 4.14 (Below Left). First Emperor’s Palace (Palace Site no. 3), Xianyang, Shaanxi. A painted mural scene depicting four running horses in what may be the earliest depiction of the “flying gallop”, 3rd century BCE. (Ma et al 1997: 85, top right figure).

Figure 4.15 (Above Right). Painted earthenware horse. Excavated from the east pit of the Yangling mausoleum of Emperor Jing (r. 157-141 BCE). (Sun 2017: 177, Figure 95).

Figure 4.16 (Below). Flying gallop, Eastern Han, ca. 100 CE, relief illustration rubbing from tomb in Xiaotangshan, Shandong. (Pirazzoli-t’Serstevens 1982: 157, Figure 97).
Figure 4.17. Gilt horse sculpture. Western Han. From tomb no. 1, pit no. 5, near Maoling, Xianyang, Shaanxi in 1981. (Berger and Casler 1994: 34-35, Figure 16; Li 1998: 128-129, Figure 45; Cooke 2000: 136, Figure 119).

Figure 4.18. Horse standing over vanquished enemy. Tomb of the Western Han cavalry general Huo Qubing (d. 177 BCE). (Sullivan 1984: 62, Figure 82).
Figure 4.19. “Reining in the Horse of Heaven”, Eastern Han, relief carving from Cave IX, Jiating, Sichuan. (Edwards 1954: frontispiece).

Figure 4.20 (Below Left). Jade flying horse and immortal rider, Western Han, unearthed in Weiling, Xinhuang village, Xianyang, Shaanxi. (Ma et al 1997: 141).

Figure 4.21 (Above Right). Reclining winged horse, nephrite jade, Han dynasty. National Palace Museum, Beijing (Lee 1998: Plate 17).

Figure 4.22. Winged horse motif on chariot fitting, bronze inlaid with gold, silver and turquoise, Western Han, unearthed from Sanpanshan tomb no. 122, Ding xian, Hebei (Pirazzoli-t’Seerstevens 1982: 93, Figure 57).
Figure 4.23. Terracotta reclining winged horse. Western Han dynasty, unearthed in eastern outskirts of Xi’an, Shaanxi. (Cheng 2014: 124, Figure 02).

Figure 4.24 (Below Left). Tomb brick with incised and painted winged horse. Han dynasty, University of Pennsylvania Museum of Archaeology and Anthropology. (Sung 2022: 23, Catalog 7).

Figure 4.25 (Above Right). Winged horse and tree motif on hollow ceramic brick, Western Han, possibly from Luoyang, Henan. (Rawson 1996: 194, Figure 100a).
Figure 4.26. Impressed tomb brick, Eastern Han, 59 CE. Photo by the writer. (Musee Guimet, Collection Lionel Jacob, 1968, MA 300)

Figure 4.27. Flying sacred horse, mural painting, Jin dynasty (265-316 CE), discovered in tomb no. 5, Dingjiazha, Jiuquan, Gansu. (Zhang 1979: 18, Plate 2.2).
Figure 4.28. Flying Horse of Gansu, bronze, Eastern Han, discovered in a tomb in Leitai, Wuwei, Gansu. (*Genius of China* 1973, cover illustration).

Figure 4.30. Siddhartha flees from his father’s palace. Mogao Grottoes, Cave no. 278, Dunhuang, Gansu. Sui Dynasty (Scarpari 2000: 65, Figure 65).

Figure 4.31. Siddhartha crosses the palace wall. Mogao Grottoes, Cave no. 329. Dunhuang, Gansu. Early Tang dynasty. (Fan 1998: 59).
Figure 4.32. Siddhartha flees his father’s palace. Kizil Cave no. 110, Aksu, Baïcheng county, Xinjiang. Fifth to seventh century CE. (Xinjiang Wenwu 1999: 244, Figure 0660).

Figure 4.33. Horses, tomb mural painting, Eastern Han, from Holingol, Inner Mongolia, China. (Neimenggu 1978: 124-125).
Figure 4.34 (Below Left). Pottery *hu* jar. Western Han. Painted rider drawing bow while upon a white heavenly horse. (Hillwood 2004: 47; 45, Figure 4).

Figure 4.35 (Above Right). Pottery *hu* jar. Western Han. Painted rider drawing bow while upon a white heavenly horse. (Metropolitan Museum 1992).

Figure 4.36 (Below Left). Bronze belt plaque with two rearing horses, 4th-3rd centuries BCE, from the Ordos region. (Rawson 1980: 178, figure 158).

Figure 4.37 (Above Right). Gilt bronze buckle with winged horse motif, Han period, from Tomb M102 at Laosheshen, Yushu *xian*, Jilin province. (Zhongguo Lishi 2002, v. 2: 172, Figure 204).
Figure 4.38. Gilt bronze buckle with winged horse motif, Eastern Han, from the Zhalainuoer site, Manzhouli city, Hulunbeier League, Inner Mongolia. (Kessler 1994: 75, Figure 46).

Figure 4.39 (Below Left). Silver harness ornament, Xianbei, that pictures a winged stallion in relief, in flight over a mountain landscape. (Bunker 2002: 55, Figure 22).

Figure 4.40 (ght). Sogdian sarcophagus panel with winged horses (detail), late Northern Dynasties, 580 CE, from the tomb of Shi Jun, Xi’an, Shaanxi. (Xu 2021: 163, Figure 13).

Figure 4.42. Textile with winged horse motif and Sogdian pearl roundel pattern, from Astana cemetery, Turfan, Xinjiang. (Cheng 2014: 137, Figure 137).
Figure 4.3. Incised winged horse on bowl, pottery, Tang dynasty or before. Excavated at Tongusbash, Aksu, Xinjiang. (Xinjiang Wenwu 1999: 233, Figure 0632).

Figure 4.44. Copper incense burner with winged leogryph handle, 1st century BCE, found at Sirkap, Taxila, Pakistan. (Asia Society 2011: 8, Figure 3).
Figure 4.45. Decorated door panel with *makala* motif, found at the Niya site, Xinjiang, Western Han to Eastern Jin period. (Stein 1912, Figure 98).

Figure 4.46 (Right). Wooden door panel with (top) elephant and human attendant and (bottom) a griffin-like creature with horns and wings, Western Han to Eastern Jin period. (Xinjiang Wenwu 1999: 54, Figure 0097).
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Regarding the revolution in measuring and determining time based upon location or position, it would be helpful to provide a more modern parallel as an example for comparison. It is acknowledged universally that the horse provided the first speedy form of transportation. As Anthony and Brown (1991: 22) put it, “Horses, not wheels, provided the first significant innovation in human transport, with an effect comparable in scope to that of the introduction of the steam locomotive or private automobile.”

However, the later, revolutionary introduction of the railroad to England, Europe and America had far-reaching repercussions in the realm of transportation technology as well as on the public’s conception of time. The railroad’s potential enthralled the public, but it was not always without some reservation. If we compare the speed of the railroad of the first half of the 19th century with that of transportation speeds today, it would seem that feelings about the innovative decrease in time in getting from point A to point B would be negligible. In his work *Walden*, Henry David Thoreau expressed some of this reservation in so many words (1977: 346): “Why should we live with such hurry and waste of life?” In discussing the simplification of living, he observes, with reference to the effect of the railroad on our lives (1977: 345. Italics in the original):
It [the nation] lives too fast. Men think that it is essential that the Nation have commerce, and export ice, and talk through a telegraph, and ride thirty miles an hour, without a doubt, whether they do or not; but whether we should live like baboons or like men, is a little uncertain. If we do not get out sleepers, and forge rails, and devote days and night to the work but go to tinkering upon our lives to improve them, who will build railroads? And if railroads are not built, how shall we get to heaven in season? But if we stay at home and mind our business, who will want railroads? We do not ride on the railroad; it rides upon us.

Yet despite this, Thoreau acknowledges the swiftness and the celestial power that the railroad had brought into the public view, when he writes (1977: 368),

When I meet the engine with its trail of cars moving off with planetary motion—or, rather, like a comet, for the beholder knows not if with that velocity and that direction it will ever revisit this system, since its orbit does not look like a returning curve—with its steam cloud like a banner streaming behind in golden and silver wreaths, like many a downy cloud which I have seen, high in the heavens, unfolding its masses to the light—as if this traveling demigod, this cloudcompeller, would ere long take the sunset sky for the livery of this train.

Thoreau also writes metaphorically, not without parallel in the literature of the nineteenth century. Here he describes the railroad in horse-related terms (1977: 368, 369):

When I hear the iron horse make the hills echo with his snort like thunder, shaking the earth with his feet, and breathing fire and smoke from his nostrils (what kind of winged horse or fiery dragon they will put into the new Mythology I don’t know), it seems as if the earth had got a race now worthy to inhabit it . . . . The stabler of the iron horse was up early this winter morning by the light of the stars amid the mountains, to fodder and harness his steed . . . . All day the firesteed flies over the country, stopping only that his master may rest, and I am awakened by his tramp and defiant snort at midnight, when in some remote glen in the woods he fronts the elements incased in ice and snow; and he will reach his stall only with the morning star, to start once more on his travels without rest or slumber. Or perchance, at evening, I hear him in his stable blowing off the superfluous energy of the day, that he may calm his nerves and cool his liver and brain for a few hours of iron slumber.

We can see from this passage how much the horse was such an integral part of his world and that could not be removed from the context of nineteenth century life. The
horse was the only contemporary mechanism of movement with which he could find a parallel.

The impact of the railway with its revolutionary influence on concepts of time and speed was not confined to literature and philosophical writings. In England, it also had its effect on art. According to Gage (1972: 13), while paintings that depicted trains had begun to appear in the 1830s, “. . . among the more ambitious and the more imaginative painters there seems to have been no response; with the single exception of J. M. W. Turner, who at [the Academy Exhibition] of 1844 showed his Rain, Steam and Speed: The Great Western Railway. . . ”, (see illustration on the next page) which depicted a locomotive speeding along a track at night in the pouring rain, exuding all three characteristics in the title. One critic of the time, William Makepeace Thackery, said of the painting that “The world has never seen anything like this picture” (Gage 1972: 14).

Railroads and the Establishment of Standard Time and Time Zones

In the late 19th century, Europe and the United States underwent a profound development in public time. Kern writes (2003: 11, 12) “The most momentous development in the history of uniform, public time. . . was the introduction of standard time at the end of the nineteenth century.” Sanford Fleming, a pioneer in promoting public time, felt that the use of the telegraph “. . . subjects the whole surface of the globe to the observation of civilized communities and leaves no interval of time between widely separated places proportionate to their distances apart” (Kern 2003: 11). Kern, however, says (2003: 12) that “it was the railroad companies and not the governments that were the first to institute [world time]. Around 1870, if a traveler from Washington

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to San Francisco set his watch in every town he passed through, he would set it over two hundred times. The railroads attempted to deal with this problem by using a separate time for each region. . . . However, in 1870 there were still about 80 different railroad times in the United States alone.” The General Time Convention held in the Grand Pacific Hotel in Chicago, October 11, 1883, was remarkable for the railroads’ historic adoption of the current Standard Time System of the United States, implemented on November 17 of that year.

The following year, representatives of twenty-five countries convened in Washington, D.C. at the Prime Meridian Conference. They “. . . proposed to establish Greenwich as the zero meridian, determined the exact length of the day, divided the earth into twenty-four time zones one hour apart, and fixed a precise beginning of the universal
day” (Kern 2003: 12). It took a number of years for the various countries to overcome the initial confusion.

The Heavenly Horse Mania.

If we consider the “Railroad Mania” that infested England for a decade or more from about 1835 (Dale 1994: 49ff), we can point to a parallel phenomenon that occurred in the Western Han regarding the ‘Heavenly Horse.’ There are similarities to contemporary views of both the horse and the railway. Dale writes (1994: 52) that despite the dangers the early railway presented, they “. . . were forgotten and it [the railway] became the safest, best, speediest, and most physically and financially secure invention in the world. . . . ‘[B]y railways the whole country may be, and will be, under the blessing of divine providence, cultivated as a garden’.” The Heavenly Horse, in its literal manifestation as a spiritual mount, also took on a divine aspect which would benefit the emperor—and by association, the empire. Lines from the Western Han hymn-song, possibly composed by Emperor Wudi in 101 BCE, expressed this idea: “The Heavenly Horses are coming; / Open the gates while there is time. / They will draw me up and carry me / To the Holy Mountain of K’un-lun. / The Heavenly Horses have come / And the Dragon will follow in their wake. / I shall reach the Gates of Heaven, / I shall see the Palace of God” (Waley 1955: 97).

The Heavenly Horse Mania, if one can refer to it as such, began with mythical and legendary stories from the Zhou period, but substantially increased following the introduction of horses from the Western Regions during Wudi’s reign in the late second century BCE, and manifested in the artistic depictions of galloping and flying horses,
especially in the subsequent Eastern Han dynasty. The Han Chinese and British eras saw the introduction into both languages of horse-related and railway-related phrases, if not into literature. In early China, phrases such as *ma dao chenggong* 馬到成功 (literally, “success when the horses arrive”, e.g., “instant success”), and *mashang* 馬上 (literally, “on the horse”: immediately, right away) became commonplace. In England, the railroad gave birth to phrases such as “full steam ahead”, “run out of steam”, “getting up steam”, “stay on track,” and “running off the rails” that are still in use today (Dale 1994: 47). We can see from these examples that the introduction of greater swiftness in physical transportation led to changes in social concepts, language, and reforms in administrative policies that sought to accommodate these changes in the worlds of yesterday and today.

The plaque illustrated here commemorates the establishment of the Standard Time System in the United States. It is on display in Chicago’s financial district near the corner of La Salle Street and East Jackson Street, where the convention in 1883 was held. The script on the plaque is provide below.
Chicago’s famous Grand Pacific Hotel; then on the site of the present Continental Bank building, was the location of the General Time Convention of 1883 which, on October 11 of that year, adopted the current Standard Time System of the United States.

The Convention was called by the nation’s railroads. Delegates were asked to develop a better and more uniform time system to govern railroad operations.

Previously, time had been determined by the position of the sun, with high noon as the only existing standard of exact local time. More than 100 different local times resulted from this method.

The new plan proposed by William F. Allen, Convention Secretary, established four equal time zones across the country, each one hour ahead of the zone to its west. All railroad clocks in each zone were to be synchronized to strike the hour simultaneously.

The Standard Time System was inaugurated on November 18, 1883. On that Sunday, known as the “Day of Two Noons,” the Allegheny Observatory at the University of Pittsburgh transmitted a telegraph signal when it was exactly noon on the 90th meridian. Railroad clocks throughout the United States were then resent on the hour according to time zones.

Although implemented by the railroads, the Federal Government, states, and cities began to use the system almost immediately. On March 19, 1918, Congress formally acknowledged the plan by passing the Standard Time Act.

SOURCES


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