The *Shuzi Gua* Corpus and The Yi Traditions: A Critical Study



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To my parents

42 (the “Answer to the Ultimate Question of Life, the Universe, and Everything”)

Douglas Adams, *The Hitchhiker's Guide to the Galaxy*

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ABSTRACT

My dissertation explores the technical, theoretical, and philosophical aspects of divination practice in early China as found in the so-called *shuzi gua* 數字卦 ('numerical cypher' or simply 'numerical *gua*') corpus. Chapter 1 is a state of field of the relevant issues discussed in the present work: knowledge transmission in early China, divination, and the historiography of the *shuzi gua* corpus. In chapter 2, I introduce the *shuzi gua* corpus and establish the methodology for the assessment of the primary sources, namely the Analytical Map, a three-fold grid built around the following criteria: *material*, *visual* and *linguistic*. They each focus on three aspects of the evidence: *objects*, *layout*, and *language*. Chapter 3 is the Analytical Map divided into three criteria. Chapter 4 is comprised of two main parts: part I (Writing Orality) revisits the stronghold of oralism—the formula—and examines the interplay between the oral and the written in the language of the *shuzi gua* materials. I argue that formulae should be considered a *scribal device*, a set of common phrases and technical terms used by scribes to record the divination results. Thus, the formula is intended to facilitate the production of written records on hard media. Part II (Computational Methods) discusses the 'two stalk system hypothesis', first proposed by Li Xueqin 李學勤 (1992), and later elaborated by Jia Lianxiang 賈連翔 (2014) with respect to the Shang 商 (*c*. 1600-1046 BCE) and Western Zhou 西周 (1045-771 BCE) *shuzi gua* material. After discussing the shortcomings of this hypothesis, the analytical criteria described above are used to extend the statistical methods applied by Bréard & Cook (2020). By tracing the instances of 1 and 7, I provide important arguments for the 1-7 debate by looking at local communities where specific practices of generating numbers prevail. Chapter 5 focuses on the relationship between the *shuzi gua* and the *Xici* 繫辭 ([Commentary to the] Appended Sentences; *c*. mid-4th century BCE). First, it explores the strategies of philosophical meaning construction by analysing its textual macrostructure and lexical usage. Finally, I discuss how the *Xici* relates to different *shuzi gua* traditions.

Key words: *shuzi gua* corpus; Yi traditions; divination; manuscript cultures; textual analysis

INTRODUCTION

The textualisation of a divinatory act is a re-conceptualisation of the act itself. My thesis discusses this *shift* in the Yi tradition 易 (Changes) by looking at its components from a variety of perspectives. Focussing on the large set of hitherto unknown unearthed sources currently understood as belonging to the *shuzi gua* 數字卦 ('numerical cypher' or simply 'numerical *gua'*) corpus, it explores the technical, theoretical, and philosophical aspects of the multifaceted divinatory reality found in this corpus. The *shuzi gua* material has been the subject of assumptions of a presumed genetic relationship with the Yi; however, as it will become clear, this relationship is superficial in most cases. The visual similarities with the hexagrams and trigrams of the Yi, as well as the presence of numbers, have led some scholars over the years to project anachronistic interpretations of the later, received tradition back onto this *earlier* data.

My thesis sets out to tackle several crucial issues which remain underexplored: What is the *nature* and *meaning* of the *shuzi gua* and how can we define them? Moreover, this material is highly eclectic in nature and wide-ranging in time period, and to lump it uncritically into one broad category presents a problematic simplification of the matter. Given the heterogeneity of the sources, what are the features which tie them together under the same category, and are there any patterns which can be discerned? In order to highlight the differences and similarities of the *shuzi gua* materials and appreciate the socio-cultural contexts in which these emblems originated and developed, I propose that we should first set up a more nuanced way of assessing the sources under study. Only then may we discuss the possible relation between the *shuzi gua* materials and the Yi tradition.

To address these issues, I have devised the Analytical Map, a threefold grid comprising the following criteria: *material*, *visual*, and *linguistic*. Each criterion focuses on its own aspect of the evidence: *object*, *layout*, and *language*. As such, the Analytical Map not only serves as a framework for assessing the different elements of the *shuzi gua* material, but it also lays the groundwork for the historiographic discussions carried out in my thesis.

1 Thesis Outline

My thesis consists of five chapters. Chapter 1 contains the state of the field of the main topics related to my work: Knowledge transmission in early China and divination. Next, I discuss the historiography of the interpretation of the *shuzi gua* material, paying particular attention to the *Shifa* manuscript. In fact, an entire section is devoted to this text. Chapter 2 establishes the methodology for the analysis of the primary sources. I first discuss the two principles underlying my methodology; next, I introduce the Analytical Map, which, as I mentioned earlier, consists of three criteria: *material*, *visual*, and *linguistic*. The material criterion describes the object, providing information about its completeness, dating, measurement, and provenance. The visual criterion details the text's configuration, i.e. how the text is laid out upon the object, and it is divided into macro- and micro-analysis. The linguistic criterion analyses the language on two levels—structural-syntactic and lexical—identifying the technical lexicon and the linguistic patterns, where present. Chapter 3 is the Analytical Map. Since I have analysed the *Shifa* in my master thesis, here I shall focus on the Shang and Western Zhou material, as well as the divinatory records from the ancient state of Chu.

Chapter 4 comprises two parts. Part I examines the interplay between the oral and the written within the language of the *shuzi gua* materials. Drawing on the study on 'formulaicity' by Wray and Perkins,[1] I propose a definition of formulae based on Old Chinese evidence and identify the structure-based formulaic types as found in the divinatory records. I then discuss the different

[1] Wray and Perkins 2000.

functions of each type in the divinatory record, and more broadly within the framework of the—essentially oral—divinatory ritual. I suggest that formulae should be considered a *scribal device*, namely as a set of stock phrases and technical words used by the scribes to record divination results. They formed a toolkit which was meant to facilitate the composition of *written* records on hard media. The writing act most likely occurred *after* (and separately from) the oral performance of the divinatory ritual. Therefore, the oral and written coexisted but were independent from each other within the context of divinatory performance. This chapter aims at broadening the scope of what the term 'formula' encompasses by studying a written context of formulaic applications and their complex connections to ritual performance.

Part II discusses the commonly known hypothesis of the two stalk systems which was first proposed by Li Xueqin[1] and later elaborated upon by Jia Lianxiang.[2] According to Li Xueqin, the Shang and Western Zhou *shuzi gua* material can be divided into two groups, where the 1 and 7 appear exclusively. After discussing the shortcomings of this hypothesis, I shall use the criteria of the Analytical Map to expand on the statistical methodology applied by Bréard & Cook.[3] Taking seriously the mathematical models they proposed to uncover the different cleromantic techniques that may underlie the *shuzi gua*, this chapter reconstructs the patterns of numerological variations by site of origin and type of object. By tracing the instances of 1s and 7s, I evaluate whether their different geographic distribution might be correlated with the type of object on which the *shuzi gua* are inscribed. The purpose of this chapter is twofold: first, it problematises the two-stalk systems hypothesis; second, it contributes an important argument to the 1-7 debates by looking at local communities where specific practices for generating the numbers prevailed. It should be stressed that my analysis crucially includes the *siyao gua* which have been excluded in some studies simply because they could not be explained against the trigrams and hexagrams of the Yi traditions.[4] While

[1] Li Xueqin 李學勤 1992.
[2] Jia Lianxiang 賈連翔 2014, 2020.
[3] Bréard and Cook 2020, Cook and Bréard 2021. See also Pischedda and Bréard forthcoming.
[4] See for instance Bian Xiaobing 2016.

the *siyao gua* are statistically irrelevant—to date we possess only a few examples—it is methodologically important to consider this additional material in any *unbiased* study concerning the origin of numerological stalk divination and its relation to the 'Classic' Yi.

Chapter 5 focusses on the relationship between the *shuzi gua* corpus and one of the core texts of the Yi tradition, the *Xici* 繫辭 ([Commentary to the] Appended Sentences; probably dating to the 4th century BCE). I first explore the strategies of philosophical meaning construction of the *Xici* by analysing its textual macro-structure and lexical usage. Without sidestepping its composite nature, my analysis illustrates how the textual form of this text fundamentally mirrors its content. Furthermore, I show how the structural and lexical elements make the *Xici* a kind of 'argument-based text'[1] as the philosophical argumentations are clarified *within* the text itself. The individual building blocks of the texts are part of a larger network of internal self-referential links. At the same time, the constant use of terminology pertaining to the Yi traditions allows the textual network to point *outward*, that is, to those communities which interpreted and reinvented what had become by the end of the Warring States period a well-established corpus of 'cultural capital'. After reconstructing the patterns of philosophising of the *Xici*, I discuss how this text relates to the different *shuzi gua* traditions and what the authors' agenda was when it was conceived. I argue that the dating and the content of the *Xici* can be better understood if read in the light of the *shuzi gua* corpus. Based on the new archaeological evidence, we can now safely affirm that: (1) the texts belonging to the Yi traditions, far from being the product of the sages of the past, 'emerged from a world of diverse but related practices';[2] such practices contributed to the evolution and final editing of these texts. (2) What was most likely the outcome of a stochastic distribution was given philosophical legitimacy during the 3rd century BCE, ultimately establishing a credible cosmo-philosophical framework for the numerological system of texts used primarily in divinatory contexts.

[1] Meyer 2012.
[2] Bréard and Cook 2021.

The contributions of this research are manifold. First, my work provides an accurate and nuanced account of the different divinatory traditions involving numbers and *gua*-like notations, starting from the palaeographical analysis of the *shuzi gua* corpus and then relating them *unanachronistically* to the later, imperial established tradition of the Yi. Second, the Analytical Map is a starting point for a digital database which facilitates future research on this topic. Finally, as the first comprehensive and systematic study of the *shuzi gua* material in English, it shall introduce this important corpus of texts to a wider audience, both within sinology and beyond.

Chapter 1

STATE OF THE FIELD: KNOWLEDGE TRANSMISSION, DIVINATION AND THE *SHUZI GUA* CORPUS

1 Knowledge Transmission in Early China and What Scholars Made of It

When it comes to knowledge transmission in early China, the *locus classicus* is *Mozi* 墨子 (Master Mo) 4.6, which exemplifies the heterogeneous nature of Chinese writing production.[1] A somewhat related, and indeed equally famous passage, is *Lunyu* 論語 (The Analects) 3.9, in which Confucius bemoans the 'lack of documents' from the Xia and Shang dynasties.[2] In what follows, I expose how the situation described by Confucius changed dramatically at the turn of the 20th century, and how contemporary sinology is using texts 'written on the bamboos and silk', 'engraved in metal and stones' and 'cut in the vessels' —and many more material supports—as historiographical sources.

Beginning with the excavation at Anyang 安陽 in 1928, and particularly since the late '70s-early '80s, there has been a surge of startling archaeological discoveries in mainland China. Thousands of artefacts made of jade, pottery, and bronze, as well as texts written on different kinds of material carrier have been retrieved from royal and elite tombs, pits, and house walls. These discoveries have generated great excitement among scholars, prompting a re-evaluation of Chinese intellectual history, literary production, and manuscript culture. We are now provided with immensely valuable new documents and archaeologically recovered items which can confirm, challenge, and enrich our

[1] The sources of our knowledge lie in what is written on the bamboos and silk, what is engraved in metal and stones, and what is cut in the vessels to be handed down to posterity. 以其所書於竹帛，鏤於金石，琢於槃盂，傳遺後世子孫者知之。(English translation: Johnston 2010). On the evolution of Chinese writing on different media, see Tsuen-Hsuin Tsien 1962, 2004. For other refernces on Chinese palaeography, see Shaughnessy 2013.

[2] The Master said, As for the Xia rites, I could describe them, but the state of Qi can't provide the proofs I need. As for the Yin rites, I could describe them, but the state of Song can't provide the proofs I need.6 This is due to the lack of records and persons of authority. If these were sufficient, I could prove my words. 子曰：夏禮，吾能言之，杞不足徵也；殷禮，吾能言之，宋不足徵也。文獻不足故也，足則吾能徵之矣。(English translation: Watson 2007). Slingerland 2003 has a slightly different translation which stresses the moral aspect of Confucius's statement.

old assumptions, casting light on the cultural and textual *fluidity* which characterised the pre-Han time. The field of early China is therefore experiencing what we might rightfully call a revolution.[1] The eminent palaeographer Li Xueqin 李学勤 (1933-2019) once even called for a rewriting of early Chinese history.[2] Consequently, new disciplines, approaches, and methodologies have started to emerge.[3]

Despite the importance of these discoveries, some scholars have expressed the need to be cautious concerning methodology. Indeed, this understandable level of caution is required for at least the following reasons. First, academic attention (both in China and outside) has been mostly devoted to the materials bearing texts, particularly the bamboo, wood, and silk manuscripts dated to the Warring States, Qin, and Han periods.[4] The Guodian 郭店, Shanghai Museum 上海博物館, Tsinghua University 清華大學, and Anhui University 安徽大學 corpora are well-known cases in point.[5] Amounting to thousands of written bamboo slips, they have been carefully preserved and edited by leading Chinese experts. Only a very low percentage of the material is 'manuscripts with transmitted counterparts',[6] while most texts contain hitherto unknown content. Many of the texts include notable *intertextual correspondences* with already known texts or bear an alleged 'doctrinal' resemblance to them.[7] 'Manuscripts with transmitted counterparts' are often used to support claims of high antiquity of the classics, such as the *Shijing* 詩經 (Classic of Songs), the *Shangshu* 尚書 (Exalted Documents), and, of course, the *Zhouyi* 周易 (Zhou Changes). There is an overall tendency, albeit not followed by all scholars, to read the manuscript version(s) *vis-a-vis* the received

[1] Roth 1999; Scarpari 2000; Andreini 2005.
[2] Li Xueqin 1992. See also Edward L. Shaughnessy's introduction in *Rewriting Early Chinese Texts*. Shaughnessy 2006.
[3] For two different but complementary approaches to Chinese palaeography, see Kern 2002 and Richter 2005.
[4] Kern 2005. See also Paul Goldin *Ancient Chinese Manuscript: Bibliography of Materials in Western Languages*, regularly updated.
[5] Another equally well-known corpus is the Peking university 北京大學 corpus. For an excellent introduction to this corpus, which also touches upon the highly debated topics of authenticity and looted manuscripts, see Foster 2017.
[6] This definition is first used in Boltz 1997.
[7] On the significance of intertextual correspondences in manuscript texts, see Meyer 2021. See also Andreini 2005: 137.

counterpart, thus forcing a projected interpretation of the text in question.[1] Matthias Richter, in his study of the late 3rd century BCE bamboo manuscript **Min zhi* fumu 民之父母 (Parent to the People), strongly rejects the process of 'homogenising' parallels texts, as it aims 'to make the newly discovered manuscript text consistent with the existing literary heritage.'[2] As an alternative, other scholars prefer to pay attention to the divergences between the different versions of what only superficially appear to be the same text. This approach is more beneficial as it underscores variants as a common feature of manuscript cultures.[3] Therefore, in recent years more and more scholars are joining force to establish rigorous methodologies to avoid preconditioned reading of the unearthed source materials and investigate their significance for the social communities of the specific historical context in which these materials were produced.[4] I will elaborate more on this below.

Second, aside from what kind of approach scholars decide to adopt, the situation is further complicated by the fact that the unearthed documents are written in scripts which differ according to the different media and historical period. These include, but are by no means limited to, oracle bones script, bronze script, and Chu 楚 script. A common phenomenon is also the presence of idiosyncratic graphs, the interpretation and transcription of which remain the subject of debate.[5] Therefore, palaeographers frequently offer contrasting readings (of just a few sentences or even just one), which may affect the meaning of a text.

Finally, because of the exposure to difficult environmental conditions, with the manuscripts being buried for centuries, most of the materials are now too fragmentary or are severely damaged, and their original content is, in some cases, regrettably lost forever. Moreover, the acquisition of the texts is often not the result of planned scientific excavation campaigns but is instead salvaged from

[1] On this topic, please refer to my conversation on the *Zhouyi* in Ch. 2, where I provide examples of how modern scholarship has read unearthed manuscripts through the lens of this received classic.
[2] Richter 2013: 70. See also Meyer 2012.
[3] For an example of this approach to the Shu traditions, see Meyer 2021.
[4] Meyer and Schwartz 2022.
[5] Qiu Xigui 2000.

sites previously ‘disturbed’ either by tomb robbers, or by the massive infrastructure projects mostly carried out in China's southern provinces.[1]

Despite its brevity, this discussion might help to highlight the complexity of the field of early China, what has been achieved so far, the different challenges posed by the physical nature and archaeological context of the source materials, as well as the related outstanding issues. Shirley Chan, in the introduction to the *Dao Companion to the Excavated Guodian Bamboo Manuscripts*, writes: ‘The rethinking and rewriting of early Chinese textual history will always be an ongoing process, requiring scholars of today and the future to be ready to relinquish even their most cherished premises and interpretations when new evidence or more robust, better substantiated interpretations become available.’[2] An example of this is the statement made by the late Li Xueqin when the *Shifa* 筮法 (Method of Stalk Divination; *ca.* 4th century BCE) manuscript was published in 2013. On that occasion, he declared that his previous assumptions concerning the Warring States 戰國時期 (475-221 BCE) bamboo manuscripts bearing *shuzi gua* were disproved by the new evidence.[3] We are just at the beginning of an exciting yet daunting journey into the reconsideration of the ancient Chinese divinatory practices. It is against this background, and bearing these crucial remarks in mind, that I propose a reassessment of the *shuzi gua* corpus. But first, a few words about divination are in order.

Divination

2.1 General Principles

> [The Shang diviners] sought for certainty, but for a certainty that, by the way in which the diviner defined it, was acknowledged to be uncertain and changeable. That uncertainty, however, was neither total nor disordered. The diviner

[1] This is not to say that before the 90s there were no looted artifacts: the famous Chu Silk Manuscript 楚帛, for instance, is of uncertain provenance. However, the mid-90s saw a surge in this practice, specifically for bamboo manuscripts.
[2] Chan 2019: 6.
[3] Li Xueqin 2013b.

> *patterned the changeability*…The desired was presented against the undesired, and the undesired, were it to occur, was not unexpected.
>
> David N. Keightley, *Shang Divination and Metaphysics* (1988)[1]

So, what do we talk about when we talk about divination? In early cultures, divination, or mantic activity, was nearly ubiquitous.[2] It was performed in many distinctive ways in different cultural contexts, at different periods of time. This is reflected by the diverse terminology which has been used by each ancient culture to refer to this phenomenon. Despite this diversity, it is still possible to identify the following common features.[3]

(1) Divination was almost always prompted by a universal human anxiety due to *uncertainty*.

(2) This anxiety was often soothed by gaining *knowledge* of the hidden meaning of events, situations, or things in the past, present or future.

(3) Gaining such knowledge was primarily related to drawing conclusions to aid with personal and community *decision-making*.

(4) This knowledge was not regularly accessible to people as it usually came from a different realm, which, for lack of a better term, can be referred to as the *extra-*

[1] Keightley 1988.

[2] The notions of divination and fate are at the core of the research activities carried out by the International Centre for Research in the Humanities 'Fate, Freedom and Prognostication. Strategies of Coping with the Future in East Asia and Europe', established in 2009 (Erlangen-Nuremberg). Since then, the centre has explored theories and practices of 'copying with the future', analysed the different terminology related to these practices in a cross-cultural manner. Several papers presented in workshops, conferences and lectures has been published in volumes and journals related to the centre. See the series *Prognostication in History* and the *International Journal of Divination and Prognostication*, both published by Brill.

[3] The following list has been conceived together with Domenico Giordani for the conference *Deciphering the Uncertain: Sociological and Epistemological Aspects of Divination in Early Text Cultures* (Oxford, 24-25 June 2019), which was hugely inspired by the comparative volume written by Lisa Raphals (2013).

human realm. The extra-human realm includes, among others, gods, ancestors, spirits, or a universal cosmic order.

(5) Extra-human knowledge often manifested itself in the form of *signs*.

(6) The divinatory act generally involved a human expert, otherwise known as a *mediator*, who was able to decipher these signs and translate them into a language which was shared within a specific cultural context.

(7) The divinatory sign—whther directly found in nature or deliberately obtained—could be, but need not be limited to, the result of communication with *extra-human entities*.

(8) In most cases the divinatory act implied that these non-human entities (due to being closely *related to humans*) directly *affected* different aspects of their life.

(9) In many cultures, divination was also related to *power* as it concerned the elite's need to link the mundane enterprise to the divine realm; in this perspective, divination overlaps with rituality, and was a means by which to obtain political legitimacy.

(10) Divination played a key role in the *private sphere of everyday life* and was a derivative of people's conception of life and death, divinity and nature, and the relationship between humans and the different dimensions of experience.

In short, divination should not be regarded as the mere act of foretelling the future; rather, it represents a significant feature at different societal levels, embedded in a somewhat coherent hermeneutic system—or indeed shared within a specific community.[1]

[1] Recent monographs which investigate divination adopting different cross-cultural perspectives are Johnston and Struck 2005; Annus 2010; Lackner 2018; Driediger-Murphy 2019.

In his landmark study *Divination et Rationalité*, Jean-Pierre Vernant (1914-2007) addresses two questions related to the rationality and the social function of the mantic practice: (1) 'What can be implied about the nature of intellectual operations' and 'the rationality expressed during a divinatory act'? (2) 'What position and function does a particular society assign to oracular knowledge' and 'how far does its field of application extend and what are the areas of social life subject to its authority'?[1] Since then, divination has been considered as a lens that enables us to investigate the 'intellectual operations' of a specific culture,[2] in particular how this culture analyses the world's dimensions. If we discard the traditional understanding of divination as the act of foretelling the future, we could say that divination *is*, in fact, a means to inquire about reality, whether seen or unseen, perceived or not. It is a 'system of knowledge' employed in early times to make sense of the plethora of external signs comprising the different realms of existence.[3] Besides this, mantic activity could also be understood as a game of interaction played by some humans who are able to distil the random elements of reality into coherent and logic patterns, so as to translate them into a more accessible formal language.

The two terms commonly used by scholars to indicate what I just described are 'divination' and 'mantic practices'. The term divination comes from the Latin *diuinus* ('pertaining to a deity,' 'inspired by a god'), 'which establishes a connection with the gods—it is a craft that involves a conversation with the gods and an engagement with the signs they send, through a variety of methods; the implication is that divination comes from the gods.'[4] It was first attested in Cicero's *De Diuinatione*. The term mantic (*mantis* μάντις, 'seer, prophet, sooothsayer') is a Grecism attested for the first time in Aeschylus's *Prometeus Bound* (*ca*. 460 BCE). Later, Plato distinguished between 'inspired' or 'natural divination' (*mantiké* μαντικέ) and 'technical divination' (*tekhnē* τέχνη, 'art, skill, craft in work'). The former 'operates without the use of any kind of technical

[1] Vernant 1974. I quote the above sentences from the English translation in Vernant and Zeitlin 1991.
[2] Johnston and Struck 2005.
[3] Rutz 2013.
[4] Santangelo 2020.

device' since 'the god's knowledge passes through nothing outside the human individual. Divine inspiration reaches the human individual directly through dreams (which are iconic texts) or is communicated through a prophet mouthpiece who supplies a response (usually a verbal text).'[1] The latter mainly refers to the interpretation of signs, such as the flight of birds or animals' entrails. This heuristic distinction first identified by Plato was later adopted Cicero. In short, according to Graeco-Roman sources, the power of foreseeing and fathoming the future was understood to be directly derived from one or more gods, in order to connect the human being with the divine realm.[2]

Here I would like to introduce what I call 'active' and 'passive' divination, which focusses on the degree of the diviner's agency. 'Active' divination refers to the deliberate act of creating a sign, while 'passive' divination is the interpretation of signs directly found in nature. Therefore, augury – the ancient Roman practice of interpreting omens observing the flight of birds – is a kind of 'passive-technical' divination as it does not involve the production of signs. Likewise, I consider enthused divination to be 'passive-natural', as it simply requires the diviner to be possessed by a god, or a spirit, in order to obtain the oracular outcome, without producing any artificial sign. By contrast, haruspicy is an 'active-technical' practice because it involves a certain degree of agency from the diviner – the animal is first sacrificed and then inspected, whereas an augur (who practices 'passive-technical' divination) would draw their analysis from the kind of birds, the direction of flight and whether they were flying alone or in a group. At the end of the spectrum, we may locate Chinese turtle-shell divination (see my discussion in the next section), in which the human agency is much more prominent than in the rest of the practices mentioned so far.

[1] Manetti 1993: 19.

[2] Plato writes that '...Divination is also the agent which brings about good relations between gods and humans… It is by means of spirits that all divination can take place… Deity and humanity are completely separate, but through the mediation of spirits all converse and communication from gods to humans, waking and sleeping, is made possible.' Translation: Howatson and Sheffield 2008.
Cicero famously opened his treatise about divination as follows: 'There is an ancient belief, handed down to us even from mythical times and firmly established by the general agreement of the Roman people and of all nations, that divination of some kind exists among men; this the Greeks call μαντική— that is, the foresight and knowledge of future events. A splendid and helpful thing it is — if only such a faculty exists — since by its means men may approach very near to the power of gods. And, just as we Romans have done many other things better than the Greeks, so have we excelled them in giving to this most extraordinary gift a name, which we have derived from *divi*, a word meaning 'gods', whereas, according to Plato's interpretation, they have derived it from furor, a word meaning 'frenzy'.' Translation: Falconer 2001.

2.2 Divination in Early China

As mentioned previously, a turning point for divination research was the seminal study by Jean-Pierre Vernant, which has prompted a more sophisticated line of inquiry into the divinatory act and has informed most of the recent works on the subject.[1] Lisa Raphals's *Divination and prediction in Early China and Ancient Greece* (2013) is an excellent example of such an approach applied to both the Chinese and Greek contexts.[2]

Raphals argues that divination 'has left its mark on different intellectual domains', and that it has 'affected the growth of systematic thought and abstraction.'[3] She then goes on to discuss the human-divine relation as expressed in both cultures. She starts from the premise that 'most metaphysics assumes the presence of gods or divine powers and the possibility of communicating with them. This is expressed by means of techniques which were specifically aimed at communicating with the gods.' She then defines the Chinese human-divine relationship as 'genetic' and 'bureaucratic',[4] stressing that the Chinese divinatory techniques 'progressively de-emphasised the connection with the divine beings'.[5] For reasons explained in chapter 5 of my thesis I disagree with this view. Chinese methods, she argues, were more linked to 'empirical observations', 'naturalistic inquiries' and the identification of patterns within the multiplicity of reality.[6] In light of this, one could say that, in the Chinese context, divination was very rarely concerned with acquiring knowledge of future events. This is true at least for both of the most widely used techniques: turtle-shell and stalk divination.[7]

[1] The volume *Divination et Rationalité en Chine Ancienne* is explicitly inspired by Vernant's work. Chemla, Harper, and Kalinowski 1999.
[2] Raphals 2013. For a recent comprehensive volume on divination in China, see Lackner and Zhao 2022.
[3] Raphals 2013: 381.
[4] Raphals 2013: 381.
[5] Raphals 2013: 381.
[6] Raphals 2013: 384.
[7] The *Yiwen zhi* 藝文志 (Bibliographical treatise) of the *Hanshu* 漢書 (History of the Han) composed by Ban Gu 班固 (32-92) reports the two most ancient divination methods, 'Milfoil and Turtle' (*shigui* 蓍龜), which represent numbers (*shu* 數) and images (*xiang* 象) respectively. These methods did not exclude each other, rather they were often used in the same occasion as further supporting evidence of a given prognostication. On Han accounts of divinatory practices, see Raphals 2009.

Turtle-shell divination is a form of pyromancy (from Greek pyr πῦρ, 'fire': 'divination by means of fire'; in Chinese: *bu* 卜).[1] Evidence of a post-sacrificial pyro-osteomancy has been found at the Longshan (Henan 河南, Hebei 河北, Shandong 山东) and Qijia 齊家 (2400–1900 BCE, Gansu 甘肃) sites.[2] Scholars assume that, during this early stage, the diviner would read the cracks caused by the heating of mammals' shoulder blades, mainly those of deer, sheep, pigs, and cattle. Later, by the time of the Shang dynasty, turtle-shell divination developed into the more elaborate pre-sacrificial pyro-plastromancy. During the Erligang 二里岗, or 'early Shang period' (1510–1460 BCE), a new animal was included in the pyromantic ritual, the turtle. During the Anyang 安陽, or 'late Shang period' (1250–1050 BCE), diviners started to create strings of hollows, or depressions, into the bone or shell: the act of producing cracks was no longer random and became structured. The greatest innovation, which made early Chinese pyromancy globally unique, occurred at the time of the last nine Shang kings. I refer to the so-called divinatory inscriptions, or as they are more commonly known, oracle bone inscriptions (henceforth OBI; *buci* 卜辭). They consisted of 'an after-the-fact record' of the divinatory ritual performed at the royal court.[3] In fact, it is by now a widely accepted theory that OBI are the result of a secondary record,[4] written on perishable material such as bamboo or wood, being moved to a more durable medium. Very little, if anything, is known about how the OBI were produced; we can therefore only surmise how the texts were carved onto bones and turtle plastrons.[5]

It has long been thought that the inscriptions were questions addressed to the spirits of the royal ancestors. However, recent linguistic studies have plausibly suggested that the so-called 'charges'

[1] The standard manual on Shang OBI in English remains Keightley 1978. See in particular Ch. 2 (pp. 28–55), 3 (pp. 57–75) and 4 (91–132) for an introduction to the structure, language and dating criteria. See also Djamouri 1999; Venture 2002a; Smith 2008; Eno 2009; Takashima 2015; Schwartz 2019.
[2] Fracasso 2013.
[3] Boltz 1994.
[4] Keightley 2001, 2006; Venture 2002a.
[5] Boltz 1994.

(*ming* 命) were formulated as *statements* rather than *questions*.[1] The cracks generated on the ox scapula and turtle shells were supposed to be the response, in the form of a sign, sent by the departed spirits of the royal ancestors to that statement. Put differently, turtle-shell divination required a significant amount of human *will*, to be asserted and sanctioned by the ancestors, with the diviner acting as the mediator between the human and extra-human realms. The main goal of the practice was not to find out—through the mediation of the diviner—the response to a question; rather, it was the search for approval of an *a priori* decision made about that specific question.[2]

Chinese stalk divination (*shi* 筮) is a highly sophisticated kind of cleromancy (divination by sortition of lots), in which a heap of stalks, presumably *Achillea millefolium* or simply yarrow, is manipulated according to a specific procedure in order to create a line-tower divinatory symbol known as *gua*.[3] Stalk divination is better known for being associated with the Yi tradition, of which the *Zhouyi* is the most important text. Based on philological and historical analysis, it has been suggested that the final editing of the core text probably occurred sometime between 700 BCE and 600 BCE.[4] The text became a 'Confucian Classic' only during the Han 漢 dynasty (206 BCE–AD 220).[5] During that same period, the editors of the imperial academy attached the core text to the commentary section *Shiyi* 十翼 (Ten Wings). More details on the structure of the *Zhouyi* will be provided in chapter 5.

[1] The so-called 'question' question, i.e. whether the Shang oracle bone inscriptions should be read as questions or statements is a long and convoluted issue that falls beyond present purposes. Here I follow Shaughnessy's 'historical evolution' interpretation and consider most of the charges as intrinsically non-interrogative. Shaughnessy 1983: 50–75.

[2] Jao Tsung-i (Rao Zongyi) 饒宗頤 1989.

[3] The standard procedure is called the Da Yan 大衍 (Great Expansion), which is mentioned in the *Xici* 繫辭 (Appended Sentences):大衍之數五十。其用四十有九。分而為二以象兩。掛以象三。揲之以四以象四時。歸奇於扐以象閏。五歲再閏。故再扐而後卦。 'The number of the Great Expansion is 50; those that are used are 49. Divide them in two, to symbolise the Two [Modes]. Place one [between the fingers] to symbolise the Three [Powers]. Count off by fours to symbolise the Four Seasons. Put the remainder between the fingers to represent the intercalary month. In five years, there are two intercalary months; therefore, place again in the next space between the fingers.' (Translation: Adler 2020, modified; see also Cook and Lu 2017).

[4] Since the beginning of the 20th century, many scholars in mainland China and the US started to question the traditional narrative regarding the dating of the *Zhouyi*, which goes back to the most ancient stage of Chinese written culture. Linguistic comparison with the *Shijing* and the bronze inscriptions proved that the text must have been composed between the 825 and the 800 BCE (see the detailed discussion in Shaughnessy 2022: 22-37). On the dating of the *Zhouyi*, see the seminal works of Guo Moruo 郭沫若 1940, Gao Heng 高亨 1947, 1984, Li Jingchi 李鏡池 1978; for more recent studies, see Li Xueqin 2005, 2006; Jia Lianxiang 2020: 12.

[5] Adler 2022: 15.

The *Zhouyi*, through its peculiar basic constituents, reduplicates the 'fundamental processes and relationships occurring in nature'.[1] These constituents are the sixty-four hexagrams (*gua*), which purportedly owe their symbolic origin to the ancient Chinese concepts of Yin 陰 (the yielding, the dark, and the feminine, which is graphically represented by the broken line), and Yang 陽 (the rigid, the light, and the masculine, which is graphically represented by the unbroken line). When combined into a three-line diagram, the Yin and Yang lines yield the eight trigrams (*bagua* 八卦). In order to encompass the multiplicity of reality, the eight trigrams were doubled in all the possible combinations, eventually generating the above-mentioned sixty-four hexagrams.[2] Jacques Gernet has defined these symbols as a representation of the 'transitory state' of all the elements of reality.[3] That is to say, the hexagrams do not symbolise things as they will transpire in the future but, rather, they 'figurate' the divinable trends of a given situation embedded in a reality in constant change.[4] Accordingly, the *Yi* is rendered *The Changes*.

Apart from the *Zhouyi*, the Yi tradition include two further texts: *Guicang* 歸藏 (Returning to [the Originary] Depository) and *Lianshan* 連山 (Joined Mountains); the three texts are collectively called *San Yi* 三易 (Three Changes). Traditionally, the Yi system, as well as what is known as the *Shifa* system only include two different kinds of *gua*: three-line gua, or trigram, and six-line *gua*, or hexagram. There is no certainty regarding the origins of stalk divination. The earliest textual reference appears in the *Zuo zhuan* 左傳 (The Zuo Tradition, or The Commentary of Zuo), which records divinatory performances that occurred during the Eastern Zhou 東周 (770–256 BCE).

So far, four manuscript versions of the *Zhouyi* and one version of the *Guicang* have been retrieved. The first of these discoveries occurred in 1973 when tomb 3 at Mawangdui (Changsha 長沙, Hunan

[1] Smith 2013: 38.
[2] Wilhelm 1924. English version: Wilhelm and Baynes 1967.
[3] Gernet 1995.
[4] Cheng 2014.

湖南) was excavated, bringing to light a wealth of manuscripts written on silk scrolls, known as the Mawangdui Silk Texts. This corpus comprises philosophical and medical texts, including both previously unknown and early versions of transmitted texts. The latter category includes, among others, two versions of the *Laozi Daodejing* 老子道德經, more commonly known as *Laozi* A and B, and one copy of the *Zhouyi*. The most striking differences between this manuscript and the received *Zhouyi* are the hexagram sequence and the commentary section, which include previously unknown portions.[1] This new hexagram sequence seems to follow a better logic than the received one, being arranged according to the top trigram.[2] Interestingly, this same sequence will be found a few decades later in a late 4th century bamboo manuscript from the Chu area, which will be discussed shortly. As for the commentary, aside from the *Xici*, which basically represents the same text as the received one, five new sections have been added to the core texts: *Ersanzi wen* 二三子问 (The Several Disciples Asked), *Yizhiyi* 易之義 (The Properties of the Changes), *Yao* 要 (Essentials), *Muhe* 穆和 and *Zhaoli* 昭力 (both personal names).[3]

The second discovery occurred only four years later, in 1977, when tomb 1 was opened at Shuanggudui 雙古堆 (Fuyang 阜陽, Anhui 安徽), and many manuscripts written on bamboo strips were 'miraculously' recovered under extremely bad conditions.[4] The largest text of this corpus is a highly fragmentary version of the *Zhouyi*. It is important to point out that both the Mawangdui and the Fuyang *Zhouyi* date back to the early Han period—according to palaeographical analysis they must have copied between 190 BCE and 168 BCE.[5] However, these two manuscript versions differ in that the former includes the core text and a commentary section, most of which was previously

[1] On the Mawangdui *Zhouyi*, see Xing Wen 邢文 1997; Zhang Zhenglang 2008.
[2] On the hexagrams sequence, see Shaughessy 1994; 1997 and the related bibliography cited therein.
[3] For a detailed discussion of the silk manuscript version of the commentary vis-à-vis the received *Xici*, see Li Xueqin 1995.
[4] These texts, or it would be more appropriate to say portions of texts, correspond to, among others, the *Shijing* 詩經, the *Zhuangzi* 莊子, the *Chuci* 楚辭, the *Cangjiepian* 倉頡篇. For details of these texts, see Wenwu ju gu wenxian janjiushi 文物局古文献研究室, Anhui sheng Fuyang diqu bowuguan Fuyang Hanjian zhenglizu 安徽省阜阳地区博物馆阜阳汉简整理组 1983. See also Shaughessy 2013: 190-192.
[5] On the Fuyang *Zhouyi*, see Han Ziqiang 韓自強 2004.

unknown, while the latter only comprises the core text, including only fifty-two of the sixty-four hexagrams. Given the highly fragmentary nature of the text, the editors have not been able to reconstruct the original hexagram sequence. Perhaps the most interesting feature of this manuscript are the prognostications which are appended at the end of each hexagram section. This last part is introduced by the divinatory term *bu* 卜, which is usually translated as 'crack-making', but in this case should be rendered as a general term meaning something like 'performing a divination on X topic'. Shaughnessy points out that this is quite a remarkable aspect as it shows without any doubt that the *Zhouyi* was *still* used for divinatory purposes as late as the first decades of the Western Han dynasty.[1]

The third manuscript version of the *Zhouyi* is part of a corpus known as the Shanghai Museum bamboo slips, which dates to the late Warring States period, thus preceding Mawangdui and Fuyang by almost one hundred years. Unfortunately, this collection of texts was not scientifically excavated. In fact, it was purchased by the then director of the Shanghai Museum, Ma Chengyuan 馬承源 (1927-2004), from the Hong Kong antique market in 1994. For this reason, we are missing most of the cultural background and other essential information concerning these texts.[2] Nevertheless, this discovery still represents a great step forward in the understanding of the early developments of the *Zhouyi*. The manuscript, edited by Pu Maozuo 濮茅左, comprises only fifty-eight slips, corresponding to just about 36% (thirty-four hexagrams in total) of the received *Zhouyi*.[3] From a structural standpoint, this manuscript is very similar to the Fuyang version: the hexagram picture, which is visually divided into two trigrams, is located at the top of the slip. As we shall see, this aspect is also present in the *Shifa* manuscript, which hypothetically belongs to the same cultural

[1] Shaughnessy 2013: 207-211.
[2] The provenance of this corpus of bamboo manuscript is unknown, but the close proximity of their appearance in the Hong Kong market to the date of the Guodian discoveries, combined with the fact that the two corpora share the same script of the ancient state of Chu, as well as historical-philosophical texts of the same nature, have led scholars to believe that they were most likely taken from tombs belonging to the same area. Cook 2012: 24; Shaughnessy 2013: 38.
[3] Pu Maozuo 濮茅左 2006.

area (the State of Chu) and the same historical period (mid-to late 4th century BCE).[1] The hexagram picture is immediately followed by the hexagram name—although with several graphic and lexical variants typical of the Chu script—the hexagram statement and the line statement. A few mysterious symbols are interpolated between these parts of the texts. Scholars have used them to reconstruct the hexagram sequence. I shall not delve too much into the details of this process. For the purposes of the present discussion, suffice it to say that, apparently, the sequence of the Shanghai Museum might be the same as the received one.[2]

The last manuscript version was exhumed from the grave of the Marquis of Haihun 海昏侯 (Nanchang 南昌, Jiangxi 江西) in 2015. Among many grave goods belonging to the tomb occupant, a large corpus of manuscripts has been found, including yet another version of the *Zhouyi* which also dates to the beginning of the Western Han period. The text is written on sixty-four strips (i.e. one hexagram per each strip), and while the hexagram sequence is the same as the received one, the text following each hexagram is remarkably different.[3] One aspect which is worth mentioning as it is relevant to our discussion of the *shuzi gua* is that the hexagram pictures are not written with numbers (1 and 8) but with the more common broken and unbroken lines. This once again proves that the hexagram pictures were not *visually* standardised until the early Western Han.

Finally, it is worth mentioning one last manuscript. In 1993, in the village of Wangjiatai 王家台, Hubei 湖北, inside the Tomb 15 (one of the sixteen tombs opened by some workers while digging a fish pond) archaeologists found a set of mantic tools, such as dice, wooden diviner's board, bamboo

[1] Shaughnessy points out that the manuscript was copied by at least two different scribes and, by virtue of this, divides the slips into two distinct groups, following the principle of homogeneity that is usually used in calligraphic analysis. Shaughnessy 2013: 39.
On this aspect, see for instance the case of the so-called Guodian *Laozi*, which according to this principle were divided into Laozi A, B and C. In these cases, other characteristics are also considered for the division, including the shape and form of the slips, the distance between the grooves, the number of characters on each slip, among others.
[2] This has been suggested by Li Shangxin 李尚信 (2004) and He Zeheng 何澤恒 (2009). Shaughnessy (2013: 47) also agrees with their views.
[3] Li Ling 2020.

sorting stalks, as well as the only authentic pre-imperial version of the *Guicang*, a different divination manual long thought to be lost, or regarded as a late forgery.[1]

Another somewhat related manuscript comes from the collection of looted texts purchased by Tsinghua University, called by the editors *Biegua* 别卦 (Hexagrams). This manuscript consists of the hexagram sequence without text attached to each hexagram picture. The sequence is the same as the one found in the Mawangdui manuscript; however, for some reason the scribe(s) decided to write only the upper trigrams. Interestingly, unlike the other manuscript versions of the *Zhouyi*, the so-called broken line is written with the number 6 and not 8. Therefore, on this aspect, it bears a resemblance with the *Shifa* manuscript, which I shall discuss later in this chapter, as well as the dagger-axe which probably dates to the late Western Zhou period (see my Analytical Map for more details on this object). Lastly, the hexagrams names are also quite different.[2]

What can we gain from the analysis of these manuscripts? To be sure, different traditions which differed mainly in the way they depicted the broken line (either using 6 or 8), the hexagram and trigram order, as well as the names of the hexagrams coexisted until the mid 2nd century BCE. The text attached to each hexagram, when present, is quite consistent with the received tradition, and achieved its definitive shape by no later than the 300 BCE. Most importantly, the moral-philosophical aspect and the divinatory ones were still present until at least the early Western Han. The Fuyang manuscript in particular 'confirms that the *Zhouyi* developed in the context of divination' and the 'humanistic rationale' was attached to it much later than the orthodox exegetic tradition had claimed for centuries.[3] Furthermore, Edward Shaughnessy, in his study on the unearthed *Changes*, remarks that the text was widespread in different kingdoms of the Warring

[1] Shaughnessy 2013: 141-188.
[2] See Shaughnessy 2022: 310-313 for a comparison of the names in the different manuscript versions and the received text.
[3] Shaughnessy 2013: 281-284.

States period, thus it was not exclusive of only one state as reported by the Confucian tradition; third, the *Zhouyi* was not the only divination text in use during the late 4th century BCE.[1]

At this point it is necessary to make a clarification: the cosmo-philosophical concepts exposed in the *Zhouyi* commentary reflect the worldview of the late 4th-early third century BCE, which is when the correlative theories, based on the Yin-Yang concepts, came into being.[2] It is not clear whether these were the underlying principles which led to the composition of the *Zhouyi* about five centuries earlier. The cosmo-philosophical principles which underlie the *Zhouyi* are uncertain. Indeed, as Donald Harper noticed, its 'intrinsic dualism' made it an easy reference for the Yin-Yang theory which was gradually being conceived by experts of philosophy during the late Warring States period.[3]

The first scholar who explicitly and systematically linked the Yi to the *shuzi gua* was Zhang Zhenglang 張政烺 (1912–2005). His 1980 article marked a turning point in the study of the *shuzi gua*.[4] Research on this subject has since flourished, especially in the last twenty years, facilitated by the access to greater amounts of palaeographical sources. In what follows, I revisit the debates around the *shuzi gua* corpus.

The *Shuzi Gua* Corpus: A Historiographical Reappraisal

3.1. The *Shuzi Gua* Corpus

The so-called *shuzi gua* corpus consists of a large set of unearthed texts, which according to some scholars, date from the Longshan Culture 龍山文化 (ca. 3000-1900 BCE) to the late Warring States period. As we shall see, the issue of dating is far from being solved. The term *shuzi gua* itself refers

[1] Shaughnessy 2013: 282.
[2] Shaughnessy 1993.
[3] Harper 1999: 859.
[4] Zhang Zhenglang 1980. For an English translation, see: Huber, Yates et al. 1981.

to a sequence of specific integers—1, 4, 5, 6, 7, 8, and 9—the graphic representation of which is typically expressed in what Adam C. Schwartz defined as the 'divinatory form'.[1]

Different combinations of these integers are stacked one on top of the other in groups of three (*sanyao gua* 三爻卦), four (*siyao gua* 四爻卦), six (*liuyao gua* 六爻卦), or in pairs of six (*lianglie liuyao gua* 两列 六爻卦). Jia Lianxiang distinguishes between the *shizhan shuzi gua* 實占數字卦 (actual divination result) and the *guahua tuxing* 卦畫圖形 (trigram/hexagram pictures). The latter are found in the manuscript versions of the *Zhouyi*, *Guicang* and the *Biegua*. This distinction is by no means satisfactory, and it will be become clear from the Analytical Map, there are many other combinations possible. Roughly one hundred instances of *shuzi gua* have been found on various types of unearthed artifacts, including ox scapula, turtle plastrons, bronzes, pottery handles, and bamboo slips. The integers are written (engraved or brushed) on the material support in many different directions—vertical, horizontal, and diagonal—resulting in a diverse structural and visual *mise-en-page*.

Before moving on, it is worth treating the term *yao* 爻 here briefly. In the Yi tradition, *yao* is usually translated as 'line', as it refers to the segments comprising the trigrams and hexagrams. However, since I refrain from using any Yi-related terminology when describing the *shuzi gua* corpus in my study for methodological reasons, I have translated *yao* as 'position'.[2] This is a less loaded term which describes the location of each integer within the *shuzi gua*. As for the term 'line', I use it solely when referring to any Yi or Yi-related text (e.g. *Shifa*).

3.2. The Historical Discovery of the *Shuzi gua*

How did the various discoveries of palaeographical sources occurring since 1928 contribute to the interpretation of what now scholars now refer to as *shuzi gua* and their related divinatory practices?

[1] Schwartz 2022: 4, fn. 7.
[2] I am indebted to Adam C. Schwartz for this suggestion.

According to Li Ling, this kind of divination arose later than osteomancy, but it is roughly coeval with plastromancy. Therefore, stalk divination was in use before the *Zhouyi* came into being—there must have been a pre-*Zhouyi* period, he concludes.[1]

I believe the hypotheses raised by Li Ling is reasonable, as it is unlikely that a complex system such that related to the *Zhouyi* could have originated *ex abrupto*. According to the traditional narrative, the *Zhouyi* was created by the ancient sages of the past, Fu Xi 伏羲, King Wen of Zhou 周文王 and Confucius 孔子. This version was questioned early in the 1920s by some of the representatives of the *Yigu pai* 疑古派 (Doubting Antiquity School).[2] Today, thanks to the acquisition of new palaeographical evidence, we can finally gain insight into the pre-*Zhouyi* situation. We can undoubtedly say that, in early China, the *Zhouyi* was not the only divination manual in use;[3] rather, archaeology has brought to light a set of different, previously unknown texts. Moreover, as seen in the previous section, in the manuscript versions of the *Zhouyi*, the broken and unbroken lines of the hexagrams are also represented by numbers. Given the common numerical feature, we can say that these different systems may have been interrelated to some degree, or they may have emerged from a similar cultural and historical context.

3.2.1. Song Dynasty - 1950s: Discovery and First Interpretations of the 'Strange Graphs'

Before discussing the more recent research developments on the *shuzi gua* corpus, I shall briefly review the different tentative interpretations that occurred prior to Zhang Zhenglang's breakthrough.

In the year 1118, during the reign of King Chonghe 重和 of the Northen Song (北宋, 960-1127), the 'six vessels of Anzhou' (Anzhou liuqi 安州六器; roughly dating back to King Zhao 昭 of the Western Zhou) were excavated in Xiaogan 孝感, Hubei. One of them, the Zhong fangding 中方鼎,

[1] Li Ling 2001a: 251.
[2] Gao Heng 高亨 (1900–1986) was one the leading scholars who promoted the 'New Changes Studies'.
[3] Xing Wen 邢文 2003.

featured two ‘strange graphs’, which Wang Fu 王黼 (1079–1126) translated as ‘hehe’ 赫赫 (brilliant). Years later, Xue Shanggong 薛尚功 (fl. 1144) also provided a similar interpretation. In 1932, Guo Moruo 郭沫若 (1892-1978) concluded that these graphs were probably insigna of the Zhong lineage.

During the 1950s, the number of inscribed oracle bones bearing new ‘strange graphs’ increased. In 1956, Li Xueqin observed that the numerals inscriptions found on the Western Zhou oracle bones unearthed at Zhangjiapo 張家坡 (Shaanxi 陝西) ‘lead one to think of the 9 and 6 of the *Zhouyi*’. The following year, Tang Lan 唐蘭 (1901-1979) collected thirteen examples of ‘strange graphs’, arguing that they were part of an ancient, and now lost, writing system comprising ‘numbers used as graphemic units’.

3.2.2. 1970s: Zhang Zhenglang’s Ground-Breaking Article

A real turning point occurred in December 1978, during the first conference of Chinese palaeography held at Jilin University 吉林大学. The first day, Xu Xitai 徐錫台 gave a lecture which included a section on the numerical inscriptions of the Zhouyuan 周源 oracle bones.[1] On the second day, Zhang Zhenglang gave his famous speech, in which he argued for the first time that ‘the groups made up of three numerical lines on the bronzes were *dangua* 单 卦 (single *gua* or the original eight trigrams), while those composed from six numbers on the oracle bones corresponded to the *chonggua* 重 卦 (repeated *gua* or hexagrams).’[2] With this statement the mysterious *qizi* were definitively identified as ancestral to the symbolic hexagrams of the *Zhouyi*.

Zhang’s speech became a landmark article published in 1980.[3] Thirty-two examples of *shuzi gua* were examined, seven of which converted into trigrams and twenty-five into hexagrams. The 168

[1] This speech was later revised by the author and published as: Xu Xitai 徐錫台 and Lou Yudong 樓宇棟 1980.
[2] Zhang Zhenglang 1979.
[3] Zhang Zhenglang 1980.

numbers that make up the trigrams and hexagrams lines do not appear with the same frequency: 6 appears more often (64 times), followed by 1 (37 times), 7 (33 times), 8 (24 times), and 5 (11 times). In the preliminary analysis of the sources available to him, Zhang Zhenglang arrived at the following conclusions:

- The reason that 2, 3, and 4 never appear might be due to their graphic form: being composed of horizontal lines, they would be confused with the other numbers because the divination symbols were written vertically. For this reason, they have been virtually eliminated.
- The high frequency of the two numbers 1 and 6 could mean that early in the Shang dynasty, natural phenomena were explained through a proto-Yin-Yang dualism, while the remaining numbers did not have an important meaning. According to Zhang, this was the first step towards the creation of broken and unbroken lines.
- The method of obtaining gua can be traced back to the *Zhouyi Benyi* 周易本义 (Original Meaning of the Zhouyi) written by Zhu Xi 朱熹 (1130-1200), the origins of which probably date back to the Da Yan method found in the received *Xici*. However, the numbers produced by this method do not coincide with the numbers found in the *shuzi gua*.
- The presence of hexagrams within the inscriptions on the oracle bones found in the sites of the Zhou territory confirm the idea that King Wen 'doubled' the trigrams thus creating the hexagrams.

3.2.3. 2000s: New Debates on *Shuzi Gua:* Before the *Shifa*

The hypothesis proposed by Zhang Zhenglang largely affected the studies related to the Yi traditions for the next forty years. Several contributions to this have been given by the most important scholars in the field of palaeography and ancient Chinese divination.[1] Two issues in particular have generated great divergence: what kind of symbolisation process did the numerical

[1] Among others, the worthiest to be mentioned are Zhang Yachu 張亞初 and Liu Yu 劉雨 1981; Rao Zongyi 饒宗頤 1983.

lines undergo, and how can we periodise this process? Are there any relations between the *shuzi gua* and the symbolic hexagrams of the *Zhouyi?*

So far, these are the two main hypotheses: First, the *Yi gua* come from a long process of simplifying the numerical *gua*, which, based on palaeographical evidence, occurred in the period between the late Shang and the Han dynasty. Second, the two kinds of symbols are ´two different systems with no inherent connections´. It is therefore likely that they have undergone a different development process.[1] The first assumption is supported by Zhang Zhenglang and Han Ziqiang 韓自強. They both suggest that the *shuzi gua* are the ancestors of the *Yi gua*, which were created before the Western Han (西漢, 206 BCE-9 AD) period.[2]

The hypothesis of a direct connection between the *shuzi gua* and the *Yi gua* has been questioned by several scholars over the years. In 2001, Xing Wen 邢文 argued that 'Zhang's interpretation has a significant deficiency since there is no evidence for the numeral hexagrams and the *Book of Changes* being of the same divinatory system'.[3] In his seminal *Zhouyi suyuan* 周易溯源 [Study on the Origins of the *Zhouyi*] (2005)[4] when discussing the three corpora of Warring States bamboo manuscripts which also comprise *shuzi gua*, Li Xueqin stated that their lines were not numbers but symbols.[5] Other scholars firmly denied Zhang's proposition. According to Li Zongkun 李宗焜 the correlation between the *shuzi gua* and the *Yi gua* 'was actually very limited and indeed lacked a solid, logical foundation.' Since the beginning, the *Yi gua* were represented by some kind of symbolic lines, thus coexisted with the *shuzi gua*, and then eventually became the so-called Yin-

[1] Li Zongkun 李宗焜 2006.
[2] Han Ziqiang argues that the first evidence of *Yi gua* can be found in the Xiping Stone Classics (*Xiping shi jing* 熹平石經). Zhang Zhenglang 1980: 409. Han Ziqiang 2004: 90.
[3] Xing Wen 2003.
[4] Li Xueqin 2005.
[5] To corroborate such hypothesis, he adduced that numbers graphs in the ancient Chu script usually appear in different ways. Li Xueqin 2005: 280-284.

Yang lines as we know them today.[1] Wu Yong 吴勇 goes even further, sustaining that the symbols comprising the *shuzi gua* are not actual numbers but images.[2]

A somewhat ambiguous position is put forth by Li Ling in his volume *Zhongguo fangshu kao* 中國方術考 [Study on the Chinese Occult Arts] (2001). This is the first monograph which comprehensively discusses all kinds of ancient Chinese occult art, including divination, based on palaeographical evidence.[3] Li Ling first argues that the *shuzi gua* and 'numerical' *Yi gua* as found in the manuscript versions belong to different traditions, with the first one being a decimal system (*shijinzhi shuxue* 十進制數學) and the second one being a binary system (*erjinzhi shuxue* 二進制數學). He proposed that the *shuzi gua* represented by the numbers 1, 6, and 8 are the direct ancestors of the *Yi gua*.[4]

The contrasting debate over the origin of the *shuzi gua* ceased after the publication of the *Shifa* in 2013.[5] This manuscript forced Li Xueqin to amend his original assumption: the *Shifa* ultimately proves that *shuzi gua*'s lines are indeed numbers.[6]

3.2.4. The *Shifa*: General Palaeographical Features and Cultural Importance

The *Shifa* is one of the three texts included in Volume four of the Collection of Warring States Chu bamboo manuscripts preserved at Tsinghua University, Beijing. The editors decided to publish the *Shifa* along with the *Biegua* and the *Suanbiao* 算表 (*Calculator*), as they belong to either 'Yi divination' (*Shifa* and *Biegua*) or 'calculation' (*Suanbiao*) category;[7] both these categories were

[1] Li Zongkun 2006.
[2] Wu Yong 吴勇 2006. For a complete overview on the scholars' different opinions about this topic, see: Wang Huaping 2009.
[3] Li Ling 2001a.
[4] The decimal system is the pure *shuzi gua* represented by the numbers mentioned above. The binary system are the numerical hexagrams pictures represented by the numbers 6 or 8 for the Yin line and 1 for the Yang line, as found in the three excavated versions of the Yi. Li Ling 2001: 258.
[5] Xing Wen, for instance, said that he deliberately ceased to deal with this topic after the publication of the manuscript. Personal conversation, November 2017.
[6] Li Xueqin 2013.
[7] Qinghua Daxue and Li Xueqin 2013: 3.

retrospectively introduced and, therefore, are anachronistic concepts. These three texts are part of a large cache of unprovenienced[1] bamboo manuscripts arrived at Tsinghua University on 15th July 2008. Li Xueqin, the editor in charge of this *corpus*, claims that, , the tomb had already been plundered and the bamboo strips illegally moved to the Hong Kong antiques market as early as the winter 2006.[2] In the summer of 2008, the bamboo strips were purchased and donated to the university by an alumnus and in October a team of palaeographers, historians and scientists, led by Li Xueqin, immediately started the process of unpacking, preserving and evaluating the strips for authenticity. The curators initially counted 2,388 strips, but thanks to the infrared technique they were able to assemble *ca*. 2,500 strips, of which 1700-1800 were completely intact.[3] In December of the same year, the results of radiocarbon testing on some strips without writing showed an approximate dating of 305 BCE ± thirty years, which means this *corpus* belongs to the middle-late Warring States period, more or less coeval with that of the Shanghai Museum, Baoshan, Tianxingguan and all the above-mentioned Chu bamboo manuscripts. Moreover, they all exhibit another common feature: they are all written in the ancient Chu script.[4] This latter aspect can help us to provide some clues about the position of the tomb from which the strips were taken. Unfortunately, since there was no scientific and controlled archaeological excavation, we are missing most of the cultural background of the tomb and the identity of the tomb occupant, as well as the kind of objects unearthed alongside the texts from more than two thousand years ago.[5]

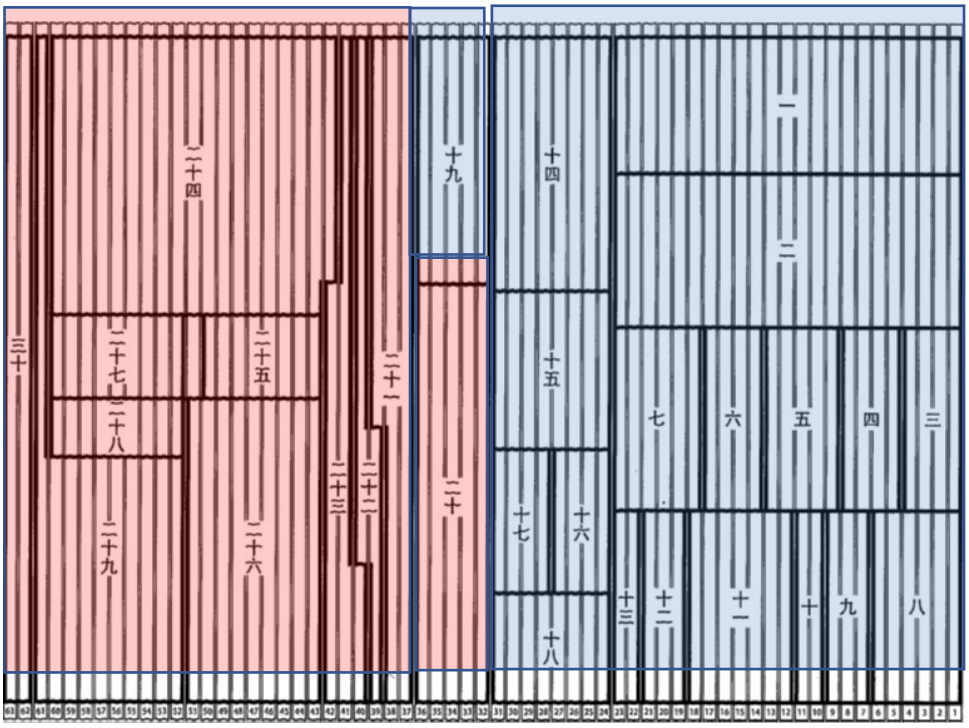
The *Shifa* is the best preserved of the whole Tsinghua Collection, as there is no physical or textual damage. When the manuscript arrived at the University in 2008, the strips were covered with mud, saturated with water and partially moulded. However, 52 of the 63 strips comprising the manuscript were still bundled together as a scroll in their original order (though some had shifted or become

[1] For a study concerning the problematic issue of 'unprovenienced" palaeographical sources, see Goldin 2013.
[2] Li Xueqin 2016.
[3] *Ibidem*.
[4] Cook and Zhao 2017: 13.
[5]Palaeographical analysis suggests that the tomb was possibly located in the area around the Chu metropolitan city of Jiangling 江陵 (Wuhan 武漢, Jingzhou 荊州). Cook and Zhao 2017:13.

reversed over time), while only some of them were jumbled out. The individual strips are 35 cm long. Each strip is sequentially numbered at the bottom, from 1 to 63, so that it was much easier to sort the original sequence of the text. The strips were originally tightly bound with silk binding straps, which had already decomposed, creating an even surface like a silk roll. This even surface made it possible to arrange the text in different sections, numbering thirty in total, each of which was given a title by the editors based on their content. One of the most fascinating features is the diagram stretching across the manuscript, with the inner part depicting a human body surrounded by trigrams, and the outer part representing the array of trigrams.

Manuscript content

The manuscript's content can be divided into two main parts: the first (sections 1-19, slips 1-31) consists of a collection of trigrams samples, grouped in sets of four, immediately followed by the related prognostication; the second one (sections 20-30; slips 32-63) illustrates the correlative principles which inform the interpretations of the trigrams in the first part, as shown in the picture below (blue indicates part I, red indicates part II).



The manuscript is *visually* arranged in sections, thirty in total, to which the editors assigned the following titles:[1]

1. *si sheng* 死生 (Life and Death)
2. *de* 得 (Obtaining)
3. *xiang* 享 (Presenting Offerings)
4. *bian* 變 (cupping?)
5. *zhi* 至 (Arrival)
6. *quqi* 娶妻 (Taking a Wife)
7. *chou* 讎 (Negotiation)
8. *jian* 見 (Meeting)
9. *jiu* 咎 (Spiritual Blame)
10. *chou* 瘳 (Healing)
11. *yu han* 雨旱 (Rain and Drought)
12. *nan nü* 男女 (Male or Female)
13. *xing* 行 (Travel)
14. *zhen zhangfu nüzi* 貞丈夫女子 (Determining on Husbands and daughters)

[1] All the translations of the *Shifa* are modified from Cook and Zhao 2017.

15. *xiao de* 小得 (Minor Attainments)

16. *zhan* 戰 (War)

17. *cheng* 成 (Completing)

18. *zhi shi* 志事 (Setting The Will to Affairs)

19. *Qian Kun junzhuan* 乾坤運轉 (The Cycle of Qian and Kun)

20. *guo* 果 (Results)

21. *zhi shi, jun you* 志事 、軍旅 (Setting the Will to Affairs and Military Troops)

22. *si wei biao* 四位表 (The Four-Position Chart)

23. *siji jixiong* 四季吉凶 (Auspiciousness and Inauspiciousness According to the Four Seasons)

24. *guawei tu, renshen tu* 卦位圖、人身圖 (Pictures of the Trigram Array and Human Body)

25. *tiangan yu gua* 天干與卦 (Heavenly Stems and Trigrams)

26. *sui* 祟 (Curses)

27. *dizhi yu gua* 地支與卦 (Earthly Stems and Trigrams)

28. *dizhi yu yao* 地支與爻 (Earthly Stems and Line Numbers)

29. *yao xiang* 爻象 (Line Number Images)

30. *qishi ming* 十七命 (The Seventeen Commands)

The Manuscript refers to a type of stalk divination clearly interrelated with the Yi tradition. The first evidence is that the term *shi* 筮 appears nine times throughout the manuscript, generally in the formula *fanshi* 凡筮 (in all cases of divining [with the stalks] …). The other evidence, which was the only noticed by the editors, is related to the last sentence of section 30.

> 凡是各當其卦乃扔占之占之必扔卦乃不忒
> In all such cases, since each matches a trigram, then one can prognosticate them using sortilege; when prognosticating, one surely uses the sortilege [method] to obtain the trigram and then there will be no mistake.

Whether one understands 扔 (written 力 in the manuscript) as a general term referring to the manipulation of objects and not strictly related yarrow stalk only is still subject to debate.[1] For now, it should be noticed that aside from these technical terms related to stalk divination, the manuscript consists of *gua* samples which should be read as set of four trigrams, forming what we could call the 'system of the four positions' (*si wei fa* 四位法). First, the *gua* are *visually* separated;[2] second, the manuscript only mentions trigrams names (in the second part); finally, the sets are routinely interpreted as four trigrams and never as pair of hexagrams.

The Shifa *Number System*

The lines of the trigrams are represented by numbers, namely 4, 5, 6, 7, 8, and 9, with the number 7 being replaced by 1 to due graphic simplification. Internal evidence to support this claim are found in sections 16, 28 and 2. This was first suggested by Ma Nan 馬楠 and accepted by other members of the team led by Li Xueqin. [3] For space reasons, I shall only provide an example from section 28 'Earthly Stems and Line Numbers' *dizhi yu yao* 地支與爻 (strips 52-57), where the numbers comprising the lines are associated with the Earthly Stems in descending order (from right to left in the manuscript), as shown in the table below:[4]

[1] This hypothesis shall be explored in Pischedda and Breard forthcoming.
[2] This is consistent with the other Chu bamboo divinatory records from Baoshan, Tianxingguan and Geling, in most cases but *all* the time (sometimes they are written as *liu yao gua*). However, the latter are actual divination records, or *shizhan shuzi*.
[3] Liao Mingchun 廖名春 2013. For further evidence, see also Ma Nan 馬楠 2014.
[4] All the graphs are from Qinghua Daxue and Li Xueqin 2013: 46-49.

巳亥	辰戌	卯酉	寅申	丑未	子午
					

The most common numbers used to represent the *yao* 爻 (lines) are  (7) and  (6). Given the different distribution of these six numbers, it seems clear that they do not play the same role in the manuscript: of the 114 hexagrams, 89 are composed exclusively by the numbers 6 and 7, while the hexagrams in which all six numbers appear simultaneously are only 24. According to the calculation operated by Liao Mingchun, of the 684 lines that make up the hexagrams, as many as 631 are represented by the numbers 6 and 7, while the remaining four numbers only appear a total of 53 times. The editors suggest that this strong imbalance in the number distribution might be related to the difference in the intrinsic value of each of the six numbers. Liao Mingchun observes that most likely the numbers 6 and 7 'have already become Yin and Yang lines'.[1] While the other four numbers apparently present a special meaning, as made explicit in section 29 *Yaoxiang*.

> 九象為大獸為木為備戒為首為足為它為它為曲為玦為弓琥璜
> The images for 9 are large animals, trees, sacrificial preparations, heads and feet, snakes, snakes, bends, semi- circlets of jade,(archery) bows, *hu*- jades, *heng*- jades.
> 四之象為地為圓為豈為耳為環為腫為雪為露為霰
> The images for 4 are ground, circle, drum, earring, circlet of jade, heels, snow, dew, hail.
> 凡肴奴大奴少作於上外又吝作於下內又吝上下皆作邦有兵命鷹怪風雨日月又此
> In all cases of line numbers no matter whether big or small, when they arise in the upper outer (trigram), they indicate something baleful; if they arise in the lower inner (trigram), they indicate something baleful; if they arise in both upper and lower (trigrams), then the country will experience military commands, a zhixie monster, wind and rain, or eclipses of the sun and moon.

The ominous value of these numbers is clear from section 26 *Sui*

> 乾崇屯五滅宗九乃山肴乃父之不葬死莫屯乃 室中乃父
> Qian curse: if it is pure (all of one number) or there is a 5, it is the destroyed ancestral shrine; if there is a 9, then it is a mountain; if (the numerical sequence) is mixed, then it is a father who died without being buried; if it is in the evening and (the sequence) is pure (all of one kind of number), then it is the middle of the room, or it is the father.
> 坤崇門行屯乃母八乃奴以死乃西祭四乃縊者
> Kun curse: the Gate, the Passageway; if it pure (all of one number), then it is the mother; if there is an 8, then it is someone who was made a slave and died, or it is the Western Sacrifice; if there is a 4, then it is one who was hanged.

[1] Liao Mingchun 2013.

It is worth noticing that the numbers 6 and 7 never appear in any of the sections above, since, as already mentioned, their value is closer to the Yin-Yang lines. Apart from the fact that these two numbers do not possess any 'image', their symbolic value is perhaps most evident in the section 24 *Guawei tu* 卦位圖、人身圖 (Pictures of the Trigram Array and Human Body; slips 42-60), in which the primary trigrams both in the inner part of the diagram and in the outer part are composed solely of these two numbers.

At this point one might ask what is the criterion which made the 6 and 7 turn into the future broken and unbroken lines: how did a 'multi-numerical' system become a binary one? Moreover, what kind of computational method can produce these numbers? According to some scholars, the answer to these questions should be found in the different percentage of the number's distribution. All these aspects shall be treated in detail in chapter 4 (part II). For now, suffices it to say that many different attempts have been made which reconstruct the alleged computational procedure and none seems to be satisfactory.

Trigrams Names and Order

Li Xueqin notices that the trigrams' order in section 24 is the same as in the *Chujing* 初經 (Initial Classic) Chapter of the *Guicang*,[1] i.e. the sequence of 'Qian-Kun and the six children' (*Qian Kun liu zi* 乾坤六子): Qian -Kun (mother-father), Gen 艮-Dui 兌 (elder son-elder daughter), Kan 坎-Li 離 (middle son-middle daughter), Zhen-Xun 巽 (younger son-younger daughter). He then concludes that the two texts must be somehow interrelated.[2] In the second chapter, *Tiandi dingwei* 天地定位 (Heaven and Earth establish their positions) it is possible to trace the order of the trigrams similar to the *Shifa* and *Guicang*.

天地定位山泽通气雷风相薄水火不相射

[1]From a palaeographical point of view are quite similar to those found in the *Guicang*, both transmitted and excavated version. Li Xueqin 2014b.
[2] Li Xueqin 2014b.

> Heaven and Earth establish the positions, Mountain and Lake join their forces, Thunder and Wind excite each other, Water and Fire do not fight each other.

Were it not for the reversed positions of the middle and the eldest sons, this sequence would appear to match with the one of the *Shifa* and *Guicang*. Interestingly this anomaly in the positions of the last four trigrams is not present in the *Yi zhi yi* chapter of the Mawangdui manuscript of the *Zhouyi*; rather, the manuscript seems to be more coherent at a textual level, whereas the same portion of the text in the received *Shuogua* does not seem to follow any logic. In the Mawangdui version, the sentences are composed of four characters, while in the received *Shuogua* there is an additional *bu* 不 in the last sentence. This could be the reason why this sentence has been moved at the end of this passage.[1] Another interesting aspect is that in this passage in the Mawangdui manuscript, the Water-Kan and the Fire-Li are reversed, just as in the in the *Shifa*.

> 天地定位 [山泽通气] **火水相射**雷风相榑
> Heaven and Earth establish the positions, Mountain and Lake join their forces, **Fire and Water fight each other**, Thunder and Wind excite each other.

Indeed, there are some remarkable differences between the *Shifa* and the *Guicang*, and between the *Shifa* and the *Zhouyi*. First, the *Zhouyi* and *Guicang* both use hexagrams read from bottom to top; by contrast, the *Shifa* system comprises a set of four trigrams read from top to bottom, and the value of each symbol must be obtained in relation to the whole set of four. Second, the activities divined in the manuscript only concern everyday life aspects, such as family, career, military expedition, marriage, travel, weather, illness. There is no trace of the songs and liturgies as appended to each hexagram of the *Zhouyi*. Furthermore, there are no *gua ci*, nor *yao ci* in the *Shifa*, rather, the explanatory sentences which follow each set of four are indications as to interpret the *gua*.[2]

Trigrams Qualities

The following are explicative examples which show how the *Shifa* system works:

> Section 7

[1] Liu Dajun 刘大钧 2008: 8-9.
[2] *Ibidem*.

☱兌☶艮　　Dui Gen
☳震☰乾　　Zhen Qian

凡讎三男同女女在□上妻夫相見讎

In all cases of negotiation, [if] three males join a female, the female is in the upper position, [and if] a wife- and- husband appears as a match, [then] negotiate.

Section 11

☴巽☱兌　　Xun Dui
☵坎☶艮　　Kan Gen

金木相見在上陰水火相見在下風

[If] metal and wood appear as a match up above, [then it will be] cloudy. [If] water and fire appear as a match below, [then it will be] windy.

Section 16

☵坎☵坎　　Kan Kan
☲離☲離　　Li Li

凡是內勝外

In a case such as this, [those on] the inside overcome [those on] the outside.

Section 17

☰乾☱兌　　Qian Dui
☲離☶艮　　Li Gen

凡成同乃成

In cases of completion, [if] it is the same, then it will be completed.

Section 24

奚故謂之坎司樹是謂之坎南方也火也赤色也

Why is it called Kan? It supervises planting; therefore, it is called Kan. It is the South, Fire, Red.

奚故謂之震司雷是謂之震西方也金也白色

Why is it called Zhen? It supervises thunder; therefore, it is called Zhen. It is the West, Metal, White.

奚故謂之兌司收是謂之兌北方也水也黑色也

Why is it called Dui? It supervises harvesting; therefore, it is called Dui. It is the North, Water, Black.

奚故謂之離司藏是謂之離東方也木也青也

Why is it called Li? It supervises storing; therefore, it is called Li. It is the East, Wood, Green.

乾 Qian (head), 坎 Kan (ears), 艮 Gen (lower arms and hands), 震 Zhen (legs below the knee and feet), 兌 Dui (mouth, eyes, or face), 坤 Kun (chest or heart), 離 Li (abdomen), 巽 Xun (inner thighs and pelvic region).

As we can see from the examples reported above, the *shuzi gua* are gendered according to the *Shuogua* 說卦 (Explanation of the Trigrams), Chapter of the *Yijing*. They are correlated to four of the five agents, the four seasons, colours, images and to the *ganzhi* 干支 system.[1] When the *gua* are associated with the parts of the human body, it is mostly pictographically, and they are pretty much consistent with the Yi tradition. This means that their *visual* value was deemed important in late 4th century BCE. This latter aspect will be discussed at length in chapter 4 (part II). [2]

The reasons the discovery of the *Shifa* is so important are manifold.

1. It represents the concrete evidence for the existence of numerical *gua*.
2. Different methods coexisted in the 4th century BCE southern area of China, and that the *Zhouyi* was by no means the dominant one.[3]
3. The actual divinatory texts from Baoshan, Tianxingguan and Geling most likely were interpreted using the *Shifa* 'system of the four positions.'[4]
4. The first evidence of correlative thinking applied to a *gua*-based divinatory system.

3.2.5. After the *Shifa*

Since the publication of the *Shifa*, three book-length studies have appeared. The first is Jia Lianxiang's PhD thesis, defended in 2014 at Tsinghua University, and published as a monograph in 2020. The book is comprised of five main chapters, in addition to an introduction and a concluding chapter as well as three appendices (one at the end of chapter 1 and two at the end of chapter 2). In

[1] For two different approaches to the topic of correlation in the *Shifa*, see: Liang Weixian 梁韋弦 2014; Zhang Kebin 張克賓 2014.
[2] For an attempt to provide a systematic explanation to the divinatory principles underlying the manuscript, see: Cheng Hao 程浩 2013.
[3] Cook and Zhao 2017: 12-14.
[4] In this regard, see Wu Xiaoxin 吳曉欣 2013; Ke Heli 柯鶴立 2016.

the introduction, Jia introduces the terminology and methodology employed for the analysis of the primary sources. It also provides a definition of the *shuzi gua* and a brief overview of the existing scholarship. Chapter 2 is a catalogue of 88 items, for a total of 138 examples of what Jia defines as *shizhan shuzi gua* 實占數字卦 (actual divination result), which, as stated in the introduction, should be distinguished from the *guahua tuxing* 卦畫圖形 (trigram/hexagram pictures). The items are catalogued according to date, object type, and geographical area. This chapter in the monograph improves on the author's PhD thesis in two major ways. First, the information for each item is now clearly divided between (1) dating, (2) measurement, (3) archaeological context, (4) transcription, and (5) additional notes; the last mostly concern palaeographical matters. Second, its inclusion of high-resolution photographs (though not for every item) allows for a better appreciation of the original inscriptions; this represents a useful tool as scholars sometimes disagree on how to transcribe archaic graphs. Chapter 3 is a thorough study of the main issues related to the *shuzi gua* corpus. Jia first discusses the computational methods employed to calculate the *gua*. Drawing on Li Xueqin's hypothesis of the two stalk systems, Jia first outlines the 1-based system and 7-based system; he then argues that the Warring States bamboo divinatory records should belong to the 1-based system. Next, he explores the differences and commonalities between the *shuzi gua* and the philosophical tenets of the *Yi* traditions. While recognising clear structural and visual links between the two divinatory traditions, Jia points out that these links become difficult to identify within the earlier material. Chapter 5 concerns the *shuzi gua* from the Warring States Chu area. Jia first analyses the divinatory records of the Baoshan 包山, Tianxingguan 天星觀, and Xincai 新蔡 bamboo manuscripts according to the *Shifa* system, reaching the conclusion that they belong to the same divinatory tradition. He then attempts a reconstruction of the ancient computational method, proposing a modified version of the one described in the received *Xici zhuan* 繫辭傳 ([Commentary to] the Appended Statements [of the *Yi*]). Jia argues that the traditional computational method of the

Xici zhuan must have developed within the state of Chu. Finally, he proposes that the *Shifa* might be related to the *Lianshan*, one of the three traditional *Yi* texts, as mentioned above.

The conclusions summarise the main argument of the book in seven points. In his final remarks, Jia acknowledges that his conclusions about such a complex corpus are inevitably provisional; discovery of new palaeographical sources necessitates further research. Although his arguments are tentative and at times not entirely convincing—the 1-based and 7-based systems hypothesis in particular presents problematic aspects, namely his discussion on the coexistence of number 1 and 7 in the same *shuzi gua*, due to the biased choice of examples to support his hypothesis[1]—Jia's monograph undoubtedly represents a milestone in the field.

The second monograph is written by Wang Huaping and Zhou Yan.[2] In this study, as well as in an article about the relationship between the *shuzi gua* and the *Zhouyi*, Wang Huaping proposes a distinction between *liu yao gua* and *chonggua*.[3] The first ones are 'divinatory symbols comprising six lines represented by numbers or other symbolic elements.' He claims that these symbols have no direct relation with the *Zhouyi*.[4] The term *chonggua*, instead, refers to the sixty-four hexagrams originated from the duplication of the Eight Trigrams.[5] Even though he rightfully bemoans the anachronistic narrative adopted by the current scholarship, Wang Huaping still uses the term *bagua* at the beginning of his reconstruction. It is not clear why he first considers the *bagua*, which are traditionally part of the Yi system, as the forerunners of all kinds of *gua*, and then argues that we need to distinguish between *liu yao gua* and *chong gua*; this is a contradiction. Furthermore, the

[1] For instance, the case of items 19-030—031, which explicitly contradict the hypothesis, is not treated in his monograph. I shall discuss this work in details in the next chapter which concerns the *shuzi gua* computational methods.
[2] Wang Huaping and Zhou Yan 2015.
[3] Wang Huaping 2015.
[4] These symbols can be observed in many Shang palaeographical materials, such as the oracle bone excavated at Sipanmo 四盤磨 (Yinxu 殷墟, Anyang, Hehan province) in 1950. The oracle bone bears three numerical *liu yao gua*, respectively comprising the following numbers 757666, 866587 and 787676. According to Wang Huaping, the interpretation of these numerical *gua* must have been conducted using a *Shifa*-style divination manual. Wang Huaping 2015:13.
[5] Wang Huaping argues that the first evidence of such symbols is found on the two Western Zhou pottery vessels excavated at Xiren 西仁 (Shaanxi 陝西 province). The six *shuzi gua* correspond to the following hexagrams: *Shi* 師 'Army', *Bi* 比 'Alliance', *Xiao Chu* 小蓄 'Less Livestock' and Lü 履 'Stepping'; *Ji Ji* 既濟 'After Completion" and *Wei Ji* 未濟 'Before Completion'. They match with the traditional hexagrams sequence of the *Zhouyi* (7-10 and 63-64). Thus, they represent the first certain testimony of numerical *chonggua*. Wang Huaping 2015:14.

supposed link of the duplication of the *bagua* into *liu yao gua* with the *duizhen* is fascinating but also weak. There is not enough evidence in support of this hypothesis, and the examples of *liu yao gua* are preceded by a one-sentence inscription, or, in some cases, just by few graphs.

The last monograph is by Bian Xiaobing. This study is based on the analysis of the *shuzi gua* material and its main objective is to question the hypothesis of the two systems first raised by Li Xueqin. Again, I shall discuss Bian's work in the next chapter which is devoted precisely to the hypothesis of the two systems. This latter monograph forms the basis of a recently published article which proposes a possible reconstruction for the computational method of the *gua*. Constance A. Cook and Andrea Bréard use statistical analysis, combining dice sortition and the traditional computational method of the *Zhouyi* to demonstrate that, even though the *shuzi gua* material underwent different developmental stages, it is still possible to trace a linearity due to the striking consistency of the numbers comprising the *shuzi gua* lines.[1]

My project complements the last four works, but it differs in its objective. Jia Lianxiang for the first time comprehensively systematised the *shuzi gua* palaeographical sources after the *Shifa* publication. Wang Huaping proposes to explain the origin of the *shuzi gua* in the light of turtle-shell divination. Bian Xiaobing focusses on arguing against Li Xueqin's two stalk-casting systems. The article by Cook and Bréard is a reconstruction of the computational method by combining divination based on *shuzi gua* and dice sortition. My study considers the same primary sources but proposes a new methodological framework, i.e. the Analytical Map, which shall be introduced in the next chapter.

[1] Bréard and Cook 2019.

Chapter 2

SOURCES AND METHODOLOGY

1 Sources

The sources analysed in my thesis include a total of eighty-six artifacts dating from the late Shang to the Western Zhou periods. The single item dating to the Longshan culture has been temporarily excluded from the analysis as it represents the only example from that period; I therefore decided to include it in the second table, awaiting more discoveries. In addition to this early material, my analysis includes four corpora dating to the Warring States periods, three of which have been scientifically excavated. (1) The first of these manuscripts was found in 1978 at Tianxingguan 天星觀 (Guanyingdang 觀音墱, Jiangling 江陵, Hubei Province, *ca*. 340 BCE); (2) In April 1986, a more extensive and remarkably well-preserved Warring States bamboo *corpus* was retrieved from tomb no. 2 at Baoshan 包山 (Wangchang 王場, Shilipu 十里鋪, Jingmen 荆门, Hubei, *ca*. 316 BCE); 54 of the 448 bamboo strips recorded divinatory activities performed on behalf of the tomb occupant; (3) The last and more recent corpus comes from a tomb at Geling 葛陵 village (Xincai 新蔡, Henan 河南, *c*. 398 BCE) excavated in July 1994, when more than 1,500 bamboo strips were recovered. More information about these three manuscripts and their archaeological context will be provided in the material criterion of the Analytical Map. The fourth corpus is the so-called *Shifa*, which has been extensively discussed in chapter 1. Manuscripts related to the Yi tradition shall also be considered when discussing the technical aspects of the *shuzi gua*; however, they will not be the focus of my analysis.

As a general principle, it should be stressed that a clear definition of a *shuzi gua* is lacking so far. Therefore, any selection remained arbitrary, and each scholar has made their own decisions about

what to include in their collections. In my analysis, all *shuzi gua* data is based on Pu Maozuo 濮茅左 2006, Wang Huaping and Zhou Yan 2015, Zhang Jinping 張金平 2015, and Jia Lianxiang 2020. Since the main objective of my thesis is not to provide an edition of these texts, I rely on their transcriptions for my analysis, unless otherwise specified. Even though I aim to include as many items as possible in order to draw more accurate conclusions, I had to exclude some cases for which interpretation is less certain, particularly the graphs and signs that are found mainly on bronzes dating to the Western and Eastern Zhou dynasties, whose readings are still intensely debated by many palaeographers. These graphs raise two different kinds of issues: (1) should we read them as sequences of numbers? (2) if so, should we regard them as *shuzi gua*? For convenience, I have divided the graphs into three groups.

***Group 1*:** 

This graph has been considered a *shuzi gua* and transcribed as '6-6-5'[1] or '6-6-6-5'.[2] However, most scholars regard it as a variant of *wen* 文.[3] Indeed, if we look at examples from the oracle bone dataset, we notice that the graph is basically identical, except for the top element, which is missing.[4] There is still reason to be cautious: examples from the bronzes' dataset show not only that the top element is missing, but also that the cross inside appears to be very different from the usual heart.[5]

ORACLE BONE SCRIPT	BRONZE SCRIPT

[1] Cai Yunzhang 蔡运章 2004: 137.
[2] Zhang Jinping 張金平 2015: x.
[3] Wang Huaping and Zhou Yan 2015: 47. See also the examples in JC, twelve in total.
[4] For more examples, see the online database *Gujin wenzi jicheng* 古今文字集成 (The Complete Collection Of Ancient And Modern Characters). OBI examples: http://ccamc.org/cjkv_oaccgd.php?cjkv=%E6%96%87&type=oracle (Last access 1 September 2022).
[5] BI examples: http://ccamc.org/cjkv_oaccgd.php?cjkv=%E6%96%87&type=bronze (Last access 1 September 2022).

				
HJ946 *recto*	HJ4611 *verso*	JC4300	JC1810	JC3986

Furthermore, Wang Huaping & Zhou Yan notice that the frequency should be one of the criteria which should be used to distinguish between lineage name and *shuzi gua*. Drawing on Zhang Maorong 張懋鎔's distinction between private and lineage names,[1] they suggest that 'if a symbol composed of numbers or suspected numbers appears many times in the inscriptions, it is unlikely to be an actual *gua* image'.[2] This is because the probability for the same *shuzi gua* to appear on different objects is not very high. Since the graph x appears twelve times on different objects, it should not be considered a *shuzi gua*. Finally, the graph is clearly written as one individual thing.[3] If it is not a variant of *wen*, it is more likely a personal or lineage name or mark.[4]

***Group 2*:** 

This is another example of problematic graph which is found mainly on Zhou bronzes. These symbols are extremely hard to decipher and contextualise. Zhang Yachu & Liu Yu linked them to the *Taixuan jing* 太玄經 (Classic of Supreme Mistery) written by Yang Xiong 揚雄 (53 BCE–18 CE).[5] Li Xueqin transcribes them as *ce* 册, based on the similarity with the graphs in JC10765 and JC 10766, which are understood as 册 by the editors of the *Jicheng*.[6] However, it must be noticed that the two kinds of graphs are very different with each other (see the table below). I would therefore disagree with Li Xueqin's interpretation.

[1] 'Generally speaking, the number of occurrences of clan inscriptions is more than that of private names'. Zhang Maorong 張懋鎔 2000, cited in Wang Huaping and Zhou Yan 2015: 48.
[2] Wang Huaping and Zhou Yan 2015: 48.
[3] Škrabal (personal conversation, April 2021).
[4] In the *Jicheng*, there are twelve examples of this graph. See Wang Huaping and Zhou Yan 2015:47 for a full table.
[5] The tetragram *zheng* 爭 (Contention) ䷂ is similar to Zhang's and Liu's examples 28 and 29. Zhang Yachu and Liu Yu 1980: 163.
[6] Li Xueqin 2005: 275.

SUSPECTED *CE* 册		EXAMPLES OF *CE* 册	
			
JC10765-66	JC2836	JC4254	JC4324

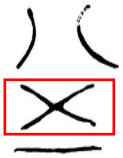
They could be some sort of divinatory symbol. Indeed, it is reasonable to assume that they are linked to divination, specifically astro-calendric practices. Wang Huaping and Zhou Yan notice that a similar symbol appears on a turtle plastron together with three examples of *shuzi gua*, and therefore suggests that they are most likely diagrams used in astrological divination.[1] In any case, I believe these symbols should not be regarded as *shuzi gua* due to their different graphic form. They could alternatively be interpreted as a kind of ownership mark, but this hypothesis is just as hard to prove.[2]

***Group 3*: 𠂤/𠂤**

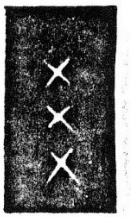
The two graphs '𠂤'/'𠂤' are transcribed by some scholars as two or three '5s'—the latter supposedly a variant of the former—and converted into the trigram *Qian* 乾.[3] Other scholars are inclined to read the graph '𠂤' as two crosses (乂) thus forming the character '*yao* 爻'.[4] The reason this graph is read as a sequence of '5s' is due to their similar oracle bone form; however, Yu Xingwu 于省吾 points out that '5' is written as an equal-armed cross, while in '乂' the space between the two

[1] Wang Huaping and Zhou Yan 2015: 53-55.
[2] Škrabal (personal conversation, April 2021).
[3]; Zhang Jinping 2015.
[4] Wang Huaping and Zhou Yan 2015: 48.

arms is narrower at the top and wider at the bottom of the graph.[5] A similar situation occurs in bronzes inscriptions.

EXAMPLE OF 乂	EXAMPLE OF 五
	
HJ10969	Item 10-018

Furthermore, if the equal-armed cross is regarded as a simple variant of '  ', one would expect a comparable form for the graph '  ', i.e. two equal-armed crosses, which does seem to be the case but only in OBI, never in BI. Based on this latter point, it is probably correct to treat these as two variants of the same word, i.e. and not as a *shuzi gua* comprising three 5s. This could of course be a consequence of our limited dataset; future discoveries may shed further light on the matter.

NOT EQUAL-ARMED CROSS		EQUAL-ARMED CROSS	
			
HJ14196	JC 9322	HJ18808	JC 4802

In oracle bone inscriptions, the graph '' can be a person or a place name but also a verb[1]; in bronze inscriptions, it can be interpreted as a lineage or personal name.[2] I agree with this, and therefore exclude these graphs from my analysis. Moreover, they appear more than ten times in the

[5] Yu Xingwu 于省吾 1996.
[1] Wang Huaping and Zhou Yan 2015: 48.
[2] Wang Huaping and Zhou Yan 2015: 49; Shaughnessy, C.A. Cook, and Škrabal (personal conversation, April 2021).

sources, which would be an unusually high frequency for a *shuzi gua*. This argument can also be applied to '  ' and to '  ', discussed above, and so they are not *shuzi gua*. Second, there are no other examples of *shuzi gua* that are made up of two numbers, so it is likely that '  ' is not a *shuzi gua* either.

Before moving on to discussing the methodology, I would like to address a few important points and outstanding issues related to the *shuzi gua* corpus. As we have seen in the discussion above, the nature of the *shuzi gua*, as well as the palaeographical analysis of the extant material, are not consistent. Indeed, the fragmentary nature of the sources makes it difficult—but not impossible—to discuss some issues systematically.[1] Next, the *shuzi gua* are still often deciphered through the lens of the Yi tradition, especially about the way numbers are calculated and to how the *gua* must be read and interpreted.[2] I believe this approach is problematic as it may hinder an authentic understanding of the sources. As a general principle, we should not take for granted that *all* the *shuzi gua* available so far are related to the orthodox Yi. In addition, the seamless relation between the Shang-Zhou and the Warring States *shuzi gua* is also questionable, for there is no evidence of any such symbol dating to the transitional period of Spring and Autumn, as rightly noticed by Li Xueqin.[3] Lastly, there seems to be a significant difference between the structural and material features of the Shang-Zhou divinatory sources and the Warring States ones. Do these differences reflect a difference in the nature of the texts themselves? Aside from these observations, what has been discussed so far also brings about the following questions: What does it mean when we say that *shuzi gua* are ancestral to the *Yi gua*? Are they based on the same cosmo-philosophical principles? Is it possible to draw a clear line between the *shuzi gua* traditions and the Yi tradition? Before providing an answer to these questions, a more accurate organisation of the primary sources is needed. I do so following the principles of my Analytical Map.

Establishing the Methodology

[1] Jia Lianxiang 2020: 285.
[2] See among others: Zhang Jinping 2015; Cheng Hao 2015; Ding Sixin 2019.
[3] Li Xueqin 2016: 8.

Methodologically, my approach is guided by two principles: (1) understanding written artefacts requires an appreciation of more than textual content alone; (2) the primary sources should be examined in their own terms and, as far as this is possible, without imposing the biased lens of the received tradition, which in this case is the Yi tradition. The former involves the concept of materiality; the latter seeks to avoid anachronism.

The term 'materiality' encompasses a wide range of meanings. For the purposes of the present discussion, I refer to materiality as *how contents are informed by the physicality of the written objects*. The physicality includes, among other things, the type of written objects, the distinctive features related to the type of object, the archaeological context (whenever it is retrievable), the visual organisation of the text, as well as orthography, punctuation, and scribal strategies. Furthermore, I distinguish between *text* and *manuscript*. A 'text' is the 'textual matter transmitted' and its form can be oral or written, or both.[1] On the other hand, a 'manuscript' should be considered the 'physical manifestation of a text'. As Dirk Meyer puts it, 'the text exists apart from its materiality, but it may also be shaped by material conditions or the material contexts in which it appears'.[2] Indeed, the manuscripts, Matthias Richter remarks, are witnesses 'unambiguously attached to a specific historical context'.[3]

In recent years, research on the materiality of texts has grown significantly within different academic domains. Several international conferences, workshops, seminars, and themed volumes have been devoted to this subject, emerging from a burgeoning awareness that close examination of manuscripts' physical aspects affect interpretations of the ancient texts embodied therein.[4] Much discussion centres on methodological issues. To mention just a few, the volume *Materiality of Texts from Ancient Egypt*, published by Hoogendijk and van Gompel, offers valuable insights into the theoretical frameworks as well as the new technologies which can be used for a more accurate analysis

[1] Dirk Meyer 2012, 2021.
[2] Dirk Meyer 2021: 21.
[3] Richter 2005: 6.
[4] Petrovic, A., Petrovic I., and Thomas 2019 is an excellent overview in this regard, explaining how the issue of materiality is increasingly gaining attention among scholars of the ancient world.

of ancient written artifacts.[1] The volume's general premise is that textual content should be connected to the archaeological and socio-cultural contexts of the texts under study. Questions related to textual structure, layout, and function have been addressed from a cross-cultural perspective in some of the conferences organised by the Centre for Manuscript and Text Cultures at the University of Oxford.[2] As for the study of Early China, the decisive shift from content to the materiality of texts occurred only in the past two decades.[3] Materiality is central to the analyses of oracle bones and bronze inscriptions, but it has not been equally incorporated into study of the bamboo, wooden, and silk manuscripts, especially those that present transmitted counterparts or that include passages of previously known texts. Scholars have since called for rigorous methodologies, focussing on codicological aspects, transcription of graphs, structural patterns, and orthographic variants, to be established.[4] In this way, the physical instantiation of a specific text feeds into understanding; textual content is acknowledged as relating to historical and archaeological context. A recent example of how materiality is used can be found in Dirk Meyer's work on the Shu 書 traditions.[5]

The heterogeneous nature and affiliation of the newly recovered documents bring us to consider the second aspect, i.e. the matter of anachronism. I have already discussed the manuscript versions of the *Zhouyi*, their significance, and how they have been interpreted by scholars earlier in my thesis. I will now mention another renowned manuscript which bears on the matter of anachronism. I refer to the Anda *Shi* 安大詩 (The Anda [*Classic of*] *Songs*), recently published in the first volume of the

[1] Hoogendijk and van Gompel 2018.
[2] For instance, the two-day conference 'Materiality of Knowledge in Chinese Thought, Past and Present' has been co-organised by Dirk Meyer and Stefano Gandolfo in 2018. See the centre website for the full programme: https://www.queens.ox.ac.uk/centre-manuscript-and-text-cultures. See also their recently founded journal *Manuscript and Text Cultures (MTC)*: https://mtc-journal.org/index.php/mtc. Their current issue, *Navigating the Text*, deals with the important issue of textual visual layout, which is also one of the main aspects considered in my analysis. For instance, the daybook surveyed by Foster shows how the author(s) creatively recreated the writing surface, usually limited to a top-to-bottom manner, by adopting an unusual layout featuring charts and sections of text which stretch along multiple slips. This is strikingly similar to the *Shifa* and might suggest that, in technical texts like these, the *visual* organisation was deemed as important as the *content* for their use.
[3] See Richter 2005, Kern 2008, Meyer 2012. These works focus on different methodological aspects which are concerned with the interpretation of written objects, their material contexts and the related functions.
[4] Meyer 2012; Richter 2005, 2013.
[5] Meyer 2021. See in particular footnote 30 where he mentions the notion of 'materiality of language' by Yuri Lotman, taken from his *Analysis of the Poetic Text* (1976).

Anhui Daxue Cang Zhanguo Zhujian 安徽大學藏戰國竹簡. This manuscript is part of a cache which has been purchased by Anhui University. Unfortunately, like those in the Shangbo 上博 and Tsinghua 清华 collections, it was not scientifically excavated. Nevertheless, scholars today generally consider this cache authentic. The editors of the volume have presented the *An Da Shi* as the first witness of a Warring States copy of the *Shijing*. This statement, which is commonly heard any time an old copy of a famous transmitted text is discovered (for instance, it happened with the *Laozi* and the *Zhouyi*), implies a biased reading of the manuscript content. To avoid such a reading, Dirk Meyer and Adam C. Schwartz propose to apply an 'emic' perspective to the *An Da Shi*.[1] Methodologically, Meyer and Schwartz read the manuscript as 'a non-*Mao* iteration of the Songs', which means that in interpreting its content they are 'not bound by the *Mao recension*'. In other words, they do not force a later imperial tradition onto the newly retrieved materials. The ultimate goal is to 'provide a hypothetical reading of what certain conceptual communities during the Warring States period might have made of the Ān Da *Shī* as they were not immediately guided by the *Mao* recension'.[2] I take a similar approach to the *shuzi gua* material. In order to prevent the pitfall of anachronism, I shall treat the *shuzi gua* material in the most neutral way possible, avoiding biased interpretations and terminology.

Introducing the Analytical Map

In his seminal study *Morphology of the Folktale*, Vladimir Y. Propp drew on the then recent advances in biology to establish a rigorous methodology for the analysis of Russian folktales. In chapter one, he emphasises the importance of 'systematic description':

> …Before throwing light upon the question of the tale's origin, one must first answer the question as to what the tale itself represents. Since the tale is exceptionally diverse, and evidently cannot be studied at once in its full extent, the material must be divided into sections, i.e., it must be classified. Correct classification is one of the first steps in a scientific description. The accuracy of all further study depends upon the accuracy of classification.[3]

[1] Meyer and Schwartz 2022.
[2] Meyer and Schwartz 2022: 12.
[3] Propp [1928] 1968: 5.

While Propp's study was aimed at identifying the *unity* of the Russian folktales, my methodological framework aims to do exactly the opposite: casting light on the *diversity* of divinatory practices in early China.

The Analytical Map is a threefold grid comprising the following criteria: *material*, *visual*, and *linguistic*. Each criterion focuses on its own aspect of the evidence: *object*, *layout*, and *language*, as shown in the table below.

CRITERION	**ASPECT**
Material	Object
Visual	Layout
Linguistic	Language

Each criterion establishes a foundation for the study of the following one; each is necessary but not sufficient for fully appreciating the heterogeneity of the corpus. The material criterion describes the object, providing information about its completeness, dating, measurement, and provenance. The visual criterion details the text's configuration, i.e. how the text is laid out upon the object, and it is divided into macro- and micro-analysis. The linguistic criterion analyses the language on two levels

—structural-syntactic and lexical—identifying the technical lexicon and the linguistic patterns, where present.

Conventions

General terms

When discussing the Analytical Map, I use the term 'item' to refer to a *shuzi gua* example; I use the term 'text' to refer to any written manifestation comprising a basic linguistic meaning. The map consists of two columns: the first contains the Item Identification Number (IIN); the second concerns the analytical criteria. It is further divided into chronological sections following the early Chinese historical periods of the material under study: Shang, Western Zhou and Warring States. It can be read *vertically*, i.e. by comparing the different items through the lens of one criterion, as well as *horizontally*, i.e. by analysing one single item in terms of the three criteria.

Chronology

The calendar and chronology follow Loewe and Shaughnessy 1999. [1] In some cases, I follow the stratigraphic dating as found in the archaeological report. Chapter 4 in Keightely 1978 conveniently summarises the different criteria concerning the dating and categorisation of the Shang oracle bone inscriptions, to which I will refer in my discussion; I refer to Shaughnessy 1985-1987 for the Zhou materials.

Transcription, punctuation, and phonology

The transcriptions present each archaic graph in the *kaishu* 楷書 form (i.e. modern character). In cases where the interpretation is still open to debate or the form of the graph is relevant to the discussion, I report the original archaic graph followed by my interpretation in *kaishu* in round brackets. In the linguistic criterion's lexical analysis, I present the original Chinese text without any punctuation. The Old Chinese reconstruction is after Axel Schuessler 2007 and 2009.

[1] Note that Cook and Goldin 2020 follow 'The Xia Shang Zhou Chronology Project (*Xia Shang Zhou duandai gongcheng* 夏商周斷代工程) of the People's Republic of China'. See XSZCP Group 2000. For a severe critique to this project, see Shaughnessy 2009.

3.1 The Criteria

Material Criterion

The material criterion provides information pertaining to the nature of the material carrier, i.e. the object. I divide this criterion into three subsections: (1) physical properties, (2) archaeological context, and (3) any additional information. The first subsection includes the following aspects: (1a) the material of which the object is made, (1b) the degree of its completeness, (1c) measurements, and (1d) the exact dating of the object, when this is possible to establish. The object can be an ox scapula, a non-specified bone fragment, a turtle plastron, various types of bronze vessels, or more ordinary objects such as pottery handles and dagger-axes. The archaeological context includes (2a) date and provenance, (2b) whether it is part of a cache or individually retrieved, and (2c) the quality of the source image and rubbings, and whether the original source material is still available; and if available, (2d) the place where it is preserved. Finally, I describe the appearance of the material carrier. For instance, when dealing with an ox scapula or a turtle plastron used for pyromantic practices, I will specify the formal qualities, quantity, and position of the pyromantic cracks (*buzhao* 卜兆) and hollows (*zuan* 鑽).[1] Since I could not gain access to the primary sources in person, I rely on photographs of variable quality, marked as either poor, good or excellent. The completeness of the object is sometimes hard to ascertain but I strive to be as detailed as the available photographs allow. When the measurements of an object are not reported, I record them as 'unknown'. Similarly, the date and place of recovery are not always mentioned, either because the object is unprovenanced, or because the initial report omits this information. I also specify whether it has been excavated (*fajue* 發掘) or collected (*caiji* 採集) by an archaeological team, rescued (*qiangjiu* 抢救), or purchased. Such information is taken from the archaeological report or collection in which the object is featured.

[1] All the technical terms are taken from Fracasso 1988.

This criterion represents a careful and thoughtful selection of data which I deem relevant for my discussion. For instance, the term *caiji* refers to surface collections, not material excavated from any archaeological layers. These items are therefore lacking archaeological context and are questionable in date.[1] Another important element is the shape of the hollow which helps to distinguish between the Shang and Zhou divination methods. All of these aspects can prove useful when sorting the primary sources. Prioritising the categorisation by date, as is the case with most of the *shuzi gua* collections, may in fact be misleading. It is much more efficient to group them based on their common features—e.g. the shape of the hollows, the size of the graphs or the provenance—combined with other archaeological information to reconstruct the way in which different traditions have interacted and merged, adopting other elements and adapting them to create 'idiosyncratic variabilities'.[2] Below is an exemplar, in items 1.S.1-3, of the material criterion, containing all the sections just mentioned.

MATERIAL CRITERION

Physical properties

Upper part of a right ox scapula fragment.[3] The material carrier is incomplete. Dating: late Shang, probably Kangding 康定- Wuyi 武乙 period.[4] Measurement: width: 6.5 cm; length: 14.8 cm.

Archaeological context

Retrieved from pit SP11 (enclosed in pit SP4) at the western division of Sipanmo 四盘磨, Anyang (Henan) by the Institute of Archaeology of the Chinese Academy of Sciences 中國科學院考古研究所, led by Guo Baojun 郭寶鈞, during his excavation of Yin Ruins in the spring of 1950.[5] Part of a cache: one millstone, one pottery stove with pane (charcoal ash), one red pottery pot,

[1] Anke Hein, personal conversation, April 2022.
[2] For what is probably the best discussion on this matter, see Flad 2008.
[3] Cao Dingyun 曹定雲 1989; Li Xueqin 2011:205-206.
[4] This dating is based on the considerations made by Cao Dingyun on the shapes of the hollows and the direction of the burning signs. Cao Dingyun 1989:637-640.
[5] Guo Baojun 郭寶鈞 1951.

one grey pottery pot, one pottery beast pot.[1] Excellent source image quality.[2] Original source material available. Report: Guo Baojun 郭寶鈞 1951.

Additional information

Li Xueqin noticed that the acetabular angle is cut off, typical of Shang bone divination.[3] Cao Dingyun points out that the length of the resected acetabular angle is equal to the length of the remainder after the back of the acetabular angle is sawn away, again a characteristic feature of Shang bone divination.[4] On the back, there are ten hollows in total. Four arc-shaped hollows (length: 2-2.3 cm; width: 1.1-1.4 cm) are located on the channels that were chiselled on the left and right of the blade. The remaining two rectangular hollows are located on the blade edge; these are damaged. All ten hollows feature signs of burning but have not been drilled.[5] Since the graphs contain traces of vermilion pigment, Zhang Yachu and Liu Yu discarded Guo Baojun's hypothesis of the 'practice inscriptions'.[6]

This is one of those exceptional examples for which all the relevant information is available. Particularly crucial here are the high-quality photographs. Unfortunately, this is not always the case: items 3.S.11-12, for instance, offer very little information.

Visual Criterion

With the visual criterion, focus shifts to the text, its completeness, and how it is visually arranged and structured upon the object. This criterion comprises macro- and micro-analysis. I first isolate the macro-units of which the extant text is composed; next, I identify the basic elements within each macro-unit.

[1] Guo Baojun 1951:56.
[2] New rubbings and reproductions of the bone were published in Cao Dingyun 1989; compared to the one published in the original report, Cao Dingyun's reproductions are missing the lower left corner of the bone. New photographs are published in Wu Xuefei 吴雪飛. 2019. See also Song Zhenhao 宋鎮豪 2010.
[3] Li Xueqin 1981.
[4] Cao Dingyun 1989: 638.
[5] Cao Dingyun 1989: 638. See also Li Xueqin 2011: 205-206.
[6] Zhang Yachu, Liu Yu 1981 (translation EC): 47.

In the macro-analysis, I indicate whether the text is complete, the number of units, the incomplete units, the completeness and legibility of each graph, and whether they are decipherable. When the text comprises written content other than *shuzi gua* (e.g. a divinatory prayer or a dedicatory formula), I indicate whether the text is syntactically coherent. The *macro-units* follow either the rows and columns of the inscriptions as found on the object and are indicated by numbers. I then proceed with a *micro-level* analysis in which I indicate the basic elements of a macro-unit, represented by the letters A (a sequence of numbers identified as *shuzi gua*), B (graph representing a word), or C (any other element which is not a *shuzi gua* or a word-graph).

Both numbers and letters will be written in bold. Therefore, the full alpha-numerical code for the macro-unit and the basic element will be of the type '1:A'. The alpha-numerical code is immediately followed by the number of graphs and numerals each macro-unit comprises, as well as their direction and size.

Below I provide an exemplary case of the visual criterion, items 1.U.32-38.

VISUAL CRITERION

Macro-analysis

The text is complete. The extant text is produced on three units (1, *recto*; 2-3, *verso*); unit 3 is incomplete. All remaining graphs are legible.

Micro-analysis

1:A sequence of six numbers. Left to right direction. Even size.

2:A sequence of six numbers, space, sequence of six numbers, space. Top to bottom direction. Uneven size.

3:A sequence of six numbers, space, sequence of six numbers, space, sequence of six num-

bers, space, sequence of six numbers, space. Top to bottom direction. Uneven size.

The visual criterion must be adjusted to the type of material carriers as they follow different compositional rules. This aspect is worth discussing further. Even though very little is known about oracle bone production and the divinatory rituals involved—the only accounts we possess date to a much later period and therefore cannot be entirely reliable—it is by now widely accepted that oracle bones are the result of a secondary record, as mentioned in the introduction.[1]

As for bronze inscriptions, recent studies carried out by Ondřej Škrabal have shed new light on their production standards.[2] Careful analysis of the formal features of the lengthier inscriptions suggests that the composition of the texts was affected by their final layout, i.e. the way in which the text was arranged upon the vessel. The 'ordinators' apparently made conscious use of some space-saving devices (ligature and character-space sharing) in order to achieve 'arithmetic' and 'aesthetic' symmetry. Arithmetic symmetry, i.e. equal number of character-space per column, was common during the early Western Zhou. Aesthetic symmetry, defined by Škrabal as *stoichedon* style—a term which he borrowed from Roman epigraphy—started to appear in the mid-Western Zhou and only later became widespread.[3] In this style, the text was arranged in a way that would achieve a specific visual quality, in which each graph is equally high and wide, and according to which the final content was negotiated. This means that 'in many cases, the bronze inscriptions were conceived…as visually relevant display texts whose graphic presentation mattered so much that it would actually set certain limitations for their content'.[4] Therefore, when reading this kind of text, one should first ascertain the extent to which the content is affected by the form, because this has important philological implications. Such considerations do not apply to the analysis of the oracle bone inscriptions because

[1] Keightley 2001, 2006; Venture 2002.
[2] Škrabal 2019.
[3] Škrabal 2019: 285-88.
[4] Škrabal 2019: 328.

their layout follows different visual rules from those of bronze inscriptions. Having clarified this aspect, I will now provide an exemplary case for a bronze inscription, i.e. items 2.EWZ.5-6.

VISUAL CRITERION

Macro-analysis

The text is complete. The extant text is produced on eight units (1-8). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:B seven graphs. Top to bottom direction. Even size.

2:B seven graphs. Top to bottom. Even size.

3:B seven graphs. Top to bottom. Even size.

4:B seven graphs. Top to bottom. Even size.

5:B seven graphs. Top to bottom. Even size.

6:B seven graphs. Top to bottom. Even size.

7:B eight graphs. Top to bottom. Even size.

8:B+A five graphs and two sequences of six numbers. Top to bottom direction. Sequence of numbers is smaller than the graphs.

Here we can see two kinds of space-saving devices. The first occurs in 7:B, in which the sixth and the seventh graphs *Fu Yi* 父乙 (Father Yi) are written in the same character space, but this is a common phenomenon. The other quite peculiar space-saving device, if we may call it that, is the fact

that the sequences of six numbers identified as *shuzi gua* at the end of the inscription, in 8:B+A, are considered to be two individual graphs and thus occupy two character-spaces.[1]

Linguistic Criterion

The linguistic criterion addresses the following questions: what is the content of the text found in the *shuzi gua*? Are *shuzi gua* always found in a divinatory context? How does the topic of the text relate to the *shuzi gua*? Does the topic of the text relate to the *shuzi gua* at all? To answer these questions, I analyse the language of the text on two different levels: structural-syntactic, on the one hand, and lexical, on the other. In the structural-syntactic analysis, I first isolate graph clusters based on their syntactic role; the lexical analysis is a statistical computation of the occurrences of specific Divinatory Terms (DT) previously identified. The linguistic criterion, together with the visual criterion, shall be used to explore aspects of formula usage, focussing on their function and on how these structures have evolved over time and in different regions.[2]

Most of the texts under consideration, which are written on hard media, are composed in a terse, formulaic language; however, they fulfil different functions depending on the material carrier in which the text is embedded.[3] Indeed, like the visual criterion, the linguistic criterion must also be adjusted to the different type of objects. For instance, most of the texts written on bronzes are defined as 'appointment inscriptions', which are cast when a member of an aristocratic family who has received an award from the king commemorates the event.[4] In the 'announcement of merit', the king announces the reasons for the award, to which the awardee replies by extolling the king's virtues. The inscription customarily ends with a statement of commission of the vessel and sometimes with the well-known formulaic sequence *zizi sunsun bao yong* 子子孫孫寶用 ('May my sons and

[1] A 'character-space' is a virtual graphic cell. One character-space can contain either one regular size character or more smaller size characters, like in the case above. Škrabal 2019:281.
[2] See my chapter 4.
[3] See my chapter 4 for a full discussion on the functions of formulae in the *shuzi gua* corpus.
[4] On this kind of inscriptions and their historical significance for reconstructing Western Zhou bureaucracy, see Li Feng 2001, 2008.

grandsons treasure and use [it]').[1] It should be noted that not all the bronze inscriptions belong to this category, as Li Feng has rightfully pointed out;[2] however, within the *shuzi gua* corpus there is no evidence of any other kind of inscriptions. Having clarified this aspect, I now turn to elaborating on the terminology.

Preface

In late Shang OBI, the preface usually recorded the cyclical day on which the divination was performed, the name of the diviner, and, rarely, the place of divination.[3] The preface could be abbreviated or could be omitted entirely in some cases. The most common preface in period I was: '*ganzhi bu X zhen* 干支卜 X 貞' (Crack-making on the day Y, diviner X determined), often abbreviated as '*X zhen* X 貞' (diviner X determined). These kinds of formulae can be found in all periods.[4] The date was noted in order to establish the right day to sacrifice to the ancestors (who were named after the cyclical day). The Zhou OBI are too fragmentary, and it is therefore almost impossible to establish a pattern. However, from the few complete inscriptions, we could say that the preface in this period included at least the time and the word *zhen*.[5] No diviner name was recorded. In the Warring States Chu bamboo slips, the most common preface formula includes cyclical day, with the month based on the Chu calendar and the day on the *ganzhi* system, the name of the diviner as well as the name of the method used to perform the divination, the person on whose behalf the divination was performed, as well as the word *zhen* at the end of the formula.[6]

Charge

[1] For three different discussions of Western Zhou language structure see: Shaughnessy 1990; Falkenhausen 1993, which is a long review to Shaughnessy 1990 and Goldin and Cook 2020. Here I follow Falkenhausen's tripartite structure (1 past: 'announcement of merit'; 2 present: 'statement of dedication'; 3 future: 'statement of purpose') as I find it the more convenient for the purposes of the Analytical Map.
[2] Li Feng has produced valuable scholarship on Shang-Zhou bronze inscriptions. He insightfully combines archaeology, history, and palaeography, and his monographs are among the best studies on the Western Zhou period. See, among others: Li Feng 2006, 2008.
[3] Keightely suggests that when the place was omitted, the divination was performed in the ritual centre of Xiaotun. Keightely 1978.
[4] On the evolution of preface, see Keightely 1978, sec. 4.3. I. 7.
[5] See the inscription H11:1 translated in Shaughnessy 2014: 11.
[6] On the formulaic structure of the Baoshan records in particular, see Jue Guo 2008: 155.

The term charge refers to the topic of the divination. It was always present in Shang OBI, even though this is not the case for the *shuzi gua* OBI retrieved in Anyang, as we shall see in chapter 4. There is no certain evidence of the word *ming* Shang OBI. The expression *ming gui* 命龜 (To charge the turtle) appears in the *Jinteng* 金騰 (Metal Coffer) of the *Shangshu*. The charge in Shang was usually written as pair of positive-negative sentences, also known as *duizhen* 對貞; however, it should be stressed that Shang OBI present a high degree of variability. In the Zhou OBI, it was introduced by the graph *xin* 囟 usually rendered by scholars as either 斯 or 思. In the Warring States bamboo records, the charge is usually introduced by the volitional *shang* 尚, which according to Shen Pei 沈培 refers to a wish for the accomplishing something smoothly and with no trouble.[1]

Prognostication

The prognostication is uttered once the bone has been cracked or the *shuzi gua* has been calculated. It is an interpretation of the divinatory signs obtained during the ritual. In Shang OBI, the prognostication was routinely introduced with the formula *wang zhan yue*. In the Warring States divinatory records, the prognostication was made by the diviner. In the *shifa*, the prognostications are introduced by *fan* 凡, *fan shi* 凡筮 (in all cases of stalk divination).

Actions

What I call actions refer to what happens after the prognostication is uttered by the diviner (or whoever was responsible for it). Within the *shuzi gua* corpus, I could only find this element in the Western Zhou and Warring States materials. It is usually introduced by the word *ji* 既 (having already..). Note that Jue Guo has defined this element as Verification.[2]

Proposition prayer

[1] Shen Pei 沈培 2007.
[2] Jue Guo 2008: 160-162.

The proposition prayer is found only in the Warring State records, and it refers to the sacrificial prayers *proposed* by the diviner in order to dispel the cause of the troubles afflicting the client. It routinely comes right after the first prognostication.

Divination guidelines

With divination guideline I refer to the interpretive lines found in the second part of the *Shifa* manuscript. These are usually correlations between the trigrams and the *ganzhi* systems, the explanations of the numbers composing each line, and all other explanatory principles which are supposed to act as an aid for the interpretation of the trigrams in the first part.

What follows is a terminological glossary used for the structural-syntactic analysis. In the parenthesis, I indicate when a Divinatory Term (DT) is included in the formulaic section. Based on the lexical survey of the texts, I have identified the following Divinatory Terms.

Structural-syntactic analysis	**Divinatory Terms (DT)**
Pre: preface C: charge V: verification Pro: prognostication A: Action performed after a prognostication Pra_n: n^{th} prayer G_n: n-position *gua* (e.g. G_6: six-position *gua*) $G_?$: *gua* with an indefinite number of positions AoM: 'announcement of merit' DG: divination guideline SoD: 'statement of dedication' Z: *zuhui* 族徽 (clan insignia) ?: unit role unknown	a: '*ji* 吉, auspicious' b: '*zhen* 貞, to determine' c: '*yue* 曰, says, to say' d: '*si* 由 (思 or 斯), would that/may it be' e: '*qi* 其', grammar particle indicating upcoming events' f: '*shang* 尚', similar to *si*, would that..' g: '*zhan* 占, read the cracks, or prognosticate' h: '*bu* 卜, to crack' i: '*ji* 既 , having already…'

I thus analyse item 1.MWZ.4-6 in the following way:

LINGUISTIC CRITERION	
Structural-syntactical analysis	***Transcription***
1. Pre+C_1(DT_{e+d})	**1**. 翌日甲寅/**其**(商)/**由(思)**瘳
2. G_6	**2**. 八七五六八七
3. C_2(DT_{e+d})	**3**. **其**(禱)/**由(思)**又(有)瘳
4. G_6	**4**. 八六七六八八
5. A+C_3(DT_d)	**5**. 我既 (商)(禱)/**由(思)**又(有)…
6. G_6	**6**. 八七六八六七

Importance of the Analytical Map

How do we establish the significance of the aspects highlighted by the different criteria? Most importantly, in what way can these criteria can be deemed relevant for our discussion? Before moving into the details of each criterion, I should remark once again that crucial information about a specific topic is not necessarily obtained from the *idea* carried in a *text*. Therefore, when analysing a text, I break down the process into different levels of analysis—the *criteria*—and each of them bears meaningful value. Moreover, by putting the linguistic criterion at the end, I intend to emphasise that we should first consider the *physical* and *visual* features of a text to identify common patterns, if possible. All these preparatory levels of analysis can help understand the final *content*.

Having created this premise, it is necessary to explain why I consider the criteria of the 'Analytical Map' to be meaningful. First and foremost, we are dealing with texts written on all sorts of material

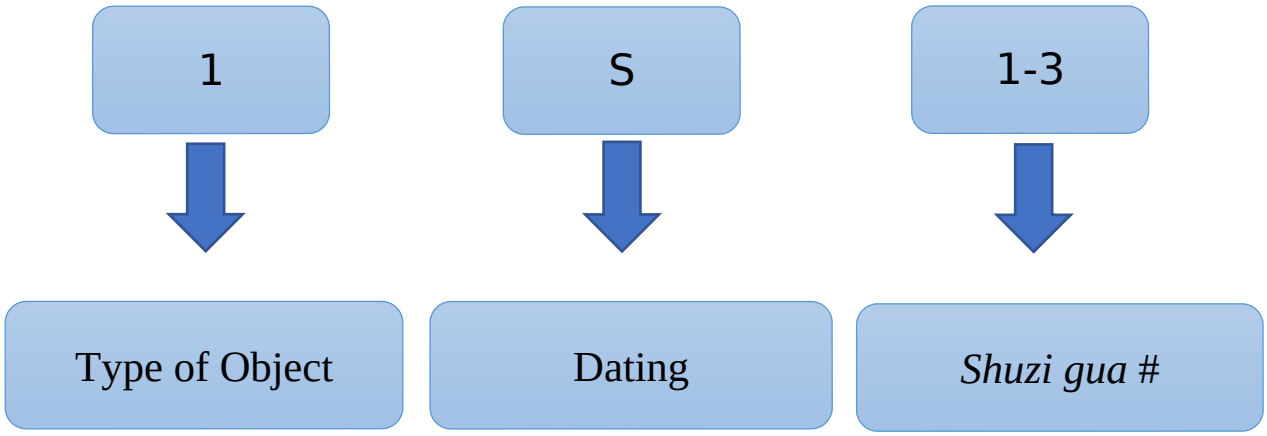
support (hence *material* criterion). The material support can yield essential information about the socio-cultural context in which the text has been produced. For instance, we know that during the Shang and Zhou dynasties animal bones and turtle shells were used for divinatory practices, while bronze vessels were mainly used for ritual purposes which differed from those of divination.[1] On the other hand, we also know that by the late 4th century BCE, bamboo became the main medium which Chinese people would use for recording any sort of text. This is the main reason why most of the excavated material from the mid-to-late Warring States period is written on bamboo.[2] Thus, in the latter case we can gain very little, if any, insight from the material support, but the *visual* criterion can help in this regard by providing additional information. Here we start to understand whether the text is a 'structural' coherent whole, and thus potentially a 'conceptual' whole, or if it is a fragmentary one. Moving on to the *linguistic* criterion, the basic elements of the macro-component are given a logico-syntactical and lexical identity. Here is where the text starts to disclose its meaning in a more nuanced way. In the next chapters, I shall use this analytical framework to discuss two important issues: (1) the oral and ritual aspects of divinatory practices related to this corpus and (2) the computational methods underlying the *shuzi gua* corpus.

[1] For an introduction to Chinese Bronzes, see Rawson 1987.
[2] Meyer 2012: 239-243.

Chapter 3

ANALYSIS OF THE MATERIALS: THE ANALYTICAL MAP

This chapter consists of the analysis of the *shuzi gua* corpus based on the criteria of the Analytical Map. The items are organised according to the type of objects, dating, and structural-syntactic aspect (from complex to simple);[1] each item has its own code which includes the following elements:



This *Shuzi gua* Numbering Code System is specifically designed to be more informative than the numbering systems used by previous scholars. It gives essential information which is then complemented by the Analytical Map. For convenience, in Appendix 1 I provide the concordance with Jia Lianxiang´s volume, where the *shuzi gua* materials can be found with their respective numbering codes, as well as the related bibliographical reference. Below I provide the Numbering Code's legend.

Number	Type of Object	Letter	Historical Period
1	Oracle Bones	S	Shang
2	Bronzes	LS	Between Shang and

[1] For instance, an item with the structure 'G_3+Pro' is located before an item with a 'G_3' structure. The incomplete items are located at the end.

			Western Zhou
3	Pottery	EWZ	Early Western Zhou
4	Dagger-Axe	MWZ	Mid-Western Zhou
5	Vase	LWZ	Late Western Zhou
6	Others	MWS	Mid-Warring States
7	Bamboo	LWS	Late Warring States
		U	Dating unknown[1]

MATERIAL CRITERION

ORACLE BONES

Item number: **1.S.1-3**

Physical properties. Bone. Upper part of a right ox scapula fragment. The material carrier is incomplete. Dating: late Shang, probably Kangding 康定 - Wuyi 武乙 period.[2] Measurements: width: 6.5 cm; length: 14.8 cm.

Archaeological context. Excavated from pit SP11 (enclosed in pit SP4) at the western division of Sipanmo 四盘磨, Anyang (Henan) by the Institute of Archaeology of the Chinese Academy of Sciences 中國科學院考古研究所, led by Guo Baojun 郭寶鈞, during his excavation of the Yin Ruins in the spring of 1950. Part of a cache.[3] Excellent source image quality. Original source material available; location: unknown.

[1] This referes to 'collected' items.
[2] Cao Dingyun based his dating on three elements: material preparation, shape of the hollows and writing style. Cao Dingyun 1989: 639-640.
[3] One millstone, one pottery stove with pane (charcoal ash), one red pottery pot, one grey pottery pot, and one pottery beast pot. Guo Baojun 郭寶鈞 1951.

Additional information. Li Xueqin noticed that the acetabular angle is cut off; this is in the fashion of Shang bone divination.[1] Cao Dingyun points out that the length of the resected acetabular angle is equal to the length of the remainder after the back of the acetabular angle is sawn away; this is also a main feature of Shang bone divination.[2] On the back, there are ten hollows in total. Four arc-shaped hollows (length: 2-2.3 cm; width: 1.1-1.4 cm) are located on the channels which were chiselled on the left and right of the blade. The remaining two rectangular hollows are located on the blade edge; these are damaged. All ten hollows exhibit signs of burning but have not been drilled. Since the graphs contain vermillion pigments, Zhang Yachu and Liu Yu discarded Guo Baojun's hypothesis regarding the idea of 'practice inscriptions'.[3]

Item number: 1.MWZ.4-6

Physical properties. Bone fragment: left part of the middle of the right scapula. The material carrier is incomplete. Measurements: length 14 cm; width 4 cm (upper part), 9 cm (lower part). Dating: Western Zhou.

Archaeological context. The bone was jointly unearthed by the Shaanxi Provincial Institute of Archaeology 陕西省考古研究所, the Institute of Archaeology, the Chinese Academy of Social Sciences 中国社会科学院考古研究所, and the Peking University School of Archaeology, Culture and Science joint archaeological team 北京大学考古文博学院组成联合考古队 in pit H90 at Qijia 齊家, Fufeng 扶風 (Shaanxi) in 2002. Part of a cache: a total of 13 bones were unearthed in pit H90, but the only one bearing inscriptions was H90: 79.[4] Good source image quality. Original source material still available; location: unknown.

Additional information. The back has been scraped, and three round hollows have been bored out; the hollows are all complete and were carved with a narrow chisel, after which a heat source was

[1] Zhang Jinping 2015:130.
[2] Cao Dingyun 1989: 638.
[3] Zhang Yachu and Liu Yu 1980: 157.
[4] Cao Wei 曹瑋 2003: 43.

applied (despite Cao Wei 曹瑋 referring to there being 'no burn marks').[1] The diameter of the hollows is about 1.5 cm and their depth varies between 0.44-0.64 cm.[2] A fourth hollow has been bored slightly off-centre and is incomplete.[3] The inscriptions on the front correspond to the above group of three hollows. According to Li Xueqin, the inscriptions should be read from top to bottom, with the blade edge being the upper part and the glenoid cavity being the lower part,[4] while Cao Wei reads the inscription from right to left.[5]

Item number: **1.S.7-9**

Physical properties. Ox scapula fragment. The material carrier is incomplete. Dating: Shang period IV.[6] Measurements: width: 4 cm; length: 11 cm.

Archaeological context. Retrieved at the archaeological site of Liujiazhuang 劉家莊, northern site of Yinxu, Anyang (Henan), in 1995. The location of the excavated bone was in the well on the eighth level of the 95T1 Exploration Square. Part of a cache.[7] Good source image quality. Original source material available; location: unknown.

Additional information. The scapula has been polished on both sides. On the back, there are seven arc-shaped hollows, of which four are complete. On the same side, signs of burning, as well as traces of drilling, are still visible .[8]

Item number: 1.EWZ.10-11

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

[1] Cao Wei 2003: 44.
[2] Cao Wei 2003: 44.
[3] Li Xueqin 2003: 6.
[4] Li Xueqin 2003: 6.
[5] Cao Wei 2003: 44.
[6] Anyang shi wenwu gongzuodui 安陽市文物工作隊 1997.
[7] The unearthed items included pottery, bone tools, stone tools, divination bones, and inscribed oracle bones. See the archaeological report for the full list.
[8] Anyang shi wenwu gongzuodui 1997: 35.

Archaeological context. Excavated at the Western Zhou Site of Zhangjiapo, Chang'an (Shaanxi) in the winter of 1956.[1] Part of a cache: unknown. Good source image quality. Original source material still available; location: unknown.

Additional information. None.

Item number: 1.EWZ.12

Physical properties. Limb bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. Excavated from the T313 district of the residential site of the Western Zhou archaeological site of Zhangjiapo in 1956-57.[2] Part of a cache: unknown. Good source image quality. Original source material still available; location: unknown.

Additional information. None.

Item number: 1.EWZ.13-14

Physical properties. Shaft of ox scapula fragment. The material carrier is incomplete. Measurements: length 13 cm; width 6.5 cm. Dating: Western Zhou.

Archaeological context. Excavated by the Shaanxi Provincial Cultural Relics Management Committee 陝西省文物管理委員 from pit no. T4. ⑤ at the Western Zhou Site of Zhangjiapo 張家坡, Chang'an 長安 (Shaanxi) on January 23, 1956.[3] Part of a cache. Good source image quality. Original source material still available; location: unknown.

Additional information. This is the first inscribed bone dating to the Western Zhou ever found.[4] The acetabular angle is not cut off. There are three round hollows (about 1.5 cm in diameter and about 0.9 cm in depth) on the back side with a vertical wall and a flat bottom; one hollow is damaged.[5] A thin chiselled channel (less than 0.1 cm wide) runs along the length of the bone. The

[1] Tang Lan 1957: 33.
[2] Jia Lianxiang 2020: 93.
[3] Shaanxi sheng wenwu guanli weiyuanhui 陝西省文物管理委員會 1956.
[4] Shaanxi sheng wenwu guanli weiyuanhui 1956: 58.
[5] Shaanxi sheng wenwu guanli weiyuanhui 1956: 58.

burn marks are not clarly visible. According to the archaeological report, the pyromantic cracks are located on the front; however, these are not visible from the available pictures. There is a ┌┐-shaped line next to the horizontal *shuzi gua*.[1]

Item number: 1.MWZ.15-16

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: mid-to-late Western Zhou.[2]

Archaeological context. Excavated at the Chenzhuang 陳莊 Western Zhou Site in Gaoqing 高青, Shandong 山東 by the Shandong Provincial Institute of Cultural Relics and Archaeology 山東省文物考古研究所 in 2010.[3] Part of a cache.[4] Excellent source image quality[5]. Original source material still available; location: unknown.

Additional information. The authors of the archaeological report suggest that the Western Zhou city site of Chenzhuang 'might have been built in the early Western Zhou period and abandoned in the middle of the period.'[6] The site of Chenzhuang is the earliest confirmed Western Zhou city site in Shandong,[7] and its location is in the core area of the important Western Zhou feudal state of Qi 齊. It therefore represents an important discovery in terms of the archaeology of the Zhou dynasty in Shandong.[8]. This item represents 'the first case of a Western Zhou Dynasty inscribed bone found in Shandong.'[9]

[1] Jia Lianxiang 2020: 90.
[2] Fang Hui 方辉 2010.
[3] Gao Mingkui *et al* 高明奎等 2011.
[4] The recovered items include pottery flakes, mussel shells and animal bones, pottery jars and many different kinds of bronze vessels, as well as jades and horse chariots. See the full list of items in Gao Mingkui *et al* 2011: 11-19.
[5] http://news.sohu.com/20100205/n270072041.shtml. Last access on 14 August 2021.
[6] Gao Mingkui *et al* 2011: 19.
[7] Gao Mingkui *et al* 2011: 19-20.
[8] For the first time, the inscription Qi Gong 齊公 (Duke of Qi) has been found among the materials retrieved in this area, which suggests a strong connection with the State of Qi. Gao Mingkui *et al* 2011: 20.
[9] Guo jia wenwuju 2010, cited in Jia Lianxiang 2020: 129.

Item number: **1.MWZ.17-18**

Physical properties. Bone: right scapula fragment. The material carrier is incomplete. Measurement: length 13.1 cm; width 4.7 to 9.5 cm; thickness 0.45 cm. Dating: mid-to-late Western Zhou.

Archaeological context. Excavated by the Beijing Institute of Cultural Relics 北京市文物研究所 in Zhenjiangying 鎮江營, Fangshan 房山, Beijing 北京 between 1986 and 1990.[1] Part of a cache: unknown. Good source image quality. Original source material still available; location: unknown.

Additional information. This item originates from the Western Zhou Yan 燕 cultural strata. The scapula seems to be undergone extensive scraping and polishing. The edge of the blade end has been cut away and its thickest parts, together with that of the ridge, have been levelled out, making the scapula appear as a slightly oblique triangle. Two round hollows have been bored on the back, only half of which are still visible. On the front of the scapula, in the upper-right end, there is a further damaged hollow. According to Jia Lianxiang, the polishing style is very close to that of the bone scapula from Qijia (items 1.U.34-40).[2]

Item number: 1.EWZ.19

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. Items 1.EWZ.19, 1.EWZ.20, 1.EWZ.21, 1.EWZ.22, 1.EWZ.23, 1.EWZ.24 were excavated by the Shaanxi Zhouyuan Archaeological Team 陝西周原考古隊 in 1977 in the no. 11 pit at the base of the No. 2 West Wing Room at the Fengchu 鳳雛 Construction Site, Qishan 岐

[1] Beijing shi wenwu yanjiusu 北京市文物研究所 1999.
[2] Jia Lianxiang 2020: 127.

山 (Shaanxi).[3] Part of a cache. Good source image quality. Original source material still available: unknown; location: unknown.

Additional information. None.

Item number: **1.EWZ.20**

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. See 1.EWZ.19.

Additional information. See 1.EWZ.19.

Item number: **1.EWZ.21**

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. See item 1.EWZ.19.

Additional information. See item 1.EWZ.19.

Item number: **1.EWZ.22**

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. See item 1.EWZ.19.

Additional information. See item 1.EWZ.19.

[3] Shanxi zhouyuan kaogudui 陕西周原考古隊 1979. For the pictures of the Zhouyuan OBI, see Cao Wei 2002.

Item number: **1.EWZ.23**

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. See item 1.EWZ.19.

Additional information. See item 1.EWZ.19.

Item number: **1.EWZ.24**

Physical properties. Bone fragment. The material carrier is incomplete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. See item 1.EWZ.19.

Additional information. See item 1.EWZ.19.

Item number: **1.S.25**

Physical properties. Bone fragment. The material carrier is incomplete. Dating: Late Shang. Measurements: unknown.

Archaeological context. Retrieved at Xiaotun 小屯, Anyang 安陽 (Henan 河南) (Pu Maozuo 2006: 437). It originally belonged to the *Tieyun* 鐵雲 collection, then to Shang Chengzuo 商承祚 (1902-1991).[1] Part of a cache: unknown. Good source image quality. Original source material available; location: unknown.

Additional information. None.

[1] Jia Lianxiang 2020: 64.

Item number: **1.S.26**

Physical properties. Bone fragment. The material carrier is incomplete. Dating: Late Shang period III (Lin Xin 廩辛 - Geng Xin 庚丁, 1158-1147 BCE).[1] Measurements: unknown.

Archaeological context. Retrieved at Xiaotun, Anyang (Henan).[2] Sun Shikuang 孫師匡 old collection, now preserved at the National Library 中國國家圖書館.[3] Good source image quality. Original source material available; location: unknown.

Additional information. None

Item number: 1.S.27

Physical properties. Bone fragment. The material carrier is incomplete. Dating: Late Shang. Measurements: unknown.

Archaeological context. Excavated in 1973 at Xiaotun Nandi, Anyang, Henan.[4] Part of a cache: unknown. Good source image quality. Original source material still available: unknown.

Additional information. None.

Item number: **1.S.28-30**

Physical properties. Ox scapula. The material carrier is incomplete. Dating: Late Shang. Measurements: unknown.

Archaeological context. Unearthed on 22 August 2009 at the City Sports School in Xujiaqiao beidi 徐家桥北地, Anyang.[5] Part of a cache: unknown. Good source image quality. Original source material still available; location: unknown.

[1] Zhang Zhenglang says period III dates around 1200 BCE. Zhang Zhenglang 2012: 66.
[2] Pu Maozuo 2006: 437; Zhang Jinping 2015: 133.
[3] Jia Lianxiang 2020: 65.
[4] Jia Lianxiang 2020: 68.
[5] Song Zhenhao 宋鎮豪 was informed of this date by Yue Hongbin 岳洪彬. No archaeological report is available for this object. Song Zhenhao 2010.

Additional information. According to Jia Lianxiang, on the back there are three rows of five hollows. Only the top and bottom rows central row have been burned, showing pyromantic cracks on the front.[1] It should be clarified that these are not visible from the extant picture.

Item number: **1.U.31-33**

Physical properties. Turtle plastron. 3/4 of the material carrier are complete. Dating: late Shang-early Western Zhou.[2] Measurements: width: 21.6 cm; length: 22.5 cm.

Archaeological context. Collected in the warehouse of the archaeological team at Xiaotun Nandi at the end of October 1980.[3] Part of a cache: unknown. Good source image quality. Original source material still available; location: unknown.

Additional information. The plastron pieces have been re-joined and the plastron was only almost fully restored when the archaeological team arrived in Beijing.[4] Only the front and rear pointed parts of the bridge are sawn. On the back, the whole plastron surface is crowded with squared hollows, 93 in total, which differ in size and position.[5] Scholars noticed that the shape is similar to that of the Western Zhou oracle bones.[6] Xiao Nan noticed that the *gua* appear to have been written by three different hands.[7]

20 Item number: 1.U.34-40

Physical properties. Blade of ox scapula. The material carrier is damaged but is mostly complete. Measurements: length 21 cm; width 7 cm. Dating: Middle Western Zhou.

[1] Jia Lianxiang 2020: 72.
[2] Since this plastron has been collected, the stratigraphic dating is impossible to determine; therefore, Xiao Nan guessed the dating based on three criteria: the preparation of the plastron, the shape of the hollows, and the scribal features. Xiao Nan 1989: 68-70. See also Cao Dingyun 1993: 20. Being the turtle species local to Anyang, 'this divination must have been performed by Zhou people at the Shang court'. Li Xueqin 2005: 208.
[3] Xiao Nan 1989: 66.
[4] Xiao Nan 1989: 66.
[5] Xiao Nan 1989: 68.
[6] Xiao Nan 1989: 70; Cao Dingyun 1993: 18-20; Li Xueqin 2005: 207.
[7] Xiao Nan 1989: 66.

Archaeological context. Collected by the Shaanxi Zhouyuan Archaeological Team at Fufeng, Qijia, Shaanxi in 1980 (*caiji* 108: lower part) and 1982 (*caiji* 46: upper part) and linked to the Western Zhou workshop and residential area of Qiyi 岐邑.[1] Part of a cache. Excellent source image quality.[2] Original source material still available; location: unknown.

Additional information. The scapula has been pieced together since the recovery of the upper part in 1982.[3] The split runs over the inscriptions. On the back, three round hollows are located along the scapular spine (*gang* 冈); two holes have been chiselled in the lower part close to one another, while the third hole is located in the upper part far away from these two.[4] The pyromantic crack is located in the glenoid cavity (*jiubu* 臼部), pointing inward.[5]

BRONZES

Item number: 2.LS.1

Physical properties. Scribe Youfu *ding* 史旂父鼎-type bronze vessel. The material carrier is complete. Measurements: height 25 cm; width 19.5 cm; weight 2.52 kg. Dating: early Western Zhou.[6]

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Excellent source image quality.[7] Original source material still available: currently stored at the Beijing Palace Museum 北京故宫博物院.

Additional information. The vessel features three solid legs, a split crotch, and a swelling of the bowl as it joins each of the legs. The mouth is adorned with two upright handles. A high relief

[1] Shaanxi Zhouyuan kaogudui 陕西周原考古隊 1981: 1.
[2] Cao Wei 曹瑋 2002.
[3] Luo Xizhang 羅西章 and Wang Junxian 王均顯 1987: 19.
[4] Luo Xizhang and Wang Junxian 1987: 19
[5] Jia Jing 贾靖 1981: 4.
[6] https://bronze.asdc.sinica.edu.tw/rubbing.php?02373. (Last access: July 2023)
[7] https://www.dpm.org.cn/collection/bronze/228545.html. (Last access: July 2023)

bovine mask (*xishou* 牺首) issues from the series of low relief animal mask motifs with which the neck is decorated.

Item number: 2.EWZ.2

Physical properties. Xiaofu *gui* 效父簋-type bronze vessel. The material carrier is complete. Measurements: depth 3.6 *cun* (10.99 cm); height about 16 cm; weight 100 *liang* (5 kg). Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Good source image quality.[1] Original source material still available: previously part of the Cao Qiufang 曹秋舫 collection; currently stored at the Institute of Archaeology, Chinese Academy of Social Sciences 中國社會科學院考古研究所.[2]

Additional information. See item 2.EWZ.3.

Item number: **2.EWZ.3**

Physical properties. Xiaofu *gui* 效父簋-type bronze vessel. The material carrier is complete. Measurements: incomplete; height 29.9 cm. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Excellent source image quality. Original source material available: once stored in the Neiraku Museum 寧楽美術館 (Nara, Japan); it appeared at a Sotheby's auction (London, UK) in November 2000.

Additional information. A bombe-shaped, finely cast vessel, with a slight waist before the everted rim, featuring high relief carving with a pair of serpentine dragons with spiralled tails facing each other. A central flange of twin C-scrolls separates the dragons' heads and curled ferocious snouts borne between their claw feet and a horned *taotie* mask. A further flange divides a band featuring

[1] https://bronze.asdc.sinica.edu.tw/rubbing.php?03822. (Last access: July 2023)
[2] Jia Lianxiang 2020: 105.

pairs of long-tailed birds against *leiwen* at the high pedestal foot. The mythical bird-like, high loop handles protruding from bovine masks flank the vessel; their upright horns are made from opposing coiled 'tigers,' and their snouts are each carved with a cicada. Both the curving loop and the pendant are adorned with scrolling wings, claws, and tails.[1]

Item number: **2.EWZ.4**

Physical properties. Earl Jin *gui* 堇伯簋-type bronze vessel. Completeness of the material carrier unknown. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Only rubbings available. Original source material still available: unknown.

Additional information. None.

Item number: **2.EWZ.5-6**

Physical properties. Zhong *fang ding* 中方鼎-type bronze vessel. Completeness of the material carrier unknown. Measurements: none. Dating: Western Zhou (King Zhao 昭).[2]

Archaeological context. Retrieved by farmers at Xiaogan 孝感, in Hubei 湖北 in the first year of the Chonghe 重和 period, under the emperor Huizong 徽宗 of the Northern Song Dynasty 北宋 (CE 1118). Part of a cache.[3] Only line-drawings available. Original source material no longer available.

Additional information. The deep-bellied, square body of this *fang ding* stands above four columnar legs which are adorned with two circular ridges. A pair of upright U-form handles are

[1]https://www.sothebys.com/en/auctions/ecatalogue/2000/fine-chinese-ceramics-and-works-of-artbrincluding-chinese-export-porcelain-l00517/lot.3.html. (Last access: July 2023)

[2] Tang Lan 1986; Li Xueqin 1979.

[3] The famous 'Anzhou six vessels 安州六器', which also included another two *fang ding* 方鼎, a *yuan ding* 圆鼎, a *yan* 甗 and a *qi* 觶.

located in the middle of the narrow rim. Flanges project from the corners of the body and the centre line of the four walls.

Item number: 2.S.7

Physical properties. Father Wu *You*-type bronze wine container. The material carrier is complete. Dating: Late Shang. Measurements: height: 38 cm; diameter 21.5 cm; weight: 5.78 kg.

Archaeological context. Place of recovery: unknown. Excellent source image quality.[1] Original source material available: currently stored at the Beijing Palace Museum.

Additional information. The square-shaped vessel has sloped shoulders and a flat, straight stomach, and is covered with a roof-shaped knob and a carrying beam with an animal's head at each end. It also has eight longitudinal convex ribs on the cover, belly, and foot, and a relief carved animal's head on each side of the back of the shoulders. The lid, neck, and belly are all embellished with *kui* and animal mask designs, while the foot is also embellished with *kui* motifs.

Item number: **2.EWZ.8**

Physical properties. ◇ *fang ding* 方鼎-type bronze vessel. The material carrier is complete. Measurements: height 26 cm; weight 4.6 kg; the mouth is 20.8 cm long and 14.8 cm wide; depth of belly 10.5 cm. Dating: early Western Zhou.

Archaeological context. The *fang ding* was discovered by farmers in Shuang'an 双庵, Jingdang 京当, in Qishan, Shaanxi in April 1991 when they were building a road, and was 1.5 meters below the surface of the ground.[2] Part of cache.[3] Good source image quality. Original source material still available: currently stored at the Qishan County Museum 岐山縣博物館.

[1] https://www.dpm.org.cn/collection/bronze/234400.html. (Last access: July 2023)
[2] Liu Shaomin 劉少敏, Pang Wenlong 龐文龍 1992.
[3] Liu Shaomin, Pang Wenlong 1992: 76.

Additional information. The rectangular part is supported by four columnar legs and has two vertical U-shaped handles in the middle of the rim on the tiny sides. The walls become increasingly narrow as they approach the bottom. The top register is ornamented with four groups of low relief double-bodied single-headed dragons laying on a *leiwen* backdrop just below the rim; the bottom register is a plain panel flanked by rows of projecting bosses (*ru ding wen* 乳丁紋). Four flanges protrude from the body's four corners.

Item number: 2.EWZ.9

Physical properties. ◇ *fang ding* 方鼎-type bronze vessel. The material carrier is complete. Measurements: height 21 cm. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Previously part of a private collection.[1] Good source image quality. Original source material still available; location unknown.

Additional information. See item 2.EWZ.9.

Item number: **2.EWZ.10**

Physical properties. ◇ *ding* 鼎-type bronze vessel. The material carrier is complete. Measurements: height 21.6 cm. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Only rubbings available. Original source material still available: currently stored at the Shanghai Museum 上海博物館.[2]

Additional information. None.

[1] Jia Lianxiang 2020: 101.
[2] *Jicheng* (2): 1014.

Item number: **2.EWZ.11**

Physical properties. 爵 *Jue* 爵-type bronze vessel. The material carrier is complete. Measurements: height 23 cm; weight 0.95 kg; the tail is 17 cm long; and the mouth is 9.9 cm wide. Dating: early Western Zhou.

Archaeological context. The vessel was seized by the Public Security Bureau of Baoji 寶雞, Shaanxi, during an operation against the illicit trafficking of cultural relics.[1] Part of a cache: unknown. Poor source image quality.[2] Original source material still available: currently stored at the Baoji Bronze Museum 寶雞青銅器博物館.

Additional information. The U-shaped body of this vessel has a long spout and a pointed flange, and is supported by three triangular blade-shaped splayed feet. A pair of umbrella-shaped posts rises from the rim, with circular swirls on the post tops. The belly is rather straight, with a high-relief animal mask on a *leiwen* background.

Item number: **2.EWZ.12**

Physical properties. Zhao *you* 召中卣-type bronze vessel. The material carrier is complete. Measurements: height 9.6 *cun* (31.99 cm)*;* weight 198 *liang* (9.9 kg); depth at belly 5.6 *cun* (18.66 cm); diameter at mouth 3.4 *cun* (11.33 cm) X 4.1 *cun* (13.66 cm). Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Only drawings and rubbings available.[3] Original source material still available: unknown; previously part of the Palace Museum collection.

Additional information. See item 2.EWZ.13.

[1] Jia Lianxiang 2020: 108.
[2] Lu Jianguo 盧建國 and Jia Jing 賈靖 1990.
[3] *Xiqing* (15): 32.

Item number: 2.EWZ.13

Physical properties. Zhao *you* 召卣-type bronze vessel. The material carrier is complete. Measurements: height 29.8 cm; weight 11.71 kg; diameter at mouth 17.2 cm; width at mouth 13.7 cm; depth at belly 22.9 cm. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Excellent source image quality.[1] Original source material still available: previously stored in the Forbidden City; currently stored at Taipei's National Palace Museum 台北故宮博物院.

Additional information. The pear-shaped, bulging pot-like vessel, which rises from a ring foot, is entirely embellished with *kui* (夔) patterns and animal mask motifs on a *leiwen* background. The body is surmounted by a movable handle adorned at the ends and halfway points with a high relief deer and sacrificially coloured animal (*xi* 犧) heads. Each side of the belly is decorated with a high relief animal head and four ridges.

Item number: 2.EWZ.14

Physical properties. Father Yi *he* 父乙盉-type bronze vessel. The material carrier is complete. Measurements: height 27 cm. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Excellent source image quality.[2] The original source material is still available: it was originally part of a Japanese private collection and was later loaned to the Neiraki Museum;[3] it is currently part of the Swiss Meiyintang 玫茵堂 collection.[4]

[1] https://theme.npm.edu.tw/opendata/DigitImageSets.aspx?sNo=04018252. Last access: 16 August 2021.
[2] Wang Tao 2009: 50-51 no. 21
[3] Neiraku Museum 寧樂美術館 1969: 30, no. 10.
[4] Tsao, Huei-Chung, Marie-Catherine Rey, Musée National des Arts Asiatiques Guimet 2013: 56-57, no. 33.

Additional information. This vessel features a large mouth and neck, with three columnar legs propping up a huge belly. High relief animal masks follow the flow from the loop handle of the tubular spout. The centre of the spherical lid is adorned with a semi-circular ring. A further much smaller semi-circular ring is positioned on the rim of the lid. A chain connects the lid with the loop handle. Three bands of animal mask designs adorn the lid and neck set against a backdrop of *leiwen*.

Item number: **2.LS.15**

Physical properties. *Pan*-type bronze; the material carrier is complete. Dating: Late Shang. Measurements: height: 11.6 cm; diameter: 31.7 cm; weight: 2.884 kg.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Excellent source image quality.[1] Original source material still available: currently part of the Arthur M. Sackler Collections.

Additional information. This disc-shaped vessel features high-ring feet, a flat belly with a rounded base, a narrow rim, and square lips. Three rows of cloud and thunder patterns, as well as animal masks, are used to embellish both the belly and the ring feet.

Item number: **2.LS.16**

Physical properties. *Ding* 鼎-type bronze vessel. The material carrier is complete. Measurements: unknown. Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Excellent source image quality.[2] Original source material still available: currently part of the Arthur M. Sackler Collections.

[1] Rawson 1990 (II): 717.
[2] Rawson 1990 (II): 267.

Additional information. This *ding* presents a rounded body and three legs, which are slightly tapered toward the foot. The rectangular handles surmount the rim of the mouth. A single ornamental register encircles the vessel right below the opening, with three *taotie* faces depicted in a wiry triple band.[1]

Item number: **2.EWZ.17**

Physical properties. *Yan* 甗-type copper vessel. The material carrier is complete. Measurements: height 40 cm; diameter 26.6 cm. Dating: early Western Zhou.[2]

Archaeological context. Unearthed by the Shaanxi Zhouyuan Archaeological Team 陕西周原考古隊 in the Western Zhou Dynasty tomb 76QHM113 200 meters northwest of Hejia 贺家, Qishan (Shaanxi) in 1976.[3] Part of a cache. Excellent source image quality.[4] Original source material still available: currently stored the Shaanxi Zhouyuan Museum 陕西省周原博物館.

Additional information. This vessel is a combination of a round bowl of the *zeng* 甑 type standing on a tripod of the *li* 鬲 type. It features a high relief animal mask motif, with a large opening and a deep belly. Two handles are positioned on the rim of the mouth. On the bottom of the bowl are four cross-shaped holes and a heart-shaped grid. The neck is decorated with the motif on a *leiwen* 雷紋 background.

Item number: **2.EWZ.18**

Physical properties. 8868 *ding* 八八六八鼎-type bronze vessel. The material carrier is complete. Measurements: height 16 cm; weight 1.164 kg; diameter 13.7 cm; depth at belly is 8.5 cm. Dating:

[1] For a full detailed description, see Rawson 1990 (II): 267.
[2] This area suffered from heavy looting to the extent that the dating of the vessel had to be based on the similarities in its shape and features to other artefacts from the same period. Jia Lianxiang 2020: 103.
[3] Shaanxi sheng kaogu yanjiusuo *et al*. 陕西省考古研究所等 1980.
[4] Zhang Tianen 張天恩 2016 (1): 36.

mid-Western Zhou.

Archaeological context. Place of recovery: unknown. Poor source image quality. Part of a cache: unknown. Original source material still available: currently part of the collection of the Shanghai Museum 上海博物馆.[1]

Additional information. The vessel features a peach-shaped mouth, with a narrow-edged square lip. Upright handles are placed at the edge of the mouth, and the belly slopes outwards. The three legs are columnar, but merge into hooves toward the ends thereof. The neck is decorated with a stolen curve motif (*qiequ wen* 竊曲紋) on a *leiwen* base.

Item number: **2.EWZ.19**

Physical properties. *Pan* 盘-type copper vessel. The material carrier is complete. Measurements: height 4.2 *cun* (13.99 cm); depth 1.9 *cun* (6.33 cm); diameter at mouth 1.55 ft (51.67 cm); handle height 3.1 *cun* (10.33 cm); width 2.9 *cun* (9.66 cm).[2] Dating: early Western Zhou.

Archaeological context. Place of recovery: unknown. Only drawings and rubbings available. Original source material still available: previously part of the Duan Fang (端方) (1861-1911) collection; currently part of the Weige family (魏格氏) collection (New York, USA).

Additional information. The vessel consists of a large, shallow bowl supported by a ring foot; the latter is decorated with fish-scale motifs (*lin wen* 鱗紋), while the belly is decorated with cloud motifs (*yun duo wen* 雲朵紋). Two upright handles are at the edge of the opening.

Item number: **2.EWZ.20**

[1] Jia Lianxiang reports that Chen Zhiyu 沈之瑜, the then director of the Shanghai Museum, replied to Zhang Zhenglang's letter concerning this item. The response can be found in Zhang Zhenglang 1985, which is now part of the collected volume published in 2012. Jia Lianxiang 2020: 130.

[2] For the information on this item, I rely on Jia Lianxiang's volume as I did not have access to the collection he cites. See Jia Lianxiang 2020: 113.

Physical properties. Da Bao *you* 大保卣-type bronze vessel. The material carrier is complete but damaged. Measurements: height 23.4 cm; diameter at belly 13.7 cm. Dating: early Western Zhou.

Archaeological context. The vessel was probably unearthed in Xin 辛, Jun 浚 (Henan). Part of a cache: unknown. Excellent source image quality.[1] Original source material still available: currently stored in the Hakutsuru Museum 白鶴美术馆 (Kobe, Japan).

Additional information. The vessel is in the shape of a broad-tailed standing bird featuring wide eyes and a pointed beak, a pair of hairy horns on its head, a wattle hanging from its mouth, feathered wings on both sides, and robust feet. The belly's outer drum is adorned with a *yuwen* (羽紋) pattern. A ring connects the movable handle to the main body on both sides.

POTTERY

Item number: 3.S.1

Physical properties. Casting copper clay mould fragment. The material carrier is incomplete. Dating: Late Shang. Measurement: length: 2.7 cm, height 8.9 cm x; width: 1.6-2.7 cm.

Archaeological context. Excavated at the bronze casting site of the Yin Dynasty in the southeast of Xiaomintun 孝民屯, Yinxu, Anyang, Henan. The first four pieces were unearthed by the Anyang team of the Institute of Archaeology, Chinese Academy of Social Sciences in 2000-2001, and the fifth piece was unearthed by the Yinxu Xiaomintun archaeological team in 2003-2004. Part of a cache.[2] Poor source image quality. Original source material still available: location unknown.

[1] https://bronze.asdc.sinica.edu.tw/rubbing.php?05018. (Last access: July 2023)
[2] See the full list in Yue Zhanwei 岳占偉 2006.

Additional information. These clay fragments are extremely difficult to describe. According to the report, this is a *qing*-gray coloured fragment, which also presents reddish bits. The surface is smooth, and the top is curled inward. The report suggests that it is probably a tripod handle mould.[1]

Item number: 3.S.2

Physical properties. Casting copper clay mould fragment. The material carrier is incomplete. Dating: Late Shang. Measurement: length: 7.2 cm; width: 4.1 cm; depth: 2.3 cm. Medium source image quality.

Archaeological context. See item 3.S.1.

Additional information. See item 3.S.1. There is a decoration on the front but is too damaged and it is impossible to identify the original function of this fragment.

Item number: 3.S.3-4

Physical properties. Casting copper mould fragment; the material carrier is incomplete. Dating: unknown; Measurement: length: 5 cm; width: 4.9 cm; depth: 2.3 cm. Poor source image quality.

Archaeological context. See item 3.S.1.

Additional information. See item 3.S.1.

Item number: 3.S.5-6

Physical properties. Casting copper clay mould fragment; the material carrier is incomplete. Dating: unknown; Measurement: length: 5.7 cm; width: 3.4 cm; depth: 2.2 cm. Poor source image quality.

Archaeological context. See item 3.S.1.

Additional information. None.

[1] Yue Zhanwei 2006: 374.

Item number: 3.S.7

Physical properties. Casting copper clay mould fragment; the material carrier is incomplete. Dating: unknown; Measurement; unknown. Poor source image quality.

Archaeological context. See item 3.S.1.

Additional information. None.

Item number: 3.S.8

Physical properties. Pottery fragment; the material carrier is incomplete. Dating: Late Shang; Measurement: lengh 6.3 cm; width 3.1 cm.

Archaeological context. Unearthed by the Anyang excavation team of the Institute of Ancient Research in 1958-1959 during the excavation of the Yin Ruins.[1] Part of a cache.[2] Poor source image quality. Original source material still available: location unknown.

Additional information. None.

Item number: 3.S.9-10

Physical properties. Pottery fragment; the material carrier is incomplete. Dating: Late Shang; Measurement: lengh 5.8 cm; width 3.0 cm.

Archaeological context. See item 3.S.8.

Additional information. See item 3.S.8.

Item number: 3.S.11-12

Physical properties. *Jue*-type wine vessel pottery mold fragment. The material carrier is incomplete. Dating: Late Shang. Measurement: unknown.

[1] An Zhimin 安志敏, Jiang Bingxin 江秉信, Chen Zhida 陳志達 1961.
[2] An Zhimin, Jiang Bingxin, Chen Zhida 1961: 73-75.

Archaeological context. Excavated at Xinxu, Anyang.[1] Part of a cache: unknown. Poor source image quality. Original source material still available; location unknown. Report: Huang Junzuan 黃浚纂 1937.

Additional information. None.

Item number: 3.U.13-14

Physical properties. Mushroom-shape pottery handles (*pai* 拍). The material carrier is complete, but damaged. Measurement: height 8 cm, diameter (lower part) 7 cm, diameter 5.6 cm. Dating: Western Zhou.

Archaeological context. Items 3.U.13-14 and 3.U.15-18 were collected in 2001 at the Western Zhou pottery workshop in Xiren (西仁), Chang'an (Shaanxi).[2] Part of a cache. Original source material still available: location unknown.

Additional information. According to Li Xueqin, the arrow-shaped mark should be understood as an indicator of the direction in which the text should be read.[3] Though I find this statement reasonable, at present I do not have a definite explanation for this symbol.

Item number: 3.U.15-18

Physical properties. Mushroom-shape pottery handles. The material carrier is complete. Measurement: height 10.5 cm. Dating: Western Zhou.

Archaeological context. See item 3.U.13-14.

Additional information. None.

DGGER-AXES

[1] Zhang Jinping 2015: 146.
[2] Cao Wei 曹瑋 2002.
[3] Li Xueqin 2003. See also Liao Mingchun 2003.

Item number: 4.EWZ.1

Physical properties. Dagger-axe (ge 戈). The material carrier is incomplete. Measurement: length 14.1 cm, the handle is 3 cm to 3.2 cm wide. Dating: early Western Zhou.

Archaeological context. Items 4.EWZ.1, 4.EWZ.2, and 4.EWZ.3 were retrieved by the Luoyang cultural relics team from the two Western Zhou tombs M203 and M210 at Pangjiagou 龐家溝, Beiyao 北窯 (Henan) in October 1964.[1] Part of a cache. Poor source image quality. Original source material still available: location unknown.

Additional information. Arc-shaped blade (*yuan* 援) and spiked tang (*lan* 闌). The ridge near the tang is decorated with protruding round eyes on both sides. The original inlay has been lost.

Item number: 4.EWZ.2

Physical properties. Dagger-axe (*ge* 戈). The material carrier is incomplete. Measurement: length 16.8 cm; the blade is 3.1 cm wide, the length of the tang is 11.1 cm long, the inner length is 5.9 cm, and the inner width is 3 cm. Dating: early Western Zhou.

Archaeological context. See item 4.EWZ.1.

Additional information. The present dagger-axe presents a three-pronged tail and a curved angle on the lower side.

Item number: 4.EWZ.3

Physical properties. Dagger-axe. The material carrier is incomplete. Measurement: length 19.8 cm, width 3.1 cm; the inner length is 4.6 cm. Dating: early Western Zhou.

Archaeological context. See item 4.EWZ.1.

[1] Cai Yunzhang 蔡運章 1996.

Additional information. The lower part of the blade is damaged and tail has a curved angle on the lower side, like item 4.EWZ.2 but with a sharper angle.

Item number: 4.U.4

Physical properties. *Ding gua ge* 鼎卦戈-dagger axe. The material carrier is incomplete. Measurement: length 23 cm, the column is 11.8 cm high and 16 cm long, the inner length is 6.8 cm and the width is 3.5 cm. Dating: late Western Zhou to early Eastern Zhou.[1]

Archaeological context. Place of recovery: unknown. Part of a cache: unknown. Good source image quality. Original source material still available: currently stored at Zhoujintang 晝錦堂.

Additional information. The front profile of the dagger-axe is triangular, it features a long blade, with the upper and lower edges of the blade being parallel to one another. The ridge extends to the column located at the source of the blade. There are four rectangular holes running alongside the column. The haft is damaged at the lower corner of the back edge.[2]

VASE

Item number: 5.S.1

Physical properties. Clay pot. The material carrier is probably complete (source image quality too poor). Dating: late Shang. Measurement: unknown.

Archaeological context. Discovered in tomb n. 9 at the Zhujiaqiao 朱家橋, Pingyin 平陰, Shandong, by the Shandong excavation team of the Institute of Archaeology, Chinese Academy of

[1] Dong Shan 董珊 2014.
[2] Jia Lianxiang 2020: 138.

Sciences from 1958 to 1959. Part of a cache.[3] Original source material still available; location unknown. Poor source image quality.

Additional information. The clay pot has a wide-open mouth, a slightly protruding belly, a circular bottom, and string decorations on the neck and belly. A strip of geometric patterns decorates the shoulders, and the carved characters are positioned in the centre of the strip of geometric patterns.[1]

Item number: 5.S.2

Physical properties. Clay pot fragment. The material carrier is incomplete. Dating: Late Shang.[2] Measurement: unknown.

Archaeological context. Unearthed by the Fenghao 丰镐 Team of the Institute of Archeology, Chinese Academy of Social Sciences, in West Ash Pit H12, Mawang 马王, Chang'an 长安, in 1997. part of a cache.[3] Original source material available: location unknow. Poor source image quality.

Additional information. The grey-clay jar features a straight mouth, square, small mouth, round shoulder and a large bottom.[4] The bottom is flat and artificially processed with a 2 cm thick surface.

Item number: 5.LWZ.3-13

Physical properties. *Guan* 罐-type pottery jar. The material carrier is complete. Measurement: height 13.5 cm. Dating: Late Western Zhou.

Archaeological context. Unearthed in 1987 in the north of Shiqiao 石橋, southeast of Chunhua 淳化, Shaanxi. Part of a cache. Good source image quality. Original source material still available: location unknown. Report: Yao Shengmin (姚生民), 1990.

[3] See the full list in the archaeological report Zhongguo Kexueyuan kaogu yanjiusuo Shandong fajuedui 中國科學院考古研究所山東發掘隊 1961: 88-92.
[1] Zhongguo Kexueyuan kaogu yanjiusuo Shandong fajuedui 1961: 91.
[2] Based on the comparison of the stratigraphic relationship and the morphology of the relics, the archaeologists deduced that the H12 ash pit belongs to the late Pre-Zhou period, so the pottery fragments belong to the late Shang Dynasty.
[3] More than six hundred pieces of pottery have been retrieved, in addition to animal skulls, snail shells, bone and copper utensils. See the full list in Xu Lianggao 徐良高 2000: 207-236.
[4] Xu Lianggao 2000: 207.

Additional information. Grey-and-black pottery jar, with large round lips, round neck, and flat bottom. The diameter decreases from the belly downward. Two concave string patterns run on its shoulders, and the diagonal double concave string patterns form ten grids underneath it. The lower section is divided into ten grids with oblique and vertical double-concave string patterns. The belly is decorated with a *sheng wen* (繩紋) motif. The concave patterns divide the upper and lower sections; the lower section is decorated with a triangle pattern.

Item number: 5.MWZ.14-18

Physical properties. *Gui* 簋-type pottery vessel. The material carrier is complete. Measurement: height 14.4 cm, diameter 21.4 cm. Dating: late Western Zhou.

Archaeological context. Excavated by the Luoyang Cultural Relics Team in the royal tomb C3M434 at the Tangcheng Garden 唐城花園, Luoyang 洛陽 (Henan) in July 2002.[1] Part of a cache. Good source image quality. Original source material still available: location unknown.

Additional information. Puffed belly supported by a ring foot. The two handles are located in the upper section of the belly. The ring foot is decorated with a register of a concave string pattern. The image depicts two hunters, a cart and a sheep-shaped hunting beast.

OTHERS

Item number: 6.S.1-6

Physical properties. Millstone fragment. The material carrier is incomplete. Dating: Late Shang. Measurement: length: 8-9.5 cm; width: 7 cm; depth: 2 cm. Poor source image quality.

Archaeological context. Found during excavations at tomb M80 located on the south bank of the Huan 洹 River by the Anyang team of the Institute of Archaeology of the Chinese Academy of

[1] An Yawei 安亞偉 2007; Cai Yunzhang and An Yawei 2007.

Social Sciences in the spring of 1982.[1] Part of a cache. Good source image quality. Original source material still available: location unknown.

Additional information. None.

Item number: 6.EWZ.7

Physical properties. Point-edged bone arrowhead. The material carrier is complete. Measurement: length 6.9 cm. Dating: early Western Zhou.

Archaeological context. Item 6.EWZ.7 and 6.EWZ.8 were unearthed at the early Western Zhou residential archaeological site of Zhangjiapo, Chang'an, Shaanxi between 1955-1957.[2] Part of a cache: unknown. Good source image quality.[3] Original source material still available: location unknown.

Additional information. None.

Item number: 6.EWZ.8

Physical properties. Round-edged bone arrowhead. The material carrier is complete. Measurement: length 5.6 cm. Dating: early Western Zhou.

Archaeological context. See 6.EWZ.7.

Additional information. None.

BAMBOO

Item number: 7.MWS.1-14

[1] Zhongguo shehui kexueyuan kaogu yanjiusuo Anyang gongzuodui 中國社會科學院考古研究所安陽工作隊 1986. see also Zheng Ruokui 鄭若葵 1986.
[2] Jia Lianxiang 2020: 121-122.
[3] *Zhonguo shehui kexue kaogu yanjiusuo* 中國社會科學院考古研究所 1962: 93(13).

Physical properties. Bamboo slips.[1] The material carrier is incomplete. Measurement: width generally about 0.8 cm, the narrowest is about 0.6 cm, and the widest is 1.2 cm; length 32.5 cm to 55 cm. Dating: Mid-Warring States.

Archaeological context. Unearthed in the Chu tomb at No. 1 Geling 葛陵, Liqiao 李桥, 26 km northwest of Xincai 新蔡, during the provincial cultural relics census in 1994. Part of a cache. Original source material still available: location unknown.

Additional information. Pit No. 1 presents a *ya* shape and includes two inner coffins and two outer coffins. The grave goods belonging to the tomb occupant are located in the middle room, with double coffins and outer coffins. the tomb occupant has been identified as Cheng, Lord of Pingye 平夜君成. Based on the tomb structure and size, as well as on the quantity and quality of the grave goods, the editors confirmed that his social status was very prominent, just right below the king of Chu.[2]

Item number: 7.MWS.15-23

Physical properties. Bamboo strips.[3] The material carrier is incomplete. Measurement: average width 0.8 cm, the narrowest is about 0.5 cm, and the widest is 0.8 cm; length 64 cm to 71 cm. Dating: Mid-Warring States.

[1] The tomb was robbed in several occasions in ancient and modern times, during which the bamboo strips were misplaced and seriously damaged. The sorting team divided the bamboo slips into two bundles, A and B. Bundle A is divided into three groups, A1-A3, for a total of 523 slips. Bundle B includes 153 bamboo slips in total, which are relatively well preserved. They are divided into four groups, namely, B1-B4, including two main categories: tomb inventory (薄書) and divination and prayer (卜筮祭禱). In addition, 749 fragmentary pieces were assigned a temporary number. All the trips together include a total of about 8,000 characters. Henan sheng wenwu kaogu yanjiusuo 河南省文物考古研究所 2003: 173.

[2] Henan sheng wenwu kaogu yanjiusuo 2003: 174-185.

[3] There are about 70 strips, with a total of *ca*. 4,500 characters, of which 50 (*ca*. 2700 characters) are complete and include divination records. In 1989, Wang Mingqin 王明欽 made the first interpretation and examination of bamboo strips in his master's thesis. See also Yan Changgui 晏昌貴 2005 and Xu Daosheng 許道勝 2008 for a revised interpretation of the strips.

Archaeological context. These bamboo slips were obtained during the rescue excavation of Tomb No. 1 in Tianxingguan 天星观, Jiangling 江陵, Hubei by the Jingzhou Regional Museum from January 8 to March 28, 1978.[1] The tomb is located in Wushan Brigade of Guanyindang Commune in Jiangling County. Part of a cache.[2] Poor source material image. Original source material still available; location: unknown.

Additional information. The tomb occupant is identified as Fan Cheng 番乘, lord of Diyang 邸陽. Based of the burial scale and the grave goods found in the tomb, his social status must have been higher than the one from Baoshan (see below).

Item number: 7.LWS.24-29

Physical properties. Bamboo strips.[3] The material carrier is mostly complete. Measurement: length from 52.6 cm to 72.6 cm. Dating: Mid-to-late Warring States.[4]

Archaeological context. Unearthed in 1987 when the Jingsha Railway Archaeological Team in Hubei Province excavated Tomb No. 2 in Baoshan, Jingmen.[5] The tomb is located on Baoshangang, Wangchang Village, Shilipu Town, Jingmen City, Hubei Province, about 16 kilometers south to the ancient city of Jinan, Jiangling. Part of cache.[6] Good source material image. Original source material available; location: unknown.

[1] Hubei sheng jingzhou diqu bowuguan 湖北省荊州地區博物館 1982.
[2] The tomb has been previously robbed and the extant grave goods amount to a total of 2,440. Hubei sheng jingzhou diqu bowuguan 1982: 109.
[3] A total of 448 strips have been recovered, 278 of which are inscribed, for a total of 12,472 characters. The editors divided the strips into three groups according to their content: administrative and legal documents (1-196), divination and sacrifice (197-250), and inventories (251-278). The second group includes 54 strips. Hubei sheng Jingsha tielu kaogudui 湖北省荊沙鐵路考古隊 1991: 265-7.
[4] Based on the burial inventory, he was buried in the 13th year of King Huai of Chu (316 BCE). Hubei sheng Jingsha tielu kaogudui 1991: 331-333.
[5] See the initial report Baoshan chumu di zhujian zhengli xiaozu 包山墓地竹簡整理小組 1988.
[6] About 2,000 grave goods were found in the tomb, including bronze ritual vessels, jade and silk artifacts, as well as bamboo strips. See the full inventory in Hubei sheng Jingsha tielu kaogudui 1991: 69.

Additional information. The owner of the tomb is Shao Tuo, who served as Minister of the Left of the Chu State.[1] According to the identification of the bones, he was between 35 and 40 years old when he died.

[1] Hubei sheng Jingsha tielu kaogudui 1991: 335.

VISUAL AND LINGUISTIC CRITERION

ORACLE BONES

Item number: 1.S.1-3

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on three units (1-3), each corresponding to a crack. Syntactically coherent text.

Micro-analysis

1:A+B sequence of six numbers and three graphs.[1] Left to right direction.[2] Small size.

2:A sequence of six numbers. Right to left direction. Small size.

3:A+B sequence of six numbers and three graphs. Left to right direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+C	1:七五七六六六<u>曰囟</u>孚
2:G_6	2:八六六五八七
3:G_6+C	3:七八七六七六<u>曰囟</u>孚

Item number: 1.MWZ.4-6

Visual Criterion

Macro-analysis

The text is complete. The text is produced on six units (1-6). Two graphs are unknown.[2] Syntactically coherent text.

Micro-analysis

[1] Note that in my first analysis, this item had one non-legible graph as the previous pictures and line-drawings where not too clear. This new analysis is based on the pictures published in Wu Xuefei 2019.
[2] This is from the caudal border running onwards.

1:B eight graphs; the sixth one is unknown. Top to bottom direction. Even size.

2:A sequence of six numbers. Top to bottom direction. Even size.

3:B five graphs; the second one is unknown. Top to bottom direction. Even size.

4:A sequence of six numbers. Top to bottom direction. Even size.

5:B six graphs; the third and the fourth one are unknown. Top to bottom direction. Even size.

6:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1. Pre+C(DT:e)+C(DT:d)	1. 翌日甲寅**其**商**囟**瘳
2. G_6	2. 八七五六八七
3. C(DT:e+d)	3. **其**禱**囟**有瘳
4. G_6	4. 八六七六八八
5. C_3(DT:d)	5. 我**既**商禱**囟**祐
6. G_6	6. 八七六八六七

Item number: 1.S.7-9

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on three units (1-3, *recto*). All graphs are legible. Syntactically coherent text.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Size slightly bigger than the other graphs.

2:A sequence of six numbers. Top to bottom direction. Small size.

3:A sequence of six numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:一一六六一五
2:G_3	2:九七七
3:G_6	3:六八八八六六

Item number: 1.EWZ.10-11

Visual Criterion

Macro-analysis

The text is complete. The text is produced on two units (1-2). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

2:A sequence of six numbers. Right to left direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 六六八一一六
2:G_6	2: 六一六六六一

Item number: 1.EWZ.12

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_6	1: 一一六一一一

Item number: 1.EWZ.13-14

Visual Criterion

Macro-analysis

The text is complete. All graphs are legible. The text is produced on two units (1-2).

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Small size.

2:A sequence of six numbers. Right to left. Small size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_6	1: 六八一一五一
2:G_6	2: 五一一六八一

Item number: 1.MWZ.15-16

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

2:B sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_6	1: 一八一八八一
2:G_6	2: 一八八一八八

Item number: 1.MWZ.17-18

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

2:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 六六六六七七
2:G_6	2: 七六八六五八

Item number: 1.EWZ.19

Visual Criterion

Macro-analysis

The text is complete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 五八七八七八

Item number: 1.EWZ.20

Visual Criterion

Macro-analysis

The text is incomplete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

Structural-syntactic analysis	**Linguistic Criterion**
1:G_6	1: (..)七六六七一八

Item number: 1.EWZ.21

Visual Criterion

Macro-analysis

The text is incomplete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

Structural-syntactic analysis	**Linguistic Criterion**
1:G_6	2: (..)七六六六七六(..)

Item number: 1.EWZ.22

Visual Criterion

Macro-analysis

The text is incomplete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

Structural-syntactic analysis **Linguistic Criterion**

1:G_6 1: 七六六七六六(..)

Item number: 1.EWZ.23

Visual Criterion

Macro-analysis

The text is incomplete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of five numbers. Right to left direction. Even size.

Structural-syntactic analysis **Linguistic Criterion**

1:G_5 2: 六六七七[五] (..)

Item number: 1.EWZ.24

Visual Criterion

Macro-analysis

The text is incomplete. The text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Right to left direction. Even size.

Structural-syntactic analysis **Linguistic Criterion**

1:G_3 1: (..)六六七(..)

Item number: 1.S.25

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on one unit (1). One graph is not legible.

Syntactically incoherent text.

Micro-analysis

1:B+A two graphs and one sequence of three numbers. Top to bottom direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:?+G_3+[n]	1: 上甲六六六 [..]

Item number: 1.S.26

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on three units (1-3).[1] One graph is incomplete but legible; one graph is incomplete and not legible; syntactically incoherent text.

Micro-analysis

1:B one graph. Top to bottom direction. Small size.

2:B three graphs. Top to bottom direction. Size is even with 1:B.

3:A sequence of four numbers. Bottom to top direction. Size is bigger than the graph in 1-2:B.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:[n]+Pro_1	1:(...) 吉
2:G_4	2:六七七六
3:[n]+?(probably Pro)	3:(..) 桑亡

Item number: 1.S.27

[1] In my first analysis I wrote that ‘vestige of a graph on the top left of the third unit suggests that the original text comprised at least another unit (4).’ Thanks to better pictures I was able to distinguish three units in total.

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on one unit (1). One graph is not legible.

Micro-analysis

1:A sequence of three numbers. Bottom to top direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:[n]+ G_3(?)	1:[..]七六五

Item number: 1.S.28-30

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on three units (1-3). Five graphs are incomplete but legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Small size.

2:A sequence of six numbers. Top to bottom direction. Small size.

3:A sequence of six numbers; only the third one is complete. Top to bottom direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:六六六六八七
2:G_6	2:七七七八六七
3:G_6	3: [六八六]七[六七] (..)

Item number: 1.U.31-33

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on five units (1-4, *recto*; 5, *verso*), each corresponding to a crack. All graphs are legible. Syntactically coherent text.

Micro-analysis

1:A+B sequence of six numbers and two graphs. Left to right direction.[1] The sequence of numbers and the two graphs are not perfectly lined-up. The graphs are also slightly bigger than the sequence of numbers.

2:A sequence of six numbers. Right to left direction. Small size.

3:B undeciphered graphs followed by two numbers. Right to left direction. Small size.

4:A sequence of six numbers. Right to left direction. Small size.

5:B unknown graph and two graphs. Right to left direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+Pro(DT_{b+c})	1: 七七六一六六貞吉
2:G_6	2:六七八九六八
3:?	3:六[九]
4:G_6	4: 六七一六七九
5:?	5: 11 11 11 11 11 友

Item number: 1.U.34-40

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on three units (1, recto; 2-3, verso); unit 1 is incomplete. All graphs are legible.

[1] The direction runs towards the outer border of the plastron.

Micro-analysis

1:A sequence of six numbers. Left to right direction. Even size.

2:A sequence of six numbers, space, sequence of six numbers. Top to bottom direction. Even size.

3:A sequence of six numbers, space, sequence of six numbers, space, sequence of six numbers, space, sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1: G_6	1: 一六一六六八
2: G_{6+} G_6	2: 六九八一八六/ 九一一一六五
3:G_6+ G_{6+} G_{6+} G_6	3: 六八一一一八/ 八八六六六六/ 一八六八五五/ 六八一一一一

BRONZES

Item number: 2.LS.1

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on three units (1-3). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:B three graphs. Top to bottom direction. Even size.

2:B three graphs. Top to bottom direction. Even size.

3:B+A two graphs and one sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**

1:SoD	1: 史斿父作彝鼎
2:SoD	2: 作寶 [illegible]
3:SoD+G_3	3: 彝鼎貞七五八

Item number: 2.MWZ.2

Visual Criterion

Macro-analysis

The text is complete; the extant text is produced on three units (1-3). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:B six graphs. Top to bottom direction. Even size.

2:B five graphs. Top to bottom direction. Even size.

3:B+A two graphs and one sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:SoD	1: 休王賜效父金 [4]
2:SoD	2: 三用作厥寶
3:SoD+G_3	3: [illegible]彝五八六

Item number: 2.MWZ.3

Visual Criterion

Macro-analysis

The text is complete; the extant text is produced on three units (1-3). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:B six graphs. Top to bottom direction. Even size.

2:B five graphs. Top to bottom direction. Even size.

3:B+A two graphs and one sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:SoD	1: 休王賜效父金 [4]
2:SoD	2: 三用作厥寶
3:SoD+G_3	3: 隥彝五八六

Item number: 2.MWZ.4

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:B Four graphs. Top to bottom direction. Even size.

2:B+A Two graphs and one sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:SoD	1: 堇伯作旅
2:SoD+G_3	2: 彝八五一

Item number: 2.MWZ.5-6

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on eight units (1-8). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:B seven graphs. Top to bottom direction. Even size.

2:B seven graphs. Top to bottom direction. Even size.

3:B seven graphs. Top to bottom direction. Even size.

4:B seven graphs. Top to bottom direction. Even size.

5:B seven graphs. Top to bottom direction. Even size.

6:B seven graphs. Top to bottom direction. Even size.

7:B eight graphs. Top to bottom direction. Even size.

8:B+A five graphs and two sequences of six numbers. Top to bottom direction. Sequence of numbers is smaller than the graphs.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:AoM	1: 惟十又三月庚寅
2:AoM	2: 王在寒次王令大
3:AoM	3: 史貺福土王曰中
4:AoM	4: 茲福人入事錫於
5:AoM	5: 珷王作臣今貺畀
6:AoM+ SoD	6: 汝福土作乃採中
7:SoD	7: 對王休令父乙
8:X(DT:f)+G_6+G_6	8: 惟臣尚中臣 七八六六六六　　八七六六六六

7 Item number: 2.MWZ.8

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:A+B Sequence of six numbers and two graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+Z	1: 六一七六一六◇者

Item number: 2.EWZ.9

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:A+B Sequence of six numbers and two graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+Z	1: 六一七六一六◇者

Item number: 2.EWZ.10

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible. The text is syntactically coherent.

Micro-analysis

1:A sequence of six numbers and two graphs. Top to bottom direction. Even size.

2:B two graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+Z	1: 七六八六七五者◇

Item number: 2.EWZ.20

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on three units (1-3). Only three graphs are legible in unit 1. The text is syntactically coherent.

Micro-analysis

1:A sequence of six or seven numbers; the second, the fifth, and the sixth numbers are not legible. Top to bottom direction. Even size.

2:B three graphs. Top to bottom direction. Even size.

3:B three graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 五一七六一/七?

2:SoD	2: 大保鑄
3:SoD	3: 大保鑄

Item number: 2.MWZ.12

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:A+B sequence of six numbers and two graphs. Top to bottom direction. Even size.

2:B two graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+Z	1: 七五六六六七召中
2:Z	2: 召中

10 Item number: 2.EWZ.11

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:A+B sequence of six numbers and three graphs. Top to bottom direction. Even size.

2:B one graph. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**

1:G_6+SoD	1: 八六一七六一七作祖丁
2:Z	2: 叉

Item number: 2.EWZ.14

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

The text is syntactically coherent.

Micro-analysis

1:A sequence of six numbers and three graphs. Top to bottom direction. Even size.

2:B+C two graphs and one sign. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 七六七六七六
2:Z	2: 父乙

Item number: 2.S.16

Visual Criterion

Macro-analysis

The text is complete. The text is produced on one unit (1) on the bottom of the vessel. All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_3	1:八五一

Item number: 2.S.15

Visual Criterion

Macro-analysis

The text is complete. The text is produced on one unit (1) on the bottom of the vessel. All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_3	1:八一六

Item number: 2.LWZ.18

Visual Criterion

Macro-analysis

The text is complete. The text is produced on one unit (1) on the bottom of the vessel. All graphs are legible.

Micro-analysis

1:A sequence of four numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_3	1:八八六八

Item number: 2.LWZ.19

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A Sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 六六一一六一

POTTERY

Item number: 3.S.1

Visual Criterion

Macro-analysis

The text is incomplete; the extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_3(?)+[n]	1:五八七…

Item number: 3.S.2

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:八六七六六六

Item number: 3.S.3-4

Visual Criterion

Macro-analysis

The text is incomplete; the extant text is produced on two units (1-2). All graphs are legible; the text seems syntactically coherent.

Micro-analysis

1:A sequence of four numbers. Top to bottom direction. Even size.

2:B sequence of four numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:[n]+*G*?	1: [..]六六六七
2:[n]+*G*?	2: [..]七六七六

Item number: 3.S.5-6

Visual Criterion

Macro-analysis

The text is incomplete; the extant text is produced on two units (1-2). All graphs are legible; the text seems syntactically coherent.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

2:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+[n]	1:六一一六五五
2:G_6+[n]	2:一一六六一六

Item number: 3.S.7

Visual Criterion

Macro-analysis

The text is incomplete; the extant text is produced on one unit (1). All graphs are legible; the text seems syntactically coherent.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:一五一一六六。

Item number: 3.S.8

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of ten numbers. Top to bottom direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:[n]+G_{10}(?)+[n]	1:… [六]七七八六六七[六]一七 ..

Item number: 3.S.9-10

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on two units (1-2). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Small size.

2:A sequence of six numbers. Top to bottom direction. Small size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_6	1:六六七六六八
2:G_6	2:六六七六七[五]

Item number: 3.S.11-12

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on two units (**1-2**). One graph is incomplete and not legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Medium size.

2:A sequence of five numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6+[n]	1:五七六八七七…
2:G_6 (?)+[n]	2:一七六七八[六]…

Item number: 3.U.13-14

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on four units (1-4). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

2:A sequence of six numbers. Top to bottom direction. Even size.

3:A sequence of six numbers. Left to right. Even size.

4:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 八八六八一八
2:G_6	2: 八一六六六六
3:G_6	3: 一一六一一一
4:G_6	4: 一一一六六一

Item number: 3.U.15-18

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on two units (1-2). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Right to left direction. Even size.

1:A sequence of six numbers. Right to left direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 六一六一六一
2:G_6	2: 一六一六一六

DAGGER-AXES

Item number: 4.EWZ.1

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1: G_3	1: 一六一

Item number: 4.EWZ.2

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1: G_3	1: 一六一

Item number: 3.EWZ.3

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_3	1: 一六一

Item number: 4.LWZ.4

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible; one is of uncertain reading. Syntactically coherent text.

Micro-analysis

1:A+B+A+B Hexagram, nine graphs, sequence of six numbers, two graphs; the last graph is

of uncertain reading. The inscription is read from the lower edge of the upper perforation, around the back edge and then along the upper edge. The size of the last sequence of numbers is bigger than the rest of the graphs.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1: G_6+Pro+G_6+?	1: 𠂤曰鼎止趾顛鼎黃耳奠趾五六一一五八𠂤

VASE

Item number: 5.S.1

Visual Criterion

Macro-analysis

The text is complete. The text is produced on one unit (**1**). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:一八八六一一

Item number: 5.S.2

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (**1**). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Medium size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1:G_6	1:五一八一六六

Item number: 5.LWZ.3-13

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on eleven units (1-11). All graphs are legible.

Micro-analysis

1:A Sequence of six numbers. Top to bottom direction. Even size.

2:A Sequence of six numbers. Top to bottom direction. Even size.

3:A Sequence of six numbers. Top to bottom direction. Even size.

4:A Sequence of six numbers. Top to bottom direction. Even size.

5:A Sequence of six numbers. Top to bottom direction. Even size.

6:A Sequence of six numbers. Top to bottom direction. Even size.

7:A Sequence of six numbers. Top to bottom direction. Even size.

8:A Sequence of six numbers. Top to bottom direction. Even size.

9:A Sequence of six numbers. Top to bottom direction. Even size.

10:A Sequence of six numbers. Top to bottom direction. Even size.

11:A Sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	Transcription
1: G_6	1: 一一一一一一
2: G_6	2: 六一一五一一

3: G_6	3: 一六一一一一
4: G_6	4: 一一一六八八
5: G_6	5: 一一六一一一
6: G_6	6: 一一六一九五
7: G_6	7: 一八一六一一
8: G_6	8: 八一一八一六
9: G_6	9: 六八五六一八
10: G_6	10: 一九八一一一
11: G_6	11: 一一六八八一

Item number: 5.MWZ.14-18

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on six units (1-6). All graphs are legible.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Medium size.

2:A sequence of six numbers. Top to bottom direction. Medium size.

3:A sequence of six numbers. Top to bottom direction. Medium size.

4:A sequence of six numbers. Top to bottom direction. Medium size.

5:A sequence of six numbers. Top to bottom direction. Medium size.

6:C drawing depicting a hunting scene.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1: 一一八九一八

2:G_6	2: 八一八一八六
3:G_6	3: 六一八一八九
4:G_6	4: 一八一八一一
5:G_6	5: 一一一八八一

OTHERS

Item number: 6.S.1-6

Visual Criterion

Macro-analysis

The text is incomplete; the extant text is produced on six units (1-3, recto; 4-5, verso; 6 right side). All graphs are legible; the text seems syntactically coherent.

Micro-analysis

1:A sequence of six numbers. Top to bottom direction. Even size.

2:A sequence of six numbers. Top to bottom direction. Even size.

3:A sequence of six numbers. Top to bottom direction. Even size.

4:A sequence of six numbers. Top to bottom direction. Even size.

5:A sequence of six numbers. Top to bottom direction. Even size.

6:A sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_6	1:七六六六六七
2:G_6	2:七六八七六七
3:G_6	3:六六五七六八
4:G_6	4:八一一一六六
5:G_6	5:八一一一一六

6:G_6 6:六六七六六八

Item number: 6.EWZ.7

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1:A sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_3	1: 五一一

Item number: 6.EWZ.8

Visual Criterion

Macro-analysis

The text is complete. The extant text is produced on one unit (1). All graphs are legible.

Micro-analysis

1**:**A sequence of three numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis	**Transcription**
1:G_3	1: 一六一

BAMBOO

GELIN XINCAI

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on eighteen units (see the slip number

below). All units are incomplete except for jiasan 199-2.[1]

Micro-analysis

1: B+A+B fourteen graphs and two sequence of six numbers, four graphs. Top to bottom direction. Even size.

2: B+A two sequences of six numbers and three graphs. Top to bottom direction. Even size.

3: B+A one sequence of six numbers and ten graphs. Top to bottom direction. Even size.

4: B three graphs. Top to bottom direction. Even size.

5: A+B one sequence of six numbers and three graphs. Top to bottom direction. Even size.

6: A+B eight graphs and one sequence of six numbers. Top to bottom direction. Even size.

7: B+A+B three graphs, one sequence of six numbers and eight graphs. Top to bottom direction. Even size.

8: B three graphs. Top to bottom direction. Even size.

9: B nine graphs. Top to bottom direction. Even size.

10: B+A nine graphs and one sequence of six numbers. Top to bottom direction. Even size.

11: B four graphs. Top to bottom direction. Even size.

12: A+B one sequence of six numbers and three graphs. Top to bottom direction. Even size.

13: B+A+B three graphs, one sequence of six numbers and twelve graphs. Top to bottom direction. Even size.

14: B sixteen graphs. Top to bottom direction. Even size.

15: B ten graphs. Top to bottom direction. Even size.

16: B+A+B twenty-six graphs, one sequence of six numbers and eleven graphs. Top to bottom direction. Even size.

17: A+B one sequence of six numbers and two graphs. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis

1: C?+2G_6+Pro

2: Pre+C

3: 2G_6+Pro

4: 2G_6+Pro?+[..]

5: [..]+2G_6+Pro

6: Pro

7: [..]+4G_3+Pre?

8: [..]+4G_6+C/Pro?

9: [..]+C?+4G_3+C

10: C

[1] Jiasan 302 also seems incomplete from the picture. See Jia 2020: 152.

11: C+Pro+[..]

12: [..]+C?+4G_3

13: Pro+[..]

14: [..]+4G_3+Pro

15: Pro+[..]

16: [..]+4G_3+Pro

17: [..]+C+2G_6+C+Pro

18: Pro+[..]

19: [..]+C

20: C+Pro

21: Pro+4G_3+C+Pro+4G_3+C

22: 4G_3+C

Transcription

乙四 95: ⍁中君有行君又有子將戚之弗卹也/一一一 一一六 六六六 六六五/ 習之以衛

乙四 79: 一一八一五六 一八一一六一/應寅以⍁

零 115: ⍁六一六六六六 一一九九六一/是□而口亦不为大詢勿

零 22: 恤无咎

乙四 68: ⍁/六六六六六一 一一六六六六/ 辛亥之⍁

乙四 15: 六六□一六六 一一一一六六/王徙于鄗郢之岁夏⍁4

甲三 184-2: ⍁□未良瘥 五六五六六六 六六六六一六 或為君貞以亓不良

甲三 185: 恚瘳之

甲三 222: 故尚毋有祟/倉占之

甲二 19: 口君必徙處安善 八一六六六六 一一一一六一

甲二 20: 或為君貞

甲二 37: 六六六六一一 六六六六一六 恆生生

乙二 2: 毋有咎 六八六一六六 一六六六六一 占之曰吉宜小遲瘥以亓

乙二 30: 故説之迻彭定之説於北方一牛靜先之

甲三 198: 且不出以有尚速出毋為

甲三 199-2: 憂/嘉**占之曰恆貞吉**少

甲三 112: 遲出/或為君**貞/**以亓其遲出之故**尚毋有祟**/嘉**占之曰無恆祟**/ 一一六六六六 六六六一一一 或為君**貞**以亓**無恆祟**之故

甲三 302: 一六六六六六 六一一一六六 **尚毋**

TIANXINGGUAN

Visual Criterion

Macro-analysis

The text is incomplete. The extant text is produced on nine units (see the slip number below). All units are incomplete except for 15-02 and 45.

Micro-analysis

1: B+A forty-two graphs and two sequence of six numbers. Top to bottom direction. Even size.

2: A twenty-four graphs. Top to bottom direction. Even size.

3: B+A forty graphs and two sequences of six numbers. Top to bottom direction. Even size.

4: B+A forty-four graphs and two sequences of six numbers. Top to bottom direction. Even size.

5: B+A thirty-six graphs and two sequences of six numbers. Top to bottom direction. Even size.

6: [B]+A+B seven graphs, one sequence of six numbers and twelve graphs. Top to bottom direction. Even size.

7: A+B five graphs, one sequence of six numbers and seven graphs. Top to bottom direction. Even size.

8: B+A seven graphs and one sequence of six numbers. Top to bottom direction. Even size.

9: B+A ten graphs and one sequence of six numbers. Top to bottom direction. Even size.

Linguistic Criterion

Structural-syntactic analysis

1: Pre+C+4G_3

2: Pro

3: Pre+C+Pro+2G_6

4: Pre+C+Pro+2G_6

5: Pre+?+2G_6

6: C2+2G_6+Pro

7: C+2G_6+Pro

8: ?+Pro+2G_6

9: Pro+2G_6

15-01: 左師虐聘於楚之歲夏禁之月己丑之日應奮以大央為邸陽君勝**貞**/既治尻處其新室**尚**宜安長屋處之/六六六 一一一 六一一 六五六

15-02: 應奮**占**之**吉**三十歲**無咎**無税祟三歲之中將有大喜於王室

40: 飧還以漆**爲**君**貞**/既胚背膺疾以心瘁悶**尚**毋以是故**有大咎**/**占**之**吉**夜中有臏續夜過分有閒王
□□　一一一一一六 六六一六一六

41: 邨酪沈尹過以漆**爲**君**貞**/既膠背膺疾,以心悶**尚**毋**有咎**/**占**之**吉** **無咎**有祭祟祟見如殃縊死**爲**
□□□□甲午口 六六六 一八八 六六六

44: 黃華以漆為君[**貞**]/口見於白朝今夕執事人蔡甲午之夕禱白朝擊撞樂之貢事人行調瘥/ 一六
六六六六 六六六六六六

45: 盤酉**習**之以長葦 /一六一六六一 六一一一一一 /盤西**占**之長**吉**宜室**無咎**無祟

138: [**尚**毋以][1]是故有**大咎**/ 一六六六六六 一六一六六六/ **占**之**恆貞吉無咎**

143: 酒食/阳**占之吉**/ 六六一一六六 六六六八八一

150: **占**?之**吉**幾中將有喜事/ 一一一六九六 人一一一六八

[1] Reconstructed based on slip 40.

BAOSHAN

Visual Criterion

Macro-analysis

The text is complete and produced in five units (**201–204**). All graphs are legible. Syntactically coherent text.

Micro-analysis

201: B+A+B fifty-four graphs, one sequence of six numbers, nine graphs. Top to bottom direction. Even size.

202: B forty-six graphs. Top to bottom direction. Even size.

203: B forty-six graphs. Top to bottom direction. Even size.

204: B twenty-six graphs. Top to bottom direction. Even size.

202: (back): A space, four graphs, space, four graphs. Top to bottom direction. Even size.

209: forty-six graphs. Top to bottom direction. Even size.

210: twenty-seven, sequence of six numbers, thirty-seven graphs. Top to bottom direction. Even size.

211: thirty-seven graphs. Top to bottom direction. Even size.

228: sixty graphs. Top to bottom direction. Even size.

229: thirty graphs. Top to bottom direction. Even size.

232: fifty-eight graphs. Top to bottom direction. Even size.

233: forty-seven graphs. Top to bottom direction. Even size.

239: fifty graphs, sequence of six numbers, six graphs. Top to bottom direction. Even size.

240: fifty-two graphs. Top to bottom direction. Even size.

241: thirty-three graphs. Top to bottom direction. Even size.

245: fifty-two graphs, sequence of numbers, nine graphs. Top to bottom direction. Even size.

246: thirty-six graphs. Top to bottom direction. Even size.

Structural-syntactical analysis

201: Pre(DT_b)+C(DF)+G_6+2G_3+Pro_1(DF)

202: Pra

203: Pra

204: Pra +Pro_2(DF)+V

202 (back): V

Lexical analysis

201. 宋客盛公邊聘於楚之歲刑夷之月乙未之日應會以央筮為子左尹邵**貞/**自刑夷之月以刑夷之月出入事王盡卒歲**躬**身/**尚**毋有咎/六六一六六六 六一一 六一一 /**占**之恆**貞吉**少有戚於

202. **躬**身且爵位遲踐以其故敉之舉禱於宮地主一殺恪於新父蔡公子家戠臘酒食饋之恪新母肥塚酒食舉禱東陵連

203. 囂肥塚酒食專石被裳之脫翌禱於昭王戠牛饋之翌禱文坪夜君邵公子春司馬子之音蔡公子家各戠豢酒食夫人

204. 戠臘酒食/應會**占**之**曰吉/**至九月喜爵位 [space] 凡此市也既盡迻

202 (back) 新父既成 [space] 新母既成

209. 東周之客許致胙於郢之歲夏之月乙丑之日五生以悳為左尹**貞**/出入事王自夏之月以就集歲之夏之月盡集歲

210: **躬**身**尚**毋**有咎**/**占之恆貞吉**少有戚於**躬**身與宮室且外有不順/。 <卦例>以其故說之舉禱$_4$蝕太一全豢舉禱社一全**豹**舉禱宮行一白犬酒食 迻應會之說賽禱東陵

211: 連囂塚豕酒食蒿之思攻解於盟詛且除於宮室/五生**占之曰吉**三歲**無咎**將有大喜邦知之

228 大司馬悼滑將楚邦之帀徒以救巴之歲荊之月己卯之日陳乙以共命為左尹**貞**/出入事王自$_4$荊之月以就集歲之荊之月盡集歲**躬**身**尚毋有咎/**

229 **占之恆貞吉**少有戚於宮室/**以亓故說之** 舉禱宮行一白犬酒食囟攻除於宮室/五生**占之曰吉**

232 大司馬悼滑將楚邦之帀徒以救巴之歲荊之月己卯之日五生以悳為左尹**貞**/出入事王自荊$_4$之月以就集歲之荊之月盡集歲**躬**身**尚毋有咎** <卦例>

233 **占之恆貞吉**少有戚於宮室/**以亓故說之**舉禱宮後土一殺舉禱行一白犬酉酒飤食於大門一白犬/五生**占之曰吉**

239 大司馬悼滑將楚邦之帀徒以救鄀巴之歲荊之月己卯之日陳乙以共命為左尹**貞**/既腹心疾以上氣不甘食**尚速瘥毋有祟**。 <卦例>**占之恆貞吉**疾

240 變有續遞遲瘥/**以亓故説之**舉禱五山各一牂舉禱昭王戠特牛饋之舉禱文坪夜君子良郜公子春司馬子音蔡公子家各戠特豢

241 饋之囟使攻解於詛與兵死盬吉之説盲祭之高丘下丘各一全豢/陳乙**占之曰吉**

245 大司馬悼滑以將楚邦之帀徒以救鄆巴之歲荊之月己卯之日五生以悬以為左尹**貞**/既腹心疾以氣不甘飤食**尚速瘥毋又有祟**/ <卦例>/**占之恆貞吉**疾變病突

246 **以亓故説之**舉禱荊王自熊麗以就武王五牛五豕囟攻解於水上與溺人/五生**占之曰吉**

CHAPTER 4
PART I

WRITING ORALITY

Part I reconsiders the traditional stronghold of oralism—the formula—and examines the interplay between the oral and the written in the language of a specific group of Chinese unearthed texts belonging to the *shuzi gua* traditions. The formal aspects of formulaic language in divinatory texts have been studied extensively, [1] but what is the *function* of formulae and what is their relationship with the issue of orality? Most importantly, how does the *written* text reflect the *orality* of a ritual which is supposed to record?

Olivier Venture discussed the distinct roles played by the oral and the written within the contexts of late Shang and Western Zhou palaeographical sources.[2] In this chapter, I show how this is even more prominent in the *shuzi gua* corpus. To do so, I first discuss the debate on formulaic language and orality in early China (§1). Drawing on the study on 'formulaicity' by Wray and Perkins (2000), I propose a definition of formulae based on Old Chinese evidence and identify the structure-based formulaic types as found in the divinatory records under consideration. Next, I use evidence from the Shang and Zhou OBI corpora to reconstruct the different stages of the divinatory ritual, during which the writing act most likely occurred *after* the oral performance. (§2). I then discuss the different functions of each type of formula in the divinatory record (§3). Most of the early Chinese documents written on hard media are composed in a terse, formulaic language. However, they fulfil different functions depending on the material carrier in which the text is embedded, e.g. bronze or turtle shell.[3] In the context of the present discussion, I propose that formulae should be seen as a *scribal device*, namely as a set of stock phrases and technical words used by the scribes to record divination results. They formed a toolkit which was meant to facilitate the composition of *written*

[1] For a discussion on formulaic language in divinatory texts, see: Keightley 1978; Li Ling 1990; Jue Guo 2008.
[2] Venture 2002b. see also von Falkenhausen 2012.
[3] Shaughnessy 1992, von Falkenhausen 1993, Goldin and Cook 2020.

records on hard media. Furthermore, I suggest that writing was a bureaucratic act aimed at showcasing the political power of the members belonging to the ruling elite. Lastly, I explore the use of formulae by analysing case studies from the *shuzi gua* corpus dating to different historical periods (§4). The evidence from these case studies is used to show (1) the separation between the oral and the written within the divinatory ritual performance, and that (2) the oral was more important than the act of recording the bouts of divination. This applies only to the Shang and Western Zhou, as in the Warring States period divinatory records were most likely written *during* the practice, as demonstrated by Jue Guo in her study on the Baoshan corpus.[1] Finally, I draw conclusions on the nature and function of formulaicity in the examined contexts (§5). This chapter aims at broadening the scope of what the term 'formula' encompasses by studying a written context of formulaic applications and its complex connections to ritual performance. Moreover, it problematises the division between orality and literacy by examining their interplay within the language of a specific text-type.

1 A Scribal Device in Oral Clothing: Formulaic Language and the Oral Theory in Early China

Before discussing the formulaic language within the context of divinatory texts, I shall briefly review the application of the Oral-Formulaic theory, or more simply the Parry-Lord theory, to early Chinese texts. Milman Parry, in his pioneering work on Homeric language, argued that 'in the diction of bardic poetry, the formula can be defined as an expression regularly used, under the same metrical conditions, to express an essential idea.'[2] Later, his student Albert Lord expanded on Parry's work, concluding that 'what is important is not the oral performance but rather the composition *during* oral performance.'[3] This theory has been applied 'in a rather mechanical fashion'[4] by Wang Ching-hsien in his PhD dissertation *Shih Ching*: Formulaic Language and Mode of Creation,

[1] Jue Guo 2008: 137-154.
[2] Parry 1971: 13.
[3] Lord 1960: 5.
[4] Shaughnessy 2015.

later published as *The Bell and the Drum:* Shih Ching *as Formulaic Poetry in an Oral Tradition*.[1] Albeit criticised, this important work marked the beginning of what would become a polarised debate over the oral versus written nature of the poetry collection *Shijing*,[2] with Martin Kern and Edward L. Shaughnessy as the main proponents of the former and the latter positions respectively.[3] Richard Kunst applied the Parry-Lord theory to the *Zhouyi* as well in his PhD thesis. Kunst proposes that the Yi and the Shi grew out of the same 'oral culture', as shown by the use of similar formulae.[4] By contrast, Shaughnessy has stressed the conscious composition of one or more editors.[5] To be sure, some parts of the text—especially the hexagram statements and line statements—must have had an oral substratum, but it is also entirely possible that other parts have been deliberately composed by several different authors in a written form since the beginning. To date, we are still not in the position to establish *how* and *in which form* (oral or written) this important oracular text has seen the light.

Turning to the Shang and Western Zhou OBI, I believe that the Parry-Lord definition is not applicable because the OBI do not reflect 'composition in performance'. The recent study on 'formulaicity' by Wray and Perkins fits the divinatory texts better. According to the two linguists, a formula is

> a sequence, continuous or discontinuous, of words or other meaning elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar.[6]

Keeping in mind the notion of *prefabricated* sequences of words, I use the following terminology throughout the chapter, which specifically refers to the language of divinatory records:

[1] Wang Ching-hsien 1974.
[2] A recent study on the *Anda Shi* 安大詩 (The Anhui University *Songs*) by Meyer and Schwartz (2022) takes a different position. While they acknowledge that 'there were clearly also written songs' circulating in the 4th century BC, the different communities 'may equally have been guided by oral primacy.' Performance was thus writing-supported. This notion was first developed in reference to the Shu tradition in Meyer 2021.
[3] A full review of this debate goes beyond the scope of the present chapter; see Shaughnessy 2016.
[4] Kunst 1985.
[5] Shaughnessy 1983.
[6] Wray and Perkins 2000.

1. ***Divination template***: a more or less fixed structure of a whole inscription which can include specific sections, but not necessarily *all* of them. E.g., Charge (topic of the divination), Response (crack or *shuzi gua*), Prognostication, Action.

2. ***Formula***: a sequence of at least two graphs combining what I call 'variable' and 'invariable' components. E.g., *ganzhi bu X zhen* 干支卜X 𠂤 'crack-making on the Y day, diviner X determined.'

3. ***Invariable component***: one word used in a standard, recurring function, which might help identify the sections of the divination template. E.g., *yue* 曰 'to say, says.'

As I said earlier, I suggest that formulae should be considered a scribal strategy which was meant to facilitate the written composition of divinatory records. Before providing evidence for this claim, I first discuss the different steps which almost certainly comprised the divinatory ritual during the late Shang and Western Zhou.

1. Reconstructing the Divinatory Ritual

Almost nothing is known about the production of the OBI and the divinatory ritual. The accounts we possess date to a much later period and are therefore not reliable. Nonetheless, they cannot be dismissed. For this reason, we can only make conjectures about the divinatory ritual performed by the king and the members of the royal family in the earlier period. The procedure of Shang pyromancy, which with some modifications was also employed by the Zhou, can be reconstructed in the following way. First came the preparation of the material, mostly cattle scapula and turtle shells—the latter are divided into carapace and plastron. Next, the material was prepared for divination, i.e. was sawn, scraped and polished. Only after this, hollows of different shapes were chiselled on the back of the bone or shell.[1] A heat source was then placed on the hollows, which would form on the

[1] I discussed the different shapes of the hollows in chapter 1.

obverse the typical *bu* 卜- shape crack, whence the name *bu*-divination derives. The hollows supposedly made it easier to crack the hard surface by make it thinner, thus determining the crack's shape, direction and location, and made the entire procedure more structured.[1]

Let me now turn to the production of the inscriptions. First, I should clarify that I follow majority opinion which holds that the OBI as being produced only *after* the divination act took place.[2] The supporting evidence for this argument lies primarily in the so-called *fan zhao* 犯兆 (graph straddling a crack),[3] of which there are only few examples.[4] As Keightley remarks, 'had the cracks not been formed until after the engravers had carved the graphs, we would expect many more cases of *jan-chao;* it would have been extremely tedious, if not impossible, for the carver to keep turning the bone or shell over to estimate on the basis of the hollow locations on the back the places on the front where he should not write for fear that cracks would later bisect the graph.'[5] Based on these observations, scholars consequently posit an *oral* stage which preceded the production of the written records.[6] Evidence for this claim is the following: first, the large number of materials cracked but not inscribed suggest that divination took place independently of the act of writing down all instances of divination.[7] Indeed, the existence of non-inscribed bones and shells prove that the ritual act of 'communicating with the spirits' was deemed efficacious by the royal family regardless of the fact that it was recorded or not. Second, the oral nature of the act is made explicit in the formula *wang zhan yue* 王占曰 (the king, reading the cracks, *said*).[8] By contrast, there is no explicit reference to the act of writing in the OBI.[9] Third, as shown by Adam C. Schwartz in his study on the lan-

[1] Keightely 1978: 18.
[2] Chen Mengjia 1956; Keightley 1978; Djamouri 1999; Venture 2002a; Bagley 2004. A summary of some of the issues related to this aspect can be found in Raphals 2013: 365-367.
[3] Zhang Bingquan 1954, 1956; Keightley 1978:37. See also Fracasso 1988:14, 'when this happened, the corresponding crack number…was usually erased and engraved elsewhere.'
[4] Keightely reports less than ten. Keightley 1978: 45, n. 87.
[5] *Ibidem*.
[6] Keightely 1978; Djamouri 1999; Venture 2002a; Schwartz 2020.
[7] On non-inscribed bones, see Keightley 1978: 166.
[8] The word *zhan* in this passage depicts 'speaking about the crack made in the bone'. The king, and not the professional diviner, oversaw the prognostication.
[9] Venture 2002b: 36.

guage of the Huayuanzhuang East OBI corpus (花園莊東地甲骨), the scribes employed different strategies to carve the inscriptions, which include arranging the text in symmetrically and numerically balanced proportion or based on either grammatical parts or formal units.[1] It would be have been impossible to account for all these elements had the scribe already carved the inscription when the divination was being performed. While I appreciate this latter aspect is more relevant for discussing the issue of scribal literacy during the late Shang period, I believe that, if added to the evidence provided above, it can support the claim that pyromancy, since approximately 1250 BCE, surely involved *both* oral and written moments. First came the ritual act, the oral formulation of the charges addressed to the departed ancestors and other extra-human beings, the bone cracking and the following (oral) prognostication. The latter was performed by the king, or by other members of the royal family.[2]

The second step was the creation of the written records. Two models have been proposed so far and are conveniently summarised by Schwartz as follows:

> One model posits that inscriptions on the bones and shells were copies transcribed from the notes of diviners. In this model, the workers responsible for writing the content onto the bone and shell surfaces were engravers who mechanically reproduced materials given to them. A second model proposes the presence of scribes during actual bouts of divination and either through reliance on their own memory or with the aid of the diviner(s) reconstituted written records of the original spoken utterances sometime thereafter.[3]

The first model is the one proposed by Keightley.[4] According to him, the diviners kept an initial record written on perishable material, which he calls the 'diviner's notebook' (i.e. the 'minutes' of a divinatory ritual). The scribes, who must be distinguished from the diviners,[5] recorded on the bones and shells a shortened, simplified version of what was written in these 'diviners' notebooks.'[6] The

[1] Schwartz 2020.
[2] What remains uncertain is the degree to which the diviner was involved in this oral step during this first period. The formula *ganzhi bu X zhen* ('on an Y Day, diviner X cracked the bone and determined') clearly refers to the act of bone cracking; whether the diviner would also contribute to the formulation of the charge is, to date, impossible to establish.
[3] Schwartz 2020: 43.
[4] Keightley 2001.
[5] There is no one-to-one correlation between diviners and scribes as records of divination performed by the same diviners were written by different hands. See Smith 2011.
[6] Keightley 2001.

standard procedure of the divinatory ritual according to this model thus includes the following steps:

Step 1

Formulation of the Charges (Oral)



Step 2

Composition of the diviner's notebook (Written-a)



Step 3

Composition of the OBI (Written-b)

Whether or not one agrees with this model, it can be argued with a certain degree of confidence that the act of communication with the extra-human realm was *distinct* from the act of record keeping. Moreover, we have reasons to assume that the oral performance of the ritual act was the crucial element, and the written record was of minor importance. This is supported by different kinds of evidence. Probably the most striking of all is that, on the same bone or shell, we find a real transcription of the divinatory act carved by a professional scribe, immediately followed by a copy of the very same inscriptions by incompetent hands (most likely produced by trainee scribes). As argued by Adam Smith, bones and shells in Anyang, the last capital of the Shang dynasty, were an everyday writing surface.[1] They were produced on a daily basis and their uninscribed portions were literally recycled for scribal training within the divination workshops.[2] This aspect also supports the idea

[1] Smith 2011.
[2] Smith 2011: 203.

that the OBI had no archival value, nor were they meant to be written messages addressed to the spirits.[1] So why were the divinatory acts written down if the oral act was independent from the production of written records (and most likely these records were not even deemed important by the ruling class)? Venture argues that these written records were produced 'to make the act permanent.'[2] Keightley suggested that the OBI were 'a form of conspicuous cultural capital, in which the Shang elites invested considerable labour resources to produce artefacts whose overwhelming value was ritual.'[3] Martin Kern also supported the hypothesis that the OBI, especially the so-called 'display inscriptions', were created for ritual purposes.[4] Display inscriptions are mainly characterised by a bold calligraphy and by the fact that prognostication and verification were produced on a single unit.[5] Indeed, texts written on a non-perishable material represented the 'sheer power' of the ruling class:[6] the king and other members of the royal family were the only ones who could afford the resources, human capital, and the technology requested to perform such a 'labour intensive' activity.[7] In light of these observations, I argue that the act of writing can thus be interpreted as a reflection of the *bureaucracy* of divination, i.e. a self-serving machine which was functional to showcase the power of the ruling class. Once this act of showcasing was over, bones and shells could serve as ordinary stationery in scribal training.

Having established that the OBI simply served the dynamics of divination bureaucracy and do not present any component of extra-human communication (which was exhausted in the oral performance), it follows that their *content* was secondary.[8] Once again Keightley, among other scholars, has argued that the OBI were not intended to be read. He suggests that level of literacy during the late

[1] Venture 2002a: 225–31.
[2] Venture 2002a: 245–6.
[3] Keightley 2006: 194-195.
[4] Kern 2008.
[5] Keightley 1978: 46.
[6] Kern 2008: xi.
[7] Keightley 2006: 186.
[8] Both Venture and Keightley suggest that the very existence of the inscription, and not their content, really mattered. Venture 2002a: 270-271; Keightley 2006: 189.

Shang and Western Zhou periods was probably limited to the scribes.[1] However, this aspect is particularly hard to prove, and it goes beyond the scope of the present study.[2]

2. The Function of Formulaic Language in the OBI

It is against this background that we should situate the function of the formulaic language. That formulae can be a time-buying strategy is no news. Wray and Perkins identify two main functions of formulae: shortcut in processing and socio interactional. These two functions are 'two sides of the same coin'. The former minimises 'the effects of a mismatch between our potential linguistic capabilities and our short-term memory'.[3] The latter ensures that the speaker is understood (and therefore accepted) by the community to which they belong. Both functions, *mutatis mutandis,* can be applied to late Shang and Western Zhou OBI. In this context, prefabricated strings of words represented a time-saving device for the *literate* scribe.[4] The need for efficiency can be explained by the fact that (1) divination was performed daily, and that (2) the divinatory records were inscribed on hard media since the reign of king Wuding 武丁 (*ca*. 1250-1190 BCE). Indeed, Qiu Xigui, in his seminal *Chinese Writing*, highlights the difficulty of working with bones and shell, which was a 'time-consuming and strenuous task'.[5] The scribes drastically simplified the forms of the characters, from rounded to square, from solid to outlines, from thick to fine strokes.[6] Moreover, oracle bone script (*jiaguwen* 甲骨文) represented a kind of 'popular script' which was 'used daily for *simplicity* and *convenience'* (emphasis added), while bronze script (*jinwen* 金文) was the more refined one.[7] It is therefore reasonable to assume that not only the writing style but also the *language* was simplified for the sake of efficiency and convenience.

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[1] Keightley 2006: 189-195.
[2] On writing and literacy in early China, see the volume edited by Li and Branner 2011, which includes some excellent discussions on this subject.
[3] Wray and Perkins 2000: 14-15.
[4] See Smith 2011 on scribal training and literacy.
[5] Qiu Xigui 2000. See Ch. 4 (pp. 59–113) on the evolution of Chinese script in preimperial period.
[6] See for instance, the character for '*zi* 子' which was simplified from to . Qiu Xigui 2000: 63.
[7] Qiu Xigui 2000: 63.

The simplification of the language is seen in the repetitive use of simple formulae like the *buxun* 卜旬 (crack-making on the week ahead), which can be found on numerous bones and shells. Space constraints could also be a reason for writing in a simplified manner. Evidence discussed by Schwartz show that the scribes employed different strategies to minimise the effort, be efficient without neglecting clarity and the importance of the visual aspect of the inscriptions. Lastly, stroke order was a further component which indeed affected the activities of the scribes.[1] Once again, due to the fact that writing on such hard media was not exactly an easy task, the scribes reduced the number of strokes comprising a single graph and would first carve all the horizontal and the vertical, and the more complex ones. In this way they would not need to rotate the writing surface each time.[2]

If we accept the function of formulae as time-buying device for the *literate* scribe, we might be able to posit the following procedure for the production of the OBI, drawing on Keightley's proposal of the diviner's handbook. Formulae appearing in a fixed, established structure were used as a 'divination template.' This template, as mentioned in the first chapter, comprises different sections: charge, response, prognostication, etc.[3] The scribes first learned to engrave the basic components which appear in a high number of inscriptions; for instance, the above-mentioned *buxun* formula. During the divinatory act, this kind of simple formula did not need to be written down in the diviner's notebook posited by Keightley, as they could easily be retrieved from memory, especially if a scribe had already trained on this formula for many times.[4] Following Wray and Perkins, formulae like the *buxun* ones thus appear to be *prefabricated*. What I am suggesting here is that, at least for the production of simple inscriptions, the scribe(s) assisting the diviner only needed to note down what I call the *variable components* of an inscriptions, i.e. date, diviner's name, charge, and outcome. All these variable components were introduced by the *invariable components*, i.e. the formulae, which

[1] Schwartz 2020: 55-85.
[2] See Smith 2011: 186-187.
[3] For a detailed discussion on these sections, see Keightley 1978: 28-45.
[4] See Smith 2011: 187-188.

made up most of the inscriptions. Consider for instance the following example where I made the only variable component in bold.

> **癸卯**貞旬無 
> [Crack-making] on a **Guimao** day, determining for the week ahead. No trouble.[1]

The only variable component is the day, while the rest is part of the *buxun* formula, which is comprised of the *same* four, high-frequency graphs. There are several similar examples within the OBI corpora where the inscription only includes one variable component (i.e. the day) and the repetition of the *buxun* formula on the same bone or shell fragment for even more than four times.[2]

Aside from the *buxun* formulae, there are many short, standardised formulae which were used as often.[3] See for instance the following examples from *Heji* (henceforth: *HJ*) 6483f:

> 貞祝以之疾齒鼎虫
> If we pray by means of these (offerings), the sick tooth will certainly be cured.[4]
> 疾齒虫
> The sick tooth will be cured.
> 不其虫
> [The sick tooth] will not be cured.

On the back of the five plastrons in the set, we find a series of what Keightley calls diagnostic 'subcharges' (*HJ* 6482b).[5] They are all introduced by *wei/bu wei* 隹/不隹 , while the rest is omitted as it can be inferred by the context (i.e. the preceding inscriptions on the king's toothache).[6]

> [The toothache] is due to Father Jia.
> [The toothache] is not due to Father Jia.
> [The toothache] is due to Father Geng.
> [The toothache] is not due to Father Geng.
> [The toothache] is due to Father Xin.
> [The toothache] is not due to Father Xin.
> [The toothache] is due to Father Yi.
> [The toothache] is not due Father Yi.

[1] *HJ* 11482.
[2] *HJ* 11485, *HJ* 11545 and *HJ* 11546 are all examples of this kind.
[3] See for instance, the so-called hunting divinations. Adam Smith argues that these simple formulas were part of the scribes' curriculum. Smith 2011: 189.
[4] Keightely 2001: 153-154.
[5] *Ibidem*.
[6] On the scribes' habit to economise by eliding words, see Schwartz 2020: 47.

The repetitive use of this kind of formula supports the hypothesis that formulaic language in this context was a time-buying strategy used by the scribes which possessed at least functional literacy (in this case, functional to the recording of the divinatory act). Based on the hypothesis proposed here, the invariable components might have been retrieved from memory, as they were simple, short and frequently used, while the variable components must have been noted down during the divinatory act to then 'fill the gaps', as it were, of the divinatory template.

To be sure, this model cannot be applied to the longer, more complex inscriptions. Consider the following example of a detailed verification, *HJ* 21021:

> 癸亥卜貞旬一月昃雨自東九日辛未大采各雲自北雷延大風自西刜雲率雨毋𩛥日⧄
> Crack-making on *guihai* (day 60), determining: In the (next) ten days (there will be no disasters). First moon. In the afternoon it rained from the East. On the ninth day, *xinwei* (day 8), at dacai (ca. 8 a.m.) there were large clouds from the North, thunder was prolonged, there was a great wind from the West. It dispersed the two clouds, led off (?) the rain, and the sun really [cleared?].[1]

Aside from the fact that the '*xun wang huo/wu huo*' formula is simplified in *xun* as it was often used,[2] it is hard to believe that the rest of the verification was wholly retrieved from memory. Recording this part of the text on a perishable material *during* the act might explain the composition of this kind of OBI. Indeed, it is entirely possible that different strategies were employed for different types of written records. Or even that different diviners' groups developed their own idiosyncratic way to write down the bouts of divination, as shown by Schwartz in his study of the Huayuanzhuang corpus.[3]

Another possible interpretation of the use of simplified language is that it served as written support for oral *performances* during the divinatory practice. However, I would suggest that, in this case, performance was *not* script-based, or at least not OBI-based. It is more likely that a divination manual (which I distinguish from the 'diviner notebook') was written on perishable material and

[1] Transl. Keightely 2001: 149 (modified).
[2] Keightely 2001: 149.
[3] Schwartz 2020: 55-84.

which the diviner would then read out loud. Texts written on bamboo or wood would be a much more convenient support for the oral performance during the divinatory act.

3. Retrieving Traces of Oral Performance within the *Shuzi gua* Corpus

Having discussed the function of formulaic language in Shang and Western Zhou OBI, I now turn to the evidence from the *shuzi gua* corpus. First, I should point out that in early China turtle-shell divination and what I call *shuzi gua* divination were *jointly* performed since at least the 12th-11th centuries BCE, as can be shown by the case studies which I shall evaluate next. Based on the extant evidence, the divinatory act involved the creation of symbols made up of a set of numbers (*shuzi gua* divination), often recorded on the *same* bone or turtle plastron which was presumably used in the pyromantic practice (turtle-shell divination).[1] However, we do not possess any information about the way they calculated the numerical symbols and what they used to do it. For the moment, we may speculate that, through the manipulation of objects (e.g. yarrow stalks), the diviners would eventually produce what we now call *shuzi gua*; however, all this is far from certain. The reason I refrain from using general terms like stalk divination in this context is because we do not know whether the creation of *shuzi gua* involved manipulations of objects other than yarrow stalks. Indeed, the statistical studies carried out by Andrea Bréard show that dice were probably involved too. I shall discuss this aspect at length in the next chapter.

Despite the fact that the OBI were probably not employed as a support for the oral performance, their language brevity leads one to assume that the oral utterance, which would complement the missing components of the formulaic structure, did occur. Dirk Meyer, when discussing the philosophical texts of Guodian 郭店 one, distinguishes between 'argument-based texts' and 'context-dependent texts'. The latter are defined as follows:

[1] This is supported by the fact that the *shuzi gua* are engraved in correspondence of the cracks and that the materials do show signs of burning. See the details for each item in my material criterion.

Before the spread of light writing materials, texts, including those with a philosophical orientation, were largely part of a wider oral performance. They recorded dialogues or imagined teaching scenarios and were generally so ambiguous that further contextualisation was required to access their meaning. But this contextualisation—we may call this the illocutionary force of the text—was nowhere provided in the recorded text itself. A lost oral discourse underlying the process of meaning construction for these texts must be postulated. This oral discourse connected the various modules to identified traditions and so contextualised them within a given intellectual horizon…As a result, the texts remained essentially bound to a triangular relationship of meaning construction between the text, the mediator of meaning, and the recipient. I have called these forms of texts 'context dependent'.[1]

Even though Meyer refers to a different genre of texts, the notion of 'a lost oral discourse' and that on a 'triangular relationship' between the text, the human mediator of meaning, and the recipient clearly have a wider application, including the sources under consideration here. Take for instance items 1.U.31-33, which present a particularly short text:

Structural-syntactic analysis	*Lexical analysis*
1:G_6+Pro(DT_{b+c})	**1**: 七七六一六六/**貞吉**
2:G_6	**2**: 六七八九六八
3:?	**3**: 𝍐六𝍐[九]
4:G_6	**4**: 六七一六七九
5:?	**5**: 11 11 11 11 11 友

Translation

1: 776166. Determined: Auspicious.

2: 678968

3: 𝍐6𝍐[9]

4: 671679

[1] Meyer 2012: 246.

5: 11 11 11 11 11 You

Some of the information concerning the items discussed in this section can be found in the material criterion of my Analytical Map, which can be consulted for more details. However, I shall repeat some of the relevant information here for ease of argument. The plastron has been polished and prepared for divination by Zhou specialists, as it differs remarkably from the Shang style. The inscription too seems to be written by Zhou scribes. Many elements support this claim: the graph for *zhen* 貞 is written in the Zhou style, i.e., with the *bu* 卜 on top of the phonetic *ding* 鼎. The graphs are written in small size, which is also a Zhou characteristic. The direction of the graphs is also different from that of the Shang (with the latter being usually top-to-bottom). The hollows are more similar to those found in the Zhou OBI, even though not exactly the same. The writing style shows that the three *shuzi gua* have been written by different scribes. The '6' in unit 3 is written in the typical Shang style, different from the divinatory form. As I said in the introduction, numbers in the *shuzi gua* are written in what can be called the divinatory form. The *shuzi gua* are carved in proximity to the crack. Unfortunately, the picture does not allow us to establish whether or not the graphs have been carved after the crack, but it is seems this was the case. The texts carved in units 3 and 5 remain a mystery to me as to most scholars and will need further research to be discussed satisfactorily.

This plastron has been collected; therefore, its dating is questionable. Nevertheless, all these elements lead one to agree with Cao Dingyun who argues that this is an artefact 'created by a Zhou hand.'[1] Most importantly, since the turtle species is local to Anyang, it means that the delegation of Zhou diviners and scribes have been 'invited' to the Shang court, perhaps to showcase their own divination style to the then ruling people (which would be replaced by the Zhou soon after this divination took place..). Most importantly for our discussion is that the formula *zhenji* 貞吉 (de-

[1] Cao Dingyun 1993: 20.

termined: auspicious) never appears in the Shang OBI.[1] It is also interesting to notice that it does appear in the Warring States bamboo manuscript as a prognostication to the *shuzi gua*, exactly in the same order as the one found here.

One point worth mentioning is the fact that the formula *zhen ji* is used a prognostication to the three six-position *gua*. We cannot retrieve the criteria by which this exact *shuzi gua* combination was deemed auspicious; however, we can assume that the diviner did have a manual at their disposal or that they composed the interpretation by recurring to a set of stock phrases, once again retrieved from memory. These two scenarios are both equally possible, even though they can only be conceived of in hypothetical terms, as is the case with the context-dependent texts mentioned above.[2] Here, we notice that at least one of the basic sections of a divination—the charge—was not put down into writing, as shown in the table below.

ORAL	**WRITTEN**	**WRITTEN**
[Charge]	Response (x3)	Prognostication

A similar dynamic can be found in item 1.MWZ.4-6:

Structural-syntactic analysis	*Lexical analysis*
1. Pre+C_1(DT_{e+d})	1. 翌日甲寅/**其**(商)/**由(思)**瘳
2. G_6	2. 八七五六八七
3. C_2(DT_{e+d})	3. **其**(禱)/**由(思)**又(有)瘳
4. G_6	4. 八六七六八八

[1] I could only find one meaningful example, *HJ* 8329.4, but the meaning is different based on the context of the inscription.
[2] Meyer 2012: 232.

5. A+C_3(DT_d)

6. G_6

5. 我既  (商)  (禱)/**由(思)**又(祐)

6. 八七六八六七

Translation

1. On the next day, a *jiayin* day [51st of the *ganzhi* system], we will perform a *shang* ritual; would that there be recovery.

2. 875687

3. We will pray; would that there be recovery.

4. 867688

5. We have performed a *shang* ritual and prayed; would that he be blessed [with a recovery].

6. 876867

Here again, not all the sections have been written down by the scribe: the prognostication is systematically left out from the written record.

WRITTEN	**WRITTEN**	**ORAL**	**WRITTEN**
Charge (x3)	Response (x3)	[Prognostication]	Action

Before drawing conclusions, I would like to analyse one last item, 1.S.1-3.

Structural-syntactic analysis

1: G_6+C_1(DT_{c+d})

2: G_6

3: G_6+C_2 (DT_{c+d})

Lexical analysis

1:七五七六六六/**<u>曰由 (思)</u>**  (孚)[1] __

2:八六六五八七

3:七八七六七六/**<u>曰由(思)</u>**  (孚)__

[1] Here I follow Wu Xuefei 2019.

Translation

1: 757666. [The diviner] said: would that [what we have requested] become true.

2: 866587.

3: 787676. [The diviner] said: would that [what we have requested] become true.

The texts following the two *shuzi gua* is not easy to interpret. I suggest the following reading. First, I discard the hypothesis that the texts correspond to *guaci* 卦辭 (hexagram statement, i.e. the explanation of a certain hexagram).[1] There are three *different gua* and it would not make sense to have the *same*, identical *gua* statement. I suggest that the written parts are only the charge and response, while we lost traces of the prognostication, as it most likely happened orally during the divinatory act.

WRITTEN	**WRITTEN**	**ORAL**
Charge (x2)	Response (x3)	[Prognostication]

In this case, the word *yue* is used to introduce the oral utterance of the diviner, as is shown by my translation. The ground for this claim becomes clear if we compare this item with the one discussed immediately before. We can notice a similar pattern: (1) same *shuzi gua* type, six-position; (2) charge introduced by the formulaic term *si* 思; (3) graphs written in small size, and (4) Zhou-style hollows. The bone on which items 1.S.1-3 are carved has been used for divination as shown by the burning signs; however, the preparation of the material is in the fashion of Shang pyromancy (see my Analytical Map for more details on this). This bone has been excavated in Anyang, which means that here too we are witnessing to either someone from Zhou who divined for the Shang, or simply that the material has been prepared by a Shang specialist, but the divination has been carried

[1] See Field 2000, which includes related bibliographical reference on this issue.

out by a Zhou diviner and then carved by a Zhou scribe. What I think it is worth noticing here is that there is some kind of continuity between the divinatory practice seen from this bone and the one excavated at Qijia (items 1.MWZ.4-6), which belonged to the Zhou territory. Even more importantly, both divinatory traditions seem to be using the same numerical system. I shall discuss this aspect in detail in the next chapter. For now, I would like to stress how misleading it is to organise the *shuzi gua* materials by historical periods as it does not allow to appreciate the differences and similarities just discussed. My analysis has shown that, despite the diversity of the material, close attention to the material features—here I use material in a broad sense—can indeed reveal some sort of continuity among different divinatory traditions used by the textual communities in ancient China. This, I believe, is a way more realistic scenario than the one posited by most scholars, i.e. trying to retrieve traces of a proto-Yi divination by simply converting the odd numbers into *yang* lines and even numbers into Yin lines. While I do not deny that there must have been some kind of relationship between the Yi and the *shuzi gua* traditions, going beyond this level of analysis is much more efficacious (and exciting).

4. Conclusions

Written formulae such the ones analysed in this chapter started as a time-buying device which would contribute to by-pass the 'linguistic generative process' when carving the OBI. Over the centuries, because divination was performed daily—and possibly by different members of society—formulae had evolved into a technical jargon employed within the context of divinatory rituals and would continue to do so. Indeed, the Shang OBI developed from lengthy to more formulaic, short and largely positive. Field has once argued that the OBI's 'very orality or brevity demanded interpretation, which may have reached the level of metaphysical speculation'.[1] Leaving aside the metaphysical speculation, what Field suggests about the need of a human mediator is correct. However, I believe that, in the case studies presented here, the human mediator should be posited not because

[1] Field 2000: 14.

the texts required interpretation (if anything, the *signs* needed interpretation, not the texts, and the interpretation occurred orally during the divinatory act, as mentioned above), but to make up for the 'missing sections' of the divinatory ritual. For instance, in items 1.U.29-31 the charge (i.e. the *topic* of the divination) is missing, while there is no trace of a prognostication in item 1.S.1-3 and 1.MWZ.4-6. It is difficult to imagine that a divinatory ritual would lack such crucial sections. It is more reasonable to assume that they were either written on perishable material as part of or after oral performance, now permanently lost, or simply uttered orally. Over time, formulae contributed to the creation of a technical language shared by different communities within the Shang and Zhou states. Each community then *adopted* and *adapted* this technical language giving rise to 'idiosyncratic variabilities.'[1] Meaningful examples in this respect can be the Western Zhou OBI discussed above and the Warring States bamboo divinatory records. These texts belong to different periods and cultural backgrounds, and they do present idiosyncratic features. For instance, the Baoshan records present a specific layout of the six-position *gua*, routinely written in pairs. Jia Lianxiang has demonstrated that the Baoshan records, as well as Tianxingguan and Xincai fit the *Shifa* interpretive method, which is based on the analysis of the four positions (*siwei* 四位).[2] The Qijia Western Zhou OBI, on the other hand, are written as a single six-position *gua* which are most likely the results of three distinct computations. Despite these specificities, the formulaic use of the words *si* 思 and *shang* 尚 plays a similar function in both instances: they both introduce a prayerful statement of the kind 'would that be'.

To conclude, formulaic language in late Shang and Western Zhou can be considered as a tool to be used by the scribes when they had to engrave the text on hard media. Therefore, formulaic language, in this context, was *a device to facilitate the written composition after the oral performance.* In this sense, the OBI are an excellent example of writing orality with formulaic language being a scribal strategy, used to record what happened during the—essentially oral—divinatory ritual. The

[1] Flad 2008.
[2] Jia Lianxiang 2020: 268-270.

oral and written thus coexisted but were *independent* from each other within the context of divinatory performance, as is plainly shown by the case studies presented in this chapter.

These observations raise the following question: Why do the *shuzi gua* almost never appear together with the other components of a divinatory act? In *shuzi gua* divination, it seems that the *separation* between the oral ritual and the production of written records on a hard media was even more prominent than in the rest of the OBI. Assuming that a divination act always includes at least the charge and a prognostication, then in the *shuzi gua* divination these sections occurred *only* orally in 90% of the cases. Most importantly, these sections seem to be deliberately left out of the written records. In most cases there was no space constraints. So, if the scribe wanted to add text, they could surely do it. Also, as we have seen in the previous section, they have the technical tools, i.e. formulaic language. If the oral was more important than the written record, does it mean that the *visual* aspect of the *shuzi gua* was not relevant either? In some cases, the visual disposition was indeed important, and the grouping of the numbers was clear. However, in other cases, the numbers are written in one single unit, and it is impossible to distinguish between different *gua*. This might suggest that *both* the numerical and visual value of the numbers was considered during the interpretation. This shall be the subject of the next chapter.

CHAPTER 4
PART II

COMPUTATIONAL METHODS

Part II of the present chapter focusses on the commonly known 'hypothesis of the two stalk methods' (甲乙揲蓍法), which was first proposed by Li Xueqin and later elaborated upon by Jia Lianxiang as the 'hypothesis of two-series number systems' (兩系用數體系). According to Li Xueqin, the Shang and Western Zhou sources can be divided into two groups, where the 1s and 7s never appear in the same *shuzi gua*, except for a handful of cases, which will be discussed below. After outlining the main arguments of the two hypotheses (§1), I review their shortcomings with the aid of the Analytical Map to show its efficacy (§2). Next, I introduce the statistical methodology applied by Bréard and Cook to uncover the different cleromantic techniques that may underlie the *shuzi gua* (§3).[1] Lastly, I shall use the criteria of the Analytical Map to expand on their statistical study. Assuming the correctness of the mathematical models they proposed, I reconstruct the patterns of numerological variations by site of origin and type of object (§4). By tracing the instances of 1s and 7s, I evaluate whether their different geographic distribution might be correlated with the type of object on which the *shuzi gua* are inscribed. The purpose of this chapter is twofold: first, it problematises the 'hypothesis of the two stalk methods'; second, it contributes an important argument to the 1-7 debates by looking at local communities where specific practices for generating numbers prevailed.

1. Numbers and Stalks: Li Xueqin's and Jia Lianxiang's Hypotheses

[1] Bréard and Cook 2020.

As mentioned in chapter 1, the *shuzi gua* include the graphs identified with the following numbers: 1, 4, 5, 6, 7, 8, and 9.[2] Their distribution varies diachronically and synchronically. Recently, there have been attempts to identify the different computational methods which could produce these specific integers. In the first edition of his monograph on the origin of the *Zhouyi*, Li Xueqin speculated that, in the then extant material, two different stalk computational methods could be isolated. His hypothesis has now become one of the most debated issues related to the *shuzi gua* corpus; it therefore deserves a full quotation:

> 淳化陶罐、扶風和澧西卜骨筮數所代表的揲蓍法，最容易出現一，其次六、八，少見五、九，沒有七，可暫稱為’揲蓍法乙’；殷墟甲骨、陶器、岐山卜甲和西周金文筮數所代表的揲蓍法，最容易出現六，其次是七、八、少見一、五、九，可暫稱為’揲蓍法甲’。有沒有’七’，是區別甲、乙兩種揲蓍法的標誌, 這大約是在揲蓍法乙中‘七’極難或不能產生之故。[2]
>
> In the stalk divination method represented by the terracotta of Chunhua and the Fufeng and Fengxi oracle bones, the number 1 appears more frequently, followed by 6 and 8, 5 and 9 rarely appear, while the number 7 never appears; this can be temporarily called ‘method B’. On the Shang oracle bones and terracotta fragments, on the Qishan oracle bones and on the Western Zhou bronzes, the number 6 appears more frequently, followed by 7 and 8, while 1, 5 and 9 appear very rarely; the latter can be called ‘method A’. What differentiates the two methods is the presence or absence of the number 7, which is probably the reason why it is extremely difficult or impossible to produce 7 in ‘method B’.

Before the publication of the *Shifa*, Li Xueqin was of the idea that the Warring States Chu bamboo manuscript should not be considered *shuzi gua* but hexagram pictures. This is probably the reason why his hypothesis only refers to the Shang-Zhou materials. The publication of the *Shifa* prompted

[2] To date, the number 4 appears only in the *Shifa* Warring States bamboo manuscript; it never appears in the earlier materials.
[2] Li Xueqin 1992; see the most recent edition: Li Xueqin 2005: 231.

a reconsideration of the entire *shuzi gua* corpus. Specifically, the fact that, in the *Shifa*, the 1s and 7s could be conflated has been seen as an opportunity to expand on Li Xueqin's hypothesis. In his PhD thesis, Jia Lianxiang proposed two systems, i.e. the 1-based system (*yi xi shuzi gua* 一係數字卦) and the 7-based system (*qi xi shuzi gua* 七係數字卦), with the *Shifa* being the 'representative of the 1-based system,' given that by the late 4th century BCE, the 7s have graphically replaced all 1s.[1] Next, he calculated the numerical distribution in 110 items other than the Chu bamboo slips: 47 items on 31 objects belong to the 7-based system; 56 items on 27 objects belong to the 1-based system. He produced the following statistical distribution:[2]

	7	**6**	**8**	**5**	**9**
7-based	36%	42.9%	14.2%	5.7%	1.2%
	1	**6**	**8**	**5**	**9**
1-based	50.2%	24.3%	17.5%	6.1%	1.9%

Although the dataset is indeed limited, Jia Lianxiang notices a common pattern within the two systems: 'the numbers 7, 1 and 6 account for about 3/4 of the calculated numbers; the second most recurrent number is 8, followed by 5 and 9'.[3] This regularity in the number occurrences, which is also stressed by Cook and Bréard,[4] can also be found in the Chu Warring States bamboo slips. This aspect suggests that (1) there indeed existed two discreet computational methods which could produce specific numbers more often than others; (2) there is a sort of *continuity* between the earlier materials and the Warring States divinatory records from the state of Chu. As we shall see below, the situ-

[1] Jia Lianxiang 2020: 198.
[2] The six cases in which neither 1 nor 7 appear are not included in any of the two categories. Note also that number 4 never appears in Shang and Western Zhou materials, therefore is left out. Jia Lianxiang 2020: 201.
[3] *Ibidem*.
[4] Cook and Bréard 2021: 41.

ation was probably a bit more complex, and this continuity is far less prominent than one would expect.

Before providing the concluding remarks just mentioned, Jia Lianxiang pointed out that two controversial aspects should be considered: first, the absence of the number 4 (except in the *Shifa*); second, the coexistence of 7 and 1. I will temporarily leave the first issue aside and focus on the second for now. Concerning the coexistence of 7 and 1, Jia Lianxiang says that two different situations are possible, namely the coexistence of the two numbers either (1) in the same *shuzi gua* or (2) on the same object. Situation (1) occurs in seven cases:

IIN	**1.U.33**	**3.S.12**	**1.EWZ.20**	**2.EWZ.8**	**2.EWZ.9**	**2.EWZ.11**	**2.EWZ.20**
My transcription	6**71**679	**17**6786	766**71**8	6**17**616	6**17**6**1**6	861(?)76**1**(?) 7	5**17**61(?)
Jia Lianxiang's transcription	6**77**679	**77**6786	766**77**8	6**77**676	6**77**6**7**6	867677	5□76□⧄

According to Jia Lianxiang, the commonality among these items is that the number 1 is either next to the number 7 or above the number 6, [1] and the 1 should therefore be read as 7. The erroneous reading of 7 as 1 is due to the *hewen* 合文 ('combined graph' or 'ligature'), a scribal device common in the pre-Qin period, which consists of 'graphical coalescence' when the strokes of two (or indeed more) graphs are connected to each other or merge.[2] I elaborate on this later.

Situation (2) occurs when 1 and 7 appear in different *shuzi gua* but on the same material carrier. The single two cases are 1.S.7-9 and 6.S.1-6. Jia Lianxiang notices that, since item 1.S.7 is a three-

[1] Jia Lianxiang 2020: 198.
[2] Škrabal 2019: 281.

position *gua*, while 1.S.8 and 1.S.9 are both six-position *gua*, they must have been calculated using different computational methods; it seems obvious, he adds, that the presence of either 1 or 7 is what differentiates them.[1] In the second case, i.e. item 6.S.1-6, the *shuzi gua* on the front and on the right side use 7, while those on the back use 1. Here, the most likely explanation is that different computational methods were used for the different sides of the same object.[2]

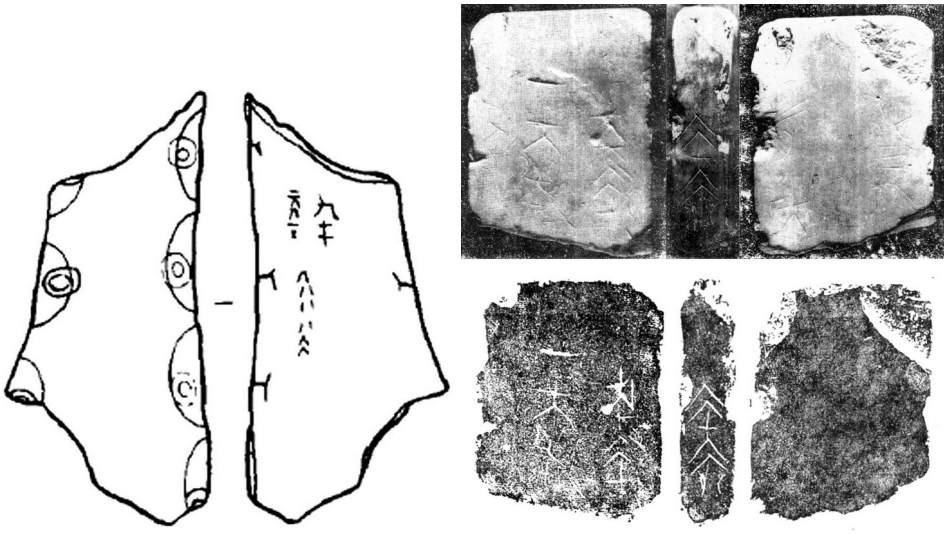


Figure 1 *Items 1.S.7-9 (left) and 6.S.1-6 (right). Jia Lianxiang 2020:71;89.*

2. A Few Important Remarks on the Two Hypotheses

Both Li Xueqin's and Jia Lianxiang's hypotheses have been partially questioned by Bian Xiaobing.[3] He proposes that the few examples of *shuzi gua* in which neither 1 nor 7 appear should have been part of an alleged third computational method, 'method C'.[4] I concur that the hypothesis proposed by Jia Lianxiang in particular presents problematic aspects (which I shall discuss shortly). At the same time, I feel that increasing the number of systems is not the answer: the absence of 1 and 7 might simply be due to chance, i.e., while computing the *shuzi gua*, these two numbers simply were

[1] Jia Lianxiang 2020: 200.
[2] Jia Lianxiang 2020: 200.
[3] Bian Xiaobing 2016.
[4] For a full discussion, see Bian 2016: 48-54.

not produced.[1] Given that *shuzi gua* divination is primarily a game of chance in which numbers are generated at random, the likelihood of 1 and 7 *never* appearing is low—they are objectively among the most common numbers—but it *can* happen. As a result, I believe Bian Xiaobing's proposal concerning Li Xueqin's and Jia Lianxiang's hypotheses should be discarded.

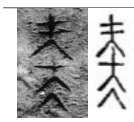
For convenience, I have grouped the *shuzi gua* seen in situation (1) in the table below. Note that the 1s in bold are transcribed as 7s by Jia Lianxiang.

1.U.33	**3.S.12**	**1.EWZ.20**	**2.EWZ.8**	**2.EWZ.8**	**2.EWZ.11**	**2.EWZ.20**
						
67**1**679	**1**7678[6]	76671**8**	6**1**76**1**6	6**1**76**1**6	861(?)76**1**(?) 7	5**1**761(?)

Several points may be highlighted. Most striking is that the text in item 2.EWZ.20 is severely damaged, and it is almost impossible to distinguish the different graphs—let alone the *hewen*—from either the rubbing or the line drawing. Item 2.EWZ.11 presents a similar problem: if we look at the rubbing, it seems like there are two cases of *hewen*, both below the two 6s. It appears that this item, instead of being an 'ordinary' six-position *gua*, is in fact a seven-position *gua*, which would be unusual. However, this aspect has never been addressed. Item 1.U.33 is also extremely difficult to assess: no high-quality picture is available (to the best of my knowledge) to help determine whether

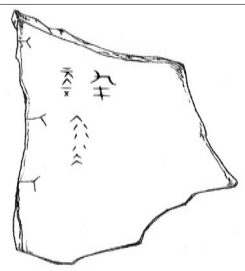
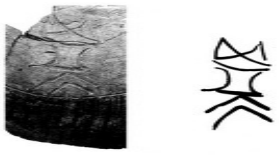
[1] My understanding of the underlying principles of these computational methods is much indebted to Andrea Bréard. As a matter of fact, she strongly rejects Li Xueqin's hypothesis of the existence of two computational systems (personal conversation, April 2023). As we shall see in the following sections, my position is different. Even though I certainly lack the mathematical and statistical competence, the observed numerical distribution suggests to me that certain numbers did prevail in specific areas, and that there were probably two methods which generated either 1 *or* 7 more easily. Indeed, my own hypothesis also needs to be corroborated by statistical results. See Pischedda and Bréard forthcoming.

the number above the 9 is 1 or 7.[1] The line drawing alone is not clear in this regard. Second, Jia Lianxiang says that the *hewen* comprising two 7, which is usually written '丰', can also be written '⊤' or '±', as is the case for the items in question. In fact, the connection between the graphs '十'and '一' is 'the main criterion for identifying the two-7 *hewen'*.[2] They must therefore be examples of either damaged strokes or irregular variants.[3] While graphic variants are indeed very common in both oracle bone and bronze inscriptions, I struggle to believe that these can be regarded as cases of damaged strokes. Also, items 1.U.31 and 1.U.32 are written on the same material carrier, i.e. turtle plastron, and they both present a two-7 *hewen* (see table below). Of course, they might have been incised at different times or by different scribes (the latter is highly possible), but this is one of the rare examples of a relatively well-structured series of inscriptions, in which, hypothetically, different numerical results might have been noted down on the turtle plastron after the divinatory act was performed. I suggest the scribe-diviner(s) would want to distinguish the two numbers 1 and 7, also considering that they appear in a similar position, above a 6. Indeed, if this 'confusion' was planned, if it was a deliberate and conscious choice made by the scribe, it would probably mean that 1 and 7 already at the end the Shang dynasty had a sort of interchangeable value (as it appears to be the case by later evidence, namely the *Shifa*). And if this is true, why do we need to distinguish between two different computational systems in the first place? Quite the opposite, my analysis of the occurrences of number 1 and 7 on the Shang material shows that, during this period, the two numbers were almost certainly perceived as two different tokens. Therefore, the hypothesis of the existence of two distinct computational methods seems reasonable.

1.U.31	**1.U.33**
	
776166	671679

[1] In fact, the horizontal line seems to be very faint.
[2] Jia Lianxiang 2020: 199.
[3] Jia Lianxiang 2020: 199.

Another problem occurs when the two-7 *hewen* or a single 7 are located above a 6; these could either be written '大' (7-6) or '夫' (7-7-6). Sometimes, the pair 7-6 is written '大',[1] with the horizontal line of the number 7 being connected directly to the number below. Jia Lianxiang affirms that what we find in items 2.EWZ.8 and 2.EWZ.9 (i.e. '不') is but the evolution of this graphic variant.[2] However, there are many cases of this specific *hewen* within the *shuzi gua* corpus which are routinely transcribed as 1 and not 7, as illustrated by the table below:

IIN	Picture	JLX Transcription
1.S.7-9		116615
2.LS.15		816
5.S.2		518166
1.EWZ.11		616661

[1] Jia Lianxiang refers to items 14-022, 29-049, 32-052, and 49-070 (according to his numbering). However, at a closer look, the first and the third do not seem to present this graphic phenomenon and the 7-6 *hewen* is more similar to the '大" variant. Jia Lianxiang 2020: 200

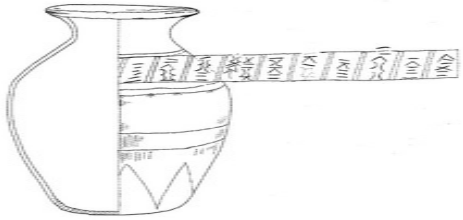
[2] Jia Lianxiang 2020: 200.



1.EWZ.12	116111



5.LWZ.7-8	116111 116195



From the examples in the table, it appears that the *hewen* '𠂤 is always transcribed as 1-6, *except* for items 2.EWZ.8 and 2.EWZ.9, where it is precisely transcribed 7-6. It is legitimate, and indeed important, to question why Jia Lianxiang has made this choice: what is the criterion which is used to determine whether this specific *hewen* is just the evolution of '六' (i.e. 7-6) or the graphical representation of numbers 1 and 6? I would be inclined to think that his choice reflects a biased interpretation, conscious or not, of this graph-compound in order to prove the hypothesis of the two systems. Furthermore, from a merely palaeographical standpoint, it would make no sense to write the *same* number (i.e. 7) in two *different* ways on the same *shuzi gua*. If these inscriptions were supposed to

be viewed at least by the person who committed this vessel and their family members, then one could wonder why the scribe chose to write the *same* word in a different way. Interestingly, the same scribe who produced these two items, also authored item 2.EWZ.10, which presents a 7-6 *hewen* and a second 7 right in the same *shuzi gua*—the sequence of numbers being 768675. However, in this case, the two 7s are *clearly* written to represent exactly that number, as one would logically expect. Again, scribal errors and production failures in the case of *shuzi gua* inscribed on bronzes are indeed a possibility. Nevertheless, items 2.EWZ.8 and 2.EWZ.9 do not seem to me to belong to either of these cases. I am confident that 1 and 7 here should be regarded as *two* distinct numbers.

So far, I have problematised Jia Lianxiang's discussion without using the analytical map. I will now provide an applied reading of the Analytical Map of the item 3.S.8, which is not mentioned in his study. As specified previously in chapter 2, the map should be considered as a three-step tool to be used for the analysis of any palaeographical material. It is a threefold grid comprising the following criteria: *material*, *visual*, and *linguistic*. Each criterion focuses on its own aspect: *object*, *layout*, and *language.* For the purposes of this discussion, we shall only need to consider the physical properties of the material criterion.

Items number: 3.S.8

Material Criterion

Physical properties. Pottery fragment. The material carrier is incomplete. Measurement: length 6.3 cm, width 3.1 cm. Dating: Late Shang.

Visual Criterion

Macro-analysis. The text is incomplete. The extant text is produced on one unit (1). All remaining graphs are legible.

Micro-analysis. 1:A sequence of ten numbers. Top to bottom direction. Uneven size.

Linguistic Criterion

Logico-syntactic analysis	**Transcription**
1:[n]+G_{10}+[n]	1:(..)六七七八六六七六一七(..)

I consider this item as one single *shuzi gua* for the following reasons. First, from the material criterion, we learn that the material carrier is incomplete. Second, the macro-analysis of the visual criterion indicates that the text is incomplete and that it is written on one single *visual* unit. Third, in the micro-analysis we can see that this is a sequence of ten numbers. Finally, from the linguistic criterion we can see that there are many 6, 7 and 1 (though the latter has been transcribed as 7 by Jia Lianxiang).[1] This single item, if read with the help of the analytical map, appears to be the main obstacle for situation (1): not only the sequence of numbers is written on an incomplete material carrier, but it is also impossible to discern the different *shuzi gua*. In these circumstances, where should we 'draw a line' and separate the sequence of numbers? I elaborate on this item further below. For now, it is worth noting that what in Jia Lianxiang's PhD dissertation was transcribed as one six-position *gua* and one damaged three-position *gua* is now transcribed in a seamless sequence of nine numbers (note that, unlike me, he only identifies nine numbers instead of ten), which is the transcription I initially suggested based on a reading of this item through the analytical map.[2] Most importantly, this item is not considered in his list of examples of *shuzi gua* with coexisting 1-7. That is to say, the map is an effective, immediate and accurate tool for engaging in systematic analysis of the sources.

[1] Jia Lianxiang 2020: 84.
[2] In the PhD thesis, the two *shuzi gua* are transcribed as 778667 and 677□. See Jia Lianxiang 2014: 75.



Figure 2 item 3.S.8. Jia Lianxiang 2020: 84.

3. Stalks and Dice: Bréard's and Cook's Mathematical Models

Before providing a possible alternative to Jia Lianxiang's discussion, I shall briefly introduce the mathematical models proposed by Andrea Bréard and Constance A. Cook to reconstruct the computational methods underlying the *shuzi gua* divinatory practices. These models are based on 'three historical assumptions':[1]

1) The number of stalks was not restricted to 50
2) Any occurrence of 1 is regarded as equivalent to a 7[2]
3) The use of dice is considered

The first model, which they call A_n, is a modified Da Yan 大衍 procedure found in the *Xici* chapter of the *Yijing*, which shall be the focus of the final chapter of my thesis. Model A_n involves the following passages using stalks *only*:

> *After elimination of one stalk from the initial bundle one starts the following sub-procedure: the stalks are randomly divided into two bunches. One then first takes away one stalk from either of the two bunches, resulting in s_1 and s_2 stalks, divides by 4 the cardinality of either pack, s_1 and s_2, subtracts from each of them a number of stalks equal to the remainders, and finally reassembles the residual*

[1] Bréard and Cook 2020: 326.
[2] The publication of the *Shifa* proved that the numbers 1 and 7 indeed have some sort of interchangeable value.

stalks. The sub-procedure is iterated n times. Note that if $s_i \equiv 0 (\mathrm{mod}\ 4)$, the remainder was considered as equal to 4, not to zero.[1]

According to their results, this model seems to be a good fit for the number distribution of the early-mid-Western Zhou with either 44, 46 or 51 stalks—the best fit being with 46 stalks.[2] However, I should point out that in their mathematical model only numbers 5-8 were considered. This is problematic as there is indeed one example in which number 9 appears twice: items 1.U.34-40. This bone has been collected (see my Analytical Map for more details on the archaeological context), therefore the dating is suspect. However, the material features of this bone scapula suggest that it does belong to either the transition period between the Shang and Zhou dynasties, or to the early Western Zhou. I can only see two solutions to this problem. First, if number 9 is excluded from the early-mid-Western Zhou sample (and in this way the mathematical model A_n with 46 stalks would definitely be a good fit), one could propose a new dating for this item. That is, since from a statistical viewpoint it cannot be included in the later group of samples, it could be dated to a slightly earlier period, closer to the Shang dynasty. In alternative, other A_n models could be tested *including* number 9 in the dataset. Aside from this issue, it seems clear from the statistical analysis that neither a combination of dice and stalks, nor dice only work for the number distribution seen in this historical period.

The second model B_n^m involving both stalks and a special die, is the following:

A m-sided die carrying two blanks is thrown: the numbers 1 or 6 are recorded if an odd or even number comes up, with 1 possibly noted symbolically like a 7. If the die falls on a blank side, the diviner uses stalks to obtain a number through the general procedure A_n described above.[3]

This model seems to work particularly well with the Shang samples, with the best fit being a special die and 53 stalks (model B_4^6). The numbers considered here are 5-9, with the conflation of 1-7 (‘1

[1] Bréard and Cook 2020: 325.
[2] All the scenarios can be seen in Table 9, Bréard and Cook 2020: 337.
[3] Bréard and Cook 2020: 326.

possibly noted symbolically like a 7'). As I have discussed at length above, I believe that during this period, and at least until the mid-Western Zhou, the two numbers were perceived as being two *separate* entities. Even though the mathematical model does provide a good fit assuming the confusion between 1 and 7, the palaeographical evidence which I reviewed in the previous section suggest exactly the opposite. One possibility would be to test a different model which considers 1 and 7 separately.[1]

The third model C, involving only dice throwing, is posited:

> *The sum S of the outcomes of throwing two regular six-sided dice numbered 1 to 6 is taken. The lowest and highest possible outcome S = 2 and S = 12 are recorded as the highest and lowest numbers in the sequence, 5 and 9 respectively, whereas the numbers 6, 7, and 8 in the sequence are the tokens of the outcomes S* = {3, 6}, *S* = {4, 5, 7, 9, 10}, *and S* = {8, 11} *respectively.*

This model works perfectly for the symmetrical number distribution observed in the late Western Zhou and early Eastern Zhou samples, with 7(1) being the numbers with the highest occurrence.[2] I shall not delve too much into the technical details of the different number distributions as the tables and goodness-of-fit methods may be consulted in the actual paper.[3] For the purposes of the present discussion, it should suffice to say that the reconstructions proposed thus far, which are basically a modified A_n-style procedure, can all be rejected.[4] The results yielded by the three mathematical models proposed by Bréard and Cook make it possible to discard the pure stalks hypothesis made for the 4th and 3th century BCE materials. They conclude that, before the Da Yan procedure became the standard algorithm to produce numbers in *gua*-based divinatory practices, different methods involving different numbers of iterations and stalk sets, most likely combined with dice in certain contexts, were used. Furthermore, 'the odd–even dichotomy, although not explicitly spelled out,

[1] The final results can be found in Pischedda and Bréard forthcoming. Provisional results for the Shang period seem promising assuming a B_n^m model. As Andrea Bréard remarks, 1s can only be produced combining dice and stalks. See Cook and Bréard 2021: 51, Chart 1.7.
[2] Bréard and Cook 2020: 330, Table 4.
[3] Bréard and Cook 2020: 337-341.
[4] Cheng Hao 程浩 2014, Jia Lianxiang 2020.

could underlie the encoding of the results of the numerical sum in dice throws into symbols for 1 (or 7) and 6 at least as early as the late Western Zhou dynasty.'[1] Finally, and most importantly, their tentative reconstructions 'strongly suggest that the combined use of stalk and dice use might trace back to the twelfth century BCE', revealing a certain *continuity*.[2]

4. Reconstructing 1 and 7 by Site of Origin

Despite the fact that Jia Lianxiang's discussion is not entirely convincing, the hypothesis of the two-series number systems still deserves further attention. In what follows, I demonstrate that analysing the *shuzi gua* material by site of origin and type of object is a more accurate, fruitful, and, indeed, reliable way to discuss this hypothesis. Aside from analysing the number distribution from the standpoint of the materiality of the objects and the site of origin in which the objects have been retrieved, I should stress once again that my dataset crucially includes the *siyao gua*. These have been excluded from the dataset on which the mathematical model proposed by Bréard and Cook is based simply because they are *not consistent* with the Yi traditions (which only present trigrams and hexagrams).[3] While the *siyao gua* are statistically irrelevant—to date we possess only a few examples—it is methodologically important to consider this additional material in any *unanachronistic* study concerning *shuzi gua* divinatory traditions and their relation to the 'Classic' Yi.

In my analysis, I first exclude six items which do not present either 1 or 7: 1.S.9, 1.S.25, 2.LS.1, 2.EWZ.2, 2.EWZ.3, 2.S.7, 2.EWZ.18. In the table below, I grouped the remaining items into three different categories: the first category includes *shuzi gua* which only contain 1; the second one includes *shuzi gua* which only contain 7; the third one includes *shuzi gua* which contain both 1 and 7. I should clarify that the occurrences of 1 and 7 are considered in their *graphic* value and not in their *numerical* value. I therefore grouped the items based on what graphically appears in the inscription

[1] Bréard and Cook 2020: 338.
[2] *Ibidem.*
[3] See for instance Bian Xiaobing 2016.

rather than how a specific graph has been interpreted. In fact, as we have seen earlier, some occurrences of 1 have been transcribed as 7 by Jia Lianxiang, in order to corroborate his hypothesis.

***Shuzi gua* containing only 7**	***Shuzi gua* containing only 1**	***Shuzi gua* containing 7 and 1**
1.S.1-3	1.S.7	1.EWZ.20
1.MWZ.4-6	1.EWZ.10-11	1.U.31
1.S.8	1.EWZ.12	1.U.33
1.MWZ.17-18	1.EWZ.13-14	2.EWZ.8
1.EWZ.19	1.MWZ.15-16	2.EWZ.9
1.EWZ.21	1.U.34-40	2.EWZ.11
1.EWZ.22	2.EWZ.4	2.EWZ.20
1.EWZ.23	2.EWZ.13	3.S.8
1.S.26	2.LS.15	3.S.12
1.S.27	2.LS.16	
1.S.28-30	2.EWZ.17	
2.EWZ.5-6	2.EWZ.19	
2.EWZ.10	3.S.5-6	
2.EWZ.12	3.S.7	
2.EWZ.14	3.U.13-14	
3.S.1	3.U.15-18	
3.S.2	4.EWZ.1	
3.S.3-4	4.EWZ.2	
3.S.9-10	4.EWZ.3	
3.S.11	4.U.4	
6.S.1-2	5.S.1	
6.S.6	5.S.2	
	5.LWZ.3-13	
	5.LWZ.14-18	
	6.S.4-5	
	6.EWZ.7	
	6.EWZ.8	

Now that the relevant items have been conveniently organised according to their number occurrence, I proceed with the analysis by considering three aspects: (1) provenance (i.e. site of origin), (2) whether the item has been excavated or collected and (3) the completeness of the material carrier. All these aspects belong to the material criterion of my Analytical Map. Before I proceed with the analysis, I should also introduce the notion of a *cluster*. With this term I refer to a group of *shuzi gua* found on *different* material carriers retrieved in the *same* site. Assuming that different sites ideally correspond to different communities, identifying clusters will allow me make inferences about the use of numbers 1 and 7 within a specific community. Another kind of cluster is the one

described in situation (2) mentioned above, i.e. a group of *shuzi gua*, found on the same material carrier, which presents both 1 and 7.

I will now start with the first aspect, the provenance. Unfortunately, ten items lack provenance information (2.LS.1; 2.LS.16; 2.LS.15; 3.S.11-12; 2.EWZ.10; 2.EWZ.4; 2.EWZ.13; 2.EWZ.12; 2.EWZ.19; 2.EWZ.14; 4.U.4). It is unfortunate that most of them are bronzes as this may hinder further conjectures about this specific type of object, which necessarily needs to be discussed using other parameters.

Starting from the Shang material, four main clusters can be identified:

(1) Xiaomintun 孝民屯, Anyang (3.S.1 to 3.S.7)

(2) Liujiazhuang 劉家莊, Anyang (1.S.7-9)

(3) Yinxu, Anyang (3.S.8 to 3.S.9-10)

(4) Miaopu 苗圃, Anyang (6.S.1-6).

As Bréard and Cook notice, the prevalence of number 7 over number 1 is immediately obvious in all the material dating to the Shang period. I should clarify that this study, being based on Bian Xiaobing's database, does not correspond exactly to the material under consideration here as the four-position *gua* are left out; therefore, the percentage reported by the authors is slightly different from mine.[1]

The common feature between at least two of these three clusters of *shuzi gua* examples is that they clearly distinguish between the numbers 1 and 7, thus supporting the hypothesis that two different systems existed during the Shang dynasty. Let us take the first cluster as an example. The five fragments of clay moulds unearthed in a bronze foundry at Xiaomintun, near the Shang site of Anyang, bear seven *shuzi gua* in total. Four of them (3.S.1; 3.S.2; 3.S.3-4) feature number 7, while three of them (3.S.5-6; 3.S.7) feature number 1. In light of this, we may speculate that whoever calculated

[1] They report the following percentage: 7: 23.50%; 1: 13.50%. Cook and Bréard 2021: 41.

the *shuzi gua* belonging to this cluster was deliberately using two different computational methods. It is also reasonable to assume that, in this context, 1 and 7 had distinct numerical value. Two aspects nonetheless pose obstacles to interpretation. First, items 3.S.1, 3.S.3-4 are damaged: not only the material carrier is incomplete, but the *shuzi gua* as well are interrupted and it is therefore impossible to retrieve the original numbers.[1] Second, this cluster was scientifically excavated during a 2000-2001 expedition;[2] all items were brought to light in those years except for 3.S.7, which is included in the archaeological report of the 2003-2004 expedition.[3] This latter aspect might seem irrelevant, but it is nevertheless important to keep in mind when considering the site of origin. A similar phenomenon of combined use of the two systems can be found in the second and fourth clusters —Liujiazhuang and Miaopu—, both convincingly discussed by Jia Lianxiang.[4]

Let us now move to the third cluster. This is particularly interesting as it presents item 3.S.8, which I have briefly discussed earlier. This is the only example of a 'ten-position *gua*', even though it seems reasonable to think that this item simply represents two (or indeed more) incomplete *shuzi gua*, instead of assuming a separate tradition. In this case too we will never be able to know what the original intention of the scribe-diviner was, even assuming that a divinatory act was involved at all in the creation of this specific item. However, it does attest to the combined use of numbers 7 and 1, as in the previous example at Xiaomintun, though in a different way. In fact, items 3.S.8 present the *hewen*, '〒', which Jia Lianxiang transcribes as two 7s.[5]

To sum up, the analysis of the Shang material reveals that numbers 1 and 7 were used in combination in items found at the same site, perhaps suggesting that the two numbers might have had a different *numerical* value at a very early stage, perhaps aligning with known differences in graphic representations. How can this hypothesis be statistically proved? What kind of model can simultaneously produce 1 and 7? One possibility could be to modify Bréard's and Cook's A_n model: by aug-

[1] In my analytical map, I transcribe the three items as follows: 五八七⿰, ⿰六六六七, ⿰七六七六.
[2] Zhongguo shehui kexueyuan kaogu yanjiusuo Anyang gongzuodui 中國社會科學院考古研究所安陽工作隊 2006.
[3] Yinxu Xiaomintun kaogudui 殷墟孝民屯考古隊 2007.
[4] See above.
[5] Jia Lianxiang 2020: 84.

menting the number of iterations to an A_n procedure (with n being the number of iterations), number 1 will also be produced. To be sure, in this way numbers 2, 3 and 4 will also be generated. My contention is that, whenever these numbers occurred, they were annotated as 1 in order to avoid any confusion.[1] Another possibility, as mentioned in the previous sections, could be to test a B_n^m model in which numbers 1 and 7 are not conflated. This could explain the coexistence of the two numbers, as it is the case in items 1.U.31 and 1.U.33 discussed above.

I shall now move to the Western Zhou material. For this period, I have isolated six different clusters:

(1) Zhangjiapo 張家坡 A, Shaanxi 陝西 (1.EWZ.12—1.EWZ.13-14)

(2) Fengchu 鳳雛, Qishan 岐山, Shaanxi (1.EWZ.19 to 1.EWZ.24)

(3) Zhangjiapo B, Shaanxi (6.EWZ.7 to 6.EWZ.8)

(4) Fufeng 扶風, Qijia 齊家, Shaanxi (1.MWZ.4-6, 1.U.34-40)

(5) Pangjiagou 龐家溝, Beiyao 北窯, Henan 河南 (4.EWZ.1 to 4.EWZ.3)

(6) Xiren 西仁, Shaanxi (3.U.13-14 to 3.U.15-18)

The most striking feature of this period is that the occurrences of 1 and 7 are more clearly divided by site of origin if compared to the earlier Shang material. The six items retrieved at Zhangjiapo A and at Zhangjiapo B, for instance, only present number 1, and both material carriers and the *shuzi*

[1] Andrea Bréard (personal conversation, April 2022) notices that, in order to produce 1s with the modified A_n stalk procedure one would need Y=69 stalks and n=8 iterations, which is indeed too long. Furthermore, this model would also produce numbers 2- 4. I believe that these three numbers do not appear because their exclusion was a conscious choice made by the diviners who created the *shuzi gua* computational method. Therefore, all the occurrences of 2s,3s, and 4s were noted as 1s. Indeed, this is a strong statement which lacks historical support. However, palaeographical evidence might help in this case. I shall provide a solution to this problem in 'Conclusions.' Bréard is more inclined to believe that there is a *modular* connection between 1 and 7 (both numbers belong to the same class *viz* modulo 6). However, 2 and 8, 3 and 9 have the same connection but the 2s or 3s are never produced in the *shuzi gua*. I believe that this hypothesis of modular connection does not contradict mine. That is, 1 and 7 do have a modular connection (*viz* modulo 6), as well as 2-8, 3-9, 4-10, but for graphic reasons, all the numbers which could be confused are excluded (i.e. 2, 3, 4 and 10). Again, these hypotheses shall also be discussed at length in Pischedda and Bréard forthcoming.

gua inscribed are complete. Pangjiagou and Xiren are also 1-based clusters and they do not present any particular difficulties of interpretation. The Fengchu cluster, on the other hand, deserves further attention for at least two reasons. First, two *shuzi gua* out of six are incomplete (1.EWZ.24 and 1.EWZ.23; see the table below). Second, there is a coexistence of 1 and 7, *hewen* '⚌' (see figure 3), in item 1.EWZ.20, just like the Yinxu oracle bones and turtle plastron discussed above. One possible explanation to this phenomenon might be the following: during the early Western Zhou, in some cases, such as the Fengchu one, divination methods producing *both* 1 and 7 were still in use. Hovewer, given the sharp distinction which can be observed in the other clusters, these methods were gradually discontinued.

IIN	**LINGUISTIC CRITERION**	
1.EWZ.23	*Structural-syntactic analysis*	*Transcription*
	1:G_5+[n]	1: 六六七七[五] (..)
1.EWZ.24	*Structural-syntactic analysis*	*Transcription*
	1: [n]+G_3+[n]	1: (..)六六七(..)

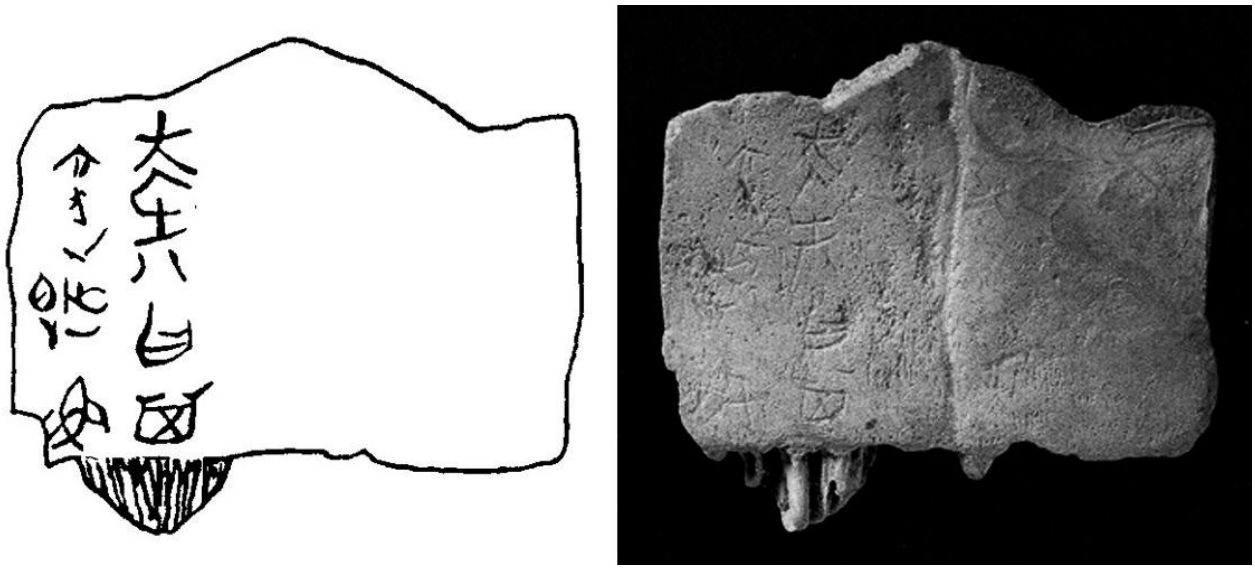


Figure 3 Item 1.EWZ.20. Jia Lianxiang 2020:96.

The Fufeng cluster should also be discussed more in detail because it presents both 1 and 7. Items 1.MWZ.4-6 have been scientifically retrieved. They appear on a bone fragment (left part of the middle of the right scapula) which was jointly unearthed by the Shaanxi Provincial Institute of Archaeology, the Institute of Archaeology, Chinese Academy of Social Sciences, and the Peking University School of Archaeology, Culture and Science joint archaeological team in pit H90 at Fufeng, Qijia (Shaanxi) in 2002. It is part of a cache comprising a total of 13 bones, but it is the only one bearing inscriptions.[1] By contrast, the scapula (damaged but mostly complete) bearing the items 1.U.34-40 was collected by the Shaanxi Zhouyuan Archaeological Team at Fufeng in 1980 (*caiji* 108: lower part) and 1982 (*caiji* 46: upper part) and was pieced together after the recovery of the upper part in 1982. It is part of a cache linked to the Western Zhou workshop and residential area of Qiyi 岐邑, but none of the other oracle bones in the cache bear any traces of *shuzi gua*.[2] The archaeological context in this case is particularly relevant as, at first glance, this might seem a cluster belonging to the same site of origin. However, since the latter item has not been found through controlled scientific excavation, it cannot be safely considered as part of the Fufeng cluster. In other

[1] Cao Wei 2003; Li Xueqin 2003.
[2] Shanxi Zhouyuan kaogudui 1981; Luo Xizhang 羅西章 and Wang Junxian 王均顯 1987.

words, they might belong to different historical periods and this particular aspect might explain the coexistence of 1 and 7.

To conclude, the hypothesis of the two stalk systems as outlined by Li Xueqin and later discussed by Jia Lianxiang in his monograph presents some elements which are not entirely satisfactory. What I have tried to show in my discussion is that, based on a close and accurate analysis of the *shuzi gua* palaeographical sources available to date, it seems reasonable to assume that at least two distinct computational systems were used in the areas populated by the different communities of the late Shang (Yinxu, Anyang) and the Western Zhou (Zhouyuan). Reconstructing the occurrences of numbers 1 and 7 by site of origin shows that, in the area commonly attributed to the Shang civilization, the two systems were used in tandem, as is the case of items 1.S.7-9, 3.S.1-7 and 6.S.1-6, and that the two numbers might have been considered *two clearly distinct tokens*. A different scenario seems to occur for the Western Zhou material, where the use of numbers 1 and 7 is relatively more clear-cut. Whether or not in this period 1 and 7 had distinct numerical value is extremely hard to establish. Diachronically we can say that different systems were used until the mid-western Zhou, with number 7 disappearing after this period. I suggest that this phenomenon might possibly be due to a graphic simplification, with the 1 being consistently preferred as the main odd numbers' representative. If, as suggested by Jia Lianxiang, we take the *Shifa* as the model of the Warring States bamboo manuscript of the cultural area of Chu, hypothesis which I would temporarily support, we could say that by the late 4th the *graphic* 1s should all be considered as *numerical* 7s.

I suspect that the issue of computational methods will continue to be a subject of debate as there are many different aspects which need to be considered. In the present chapter, I have made an effort to thoroughly examine these aspects: palaeographical, statistical, textual, as well as regional and diachronic variants. More solid conclusions await to be drawn as the archaeological evidence increases. The purpose of the present discussion is to emphasise the importance of adopting a *holistic* approach when analysing the potential algorithms that generated the *shuzi gua*'s numbers. Through

my research, I aim to contribute to a more nuanced understanding of the use of numbers within the *shuzi gua* corpus. It is worth noting that, like most studies on this set of texts, the conclusions presented here are preliminary in nature and will undoubtedly be refined as additional evidence comes to light.

5. Conclusions

In this second part of chapter 4 I have focussed on one of the most debated issues related to *shuzi gua* divination: the computational methods. The fact that numbers in the *shuzi gua* materials do not match with the traditional Yi numerology (i.e. 6, 7, 8 and 9) has given rise to an ever-growing debate among scholars. In my discussion, I paid particular attention to the issue of 1 and 7 as they have become particularly problematic after Li Xueqin proposed, back in 1992, the hypothesis of the two stalk methods. Two decades later, Jia Lianxiang, drawing on his mentor's work, suggested that the *shuzi gua* material should be divided into two divinatory systems, where numbers 1 and 7 appear almost always exclusively. Despite the fact that a first look at the percentage does indicate the presence of two different number series, the explanation provided by Jia Lianxiang concerning the coexistence of 1 and 7 in the same *shuzi gua* or in different *shuzi gua* inscribed on the same object is questionable. In the second section, I have detailed the several problematic points of Jia's discussion, demonstrating how my Analytical Map serves as an extremely efficient tool for the analysis of the *shuzi gua* material.

As already stressed at the beginning of my thesis, the *nature* and *meaning* of the *shuzi gua*, as well as the common features which tie them together under the same category, are still subject of debate. To address these issues, it is necessary to improve on the 'organisational level' and making sense of this heterogeneous corpus by combining three different criteria—material, visual and linguistic. Throughout this chapter, I have shown how this methodology can be applied. Specifically, I have used the Map to discuss the two hypotheses concerning the *shuzi gua* computation methods. I have then reconstructed the instances of the numbers 1 and 7 based on the site of origin. I have contrib-

uted to the 1-7 debates by revealing how professional diviners, who were active in different local communities, made use of specific methods for generating certain numerical patterns. Furthermore, I have proved that, without the map, the culturally significant nuance might be easily missed, as the discussion of my thesis shows.

In conclusion, the analytical map is a versatile model which could be used to assess any kind of palaeographical and archaeological material. In other words, its use can be extended to other research. In the context of the present study, the map represents a fundamental heuristic tool which has facilitated the systematic analysis of the sources. The combined use of the three criteria—which should always be incorporated in any discussion, and this is indeed one of the main differences between my approach and previous scholarship—produces an accurate, nuanced, and most importantly *un-anachronistic* account of the different divinatory traditions involving numbers and *gua*-like notations. This rigorous systematisation allows for a reconsideration of the origin and nature of what I call *shuzi gua* divination. In the following final chapter, I show how these diverse numerical traditions have merged into a single, *standardised* one—the Yi—the only one which has arrived to us through the received textual tradition, only after being gone through a process of 'philosophisation'.

Chapter 5
CONCLUSION: FROM THE *SHUZI GUA* TO THE *XICI*

> 在對先秦至漢初傳世文獻中的筮佔進行考察後我們發現，古書中的筮佔尚無法早出《周易》的範圍，這既是對早期筮佔研究的一個桎梏，又是我們不得不去依靠的據點和探索的起點.
>
> After examining the divination in the pre-Qin and early Han texts, we find that the divination in the received tradition cannot go beyond the scope of the *Zhouyi*. This is both a constraint and a starting point for us to rely on and explore early divination practices.
>
> Jia Lianxiang, *Chutu Shuzi gua* (2020: 285)

In the previous chapter, with the aid of the Analytical Map, I problematised the theoretical and technical issues concerning the *shuzi gua* corpus. I now turn to a discussion of the philosophical aspects related to this corpus. As we have seen throughout the thesis, reading the *shuzi gua* primarily based on the received Yi is indeed a 'constraint', to use Jia Lianxiang's words. At the same time, scholars have noticed that there are similarities amongst these different divinatory traditions. This is mostly related to the shape of the *gua*, the presence of numbers and their characteristic divinatory form, as well as the uneven numerical distribution, which appears to be a constant despite the huge time gap within the sources. But what is the relationship between the *shuzi gua* corpus and the Yi tradition? Aside from having the *Zhouyi* in common, what is the link between this corpus of early archaeologically retrieved texts—of which no mention can be found in the received textual tradition—and the main philosophical treatment of the Yi, the *Xici* 繫辭 ([Commentary to the] Appended Sentences), also called *Dazhuan* 大傳 (Great Commentary). Before answering this question, I explore the strategies behind the construction of the philosophical meaning of the text, by analysing its textual structure and lexical usage.[1] Without sidestepping the composite and multi-layered nature of this text, my analysis, conducted both on a micro and macro-level, highlights how the textual structure fundamentally reflects its content. The analysis will also show how structural and lexical elements

[1] The text used in this chapter is: *Zhouyi Zhengyi* 周易正義 2000.

make the *Xici* a kind of argument-based text as the philosophical argumentations are exhausted *within* the text itself.

In this final chapter, I shall briefly introduce the theoretical framework proposed by Dirk Meyer which I employ to analyse the *Xici* (§1). Next, I outline the main features of the commentary *genre*, paying particular attention to the many ways in which this specific text-type is conceived of in the early Chinese tradition. As we shall see, the text under consideration does not belong to the more common category of line-by-line commentary; rather, it is a lengthy treatise appended to the *Zhouyi* (§2). I then briefly review the notions of divination and philosophy and how they relate to one another in early China (§3), thus complementing the discussion in chapter 1. Lastly, after reconstructing the patterns of philosophising of the *Xici* (§4),[1] I analyse the relationship between the cosmo-philosophical framework this text puts forth and the *shuzi gua* corpus (§5).

1 Textual Forms: Philosophical Meaning Construction in Early Chinese Texts

The relationship between form and content in early Chinese texts features prominently in the works of Dirk Meyer. In his monograph *Philosophy on Bamboo*, when discussing the corpus of bamboo manuscripts entitled 'Guodian 郭店 One',[2] Meyer proposes two categories of texts: 'argument-based texts' and 'context-dependent texts'. The first type, being closely linked to writing, is produced as a 'stand-alone philosophical exercise.' Context-dependent texts, as already mentioned in chapter 4 (part I), 'require reference to (typically oral) commentators and participate in a triangular relationship of meaning transmission consisting of the text, a mediator of meaning, and the receiver

[1] Since the present chapter is not meant to be an exhaustive study of this text, I shall draw examples only from part A of the received version. The structural features of the text and its division into part A and B are detailed in the last part of this paper as this distinction is essential for the understanding of the textual patterns. Following the established practice, I shall refer to the 'received version" of the text. The manuscript version unearthed at the archaeological site of Mawangdui 馬王堆 in 1973 shall be briefly discussed later in this chapter. On the Mawangdui manuscript of the *Zhouyi*, see Shaughnessy 1997.

[2] The name Guodian 郭店 (Jingmen 荊門, Hubei 湖北) refers to the village where tomb no. 1 is located. The tomb was scientifically excavated in 1993 and included manuscripts versions of the *Laozi* 老子 (or *Daodejing* 道德經), the *Ziyi* 緇衣 (now a chapter in the *Liji* 禮記), and other previously unknown texts. These manuscripts date roughly to the beginning of the third century BCE and are written in Chu 楚 script, predating the standardization of the script that took place during the Qin 秦 dynasty (221–202 BCE); they thus represent precious materials for the understanding of the Old Chinese language. On the Guodian corpus, see Cook 2012.

of the message'.[1] This heuristic distinction serves to investigate the relationship between the oral and written ways of philosophising in early China. Indeed, during the Warring States period, a manuscript culture emerged in which oral-derived texts started to be written down.[2] Drawing on McLuhan's study on written media prior to the invention of printing technology,[3] Meyer argues that this phenomenon is closely related to the 'extensive use of light writing materials', such as bamboo, wood and silk.[4] In the 4th century BCE China, the use of these materials hugely influenced administrative, literary, historiographical and philosophical developments.[5] This *shift* is further reflected in the lexicon used in both received and excavated texts. According to Krijgsman, these texts comment on such issues as the 'physicality of text', 'the act of writing', oral and written transmission of knowledge, and reading habits.[6] See for instance the important study conducted by Wolfgang Behr and Bernhard Fuehrer (2005) on the word field 'reading.'[7] In short, the two scholars notice that all the words in ancient Chinese belonging to this semantic field almost never appear in palaeographical sources dating prior to the Warring States period. Krijgsman complements this discussion by analysing the ways of reflecting on these new manners of knowledge transmission during what he calls a transitional period 'from a predominantly oral and ritual culture towards a (written) text-based culture.'[8] Such are the historical and social premises of Meyer's distinction between argument-based and context-dependent texts. This distinction also facilitates a discussion of how textual forms can affect the understanding of the text's main philosophical stance, which is what I intend to uncover in the text under consideration here.[9]

[1] Meyer 2012: 1.
[2] Meyer: 2012: 10.
[3] See McLuhan 1962.
[4] Meyer 2012: 243.
[5] Krijgsman 2022: 10.
[6] Krijgsman 2019: 77.
[7] Behr and Fuehrer 2005.
[8] Krijgsman 2019: 82.
[9] For instance, in the analysis of the *Qiushui* 秋水 (Autumn Flood) chapter of the *Zhuangzi* 莊子 (Master Zhuang), Meyer argues that the textual macro-structure represents a crucial element of the *act* of philosophising in early China. Meyer 2015: 297.

While the philosophical significance of the *Xici* has long been acknowledged and discussed at length by previous scholarship,[1] the formal aspects of philosophising embedded in this text still deserve attention. Therefore, in this chapter I do not focus on reconstructing the supposed philosophical and intellectual lineages—indeed, both 'Daoist' and 'Confucian' elements are present in the text.[2] Rather, this chapter is instead concerned with identifying the manner of philosophical reasoning of a specific type of text: the commentary. By doing so, I aim to contribute to the understanding of 'the polymorphous nature of philosophising in early China.'[3] I will show how the individual building blocks[4] of the *Xici* are part of a larger network of *internal* self-referential links. In addition, the constant use of terminology pertaining to the Yi tradition allows the textual network to point *outward*, that is, to those communities which share what had become by the end of the Warring States period a well-established corpus of cultural capital. This latter point is relevant for a discussion on the issue of readership, which, however, will not be treated in the present work. Rather, I shall focus on how the oral-written shift is reflected in this text. Furthermore, I illustrate how the textual form of the *Xici* fundamentally mirrors its philosophical stance. Thanks to the links created on both a macro-structural and lexical level, this philosophical stance is clarified *within* the text itself.

[1] See among others: Shaughnessy 2022: 475; Peterson 1982.
[2] Shaughnessy 2022: 476
[3] Meyer 2015: 297, n. 3. See also Arrault 2002: 'Il n'y a pas en Chine un discours spécifique à la pensée,' (…) 'celle-ci est à cheval sur plusieurs discursivités.' The fact that text-centred separate philosophical schools did not exist in China has now become common knowledge. See the study by Csikszentmihalyi and Nylan 2003. For a similar study, which among others paved the way to this new understanding of early Chinese intellectual history, see also Petersen 1995. On the notion of Chinese philosophy see: Defoort 2001, Zheng Jiadong 2005, Lloyd 2005, Lee 2018.
[4] William Boltz notices that both excavated and transmitted texts present a common structural component, which he calls building blocks. This component roughly corresponds to a paragraph in English. In early China, 'lengthy, literary or essay-like', single-authored texts were pretty much an exception to the norm. Boltz refers to this phenomenon as 'the composite nature of early Chinese texts.' Boltz 2005: 58-59. In the present chapter, I follow Meyer's understanding of building blocks, i.e. the portion of texts which can make up a 'stand-alone philosophical edifice.' See Meyer 2012.

2 Texts that talk about texts: What is a commentary?

Defining the commentary text-type might seem an easy task. However, there is no unified definition which can encompass what is regarded as commentaries in different cultural traditions. Let us start with an authoritative study on this genre, the volume *Commentaries-Kommentare* edited by Glenn Most.[1] In the preface, Most stresses that in order for a commentary to be considered such, it must necessarily talk about an authoritative text, that is, a text which has been composed by an authoritative author. Most thus proposes to address the following question: 'whose text?'. This is indeed a reasonable starting point when referring to ancient and premodern Graeco-Roman literary production. Unfortunately, the situation in early China is complicated by the fact that most preimperial texts present a convoluted textual history as well as a composite authorship.[2] The one under consideration in this chapter is no exception. In early China there was a complex relationship between base text and commentary which has much informed literary production.[3] For this reason, a more accommodating[4] and efficient definition of commentary might be the following:

> [..] as a rule, commentaries bear on whole base texts (or whole sections of base texts), and not just on individual bits scattered here and there throughout a base text. Unlike annotations, which often are intended only for the use of the reader who wrote them, commentaries are intended to address a real or imagined audience and they result from a more or less comprehensive project, which suggests that it makes sense to look at them not only in terms of their local details but also as large-scale pieces of writing *stricto sensu*.[5]

As we shall see further below, the *Xici* is a lengthy philosophical commentarial text appended to what was originally one of many divination manuals, as proved by recent archaeological discoveries.[6] Therefore, there is a gap between the original function of the *Zhouyi* and the later interpretations which exploit the possibility of extracting cosmological and philosophical principles from a guide for divinatory practice. To be sure, the presence of this *gap* is perhaps inherent in any text and

[1] Most 1999.
[2] Lewis 1999; Zhang Hanmo 2018.
[3] Puett 2017: 113.
[4] It is important to note that the scope of commentary extends beyond just the major literary genres prevalent in premodern cultures. It can encompass even the classics or scriptures themselves. Indeed, several works initially created for the purpose of interpretation eventually became incorporated into texts which eventually became classics. Henderson 1991: 63.
[5] Most and Chemla 2022: 12.
[6] See Cook and Bréard 2021; Shaughnessy 2022.

its commentarial tradition(s). If we accept the notion of commentaries being composed to elucidate the meaning of texts which would otherwise appear obscure to the readers, it follows that the gap between the original meaning and the one imposed by the commentators is somewhat inevitable. Newell Ann Van Auken points out that this aspect might be seen as the opportunity to 'set forth new interpretations.'[1] This is the case, for instance, of the *Jie Lao* 解老 (Explaining the *Laozi*) chapter of the *Hanfei zi* 韩非子 (Master Han Fei), a chapter entirely devoted to the explanation of the *Laozi* 老子 (Master Lao), also known as the *Daodejing* 道德經 (Classic of the Way and its Potency).[2] The *Laozi* has been the object of a long commentarial tradition—one the most remarkable in terms of quantity—as it is the foundational text of the Daoist tradition. In addition, its overly concise and obscure literary style calls for an explanation. The same holds true for the *Zhouyi*, the language of which is notoriously difficult to decipher. Considering the dating proposed by most scholars for the composition of this divination manual, i.e. approximately the 9th century BCE,[3] we could infer that the explanation of the obscure lines of the *Zhouyi* might have occurred in a manner different from the one we find in the *Xici*: (1) it was improvised (and uttered orally) by the diviner(s) during the divinatory act; *or* (2) it was based on earlier exegetical texts which have not come down to us because they were written on perishable materials, such as bamboo or wood. I believe that both hypotheses are entirely reasonable.

The rise of the tradition of philosophical commentaries can be dated back to the 4th century BCE. As Michael Puett remarks, this is when a 'dry, pithy chronicle' (i.e. the *Chunqiu*) became the foundational text of the Confucian classics, a timeless model of wisdom and moral virtue.[4] Something similar happened in the Yi tradition: the *Zhouyi*, a relatively short and obscure (though not as dry and pithy as the *Chunqiu*) text and its operations are *re*-defined by the *Xici*, which, as a text-type, belongs to the hybrid category of philosophical commentary. Therefore, it is during this period that

[1] Van Auken 2016.
[2] Hendrischke 2022: 71-98.
[3] Shaughnessy 2022: 15-64.
[4] Puett 2017: 113.

texts belonging to the commentary category *actively* and *creatively* operate upon the texts they are supposed to explain.[1] In this case too, the *Zhouyi* is famously being re-used in a totally novel manner. The text is being used in a *new context*. Hendrischke suggests that commentaries in early China serve two main functions: supportive and acquisitive.[2] The latter is probably what Puett defines as the 'endless process of accretion' which characterised the preimperial time. I agree with Hendrischke that the rise of Chinese philosophical hermeneutics started way before Wang Bi and Guo Xiang; texts such as the *Jie Lao* and *Yu Lao*, as well as chapters of the *Mozi* 墨子 (Master Mo) and the *Guanzi* 管子 (Master Guan) are a good example of this genre. Obviously, the text under consideration here should be considered as the initial example of this long tradition.[3] In short, a commentary is not limited to a mere explanation of the base-text, but instead 'transforms its message.'[4]

In light of this, we could say that the main purpose of the *Xici* is not to explain the meaning of the *Zhouyi*, or at least not exclusively. In fact, the main innovation of the *Xici*, as a unique example of a hybrid text-type—referred to as hybrid because it is simultaneously a commentary and a treatise of its own right—is that of providing a relatively coherent cosmo-philosophical framework to a textual tradition which lacked this fundamental feature.[5] Even though the *Zhouyi* was originally devoid of any philosophical value, can we still talk about the philosophy of divination? And how do we relate the *Xici* to the genre of 'philosophical divination commentary'? The next sections are devoted to exploring these important issues.

3 Divination and philosophy

[1] Puett 2017: 115.
[2] Hendrischke 2022: 72.
[3] Hendrischke 2022: 74.
[4] Hendrischke 2022: 94.
[5] Smith 2008: 7. It is interesting to note that the notion of commentary is related to divination. Omens and oracles must have been interpreted and this gave rise to the earliest form of commentary. As Henderson put it, 'the commentator is thus playing the political or social role of the ancient diviners.' Henderson 1991: 66-67.

In chapter 1, I have listed the main common features which characterised divination on a global scale. I started my treatment of the matter by stating that this religious practice is triggered by 'universal human concern', i.e. uncertainty.[1] In order to relieve this concern, early cultures around the world invested quite a lot of effort into creating strategies for gaining knowledge related to that concern. These strategies very often involved communication with entities belonging to what I referred to as the *extra-human realm*, populated by *extra-human entities*. These entities would make themselves manifest in the form of signs, which a human mediator would then literally translate into a more accessible (i.e. human) language. Most importantly for our discussion in the present chapter, divination in early times was very often linked to power as it addressed the elite's need to connect mundane activity to the extra-human realm; in this context, divination overlaps with rituality and was used to gain political legitimacy. Concerning the relationship between divination and power, Flad argues that, in hierarchical societies, divination involves highly charged social and political acts. Furthermore, when this practice is tightly linked to state-based power systems, the techniques become more complicated and standardised, as diviners will only be able to engage in complicated techniques with any degree of regularity in 'centralised and bureaucratised' situations.[2] This is reflected in the turtle-shell divination performed at the Shang court. I have already discussed the procedures comprising this kind of divination in chapter 4 (part I), therefore, I will not repeat myself here. Instead, I would like to elaborate more on the *nature* of divination in early China, paying particular attention to the notion of how this practice was *conceptualised*, which, in turn, bears on the philosophical significance of divination.

First, it should be stressed once again that, according to both the palaeographical and the received textual evidence, divination appears to have played an important role in various parts of the territory

[1] The international conference *Deciphering the Uncertain: Sociological & Epistemological Aspects of Divination in Early Text Cultures* (June 2019, Oxford) was conceived as an up-to-date, comprehensive overview of divination in early text cultures. Participants were invited to consider a framework of five questions to draw out the principal features of the divinatory practices for comparison. From the first question – 'How is divination defined and conceptualised in each society?"—it emerged that each culture does have its own peculiar way of conceptualising this extremely complex phenomenon. This is particularly evident from the terminology used. See Santangelo 2020: 156-158.
[2] Flad 2008: 403-404.

of what is today mainland China. By the time of the Qin 秦, the first imperial dynasty (221-207 BCE), it was performed arguably on a daily basis by people of all walks of life. Even though there were many different techniques,[1] two were the most widely used: turtle shell and stalk divination, as discussed in previous chapters. In his monograph on the origin and early development of the *Zhouyi*, Edward L. Shaughnessy, one of the world's leading experts in the field of Yi studies, explores the theoretical foundations of divination in China. He begins with an overview of the two common terms used to indicate divination (*bu* and *zhen*), emphasising how a correct translation of the latter bears on the philosophical significance. He then turns to traditional accounts of divination, mainly the *Zuo Zhuan* 左傳 (The Zuo Tradition), which notoriously describe the practice's main goal as 'resolving doubts' *jueyi*. He further suggests that divination might have been regarded as a complementary method to sacrifice, and was meant to facilitate interaction with extra-human beings. [2] He then turns to the importance of 'setting the will' before divining, taking up examples from classical texts, such as the *Zuo Zhuan* and the *Shangshu*, but also from excavated texts, such as the bamboo manuscripts of the late Warring States period.[3]

In short, in the Chinese context, the constant search for compliance can be an indication of a rather strong consideration of the extra-human realm. In addition, divination, as noticed by Jao Tsung-I 饒宗頤 back in 1989, required a significant amount of human will, as the main goal of the practice was not to ask about the outcome of the diviners' decision; in contrast, it was the search for approval of a decision made a priori.[4] In other words, divination in pre-imperial China was more 'a statement on the part of the diviner of what they wished to happen, hoping that the spirits would re-

[1] On the different techniques in China over the centuries, see Li Ling 2001, especially Ch. 1. Shaughnessy 2022: 65-66.
[2] *Ibid*., p. 74.
[3] The notion of 'setting the will' seems to be common in divination records of the late 4th century. For instance, section 18 of the *Shifa* manuscript is also concerned with this matter. The chinese text reads: 凡筮志 "事而見當日奴當辰乃曰速疾亦然五日為來乃中期, which Shaughnessy translates: 'In all cases of milfoil divination, setting the will to affairs and seeing it face the day like facing the chronogram, then one says "quickly," "suddenly" is also thus. When five days make coming, then it centers the period.' He quotes Li Xueqin who notes that '*zhi shi* 志事' 'seems to mean making up one's mind about the topic of divination and the desired result before undertaking the divination.'Shaughnessy unpublished translation. Cook and Zhao Lu have a different translation: they understand '*zhishi*' as being the subject of the divination (i.e. 'divining *about* intended affairs'). See Cook and Zhao Lu 2017: 116.
[4] Jao Tsung-I 1989: 133-138.

ceive their prayers and bestow blessings in return.'[1] In light of this, I disagree with Lisa Raphals when she argued that, after the Shang 商 (1600-1045 BCE) dynasty, divination was used to 'progressively de-emphasize direct communication or negotiation with divine powers.'[2] From the accounts dating to the Warring States period, it is clear that divination played a crucial role in the private sphere of everyday life. Whether in the form of daybooks or stalk divination manuals, the interaction between humans and the extra-human realm was deemed important from the elite down through the lower strata of society.

To conclude, divination was an essential feature of everyday life for most people in early China, as well as a significant element at many societal levels, which shared a reasonably cohesive hermeneutic system. In China, more than everywhere else, divination did not necessarily overlap with predictions about the future, even though this aspect was not entirely excluded. It influenced (and was influenced by) people's conceptions of life, death, divinity, and nature, and the relationship between humans and the different realms of experience.

Turning back now to the 'prayerful' nature of divination in China, according to Shaughnessy, this aspect is well reflected in the *Xici*.[3] This text can be regarded as the first coherent and systematic work which contains philosophical reasoning while commenting on a base text, which is itself a

[1] Shaughnessy 2022: 84.

[2] Raphals 2013: 381. I should point out that divination which did not involve the presence of an extra-human entity did exist (e.g. see the emergence of the *fangshi* 方士 during the late Warring States period); however, both received and palaeographical sources show the importance of such entities in the contexts of divinatory practices as late as the 4th century BCE. A well-known example might be the records written on bamboo excavated at Baoshan 包山. On the different kinds of divination in China and the role of the diviners, see Kalinowski 2004.

[3] *Ibid*. From the Han onwards, the *Zhouyi* has been subjected to different exegetical interpretations; the two main traditions are the *yili pai* 義理派 (school of meanings and principles) and the *xiangshu pai* 象數派 (school of images and numbers). Following Richard Smith, we could say that 'individuals associated with the so-called school of images and numbers emphasized elaborate, New Text-style correspondences between the various features of the natural world (both physical and metaphysical) and the hexagrams, trigrams, and individual lines of the Changes, with comparatively little attention given to the written texts of the classic… The idea was that an appreciation of these correlations would help to illuminate the cryptic written text, shedding light on the past and providing both divinatory guidance and 'scientific" explanations of the cosmos for the present (and future). Numbers, then, and the images they represented, depicted the principles, relationships, and processes that yielded not only an understanding of nature but also, ultimately, control over it. Exponents of the so-called school of meanings and principles, by contrast, paid primary attention to what they saw as the moral content of the judgments, line statements, and commentaries to the Changes.' For an elaborated discussion on this issue (and the related bibliography in both Western and Chinese language), see Smith 2008: 60.

divination manual which clearly does not include this kind of philosophical features. Indeed, we cannot rule out the possibility that, prior to the composition of the *Xici*, similar texts existed. The archaeological discoveries of the past decades may allow us to speculate on the possible existence of works comparable to the *Xici*. Perhaps one day archaeology will bring to light new evidence which will help us deepen our understating of early divination commentaries.

4 Patterns of philosophising in the *Xici*

Even though the main focus of the present chapter is the *Xici*, it is essential to have some basic knowledge of the base text, namely the *Zhouyi*. In what follows, I first briefly discuss its main components (trigrams and hexagrams). Next, I introduce the *Xici*, paying particular attention to the textual history and structure. Lastly, I reconstruct the patterns of philosophising by analysing its macro-structure and lexical usage.

4.1 *Zhouyi*: Textual history

As I said in chapter 1, the relevance of the *Zhouyi* was officially established in 136 BCE, during the Han, when the editors of the Imperial Academy edited what is now known as the first of the five Confucian Classics.[1]

Within the core text, each of the sixty-four hexagram is described in four parts:

1. *guahua* 卦畫: hexagram picture

2. *guaming* 卦名: hexagram name

[1] On the Five Confucian Classics, see Nylan 2001.

3. *guaci* 卦辭: hexagram statement

4. *yaoci* 爻辭: line statement

The hexagram picture is further analysed by identifying the two trigrams of which it is composed, as shown in the following example, hexagram 53, *Jian* 漸 (Gradual Approach):

[*trigram/hexagram picture*]

☴ outer/upper trigram *Xun* 巽 (the gentle, wind, wood)

☶ inner/lower trigram *Gen* 艮 (still, mountain)

[*hexagram name*]

Jian 漸, Gradual Approach (Development; Gradual Progress)

[*hexagram statement*]

The women return home. Auspicious. Beneficial divination.

女歸,吉. 利貞.[1]

[*line statement*]

[1] The word *zhen* is perhaps one of the most disputed of the whole Yi tradition. Here is rendered in the sense of its supposed original meaning, i.e. 'to divine', or better, 'to determine'. On this word, see Shaughnessy 2022: 336-342.

Six in the first (bottom) line: Wild geese gradually approach toward the riverbank. For the young man, danger. There are words, no trouble.

初六鴻漸于干. 小子厲. 有言無咎.[1]

Such is the kind of material contained in the core text of the *Zhouyi*. For each of the sixty-four hexagrams, a hexagram picture, a hexagram name, and two kinds of statements, one concerning the hexagram, the other explicating the symbolism of each of its lines,[2] are given. As one can see from the example above, these statements are far from clear: what is the relationship between the 'wild geese gradually approach toward the riverbank' and 'a young man' in danger?[3] The *Ten Wings* are supposed to provide explanations to this cryptic material. This corpus includes seven sections, three of which are comprised of two parts.

1. *Tuan* 彖 (On the Hexagram Statements), in two parts

2. *Xiang* 象 (On the Images),[4] in two parts

3. *Xici* 繫辭 (Appended Sentences or), also known as *Dazhuan* 大傳 (Great Commentary or Great Tradition), in two parts

4. *Wenyan* 文言 (Sayings on the Words of the Text)

[1] *Zhouyi*, '*Jian*' trans. Redmond 2017: 281 (modified).
[2] The example above contains only *one* line statement out of six.
[3] For a hypothesis of the how line statements were created, see Shaughnessy 1995.
[4] In English, the word *xiang* is usually translated as 'image'. In French, 'figure' is the preferred translation. See Arrault 2002: 304-312.

5. *Shuogua* 說卦 (Explanations of the Trigrams)

6. *Zagua* 雜卦 (Hexagrams in Irregular Order)

7. *Xugua* 序卦 (Hexagrams in Regular Order)

The *Xici* will become the *locus classicus* of the *Yi* major concepts and terminology, especially for the Song 宋 (960-1279 CE) dynasty Neo-Confucian commentators and cosmologists.[1] Its diverse linguistic style and content suggest that the received text is most likely the result of a long editorial process, which pieced together the works of different authors.[2] While scholars generally agree on the composite nature of the *Xici*,[3] the issue of dating is, on the other hand, a particularly controversial one. Some scholars suggest that the text belong to the early Warring States period.[4] Others argue that text mostly presents a mid-to-late Warring States pedigree.[5] I am more inclined to follow the assumption that the bulk of the text was written during the transition period between the Warring States and the foundation of the Han dynasty, that is, mid-to-late 3rd century BCE.[6] Of course, by saying this I do not intend to deny that the *Xici* does include more ancient elements.

The received text of the *Xici* is divided into two parts (A and B); the former includes twelve chapters (*zhang* 章), the latter includes nine chapters, according to Kong Yingda's 孔穎達 (574–648) arrangement of the text in his *Zhouyi Zhengyi* 周易正義 (Correct Meaning of the Zhou Changes). The other famous arrangement is the one by Zhu Xi 朱熹 (1130-1200), which includes two parts of twelve chapters each. Apart from the received text, one manuscript version has been discovered at Mawangdui 馬王堆 (Changsha 長沙, Hunan 湖南) in 1973. The Mawangdui text,

[1] Adler 2020. It should be noticed that it was already the case for several earlier commentators, such as Wang Bi 王弼 (229-246) and Han Kangbo 韩康伯 (d. 385).
[2] Shaughnessy 2022: 475-499.
[3] Shaughnessy 2022: 478.
[4] Jia Lianxiang 2020: 15.
[5] Shaughnessy 2022: 487.
[6] Adler 2020: 261-262; Smith 2008: 8; Cheng 2014: 272; Peterson 1982: 77.

written on a silk sheet, represents the oldest extant version of the commentary dating approximately to the 190 BCE.[1] It should be noticed that, to date, we do possess an earlier version of the *Zhouyi*; however, this does not include the commentarial section.[2] The Mawangdui manuscript contains almost all of the same parts as the received Part A and Part B. Part A fundamentally presents the same ordering of the received text; the only remarkable difference is that chapter A9, usually referred to as the *Da yan zhi shu* 大衍之數 (The numbers of the Great Expansion) passage, is missing. Part B is reorganised under different sections, i.e. *Yao* 要 (Essentials) and *Yi zhi Yi* 易之義 (The Properties of the Changes).

As I mentioned in the introduction, the *Xici* is generally regarded as a commentary on the core text of the *Zhouyi*. However, Joseph A. Adler, in his translation of Zhu Xi's *Zhouyi Benyi* 周易本義 (Basic Meaning of the Zhou Changes), argues that the *Xici* is not a commentary, but rather a collection of statements about the *Yi* as a divination book.[3] I believe that the loose definition provided above allows us to consider the *Xici* a *hybrid* text which oscillates between two genres: commentary and philosophical treatise. On the one hand, the *Xici* actively engages with the base text, quoting verbatim passages of it; on the other hand, it substantially adds philosophical value—and, I would dare say, legitimation—to what was 'only', as it were, a divination manual.

4.3 Reconstructing the philosophical strategies of the *Xici*

As we have seen, one of the main purposes of a commentary is to cast light on the base text which should be (1) authoritative, ideally by virtue of the fact that it has been written by an authoritative author; (2) of obscure meaning. But what happens when the commentary itself is as much (if not more) enigmatic than the base text? This is indeed the case of the *Xici*. At first reading, the text appears to be a 'random miscellany of scraps about an old divination text'.[4] However, exactly forty

[1] See Shaughnessy 2022: 476-478 for an updated discussion on the Mawangdui manuscript.
[2] Li Ling 2020.
[3] Zhu and Adler 2020.
[4] Peterson 1982: 77.

years ago, Willard Peterson, in his excellent analysis of the *Xici*, affirmed that the text 'does present a coherent intellectual position'.[1] If Peterson is correct, what are the textual strategies which make this text a coherent whole, despite its indisputable composite nature? Given its apparent difficult style, does it require further interpretation by a third 'actor' (other than the base text and the commentary itself), as suggested by Dirk Meyer's typology? Can either the 'context-dependent text' or 'argument-based text' category be employed to describe the *Xici*'s argumentative and philosophical strategies? Can its final form be regarded as a stand-alone philosophical piece of work? Before attempting to provide an answer to these questions, I shall briefly review the analysis made by Shaughnessy, who insightfully pointed out the different layers of the text.

To demonstrate the different authorial layers of the *Xici*, Shaughnessy isolated two distinct strata based on their style of writing, ruling out the chapters which are not present in the Mawangdui manuscript.[2] The first stratum, which he calls 'Essay on *Qian* and *Kun*' (*Qiankun lun* 乾坤論),[3] is mostly concerned with the union of the dual forces, Yin and *yang*, and with the role that the two pure trigrams/hexagrams – i.e. *Qian* and *Kun*, which refer both to the first and second of the eight trigrams, or to the two first of the 64 hexagrams – play in this process of life generation within a 'constantly changing' cosmos. This essay is mostly written in what Rudolph Wagner has defined the Interlocking Parallel Style.[4] According to Shaughnessy, this particular style, which sees the combination of thesis, antithesis and synthesis, best represents the content of the first stratum of the *Xici*, demonstrating how *Qian* and *Kun* 'combine to produce the world'. The second stratum is called by Shaughnessy 'Essay on the Appended Statements' (*Xici lun* 繫辭論). It is written in what is known as Equational Sentences, in which a noun, or a noun phrase, is defined through a second

[1] Peterson 1982: 77.
[2] A third stratum comprises chapter A6 and A7, B2, and the first half of B4, which provide comments on individual line statements and on the hexagram pictures. This third stratum, however, is not discussed by Shaughnessy. See E. Shaughnessy 2022: 479.
[3] This stratum includes chapters A1, A4, and A5 of the received *Xici*.
[4] Wagner 1980. See also Wagner 2000, especially Ch. 3.

noun or noun phrase. The typical structure of such sentences is: A *zhe* 者 B *ye* 也, or simply AB *ye* 也.[1]

While I appreciate the value of this kind of linguistic analysis, I shall not try to identify additional layers. Rather, my goal is to outline how the different textual units are intertwined in order to produce a self-contained whole. On the macro-structural level, the *Xici* unfolds in what can be described as a *spiral pattern*: it first mentions topic$_a$, it moves forward to topic$_b$, it goes back to topic$_a$, to then expand on topic$_b$. As we shall see, such format appears immediately evident already in the opening lines of the text. Another striking feature of the *Xici* is that it makes strong claims about the topics that it mentions, as though it takes for granted that the targeted audience will be able to grasp their full meaning. I shall now clarify what I refer to as spiral pattern, and what I mean with topic *a* and *b*.

Let us start with a close look at topic$_a$. Following Peterson's phrasing, I call topic$_a$ 'establishing connections'. I should immediately clarify that, at this point, the text does not *explicitly* state that the connections are established; rather, the text wants us to accept the scenario described in the first chapter (A1), which reads as follows:

1. 天尊地卑，乾坤定矣。
2. 卑高以陳，貴賤位矣。
3. 動靜有常，剛柔斷矣。
4. 方以類聚，物以群分，吉凶生矣。

1. Heaven is venerable, Earth is low, and so Qian and Kun are established.
2. Low and high are displayed, and so loftiness and lowliness are positioned.
3. Motion and quiescence have constancy, and so the firm and the yielding [lines]

[1] See Shaughnessy 2022: 479. A typical 'AB *ye*'-style sentence is the following: *bian hua zhe tui jin zhi xiang ye* 變化者進退之象也 ('alternations' and 'transformations' are the images of 'advance' and 'retreat'). *Xici* A2.16.

are distinguished.

5. 在天成象，在地成形，變化見矣。

4. Dimensions are gathered in categories, things are divided in groups, and so good and bad fortune are produced.

6. 是故，剛柔相摩，八卦相盪。

5. Images are established in Heaven and forms are established on Earth, and so alterations and transformations are made visible.

7. 鼓之以雷霆，潤之以風雨。日月運行，一寒一暑。

8. 乾道成男，坤道成女。

6. This is why the firm and the yielding rub each other and the eight trigrams displace one another.

9. 乾知大始，坤作成物。

10. 乾以易知，坤以簡能。

11. 易則易知，簡則易從。

12. 易知則有親，易從則有功。

13. 有親則可久，有功則可大。

7. [In Heaven] they arouse by thunder and lightning; [on Earth] they moisten by wind and rain. The sun and the moon revolve; once it is cold, once it is hot.

14. 可久則賢人之德，

8. The way of Qian completes the male; the way of Kun completes the female.

15. 可大則賢人之業。

9. Qian controls the Great Beginning. Kun works on the completion of things.

16. 易簡，而天下之理得矣；

10. It is through easiness that Qian controls; it is through simplicity that Kun is cap-

able.

11. Being easy, one easily controls; being simple, one easily follows.

17. 天下之理得，而成位乎其中矣。

12. As one easily controls, then there is intimacy; as one easily follows, then there is accomplishment.

13. There being intimacy, one can last long; there being accomplishment, one can be great.

14. Being able to last long is the worthies' virtue;

15. being able to be great is the worthies' undertaking.

16. Because of easiness and simplicity, the patterns of all under Heaven are apprehended.

17. Once the patterns of all under Heaven are apprehended, completion establishes its position in their midst.[1]

The connections, supported on a textual level by the parallel structure mentioned above, involve entities which pertain to different realms of reality, i.e. among the *yi* (cosmic change), the *Yi* (the book) and the humans; these connections can be described as 'vertical'. In the first two sentences, Heaven and Earth are paired with *Qian* and *Kun*, which encompass all the different combinations of the Yin and *yang* lines. In the following sentences, we learn that (1) it is through 'easiness' (*yi* 易) and 'simplicity' (*jian* 简) respectively that the two pure trigrams/hexagrams operate; (2) it is by adopting the qualities of *Qian* and *Kun*—being 'easy' and 'simple'—that we humans are able to apprehend (*de* 得) the patterns (*li* 理) of 'all under Heaven' (*tianxia* 天下). Once the patterns of the world are apprehended, 'completion establishes its position in their midst' (*cheng wei hu qi zhong yi* 成位乎其中矣).[1] This is made plain and explicit *only* in the last sentences of the first chapter. [2]

The connections between the *yi* and the *Yi* are clarified in chapter A4, facilitated by the use of terms like *zhun* 準 ('to model'), *xiangsi* 相似 ('to resemble', 'being alike'), and *fan* 範 ('mould'; 'pattern'; by extension 'to imitate').[3] Furthermore, from this point we assist to the beginning of a conflation of the *Yi* system and the 'human actor' who makes use of this system and of the book which contains it. This is particularly evident on a linguistic level as the text makes it extremely difficult to discern between the human and non-human subject (i.e. the *Yi*). The translation below attempts to render this conflation of subjects. Lastly, it is interesting to notice that in the text quoted below,

[1] *Xici* A.1. The translation used for the textual analysis is modified from Van Daele (unpublished draft). I thank Fabrizio Pregadio for the support provided for this new translation. See also: Legge 1963; Wilhelm and Baynes 1967; Adler 2020; Shaughnessy 2022.

[1] An alternative translation of this passage might be the following: '[one] can establish their place in the world.' The translation provided above aims to emphasise that the subject of this sentence is not the human who establishes their position within the system, but rather that the completion (*cheng* 成), or perfection, of the system is achieved once the patterns of the world (or the entire cosmos) are grasped.

[2] Aside from these 'vertical' connections, 'horizontal' connections are also established, i.e. involving the dynamic interaction between the elements of the *Yi* system (trigram/hexagram, line, statements, *Qian* and *Kun*). I refer to the *Yi* system (with capitalised 'Y') when discussing the book and all its elements.

[3] Peterson notices how this is made explicit in A6 with the word *pei* 配 ('to match'). Peterson 1982: 91.

which I labelled '*consequences* of the connections', the word *gu* 故 ('thus', 'therefore', but also 'reason', 'cause') and *shigu* 是故 ('this is why') is repeated many times:

1. 易與天地準，故能彌綸天地之道。

1. The *Yi* is equal to Heaven and Earth; *thus* (*gu* 故) it is capable to encompass the ways of Heaven and Earth.

2. 仰以觀於天文，俯以察於地理，

2. Directing one's gaze up to observe the signs of Heaven and directing one's gaze down to scrutinise the patterns of Earth;

3. 是故知幽明之故。

3. *this is why* (*shigu* 是故) one [through the *Yi*] comprehends the causes of darkness and brightness.

4. 原始反終，

故知死生之說。

4. Tracing the beginning and reverting to the end, *thus* (*gu* 故) one [through the *Yi*] comprehends the discourses on life and death.

5. 精氣為物，遊魂為變，

5. Essence and Breath (*qi*) become the creatures; their floating becomes alterations.

6. 是故知鬼神之情狀。

6. *This is why* (*shigu* 是故) [one] comprehends the dispositions and the manifest-

ations of the spirits.

7. 與天地相似，故不違。

7. [The *Yi*] is *alike* Heaven and Earth; *thus* (*gu* 故), one does not go against them.

8. 知周乎萬物，而道濟天下，故不過。

8. Its comprehension encompasses the myriad things, its way equalises all under Heaven; *thus* (*gu* 故), one does not err.

9. 旁行而不流，樂天知命，故不憂。

9. Since it goes everywhere and does not drift away, one is content with and comprehends Heaven’s mandate; *thus* (*gu* 故), one is not troubled.

10. 安土敦乎仁，故能愛。

10. One finds safety in their land and shows sincerity in humaneness; *thus* (*gu* 故), one is capable of caring.

11. 範圍天地之化而不過，

11. One *models* oneself on the transformations of Heaven and Earth and does not err;

12. one has many methods to accomplish the myriad things without any loss.

13. It thoroughly pervades the ways of day

and night and comprehends them.

12. 曲成萬物而不遺，

14. *Thus* (*gu* 故), the spirit is boundless, and the changes are indeterminate. [1]

13. 通乎晝夜之道而知，

14. 故神无方而易无體。

The vastness and greatness of the *Yi*, its ability of 'tracing the beginning and reverting to the end', thus encompassing all the different aspects of reality, far as well as near, past as well as present, is again treated in chapters A6 and A7, where the qualities of the *Yi* as a book are described. Here, we can observe the primary role of *Qian* and *Kun* as both the two pure hexagrams (A6), but also as the epitome of Heaven and Earth (A7). Once these are established in their proper positions, 'cosmic change takes place in their midst' (*yi xing hu qi zhong yi* 易行乎其中矣).[2] In A6 we assist once more to the literary strategy of a conflation between the *Yi* and the human subject, which in the Chinese text is evidenced by the fact the subject of the sentence is not explicit. While when the text refers to *Qian* and *Kun*, it uses the demonstrative pronoun '*qi* 其', which helps the reader identify the subject of the following sentence.

1. 夫易，廣矣大矣，

1. The *Yi* (易) is vast and great.

2. 以言乎遠，則不禦；

2. Using [the *Yi*] to speak of what is dis-

[1] *Xici*, A.4.
[2] *Xici*, A.1.

tant, [one] has no limit;

3. 以言乎邇，則靜而正；

3. Using [the *Yi*] to speak of what is near, [one] is quiescence and correct.

4. 以言乎天地之間，則備矣。

4. Using [the *Yi*] to speak of what is between Heaven and Earth, [one] is fully equipped.

5. 夫乾，其靜也專，其動也直，

5. As for *Qian*, in quiescence it (*qi* 其) is collected, in motion it (*qi* 其) is straight;

6. 是以大生焉。

6. in this way, greatness is therein brought forth.

7. 夫坤，其靜也翕，其動也闢，

7. As for *Kun*, in quiescence, it (*qi* 其) is shut; in motion, it (*qi* 其) is open;

8. 是以廣生焉。

8. in this way, breadth is therein brought forth.

9. 廣大配天地，

9. Breadth and greatness correspond to Heaven and Earth;

10. alterations and continuities correspond to the four seasons;

11. the meaning of Yin and *yang* corres-

ponds to the sun and moon;

10. 變通配四時，

12. the goodness of the easiness and simplicity corresponds to the utmost potency. [1]

11. 陰陽之義配日月，

12. 易簡之善配至德。

The interaction between these elements—the *Yi* (the book) and the *yi* (cosmic change), *Qian* and *Kun*—is finally mentioned in chapter A12 which Wilhelm rightfully calls ‘summary’, where once again we read:

1. 乾坤其易之緼邪？

2. 乾坤成列，而易立乎其中矣。

3. 乾坤毀，則无以見易，

4. 易不可見，則乾坤或幾乎息矣。

1. May we not say that *Qian* and *Kun* are the secret and substance of the *Yi* [the book]?

2. *Qian* and *Kun* having achieved their arrangement, the *Yi* was established in their midst.

3. If *Qian* and *Kun* were taken away, there would be no means of seeing the *yi* [cosmic changes];

[1] *Xici* A.6.

4. and if the *yi* were not seen, *Qian* and *Kun* would almost cease to act. [1]

In this passage *Qian* and *Kun*, being the purest expressions of Yin and *yang*, are presented as the essential elements of the *Yi* system; without these two elements, the system cannot operate, and, as a consequence, the transformations which happen in the cosmos remain unseen. Which is to say, without the 'system of signs' devised by the sages, the intricacies of the entire cosmos would not be intelligible to humans. Furthermore, in the translation I deliberately distinguished between *Yi* and *yi*: in the first sentence, the text is obviously referring to the [*Book of*] *Changes*, while in the sentence 'there would be no means of seeing the *yi*' (*yi bu ke jian* 易不可見), the word '*yi*' should be understood as '[cosmic] changes'. In fact, as repeatedly stated in the *Xici*, the *Book of Changes* and its system are modelled after the changes underlying the cosmos; however, without them, the *Changes* and the system it contains could not exist.

From the passages analysed above, it appears clear that the connections and conflations of meanings can also be identified on a lexical level. Polysemantic words are used throughout the text, with the word *yi/ Yi* 易 ('change,' or the '[*Book of*] *Changes*,' but also, as we have seen, 'easy,' 'easiness') being arguably the most striking of all.[2] Despite the apparent ambiguity, which is indeed confusing as the example of chapter A12 has shown, the *Xici* in most cases does signal how we should understand these words depending on the context. For instance, in chapter A1, the word *yi* undoubtedly means 'easiness', the quality of *Qian*, as it is paired with *jian* ('simplicity'), the quality of *Kun*. On

[1] *Xici* A.12.3.

[2] The etymology of this word is highly debated among scholars. According to the *Shuowen Jiezi* 說文解字 (Explaining the Signs and Analysing the Characters), the first Chinese etymological dictionary completed in the early years of the 2nd century CE by Xu Shen 許慎 (58-148 CE), it originally meant 'lizard' (*yantian* 蜴蜓; *xiyi* 蜥蜴). The oracle bone graph and the bronze graphs show a vessel being poured with water or spilling out water (; *Jicheng* 集成 3733). It should be said, as a general principle, that most of the terms related to the *Yi* (the book) are still object of debate among scholars Just to mention another example, the names of the two primary trigrams/hexagrams, *Qian* 乾 and *Kun* 坤, are also of obscure origin. To complicate the situation even more, the different manuscript versions of the *Yi* present several graphic variants which do not help us tracing the origins of these important terms. For an interpretation of these and other *Yi* related terms, see Shaughnessy 2022: 481-482.

the contrary, in the opening sentence of chapter A4, *Yi* refers to the *Book of Changes* as 'it is modelled after Heaven and Earth'. Indeed, the distinction between *Yi* (the book) and *yi* (cosmic change) is more difficult to establish, but this aspect should not surprise us given that one of the main arguments of the *Xici* is that the *Changes* is a duplication of, and thus overlaps with, the cosmic changes.

I shall now look into topic$_b$ which I call 'the *Yi* and the humans' and starts in chapter A2. As it appears from the first line, the passage discusses the creation of the *Yi* by the sages, and then moves to detail the different elements which make the system operative. First, specific concepts, which occur formulaically in the core text (e.g. 'good and bad fortune', 'regret and repentance', 'alterations and transformations', 'firm and yielding lines') are related to their images. Next, the movement of the basic element of the *Yi* system (the lines) are equalised to what in the *Yi* tradition have become symbols of Heaven, Earth, and humans: *san ji* 三極 ('Three Ultimates'). Finally, the text assesses the usefulness of the *Yi* for the noble man as it provides the means he needs to act properly according to the (incipient) situation. Let us now have a look at the text.

1. 聖人設卦觀象，繫辭焉而明吉凶，剛柔相推而生變化。

1. The Sage devised the hexagrams and scrutinised the images therein; he appended the statements to them so that the good and bad fortune [indicated by the statements] were made clear. The firm and yielding [lines] push each other, thus bringing forth [the representation of] alterations and transformations.

2. 是故，吉凶者，失得之象也。

2. This is why good and bad fortune

3. 悔吝者，憂虞之象也。

3. Repentance and regrets are the images sorrow and worry.

4. 變化者，進退之象也。

4. Alterations and transformations are the images of advance and retreat.

5. 剛柔者，晝夜之象也。

5. The firm and yielding lines are the images of day and night.

6. 六爻之動，三極之道也。

6. The movements of the six lines [of a hexagram] are the Way of the Three Ultimates.

7. 是故，君子所居而安者，易之序也。所樂而玩者，爻之辭也。

7. This is why what the noble man resides in and feels safe in is the sequence of the *Changes*; what he enjoys and delights with are the lines statements.

8. 是故，君子居則觀其象，而玩其

8. This is why, in time of rest, the noble man scrutinises their images and delights in the statement appended to them;

9. when undertaking actions, he scrutinises their changes and takes de-

辭；

9. 動則觀其變，而玩其占。

10. 是以自天祐之，吉无不利。

11. 彖者，言乎象者也。

12. 爻者，言乎變者也。

13. 吉凶者，言乎其失得也。

14. 悔吝者，言乎其小疵也。

15. 无咎者，善補過也。

light in their prognostications.

10. Therefore, ‘using the support which comes to him from Heaven, [the noble man] will have good fortune and there will be nothing that will not be beneficial.’

11. The Judgments refer to images.

12. The lines [statements] refer to alterations.

13. ‘Good fortune’ and ‘bad fortune’ refer to loss and gain.

14. ‘Repentance’ and ‘remorse’ refer to minor imperfections.

15. ‘There is no trouble’ refer to it is favourable to repair previous transgressions.

16. This is why the ranking of loftiness and lowliness resides in the [lines’] positions;

17. the equalisation of smallness and greatness resides in the [entire]

hexagram;

16. 是故，列貴賤者存乎位。

18. the distinction of good and bad fortune resides in the statements;

19. concern over repentance and remorse resides in intermediate situation;

17. 齊小大者，存乎卦。

20. the arousing of ‘there is no trouble’ resides in repentance.

18. 辯吉凶者，存乎辭。

21. This is why the hexagrams entail [both] smallness and greatness and [that] the statements entail [both] danger and easiness.

19. 憂悔吝者，存乎介。

22. As for the statements, each of them points at where [a hexagram or a line] is going to.[1]

20. 震无咎者，存乎悔。

[1] *Xici* A.2.

21. 是故，卦有小大，辭有險易。

22. 辭也者，各指其所之。

The last sentence is particularly relevant as it indicates the importance of the notion of 'incipiencies' (*ji* 幾), which indicate the tendencies of the situations which the hexagrams figurate. This aspect of $topic_b$ is further expanded in chapter A10 where it said that the *Yi* 'contains' the way of the sages and that the book is the 'means by which' (*suo yi* 所以) the incipiencies are 'thoroughly understood' (*yan ji* 研幾) by the sages. This quality of the sage to identify the *ji* is called 'being spirit-like' (*shen* 神), which indicates a state of complete clear mindedness.[1] We are thus brought back to chapter A2, where a sage (or more than one?) is responsible for the creation of the entire *Yi* system in order to assist other humans to make sense of the cosmic changes. Here we see the spiral pattern which mirrors the text's main topic, which in turn duplicates the movement underlying reality.

$Topics_a$ and $topic_b$ merge in chapter A5, which I call 'abstracting connections':

1. 一陰一陽之謂道，
2. 繼之者善也，成之者性也。

1. Once Yin once *yang*, this is called 'Dao'.
2. What ensues from it is good; what accomplishes it is inner nature.

[1] *Xici* A.10.5, but also A.11.2.

3. 仁者見之謂之仁，

3. Those who have humaneness see it and call it ‘humaneness.’

4. 知者見之謂之知。

4. Those who have knowledge see it and call it ‘knowledge.’

5. 百姓日用而不知，

5. The common people use it daily, and yet have no knowledge [of it].

6. 故君子之道鮮矣。

6. Thus, the way of the noble man is rare.

7. 顯諸仁，藏諸用，

7. [The Way of Yin and *yang*] manifests itself in humaneness; it is hidden in daily operations.

8. 鼓萬物而不與聖人同憂，

8. It arouses the myriad things and does not share the sages’ worries.

9. 盛德大業至矣哉。

10. 富有之謂大業，

11. 日新之謂盛德。

9. Its flourishing potency and its great undertaking are the utmost indeed!

12. 生生之謂易，

10. Possessing in abundance is called great undertaking.

13. 成象之謂乾，

11. Daily renewal is called flourishing potency.

14. 效法之為坤，

12. Life perpetuating itself is called cosmic change.

15. 極數知來之謂占，

13. The establishment of the images is called *Qian*.

14. The imitation of models is called *Kun*.

16. 通變之謂事，

15. Exhausting the procedures in order to comprehend what is to come is called prognostication.

17. 陰陽不測之謂神。

16. Fathoming alterations is called pursuit.

17. That in which Yin and *yang* cannot be fathomed is called spirit. [1]

In this chapter, the cosmological process of change, which is referred to as 'the way' (*dao* 道), is described as the alterations of Yin and *yang* (*yi yin yi yang zhi wei dao* 一陰一陽之謂道). Here we

[1] *Xici* A.5.

also learn that the dyadic nature of the cosmic change cannot be fully grasped by *all* humans, who partake in the process but do not possess the ability to comprehend it. The comprehension of this dynamic can only be experienced by the 'noble man' (*junzi*). Finally, the process of giving birth to life (*shengsheng* 生生) is called *yi* (cosmic change). As Anne Cheng points out, if we combine the two meanings of *yi*, we come to the conclusions that 'there is nothing easier than change'.[1] The sentence is particularly relevant if we think about the notion of the book and the world mirroring each other: in fact, the cosmological dynamic of change is once again described through the categories of the book.

5 From *Shuzi Gua* to the *Xici*: What We Knew, and What We Know

Now that I have exposed the main contents of the *Xici*, as well as how these contents are fashioned on a macro and micro-level, I shall turn to the final issue of this chapter, namely, the relationship between the *shuzi gua* corpus and the *Xici*. I argue that there is no relationship between the two traditions. To put it differently, there is no connection between the cosmo-philosophical framework so beautifully and systematically described in the *Xici* and the one allegedly reflected the divinatory practices involving *shuzi gua*.[2] Even though the *Shifa* does seem to be a good candidate, it cannot in any way be compared to the sophisticated worldview underlying the Yi tradition as found in the *Xici*. This aspect brings about the issue of dating of this text. Since the *Shifa* represents the first systematic evidence of correlative thinking, as we have seen in chapter 1, and the entanglement between this manuscript and the Yi tradition is evident, I suggest that the *Xici* should be dated no earlier than 300 BCE (which is the approximate date of the *Shifa*). The reason I suggest this is related to the fact that the *Shifa* system appears more like it belongs to an earlier stage. For instance, the Yin-Yang dichotomy is barely mentioned, and the so-called 'agents' are four instead of five, as one would expect.

[1] Cheng 1997: 350.
[2] I say allegedly because it is not spelled out anywhere.

I should clarify that my study is not concerned with retrieving 'an imagined urtext,' as Meyer stated in his *Philosophy on Bamboo*, which has greatly influenced my own understating of early Chinese textual production. I instead adopt a different strategy. I examined the transition which began in the late 4th century BCE. This shift, to paraphrase Meyer, allowed new types of divinatory enterprises to emerge, placing them within the realm of philosophical discourse (which was indeed pervasive and performed by individuals from all walks of life). This is also why I would date the *Xici* no earlier than 300 BCE, with 190 BCE as the *terminus ante quem* (i.e. the Mawangdui text). It is worth noticing that this shift occurred at the exact point when scholars date the rise of manuscript culture, namely when predominantly oral ways of textual production were replaced with written ones. This aspect deserves further elaboration. Until relatively recently, the shift from oral to written cultures has been regarded by theorists as a change in the manner and nature of communication, which facilitates a certain degree of abstraction.[1] According to this view, writing is conceived as superior in an evolutionary trajectory. As already discussed in chapter 4, I totally reject this distinction of the 'Homeric' and 'Platonic' minds, to phrase it as Havelock did. Indeed, the oral-written transition should *not* be seen in an evolutionary way. Let us take the case of the sources analysed in the present thesis as an example. The *shuzi gua* materials reflect a *diversity* and *complexity* which does not in any way exclude the presence of abstract thought. The numerological evidence suggests that early Chinese people, living across quite an extended area, were very much capable of thinking in terms of modules and odd-even numbers very early on, even though I would not link this to a *proto*-Yin-Yang mentality. Therefore, the shift described in this thesis is a *conceptual* one. If we look at the *Xici*, it appears clear that the text is not concerned with giving explicit definitions of the concepts it mentions. For instance, we are not told what 'easiness' and 'simplicity' are, we must infer the meanings of these two crucial concepts by ourselves. As I have mentioned at the beginning of this chapter, the *Xici* takes for granted that all these meanings are familiar to the text recipient(s) because they are entirely consistent with the worldview dominant during the periods in which the text was being con-

[1] See, among others, Havelock 1963; Goody 1968; Ong 1982.

ceived by multiple authors (5th-3rd century BCE). The sixty-four hexagrams—which purportedly stem from the numerical progression 1, 2, 4, 8, 64—ultimately corresponds to the 'myriad things' (*wanwu* 萬物), which is the way most philosophical texts, mainly belonging to the so-called Daoist tradition, refer to the 'multiplicity of reality.'[1] Indeed, the *Zhouyi*, far from being *the* product of the sages of the past, 'emerged from a world of diverse but related practices that fundamentally shaped it.'[2] What was most likely the outcome of a stochastic distribution was given philosophical legitimacy, [3] ultimately establishing a credible cosmo-philosophical framework for the numerological system of one of the many divination manuals in 3rd century BCE China. If read in this way, the endeavour of the authors of the *Xici* appears even more remarkable.

Let us now turn to what are arguably the two most important features of the whole Yi tradition, namely the correspondence of the odd numbers with the Yang lines and the even numbers with the Yin lines. This is indeed correct, and the earliest indisputable evidence for this comes from the dagger-axe and the pottery handles first and was then confirmed by the *Shifa* and the *Biegua*. In an unfortunate coincidence, all these manuscripts were not scientifically excavated. In any case, I would like to stress that, even though the criterion is correct, it does not mean that all the *shuzi gua* should be converted into Yi *gua*. These two main traditions, which for ease of argument, I shall refer to as the *shuzi gua* traditions and the Yi traditions, were *parallel*. The Warring States manuscript versions of the *Zhouyi* and the Warring States divinatory records make plain this aspect. Most importantly, the archaeological records show that the Yi tradition was not at all prominent. The table below show the difference between the received and palaeographic evidence.

	***Shuzi gua* traditions and other non-Yi traditions**		**Yi tradition**	
	Mss	Received Texts	Mss	Received Texts

[1] *Xici* A11.5.
[2] Cook and Bréard 2021: 23.
[3] On the statistical analysis of the *Yi*-related divinatory methods, see Cook and Bréard 2021: 45-53.

Shang	Yes	No	No direct evidence	Yes
Early Western Zhou	Yes	No	No direct evidence	Yes
Mid-Western Zhou	Yes	No	Dagger axe and pottery handles but dating uncertain	Yes
Spring and Autumn	No	Yes, but indirect (*Zuo Zhuan*)	No	Textual evidence referring to this period but written later (*Zuo Zhuan*, *Guoyu*)
Warring States	Yes	No	Yes	Yes
Western Han	Yes	Yes	Yes	Yes

The table shows that, aside from just two examples, which both have their own problems in terms of provenance and dating, there is no direct evidence which can link the *shuzi gua* to the Yi. For more than seven centuries, these traditions coexisted, but the link between them remains uncertain. That is to say, we cannot say for sure which one originated from the other, which was the prevailing one, and to what degree they affected each other. Considering the evidence analysed here, I would suggest that, in general, there was no dominant tradition. People belonging to the elite did not have any particular preference: their concern (or more accurately, their obsession) with divining their health and everyday life was much more important. Moreover, the methods employed were ex-

tremely diverse. Interestingly, *none* of the actual divinatory records of the Warring States period cites divination using the Yi. If we imagine a scenario without the received tradition, and what we knew was only based on the archaeological evidence, the impression we would have is that, at least until the Warring States period, divination using the Yi was definitely not the most widespread. I appreciate that this could be due to our limited palaeographical data and to the fact that most of the manuscripts come from a single specific geographic area, i.e. Chu. It could be suggested that the *shuzi gua* dating to the earlier period, for which no direct evidence regarding same being related to the Yi is presented, might all *potentially* be converted. However, the extremely limited textual context does not allow us to infer much further. I have therefore analysed the primary sources from a different perspective, showing that material, visual and linguistic patterns can be a much more fruitful starting point for a discussion which is not limited to showing how the earlier evidence can be used to explain the origin of what is regarded as one of the most important texts of the Chinese culture.

As for the Warring States divination records (i.e. Tianxingguan, Baoshan and Gelin), we do have enough evidence to say that they were *not* related to the Yi and thus should *not* be converted into Yi *gua*. This further shows a clear-cut separation between the *gua* and the texts attached to them. This gives way to the obvious question: how is it that such thriving divinatory traditions can disappear? I believe the answer could be that they were *not* consistent with what became the dominant worldview of the pre-imperial time. Before that, the many divinatory traditions reflected a much more diverse cosmo-philosophical worldview, as shown by the scheme below.

SHUZI GUA

SHUZI GUA **YI NUMERICAL**

SHUZI GUA **YI SYMBOLIC**

6 Conclusions

Most studies on the *shuzi gua* start from a discussion on the *Zhouyi*. This text has been revered from more than two millennia, it is thought to include profound philosophy which pertains to the realms of Heaven, Earth and Humankind. The philosophical framework attached to it represents 'the perfect synthesis of social and natural science',[1] despite the fact that it was still used for divinatory purposes as late as the mid-2nd century BCE, as the Fuyang manuscript discussed in Chapter 1 makes plain. Since the *Zhouyi* occupies a key position in traditional Chinese culture, scholars still continue to treat it as a source of philosophical thought.[2]

In this final chapter I have first analysed the *Xici* which presents a composite and multi-layered nature. On a macro-level, the different topics are mentioned following a system of overlapping spiral patterns: $topic_a$ is first introduced in a textual unit, followed by $topic_b$, but then the text immediately goes back to the $topic_a$, sometimes even by using the same phrasing, or at least the same sentence structure, as we have seen above. Therefore, in this sense, the *Xici* can be regarded as a kind of argument-based text, meaning that the philosophical stance is exhausted *within* the text itself. Moreover, this 'moving forward and backward' resembles that of the text's main topic, i.e. the system of change underlying the entire cosmos. This is performed on both a macro-level but also on a lexical level. Form, text and object are thus conflated. To paraphrase Mark E. Lewis, with the *Xici* we are assisting to the 'blurring' of not only text and object, but also of text and form.[3] We could venture to push this interpretation even further by positing that the conflation of these three ele-

[1] Jia Lianxiang 2020: 1.
[2] Ibid.
[3] Lewis 1999: 262.

ments might have facilitated the comprehension of such an obscure text during the *act* of philosophical performance, as suggested by Dirk Meyer for the *Qiushui* chapter of the *Zhuangzi*. In the case of the *Xici*, the form can also be considered part of the message as the form *reduplicates* the main notion discussed.[1] 'Form and content are one', and they are easily (inter)changeable.

Let me conclude this discussion with the following formula: 'philosophy and divination coexisted'. The latter has literally fallen into oblivion, being erased by most of the received textual tradition, with the obvious exception of the *Zhouyi*. The earliest strata of this text have been buried under several commentaries, composed over almost two millennia, to then resurface only, as it were, one hundred years ago. But why did the Chinese intellectuals of the early empire decide to grant philosophical legitimacy only to the Yi? It is clear that the *Xici* does not refer to any of the *shuzi gua* (or related) traditions. Why a *Xici* for the *shuzi gua* has not been written? This is indeed not an easy question to answer, it would probably require an entire thesis devoted *only* to this subject. As a tentative, though not exhaustive answer, we could assume that the traditions which were not part of the mainstream intellectual movement of the late 4th- early 2th were deliberately excluded. I am aware of the highly speculative nature of this assumption; yet, this is what I am inclined to suggest based on the sources analysed in the present work.

[1] Meyer 2015: 298. On a similar point in Shao Yong, see Arrault 2013.

CONCLUSIONS

In a recent article which discusses the state of the art of the *shuzi gua* studies, Ding Sixin 丁四新 writes the following:[1]

> …最後，筆者認為，數字卦研究應當走向終結。筆者這樣説的意思是: 第一,‘數字卦’是一個粗糙的術語，缺乏歷史的正當性，且在傳統易學術語系統中缺乏存在的必要性，所以應當停止使用。 ‘數字卦’是在 1980 年代後期提出來的，它的流行除了具有當代學術史的意義外，也反映了今人的淺陋和無知。從嚴格的意義上説，一切易卦的生成都本源於筮數，因此 ‘數字卦’其實無法區別不同種類的易卦。學者或將 ‘數字卦’等同於 ‘筮卦’，這是錯誤的。而回到易學領域中,‘易卦’‘卦畫’和 ‘筮卦’等概念已經足夠我們使用了，實在沒有必要再發明一個叫做’數字卦’的概念。由此筆者認為，相關學術研究活動雖然仍可以繼續，但 ‘數字卦’的名義應當取消。其實，歸入 ‘出土易卦研究’或 ‘先秦易學研究’之類的名目，更為妥當。第二，所謂數字卦研究的三個基本問題已得到解答，即‘奇字’問題已被破解，易卦來源於筮數已得到證實，和《周易》陰陽爻畫來源於數字一(七) 、八已被論明，因此數字卦研究的基本任務已經完成。而隨著這一基本任務的完成，數字卦研究本身應當走向終結。毫無疑問，將相關研究活動重新放入先秦易學或傳統易學的視閾中，這是一個更符合易學邏輯，因而更為妥當的學術安排。
>
> [..] Finally, the author believes that the study of *shuzi gua* should come to an end. What the author means by saying this is: First, ‘*shuzi gua*’ is a crude term which lacks historical legitimacy, and it is not necessary in the context of traditional Yi terminology; therefore, it should be discontinued. The concept of ‘*shuzi gua*’ was first proposed in the late ‘80s. Its popularity not only has historical significance for contemporary academia, but also reflects the shallowness and ignorance of today’s people. Strictly speaking, all Yi *gua* derived from divinatory numbers, so the *shuzi gua* cannot in any way be distinguished from the different types of Yi *gua*. Scholars may equate ‘*shuzi gua*’ with ‘stalk divination *gua*’, which is wrong. Turning back to Yi-ology, concepts such as ‘Yi *gua*’, ‘*gua* pictures’ and ‘stalk divination *gua*’ are already sufficient, and there is really no need to invent other terms like the so-called ‘*shuzi gua*’. Therefore, the author believes that although relevant academic research activit-

[1] Ding Sixin 丁四新 2019: 36.

> ies can still continue, the term '*shuzi gua*' should be abolished. In fact, it is more appropriate to classify it under the title of 'research on unearthed Yi *gua*' or 'Research on Pre-Qin Yi'. Second, the three basic issues regarding the so-called *shuzi gua* research have been solved, that is, (1) the problem of the strange graphs has been cracked; (2) the origin of Yi *gua* has been confirmed; (3) that the Yin and Yang lines of the received *Zhouyi* derive from the numbers 1 (7) and 8 has been ascertained. Therefore, the basic tasks of the research on *shuzi gua* has been accomplished. With the accomplishment of these basic tasks, the research on this subject should come to an end. There is no doubt that it is a more logical and therefore more appropriate academic arrangement to put the relevant research activities back into the context of pre-Qin Yi-ology or traditional Yi-ology.

Aside from some inaccuracies[1] and the annoyingly paternalistic tone, the academic approach reflected in this paragraph is totally flawed. To Ding Sixin's first point, the main objection I would like to raise concerning the very term *shuzi gua* is that its recent genesis does not preclude it from having 'historical legitimacy'. Scholars in any field constantly coin new terms which they use as *heuristic* tools to describe different cultural phenomena. This is true in the human as well as the exact sciences. In an article entitled *Our Words, and Theirs: A Reflection on the Historian's Craft, Today*, historian Carlo Ginzburg applied Kenneth L. Pike's famous distinction *emic*/*etic*[2] to the historical research:

> Historians start from questions using terms that are inevitably anachronistic. The research process modifies the initial questions on the grounds of new evidence, retrieving answers that are articulated in the actors' lan*gua*ge, and related to categories peculiar to *their* society, which is utterly different from *ours* (emphasis added).[3]

I should immediately clarify that the term anachronism is here intended in a different way from the one on which I based my analysis of the *shuzi gua* corpus. What Ginzburg refers to is the inevitable

[1] The Yin line originated from number 6 (which is also first even number to appear more frequently) *and* from number 8; this is also shown by the *Shifa* and *Biegua.*

[2] The etic point of view, Pike explained, examines languages and cultures in a comparative perspective; the emic point of view is 'culturally specific, applied to one language or culture at a time.' Pike 1967.

[3] He then added that 'the *emic* perspective can be grasped only through the mediation of an *etic* perspective', i.e. with 'the active role played by the researcher'. Ginzburg 2012: 105.

ambiguity the terminology used by historians is subject. This is equally true for the 'artificial terminology' of science, which is not immune to the pitfall of ambiguity.[1] Therefore, as researchers, we must create new words to describe different phenomena, being aware that as we agree on these words' meaning, this has likely already changed. If we prioritise words over phenomena, 'we are speedily outside of reality'.[2] In other words, the creation of a new rigorous vocabulary is a far better option than the 'tacit projection of new meanings within commonly used terms',[3] which is exactly what Ding Sixin is suggesting.

It is bearing these crucial points in mind that I established the methodology for the assessment of the *shuzi gua* corpus. First, the notion of materiality was considered as the fundamental criterion which allowed me to investigate the nature of this extremely diverse corpus. Second, I avoided the pitfall of anachronism by analysing the sources in their own right, which means, by carefully selecting the terminology first proposed by other scholars as well as creating a new one. This is why I strongly disagree with Ding Sixin's affirmation and its principal implications: by conflating different manifestations of cultural phenomena under the same broad category, we risk oversimplifying something which deserves to be treated separately. In other words, the divination traditions emerging from the *shuzi gua* corpus reflect a series of thriving, widespread and mature cultural phenomena which would otherwise be neglected had we described them using Yi-related terminology. Indeed, his approach proves that, despite the many advances of the last decades, some scholars still consider the *shuzi gua* material as mere ancestors of the Yi *gua*, and that this field of studies should be lumped into the category of the pre-Qin Yi studies. In short, my view is that putting 'the relevant research activities back into the context of pre-Qin Yi-ology or traditional Yi-ology' is utterly misleading.

[1] Only scholarly exchanges will ultimately lead to the construction of a common vocabulary of human sciences. Bloch 1977: 176–177.
[2] Bloch referred to Claude Bernard's *Introduction l'étude de la médecine expérimentale* (1865) in 'Apologie pour l'histoire", 831, 908.
[3] Ginzburg 2012: 107.

The systematic language which I have created in the Analytical Map allowed me to identify common patterns within the corpus, without focussing on whether we should consider them as ancestors of the Yi texts. Quite the opposite, when I applied the methodology, different issues were discussed that are relevant not only for the field of divination, but for the study of manuscript cultures broadly conceived. Therefore, the implications of studying such a corpus of texts are way further-reaching than the origin and early development of Yi divination. To be sure, I could not overlook the significance of divinatory practices, as well as the central role that numbers played in those contexts. This is why I have devoted an entire section in chapter 4 to the computational methods and the 1-7 debates. Lastly, I have attempted to provide an explanation with regards to the transition from the *shuzi gua* traditions to the one reflected in the received *Xici*. However, it is not accidental that this latter point has been put *at the end* of my thesis: I have deliberately prioritised broad scope theoretical and technical questions over specific issues. The former can contribute to promoting cross-cultural discussions. For instance, the notion of scribal agency. In cases where explicit discourses about scribes in the primary sources is lacking, how can scribal identity and agency be explored? And how can this important aspect become a comparative starting point with other cultures where writing emerged independently (e.g. Mesoamerica, Mesopotamia, and Egypt)?[1]

I now turn to Ding Sixin's second point. According to him, any issues related to the *shuzi gua* corpus would be sorted as is; therefore, no further research on this subject would be necessary. My thesis demonstrates that further research on the subject *is* indeed necessary, and my hope is that my work will prompt a new way of interpreting this textual material. The first key contribution of my thesis is thus the Analytical Map. The combined use of three criteria—*material, visual* and *linguistic*—has generated a completely novel assessment of the material and made it easier to navigate. This allowed me to provide a solution for one of the fundamental problems of the field, i.e. the lack of consensus on what a *shuzi gua* really is.[2] Moreover, I distinguished between different typo-

[1] These are the kind of questioned addressed by the Early Text Cultures project based at the University of Oxford. The project, among many others of the kind, seeks to contribute to developing terminology shared among different cultures well as specific to individual ones.

[2] In chapter 1, I stressed the inconsistencies among the different volumes.

logies of *shuzi gua*. Furthermore, my arrangement, which is based on the common features (material, visual and linguistic) of each item, facilitates a more accurate treatment of the sources. The data collected in the Analytical Map laid the groundwork for the discussion on the theoretical and technical issues, i.e. orality and computational methods. For instance, based on my analysis, I concluded that the *pure diachronic* arrangement of the materials is misleading. Rather, it should be based on the different communities living during the *same* period. These observations led me to believe that *shuzi gua* divination did not stem from turtle-shell divination. I argue that it was a distinct feature of the Zhou culture, as suggested by the evidence analysed. Furthermore, by looking at the *shuzi gua* corpus from the perspective of the oral theories, the following conclusions may be drawn. During the late Shang period, there emerged a need for a more complex method which could yield more diverse results than the one of turtle-shell divination. The different combinations of numbers were inscribed, in most cases, on the same bone or shell previously used during the pyromantic practice. As I explained thoroughly in chapter 4, the written act was performed only *after* the oral act. In this first stage, the numerical value was more prominent than the visual one in *shuzi gua* divination. Over time, diviners recognised the scribal agency and realised that 'images' could literally be seen within the *gua*. This latter point is what Adam C. Schwartz suggests.[1] While I agree that the scribal agency might have played a role at some point, the first important step was to interpret the *gua* based on the different value of each number. This is evident from the *Shifa* as well, where both the numerical and visual value of the numbers are considered for interpretation. Therefore, we could say that *shuzi gua* divination underwent a process of simplification which then led to the survival of only one tradition among many: the Yi. This process may be expressed in the following formula: from numbers to images, from complex to standard, where standard stands for the orthodox, classic Yi.

[1] In his research, Schwartz makes a compelling argument by showing how the images of the *Shuogua* 說卦 commentary, far from being 'random lists of words collected without an agenda and devoid of relationships and mutual interaction with others', present a 'defined architecture'. He argues that most images in the Yi grew out of a developed pictographic method, like the one used in the *Shifa*. See Schwartz 2018 and 2021.

Why was this new method created? Aside from looking for alternatives to the established turtle-shell divination, it might be argued that a method based on the interpretation of numbers made the divinatory act more *regulated* and, consequently, *predictable*. That is, by devising an algorithm which could make certain numbers appear more often than others—in our case, numbers 1, 7 or 6—and by assigning a specific meaning to them, the diviner would always be able to tailor the divination response to the customer. Assuming that *shuzi gua* divination, at least in its early stage, was performed by the higher strata of society,[1] the diviners' average customer belonged to the most powerful people of their time; these customers' needs had to be satisfied. Considering this, we might infer that the diviner wanted to make sure that the outcome would be auspicious in most cases. This was possible, for instance, by establishing that certain numbers, namely those who appeared more often, were deemed auspicious. If this interpretation is correct, it implies that in *shuzi gua* divination the *human agency* (and with human here I refer to the diviner) was way more prominent than in turtle-shell divination. The most immediate result of this hypothesis is that we end up with a chicken and egg situation: which came first? Was it the algorithm or the diviner decision? If the algorithm came first, it means that the numbers were deemed auspicious only *after* the diviners realised that their appearance ratio was uneven. By contrast, if the diviner first decided the ground rules of the divinatory procedure, they then created the algorithm which suited best these rules. After all, sortilege divination can be regarded as a game of chance, and like any game, it must follow certain rules. It is my contention that the latter scenario—i.e. rules first—is the more realistic one. For instance, the diviners established that the numbers 2, 3 and 4 should never appear in the *shuzi gua* divination to avoid graphic confusion.[2] Indeed, number 4 only appears in the *Shifa*, a 4th century BCE text, which was written when this number presented a different graphical form. This is not at all surprising given that up until the 6th century BCE, this number was written as four hori-

[1] If the bones and shells on which the *shuzi gua* were engraved had been previously used for pyromancy purposes, it is then reasonable to assume that these were patronised by the elite as members of the lower classes could not afford such an expensive activity.

[2] Number 4 was written as four horizontal lines (𝌢) in both oracle bone and bronze scripts until the late Spring and Autumn period. The first instance of number 4 written in a different way (𝍌) is in *JC* 182.

zontal lines. As I already mentioned in chapter 4, I believe that whenever the numbers from 1 to 4 were produced by the algorithm, they merged into number 1. Another piece of evidence in support of the fact early Chinese scribes deliberately avoided graphic confusion (especially in such a technical context like the divinatory one) comes from a later and relatively unrelated manuscript: the 1st century BCE *Jingjue* 荊訣 (*Tricks of Jing*).[1] The numbers are depicted as lines of rods and not numerically. The 'trigrams' formed by these numbers are the results of division of stalks that leaves the remainders 1-4. It is interesting to notice that whoever created the *Jingjue* method deliberately chose to write the numbers alternating horizontal and vertical directions, like so:  . It seems clear to me that it was done to avoid the confusion between these four numbers.

I shall now turn to the most heated debate, and indeed the most discussed, of the field: what is the relationship between the Yi and the *shuzi gua* divination? By now my position should be clear. I believe that the stubborn search for the origin of the Yi, of an assumed Ur-text which most likely never existed (as is the case of most pre-imperial texts), simply does not make sense. The *shuzi gua* material does not tell us anything in this regard: most texts only consist of strings of numbers, written in a variety of ways and directions, on a plethora of material carries which often have nothing to do with divinatory practices. Does this mean that these strings of numbers could *not* be interpreted using the Yi as a manual? My answer would be that, no, we cannot exclude that the diviners used different 'manuals' to create their response. In my thesis, I show that it is fruitless to put the discussion in these terms. It is far more exciting to identify patterns within the corpus. These patterns can be material, visual or linguistic as well as numerical, and reveal lines of different divinatory traditions. Their entanglement with the Yi tradition is indeed reasonable to assume; however, it should

[1] The *Jing jue*, rescued from the Hong Kong Market, was published in *Beijing daxue cang Xi Han zhu shu (si)* 北京大學藏西漢竹書 (Vol. 5) 2014. It includes thirty-three strips (including six strips that have been rejoined), and it is evident that two other strips are lacking. The title *Jing jue* 荊決 is recorded on the back of the second strip. Because the manuscript was stolen from its original archaeological context, dating is uncertain. An English translation is provided in Dotson, Cook, and Zhao 2021.

not be in any case the *main* subject of interest. Once again, I would like to stress the sources should be read in their own right without forcing the biased lens of later, imperial traditions.

Before concluding, I would like to illustrate how the Analytical Map can be used as an interactive tool in the Digital Humanities. Its structure and systematic lan*gua*ge are specifically designed to be the first step towards the digitalisation of the *shuzi gua* corpus. The use of consistent terminology and formulaic lan*gua*ge in each of the three criteria to describe the items simplifies the translation of the Analytical Map into a variety of digital database standards. Irrespective of the specifics, these standards associate to every item—identified by an IIN—a set of descriptors. By selecting the descriptors of interest for each criterion, the data can be explored interactively, and statistical inferences can be facilitated. For instance, using MATLAB® code to automate or operationalise database workflows where filters, search and analytics tools can run directly on entries formatted according to a shared standard (e.g. Structured Query Lan*gua*ge).[1] Below, I provide some examples of how the descriptors of the material criterion can be used.[2]

[1] SQL is a standard language for storing, manipulating and retrieving data in databases.
[2] The full Database is ongoing project which will see the light by 2024. I thank Marek Sierotowicz for helping me develop the database.

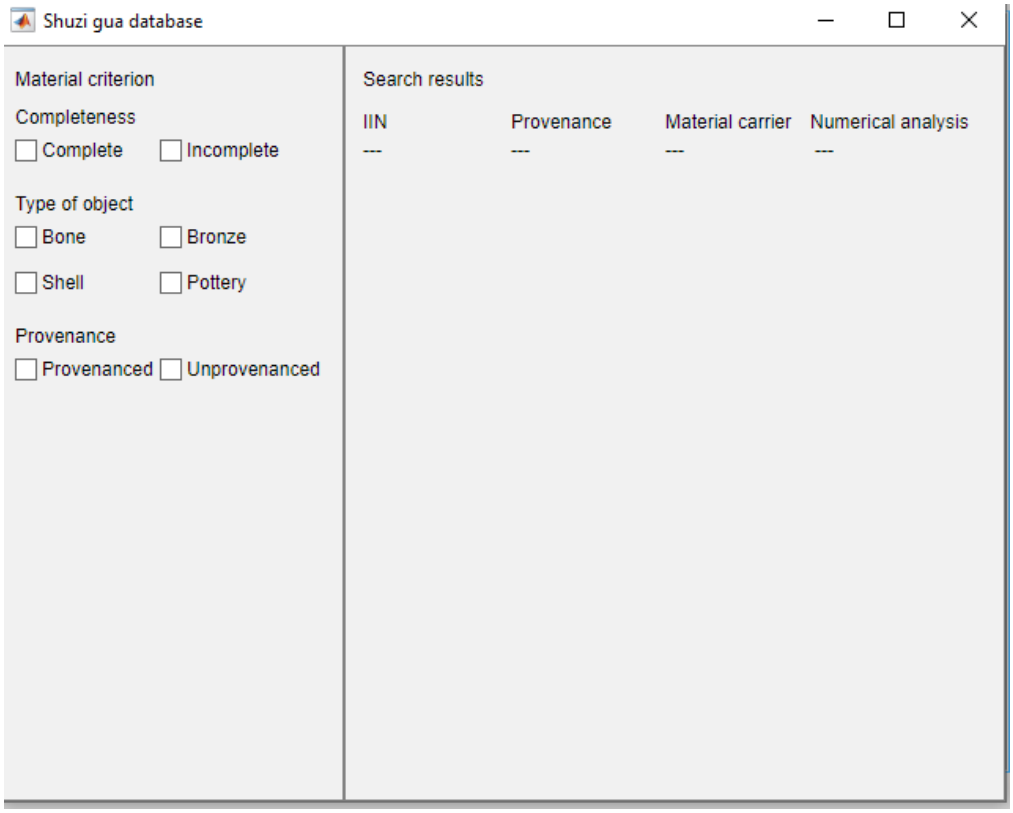


Figure 1 Initial sit

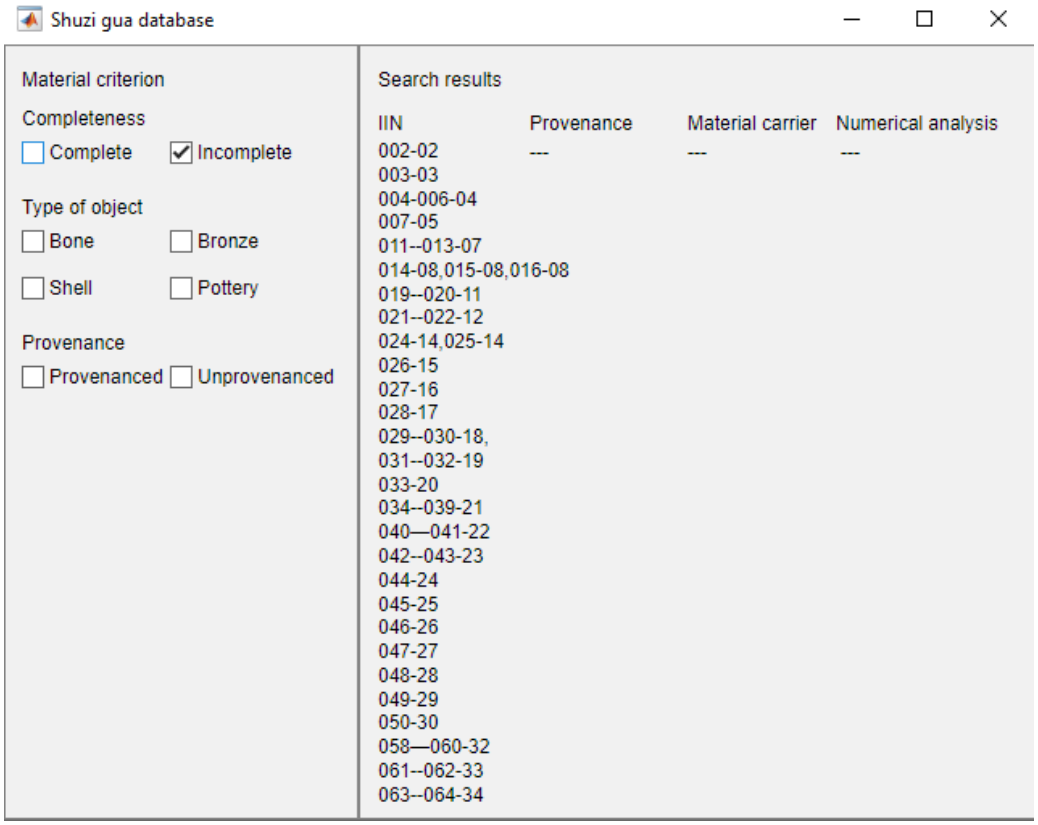


Figure 2 Material Criterion_Incomplete

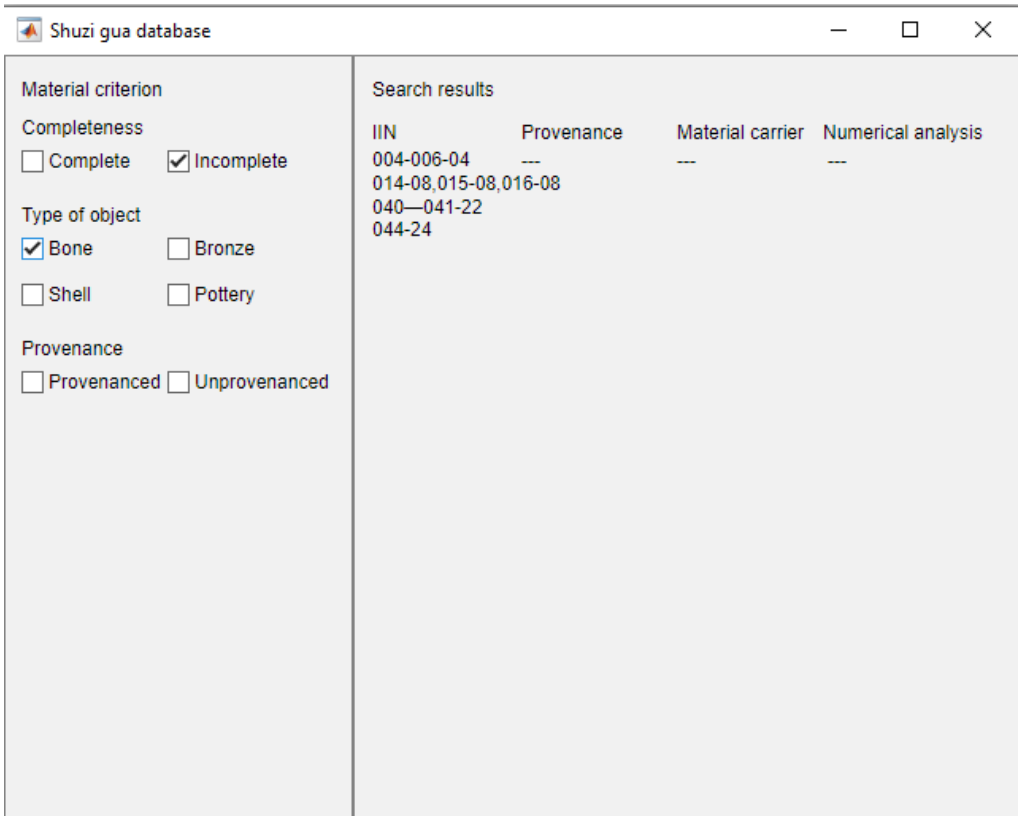


Figure 3 Material Criterion_Bone-incomplete

The main objective of an interactive database is to make retrieval of information in a more tractable form. To be sure, the topics discussed in my thesis are only representative of what can be achieved with a systematic tool like the Analytical Map. Indeed, once the database is completed, it will be made available to the academic community so that further research on the *shuzi gua* corpus can be conducted. The English translations shall facilitate cross-cultural and interdisciplinary dialogues.

A final thought concerns the notion of how divination reflects the worldview of a specific culture. David Keightley once wrote that

> Shang metaphysics, at least as revealed in the complementary forms of the Wu Ting inscriptions, was a metaphysics of yin and yang. [..] Such pairing of opposites, accordingly, would not have been conceived merely to render pyromantic divination credible. It was evidently integral to the Shang world view, not for utilitarian reasons, but because, in Levi-Strauss's words, it was 'good to think.'[1]

At the beginning of my PhD, I posited that the *shuzi gua* corpus revealed a more complex view than the one described by Keightley, and which most scholars consider at the basis of ancient Chinese civilisation. Indeed, as we have seen in the previous chapter, the Yin-Yang worldview has been imposed on something which belonged to different textual communities. This homogenization occurred in the mid-2nd century BCE, not before, as proved by the many different manuscript versions of the Yi and their diverse content. The objective of the present project has been to provide a glimpse into the pre-standardised Yi scenario, starting from the analysis of the *shuzi gua* corpus, where different divinatory traditions based on numerical computation thrived. This might probably explain why numbers and their symbolic implications have always permeated every aspect of Chinese culture. As Marcel Granet put it

> c'est au moyen de nombres qu'il convient de figurer les secteurs logiques, les catégories concrètes qui composent l'Univers. [..] En choi sissant pour ceux-ci telle ou telle disposition qui permette de se représenter leurs jeux, on croira avoir réussi à rendre l'Univers à la fois intelligible et aménageable.[2]

[1] Keightley 1988.
[2] Granet 1934.

APPENDIX 1

SHUZI GUA DATABASE

ORACLE BONES

Object number	FP	JLX 2020	transcription	translation
1	1.S.1-3	04-004-006	1 七五七六六六 2 八六六五八七 3 七八七六七六	757666 866587 787676
2	1.MWZ.4-6	53-080-082	4 八七五六八七 5 八六七六八八 6 八七六八六七	875687 867688 876867
3	1.S.7-9	07-011-013	7 一一六六一五 8 九七七 9 六八八八六六	116615 977 688866
4	1.EWZ.10-11	25-044-045	10 六六八一一六 11 六一六六六一	668116 616661
5	1.EWZ.12	26-046	12 一一六一一一	116111
6	1.EWZ.13-14	24-042-043	13 六八一一五一 14 五一一六八一	681151 511681
7	1.MWZ.15-16	55-085-086	15 一八一八八一 16 一八八一八八	181881 188188
8	1.MWZ.17-18	54-083-084	17 六六六六七七 18 七六八六五八	666677 768658
9	1.EWZ.19	27-047	19 五八七八七八	587878
10	1.EWZ.20	29-049	20(..)七六六七一八	(..)766**71**8
11	1.EWZ.21	32-052	21(..)七六六六七六(..)	(..)766676(..)
12	1.EWZ.22	28-048	22 七六六七六六(..)	766766(..)
13	1.EWZ.23	31-051	23 六六七七[五] (..)	6677[5](..)
14	1.EWZ.24	30-050	24(..)六六七(..)	(..)667(..)
15	1.S.25	02-002	25 六六六(..)	666(..)
16	1.S.26	03-003	26 六七七六	6776
17	1.S.27	05-007	27 七六五(..)	765(..)
18	1.S.28-30	08-014-016	28 六六六六八七 29 七七七八六七 30[六八六]七[六七](..)	666687 777867 [686]7[67](..)
19	1.U.31-33	06-008-010	31 七七六一六六 32 六七八九六八 33 六七一六七九	776**1**66 678**9**68 6**71**67**9**

20	1.U.34-40	52-073-079	34 一六一六六八 35 六九八一八六 36 九一一一六五 37 六八一一一八 38 八八六六六六 39 一八六八五五 40 六八一一一一	161668 6**9**8186 **9**11165 681118 886666 186855 681111

BRONZES

Object number	FP	JLX 2020	transcription	translation
1	2.LS.1	09-017	1 七五八	578
2	2.EWZ.2	37-057	2 五八六	586
3	2.EWZ.3	38-058	3 五八六	586
4	2.EWZ.4	39-059	4 八五一	851
5	2.EWZ.5-6	49-069-070	5 七八六六六六 6 八七六六六六	786666 876666
6	2.S.7	12-020	7 六六六	666
7	2.EWZ.8	33-053	8 六一七六一六	617616
8	2.EWZ.9	34-054	9 六一七六一六	617616
9	2.EWZ.10	35-055	10 七六八六七五	768675
10	2.EWZ.11	40-060	11 八六一七六一七	8617617
11	2.EWZ.12	43-063	12 七五六六六七	756667
12	2.EWZ.13	42-062	13 六一八六一一	618611
13	2.EWZ.14	45-065	14 七六七六七六	767676
14	2.LS.15	11-019	15 八一六	816
15	2.LS.16	10-018	16 八五一	851
16	2.EWZ.17	36-056	17 六六一六六一	661661
17	2.EWZ.18	56-087	18 八八六八	8868
18	2.EWZ.19	44-064	19 六六一一六一	661161
19	2.EWZ.20	41-061	20 五一七六一/七?	51761/7?

POTTERY

Object number	FP	JLX 2020	transcription	translation
1	3.S.1	13-021	1 五八七[..]	587(..)
2	3.S.2	14-022	2 八六七六六六	867666
3	3.S.3-4	15-023-024	3[..]六六六七 4[..]七六七六	(..)6667 (..)7676
4	3.S.5-6	16-025-026	5 六一一六五五 6 一一六六一六	611655 116616
5	3.S.7	17-027	7 一五一一六六	151166

6	3.S.8	19-030-031	8[六]七七八六六 七[六]一七	[6]778667[6]**1**7
7	3.S.9-10	20-032-033	9 六六七六六八 10 六六七六七[五]	667668 66767[5]
8	3.S.11-12	18-028-029	11 五七六八七七 12 一七六七八[六]	576877 **1**7678[6]
9	3.U.13-14	59-104-105	13 六一六一六一 14 一六一六一六	616161 161616
10	3.U.15-18	60-106-109	15 八八六八一八 16 八一六六六六 17 一一六一一一 18 一一一六一一	886818 816666 116111 111611

DAGGER-AXE

Object number	FP	JLX 2020	transcription	translation
1	4.EWZ.1	46-066	1 一六一	161
2	4.EWZ.2	47-067	2 一六一	161
3	4.EWZ.3	48-068	3 一六一	161
4	4.U.4	61-110	4 五六一一五八	561158

VASE

Object number	FP	JLX 2020	transcription	translation
1	5.S.1	21-034	1 一八八六一一	188611
2	5.S.2	22-035	2 五一八一六六	518166
3	5.LWZ.3-13	57-088-098	3 一一一一一一 4 六一一五一一 5 一六一一一一 6 一一一六八八 7 一一六一一一 8 一一六一九五 9 一八一六一一 10 八一一八一六 11 六八五六一八 12 一九八一一一 13 一一六八八一	111111 611511 161111 111688 116111 116195 181611 811816 685618 198111 116881
4	5.LWZ.14-18	58-099-103	14 一一八九一八 15 八一八一八六 16 六一八一八九 17 一八一八一一 18 一一一八八一	118918 818186 618189 181811 111881

OTHERS

Object number	FP	JLX 2020	transcription	translation
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2	6.EWZ.7	50-071	7 五一一	511
3	6.EWZ.8	51-072	8 一六一	161

BAMBOO

Object number	FP	JLX 2020	transcription	translation
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			一一一一六一-八一六六六六	111161-816666
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			六六六六一六-六六六六一一	666616-666611
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			六六六一一一-一六六六六	666111-116666
			六一一一六六	611166-166666

			六-一六六六六六	
2	7.MWS.15-23	From 75-125 to 82-132	六一一六五一-六六六一一一	611651-666111
			六六一六一六-一一一一一六	661616-111116
			一八八六六六-一一一六六六	188666-111666
			六六六六六六-一六六六六六	666666-166666
			六一一一一一-一六一六六一	611111-161661
			一六一六六六-一六六六六六	161666-166666
			六六六八八一-六六一一六六	666881-661166
			八一一一六八-一一一六九六	811168-111696
3	7.LWS.24-29	From 83-133 to 88-138	六一一六一一-六六一六六六	611611-661666
			六六六八一一-一六六八一一	666811-166811
			一六五八六六-一六六一一六	165866-166116
			一六一一六一-六一一六六一	161161-611661
			一六一一六一-六一一六六一	161161-611661
			八一六一一一-六六一一一八	816111-661118

APPENDIX 2

TRANSLATION OF THE BAOSHAN RECORDS

The following translation only includes the divination events where a *shuzi gua* divination was performed, six in total. Full translations are provided in Cook 2006 and Jue Guo 2008. Partial translations can be found in Shaughessy 2022.

(1) In the year when the Song guest, Sheng Gong Bian, paid an official visit to Chu, on the month *xingyi* month,[1] on a *yiwei* day,[2] Ying Hui performed a divination on behalf of our lord, Tuo, Minister of the Left, using the *yangshi* method:[3] From the *xingyi* month [of the current year] to the next *xingyi* month [of the following year], going out and coming into [the court] in servce of the king, would that he himself not incur any trouble this entire year.[4] 661666 611 611. [Ying Hui] prognosticated it [and said]: the long-term[5] divination is auspicious, yet there is some concern about his person; furthermore, there will be a delay in his promotion in rank. [Ying Hui proposed to] make a *shuo* sacrifice according to its cause:[6] perform the proposition prayer to the Earthly Master of the Palace with one black ram; present food offerings and pray to his father Jia, son of the Duke of Cai

[1] The Chu calendar is still subject to debate. Many scholars argue that the *xingyi* month should be understood as the first month of the lunar calendar.
[2] 32nd of the sexagenary cycle.
[3] As a general principle, scholars consider the methods producing *shuzi gua* as 'stalk divination' (see among others Li Ling 2000; Kalinowski 2009). I agree that whenever a *shuzi gua* appears, the method should be regarding as a sortilege one, thus being different from pyromancy. In the Baoshan records, ten different types of methods can be identified and the frequence with which they are used differs. For instance, the *baojia* method is used six times, while *yangshi* (the one mentioned in this passage) appears only once. It is unclear why one method would be preferred over another. What can be said with certainty, however, is that certain methods consistently produce *shuzi gua* (i.e. *chengde* and *gongming*) which means that they must be 'stalk divination'. On this specific matter, see Chen Wei 1996: 158.
[4] Cook 2006 undertsands the charges as questions, thus adding a question mark at the end. I follow the majority of scholars who consider the charges as statements.
[5] Kalinowski 2009 translates *heng* as 'regular'. I prefer the common understanding of *heng* as being a referring to a 'long-term' prognostication to be implemented by a follow-up divination.
[6] Here I read 敓 as 說, which should be understood as 'a form of sacrifice to remove the trouble identified in the prognostication.' Jue Guo 2008: 127. This formulaic sentence (i.e. 'make a *shuo* sacrifice according to its cause) is followed by a list a *proposed* sacrifices and exorcisms addressed to specific spirits. Li Ling 2000: 75-76 has a different reading. For a summary of the different views on this sentence and on the Baoshan formulaic structure, see Jue Guo 2008: 115-126, esp. the Table in p.126 which provides all the different models proposed by various scholars over the years.

with dried meat, wine and food; present food offerings and pray to his mother with a fattened piglet, wine and food; perform the *ju* sacrifice and pray to the Lianxiao of Dongling[1] with a fattened pig, wine and food. Remove the ominous influences [identified by] diviner Shi Beishang: present secondary prayers to King Zhao with a black ox and food offerings; present secondary prayers to Accomplished Lord Pingye, Chun of the Duke Wu, Yin of the Sima, Jia, son of the Duke Cai each with a black gelded pig, wine and food; and to the wife with dried meat from a black pig, wine and food. Ying Hui prognosticated and said: 'Auspicious. In the coming ninth month [Tuo] will obtain the nobility title.' Generally these are (the exorcism prayers of) Fu which have already been completed in turn. [The sacrifice] to his father has been completed. [The sacrifice] to his mother other has been completed.

(2) During the year when the guest from Eastern Zhou, Xu Ying, presented a gift of ritual meat at Zaiying, on the *xiayi* month, on a *yichou* day, Wu Sheng performed a divination on behalf of our lord Tuo, Minister of the Left, using the *chengde* method: going out and coming into [the court] in servce of the king, from the *xiayi* month [of the current year] to the *xiayi* month of the following year, would that he himself not incur any trouble this entire year. [Diviner Wu Sheng] prognosticated it [and said]: the long-term divination is auspicious; however, there are some concerns about his person and his house.[2] Moreover, issues not pertaining to he himlsef are not smooth. 166811 666811. [Wu proposed to] make a *shuo* sacrifice according to its cause: perform the proposition prayer to Eclipsed Taiyi with a whole gelded pig; perform the proposition prayer to the [spirit] of the Earth Altar with a whole pig's worth of dried meat; perform the proposition prayer to [the spirit of] the Walkway palace with a white dog, wine and food. Remove the ominous influences [identified by] Ying Hui: perform the repayment sacrifice outside the city walls and pray to the Lianxiao of Dongling with a fattened piglet, wine and food. Perform the *gong* sacrifice to release [Shao Tuo] and from his home from [the bad influences of the] Numinous ancestors. Wu Sheng prognosticated

[1] Lianxiao is a Chu official title; Dongling is a place.
[2] Here I follow Jue Guo 2008: 320.

and said: ‘Auspicious, for three years there will be no trouble, and there will be great happiness, and the kingdom will know of it.’

(3) During the year when the Grand *sima* Nao Hua led the Chu national army to save Fu, on the *xingyi* month, on a *jimao* day, Chen Yi performed a divination on behalf of Tuo, Minister of the Left, using the *gongming* method: going out and coming into [the court] in service of the king, from the *xingyi* month of the current year to the *xingyi* month [of the following year], would that he himself not incur any trouble this entire year. 166116 165866. [Chen] prognosticated it [and said]: the long-term divination is auspicious; however, there is some concern over his service at the royal palace and chamber. [Chen proposed to] make a *shuo* sacrifice according to its cause: offer the proposition prayer to the [spirit of] the House and [the spirit of] the Walkway with one white dog, wine and food. May it be that by attacking the house be reliesed [from bad influences]. Wu Sheng prognosticated about it and said: ‘Auspicious.’

(4) In the year when the minister of war, Dao Hua, led the army of the state of Chu to rescue Fu, on *xingyi* month, on a *jimao* day, Wu Sheng performed a divination on behalf of Tuo, Minister of the Left, using the chengde method: busy serving the king from one Xingyi month to the next, at the end of the year, would that his person has no trouble. 611661 161161. [Wu Sheng] prognosticated it [and said]: the long-term divination is auspicious, but with some concerns regarding his service at the royal palace. [Wu Sheng proposed to] make a *shuo* sacrifice according to its cause: offer the proposition prayer to the Lord Earth of the Palace with a ram; offer the proposition prayer outside the city wall to the spirit of the Walkway with one white dog, wine and food. Perform a slaughter sacrifice to the Grand Gate with a white dog. Wu Sheng prognosticated it and said: ‘Auspicious.’

(5) In the year when the minister of war, Dao Hua, led the army of the state of Chu to rescue Fu, on *xingyi* month, on a *jimao* day, Chen Yi performed a divination on behalf of Tuo, Minister of the Left, using the *gongming* method: [Shao Tuo] is already experiencing chest and abdomen pain and

no appetite due to coughing. Would that he recovers soon and not be helpless. 166861 111661. [Chen Yi] prognosticated about it [and said]: the long-term divination is auspicious, but the pain has gotten worse; there is a delay in the recovery from the illness. [Chen proposed to] make a *shuo* sacrifice according to its cause: offer the proposition prayer to the Five Mountains with one ewe each; sacrifice and pray to King Zhao with a black ox and present it as food offerings; offer the proposition prayer to Liang, of the Accomplished Lord of Pingye's line, to Chun of Duke Wu's line, Yin of the Sima line, Jia son of the duke of Cai line present a gelded pig each as food offerings. May it be that by attacking [Shao Tuo] be released from the [spirits of the] ancestors and those who died in battle. Remove the ominous influences [identified by] to diviner Gu Ji: present mortuary sacrifices and sacrifice outside of the city wall; offer a whole gelded pig to the High Hill and the Low Hill. Chen Yi prognosticated it and said: 'Auspicious.'

(6) In the year when the minister of war, Dao Hua, led the army of the state of Chu to rescue Fu, on the *xingyi* month, on a *jimao* day, Wu Sheng performed a divination on behalf of Tuo, Minister of the Left, using the *chengde* method: [Shao Tuo] is already experiencing chest and abdomen pain and no appetite due to coughing. Would that he recovers soon and not be helpless. 66 1118 81 6111. [Wu] prognosticated it [and said]: the long-term divination is auspicious, but the pain has gotten worse and his illness more serious. [Wu proposed to] make a *shuo* sacrifice according to its cause: offer the proposition prayer to the Kings of Jing from Yin Lu up to King Wu with five oxen and five pigs. May it be that by attacking [Tuo] be released from the [spirits of] the River and of Drowned People. Wu Sheng prognosticate it and said: 'Auspicious.'

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