"The Ernest K. Smith Collection of Shang Divination Inscriptions at Columbia University, and the Evidence for Scribal Training at Anyang"

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Introduction

The C. V. Starr East Asian Library at Columbia University has a small but important collection of Late Shang (ca. 1300-1050 B.C.) divination inscriptions. The core of this collection was acquired in the 1930s by Ernest K. Smith, and has been present in the library since around that time. Smith's collection lacks a documented archaeological provenance, but the location where the inscriptions were discovered at the late Shang site near Anyang can nevertheless be determined with precision. The largest and most important of Smith's 62 pieces is a densely inscribed divination scapula (US414-415 = YiCun266+257) belonging to the so-called He Group of inscriptions.[1] This item is often referred to in the scholarly literature, but rarely with reference to the context of its discovery, its relationship with other items in Smith's collection, or the fact that most of the inscriptions that appear on it are by scribal trainees. Its relevance to the question of late Shang scribal training has been overlooked. The presentation of these issues is preceded by a brief overview of divination and its written record at Anyang, and of late Shang scribal training.

Writing and Divination in Early China

The earliest extant remains of Chinese literacy are overwhelmingly dominated, numerically speaking, by records of divination, incised into cattle scapulae and turtle plastrons (Keightley 1985, 1997). These bones and shells were themselves the materials with which the divinatory technique – pyro-osteomancy, the heat-cracking of animal bones or shells – was performed. This divinatory

1 Abbreviations used for published corpora of texts, and related conventions, appear at the head of the references section.

technique long predated writing, and its physical remains are distributed across a wide area of North-east and Central Asia, from Tibet to Japan. The earliest examples date to the fourth millennium BC. Over the course of the third millennium, pyro-osteomantic remains become attested in greater quantity. The practice reached a peak of intensity under elite patronage at the major sites of north China during the late second millennium BC, where organized workshops of specialists carried out divination on a daily basis (Flad 2008). It was during this period of most intense investment in the divinatory technique, used to validate the performance of elaborate and costly rituals directed at dead kin, that the innovation of a written record was first applied to the practice. The attestation of the Chinese writing system itself begins at the same period.

The earliest extant examples of pyro-osteomantic remains inscribed with written documentation were, with only a handful of exceptions, produced on behalf of members of the Shang royal family at a single site near the modern city of Anyang, location of the last seat of the dynasty during the last three centuries of the second millennium BC. Approximately 50-100,000 of these inscribed objects (the majority in a more or less fragmentary state) have been published, of which about half were from controlled excavations (Wang Yuxin and Yang Shengnan 1999:41-55). These impressive figures reflect both the intensity of divination at Anyang, and more than a century of excavation, uncontrolled as well as scientific, at the site.

To provide a concrete illustration of late second millennium BC divination and its written documentation, consider the plastron HD17. It is a largely intact turtle plastron that appears to have been repeatedly cracked in the performance of divination. Only two of these crackings have attracted written documentation appearing on the plastron, however.

(1) 甲辰，歲祖甲一牢，子祝。一。

Day 41/60, perform a *sui*-sacrifice to Male Ancestor Day 1/10 with one *lao*-ox, and with

the Child invocating. Crack number 1.

(2) 乙巳，歲祖乙一牢，𡆥祝。一。

Day 42/60, perform a *sui*-sacrifice to Male Ancestor Day 2/10 with one *lao*-ox, and with [unknown name] invocating. Crack number 1.

These two inscriptions contain the typical core formulae used to document divination at Anyang. The first of these is a record of the date, expressed according to a cycle of 60 days (Smith 2011a). The date is followed by the divinatory proposition, a statement of the course of action or future event that the divination is intended to validate or assess. In the two cases above, as in very many others, the propositions concern the performance of a religious procedure, and specify the procedure itself, the dead members of the patron's lineage who are the focus of the procedure, the livestock or other goods to be used, and the participatory roles of particular persons. Appended numerals count the heat cracks on the plastron associated with the inscription (only one in each of these cases). Dead kin are referred to using day-names based on a cycle of 10 days.

Divination was performed at Anyang by "workshops" of full-time specialists. Distinct roles within these workshops were filled by scribes and bone-workers, as well as the diviners themselves whose names sometimes appear in the written records. During the latter part of the reign of Wu Ding (r. ca. 1250-1200 BC), the first Shang king whose divinations are known to have been documented in writing, at least three major divination workshops employing scribes were in simultaneous operation at separate locations within the moated elite enclosure at Anyang. Two of these, represented by the inscriptions of the so-called Bin and Li groups (Li Xueqin and Peng Yushang 1996:105-128, 184-268), performed divination on behalf of Wu Ding himself. The patron of the third workshop, which produced the two records just cited, was a different individual, almost certainly one of Wu Ding's sons (Yao

Xuan 2006:24-55). The distinct locations where the output of the three workshops has been found probably reflects their distinct locations of operation, but no clear account has emerged of the relationship between the pits in which the inscribed divination materials were deposited and other nearby features.

The inscribed divination scapula discussed in this chapter is from a later Anyang workshop, two royal generations after Wu Ding, and thus probably operating during the second quarter of the twelfth century B.C. This is clear from the mention in the inscriptions of a deceased king and son of Wu Ding, referred to as Father Jia (父甲 "Father Day 1/10"). The records on the scapula belong to a large class of inscriptions known as the He Group, so-called after one of several frequently occurring diviner names – He 何 – that appears in the inscriptions. Modern typologies of the Anyang inscription further subdivide the He Group, primarily on the basis of writing style, and the example to be discussed is a representative of the He Group II type (Li Xueqin and Peng Yushang 1996:139-157).[2] He Group inscriptions have been found concentrated in the northern area of the elite enclosure at Anyang, north of the modern village of Xiaotun. A trench excavated in 1929, known as the *da lian keng* 大連坑 "big extended trench", was a particularly rich source of He Group inscriptions and, as we shall see, is likely to have been the location where the Columbia scapula was found.

Divination record-keeping was certainly not the only application of literacy during the late second millennium. Short and simple inscriptions cast on ritual bronzes, often involving little more than the descent-group emblem and day-name of the dedicatee, are extensively attested, and widely distributed outside Anyang. Stone objects bearing brush-written texts are known in much smaller numbers, and, like the divination records, are almost exclusively from Anyang. The divination records themselves contain numerous references to texts written on a writing medium ancestral to the later rolls

2 Different authors sometimes use confusingly different terms in their typologies of Anyang divination inscriptions, even when they agree on the membership of a type. For example, the "He Group II" referred to by Li & Peng is called "He Group I" by Huang Tianshu (1991) and Yang Yuyan (2005:table on p. 8). This chapter will consistently adhere to Li & Peng's terminology.

of bamboo strips bound together with thread, the earliest physically preserved examples of which are from as late as the fifth century B.C.

It has been suggested that during the reign of Wu Ding literacy was far more geographically and socially widespread, and functionally diverse, than the attested preponderance of royal divination records from Anyang would seem to imply (Bagley 2004). That remains an open question. However, there is no doubt that the ritual-administrative complex of which the royal divination workshops were a central component, is the only Shang institution that on present evidence was demonstrably employing literacy on a routine, daily basis. Moreover, as I have previously argued, some divination workshops at Anyang appear to have been training their own scribes rather than employing previously literate individuals to keep divination records (Smith 2011b). Consequently, reconstructing the activities of the Anyang divination workshops, including their procedures for scribal recruitment and training, must be central to any attempt at understanding the emergence and early evolution of literate behavior in East Asia.

In sharp contrast to the study of the cuneiform tradition of the Ancient Near East, in which scribal training is a well-developed and intensely-explored topic, there has been very little work done on literacy acquisition and literate education in Bronze Age China. This is largely due to the fact that it has not been generally recognized that any relevant evidence, such as inscriptions produced by trainees acquiring literacy skills, has survived in sufficient quantity to shed light on the question. It has long been agreed that among the corpora of published inscriptions from Anyang there are many examples of what are known as "practice engraving" (*xike* 習刻) inscriptions. However, these have consistently been interpreted as the products of already literate individuals learning to engrave on bone, as they transfered their literacy skills from one medium to another (Venture 2002:308; Wang 2007:326; Zhang Shichao 2002:27-28). The "practice engravings" are usually identified on the basis of evidently incompetent or disorderly graphs and inscription formulae. The "practice engravings" are treated as an anomalous

phenomenon of minor interest – a distraction from the central business of interpreting "real" divination inscriptions. For example, one major concordance to the Anyang inscriptions adopts the policy of excluding all instances of "practice engraving" inscriptions, along with faked inscriptions (Yao Xiaosui and Xiao Ding 1989:16).

I have suggested that this consensus needs revision. The "practice engravings" were produced by individuals who were acquiring literacy as well as engraving skills. This is clearest from the kinds of errors that they make, which are incompatible with literate competence, but also from the nature of the texts that they produce, many of which are copied from instructors' models or actual divination records. Although dramatically incompetent sign forms are distinctively associated with trainee inscriptions, many trainee texts are not immediately recognizable by this criterion, their engraving being in fact quite well-executed. Other criteria need to be employed to identify the very many trainee inscriptions that have previously gone unnoticed: evidence for the sight-copying of a model text, for example, or indications that what is ostensibly a divination record does not in fact document a divination performed using the object on which it is inscribed. From this fresh perspective, the trainee inscriptions cease to be a phenomenon of only marginal interest, and become instead an important body of evidence relevant to the intergenerational reproduction of a nascent writing system, and to patterns of organization and recruitment within one of East Asia's earliest literate institutions.

In previous work on scribal training at Anyang, I have relied largely on inscriptions with a documented archaeological provenance, and have tried to avoid items that entered museum collections through the antiquities market. Since trainee inscriptions are characterized by what are (from the point of view of the inscriptional corpus as a whole) anomalous features, including errors and sometimes incompetent engraving, it seemed wise to exclude the possibility of these traits being confused with those of fake inscriptions, which are not unusual in European and US collections.[3] However, having

3 The Columbia Library has in the past acquired a number of fake inscriptions (Tong 1967:13; Lee Yim (Li Yan) 1970:319-320; Hu Houxuan 1988:119), although there is no real uncertainty now as to which items in the collection are real and which are problematic.

already established a foundational understanding of the characteristics of scribal training inscriptions from Anyang on the basis of exemplars with a secure archaeological provenance, attention can now be given to some of the more important and informative unprovenanced examples, like the Columbia scapula.

The Columbia University Collection

The Columbia University Library's collection of early Chinese divination inscriptions, though not especially large, is one of the more important collections of its kind in the United States. The collection was acquired from several donors during the mid twentieth century. Although most of the items in the collection have been published, sometimes several times, and appear in the standard reference corpora, the collection has not yet been adequately published in its entirety.[4]

The core of the collection, in terms of quantity and significance, came from the collection of a single donor, Ernest Ketcham Smith (1873-1954, Chinese name Shi Meishi 施美士). The importance of Smith's collection stems from the fact that many of the approximately sixty inscribed items are likely to have been excavated at the same time from a single location at Anyang, and they seem to have been purchased by Smith very soon after. As with any items whose excavation was not scientifically documented, information about the archaeological context of Smith's inscriptions has been lost. In this case however, we can recover some of that loss. We can determine with considerable confidence the precise location at Anyang where Smith's divination inscriptions were found. At the time of their first publication in 1933, there were already suggestions (by Dong Zuobin, see discussion below) regarding the source of Smith's collection and how the items found their way onto the antiquities market. There is now a great deal of additional evidence, in the form of joins that have been identified between items at

4 Reproductions of items in the Columbia collection were published by Lee (1970:257, 315-320), Chou (1976:10-12, 17-18, catalog items 414-480), and Hu Houxuan (1999:118-125, items 2, 3, 12, 17, 19, 20, 22, 23). Brief notices of Columbia's exhibition, acquisition or holdings of this material include: Columbia University Office of the President (1937:414), Baughman (1952:24-25), Goodrich (1959), and Tong (1967:13).

Columbia from Smith's collection, and pieces currently in Taiwan whose excavation was scientifically recorded.[5]

Smith lived in China from 1911 when he began working in Beijing at the newly-founded Tsinghua College (later to become Tsinghua University) as a teacher of English.[6] In 1914 he married Grace Goodrich, who was born and had grown up in the missionary community at Tongzhou (通州) west of Beijing, and whose brother Carrington Goodrich was to become the Dean Lung Professor of Chinese Studies at Columbia. Smith remained at Tsinghua until 1929, when he took up a similar position teaching English on the neighboring campus of Yenching University. His acquisition of a collection of inscribed Shang divination bones seems to date to around this time.[7] He owned "about eighty", according to his daughter (Yanjing Yanjiuyuan 2001:199), and 62 received their first publication in 1933 (Shang Chengzuo 1933). Smith remained in Beijing after the closure of Yenching University by the Japanese at the end of 1941, and was interned for six months in 1943 before being repatriated to the United States.

His collection of inscriptions was already physically present at Columbia by 1937, when the Library Annual Report advertised their loan and exhibition (Columbia University Office of the President 1937:414). At some point after Smith's death in 1954, his collection, consisting of "sixty-two excellent pieces," was given to Columbia by his widow (Tong 1967).

As I have already indicated, Smith's collection is far from being a random assortment of objects, assembled from what was available on the market. Dong Zuobin, who was involved in the earliest scientific excavations at Anyang in the late 1920s, was the first to remark on the large number of He Group ("Period III" in Dongs' terminology) inscriptions in Smith's collection (Shang 1933:2-5). Dong noted that in this respect Smith's collection resembled the much larger body of inscribed

5 All joins between inscriptions fragments at Columbia and those elsewhere have been made by comparing reproductions of rubbings with one another. The actual fragments have not been in proximity with one another for 80 years.

6 For Smith's biography, I have relied on the following sources: Edwards (1959:451); Su Yunfeng (2004:43); Yanjing Yanjiuyuan (2001:198-201).

7 According to Chou Hung-hsiang (1976:18), the acquisition was by purchase in 1932 in Beijing. Lee (1970:257) makes the same claim, but neither author provides a source for this information.

divination remains that the team led by Dong had excavated in 1929 from a unit referred to in the reports as the *da lian keng,* or "big joined-up trench", towards the northern end of the moated elite enclosure, where rammed earth foundations of monumental buildings were distributed. The "trench" refers to an excavators' trench rather than a feature of the Shang site, and the excavators were in fact able to record very little in the way of archaeological context for the very many inscribed divination bones that came from this unit. Nevertheless, the *da lian keng* is the source of the great majority of He Group inscriptions from recorded excavation. Of the 2,700 inscribed fragments from within the approximately 20m x 20m limits of the *da lian keng*, 1,350 were classified by Dong's team as "Period III", which for our purposes is synonymous with "He Group" (Shi Zhangru 1985:57-96, figs. 18-19, table 52). Presumably, the workshop of the He Group diviners and scribes was operating somewhere in the vicinity of the *da lian keng*. Dong also pointed out that one of Smith's pieces (US418 = YiCun256) could be joined with a number of fragments that Dong had himself excavated from the *da lian keng* during the third season of excavations in 1929.[8] This is a strong indication that some of the items in Smith's collection had come from the *da lian keng* or its immediate vicinity.

Dong Zuobin also outlined a sequence of events by which the inscriptions in Smith's collection may have found their way onto the market. During the third season of excavations in 1929, there had been a dispute for control over the site between Dong's team, working for the newly-founded Institute of History and Philology (IHP) and thus employees of the central government, and a provincial team led by the director of the Henan Museum, He Rizhang 何日章 (Wang Yuxin and Yang Shengnan 1999:44). Accounts by IHP archaeologists portray the Henan team as exceedingly unscrupulous and incompetent. Certainly, their efforts resulted in no meaningful site report. Two of the Henan team's oddly shaped trenches appear on the IHP site maps (Shi Zhangru 1985:215, fig. 52), though neither of these is especially close to the *da lian keng*. In the course of their efforts, the provincial team did

8 The join noticed by Dong, which includes a substantial segment of the Shang king list probably by a scribal trainee, belongs to the Li Group, and is thus a royal generation or two earlier than the the majority of items from the *da lian keng*. Qiu Xigui (1992:236, 239) subsequently added another fragment to the join, also from the *da lian keng*.

recover a large number of divination inscriptions, many of which were published in the following decade (Xu Jingcan and Guan Baiyi 1933; Sun Haibo 1937; cf. Bai Yuzheng 1989:313-314). None of these published collections has any obvious connection with Smith's. However, Dong Zuobin left the following account, in a preface to the book in which Smith's collection was first published, of how additional inscriptions unearthed by his provincial adversaries may have gone astray.

> I was the first to excavate in the vicinity of the *da lian keng*, during the third season of work. Then the dispute for control with the Henan Museum began, and that work was stopped for three weeks. Subsequently I returned to the excavation of the *da lian keng*, recovering many examples of Period III shells and bones. Before this there had certainly not been anyone digging in this area. The items collected by the Museum were, in no time at all, stolen: a small box covered in green cloth containing inscribed shells and bones was lost. The matter passed through the hands of Xuan and Qiu.[9] The owner of the Five Continents Guest House ran away fearing punishment, and the establishment was closed for investigation for months. Those are the facts, and a case is on file with the county administration where they can be checked. This is most likely the source of Smith's bones. (Shang Chengzuo 1933:6, preface.)

As we have seen, Dong Zuobin was already aware that YiCun256 could be joined with fragments that he had himself excavated. In fact, there are six more items in Smith's collection that can be joined with items that Dong excavated from the *da lian keng* that year (Table 1).[10] The fragments

9 Comparison with other accounts (e.g. that of Dai Jun 2009:69-78) seems to indicate that "Xuan" is Xuan Zhongxiang 軒仲湘, brother-in-law of the Henan Museum director, police academy graduate and would-be archaeologist. I don't know who Qiu 邱 is.

10 I have not attempted to trace when and by whom these individual joins were first identified. I have simply relied on the tables of Hu Houxuan (1999), Zhongguo Shehuikexueyuan Lishi Yanjiusuo (1999), and Cai Zhemao (2004). Their relevance to the provenance of Smith's bones does not appear to have been previously noted, except for the instance mentioned by Dong Zuobin. Chou (1976) seems to have been unaware of any joins at all when he published a portion of the Columbia collection 35 years ago. Zhang Juntao (2009a: item 12, 2009b:78, 82) has recently proposed an additional join between one of Smith's plastron fragments (HJ31477 = US437 = YiCun316) and six further He Group fragments

excavated by Dong are all now among the IHP collections in Taiwan.

Whether Smith's bones really were excavated by the Henan team, and whether they were stolen, is impossible to know with complete confidence.[11] However, the joins mean that the seven items in question were without a doubt from the immediate vicinity of the *da lian keng*, as Dong has stated. Given the homogeneity of Smith's acquisitions, it is likely that most of the rest of his collection came from the same location.

Table 1: Known Joins Involving Items from Smith's Collection at Columbia University.

Joined published as	Items in Columbia collection	Items from *da lian keng*
HJ27456	US414 = YiCun266 + YiCun257	Jia2799
HJ26975	US416 = YiCun255	Jia2803
HJ32385 + HJ35277 = HJBB10436	US418 = YiCun256	Jia2282
HJBB7257	US425 = YiCun271	Jia2854 = HJ24377, Jia2828 = HJ24478
HJ31356 = HJ31365	US430=YiCun282	Jia2513 + Jia2529 = HJ31330
HJ31406	US442 = YiCun278 = HJ31366	Jia2442 (= HJ31395), Jia2561
HJBB6954	US453=YiCun300 = HJ31886 = HJ20794	Jia2878-9 = HJ21475

Scapula HJ27456 as evidence of scribal training

currently divided between the Royal Ontario Museum and the National Library of China. The seven pieces are certainly very closely related, and may well be pieces of the same object. However, the joins are mostly what are know as "distant joins" (*yaozhui* 遙綴). That is, the breaks do not align directly with one another, and no single line of text can be traced across both sides of a break. Moreover, none of the fragments is known to have come from the *da lian keng*. For these reasons, I have omitted Zhang's important discovery from Table 1.

11 Mysterious joins of excavated divination bones to unprovenanced items are certainly not confined to those from the *da lian keng*. Wei Cide (2008) lists 13 joins between unprovenanced items in various collections and bones excavated by the IHP from pit YH127 in 1936. Wei suggests that the unprovenanced pieces were also excavated from YH127 at the same time and became separated before most of the contents of that pit were removed to Taiwan.

The first item in Table 1, HJ27456, is a join of two fragments from Smith's collection with a further fragment from the 1929 IHP excavations at the *da lian keng* (Fig. 1). It was a product of the He Group workshop, as were many items from Smith's collection and from the *da lian keng*. The scapula shows obvious signs of having been used by a trainee for writing practice. The graphs on the reverse are dramatically incompetent. Many of those on the obverse are also less than fully secure, and the formulae they write are in several cases incomplete or otherwise anomalous. The presence of trainee inscriptions has been noted previously and described in terms of "engraving practice" (*xike* 習刻) (Zhang Juntao 2009b:33-34). However, no attention has been paid to reconstructing the use-life of this complex object, or its implications for the question of literacy acquisition.[12]

Actual Shang records of pyro-osteomancy (as opposed to scribal training inscriptions or other texts that sometimes appear on shells and bones from Anyang) are by definition records of activity associated with particular heat-cracking events that took place on the bone or plastron. With great consistency, the Anyang divination scribes placed each divination record at a point on the bone or plastron close to the location where the heat crack appeared. The location corresponded to a gouged-out notch on the reverse surface where heat was applied to produce the crack. This provides an important test for distinguishing real divination records from other textual material, including trainee texts: in general, a text is aligned with a crack on the obverse and a gouged-out notch on the reverse if and only if it is a real divination record (Smith 2011b:191-196).[13]

12 Yim Lee (1970:315-317), in his commentary on this scapula, disputed the join with Jia2799 (which he mistakenly referred to as Yi2799) on the grounds that the "chaotic and jumbled" inscriptions on the Columbia fragment and the orderly ones on the Taiwan piece "would not likely appear on the same object." The interpretation of this chapter, in terms of scribal training exercises added to a used divination bone, turns the basis for this objection into additional evidence for making the join. There is no doubt that the Columbia and Taiwan fragments were originally parts of the same object.

13 The situation is made more complex by the so-called "Bin Group big-character scapulae (*Binzu dazi guban* 賓組大字骨版)". The texts on these objects, finely written in large graphs, are indistinguishable from divination records in terms of content, yet do not correspond to divinatory cracks or notches. I have tentatively pursued Matsumaru's (2000) proposal that these may be some form of model text for scribal instruction (Smith 2008:373-384). However, other interpretations exist (e.g. Sakikawa Takashi 2008) that would complicate spatial correspondence with cracks and notches as a criterion for distinguishing actual divination records from other categories of inscription.

The cracks are often difficult to make out on rubbings, and there is a convention of not publishing rubbings of reverse surfaces unless they bear inscriptions. However, with HJ27456 we are fortunate in having published rubbings of the reverse, as well as being able to make out many of the cracks on the obverse.[14] Fig. 2A maps the locations of cracks and notches onto an outline of the obverse of the plastron. There are six sets of notches and cracks, four running parallel to the right-hand edge, and two more at the proximal (top) end of the scapula. Note how the four collinear cracks were responsible for the break separating US414 from Jia2799, and how the middle crack at the proximal end of the scapula led to the additional break between YiCun257 and YiCun266. Although weakened at these points, the object remained intact while it was still in use and being inscribed, and only fragmented after it was discarded and buried.

Since there are only six sets of notches and cracks on what remains of the scapula, we should expect to find no more than six records of divination events, written at positions adjacent to the cracks. Instead, the plastron surface is densely covered with inscriptions. If one includes a number of formulaically incomplete or anomalous inscriptions, there are 22 inscriptional units on the obverse of the scapula (Fig. 2B). One or two of those units could be records corresponding to notches and cracks on missing fragments, but certainly there are many inscriptions on the object that, although they formally resemble divination records, cannot be actual records of divination performed using this bone. The fact that some of the units are in an insecure hand suggests that all of the twenty or so non-records are the output of some kind of exercise in scribal training.

Identifying the six records that correspond to the six cracks and notches is straightforward in most cases. The four records that run up the right-hand edge of the scapula, which ended up on the fragment in Taiwan, align with the run of four collinear cracks. They are neatly separated by dividing lines, and their corresponding cracks have been numbered by the scribe, the numerals having ended up on the Columbia side of the break. In the convention of this workshop, a crack is labeled with the

14 Color photographs of the fragment in Taiwan (Jia2799) are also available via an online database maintained by the IHP: http://archeodata.sinica.edu.tw/allindex.html (last accessed Sept. 3rd, 2011).

numeral “one” unless a series of divinations was performed on the same day, in which case the divinations are numbered serially. Each of these four records is dated in the normal way according to the sexagenary cycle of days. Another established convention for scapulae belonging to this workshop is for a series of divinations running along the edge of a scapula like this to be executed in bottom-to-top order.[15] Assuming that holds in this particular case, the sequence of dates for the series of four divinations would then probably be: day 49 > day 30 (41 days later) > day 44 (14 days later) > day 44 (same day). Fig. 2C shows the location of these four records, labeled I to IV with their 60-cycle dates. The record of the divination corresponding to the leftmost crack and notch must be the one labeled V in Fig. 2C, given its position relative to the notch, and the fact that it has been copied by a less confident hand. This divination took place on a cyclical day 47, most probably three days after divinations III and IV. The inscription labeled VI, dated to a day 49 and probably two days later than V, must be the record for the middle-top crack and notch: the only other inscription adjacent to the horizontal arm of the crack is, as we shall see, a trainee copy of II. The two inscriptions immediately to the left of VI, incomplete because of the break, may also have been actual records corresponding to cracks and notches on the missing proximal end of the scapula.

Divinations I-VI were all, according to their corresponding records, performed by Diviner He, after whom the He Group is named. Divinations I-III, and V, were for the purpose of validating offerings to dead members of the royal lineage, referred to by their posthumous day-names. Records II and V are of particular importance to the argument that follows, and are transcribed and translated here.

(3) 癸巳卜，何貞：翌甲午蒸于父甲，饗。

Day 30 cracking, He divined: “Tomorrow, day 31, make a *zheng*-offering to Father Day 1, feasting (?).” (Record II)

15 Workshop conventions of this kind are derived inductively by comparing typologically similar objects and inscriptions. Other He Group II items from the *da lian keng* that are most closely comparable to the scapula under discussion include: Jia2484 + Jia2502 = HJ27321, Jia2490 = HJ27138, Jia2748 = HJ27430, Jia2544 = HJ27564, Jia2880-81 + Jia2692-93 + Jia2574 = HJ27042 + HJBB10209.

The reference to Father Day 1 is especially important as it allows the divination to be assigned to a particular reign, that of Father Day 1's son (and Wu Ding's grandson), Kang Ding 康丁 (r. ca. 1150 B.C.).

(4) 庚戌卜，何貞：翌辛亥其又毓妣辛，饗。

Day 47 cracking, He divined: "Tomorrow, day 48, the *you*-sacrifice will perhaps be performed to Recent Female Ancestor Day 8, feasting (?)." (Record V)

Recent Female Ancestor Day 8 is the posthumous name of Fu Hao (婦好 "Wife Hao"), one of Wu Ding's spouses and the grandmother (or possibly great aunt) of the reigning Kang Ding.

Other than the actual divination records I-VI, and the one or two damaged inscriptions that may also have been real records of divinations corresponding to cracks and notches that are now missing, I claim that *all* the remaining inscriptional units appearing in Fig. 2B are scribal exercises, added after the bone ceased to be used as a divinatory tool. The reasons for thinking that they are scribal exercises, are, first, that they are written in a visibly less secure hand (or hands) that the actual records; second, that they include two close-to-verbatim copies of records II and V; third, they include errors that no competent scribe would be likely to make; and fourth, no other candidate explanation has been suggested for the appearance of all these densely packed inscriptions with no corresponding cracks or hollows. The reasons for thinking that the trainee texts were added after the divination records are, first, that they arranged simply so as to fill up remaining space, and are somewhat jumbled as a consequence, while the positions of the records proper are orderly and constrained by the locations of the cracks and notches; second, as just mentioned, the trainee texts include two imperfect copies of actual records; and third, it seems intuitively more likely that a discarded divination bone would be made available for

trainees to practice on, than that a practice scapula would be used for royal sacrifice divinations after scribal trainees had finished writing out exercises on it.

The question of the visual contrast between what I describe as a less secure trainee hand (or hands) and the more secure hand responsible for records I-VI is a rather subjective one, or at any rate difficult to express concisely in words. Also, apart from the very poorly executed graphs on the reverse, that previous authors have agreed are "engraving practice" (Shang Chengzuo 1933: transcriptions, p. 41; Yao Xiaosui and Xiao Ding 1988:611), the engraving of the trainee inscriptions is not especially badly done. One can find many examples on other objects of real divination records being kept by hands that are similarly unsure (and which presumably belong to relatively inexperienced scribes). It is for this reason that relative competence in engraving is not, in isolation, an adequate criterion for distinguishing practice inscriptions from actual records. The other criteria mentioned above – absence of matching cracks and notches, errors and anomalies, signs of copying, and the overall use-history of the object – all need to be considered. The term *xike* 習刻 or "practice engraving" has typically been applied only to dramatically incompetent hands, without reference to other criteria, and so has captured only the very tail-end of a much larger body of evidence relating to scribal training.

That said, I invite the reader to consult reproductions of the scapula in question, together with other He Group II inscriptions, to test their intuition against mine as to what constitutes a more or less secure hand. Records II and V and their copies are reproduced in Fig. 3. In all cases the text flows in columns from top to bottom. The columns flow from left to right, except for the copy of record II, in which they are arranged from right to left. Record V and its copy probably provide the clearer demonstration of the contrast in scribal competence. Since both are on the Columbia side of the break, the two reproductions come from the same rubbing. Readers familiar with the script will have little trouble noting the weakness, in the copy of record V, of the last two graphs of the first (leftmost) column of the copy (貞 and 翌), and of the fourth and fifth graphs in the next column (又 and 毓),

especially compared with the record that provided the model.

Besides the relative insecurity of the engraving technique, two errors made by the scribal trainee are also informative. The copy of record V is a very faithful one. Not only is the text reproduced verbatim, but even the layout of the graphs in columns is preserved. The copy of record II, on the other hand, departs at two points from its model, and in such a way as to result in anomalies that would be unlikely to occur in an actual divination record written by a fully competent scribe.

The first anomaly is the date. Recall (citation 3, above) that divination II took place on day 30 of the 60-day cycle, and concerned a ritual procedure to be performed the following day: "tomorrow, day 31." In the copy, one of the terms in the date of the divination has been changed, so that the text now begins, "Day 10 (癸酉) cracking, He divined: 'Tomorrow, day 31 ...'." Clearly, an error has been introduced and the two dates are no longer compatible.[16] This supports the contention that this inscriptional unit is not an actual record containing meaningful information, but instead an inexact copy. It also suggests that the scribe was not used to the manipulation of cyclical dates and the common formulae in which they occur.

The second anomaly indicates that the scribe making the copy of record II did not fully understand the text being copied. The scribe visually misunderstood the ligature (*hewen* 合文) for "Father Day 1" that occupies the third graph position in the third column of record II. The ligature combines the graph for "cyclical day 1" (which resembles our "plus" sign), with the graph for "father". The ligature should appear (as it does in record II) as

16 The word I translate as "tomorrow", *yi* 翌, can in fact refer to any day in the upcoming 10-day Shang week. However, in the great majority of cases (including records I, II and V on this scapula) the day is the immediately subsequent one. It is sometimes claimed that it can refer to a day more than a`10-day week in the future. However, reported examples are rare enough for one to suspect that they are all anomalous in precisely the same way that the example considered here is. Among the examples tabulated by Chang Yuzhi (1998:241), 73% refer to the immediately subsequent day, and only 1% seem to be referring to a day more than 10 days away. Note that Chang's only example from the He Group with a date at a remove of more than ten days is the Columbia scapula itself.

Note that in record II, the graph for "cyclical day 1" also occurs in the third position in the middle column as part of the date, "day 31". It overlaps in a visually distinctive manner with its counterpart in the ligature. The trainee appears to have understood the two coincidentally overlapping "cyclical day 1" graphs as components of a single graph, and the "father" component of the ligature as an independent graph, writing out the copy accordingly.

Both of these errors would be difficult to account for if the hand that produced them were already a competent scribe merely transferring existing literacy skills onto the unfamiliar medium of bone. Ancestral day-name ligatures are exceedingly common in Shang inscriptions. As labels on cast bronze ritual vessels, they had became by the end of the second millennium a common feature on sets of ritual equipment among the Shang-influenced elite across north China (Smith 2011a:9-14). It is hard to imagine that a fully-trained scribe working for a royal patron would have misunderstood this reference to his employer's dead father. Similarly, there is no known Shang graph resembling the paired "cyclical day 1" compound that the trainee has mistakenly written. It is inconceivable that even a modestly literate individual would have failed to recognize that an ordinary 60-cycle date was what was required in this context. We can thus conclude that the individual responsible for the copy, though capable of quite controlled and tidy engraving, was unfamiliar with some of the most common graphs and written conventions. This trainee seems to have been in the process of acquiring a knowledge of literacy through the sight-copying of actual divination records produced by scribe of the He Group.

Conclusions

As Dong Zuobin first stated, Smith's collection has important connections with the He Group inscriptions excavated in 1929 from the *da lian keng*, and must have been unearthed at that location. Joins with excavated fragments now in Taiwan confirm Dong's original proposal. The link is strong

enough that studies of either the He Group or the contents of the *da lian keng* should probably treat Smith's collection and the contents of the *da lian keng* as a single corpus. Although both collections contain material from other groups, they are dominated by He Group inscriptions. It is likely that the workshop that produced the He Group inscriptions operated somewhere in the vicinity of the *da lian keng*.

Another trait that Smith's collection shares with the items excavated in 1929 is the significant presence of remains of scribal training. Besides the scapula discussed in this chapter, the joins listed in the second, third and last items in Table 1 all show clear signs of trainee hands, as do a number of Smith's other smaller fragments at Columbia.

HJ27456 is a complex example of a divination bone that, after a period of use documented in writing on its surface, was turned over to scribal trainees for practice. The bone was in use for divination over a period of about 60 days. Six records corresponding to six heat cracks remain on the portions of the scapula that survive, dated to within that span of time. The remaining inscriptions (the substantial majority) were added subsequently by scribal trainees. In some cases they took actual records on the bone as their model, for the purpose of sight-copying. In others, they may have relied on records on other discarded divination bones that were made available to them. Errors made by the trainees imply that they were not fully literate individuals learning how to engrave, but rather reasonably competent engravers with a very imperfect grasp of the script. As with other evidence from the *da lian keng*, this item from Ernest Smith's collection suggests that the divination workshops at Anyang taught literacy skills to their own scribes.

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CunYi = Shang Chengzuo (1933).

HD = Zhongguo Shehuikexueyuan Kaogu Yanjiusuo (2003).

HJ = Guo Moruo (ed. 1978).

HJBB = Zhongguo Shehuikexueyuan Lishi Yanjiusuo (ed. 1999).

Jia = Dong Zuobin (1948).

US = Chou (1976).

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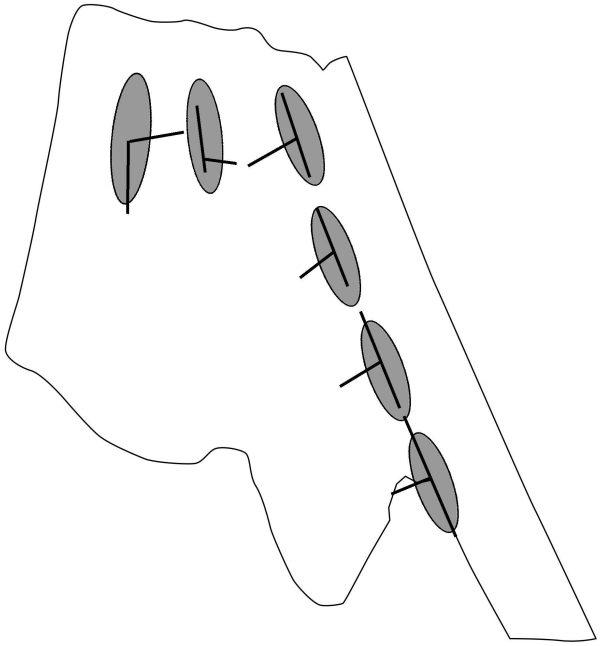
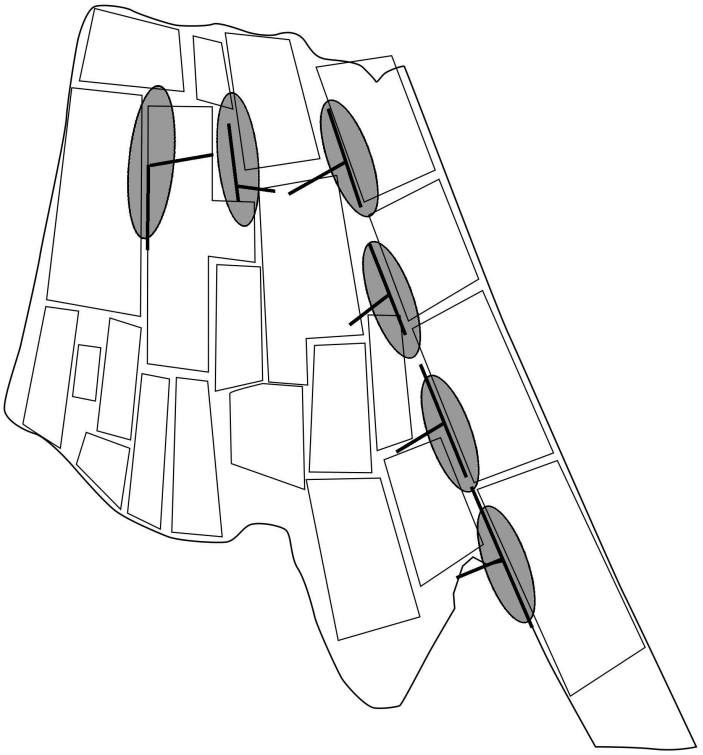
Fig 1. - Caption





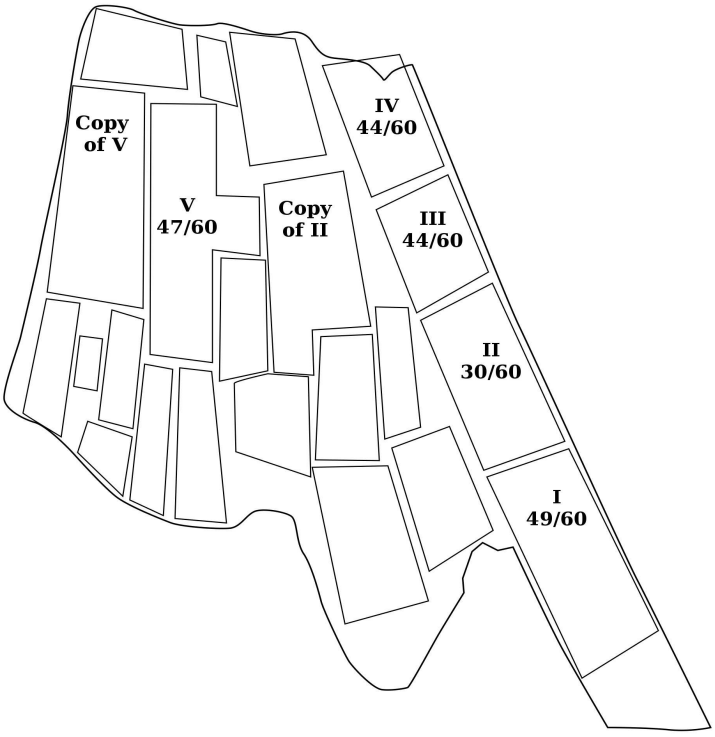
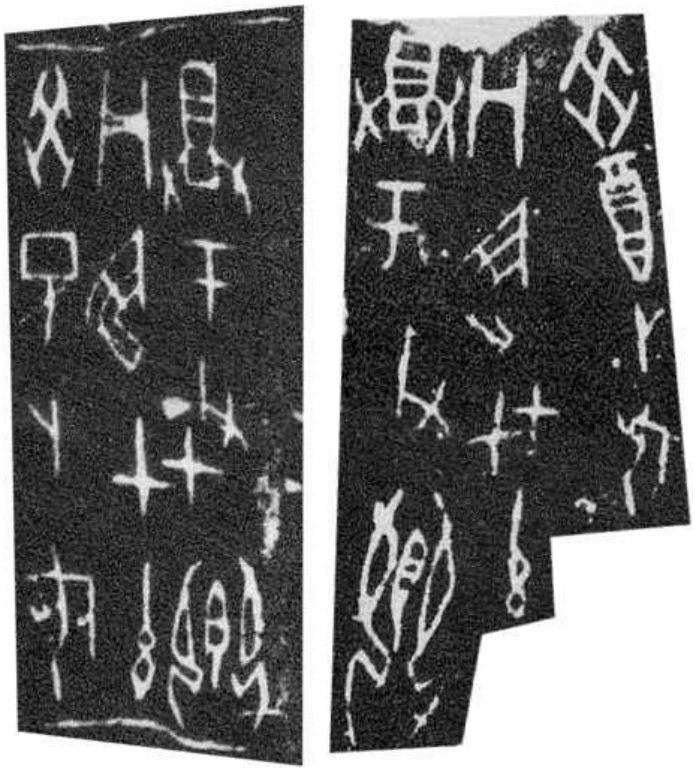


Fig. 2 A-C – Caption



Record II Copy of Record II

Record V Copy of Record V