The Jin hou Su Bell Inscription and Its Implications for the Chronology of Early China*

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The excavation of the cemetery of the Jin lords at Tianma-Qucun, Shanxi, has been one of the most important archaeological discoveries of recent years. As with most archaeological discoveries, it forces us to reconsider early Chinese history, offering the possibilities both of confirming and of correcting traditional views of that history. In the case of the Tianma-Qucun excavation, nothing has prompted more interest and debate than the inscription on the Jin Hou Su bianzhong—especially the question of its date.1 Although it has been the topic of many studies already, including those associated with the Xia-Shang-Zhou Chronology Project (Xia Shang Zhou Duandai Gongcheng), in progress in China since 1996, there has not yet appeared any solution that is either generally accepted or that can account for all of the apparently conflicting data related to the question.2 We are there-

* The conclusions presented in this paper are substantially those presented in Ni Dewei 倪德衛 (David S. Nivison) and Xia Hanyi 夏含夷 (Edward L. Shaughnessy), “Jin hou de shixi ji qi dui Zhongguo gudai jinian de yiyi” 晉侯的世系及其對中國古代紀年的意義, Zhongguo shi yanjiu 中國史研究 2001.1, 3–10, though some of the argumentation differs somewhat.

1. For a review of work in Chinese on the Jin Hou Su bianzhong, see Jaehoon Shim, “The ‘Jin Hou Su bianzhong’ Inscription and Its Significance,” Early China 22 (1997), 43–75, especially the rich footnotes. Shim’s article includes reproductions of the text together with a complete transcription and translation; the translations that we offer here do not differ materially from those by Shim.

fore putting forward our own simple solution, which we believe can account for all of the conflicting data. It heeds previously unnoticed evidence that requires revising one important point in the received historical record; but at the same time it confirms many other points in that record.

**Which King?**

The *Jin Hou Su bianzhong* inscription begins with the statement that “in the king’s thirty-third year, the king personally inspected the eastern states and the southern states.” It then narrates an extensive campaign led by the (unnamed) Zhou king and a lord of the Jin state named Su. The *Suoyin* 索引 commentary to the “Jin shijia” 晉世家 chapter of the *Shi ji* 史記 quotes the *Shi ben* 世本 as stating that Su 蘇 was the name of Jin Xian hou 晉獻侯: at the *Shi ji* record “his son Xian Hou Ji 蘇藉 was

b.c. Although this preliminary report lacks any of the substantiation one would normally expect in a scholarly publication, it is clear that its dating of these bells is based on two recently published studies: Li Xueqin 李學勤, “Jin Hou Su bianzhong de shi di ren” 晉侯蘇編鐘的時地人, *Zhongguo wenwu bao* 中國文物報 1 December 1996 (repr. in *Xia Shang Zhou niandaixue zhaji* [Shenyang: liang jiang zaixing daxue, 2000], 7–11); and Qiu Shihua 仇士華 and Zhang Changshou 張長壽, “Jin Hou mudi M8 de tan shi niandai ceding he Jin Hou Su bianzhong” 晉侯墓地 M8 的碳十四年代測定和晉侯蘇編鐘, *Kaogu* 考古 1999.5, 90–92. We regard both of these studies as fundamentally flawed. Li Xueqin’s thesis is that the thirty-third year date of the inscription pertains to events that took place during the reign of King Li 厉王 (r. 877–841 b.c. according to the chronology adopted by the Xia-Shang-Zhou Chronology Project), but that the inscription was not engraved until some twenty-five years later after Su had become lord of Jin. Not only is this sort of anachronistic inscription utterly unprecedented for this period, but—as we will point out below—it is also almost certainly impossible that King Li could have reigned as long as thirty-three years. The article by Chou Shihua and Zhang Changshou presents carbon–14 dates taken from two carbonized wood samples from M8: 2630 ± 30 and 2620 ± 20, which they average to 2625 ± 22, and then use an unspecified tree-ring calibration to arrive at a date of 808 b.c. ± 8 years. Curiously, the carbon–14 dates released in the preliminary report of the Xia-Shang-Zhou Chronology Project (p. 18, Table 6) do not include either of these two dates, but give instead a single date, 2640 ± 50, calibrated to 814–796 b.c. Even more curiously, one date from M64, assumed by the Xia-Shang-Zhou Chronology Project to be later than M8 (but note our analysis to the contrary below), yields a carbon–14 date, 2671 ± 38, earlier than any of these dates for M8, but the preliminary report calibrates it to 804–789 b.c., i.e., later than any of these dates. We are aware of the possibilities for rather precise calibrations of carbon–14 dates using wiggle-matching (see for example, Yasushi Kojo, Robert M. Kalin, and Austin Long, “High-Precision ‘Wiggle-Matching’ in Radiocarbon Dating,” *Journal of Archaeological Science* 21 [1994], 475–79), but in the absence either of any explanation of the methodology used or especially of a more extensive test sample, these results can only be regarded as a curiosity.
established,” the commentary states: “The Xi ben 系本 [i.e., Shi ben] and Qiao Zhou 譙周 both write [this name Ji as] Su 蘇.” Accordingly most scholars have identified this Jin Hou Su with Xian Hou. We too accept this identification. But the “Jin shijia” chapter of the Shi ji has Jin Xian Hou reigning from the sixth to the sixteenth year of King Xuan of Zhou 周宣王—that is, 822–812 B.C.—which is incompatible with the “king’s thirty-third year” date of the Jin Hou Su bianzhong inscription. No matter how one might try to resolve this difficulty, it seems necessary to admit that the Shi ji chronology is mistaken regarding the reign of Jin Xian Hou, as most Chinese scholars who have published on this question have seen.

There has been much debate over whether the Zhou king of this inscription is King Li 厉王 or King Xuan. We believe that the date “thirty-third year” excludes the possibility that the king is King Li. Both of us have demonstrated in earlier publications that King Li could not have reigned this long. Perhaps it is sufficient to note here that the Xia-Shang-Zhou Chronology Project has now accepted 899 B.C. as the date of the solar eclipse that the Zhushu jinian 竹書紀年 records as having taken place in the first year of King Yih 懿王. (The exact date was 21 April 899 B.C.) For King Li to have reigned at least thirty-three years by 842 B.C., when he was forced into exile in Zhi 彰, his first year of reign could have been no later than 874 B.C., just twenty-five years after the date of the eclipse. Thus it would be necessary to assume that the total length of the reigns of King Yih as well as kings Xiao 孝 and Yi 夷, the following two kings before the reign of King Li, was no greater than twenty-five years, even though all traditional historical sources credit King Yih alone with a twenty-five-year reign, and even though bronze inscriptions that are almost certainly from these three reigns require that they lasted more than twenty-five years. If King Li did not reign at least

5. Xia Shang Zhou duandai gongcheng 1996–2000, 24–26. The words “the day dawned twice” (tian zai dan 天再旦), probably recording a dawn (or pre-dawn) eclipse, are found in both the “Modern Text” and the “Ancient Text” of the Zhushu jinian; see Zhushu jinian (Sibu beiyao ed.), 2.6b. All references to the Zhushu jinian are to the “Modern Text.” The first scholar to have associated the 899 eclipse with the Zhushu jinian passage appears to have been Pang Sunjoo (Fang Shanzhu 方善柱): “Xi-Zhou niandai xue shang de jige wenti” 西周年代學上的幾個問題, Dalu zazhi 51.1 (1975), 15–16.
6. For dates of bronzes that can be assigned to the reigns of these kings, see
thirty-three years, then the only remaining possibility for the date of the *Jin Hou Su bianzhong* would be King Xuan, whose dates of reign are generally accepted as 827–782 B.C. This is the dating that the archaeologists who excavated the Tianma-Qucun cemetery gave to tomb M8, from which the vessel came.

**What Year?**

Many scholars, however, have resisted a King Xuan date because the month and day dates in the inscription are not compatible with 795 B.C., the thirty-third year of King Xuan’s reign (which began in 827 B.C.). The dates and the events with which they are correlated occur in the following order:

1. The king’s thirty-third year: the king personally inspected the eastern and southern states.
2. First month, *jishengpo* 既生霸 (second quarter), *wuwu* 戊午 (day 55 in the sexagenary cycle of *gan zhi*): the king set forth from Zong Zhou.
5. Third month, *fangsipo* 方死霸: the king reached Han and divided his forces.
6. Sixth month, *chuji* 初吉 (first quarter), *wuyin* 戊寅 (day 15): at dawn the king appeared in the Great Hall.

Any analysis of these dates requires certain assumptions. We make four. First, meanings of the so-called “lunar phase terms” (*chuji*, *jishengpo*, etc.) have been hotly disputed, some scholars rejecting an analysis taking them (as here) as names of lunar quarters (or first days thereof), the majority interpretation associated with Wang Guowei 王國維 (1877–1927). We believe that the lunar-quarter interpretation has now been confirmed beyond reasonable doubt by the recently published *Wu Hu ding* 吳虎鼎 inscription. Second, we assume that the days *guimao* (40)

Shaughnessy, *Sources of Western Zhou History*, 284–85, Table A16; and Nivison, “The Key to the Chronology of the Three Dynasties,” 46–47.

and renyin (39) of the third and fourth dates were reversed by mistake in the carving of the inscription (it happens to have been carved, not cast; and the two day-dates happen to be on successive bells in the set). Third, we assume that the four dates that include month, lunar quarter, and day notations all belong to the calendar of a single year, which the narrative of the inscription shows they certainly did. And fourth, we assume that civil months alternated between “long months” (thirty-day months) and “short months” (twenty-nine-day months), as they did in all later periods of Chinese history and as is necessary to correlate the calendar with the 29.53-day mean length of a single lunation. Based on these four assumptions, the calendar of the year in question can be reconstructed with almost exact precision, as shown in Table 1. A calendar with a first day of the year earlier than day 47 would not be able to accommodate a day 15 in the sixth month, and one with a first day later than day 47 would require that day 39 of the second month not be in the third quarter. The calendar given in Table 1 is virtually the only calendar that could accommodate all four of the dates in the inscription.\(^8\)

There is no way of making these dates consistent with the calendar for the year 795 B.C. (the thirty-third year in a reign beginning in 827

\begin{table}[h]
\centering
\caption{Reconstruction of the calendar in the Jin Hou Su bianzhong \textit{(arabic numerals in the body of the table represent the sexagenary cycle of ganzhi; underlining indicates dates mentioned in the inscription)}}
\begin{tabular}{c|cccccccccccccccccccccccc}
\hline
\hline
1 & 47 & 48 & 49 & 50 & 51 & 52 & 53 & 54 & 55 & 56 & 57 & 58 & 59 & 60 & 01 & 02 & 03 & 04 & 05 & 06 & 07 & 08 & 09 & 10 & 11 & 12 & 13 & 14 & 15 & 16 \\
3 & 46 & 47 & 48 & 49 & 50 & 51 & 52 & 53 & 54 & 55 & 56 & 57 & 58 & 59 & 60 & 01 & 02 & 03 & 04 & 05 & 06 & 07 & 08 & 09 & 10 & 11 & 12 & 13 & 14 & 15 \\
5 & 45 & 46 & 47 & 48 & 49 & 50 & 51 & 52 & 53 & 54 & 55 & 56 & 57 & 58 & 59 & 60 & 01 & 02 & 03 & 04 & 05 & 06 & 07 & 08 & 09 & 10 & 11 & 12 & 13 & 14 \\
\hline
\end{tabular}
\end{table}

\(^8\) Shim, “The ‘Jin Hou Su Bianzhong,’” 60, Table 2, gives the same calendar as we do here, though he subsequently (p. 66) follows Ma Chengyuan 馬承源 in identifying the year as 846 B.C., the thirty-third year of a putative reign of King Li beginning in 878 B.C.; see Ma Chengyuan, “Jin Hou Su bianzhong” 晉侯蘇編鐘, \textit{Shanghai bowuguan jikan} 上海博物館集刊 7 (1996), 14. Shim also makes the reasonable assumption with respect to the sixth month date of this inscription that “the king may have intentionally scheduled his entry into the Grand Chamber of the Military Hall for the first day of the month” (p. 60).
b.c.), for which the almanacs of both Zhang Peiyu 張培瑜 and Dong Zuobin 董作賓 give the first day of the first month as yiyou (day 22). But as Chen Jiujin 陳久金 has pointed out, the following year 794 matches this calendar exactly. For 794 b.c. both Zhang and Dong give the first day of the “first month”—that is, the month containing the winter solstice day—as jimao 己卯 (day 16), and the first day of the preceding month—that is, their twelfth month of 795 b.c.—as gengxu 庚戌 (day 47). Either of two different assumptions could make this the first month of the year corresponding to 794 b.c.: a different intercalation schedule from those used in Zhang’s and Dong’s almanacs, or a civil calendar in use in the state of Jin taking the pre-winter-solstice month (classically the first month of winter) as the first month of the year.

The match with 794 b.c. is so exact that one must consider very carefully whether it is possible to reconcile it with the inscription’s date “thirty-third year.” There is a simple solution: The first line of the inscription states that the king’s major business in his thirty-third year—that is, 795 b.c.—was to “inspect” (xing 省 “put in order, by military action or threat”) the subordinate states to the east and south. The remainder of the inscription deals only with a campaign to the east. Earlier in 795 b.c., therefore, there had been campaigns to the south, and perhaps also others to the east; but the actions in the inscription, to the east only, were ensuing actions that happened to involve the Jin state. Thus the next dates, “first month,” etc., must be understood as dates in the next year.

Another solution is a plausible variant of the first one. Suppose that the Zhou court and the Jin state were using different civil calendars, the Jin state using a calendar that began the year with the first month of winter, and the Zhou court using a calendar that began the year with some later month, perhaps the first month of spring. In that case “first month,” and perhaps also “second month” and even “third month,” would be at the beginning of the year corresponding to 794 b.c. in the Jin calendar, but would still be late in the year corresponding to 795 b.c. in the Zhou calendar. There is evidence supporting this possibility. The Fan Ju Sheng hu 番匊生壹 and the Shanfu Shan ding 善夫山鼎 are both inscribed vessels bearing complete dates that we date respectively to 800 b.c. and to 789 b.c., thus straddling in time the Jin Hou Su bianzhong,

and both use the royal calendar. Both vessels would accept a civil calendar beginning the year with the first month of spring, three lunar months later than the first month of winter. If this was the practice in the Zhou court at least throughout the twelve years 800–789 B.C., then the Jin Hou Su bianzhong’s dates would be as follows:

| Zhou year: | 33 | 34 |
| Zhou months: | 10 | 11 | 12 | 1 | 2 | 3 |
| Jin months: | 1 | 2 | 3 | 4 | 5 | 6 |
| First days: | 47 | 17 | 46 | 16 | 45 | 15 |

The problem vanishes. The year opening the inscription is explicitly the king’s thirty-third year, corresponding approximately to 795 B.C. The month dates, recording the events from the Jin perspective, are Jin month dates, in the Jin year corresponding approximately to 794 B.C. Therefore the first, second and third Jin months are in fact in “the king’s thirty-third year,” but at the end of that year, not at the beginning of it. The reception and awards in the (Jin) “sixth month” (Zhou third month; and possibly other royal actions in the east in the Zhou first and second months not recorded in the inscription) are in the Zhou thirty-fourth year, approximately corresponding to 794 B.C.

Either of these two solutions would resolve the discrepancy between the year date given in the inscription (thirty-third year) and the calendar required by its date notations (a calendar that matches 794 B.C.). No matter which is preferred (and it is possible that both are correct), the match between the calendar of the inscription and that of 794 is so exact (and so rare—it happens only once every thirty-one years) that it renders any other year very implausible.

The Double Yuan 沅 Hypothesis

What was King Xuan doing after he divided his forces late in his thirty-third year, and before his awards to Jin Hou Su in Cheng Zhou on the first of the “sixth month” (of the thirty-fourth year)? The inscription says that he reappeared to give Jin Hou Su some orders, but he must have had his own business elsewhere.

He had divided his forces in Han 東. He reappeared later to order Jin Hou Su to attack Xun Cheng 弁成. Most scholars who have studied these place names have identified Han and Xun Cheng with locations

in western Shandong (Fanxian 範縣 and Yuncheng 鄆城), in or near the state of Lu 魯.12 It so happens that the Guo yu 国語 (“Zhou yu” 周語, part 1), the Shi ji ("Lu shijia" 魯世家), and the (“modern text”) Zhushu jinian all say that King Xuan attacked Lu (to depose and replace its ruler) in the thirty-second year of his reign.13 But we are now examining the beginning of the thirty-fourth year.

We have demonstrated elsewhere, however, that in Western Zhou (at least) there appear to have been two different ways of counting years of a king’s reign, with a consistent difference between them of two years.14 Here we present three examples from King Xuan’s reign:

Example 1

Hou Han shu 後漢書, “Xi Qiang zhuan” 西羌傳:

When King Xuan had been reigning for four years, he sent Zhong 仲 of Qin 秦 to attack the [barbarian] hordes 戎 (resulting in Qin Zhong’s death). . . . Twenty-seven years later [= Xuan 31], the king sent troops to attack the Hordes in Taiyuan 太原戎, without success. Five years later [= Xuan 36], the king attacked the Tiao Hordes 條戎 and the Ben Hordes 奔戎, but the royal army was routed. Two years later [=Xuan 38], Jin defeated the Northern Hordes 北戎 at Fen Marsh 汾隰, but the barbarians destroyed the city of the Jiang Lord 姜侯. The next year [=Xuan 39], the king campaigned against the Shen Hordes 申戎, and smashed them.15

“Modern Text” Zhushu jinian:

. . . . sixth year (of King Xuan). . . . The Western Hordes killed Zhong of Qin 秦仲 . . . Thirty-third year . . . the royal army attacked the Hordes in Taiyuan 太原戎, and were unsuccessful. Thirty-eighth year, the royal army together with Mu Hou 穆侯 of Jin attacked the Tiao Hordes 條戎 and the Ben Hordes 奔戎; the royal army was routed. Thirty-ninth year, the royal army attacked the Jiang Hordes 姜戎, doing battle at Qianmu 千畝; the royal army was routed. Fortieth year . . . the men of the hordes 戎人 destroyed the city of the Jiang 姜. The men of Jin defeated the Northern Hordes 北戎 at Fen Marsh 汾隰. Forty-first year, the royal army was defeated in Shen 申.16

12. For these identifications, see Shim, “The ‘Jin Hou Su Bianzhong,’” 49–50nn.15, 17.
13. Guo yu (Sibu beiyao ed.), 1.9a; Shi ji, 33.1527–28; Zhushu jinian, 2.10a.
15. Hou Han shu (Beijing: Zhonghua, 1965), 87.2871–72.
16. Zhushu jinian, 2.9a–10a.
As can be seen from the two sources, aside from the curious difference in the reporting of royal success or failure, and one event (the battle at Qianmu) dated in the Zhushu jinian only, according to the Hou Han shu the events and campaigns are uniformly dated—so it seems—two years earlier than the dates given in the Zhushu jinian (see Table 2). The Zhushu jinian date for the Qianmu battle, thirty-ninth year (so dated also in the Shi ji “Zhou benji” 周本紀), turns out to be an inconsistency.

Example 2

Shi ji, “Shier zhuhou nianbiao” 十二諸侯年表: In the Shi ji the first year of Zhuang Gong 莊公 of Qin is put in King Xuan’s seventh year, implying that Zhong of Qin’s death was in King Xuan’s sixth year (822 B.C.). On the other hand, the Hou Han shu dates the death to King Xuan’s fourth year, as shown above.

Example 3

Shi ji, “Chen Qi shijia” 陳杞世家:

When Xiao Gong 孝公 [of Chen] died, his son Yurong 圉戎 succeeded him as Shen Gong 慎公. Shen Gong reigned in the time of King Li of Zhou. When Shen Gong died, his son Ning 寧 succeeded him as You Gong 幽公. In You Gong’s twelfth year, King Li of Zhou fled to Zhi. You Gong died in his twenty-third year, and his son Xiao 孝 succeeded him as Li Gong 釐公. In Li Gong’s sixth year, King Xuan of Zhou assumed his position (ji wei 即位).

The earliest commonly accepted date in Chinese history is the exile of King Li, who fled at the end of 842 B.C., 841 being the first year of the regency of Gong He 共和. Taking 842 as a base year, the chronology of

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17. Shi ji, 4.144.
The Jin hou Su Bell Script in Chen as given in the Shi ji places the first year of King Xuan’s reign in 825 B.C. (see Table 3). But from all other received sources, we know that the first year of King Xuan’s reign was 827 B.C., not 825.

Why the two first years? The reason has nothing to do with King Xuan in particular. True, he probably was still a minor in 827 B.C. and so might reasonably have had a second yuan at his majority (he was saved from a mob in 842–841 because Shao Gong 召公, his father’s protector, gave up his own son instead; both were small children). But we find the same double-yuan effect in other reigns. For example, the “Modern Text” Zhushu jinian gives King Wen 文王 a fifty-two year reign beginning in 1113 B.C., which we must reduce twelve years (because the conjunction of 1059 B.C., nine years before King Wen’s death, is misdated in the Zhushu jinian to 1071). Thus his reign was 1101–1050. But the Shi ji and other texts give him only fifty years; and the “Xiao Kai” 小開 chapter of Yi Zhou shu 逸周書 accurately identifies a lunar eclipse in his thirty-fifth year, which occurred on the night of 12 March 1065 B.C. Thus King Wen can also be given the dates 1099–1050. Other examples can be given, for the reigns of Kings Cheng 成, Kang 康, Mu 穆, Gong 共, Yih, and more, using both bronze inscriptions and other materials.

Why did Western Zhou have such an institution as this? The Gongyang zhuan 公羊傳 has the following on the theory of royal mourning (Chunqiu 春秋, ninth year of Wen Gong 文公 [618 B.C.], first year of Zhou king Qing Wang 頃王):

Chunqiu text:

九月毛伯來求金。
Ninth year, spring, Lord Mao came seeking money.

20. Yi Zhou shu (Sibu beiyao ed.), 3.3a.
Gongyang commentary:

毛伯者何？天子之大夫也。何以不稱使？當喪，未君也。踰年矣。何以謂之未君？即位矣，而未稱王也。未稱王，何以知其即位？以諸侯之踰年即位，亦知天子之踰年即位也。以天子三年然後稱王，亦知諸侯于其封內三年稱子也。

Q: Who was Lord Mao?
A: He was a grand officer of the Son of Heaven.

Q: Why is he not called a [royal] emissary?
A: Because this happened during mourning. [The king] had not yet become ruler (jun 君). It was only the succession year.

Q: Why does one say that [the king] had not yet become ruler?
A: He had taken his position (ji wei 即位), but he did not yet call himself king (cheng wang 稱王).

Q: If he had not yet called himself king, how do we know that he had taken his position?
A: From the fact that a regional lord takes his position in the succession year, we know that the Son of Heaven takes his position in the succession year. And from the fact that the Son of Heaven calls himself king only in his third year we also know that a regional lord within his fief calls himself zi in his third year.

The text goes on to explain why these things are so: The concept of being a subject requires that one cannot be without a ruler for a single day; but the concept of continuity requires not only that there cannot be two rulers in one year, but also that there cannot be a blank year without a ruler; and the ideal of filiality requires that for three years one cannot bear to supplant one’s parent.

The “three years” mourning institution was gradually weakening over centuries of time. The Gongyang zhuan expresses the belief—not necessarily still fact—that in Chunqiu times there were formal restrictions on a king’s claim to status until he had completed the mandatory twenty-five months of mourning at the beginning of his reign. Promulgating a new calendar is making a claim to status. There is no evidence (as far as we know) that this principle applied to royal calendars after Western Zhou. But for a Western Zhou king’s reign, it seems that at first an event would be dated counting from the king’s succession year, without such a calendar-count being thought of as in his own calendar. Later in the reign (perhaps only after his father’s chief ministers had died or retired) he could decree use of his own calendar, starting with the year after he had completed mourning—that is, with his actual third year of reign—which we call his “accession” year, when he could formally “call himself
The Jin Hou Su Bell Script

In still earlier times it is possible that the mourning obligations were so arduous that the successor king could not even begin to function until he had discharged them, so that there would be a virtual interregnum between reigns. (The “Wu Yi” 無逸 chapter of the Shang shu 尚書 suggests as much in its account of the behavior of Shang king Wu Ding 武丁 during mourning.) But even in Western Zhou the reign of record, as received by historians, is likely to have been the count starting not with the actual succession year but with the later “accession” year. Such is the case in the Zhushu jinian for many of the Western Zhou kings.

Hence the ambiguity in the dating of events as reported in later secondary sources such as the Zhushu jinian, the Shi ji and the Hou Han shu; their sources could sometimes be dated either way. All of this is hypothesis, albeit with some evidence, and skepticism is appropriate. But the matter cannot be left there. If the double-yuan hypothesis is right, chronological studies are hopeless without it, and are hopeless with it if it is wrong. The matter has to be settled. Our analysis required by the Jin Hou Su bianzhong inscription is going to go far toward settling it.

Notice, first of all, that if we have two reign dates for the same event apparently two years apart, and we know the king’s succession year, then if the double-yuan hypothesis is true the higher reign date will determine the absolute date of the event beyond reasonable doubt. But if it is false, then the absolute date, ceteris paribus, will be undecidable, and the availability of two dates unexplainable — utterly improbably — in case after case. Notice, next, that comparative data from the various texts we have cited above give us pairs of dates for two related late King Xuan era Jin events, namely the battles at Tiao and at Qianmu; moreover, the “Jin shijia” 晉世家 chapter of the Shi ji,23 gives a third pair (see Table 4).

The strange dates in the Shi ji “Jin shijia” will be explained in due course. They are inconsistent even with the Shi ji “Zhou benji”; there the

battle at Qianmu is dated to the thirty-ninth year of King Xuan, as in the *Zhushu jinian*. But the “Jin shijia” dates at least indicate that the events were three years apart, as the pair “Xuan 36, Xuan 39” would make them; so for the *Zhushu jinian* to be consistent it should have dated the Qianmu battle two years later, to the forty-first year of King Xuan. It is the two dates Xuan 38 and Xuan 36 for the battle at Tiao, in the *Zhushu jinian* and in the *Hou Han shu* respectively, that direct us to the absolute dates. If both dates, Xuan 38 and Xuan 36, refer to the same year, then the double-\textit{yuan} hypothesis requires that the higher year number, Xuan 38, must be counted from the succession year 827, and the lower one, Xuan 36, must be counted from the “accession” year 825; that is, the battle at Tiao must have taken place in 790 B.C. If on investigation this turns out to be right, then we will have strongly confirmed the double-\textit{yuan} hypothesis. And further, the battle at Qianmu, if three years later, must have been in 787 B.C.

But if this is right, why do we find the wildly inaccurate dates in the “Jin shijia”? These dates convert to 805 and 802 B.C.

### The Sequence of Jin Lords

The *Shi ji* “Jin shijia” offers the following information for the chronology of Jin: the first lord was Tangshu 唐叔, followed by (1) Jin Hou 晉侯, (2) Wu Hou 武侯, (3) Cheng Hou 成侯, (4) Li Hou 厲侯, and (5) Jing Hou 靖侯. From Jing Hou on, the *Shi ji* ventures to give (or imply) dates: Jing Hou 17 was 842 B.C., the year King Li fled to Zhi, and Jing Hou died the next year; thus his first year must have been 858. After that, the *Shi ji*’s list is as follows:24

(6) Li Hou 銘侯, 18 year reign, 840–823 B.C.
(7) Xian Hou 献侯, 11 year reign, 822–812 B.C.
(8) Mu Hou 穆侯, 27 year reign, 811–785 B.C.
(9) Shangshu 殇叔, 4 year reign, 784–781 B.C.
(10) Wen Hou 文侯, 35 year reign, 780–746 B.C.
(11) Zhao Hou 昭侯, 6 year reign, 745–740 B.C.

This order breaks a cardinal rule: the \textit{zhao-mu} 昭穆 order of generations in the ancestral temple that requires \textit{zhao} ancestors’ shrines to be located on the left of the founding ancestor (no. 1), and \textit{mu} ancestors’ shrines to be on the right, in \textit{alternating generations}; that is, \textit{zhao} even, \textit{mu} odd. Although the sequence Mu Hou and Zhao Hou among the Jin rulers seems at first glance to be consistent with this rule—at least insofar as

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one is even and one is odd—in fact Shangshu (9), the ruler (actually a usurper) after Mu Hou, was the younger brother of the preceding ruler and does not count at all in the zhao-mu sequence. If we remove him from the sequence, as is surely required (he does not represent a generation at all), then we find that Zhao Hou would be the grandson of Mu Hou, and thus placed on the same side of the temple. This is ritually impossible.

The only way to reconcile this anomaly in the genealogy of the Jin lords is to assume that their sequence is faulty at some point. Indeed, there are several reasons to believe that the sequence of Xian Hou and Mu Hou has simply been reversed. If we reverse the order of Xian Hou and Mu Hou, Mu Hou would then be of the seventh generation (odd) and Zhao Hou of the tenth generation (even), just as the zhao-mu rule requires.Apparently the irregular reign of Shangshu confused some earlier historian, who overlooked his status as younger brother when counting back from Zhao Hou, and thought that Mu Hou, not Xian Hou, must be the lord preceding Shangshu. (The Shi ji is simply following an earlier source, for this error is found both in the Zuo zhuan 左傳 and in the Zhushu jinian.25) The correct dates for the two lords before Shangshu then are:

(7) (odd: mu) Mu Hou, 27 year reign, 822–796 B.C. (Xuan 6 through Xuan 32)
(8) (even: zhao) Xian Hou, 11 year reign, 795–785 B.C. (Xuan 33 through Xuan 43)

We see at once that there is no longer any trouble with having Jin Hou Su—that is, Xian Hou—active in a campaign in 795–794 B.C., for these were the first two years of his reign.

But there is still a difficulty in the Shi ji “Jin shijia.” It gives as the dates of the battles at Tiao and Qianmu the years Mu Hou 7 and Mu Hou 10. We must now understand these dates as Xian Hou 7 and Xian Hou 10. But these dates correspond to 789 and 786; and we had determined that the correct dates ought to be 790 and 787. What has gone wrong? To see, we must see exactly how the Shi ji gives us the information “seventh year” and “tenth year”; and we find that the Shi ji has made another mistake. The actual text in the “Jin shijia” says that Mu

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25. In the Zuo zhuan see the appended note at the end of the second year of Huan Gong 桓公 (710 B.C.); Yang Bojun 楊伯峻, Chunqiu Zuo zhuan zhu 春秋左傳注 (Beijing: Zhonghua, 1981), vol. 1, 91–92. This is probably the Shi ji’s source. For the Zhushu jinian, see the text at the forty-third year of Xuan Wang; Zhushu jinian, 2.10b.
Hou (we must understand Xian Hou) in his fourth year took a daughter of the lord of Qi, surnamed Jiang, as his consort. Then (word for word):26

七年伐條，生太子仇。十年伐千畝，有功，生少子，名曰成師。

Seventh year attacked Tiao, bore eldest son Chou 仇; tenth year attacked Qianmu, had success, bore younger son named Chengshi 成師.

Probably the Shi ji intended this to be understood in the following way:

Mu Hou [= Xian Hou] in his seventh year attacked Tiao, and [his consort] bore their eldest son Chou (literally “enemy”); in his tenth year he attacked Qianmu successfully, and she bore their younger son whom they named Chengshi (literally “successful army”).”

But the Shi ji or its source must have been copying or paraphrasing a source that meant the following (which the Shi ji text perhaps could mean anyway):

In [the Jin lord’s] seventh year, with (that is, after) the attack on Tiao, [his consort] bore their eldest son Chou; in his tenth year, with (after) the successful attack on Qianmu, she bore their younger son whom they named Chengshi.

In this reading, the dates “seventh year” and “tenth year” are the dates of the births, not the battles. This can be seen when we reflect that the names of the two princes do not commemorate the battles (why would one commemorate anything with the name “enemy”?), but were chosen to ward off or enhance the possible effect on their subsequent lives of the events going on when they were conceived ten lunar months (nearly a calendar year) before their births. We are told that the Qianmu campaign was successful (that is, the Jin contingent did well; the Zhushu jinian and the “Zhou Benji” say that the royal forces were routed); but we are told nothing about the Tiao action and therefore can assume that it went badly even for Jin. The names refer to these events, as influences at the conceptions: Chou “enemy” is apotropaic, intended to ward off the evil effects of the defeat; Chengshi “successful army” is intended to enlist and enhance the auspicious significance of the victory.

It follows that the battles did not take place in the seventh year (Xuan 39, 789 b.c.) and tenth year (Xuan 42, 786 b.c.), but rather took place in the sixth year (Xuan 38) and ninth year (Xuan 41)—790 b.c. and 787

The Jin Hou Su Bell Script

—just as implied by the double-

hypothesis. There seems to be no room for doubt, then, that Jin Hou Su is Jin Xian Hou, whose dates are 795–785 B.C., and that the *Jin Hou Su bianzhong*’s “thirty-third year” events must correspond to the end of 795 and the beginning of 794.

**The Jin Tombs**

So far, our inquiry has attended to texts and calendar problems. One cannot be fully confident of conclusions reached in this way unless those conclusions can satisfy the criteria of art history and tomb archaeology. We think that our conclusions meet this test. There is good evidence from the tombs at Tianma-Qucun to show that Mu Hou must have come before Xian Hou, and that Xian Hou must have been the father of Wen Hou. To explore this evidence fully, it would be necessary to consider the dates of all of the tombs in the cemetery. We will not attempt this. We will note in passing, however, that several scholars have adduced good evidence showing that M9-13, the eastern-most pair of tombs in the top row, must date later than M6-7, the pair of tombs immediately west of M9-13.27 This undermines the excavators’ basic premise that the tombs of the cemetery are uniformly ordered in an east to west sequence. A similar situation is seen in the case of tombs M8-31, from which the *Jin Hou Su bianzhong* and other Jin Hou Su vessels came, and M64-62-63, which produced bronzes made by Jin Hou Bangfu 晉侯邦父, Bangfu 邦父 being identified by most scholars, and by us as well, as the *zi* of Mu Hou.28 Although the excavators assume that M8-31 precedes M64-62-63, the evidence of the bronze vessels in the tombs strongly contradicts this. For example, the *Jin Hou Bangfu ding* 晉侯邦父鼎 from M64 very closely resembles the *Da Ke ding* 大克鼎 (see Fig. 1), which probably dates to no later than the time of Gong He or early in the reign of King Xuan. (In the inscription,29 Ke says that his grandfather served King Gong; our dates for King Gong are 917/915–900 B.C.) On the other hand, the *Jin Hou Su ding* 晉侯蘇鼎 from M8 resembles the *Mao Gong ding* 毛公鼎 (see Fig. 2), a typical example of a very late Western Zhou


29. *Yin Zhou jinwen jicheng*, vol. 5, no. 2836.
1. Line drawing of *Jin Hou Bangfu ding*, from *Wenwu* 1994.8, 7, fig. 8.1

2. *Da Ke ding*, from *Zhongguo qingtongqi quanji* (Beijing: Wenwu, 1996), vol. 5, pl. 31

Fig. 1: *Jin Hou Bangfu ding* and *Da Ke ding*
1. Line drawing of Jin Hou Su ding, from Wenwu 1994.1, 18, fig. 23

2. Mao Gong ding, from Zhongguo qingtongqi quanji, vol. 5, pl. 36

Fig. 2: Jin Hou Su ding and Mao Gong ding
It seems to us impossible to date the *Jin Hou Bangfu ding* later than the *Jin Hou Su ding*.

Moreover, M8 also yielded bronzes by Jin Hou. On the basis of vessel shape and decor, one must surely see these vessels as the latest from the Tianma-Qucun cemetery. Lu Liancheng says of the *Jin Hou gui*, after giving a detailed description, that it is in the style of early Chunqiu bronze vessels, and he makes the same judgment of the *Jin Hou hu*壶. Several other scholars have identified Jin Hou with Jin Wen Hou, whose long reign lasted almost to the Chunqiu era; these scholars include Zou Heng, Zhang Han, and Li Chaoyuan, arguing that this is related either phonetically or by meaning with *Chou*仇, Wen Hou’s personal name. Of these scholars, Zou Heng

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30. There is further inscptional evidence from M64 and M63, the tomb of one of Jin Hou Bangfu’s consorts, that suggests that Mu Hou and Xian Hou should be reversed. M64, the tomb of Jin Hou Bangfu, includes another inscribed vessel dedicated to “my cultured deceased-father of the Shu lineage” (zhun wen kao Shu shi 朕文考叔氏). The consort’s tomb M63 contains a bronze made for a woman named Yang Ji Yang姞, presumably Bangfu’s wife. For these two bronzes, see Shanxi sheng Kaogu yanjiusuo and Beijing daxue Kaoguxue xi, “Tianma-Qucun yizhi Beizhao Jin hou mudi di sici fajue”天馬曲村北趙晉侯墓地第四次發掘, *Wenwu* 1994.8, 5. 12. In an interesting article, Feng Shi 楊時 has pointed out that Bangfu and Yang Ji seem also to appear in the inscription of the *Ran xu*冉黌 (*Yin Zhou jinwen jicheng*, vol. 9, no. 4469), a vessel discovered in the Northern Song dynasty (and published in the *Kaogu tu*考古圖) but subsequently lost. Although the inscription is incomplete (apparently continuing from the inscription on another vessel or on the lost lid), it seems to allude to the sorts of troubles that King Xuan inherited from his exiled father King Li, as Guo Moruo 郭沫若 pointed out already in the 1930s; *Liang Zhou jinwenci daxi kaoshi*兩周金文辭大系考釋 (Tokyo: Bunkyūdō, 1935), 140b–142a. In it, the king commands *Ran*冉 to assist him by suppressing rebellious officers. In the dedication, Ran refers to himself by his zi Shu Bangfu 叔邦父, and mentions also his wife Shu Ji 叔姞. If Jin Hou Bangfu can be identified with Shu Bangfu, as the second bronze in M64 shows is likely; if Yang Ji can be identified with Shu Ji, as a common naming practice for wives in the Western Zhou would suggest (compare the case of *Yin Ji*尹姞, whom the *Yin Ji ding*尹姞鼎 shows to have been married to Mu Gong 穆公, and the *Gong Ji ding*公姞鼎, in which she identifies herself with Mu Gong’s appellation of gong 公; for both bronzes, see Shirakawa Shizuka白川靜,*Kinbun tsūshaku*金文通釋, [Kobe: Hakutsuru bijutsukan, 1962–1984 ], no. 72); if the *Ran xu*冉黌 should date toward the beginning of King Xuan’s reign, as Guo Moruo suggested and as the content of the inscription also suggests; and if Jin Hou Bangfu is Jin Mu Hou, as demonstrated above—we once again see that Mu Hou must have come before Xian Hou. The dates we have suggested above for the reign of Mu Hou, 822–796 b.c. (Xuan 6–Xuan 32), would satisfy this situation.


has been logically consistent, arguing that Su must be the name of Mu Hou rather than Xian Hou. He reasons that since both Jin Hou Su and Jin Hou 酉 bronzes were found in the same tomb, they must derive from successive generations; and since he identifies Jin Hou 酉 with Wen Hou, and accepts the received generation order, he reasons that Jin Hou Su (as father of Jin Hou 酉) must be Mu Hou. We accept Zou Heng’s argument that the two Jin lords should be in succeeding generations, and that Jin Hou 酉 is almost certainly Wen Hou; but we see no reason to dismiss the Shi ben’s clear statement that Su was the name of Xian Hou. If Jin Hou Su is Xian Hou, and if Jin Hou 酉 is Wen Hou, and if they belong to successive generations, then we must again conclude that Xian Hou followed, rather than preceded, Mu Hou.

In conclusion, many different types of evidence—such as the dates in the Jin Hou Su bianzhong, the zhao-mu order of Mu Hou and Zhao Hou, the shapes and decor of bronze vessels, and the names of Jin lords in M8 and M64—can be interpreted consistently only if we assume that Mu Hou preceded Xian Hou. The only reason not to make this assumption would be a total belief in the Shi ji. Virtually all scholars, however, admit that the Shi ji contains many mistakes, especially in chronology (in spite of the admirable caution exercised by Sima Tan 司馬談 and Sima Qian 司馬遷). We believe that our resolution of the various contradictions in the evidence is simple and well supported; indeed, it is the only resolution that accounts for all of the contradictory evidence.

The date “the king’s thirty-third year” in the Jin Hou Su bianzhong inscription has to be 795 b.c., the first year of Xian Hou’s reign; and the events recorded have to be in late 795 and early 794 b.c., in the year approximately corresponding to 794 b.c. in the Jin calendar. The proper dating of this inscription shows it to be even more significant than previously thought as evidence for late Western Zhou history, and for the resolution of the chronology of Western Zhou. Beyond the light shed on the historical details of the early eighth century b.c., our work on this inscription has importance for the study of the whole of Western Zhou history. Our “double-yuan” hypothesis, which our work here strongly confirms, can immediately be extended to confirm again that the “four quarters” interpretation of lunar phase terms must be right. This problem is beyond the reach of this article, but the dates in the text of the inscription itself support this conclusion. And with both the double-yuan hypothesis and the “four quarters” interpretation in place, it becomes possible to untangle the entire chronology of Western Zhou.

Guoji Zhongguo guwenzixue yantaohui lunwenji 第二屆國際中國古文字學研討會論文集 (Hong Kong: Xianggang Zhongwen daxue, 1993), 231–36.