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Temp. 50, Sunny. A very warm, the best day so far, quite extraordinary for February. The stream down 4 inches, SC is very little. Over the banks now only just around the middle bridge and greenhouse and by the weir bridge.

In the morning we went into the woods for primroses. Christopher arrived in time for dinner. Mrs. Wentworth's in for dinner, as usual. The morning has at last held a plenary session of the Central Committee, as

Two autograph pages from C. P. Fitzgerald's diary of February 1928, reproduced with the permission of his daughters, Mirabel and Anthea.
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Cover calligraphy  Yan Zhenqing 颜真卿, Tang calligrapher and statesman

Cover photograph  Rubbing of a bas-relief, Hsin-ching, Szechuan Province
(C. P. FitzGerald, Barbarian Beds [London: Cresset Press, 1965])
ASTRONOMICAL DATA FROM ANCIENT CHINESE RECORDS: THE REQUIREMENTS OF HISTORICAL RESEARCH METHODOLOGY

Noel Barnard

Introduction

Several fundamental matters require careful investigation before isolated instances of Chinese astronomical recordings preserved in the traditional literary sources as transmitted to us in the form that we now know them, and dating variously from Han to T’ang times, can be regarded as acceptable data. Recent scholars working on the basis of a number of such texts tend to bypass the requirements of historical research methodology as it has developed in the West over the last century or so, and do so in their fervour to establish ‘convincing’ interpretations of the data, which they select without adequate consideration of the overall historical context in which the relevant source documents stand. The unhealthy mixtures of variegated source materials which result from their failure to divide the documentation into areas of reliability, and to maintain precedence in their processing of the data with due regard for their primary and secondary status—and the various gradings of reliability for each item—is rather too often masked by a persuasive literary style. One assumption follows upon another, and these are sometimes placed almost on the same level as factual data, often resulting in a form of circularity, along with a general policy to make the reader feel that he has been presented with a ‘convincing’ case, a ‘plausible’ interpretation, and so forth. Consequently, the data deriving from archaeological sources are often made to appear in distorted settings which reflect rather too much the more fanciful aspects of the traditional literature.¹

¹ This assessment may appear to be rather harsh in tone; I put the situation thus purposefully, but not in reference to any particular writer. What is under review here is essentially a feature that tends to permeate, to a greater or lesser extent, the writings of a number of scholars. My aim is mainly to draw attention to some of the pitfalls that await the unwary researcher who, in his enthusiasm to rush into some exotic hypothesis, becomes somewhat forgetful of the basic principles of historical research and places too great a degree of faith in certain of the data employed, and so fails to subject them to the critical scrutiny which they should receive.

The Principles of Research

First among the basic issues to be covered briefly in this essay are the principles underlying historical research and the interpretation of the data
under survey. It is far from my intention to preach a lengthy sermon, as it were. My aim, in raising the issue here, is simply to remind fellow sinologists (where it might be necessary to do so) that our discipline is primarily history, and it is only a matter of circumstance that we happen to practise it in the field of Chinese studies. Our prowess as sinologists is secondary; the domain in which we use our expertise is history. And history it should be, in terms of the discipline as it has developed in our own culture. While applying our discipline in an alien environment, we should try to maintain a firm grip on the wheel of principle as we steer our way through the accumulation of fact, fancy, and sometimes sheer invention which constitutes the literary heritage of China (especially in the field of pre-Han studies with which we are immediately concerned), keeping at all times, so far as it is possible to do so, to the straight and narrow path of archaeological data—a 'touchstone' par excellence—but even here carefully seeking to avoid the pot-holes and ruts which occur from time to time in the road-surface of excavational and reporting procedure.2

It is a useful exercise to switch back occasionally to the study of our own cultural heritage and even to immerse ourselves in some of the available contemporary documentation, and then observe the way in which Western historians process and interpret the data relating to problematic areas in our past. I am particularly drawn to the Napoleonic era, and have an interest in seventeenth- and eighteenth-century English literature and the intention (when I really retire) to read deeply into Shakespeare and his times; I also have an avid interest in archaeological work (and the processing and interpretation of the data that result) in cultural regions other than China. Much of my personal library has been built around such subjects. In the evenings, away from my study containing mainly Chinese-language publications, I often relax with classical music in the background and, with a few volumes selected from my library, ponder once again, as a Westerner in my own cultural sphere, the problems of the interpretation of a past with which I am, in various respects, more at home, for the simple reason that this past is my own heritage. To view it again, however briefly, after work on issues in a very different culture of more than two millennia ago, results in a reappraisal of the significance of much that I had taken for granted in undergraduate days and even later. Browsing through contemporary publications such as The Parliamentary Intelligencer, The Gentleman’s Magazine, and Bell’s Life in London, then observing various of our historians’ approaches to aspects of seventeenth-, eighteenth-, and early nineteenth-century life touching upon subject-matter in these sources, keeps the mind in tune with some of the essentials of historical research. It becomes an instructive exercise, even though the browser is only too well aware that much relevant documentation in both published and manuscript form would need to be consulted to do a thorough job of research. When a scholar thus escapes from the Chinese world but in effect continues to practise his basic discipline, now in respect of the home environment, he returns to his work in an invigorated frame of mind. His mode of interpretation remains down-to-earth, and he is in less danger of succumbing to the temptation to accept uncritically the voices of authority and tradition in the alien sphere where these
have so long held sway and still exert a powerful influence, or to the often rather fanciful interpretations permeating the literary remains with which he necessarily spends a great deal of his time.

Present-day scholars of the West in the field of pre-Han studies are in some respects fortunate in having at their disposal a large corpus of research aids ranging from the well-known works of Shirakawa Shizuka 白川静 to the growing array of recent Japanese and Mainland publications. Somewhat over thirty years ago, when embarking seriously on the field of pre-Han studies, comparable research aids were few and far between, especially for those of us who plunged into the sphere of bronze and oracle-bone inscriptions. We tended to spend a large part of our time and effort on detailed study of the original documents (mainly in the form of rubbings) and of the relatively few commentaries of the level of those of Wang Kuo-wei 王國維 and Kuo Mo-jo 郭沫若, in addition to general reading of the transmitted traditional literature. There were few short-cuts available to ease the task of elucidating troublesome phrases or passages. Few, indeed, were the translations of inscriptions into English with which one might compare one's efforts. Gradually, however, valuable studies and compendia such as Li Hsiao-ting's 李孝定 Chia-ku wen-tzu chi-shib 甲骨文字集釋, Yang Shu-ta's 揚樹達 Chi-wei-chü chin-wen-shuo 矯微居金文說, Akatsuka Kiyoshi's 赤塚吉 Kôbon in kinbun kôshaku 稿本殷金文考釋, Ch'en Meng-chia's 陳夢家 "Hsi-Chou t'ung-ch'i tuan-tai" 西周銅器斷代 series, the first volumes of Shirakawa's Kinbun tsûshaku 金文通釋, etc., made their appearance. The Chin-wen ku-lin 金文諮林, compiled by a team of scholars and students under the direction of Chou Fa-kao 周法高, was still on the distant horizon.

The point I am leading to here is simply that our younger colleagues are furnished with so great a variety of research aids—inscription translations (albeit mostly in Japanese), and encyclopaedic dictionaries such as Morohashi Tetsuji's 諸橋徹次 Dai Kan-Wajiten 大漢和辭典, and the Chung-wentatz' u-tien 中文大辭典 version thereof (both of which, fortunately for us, came quite early upon the scene) and in recent years, many others of similar calibre—that some, as a result, tend to concentrate too much on the research aid at the expense of spending time on the original document. One gains the impression that translations are sometimes made with the help of little other than the Kinbun tsûshaku; and that through frequent use of the Chin-wen ku-lin the original commentaries are, in effect, consulted in piecemeal fashion, with the result that the full flavour of the original may be lost. Most disconcerting is the tendency to sacrifice depth of study for speed of publication, with its sometimes concomitant tendency towards a shallow level of investigation.

If he concentrates the bulk of his efforts solely on the interpretation of Chinese documentation, despite occasional excursions into other disciplines such as astronomy, physics, and archaeometallurgy, the researcher may sooner or later fall victim to adverse influences from the transmitted traditional literary materials. There is the ever-present danger that he may unwittingly adapt these disciplines to suit the exigencies of the Chinese literary sphere. Even if he devotes his attention to the ever-growing wealth of information
Sinological researchers into the astronomical data and the problems of pre-Han chronology as recorded in ancient literary sources have expended great effort in mastering the science and mathematics of astronomy. Unfortunately there is apt to be a lack of comparable attention to crucial aspects of the data as they appear in the transmitted Chinese literary records. Similarly, users of radiocarbon assessments of materials from Chinese excavations seldom check thoroughly the significance of the sampled artifact in its site context (where details are published), while users of elemental analyses of bronze artifacts almost invariably read more into the data than is permissible. Here there is a reverse effect, namely insufficient attention to the outside discipline, and this adversely affects interpretations of the Chinese archaeological data and may, in turn, lead to unjustified assumptions of correspondence with records in the transmitted literature.

It is a little surprising to note, in the sources utilized by the scholars just mentioned, the absence of compendia of the type Chang Hsin-ch'eng's Chin-pen (1939) in which the assembly of numerous cited passages relevant to each book surveyed allows a reasonable degree of authority to attend a statement such as that which I have just made. Chang's concluding assessments are also well worth reading, although there may be good grounds in some cases to view the evidence differently.

I omit discussion of Aleksy Debnicki, The Chu-shu chi-nien as a source for the social history of ancient China (Warsaw, 1956), cited by Keightley, Bamboo Annals, n.25, there being no copy available to me at present.

As I understand the discussion concerning the reference here, the present example is assessed to be not really an example after all. If so, it would surely be better to present the reader with an overview of (1), the Chin-pen entries that accord reasonably well with those recorded in sources pre-dating its alleged late (Sung-Ming) compilation, though this exercise may simply uncover plagiarism; and (2), the large number of erroneous and muddled entries incorporated in it. These latter contradict the content of citations in (pre-Ming) sources which have cited the same record-entries deriving from versions of the Chu-shu chi-nien available from as early as Chin times. The guidance of Chang Hsin-ch'eng is, I suggest, essential as a first step in the study of the historicity of the Chin-pen version. It would lead the researcher to consult the Ssu-kou yiapien-cheng, pu-cheng 四庫提要辨證, 补証, among other sources (see Teng & Biggerstaff 1971: 21-4)—a source which also seems to have escaped consultation as the reader gradually discovers upon perusal of these papers (each inconveniently published without a bibliography).

The Bamboo Annals

To illustrate some aspects of these points I take up the question of the authenticity of the Chu-shu chi-nien竹書紀年 (Bamboo Annals), considering in particular the reliability of the transmitted and reconstructed versions of the contents of the original tablets unearthed some seventeen centuries ago. As it is one of the major sources upon which several recent studies devoted to the problem of the date of the Chou conquest of Shang (and the beginning of the Western Chou period) are based, the contemporaneity (and thus the historicity) of the records of astronomical phenomena therein is either assumed or alleged, and its easy acceptance by several of the scholars concerned requires that detailed enquiry be conducted into the sources in question, the manner in which the sources have been employed (i.e. the nature of the historical research methodology applied), and the interpretations which have been derived from such approaches.

David S. Nivison (1981: 2), in his study of the dates of Western Chou, has expressed the opinion that the Chin-pen今本 version "is not a Ming forgery done after the original 12 to 14 ch'uan卷 were lost. It is probably a revision..."
and reduction of the original made in Eastern Tsin [Chin], with some changes made later in the Six Dynasties.” Edward L. Shaughnessy (1986: 180), amongst his many statements in support of it, maintains that one “must be open to the possibility that the entirety of the ‘Current’ [Chin-pen] Bamboo Annals has been transmitted with similar fidelity [a reference to his proposed readjustment of an alleged misplacement of text, reviewed in detail below] … . No serious student of early China will be able to disregard the testimony of the Bamboo Annals, even, and perhaps especially, as found in the ‘current’ version of the text.” David W. Pankenier (1981–82: 4), in his detailed investigation of the astronomical portents recorded in the Chin-pen version (conspicuously sparse, as he observes, in the Ku-pen 古本 reconstruction), suggests that the possibility of verifying or disproving strategically located reports of astronomical events “would demonstrate conclusively whether the Bamboo Annals dates have any historical validity or whether the astronomical records were fabricated … ” David N. Keightley (1978: 423–38), on the other hand, in his cautious and critical assessment of the Bamboo Annals and Shang chronology, has applied historical principles and pointed out the need for “touchstones” to establish the veracity of the Ku-pen reconstruction itself, and as to the Chin-wen version, joins with the majority of Chinese scholars who have studied the matter at length and regard it as a “post-Sung forgery.” In his discussion of what kind of data should function as touchstones “to establish the historicity … of such a text,” Keightley enumerates a series of features which should appear in the Shang portion of the Chu-shu chi-nien since they are all archaeologically attested. Their absence may be regarded as a significant commentary on the historical value of the text.4

Shaughnessy (1986: 151 ff.) focuses on the Western Chou period, states that there are a number of such touchstones, and proceeds to discuss each of them in some detail. As this constitutes one of the first studies by a Western scholar seeking to restore confidence in the “much maligned Bamboo Annals,” it is of interest to investigate both the approach and the bases upon which the presence of touchstones has been alleged, and also to assess the degree of acceptability that may be claimed in respect of each. First mentioned is the Kung-ho 共和 interregnum, although, as he correctly observes, it could be objected that it is not an absolute touchstone because of the literary and inscriptive references to an Earl of Kung.5 Second is a battle in Li Wang’s 厲王 reign involving a person, Kuo Chung 貴仲, and the Huai-yi 淮夷: “this battle is confirmed,” he observes, in the Kuo Chung Hsu 胡仲簋 and is also noted in the Hou-Han-shu 後漢書後漢書, Tung-yi chuan 東夷傳.7 Third, the Chin-pen and Ku-pen versions accord in their mention of the foregoing entry.8 Fourth, in the 5th year of Hsian Wang 宣王, the record of the commander Chi-fu 吉甫 leading troops to attack the Hsien-yün 黄元 as far as the Great Plain is identified with “the same campaign commemorated by Chi-fu 吉父 in the Hsi-chia P’an兮甲盤.” Despite the word-for-word identity (in particular, the character 甫 of the Chin-pen-version record with the wording of the Shib-ching ode (no.177), he considers the addition /the troops under royal command and those of the Southern Huai-Yi barbarians. As to the names of those in command of troops (and recorded names in general), we know from the archaeological record that we are dealing with a population that was very large by the standard of antiquity, and hence that the possibility is quite high that two or more individuals amongst the feudal aristocracy (in the royal domain, or in the princely courts), the court officials, military leaders, etc., could have had identical names, while variant ranks appended to the same names would not necessarily indicate the same person. When we do have a series of inscriptions bearing the same vessel-maker’s name, e.g. the Liang Chi’s 樂其 series of late Western Chou date, an appreciable degree of uncertainty may often still attend the attribution of names and titles to one person (see Barnard & Cheung n.d. [in preparation]: 30–1). One has to exercise caution in this situation, and ensure that the reader is forewarned. The Liang Chi’s inscriptions are, moreover, classifiable A/3 in documentary status (see Appendix B in my survey of clan-sign inscriptions of Shang [Barnard 1986] for details of my classification method and identification numbering system, and also the slight updating in Barnard & Cheung n.d. Thus they are at a somewhat higher level than the Kuo Chung Hsu. When we explore the problems of identifying personages and events mentioned in the two types of sources for Eastern Chou times—where both the archaeological and traditional text documentation are much more extensive in scope—difficulties are by no means lessened by the greater availability of information. Take, as an example, the uncertainty of the identification and dating of the famous Piao Bells (see my appraisal: Barnard 1965: 386–95), and also the uncertainty of identifying the members of the Ch’en 陳 clan of Chi’s 寶 (as demonstrated in my forthcoming survey [Barnard n.d.] of the Ch’en-chang 陳瑤 inscriptions [ins. A/4.29.11 (v.a.), and A/1.29.11 (v.b.)]).

8 Accordance in their records of the same data in the Chin-pen and Ku-pen versions can hardly be presented as an argument of substance unless it is an isolated or extremely rare case, or is consistently thus in a large proportion of the entries. An appropriate interpretation might then be offered according to whichever situation obtained.
of “5th year” in the date both in the Hsi Chia P’an and in the Bamboo Annals entry to be highly significant. “Nothing in the traditional record could explain a coincidence such as this.” (Shaughnessy 1986: 152).9

Excursus: the Hsi Chia P’an

Some consideration of the background of the Hsi Chia P’an inscription [ins. T.129.1 (v.a)], namely, that in the original inscribed vessel that Chen Chieh-ch’i’s 陳介祺 obtained from the Granary of the Ch’ing-ho Circuit 清河道庫 (see details in Jung Keng 容庚 1941: 463), not the inscribed p’an [ins. T.129.1 (v.b)] in the Nakamura Fusetsu 中村不折 collection (Shodō Hakubutsukan 道博物館, Tokyo), is highly relevant to the present discussion. As Jung Keng points out, there is a record of this vessel in Chang Lun’s 張淳 Shao-bsing [AD 1131–62] nei-fu ku-ch’i p’ing 綢繢內府古器評 written in the Sung period (ibid.).10 Jung thus considers the Hsi Chia P’an to be one of the very few inscribed vessels current in the Sung period to have come down to recent times (ibid.: 257).11 It is unfortunate that Chang Lun’s account of the Chou Po Chi Fu Yi-P’an 周伯吉父匜盤 (namely the Hsi Chia P’an) text is not more detailed in its citation of the inscription. As a matter of interest I have arranged the individual characters and phrases that he cites into a grid of 13 columns of 10 spaces to accord with the Hsi Chia P’an format, but leaving

9 This, the “first of these [absolute] touch-stones,” requires extensive study rather than easy acceptance of Shirakawa’s commentary and his passages cited from Wang Kuo-wei’s study of the inscription. First, the allegation that “the graph fu 甫 of literary texts is commonly written as fu 父 in the bronze inscriptions” (Shaughnessy 1986: 152, n.7) should be far more cautiously worded: the usage of 甫 in literary texts is apparently comparable only in at most very few instances with 父 in bronze inscriptions. Moreover, 父 in the sense of 父 does not occur in properly attested inscriptions. On checking its occurrences in the general corpus of inscriptions, it will be discovered that only in one inscription (San-tai 三代 16.38.2), is there a clear-cut instance of it being used in the sense of 父. Although it might be argued that this is a case of the proverbial ‘swallow’, there has been no sign over the last six decades or more of archaeological discovery that that particular ‘summer’ may follow! Further, such examples as the Fu Jen Fu Yi 甫人父匜 (San-tai 17.29.2) which include the two characters together, and in a name/title combination, should be taken into account. It is significant that neither of these documents is cited by Wang Kuo-wei, or by Shirakawa, although havaluable to them when they wrote (for example, the rubbings in Yin-tsung 殷墟 B.21b, Chou-tsung 周存 4.30b, 570b, etc.). The foregoing ‘archaeological’ examples demonstrate the weakness of the assertions that the 甫 of the traditional literature is the 父 of the inscriptions, and that the [Yin]-chi-fu (尹)吉甫 of the Shi-ch‘ing (Ode 177) may hence be claimed to be none other than the Hsi Chia Chi Fu 竇甲父 of the Hsi Chia P’an. That these inscriptions which have a major bearing upon the issue at hand should have been thus omitted in the above assessments of the significance of 甫 serves to illustrate how essential it is to put one’s faith in active research conducted on one’s own account, and not take the easier course of accepting what one reads at face value.

10 The full account of Chang Lun’s description may be studied in the Chin-tai mi-shu 津逮秘書 14: 87–8. Cf. also Chin-k’u 竇古 (3.2: 70a): “Hsü Yin-lin 許林, in his 川西 land studies (3.2: 70a): “Hsü Yin-lin 許林 states that the Yuan-period writer Lu Yu-juen’s 陸友仁 Yen-petua-chib 研北雜誌 mentions that Li Shun-fu 李順父 has the Po Chi Fu P’an, the inscription in which totals 130 characters. Commoners (家) had broken off (折) the legs and employed it as a ‘biscuit tray.’ 

11 Regarding the status of the Shao-bsing nei-fu ku-ch’i p’ing, however, note the entry in the /Su-k’u ta-tz’u tien 四庫大辭典 (1: 501). “In older versions, the title[page] states that it was compiled by Chang Lun of the Sung period. [But] it is a forgery perpetrated by a dishonest person in Ming times plagiarized from the [illustrations in the] Po-ku-t’u 博古圖.” Upon checking Chang Hsin-ch’eng’s survey (1939: 1107–8), an appraisal of the present work will be noted: in it he lists the items taken directly from the Po-ku-t’u, then indicates those taken from lists of vessels compiled later than the Shao-hsing period (that is, Ch’un-hsi 淳熙 1174–89, and Chia-tsing 嘉定 1208–24). After discussing other suspect characteristics of the work, Chang concludes that it is definitely a Ming-period forgery. Whether we agree or not with certain of his arguments, it is clear that the Chou Po Chi Fu Yi-P’an 周伯吉父匜盤 had already been recorded in Yuan times (see n. 10 above). This situation, it may be observed, could arguably provide a terminus a quo source upon which the date of Chang Lun’s compilation was based, thus supporting Chang Hsin-ch’eng’s suspicion that it did not date from the Sung period. Yet, interestingly (perhaps even significantly?), no mention is made in Chang Lun’s description of the damage sustained by the vessel according to the Yuan-period accounts.
aside the irregularities of the character positions (Figure 1). In line 3, the character following wang had not been engraved in the original wood-block; it accords with 於折 cbe ('break off', 'snap', 'cut short', 'fold', 'bend', etc.). The phrase 折首 cbe-sbou is part of the frequently-appearing combination 折首 [訕]〔訕=sì] cbe-(sbou-) kuo chib bsun ('wrenched off the [left] ears of the slain, and interrogated the captives'). Interestingly, the character 折和, indeed, the complete phrase cbe-(sbou=) kuo chib-bsun, are not to be found among inscriptions recorded in the Sung Catalogues. Its first

**Figure 1**

*Left: An alignment of the Chou Po Chi Fu Yi-P'an characters in the Hsi Chia Pan format; these conform to the positions in the 13x10 grid as occupied by the same characters in the Hsi Chia Pan. Right: Reproduction of the Shao-hsing nei-fu ku-ch'i-p'ing text relating to the Yi-P'an.*

The more one studies the layout of the text of ins. T.129.1 (v.a) and compares it with the slavish copying (in v.b) which, so far as it can be ascertained, lacks spacers altogether, the more the impression is gained that the disposition of the characters in the former has in several areas been dictated by the spacers. In other words, it would appear that the vessel, with its spacers, was cast first and the inscription would accordingly be a later addition—once incorporated with due care being taken to avoid engraving (and/or etching) the character-strokes into the spacer metal, or too close to them. Be that as it may—and with the original vessel lost argument can only be academic on this point—I have otherwise long held doubts about the authenticity of the Hsi Chia Pan [ins. T.129.1 (v.a)], notwithstanding the view held by Jung Keng that it is one of the only two inscribed vessels to have come down from Sung times to the present. The two vessels, supposedly extant in Sung-period collections, namely the Hsi Chia Pan and the Hou Cho Fang-Ting 厚越方鼎 [ins. T.31.7 (v.c)] (see my survey on the incidence of forgery among archaic Chinese bronzes [Barnard 1968: 117-19], and also the implications I advanced in an earlier survey on forgery [Barnard 1959: 237-40]), first came to light in the collection of Ch'en Chieh-ch'i some five centuries later. Matsumaru Michio 松丸道雄 (1980: 117-18) is of the opinion that the mere presence of spacers (in the inscription area) authenticates the inscribed vessel. All things being equal, such a criterion of authenticity would be invaluable and save a lot of effort in the study of the general corpus of unattested 'archaeological'bronzes documents. Unfortunately, however, the situation is not so easily resolved as this. The acceptance of the spacer as a criterion of authenticity amongst unattested examples requires not only that the inscribed vessel has actually been manufactured in accordance with the techniques employed in antiquity, but also that it really was cast in antiquity (and its inscription actually cast-in). It also requires that piece-mould casting, clay model/mould preparation, the use of spacers, and the numerous other technical processes so well known to us nowadays, constitute a technical method of casting which was completely superseded in Han times, or shortly thereafter, by such imported metallurgical approaches as circe-perdue casting and metal working, etc., and had thus become a long-lost art. As this is not the case—even in Japan there remain a few foundries practising traditional direct-casting techniques closely comparable to those of Shang and Chou times (see a detailed description in Barnard 1963: 249-52)—the possibility that latter-day founders versed in the appropriate techniques may have engaged in the casting of Shang- and Chou-style inscribed vessels must be kept in mind. More important is the lesson to be learnt from observations of the skills of makers of facsimiles and repair specialists in China even to-day (see Barnard & Cheung 1983: 19-21), as well as from studies of the technical lapses a forger may make as evidenced in the inscribed Kuei (FGA 11.38) where the character strokes, which otherwise have all the attributes of cast-in inscriptions, enter into the spacer metal. In other words, some further foolproof criterion—beyond Matsumaru’s spacer criterion—is required in order to distinguish between a cast-in inscription and one cleverly incorporated long after the vessel was cast. It is just such a criterion that those of us specializing in this field of study are still seeking.
13 It has become fashionable in recent decades to interpret *che-shou* as 'cut off the head, decapitate', etc. In two recently published dictionaries of archaic graphs, for instance, the term is defined literally (see Schuessler 1987: 821 and Ch'en Ch'u-sheng (1987: 67). Even earlier, Arthur Waley, in his translation of the Shih-ching (1937:41: 258), while giving the orthodox rendering "... ears were cut off peacefully," adds the note: "To offer to the ancestors. We are told that the character means 'ears cut off'; but I suspect that, as its form would suggest, it originally meant 'heads cut off'." This idea was enthusiastically adopted by Karlgren (1946: 51) who translates the whole section as follows: "The captured prisoners for the question came (seriatim) in a slow procession, the cut heads were brought (quietly) solemnly, then he sacrificed to God on High, then he sacrificed in the camping place." Waley (he continues to observe) is undoubtedly right in stating that *kuo* (高) primarily meant 'to cut off the head, to behead', not 'to cut off the left ear' of a prisoner (sic. of the slant) (in the Anyang tombs beheaded human victims are numerous) ... Elsewhere, however, Karlgren's glosses on *che* (1940:57:287) still accord with traditional text usage and, significantly, there is no suggestion among his definitions of 'to cut' (as with a knife or sword). As to the presence of decapitated humans in the Anyang tombs, such evidence cannot be accepted without investigating its significance in the site context, though at the time Karlgren was writing this could hardly have been done effectively. Account should furthermore be taken of the context of the inscriptions in which the assumed parallel activity took place. There are records of decapitation associated with royal burials (heads in one area and bodies in another), the decapitation of young military personnel (twenty-four corpses thrown haphazardly into a pit along the original wood-block—possibly an indication that the archaic form was not better understood than, apparently, was also the overall meaning of that portion of the text. Chang Lun seems to be at sea in his choice of characters as cited from line 3: "To speak of 'following the King ... head' is to write about meritorious deeds." The required 'punctuation' here has obviously escaped his understanding. This, coupled with the equally curious selection of characters from line 4 (the erroneous transcription of $^1$as 軒 hsien [hsuan] 'pavilion', 'high carriage' is also to be noted), could, among other considerations, be taken to confirm that Chang Lun was actually confronted by the Hsi Chia *Pan* inscription or some other inscription of comparable length including several of the same phrases, either in the form of a rubbing or simply a transcription (possibly imperfect). It would appear further that he simply selected characters and phrases which he was able to comprehend (with his evidently limited knowledge of the ancient graphs) and about which he could offer some erudite observation.13

The Hsi Chia *Pan* (or its alter ego) does not seem to have been recorded elsewhere in Sung-period sources, and only in minor detail in the Yuan-period collector Hsien-yü Shu's 於 批 (tzu Po-chieh) K'un-hsueh-chai tsa-lu where there is merely the description: "The inscription contains 130 characters,14 the feet had been cut off by commoners who had been using it as a 'biscuit tray'." Jung Keng (1941: 235) has provided a useful summary of other items in Hsien-yü's collection, and an account of the means by which the latter obtained ancient bronzes while holding the post of San-ssu-shih 三司司 (Finance Commissioner). The sources from which Jung's data derive would bear further investigation; note also the account in Lu Hsin-yüan's 陸心源 Chin-shih-hsueh lu pu 金石學錄補 (see Matsumaru Michio 1976: 175). The investigation of this, however, must await a later opportunity.15 The Hsi Chia *Pan* inscription had not been reproduced in any of the repositories, or in other publications, as a hand-copy, prior to its first appearance in Chün-ku (1895/5:2: 67) and it appears for the first time as a rubbing in Ch'i-ku (1902.8: 19) where it bears Ch'en's seal. The earliest full transcription is that published in Sun Yi-jang's 孫詔讓 Ku-chou yü-lun 古籀餘論 (1903), in whose commentary reference is often made to Wu Ta-ch'eng's 吳大澂 thoughts on the same inscription (apparently from manuscripts to which Sun had access).

If we now take into account the probable existence of the Hsi Chia *Pan* (or its alter ego) as early as Yuan times (if not Sung), the "5th year" in both the current Bamboo Annals and the Hsi Chia *Pan* becomes a coincidence of quite a different order. It is not simply a case of an inscribed vessel having
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come to light some time during the 1860s and coinciding in date with the Chin-pen "5th year" entry as transmitted up to that time, but rather that the Chin-pen entry merely coincides with a record of 'archaeological origin' long available in publication with its "5th year" record associated with a [Po] Chi Fu. Whether or not the further connection of this Chi Fu with the expedition against the Hsien-yun as described in the full context of the inscription was known to the compiler of the Chin-pen entry is beyond our resources to ascertain. We cannot claim that he was (or even that he was not) aware of the content of the inscription. But the situation, otherwise, is now clear: it would be unwise to maintain that "there is nothing in the traditional [= literary?] record that could explain a coincidence such as this," when, in fact, publications containing the data have been available since at least the Yuan period.

The Bamboo Annals II: the Pan Kuei

The Bamboo Annals entry "6th month" is interpreted by Shaughnessy as being a reference to the end of the campaign so as to account for the three months' difference with the Hsi Chia Pan date. On what grounds, though, can the reading of the Chinese text be forced in this fashion, especially in view of the content of Ode 177? Furthermore, the commentaries to this passage unambiguously refer to the beginning of a highly unseasonable campaign, albeit one necessitated by the ravages of the Hsien-yun who had taken advantage of the internal disorder in the kingdom during the previous reign. It is also generally conceded in the commentaries that the description in the Ode concerns the first year of Hsian Wang's reign (see Legge 1861-72: IV-281; Karlgren 1946: 50). It would hardly be likely that this energetic monarch would wait as long as five years before dealing with the Hsien-yu.

Further, an identity has been proposed between the Mao Kung Ch'ien 毛公遷 of the Bamboo Annals and the Pan Kuei 班校 [ins. T.195.1 (v.a)] verbal compound 趙令[命]曰, where the character 趙 (ch'ien?), usually identified as ch'ien 遜 ('send', 'despatch', etc.), is taken to be a person's name. Adopting this reading is equivalent to siding with Shirakawa (KBTS 15.79: 46-9), and so following Kuo Mo-jo's forced reading (1936: 20a) rather than T'ang Lan's down-to-earth interpretation (1962: 38).

Let us review briefly the views of various scholars which touch upon this controversial combination of characters. Among the most recent is Wu Chen-feng 吳鎮烽 who, in his Chin-wen jen-ming hui-pien 金文人名匯編, devoted to the listing of personal names, lists the two characters 趙 and 遜 separately (1987: 317, 276), and, significantly, bypasses Kuo's controversial interpretation of the passage 趙令曰 "Ch'ien issued a command, saying …" (viz. to the effect: 趙令班曰 "Ch'ien commanded Pan, saying …"). The character ch'ien as used in the Pan Kuei is thus apparently not acceptable to Wu in the sense of a person's name. Ch'ien Meng-chia (1955: 70-4) follows Kuo; so, too, do W. A. C. H. Dobson (1962: 181) and Shirakawa (loc. cit.). Yang Shu-ta (1959: 223) also accepts the reading of ch'ien as a proper noun
Figure 2

Below: The 'second' P'an Kuei inscription as transcribed in the Ch'itian-shang-ku San-tai Ch'in Han San-kuo Liu-ch'ao wen (13.6a).
Right: Rubbing of the P'an Kuei inscription. Far right: the Hsi-Ch'ing ku-chien block print rendering with the transcription therein alongside.

but proposes that the text has been inadvertently reversed, and it should read as 令趨曰 (... commanded Ch'ien, saying ...). On the other hand, T'ang Lan (loc. cit.) observes that “ch'ien 趙 in this position is decidedly not a person's name, and even more [if it were so], it could not be the Duke of Kuo-ch'eng ..., and follows with a long and involved commentary in support of the latter point. An earlier commentator, Liu Hsin-yüan 劉心源 (1891: 4b), takes the combination simply to indicate a summing-up of the preceding commands. Yü Hsing-wu 于省吾 (1937: 283) merely cites brief relevant passages of the text along with the assessments of Kuo and Wu Ch'i-ch'ang 吳其昌 to the effect that the inscription is to be dated to Ch'eng-wang's reign. Neither Yü, nor Wu (1936, 1: 28a ff.) refers to the reading of ch'ien 趙 as a proper noun. But Wu discusses the P'an Kuei text as recorded in Yen K'o-chün 隱可均 (1887–93: 13.6a), observing that there are two additional characters (wang 王 in line 1 preceding ts'ai 在, and ch'eng 成 in line 4 preceding wang 王 (i.e. Ch'eng Wang), and that their presence (as part of the royal name) is again implied in hsien-wang 希贏 in line 6. Yen's transcription is stated to derive from an original rubbing—presumably taken from a now-lost lid of the present vessel, and, as Kuo Mo-jo (1972: 3) has observed, kuei 廬 being originally cast in sets of even numbers, there is the further possibility that this rubbing may have been derived from another vessel. Kuo, too, discusses the significance of the two additional characters. The first, 王, he would seem to accept, but the second, 成, he does not accept, though he is still of the opinion that the inscription (and the vessel) is datable to Ch'eng Wang's reign. He suggests that Yen probably read the two characters hsien wang 希嬴 as a connected phrase which he took to be Ch'eng Wang 成王, and annotated the character
ch'eng after the character hsien; the wood-block engraver, however, mistakenly took the annotated ch'eng (which was to appear in a smaller size) to be a main-text character and engraved it in the larger size—an interesting idea, but one that can hardly be sustained in view of the second occurrence of hsien in the next line, where it is also followed by the character wang. To have a record of Ch'eng Wang in the text would seem to offer support for the dating of the vessel to that sovereign's reign, a point that Wu Ch'i-ch'ang has seized upon. However, its presence here would raise problems, not the least of which would be the bearing it might have on the very authenticity of the inscription.16

Do we, accordingly, dismiss the possibility that when Yen incorporated the Pan Kuei inscription in his compilation, a second version of the text was current in the form of a rubbing with two additional characters; or, should we follow Kuo and have the cake and eat it too? As things stand, there seems to be little choice but to accept Yen's transcription of the rubbing from which he worked as being a reasonably faithful rendering of the content of that rubbing. It is included in my corpus of inscriptions as ins. T.195.1 (v.b) pending further clarification.

Now, to return to the question of the interpretation of the three characters, hsien ling [ming] yieh, it would seem to me essential that in any discussion about their possible significance—particularly when it concerns the alleged authenticity of a traditional text that has been doubted by the scholarly community in general over some decades of research—the situation should be explored thoroughly. When one commentary is selected in preference to another in regard to a controversial passage, and when readers familiar with the relevant literature cannot but wonder whether the selection has been made simply to bolster the writer's argument, it is necessary for the writer to make clear his reason for accepting the authority he has decided to follow.

The foregoing constitutes the second of the 'unquestionable touchstones' examined briefly here, and when the situation is thus re-investigated with some care, it, too, would seem to be anything but "the [kind of] touchstone for which Keightley sought" (1978: 154). Research avenues of this sort have long been pursued, and the results generally demonstrate the doubtful authenticity of the Chin-pen version. Despite Shaughnessy's spirited defence

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16 Tang discusses the possibility that the inscription on this vessel may be genuine, but that the remainder of the vessel is a spurious reconstruction of Ming or Ch'ing date. A major point in his assessment is that in the Hsi-Ch'ing illustration of the vessel, the decor incorporates the character shou, written in a form characteristic of this late period. As Kuo demonstrates on the basis of the reappearance of the Pan Kuei in a scrap-metal recycling heap some years ago (Kuo Mo-jo 1972: 11–13), the Hsi-Ch'ing drawing is incorrect; there is no character shou in the decor. Accordingly, he finds no cause to doubt the authenticity of the entire inscribed vessel.
17 Chang Hsin-ch’eng’s survey of the accounts and critical analyses of the Yi-Chou-shu results in the impression that it is, for the most part, a forgery, if not entirely so. Liang Ch’i-ch’ao, for instance, (in his Chang-kuo li-shih yen-chiu-fa 中國歷史研究法, as cited by Chang [1939: 611]), is of the opinion that ‘no less than eleven of the chapters are faked, while, of the remainder, many have been tampered with or falsified; but it is not easy to determine which ones are authentic …’ Like Mencius, he dismisses the Ko-ying and Shih-fu chapters as obvious fakes. (In his translation of the Shih-fu chapter, Shaughnessy [1980-81: 57-79], on the other hand, champions this extravagantly detailed account of the Chou conquest.) Other views for and against the historicity of the Yi-Chou-shu may be perused throughout Chang’s assembly of data (pp. 600-16). As to the Ming-t’ang chapter, Shaughnessy is doubtless correct in recognizing it as a later addition or forgery. That it should be so is, of course, important for the argument that the “six years’ reign” of Wu Wang mentioned in that chapter is likewise a post-Han fabrication.

No assessment has been offered here of Shaughnessy’s recent appraisal of the Chin-pen version and the date of the Chou conquest of Shang (Shaughnessy 1985-87: 33-66). Rather than make the present study too involved, I purposely avoid detailed discussion of the two papers at this stage. The necessary ground and relevant background data—much of it requiring detailed assessment of the historicity of the traditional source materials employed—which have been bypassed would require writing a monograph.

Long ago, I explored the problem of the date of the Chou conquest in considerable detail (Barnard 1960: 486-515), and demonstrated there the fact that with the accent on the transmitted literary materials, research into the subject can only be an academic exercise and hopes of precision illusory (p. 497). Despite the several seemingly enlightening inscribed bronzes excavated since then and the considerable amount of time and energy that has been devoted to the question with reference to the corpus of inscribed bronzes, as well as the traditional textual data, the very bases of the research leave much to be desired, particularly the unfortunate mixing of disparate documentation and the lack of an historical approach. It may be hoped that others interested in the matter will look further into the degree of historicity that may be allowed such sources as the Chin-pen version of the Bamboo Annals, the Mu-t’ien-tzu chuan 穆天子傳, the Yi-Chou-shu, etc. A particularly instructive exercise would be a critical review of surveys such as Wei T’ing-sheng’s 衛廷生 extensive research into the Mu-t’ien-tzu chuan (1971).

In bypassing the arguments relating to the matter of Wu Wang’s reign-length—in particular, Shaughnessy’s observations (1986: 169 ff.) regarding the anomaly of the removal of the nine Ting-cauldrons to the as yet unbuilt city of Lo (cf. also Barnard 1973: 468-75), a record that forms an important item in the alleged transposition of a Wu Wang tablet to the Ch’eng Wang entries—I do so to avoid what I believe from experience to be a fruitless exercise. Wang Kuo-wei (1917), Fan Hsiang-yung 范祥鴻 (1957), and, more recently, Fang Shih-ming 方樹明 and Wang Hsiu-ling 王修齡 (1981), have achieved as much as can be expected in reconstructing the original content of the Chu-shu chi-nien. Wang Kuo-wei has demonstrated that the Chin-pen version “... contains practically nothing which is not to be seen in other sources, while what it con-

The Bamboo Annals III: the Problems of Reconstruction

Finally, Shaughnessy (1986: 154 ff.) discusses the account of the death of Wu Wang 武王 in the Chin-pen version in considerable detail, commencing with the premise: “... a single well-chosen and thoroughly analysed example can often be more enlightening than hundreds of undigested ... examples”—a statement that would cause most historians to raise their eyebrows. Nevertheless, he has brought together an appreciable corpus of data from the traditional literature, among which those of “generally accepted historical value” (which suggest a two-year reign-period) differ from “all traditional chronological studies after the Han dynasty [which] portray King Wu as having reigned for six years after the conquest” (ibid.: 159). Along with the latter, the Ming-t’ang 明堂 chapter of the Yi-Chou-shu 逸周書 (which also records a “six years’ reign”) is assessed to be a later (and spurious) addition to this work. In support of his argument, he proposes then that one bamboo strip was erroneously transposed from the annals of Ch’eng Wang to those of Wu Wang. Accordingly, the troublesome implication of a six years’ reign in the Chin-pen Bamboo Annals is dispensed with. Details of the argument need not occupy our attention here, as our concern is with the validity of the key passage from which it stems, and the basis of any interpretation that might be attempted of its ambiguous wording.18

The main point, therefore, is to demonstrate the need to study the available ‘primary’ sources carefully before proposing so fundamental a matter as the transposition of text in the Chin-pen Bamboo Annals upon such
there are many examples of bamboo and wooden tablets from Han and even Chan-kuo times that may be consulted, and several quite extensive studies have been conducted, such as the *Hsin-yang Ch'u-mu* (Anon. 1986 [see pp. 66–8 for details of measurements, binding, text lay-out, ‘punctuation’, etc.]), and the *Yun-meng shui-hu-ti Ch'in-mu* (Anon. 1981 [see pp. 12–26 for similar details]). The Pao-shan bamboo strips average from 50 to 60 characters per strip, but the range is from 2 to 92 characters. Triangular incisions denoted where the binding cord was to be located, and binding was effected after writing was completed. Spacing between characters varied. Combined characters with

Figure 3
Front and rear views of Bamboo Tablet No. 1 (after Anon., 1989a: Tseng-Hou-Yi mu. 蘇東乙墓. vol. 2, pl. 169). It is the first tablet of the original ‘book’ with the ‘title’ (comprising the first appropriate phrase of the main text—five characters, slightly amended) written on the verso side of the bamboo strip. The first nine characters constitute an ‘event-date’: “In the spring [of the year that] the Ta-mo-ao-officer, Yang Hsiang(?), proceeded to P'u(?), the eighth month, on the day, keng-shen [57]; ... ” (tentative translation). It is most important to observe the presence of the ‘combined characters’ 八月 (eighth month) written in the space of a single character, but to be ‘unzipped’ as two characters. The repetition mark “…” indicates the combined situation—a common calligraphic procedure employed throughout pre-Han archaeological documents of all types; cf. such combined graphs as 乘车 (#7); 驿: 駐車 (#62); 鴻: 驿馬 (#131); 賓: 旅 (#140); 卦: 作 (#141), 羽: 又 (#141), etc. which appear frequently in the Tseng-Hou-Yi tomb inventories. It is, furthermore, important to note the description relating to the confused state of the tablets as found in the tomb (1.487); note also the presence of tablets lacking characters and those containing writing with their uneven (unwritten) spaces within the text, the errors in the placement of ‘phrase-dividers’: ●, ○, and □; and the varying numbers of characters on individual tablets.
Figure 4

Twelve strips of the 53 bamboo tablets which comprise the "Annals" of the Ch'in Kings Chao [Hsiang] Wang 昭 [索] 王, Hsiao Wen Wang 孝文王, Chuang Wang 莊王, and Shib Huang Ti 始皇帝 from the Ch'in tomb at Shu-hu-ti (after Anon. 1981: PL 52; reproductions in this report are extremely poor). The entries commence from the first year of Chao [Hsiang] Wang (306 BC) and run through to his 53rd year. Each year begins on a new tablet along the top, and continues halfway down. Later entries (starting from the first tablet) continue in the lower half of each from his 54th year, through to Shib Huang Ti's 30th year (217 BC). The possibility that the Bamboo Annals may have followed a similar pattern—a single entry per strip (with a fully written strip containing as many as 40 characters which might then overflow onto one or more strips as the occasion demanded), and with a similar variation in character numbers per strip—should be kept in mind. The years of reign would almost certainly have employed 'combined characters' and 'abbreviated numerals' such as nien' (or ju') 十. twenty, sa' 十, hsi' shì: thirty, etc.
per strip.” But the character yi — can hardly be rendered as ‘per’ or ‘every’ for two major reasons: first, Chinese dictionary definitions do not allow this; the nearest, perhaps, would be the sense of ‘all’, ‘in its entirety’, meanings which are quite different from the concept of ‘each’, ‘each and every’, etc.;¹⁹ second, a consultation of actual examples shows that such statements as

When such glosses as ‘chaque’, ‘chaque fois’, and ‘each’, ‘per’, etc. appear respectively in such dictionaries as Couvreur’s *Dictionnaire classique de la langue Chinoise* and *A Chinese-English dictionary* (Peking: Commercial Press, 1981)—the only two (amongst my many dictionaries) where the character yi has been so defined—it should be appreciated that the translation may reflect the idiom of the translator’s language more than that of the Chinese phrases in question; e.g. Couvreur’s “chaque année on vieillit d’un an” for 一年老一年 could be rendered as “after the passage of one year we become a year older,” while the gloss in the Commercial Press dictionary for 一小时六十公里—“at 60 kilometres per hour”—may, in fact, be a Chinese rendering of the English mode of expressing speed. Neither expression, however, really means that a driver has maintained, hour after hour (i.e. ‘each’ hour of travel), an unvarying speed. He may complete a 600-kilometre drive in ten hours, but as anyone who drives knows, the speed will vary according to circumstances, and to be able to cover a set distance in a set time the speed must often exceed the ultimate average. So, too, would have been assessments of the numbers of characters ‘per strip’ in a bundle of bamboo strips—these essentially being expressed as an average.

¹⁹ When such glosses as ‘chaque’, ‘chaque fois’, and ‘each’, ‘per’, etc. appear respectively in such dictionaries as *Couvreur*’s *Dictionnaire classique de la langue Chinoise* and *A Chinese-English dictionary* (Peking: Commercial Press, 1981)—the only two (amongst my many dictionaries) where the character yi has been so defined—it should be appreciated that the translation may reflect the idiom of the translator’s language more than that of the Chinese phrases in question; e.g. Couvreur’s “chaque année on vieillit d’un an” for 一年老一年 could be rendered as “after the passage of one year we become a year older,” while the gloss in the Commercial Press dictionary for 一小时六十公里—“at 60 kilometres per hour”—may, in fact, be a Chinese rendering of the English mode of expressing speed. Neither expression, however, really means that a driver has maintained, hour after hour (i.e. ‘each’ hour of travel), an unvarying speed. He may complete a 600-kilometre drive in ten hours, but as anyone who drives knows, the speed will vary according to circumstances, and to be able to cover a set distance in a set time the speed must often exceed the ultimate average. So, too, would have been assessments of the numbers of characters ‘per strip’ in a bundle of bamboo strips—these essentially being expressed as an average.

In a compilation which commenced nearly three centuries after the discovery of the *Chi-chung-shu*, and which was not completed until a further long period of time had elapsed (six centuries), the historian may ponder the numerous obvious and relevant questions that arise with regard to the transmission of the original seventh-century manuscript(s)—if, indeed, they survived the vicissitudes of the next six centuries—as well as the manner in which the compilation was brought to completion in the fourteenth century. Some indication of the problems of the historicity of such compilations may be found in my survey of the records of discoveries of bronze vessels as recorded in the traditional literature (Barnard 1973). Of the accounts which follow, that of Tu Yu (item g) constitutes the earliest version, and has the merit of being practically contemporaneous with the time of the discovery.
Figure 5
Hand-copy (necessarily truncated for reproduction here) of part of the Fu-chuan, chia-pen 甲本服傳, 第八, (摹本 2), excavated from Tomb no. 6, Mo-chui-tzu 摹咀子, Wu-wei, Kan-su in 1960 (after Ch'en Meng-chia et al. 1964) datable to the Wang Mang period, c. 10 AD). The tablets are individually numbered at the bottom of each strip, and at the end of a 'chapter' the total count of characters appears. Three openings were left unwritten so as to accommodate the binding cords. The even distribution of 20 characters between each binding space seems to have been generally maintained, note, however, where 12 extra characters have been squeezed into the top division of strip no. 23, probably after scraping away seven of the original characters. In the Shih-hsiang chien chih ii 士相見之禮 (摹本 I), Strip no. 9 which appears on the page preceding the hand-copy reproduced opposite) it will be noted that the scribe has inserted a single character, 豈 yi. Numerous such instances may be observed elsewhere amongst the Wu-wei tablets. Repeated characters (e.g. those in strip 25 opposite) occupy the space of a single graph and are denoted by the repetition sign.
(a) In the Annals of Wu Ti (武帝 3.10b):

In the 10th month, winter, in the 5th year of the Hsien-ning
(咸寧) reign-period [AD 279] a man of Chi-chin 汲郡 district, called Piao Chun 不準, broke into the tomb-mound of Hsiang Wang of Wei 魏襄王 [d. 295 BC]. He obtained Bamboo Tablets inscribed in small-seal characters [hsiao-chuan 小篆] comprising ancient writings amounting to more than 100,000 words [言]. These were deposited in the Imperial Court Library.

(b) In the Biography of Wei Huan (衛桓 36:6.4b):

In the first year of the T'ai-k'ang 太康 reign-period [AD 280], a man of Chi-hsien plundered the tomb-mound of Hsiang Wang of Wei ... [continues as in the preceding passage].

(c) On the stele of T'ai-kung Lü-wang of Chi 齊太公呂望, originally in the Chi T'ai-kung Temple (according to the Kuang-ch'üan shu-pa 廣川書跋 it is now [i.e. in Sung times] in Kung-hsien, Wei-chou 衛州共縣; see Hsü Wen-ching 徐文靖 1750: 8a–b):

T'ai-kung Lü-wang of Chi was a native of this hsien [Chi-hsien] ... In the 2nd year of the T'ai-k'ang reign-period, there was a looting of burial mounds in the eastern sector of the hsien-district, and there were obtained bundles of writings on bamboo strips. The interment of the writings was eighty-six years prior to Ch'in's entombment [alive] of the Confucian literati ...

This account, preserved in stone and extant at least until the Sung period, comprises the earliest 'original' contemporary document relating to the looting of the tomb.

(d) In the Biography of Wang Chieh (王接 52:21.18a) there is a note relevant to Wei Heng's 衛桓 association with the Chi-chung-shu:

At the time, the mi-shu-ch'eng 祕書丞 [Director of the Palace Library] Wei Heng investigated and corrected the Chi-chung-shu, but before he was able to complete the work he fell into difficulties. The ch'u-tso-lang 著作郎 [Editorial Director] Shu Hsi 東賁 continued the project and brought it to completion; but in many instances his supporting evidence gave rise to variant interpretations. At this time the Governor of Tung-lai 東萊太守 Wang Ting-chien 王庭堅 of Ch'en-liu 陳留, rebuked Shu's interpretations and presented evidence supporting his own explanations; Shu again made (further) interpretations and contested those of Wang, but in the meantime the latter had died. The san-chi shih-lang 散騎侍郎 (Gentleman Cavalier Attendant [Senior Recorder]) Pan Tao 潘滔 said to Wang Chieh: "You are talented in learning and versed in the principles of criticism
and could well elucidate the confusion that has arisen from the efforts of these
two scholars; it should be possible for you to attempt a dissertation on this.’’
Wang Chieh accordingly surveyed in detail what they had attained and where
they had fallen short. Chih Yu 郭崑 and Hsieh Heng 謝衡, who were both
deeply learned in all manner of knowledge, were in complete accord in
accepting the authority of his work.21

(e) In the Biography of Hsün Hsü (荷勸 39: 9.7a):
… thence obtained from the Chi-chün tomb bamboo strips with ancient charac-
ters. Hsü was commanded to select [those that were decipherable] and place them

Figure 6
Section of the Shou-fa/Shou-ling
守法.守令 Bamboo Tablets (nos. 808-
12) from Tomb no. 1, Yin-ch'üeh-shan
銀雀山, Lin-yi-hsien 林沂縣, Shan-
tung, excavated in April, 1972 (after
Anon., Yin-ch'üeh-shan Han-mu chu-
chien 漢墓誌 1989). The
burial is dated to the early years of
Wu Ti 武帝 (c. 130 bc). Noteworthy
is the marked tendency towards
unevenness of character-spaces
resulting partly from the calligraphic
style with its frequent long down-
stroke flourishes and variant
character sizes, and partly from the
content, wherein the individual
graphs of the numerals seldom fully
occupy a character-space. The total
number of characters—五百冊八
548—is recorded at the conclusion of
the last strip. In the first of the notes
appended to the transcription
(p. 129), there is a record of the
problems attending the textual
reconstruction because of the
scattered nature of the tablets and
the damage and loss sustained
through burial conditions.
in order (次), so that they could be incorporated in the Chung-ching (Classics Division) of the Imperial Court Library. Hsü had already written a preface to the Mu-t'ien-tzu chuan in which he stated: "The ancient text version of the Mu-t'ien-tzu chuan was amongst the writings obtained from an ancient tomb which had been looted by Piao Chun, a native of Chi-hsien, in the 2nd year of the T'ai-k'ang reign-period. All [the writings] were on bamboo strips bound together with plain [white] silk cord. As a result of my earlier study and definitions of the ancient measures, I found the strips to be 2 feet 4 inches in length, and with black ink writing, a single strip [containing as many as] 40 characters ..." 

(f) In the Biography of Shu Hsi (束皙 15: 21.12b):

In the beginning of the 2nd year of the T'ai-k'ang reign-period [AD 281], a man of the Chi-chüen district called Piao Chun looted the tomb of Hsiang Wang of Wei—some say it was the tomb-mound of An Li Wang 安釐王 [d. 243 BC]—and collected several tens of cartloads of bamboo writings. Amongst these were Annals [chi-nien 紀年] in 13 pien [tablets] which recorded [major events] from the Hsia Dynasty up to the defeat of Yu Wang of Chou 周幽王 by the Ch'uan 犬 and Jung 戎 tribes, followed by other events [of the State of Chin 晉国] up to the division of the State into Han 韓, Chao 趙, and Wei 魏, when the record continues with the affairs of Wei up to the 20th year of An Li Wang. They are thus probably the archives of the State of Wei written by its Historiographers. In general outline the contents quite often accord with the Ch'un-ch'iu 春秋 but amongst them are such major variations from the Classics and the Commentaries as: the length of the Hsia Dynasty is greater in years than that of Yin, Yi 禹 aimed to usurp the throne from Chi 舜, and Chi killed him; T'ai Chia 太甲 put Yi Yin 伊尹 to death; Wen Ting 文丁 put Chi Li 季歷 to death; from Chou's receiving the Mandate up to Yu Wang—100 years, it was not [as recorded in the Shu-ching 書經] that Mu Wang was a centenarian. Yu Wang having been eliminated, there was one, Kung Po Ho 共伯和, who assumed the function of the Son of Heaven —not two ministers called Kung and Ho ...

Then follows a list of other books which to a greater or lesser extent varied from, or accorded with, the transmitted versions current in Shu Hsi's time. There were also books hitherto unknown, the most familiar item, perhaps, being a record of the travels of Mu Wang of Chou (Mu-t'ien-tzu chuan). The account then continues:

A grand total of 75 pien were recovered. Seven pien of the bamboo writings had suffered damage and their titles were not recognizable. Within the tomb, a bronze sword 2 feet 5 inches in length was found. The lacquer writing [on the bamboo tablets] was all in 'tadpole' characters [k'o-tou-tzu 科斗字]. Those who first broke into the tomb set fire to the bundles of documents to light up [the interior] in their search for precious articles, and when the officials came to assemble them many of the tablets were charred and the bindings broken; characters were obliterated or lost and the texts could not be reconstructed to regain their full purport or their original order. The Emperor Wu had the writings deposited in the Imperial Library where they were collated and placed in order, investigations were conducted to interpret their original meanings, and the archaic graphs were transcribed into modern characters. While Shu Hsi was on the Editorial Committee he was able to examine the the bamboo writings and immediately resolved doubtful renderings, giving in each instance explanations and supporting evidence. 

21 Renderings of official ranks in the translations presented in this paper generally follow those of Charles O. Hucker, A dictionary of official titles in imperial China. One cannot but accord with his sentiments expressed in the Preface (p.v) regarding the status of the Wade-Giles romanizations “which have been standard in English-language—and German—writings about China for so long and are still preferred by so many Sinologists that for the foreseeable future no pre-modern China specialist can afford not to know them.” Even as this annotation is being typed, Wade-Giles still comprises the romanization employed in about ninety percent of the published scholarly work on early China in English. If one is to speak in terms of a standard romanization, Wade-Giles would still seem to have this role, and will doubtless continue thus for some years yet (see my detailed discussion in Barnard and Cheung 1983: 106–41). In the present paper, it will have been noted, I have maintained my usual practice to use the spelling 'yi' in preference to 'i', otherwise the romanization is standard Wade-Giles as conveniently presented in Miyahara Minpei 宮原民平 and Tsuziya Akihiro土室明治, Shina kokusai jiten 支那國音字典, a most valuable compendium.
In Tu Yü's 杜預 postscript to the Ch'un-ch'iu ching-chuan chi-chieh 春秋經傳集解,後序 (AD 282. See Kanbun Taikai 漢文大系 [1911 ed.], XI.ii:30: 64–6.)

In the 3rd month of the 1st year of the T'ai-k'ang reign-period ... In the Chi-chiün district there was opened an ancient tomb from which a large quantity of ancient writings was recovered, all comprising bamboo tablets with 'tadpole' characters. Those who opened the tomb attached no importance to them, and thus they soon became scattered and confused. 'Tadpole' characters have long been obsolete and attempts to assay their meanings cannot be entirely successful. In the first place, they were deposited in the Imperial Court and it was only lately that I was able to see them. The contents of the recordings totalled altogether some 75 scrolls 卷; much of it is mixed and fragmentary, absurd and incoherent, and is impossible to read or comprehend. The most understandable are the Yi-ching and the Annals. The Yi-ching [Parts 1 and 2] is exactly identical with the current version; appended to it is a treatise on the Yin and Yang but there is no sign of the Appendices: T'uan 桐, Hsiang 象, Wen 言, and Hsi-tz'u 繁言. It would seem that at this period Confucius's compilation of these in Lu had not yet reached distant states ...

Tu Yü goes on to describe the contents of the Bamboo Annals in some detail and along similar lines to passage (f) above. The latter is, however, considerably more detailed. So far as general chronological matters are concerned, he observes that the Annals commence with the Hsia, Shang, and Chou Dynasties and concern only the Kings and their affairs, there being no divisions to accommodate the individual States. Only one State, Chin, is given prominence later, its records commencing with Shang Shu 夏書 (784–81 BC) and continuing down to the time of its extinction. The affairs of Wei 魏 then follow, ending at the 20th year of Ai Wang 哀王 (299 BC). This, he observes, was 181 years after the death of Confucius, and 581 years before the 3rd year of the T'ai-k'ang reign-period (AD 282) during which the above passage was written.

Towards the close of his postscript, Tu notes various parallels between the entries and events in the Bamboo Annals and those recorded in the Tso-chuan, as well as discrepancies between the former and the Kung Yang 獻詳 and Ku Liang 榮梁 Commentaries, and the Preface of the Shu-ching. He shrewdly states then that his purpose in presenting the postscript thus (rather than to incorporate the data throughout his Commentaries, which had only just been completed):

...Taking these ancient writings likewise to be contemporary miscellaneous recordings, but there being insufficient means to verify [their dependability], their crude and careless [composition] has a [certain] advantage for [our appreciation of the intrinsic value of] Mr Tso's commentary. Accordingly, I have briefly reported upon them and append [this report] herewith at the conclusion of [my] "collected explanations".

(h) The Cheng-yi 正義 summation following the Tu Yü postscript in the Ch'in-ting Tso-chuan chu-shu 欽定左傳注疏 (Ch'en Hao-shao 陳浩少,
Chu Liang-ch’iu 朱良羹 et al., 1739) contains the following comment on the total of 75 chüan:

The Chin-shu records that there are 68 chüan which all have titles 题名, while seven chüan because of damage and disarrangement cannot be allocated titles. There is the Chou Yi周易 - 2 chüan, the Chi-nien 諸侯年 - 12 chüan, the So-yu 孫詠 萊語 [Fragmentary Sayings] - 11 chüan, and the Chou Wang 周王 蒙行 - 5 chüan. The last item is the work known nowadays as the Mu-t‘ien-tzu 穆天子 chüan. The disarrangement attending these four books has been put into order. When they were first obtained in Chi-chlin they were lodged in the Imperial Court library. Hsin Hsü 和峻 and Ho Chiao 何焯 were commanded to transcribe [the ancient characters] into modern [簡] characters. (Hsin) Hsü and others at that time rapidly completed the task [but] were unable to comprehend fully the ancient writings. Now, what they omitted or [dropped =] misplaced is repeated; re-writings [of the text] have increased the incidence of errors and misunderstandings …

The foregoing accounts demonstrate something of the background of the discovery and the later attempts to decipher the Chi-chung-shu. Most of the information derives from the Chin-shu and, if we take into consideration the centuries-long period of its compilation along with the shortcomings in the transmission of manuscripts over this period, precedence should, indeed, be given to passages (c) and (g). The former is a record preserved in relatively imperishable material and easily copied in the form of rubbings, while the latter was transmitted outside the imperial libraries and independently of the Chin-shu, being appended thus to a work that we know was copied and re-copied and disseminated throughout the country. Nevertheless, the conflict of dates between the two, namely AD 280 as opposed to AD 281, serves as a reminder that even in the best levels of historical documents, failings of one kind or another are to be expected. Passages (c) and (g), however, confirm over and above the Chin-shu entries that there was, indeed, a recovery of pre-Han texts on bamboo 简 strips. Assertions such as that of Wang Ming-sheng 王鸣盛 in his Shi-ch‘i-shih shang-ch‘iue 石室 商祖 to the effect that the Bamboo Annals was the fabrication of Shu Hsi (cited in Legge 1861–72.III: 176–7) can hardly be sustained. Other discoveries of comparable scope are occasionally to be found recorded, and in many respects accord with features well known to us as a result of archaeological discovery over the last six decades. There is little ground for maintaining that the Chi-chung find, and its contents, constituted a fabrication. Wang’s critical evaluation is, of course, directed against the Bamboo Annals as such, and in his use of the term wei-chüan 假詐 (′spuriously compiled′), he is essentially casting doubts on the reliability of the compilation, that is, the selection of entries, the order in which they appear, and the presence of added materials that earlier (pre-Sung) citations demonstrate were not in the original version. Regarding such matters, he gives examples and observes that the version available to him (c. AD 1787) is much to be doubted and was the result of manipulations and additions by mischievous men of later times. He is, of course, not alone in advancing sentiments of this sort; other such assessments abound, and the researches on which they are based follow much the same comparative approaches.
The above is not intended to be a comprehensive, let alone intensive, investigation into the *Bamboo Annals*. There is a large amount of relevant material that requires further examination, and much that I have glossed over here could be more intensively researched; for instance, I have not looked very far into the bibliographical aspects of the various titles of the Chi-chung-sbu as listed in passage (f), nor have I made any attempt to assess the possible significance of the contemporary records of *Bamboo Annals* entries selected by the early scholars to illustrate parallels and discrepancies with the transmitted literature. A very interesting avenue of investigation might be pursued here. And, of course, there are other paths of study that might well be found rewarding. If, however, the degree of depth attained here—and I make no claims that it is as deep as it should be—should lead others to dig even deeper, the time taken in the preparation of this paper from other more pressing research projects will have been well spent.

Amongst the Chin-sbu passages presented above, details which should be carefully weighed by those who might be persuaded to employ either the Chin-pen or the Ku-pen versions of the *Bamboo Annals* in historical research include the following:

1. During the looting of the tomb the tablets were damaged, used as torches, and scattered. We have no way of discovering precisely which books and what sections of the books, let alone what parts of individual strips, were actually destroyed by burning or were lost.

2. No less than four people attempted to edit the tablets, that is, to place them in correct order, collate them with contemporary versions where parallels existed, and interpret and transcribe the archaic graphs into modern (third century AD) characters. And their efforts left much to be desired.

3. Considerable disagreement in matters of interpretation is evident amongst those who worked on the tablets following their discovery.

4. No less an authority than Tu Yu observed that only two of the books were satisfactorily comprehensible. Interestingly this assessment covers the Yi-ching and the Annals—the one familiar to scholars of the time, and the other a work hitherto unknown to them. Despite his preoccupation with the significance of the *Bamboo Annals* entries which he cites, Tu decides that they are not sufficiently acceptable to be incorporated into the body of his commentary on the *Tso-chuan*.

5. During the several centuries following the find, *Bamboo Annals* data found its way into commentaries on the Shib-chi 史記, the Shui-ching 水經, the Han-sbu 漢書, etc. Although the assembly of such early preservations of the original text may give some idea of the early form of the *Bamboo Annals* (the so-called Ku-wen version), extreme care is required even in its use in historical research. Keightley's careful appraisal of the inadequacies of the Shang section should be well heeded by all concerned.

It is thus obvious that the transcriptions of the *Bamboo Annals* which resulted from the efforts of these third-century scholars might by no means have resulted in infallible interpretations of the original archaic graphs. As the above accounts relate, even contemporaries were at loggerheads in pressing their conflicting views. The Ch'ing-period scholar Lin Ch'un-p'u 林春溥 shrewdly observes in his introduction to his edition of the *Current Bamboo Annals* that: “from following the discovery of the bamboo writings the finalization of the texts was not the work of one person alone; thus what has come down to us is not just one version.” In the bibliographical section of the *Sui-sbu 隋書* a work is recorded that is now lost, namely “The Bamboo Writings—Accordances and Discrepancies, 1 scroll.” The title usefully indicates the situation that existed in the seventh century AD.

When we refer to the *Bamboo Annals* we must recall that it is not merely Wang Kuo-wei's reconstruction (and those of his predecessors) that we have to deal with, but also the sources on which his reconstruction is based. Wang brought together many early passages cited from the *Annals* by writers prior to the Sung period and preserved in a variety of sources compiled since the *Bamboo Annals* became available. Unfortunately, we do not know which
particular versions of the Annals were consulted by each early writer, but we do know that discrepancies exist amongst the quoted passages. These may be due to variant editions, or differing interpretations in one transmitted version or another, or they may be simply the result of inaccurate scribal copying over the ages. When assembled, therefore, the reconstructed form of the Ku-pen version of the Bamboo Annals provides us with only a partial view of one or more versions—as preserved by quotation—of an imperfect transcription of an incomplete and disarranged archaic text. When all such relevant facts are taken into account we find on our hands a most risky instrument for historical investigation, and one that should not be employed in the uncritical manner that several recent supporters of this book have done. And when it comes to the Chin-pen version … 22

A Brief Note on a Hsia-Dynasty (?) Record of a Solar Eclipse

As there has been considerable publicity in both a number of journals and the public media regarding an alleged Hsia-period record of an eclipse, it is appropriate to review critically the basis on which the reality of this record has been accepted. The connection with the preceding appraisal of the Chin-pen version of the Chu-shu-chi-nien is immediate.

In the Current Bamboo Annals is the following entry:

In the 5th year [of the reign of the Emperor Chung K'ang 帝仲康], autumn, in the 9th month, on the day keng-bsū 庚戌 [47], the first day of the lunar calendar, there was a solar eclipse.

In the Hsin Tang-shu 新唐書:

Chang states in the Li-yi 歷節: [According to] the ‘new chronology’, in the 5th year of Chung K'ang [of Hsia], the kuei-ssū 稽乙 [30] year, the 9th month, on the day keng-bsū [47], the first day of the lunar calendar, there was a solar eclipse in fang, 24 2 degrees.

The latter constitutes the earliest recorded account of the eclipse in these terms, while the former is the Current Bamboo Annals version. The assumption of those who have investigated such accounts is, however, that some sort of now lost record was made at the time the eclipse took place. Kevin Pang et al. (in “Computer Analysis of some Ancient Chinese Sunrise Eclipse Records to Determine the Earth's Rotation Rate”, Vistas in Astronomy 31 [1988]: 833) write as follows:

... It is thus not surprising that the observation of a solar eclipse ranks amongst the earliest of records kept by the Chinese astronomers. This eclipse occurred during the reign of King Zhong Kang [Chung K'ang] of the Xia [Hsia Dynasty], and has been successfully dated to October 16, 1876 BC (Pang 1987) ...

Pang's reference here is to an earlier article of his along similar lines which has only recently become available to me.25 However, the major concern must be with the historicity of the alleged 1876 BC record. First, there is no unambiguous literary evidence datable to earlier than c. AD 1050, when the Hsin Tang-
Not only does Pang base his claim on the two questionable sources mentioned in the previous note, but he seeks to equate the Hsia "eclipse" with the Tso-chuan story of the same "eclipse"—cited there purportedly from the "Books of Hsia" (夏書) wherein the account is worded in practically the same manner (夏不集於房 "The sun and moon did not meet harmoniously in Pang" [Legge 1861–72: II:665]) as in the spurious Yi-cheng chapter of the Shu-ching (呂不集于房 [Legge 1861–72: 165])—a change of particles only. Legge has summarized much of what has been written on this "eclipse"; however, he was not entirely disposed to accept the Yi-cheng chapter as a forgery.

Regarding the issues raised here, there is obviously room (but hardly sufficient page space) to embark on a detailed appraisal of the beginning of writing, let alone to attempt to trace its development towards what I have termed a "literary facility." For instance, one of the more recent finds of incised ceramics in China—the Ting-kung-ts’un丁公村 fragment with its eleven 'characters' which was excavated in 1991–92 from a Lung shan site in Shan-tung (see KK 1993: 4: 295–9)—has given rise to an ever-increasing array of speculative transcriptions and interpretations along with assessments of its significance in the field of Chinese paleography by both Chinese and Japanese scholars. To deal with this incised sherd alone one would soon be involved in the writing of quite a long paper, while the necessary extension of the survey to cover other well-known archaeological examples of writing (e.g. those in Cheung Kwong-yue's survey), the considerable amount of new material that has come to light since, the various cultural milieus throughout which these 'writings' appear, assessments of the social organizations of each, and so on, would result in the compilation of an extensive monograph. Nevertheless, most people familiar with these materials and the large corpus of archaeological data available in publication relevant to the observations I have offered above will appreciate that solid evidence of data of this calibre does not allow the often speculative assumptions that some would favour. It has, however, been suggested to me recently 'that it is demonstrably in no way essential to have a fully developed writing system in order to preserve an accurate permanent record of numerical information,' and the author of shu was in the process of compilation and nearing completion, which might support the historicity of the Hsin T'ang-shu account. Second, there is no transmitted citation of this eclipse record in sources compiled prior to AD 1050 which might confirm its actual presence in any of the earlier versions of the Chu-shuch'i-nien. These two observations are, of course, merely representative of ways one might seek to explore the significance of the negative aspect of the available literary evidence. There is, however, a steadily growing corpus of positive evidence which is relevant to the eclipse of 16 October 1876 BC—particularly in terms of it being a contemporary record—that has purportedly come down to us from 3,800 years ago. The evidence which we shall consider but briefly here has not, however, been given the slightest consideration, at least as far as I can recall from my perusal of the popular accounts as well more serious studies that have recently come to my attention. Just as the numerous and prolific finds of brush-written bamboo and wood tablets referred to earlier were bypassed, so, too, has the archaeological evidence pertaining to the nature and development of characters, as it may be tentatively assessed in Lung-shan, Liang-chu, Ta-wen-k’ao, Erh-li-t’ou and other sites of similar vintage, been completely disregarded.

If events are to be placed on record and then are to be transmitted for the edification of posterity, there must be a form of written script capable of recording with reasonable exactitude the nature of the event. And this would, furthermore, require the existence of a literature, or at least evidence of the practice of combining selected characters to form 'sentences'. And because dates must be recorded along with the events, there must also have been a well-established system of chronology and this, naturally, would imply the existence of an administrative organization, where the years of reign of rulers provided a framework for dating.

A careful reading of Cheung Kwong-yue's article, "Recent Archaeological Evidence Relating to the Origin of Chinese Characters" (1983) and a thoughtful study of the graphs illustrated there which were in use around the time of the eclipse and in the area supposedly under the suzerainty of the mythical Hsia, cannot help but bring the astronomically-minded writer to the down-to-earth realization that there is, indeed, little evidence that might be construed to indicate the existence, in this remote era, of a 'literary facility' capable of maintaining records of such scope. Counter-arguments to the effect that records may have been made in another (non-ceramic but perishable) medium, or that oral transmission was instrumental in the preservation of the record of this particular eclipse (at the expense of those not recorded at all over the next millenium), and other such possibilities, will doubtless be voiced. But evidence for and against such arguments will be equally unsustainable—the arguments will be purely academic and will generally serve little good purpose and simply succeed, more likely than not, in clouding the issue.27

When it comes to using 'portent data', of which eclipses are just one type, the researcher should attempt to establish beyond question the historicity of the event. If this preliminary step is not taken, the time and effort spent on
the astronomical side of the research and writing is not only wasted but may also create misapprehensions in the field of astronomy studies itself. An instance of this may be seen in the following excerpt from a report in Sky and Telescope under the heading “Time drags—it’s official!":

... assessment of Earth’s past rotation still relies on the comparison of calculated eclipse circumstances to events actually observed [my italics] in antiquity. A new study of this type investigates the length of the day almost 4,000 years ago . . . . In a paper published in the Journal of Hydrology and another to appear in Vistas in Astronomy, Kevin D. Pang (Jet Propulsion Laboratory) and colleagues explain how they used a vast compilation of Chinese astronomical records to study three specific eclipses. Their scientific and historical detective work revealed that the events of ... October 16, 1876 BC, could only have been seen where they were if the day had been then ... 0.070 second longer ... than it is now.28

In the second paper mentioned here (from which I have already cited the short passage on the previous page) the writers have misleadingly presented the situation pertaining to early Chinese astronomical records in the very first sentence of their Introduction (1988: 833):

The systematic observation of heavenly bodies and celestial phenomena probably began at the dawn of civilization in China. Both the quantity and quality of astronomical records kept for over 4000 years [!] are quite impressive.

The reader is not warned—particularly the non-sinological reader—that the historical value of the eclipse report (for the time being I restrict my comments to the eclipse of 16 October 1876 BC) is far from being satisfactorily resolved. There is absolutely no historical evidence that a record of this eclipse was made at the time of the event. On the contrary, the evidence that we do have indicates that the development of Chinese characters at this time—and even for several more centuries thereafter—had not yet reached the stage at which textual recording could have been made. The reader is not fully informed of the fact that not only the time when the eclipse was seen, and where—extremely crucial details for the purpose of the investigation—are not included in the report of this alleged Hsia-period eclipse, but also the highly suspect nature of the source from which the eclipse report is taken is quietly disregarded.

No discussion is offered as to why numbers of eclipses, given a reasonable amount of good viewing weather, failed to be reported over the next millennium, or why it should be merely this one which survived the passage of time.29 There are, moreover, various other such questions requiring investigation before a scholar can decide whether or not it is worthwhile to pursue his researches into the realm of astronomy based on such flimsy material.30

What is being done, it is regretful to observe, is little other than a kind of exercise in circularity wherein the calculated eclipse is used as a basis to confirm the reliability of the alleged historicity of the record. Then, for the period before that for which historical data are relatively reliable, there is to be noted a more dangerous element of circularity, to the extent that a very small and dubious sample of apparent historical records of eclipses is being used to

... assessment of Earth’s past rotation still relies on the comparison of calculated eclipse circumstances to events actually observed [my italics] in antiquity. A new study of this type investigates the length of the day almost 4,000 years ago . . . . In a paper published in the Journal of Hydrology and another to appear in Vistas in Astronomy, Kevin D. Pang (Jet Propulsion Laboratory) and colleagues explain how they used a vast compilation of Chinese astronomical records to study three specific eclipses. Their scientific and historical detective work revealed that the events of ... October 16, 1876 BC, could only have been seen where they were if the day had been then ... 0.070 second longer ... than it is now.28

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The reader is not warned—particularly the non-sinological reader—that the historical value of the eclipse report (for the time being I restrict my comments to the eclipse of 16 October 1876 BC) is far from being satisfactorily resolved. There is absolutely no historical evidence that a record of this eclipse was made at the time of the event. On the contrary, the evidence that we do have indicates that the development of Chinese characters at this time—and even for several more centuries thereafter—had not yet reached the stage at which textual recording could have been made. The reader is not fully informed of the fact that not only the time when the eclipse was seen, and where—extremely crucial details for the purpose of the investigation—are not included in the report of this alleged Hsia-period eclipse, but also the highly suspect nature of the source from which the eclipse report is taken is quietly disregarded.

No discussion is offered as to why numbers of eclipses, given a reasonable amount of good viewing weather, failed to be reported over the next millennium, or why it should be merely this one which survived the passage of time.29 There are, moreover, various other such questions requiring investigation before a scholar can decide whether or not it is worthwhile to pursue his researches into the realm of astronomy based on such flimsy material.30

What is being done, it is regretful to observe, is little other than a kind of exercise in circularity wherein the calculated eclipse is used as a basis to confirm the reliability of the alleged historicity of the record. Then, for the period before that for which historical data are relatively reliable, there is to be noted a more dangerous element of circularity, to the extent that a very small and dubious sample of apparent historical records of eclipses is being used to
There is a more reliable and extensive present­
chih t'ung-chien kang-mu
not been sighted. Shu-kuan, 1888.

sources that are readily at hand rather than the oliginals, which have
question,

the Bamboo Annals' chronicle of early Xia

planets as recorded in Chu Hsi's

Dar, "is a reference to an announcement made

72

Note that square brackets indicate the rough date of the works in Anon.

BIBLIOGRAPHY

Note that square brackets indicate the rough date of the works in question, to which I have made reference using passages cited in later
sources that are readily at hand rather than the originals, which have
not been sighted.

ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BMFEA</td>
<td>Bulletin of the Museum of Far Eastern Antiquities</td>
</tr>
<tr>
<td>EC</td>
<td>Early China</td>
</tr>
<tr>
<td>HJAS</td>
<td>Harvard Journal of Asiatic Studies</td>
</tr>
<tr>
<td>KK</td>
<td>Kao-ku</td>
</tr>
<tr>
<td>KKHP</td>
<td>Kao-ku hsueh-pao</td>
</tr>
<tr>
<td>MS</td>
<td>Monumenta Serica</td>
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<td>WW</td>
<td>Wen-wu</td>
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<tr>
<td>Chi-ku</td>
<td>Ch'i-k'ao-i-ch'i-ch'in-wen-sou</td>
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<td>Chou-t'sun</td>
<td>Chou Chin-wen-t'sun</td>
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<td>Chin-ku</td>
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<td>Hsi-Ch'ing ku-chien</td>
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<tr>
<td>Yin-t'sun</td>
<td>Yin-wen-t'sun</td>
</tr>
</tbody>
</table>

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