

ON THE ASTRONOMY OF ORACLE BONE INSCRIPTIONS

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I. BRIEF HISTORY ON ASTRONOMY OF ORACLE BONE INSCRIPTIONS

After 1899 year, the discovery and recognition of the oracle bone inscriptions, the recorded celestial phenomena became the topic of interest to scholars. In 1925, Wang Xiang firstly categorized the divine dictions containing celestial events in his book <<Fu-Shi-Yin-Qi-Zheng-Wen-Kao-Shi>> and deciphered a record of solar eclipse. During the early 1930s, Guo Mo-ruo made an important study of the oracle bones by using of the Japanese collections of ink rubbings. In his book, <<Bu-Ci-Tong-Zuan>>, he has listed some star names and other phenomena in the category of celestial events. Also in his book, <<Jia-Guo-Wen-Zi-Yan-Jiu>>, he discussed in the first time that the word "SUI" means "SUI-XING", that is Jupiter, and the reason for worshipping SUI-XING by the people of Yin. During the 1940s, Hu Hou-xuan (1941 and 1944) gave a comprehensive discuss on the worshipping and knowledge of the celestial events in the Shang Dynasty. In 1945, a monumental work by Dong Zuo-bin, <<Yin-Li-Pu>> ("The chronological tables of Yin Dynasty") was published. In the book, he systematically discussed the structure of the Shang calendar together with the oracle bone records. Also he introduced the new star (possible nova or supernova), the "fire star", "bird star" and other important celestial records. In particular his study on Solar and Lunar eclipses of oracle bone inscriptions is very important for modern Astronomy-chronology. From modern studies, the results that were reckoned in <<Yin-Li-Pu>> are shown to be not accurate; nevertheless, the book is invaluable in the development of oracle bone Astronomy. Since 1980s, the Astronomy of oracle bone inscriptions has entered a new period. Some young scholars of oracle bone inscriptions have contributed new results, for example, combined record of Lunar eclipse (Yan Yi-ping, 1980) and comprehensive review of Astronomical divine dictions (Wen Shao-feng and Yuan Ting-dong, 1983). In 1989, an English article on Astronomy of oracle bone inscriptions gave an over-all introduction about the Sun, the Moon, the Planets, Comets, stars, and Solar eclipses and Lunar eclipses as recorded in the oracle bone inscriptions (Xu et al., 1989). Recently we have thoroughly researched the sunspot phenomena and the comet phenomena recorded in oracle bone inscriptions (Xu and Jiang, 1990 and 1994). Last year, we reviewed these new progress and gave some suggestions to extend the research on Astronomy of oracle bone inscriptions (Xu et al., 1995).

II. SAMPLES OF TYPICAL ASTRONOMICAL RECORDS

In the following paragraph we have given some typical samples of astronomical records in oracle bone inscriptions which are affirmed up to now.

Solar Eclipses (the term is RI-YOU-SHI)

On day gui-you [10] it was inquired: The Sun was eclipsed in the evening; is it good ?

On day gui-you [10] it was inquired: The Sun was eclipsed in the evening; is it bad ? [He-Ji, 33694]

Note: He-Ji is the abbreviated name of oracle bone source book <<Jia-Gu-Wen-He-Ji>>.

Lunar Eclipses (the term is YUE-YOU-SHI)

The divination on day gui-wei [20] was performed by Zheng: Next day, jia-shen [21], will change to sunny. That night, the Moon was eclipsed. The next day was foggy; it did not rain. [He-Ji, 11483]

Sunspots (the term is RI-YOU-ZHI)

The divination on day yi-si [42] inquired: should it make a sacrifice with wine to the ancestro of Xiao-yi ? Yes, it was. There was RI-YOU-ZHI, it was reported to the ancestro of SHANG-JIA in the evening; nine oxen were made. [He-Ji, 33696]

Jupiter (the term is SUI)

The divination on day xin-you [58] was performed by Yin: The King made a sacrifice to Jupiter (SUI). Will there not be the disaster? in the 4th month. [He-Ji, 24266]

Comets (the term is HUI)

The divination on day ji-mao [16] inquired: Should Xiao-zi make a sacrifice to the comet (HUI) tonight? It was also inquired: Should Xiao-zi make ascrifice to the comet (HUI) again on the next day geng-chen [17]? In the 5th month. [He-Ji, 3266]

Fixed stars:

* The Bird star (the term is NIAO-XING, corresponding to Cor Hydrae)

The divination on day bing-shen [33] was performed by Gu: should a wine sacrifice made to Xia-yi on day yi-si [42]? The King prophesied that the wine sacrifice would ring disaster; on day yi-si [42] it would rain at daybreak; then it would rain again. Therefore a sacrifice was made to the Bird star (NIAO-XING). [He-Ji, 11497]

* The dragon star (the term is LONG, corresponding to Azimech)

On day xin-hai [48] a sacrifice was made to the dragon star (LONG). [He-Ji, 21881]

* The fire star (the term is HUO, corresponding

to Antares)

The divination on day bing-yin [3] was performed by Gu. A sacrifice was made to the fire star (HUO). [He-Ji, 2874]

*** The Northern Dipper (the term is DOU, corresponding to Ursa Major)**

The divination was on day geng-wu [7], in the night of day xin-wei [8] a sacrifice was made to the Northern Dipper (DOU). [He-Ji, 21341]

*** The new star (possible nova, the term is XIN-XING)**

On day xin-wei [8] a sacrifice was made to the new star (XIN-XING). [He-Ji, 6063]

*** The big star (possible supernova, the term is DA-XING)**

On the 7th day ji-si [6] there was the DOU at night. A sacrifice was made to the big star (DA-XING) and the fire star.... [He-Ji, 11503]

III. BRIEF DISCUSSION

From above, it is shown that Astronomy of the Shang Dynasty had already attained a fair level. But we are aware that research on the bone inscriptions is still a relatively recent topic. The names of some bright stars, such as Venus and Mars or Sirius and Vega have not been found. To extend the study of oracle bone astronomy we would offer four suggestions: (1) to open the comparative research of Astronomy between the Shang and Zhou Dynasty; (2) to strengthen cooperation between astronomers and scholars on bone inscriptions; (3) to emphasize the importance of deciphering the names of the of major planets and bright stars; (4) to use records of solar and lunar eclipses for dating and constructing the chronology of Shang Dynasty. As space is limited here, we shall discuss these in detail on some future occasion.

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