

Zangli de Yuanli yu Shijian 藏历的理论与实践
(Studies on the Principle and Application of Tibetan
Calendar—based on the translation and research of
the Tibetan original by Phyag-mdzod Gsung-rab and
Mav-yang Bsod-pa Rgyal-mtshan) by HUANG
Mingxin 黄明信 and CHEN Jiujin 陈久金. Beijing:
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With long history and unique features, the Tibetan Calendar gradually developed into a relatively complete calendar theory and system. However, it has not been systematically and completely introduced and studied by scholars. Meanwhile, there is much misunderstanding and prejudice about the Tibetan Calendar. Many people figure that it is the same as the Chinese lunar calendar. Others even consider it to be something superstitious like divination and astrology without values to deserve any research. In fact, although modern society is developing with highly advanced astronomy and meteorology and accurate natural science, the Tibetan weather almanac has essential influence on Tibet Plateau. Based on the Tibetan astronomy calendar principle, the almanac also has positive effects on the production of plateau agriculture and animal, husbandry and weather forecast. Thus, schools need a monograph on the Tibetan Calendar to make a positive identification for it.

Compared with a large amount of academic works on Tibetan history, language and religion, scholars pay little attention to the Tibetan astronomical

almanac. The well-known works on this subject are as follows: In 1972, Yamaguchi Zuiho published *Tibetan Calendar* to introduce the calendar from the following four aspects: the relationship between the Tibetan calendar and the Chinese calendar, the origin and two schools of the Tibetan Calendar, Intercalary Calendar (the intercalary month chronology between 805 A.D. and 1907 A.D.), and the calculation of exist and miss of intercalary day and determination of syzygy. Meanwhile, the book also offers reasonable explanation to the date of the Tibetan Calendar recorded in *Shengwu Ji* 圣武记 by Wei Yuan 魏源 (1794-1857). In addition, in 1973, Dieter Schuhs's *Untersuchungen zur geschichte der Tibetis-chen Kalendarrechnung* published. Firstly, the author, D. Schuhs enumerated ten different algorithms for calculating intercalary year and the starting point of the lunar day and pointed out four relatively important ones. Then she arranged the calendar between 1027 AD and 1973 AD with a computer and pointed out the corresponding date of intercalary day of leap month and the first day of the lunar month in the Gregorian calendar. However, the related research and discussion on the Tibetan Calendar are still wanting. In order to correct human's incorrect cognition on the Tibetan Calendar, Huang Mingxin and Chen Jiuqing collaborated in publishing *Zangli de Yuanli yu Shijian* 藏历的理论与实践 (*Studies on the Principle and Application of Tibetan Calendar*) in 1978 by Minzu Publishing House. The authors hope to offer a systematic reference to the scholars who work for the Tibetan astronomical almanac.

Huang Mingxin said that he began to study the Tibetan Calendar when he took part in the compilation of *Zang Han Da Cidian* 藏汉大辞典 (*the Great Tibetan-Chinese Dictionary*) years ago. In order to achieve the goal to explain "astronomy and calendar entries" and translate them into Chinese, Huang determined to do further research on the Tibetan Calendar. With the help of Bsam-vgrub Rgya-mtshos (who is proficient in the Tibetan Calendar), Huang learned to read the fundamental sources of Tibetan Calendar, such as *Phug-lugs Rtsis-gzhung* (时轮历精要, Selected Points of the Dus-vkhor-lugs). Meanwhile, based on the formulas and data from the above materials, Huang deduced when solar eclipse and lunar eclipse will happen and successfully proved that he mastered the content of the material. After that, he continued to learn the *Gtso-bo-rgyavi Rtsis-lugs* (时宪历) and understand the basic state of the Tibetan Calendar. He translated two almanacs into Chinese to make them readable for scholars. It is acknowledged that E. Burgess translated the Indian almanac---Surya Siddhanta into English. Influenced by the methods that E. Burgess used, Huang agreed that we should translate the works into common words on the basis of understanding the authors' original meaning. It not only shows the respect to the original works, but also sets the standard to test the

translators' comprehension. For this reason, Huang invited Chen Jiuqing to collaborate with him to explain two ancient Tibetan almanacs from the perspective of modern astronomy. Their articles were first published in the journal *Xizang Yanjiu* (西藏研究 *Tibetan Studies*). Then they were gathered up into a book titled *Zangli de Yuanli yu Shijian*.

The book consists of two parts: *Dus-vkhor Skar-rtsis kyi Skor* (Zangchuan Shilunli Bufen 藏传时轮历部分) and *Bod-dar rgya-rtsis kyi Skor* (Zangchuan Shixianli Bufen 藏传时宪历部分). The authors chose the representatives of the Tibetan Calendar—*Phug-lugs Rtsis-gzhung* (时轮历精要, Selected Points of the Dus-vkhor-lugs) and *Mayang Si Hanli Xinyao* (马杨寺汉历心要, Mind Essentials of the Chinese Calendar of Mayang Temple) and do translation and research. Specifically, the first part shows the translation and explanation of *Phug-lugs Rtsis-gzhung* and the research on the theory of the Tibetan Hour Wheel Calendar. The second part involves the interpretation of *Mayang Si Hanli Xinyao* and the research on the examples of the Tibetan Shixian Calendar (*Bod-dar rgya-rtsis kyi Skor*), an analysis of the origin and principles of the Tibetan Shixian Calendar. The index terms are at the end of the book. Regarded as the fundamental book for Tibetans to learn the calendar, *Phug-lugs Rtsis-gzhung* is also the initial material for research on the history of astronomy. Meanwhile, it requires basic mathematical ability—the use of four arithmetic operations, complex fractions and proportional algorithm. Although the principles of *Mayang Si Hanli Xinyao* are abstruse, they are not so unattainable.

In order to help the readers of different groups and make it convenient for the scholars to do comparative studies, the book also consists of Tibetan documents, Chinese versions and notes. The layout of combining the original text, the target text and notes is inspired by Yu Daoquan's 于道泉 translation version—*Love Songs of Darai Lama VI Tsangs-dbyang Gya-mtsho*. In terms of the methods and publication, Yu's work is made up of six columns. The order is arranged as Tibetan texts, Tibetan's Latin Transliteration, the actual pronunciation (according to International Phonetic Alphabet), Tibetan-English translation (word by word), words into sentences and the English version. Both original materials and findings are involved in it. Although Huang's layout was not favored by others at first, the circulation and readers' responses proved the successful application of the layout.

To make it convenient for the readers, the book also has arranged a three-figure numbers table for corresponding chapters and paragraphs of Tibetan and Chinese. The three-figure numbers have specific meanings: the first number and the third number represent the number of chapter and paragraph; the second