

Chinese Calendar in Persian under Mongol Domination

Two-Way Exchange of Astral Sciences across Eurasia¹

Yoichi ISAHAYA

Post-Doctoral Fellow of the ERC Project
“Mobility, Empire and Cross Cultural Contacts in Mongol Eurasia”
The Hebrew University of Jerusalem
e-mail: amirsahibqiran@yahoo.co.jp

This paper aims to bridge the gulf between minute philological analysis and big-picture thinking by elucidating the two-way exchange of astral sciences on a Eurasian scale through exhaustive investigation into a Chinese calendar in Persian—hereafter called the Cathay calendar in accordance with the source—described in thirteenth-century Iran under Mongol domination. In other words, this work will deal with cross-cultural contacts along the Silk Roads in the context of Mongol Eurasia.

At the order of Chinggis Khan’s grandson, the first Ilkhan Hülegü (r. c. 1260–1265), the Muslim polymath, Naṣīr al-Dīn al-Ṭūsī (1201–1274), incorporated a Chinese calendar into his *Zīj-i Īlkhānī* (*Īlkhānīd Astronomical Handbook*) through dialogue with a “sage of Cathay.” A comprehensive investigation into the calendar sheds light on the broad-scale cross-cultural contacts that took place under Mongol rule, bringing together eastern and western scientific traditions. Although astral sciences have received more scholarly attention than other sciences and technologies in Mongol Eurasia, as exemplified by works like N. Sivin’s *Granting the Seasons* (New York: Springer, 2009), we can identify only a few cases of, or results from, cross-cultural collaboration among astronomers/astrologers in that period. In fact, the coexistence of the Chinese and Muslim Bureaus of Astronomy in

¹ The research leading to these results has received funding from the European Research Council under the European Union’s Seventh Framework Program (FP7/2007–2013)/ ERC grant agreement n° 312397.

the Yuan dynasty (1271–1368) did not evolve to transform any of the existing astral traditions. Moreover, the Islamicate intellectuals at the Marāgha observatory under the rule of the Īlkhānids (c. 1260–1335) were primarily concerned with revising the Ptolemaic understanding of the universe, and the eastern astronomical system contributed little to their efforts. In contrast, the Cathay calendar in the *Zīj-i Īlkhānī* is a rare case of direct dialogue concerning the two astral sciences. The common demand for horoscopes was among the things that encouraged this dialogue. Moreover, one of the two Chinese astronomical systems that served as the basis for the Cathay calendar, introduced by a Daoist sage, in fact retained West-Asian elements that had arrived in China through East-Syrian Christians in the Tang dynasty (618–907).

Regarding the period of the Mongol empire, Allsen's work, *Culture and Conquest in Mongol Eurasia* (Cambridge: Cambridge University Press, 2001), in which he described the Mongols as agents who mediated the cross-cultural contacts of various commodities, ideologies and technologies in Eurasia, is widely regarded as a masterpiece. However, given that fifteen years have passed since this work was published, the time is ripe to go beyond it. Although Allsen greatly succeeded in presenting a broad view in terms of the connection between Steppe politics and cross-cultural exchange, he basically relied on the already-edited sources, especially in the case of Perso-Arabic materials, and some important unedited works did not receive the attention they deserve. The Cathay calendar in the *Zīj-i Īlkhānī* (c. 1272) is one of these sources; in this sense, this paper's challenge is to provide a positive answer to the following question: Can we conduct big-picture thinking—as Allsen did—with more profound philological analysis?

Throughout this analysis, we narrate a history of the Cathay calendar in the *Zīj-i Īlkhānī*, which can be expressed as a two-way exchange of astral sciences across Eurasia. Horoscopic astrology was transmitted into China in the Tang period along with “foreign” religions, and naturalized in China in congruence with Daoism. Then, in the thirteenth century, knowledge of this astronomical system was brought back to the western regions by a Daoist sage of Cathay in the service of the Mongols. As a result of the dialogue between the sage and al-Ṭūsī, several calculation methods of the Chinese astronomical system were reflected in the Cathay calendar in the *Zīj-i Īlkhānī*. Their dialogue might have been framed in terms of horoscopic astrology, the element allowing them to overcome the “incommensurability” of the two astral sciences. However, al-Ṭūsī was not satisfied with the outdated content of the sage's learning. In consequence, the Chinese astral sciences were only represented as a calendar in the *Zīj-i Īlkhānī*. Even though the bulk of the dialogue between the sage of Cathay and the Muslim polymath concerning the two astral sciences remains unrecorded, a minute study of the calendar can broaden our understanding of cross cultural exchanges in Eurasian scale.