

BOOK REVIEW

褚龙飞. 会通历学：薛凤祚历法工作研究 [Longfei Chu. *Integrating Calendrical Learning: The Research on Xue Fengzuo's Works of Calendrical Astronomy*]. Hefei: University of Science and Technology of China Press, 2022, Pp. ii + 270.

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Chen Ji

University of Science and Technology of Hefei, China

xmchenji@ustc.edu.cn

In the context of China's demand for a high-accuracy astronomical system and the Jesuits' strategy of spreading Catholicism in China by using scientific knowledge, the Tychonic system was introduced in the late Ming dynasty (明, 1368–1644) and adopted as the official astronomical system in the early Qing dynasty (清, 1644–1911). In comparison, although the Copernican system—another significant astronomical system in Europe at that time—was also mentioned in the early Qing official astronomical treatises of the Tychonic system, its first systematic introduction in China was achieved by the private Chinese astronomer Xue Fengzuo (薛凤祚, 1600–1680) and the Polish Jesuit missionary Jean-Nicolas Smogolenski (1611–1656). Referring to the Belgian astronomer Philippe van Lansberge's (1561–1632) *Tabulae Motuum Coelestium Perpetuae*, which adopts the heliocentric system, they compiled the astronomical

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section of the *True Principles of the Pacing of Heavens* 天步真原 (*Tianbu zhenyuan*). Based on the book, Xue Fengzuo then spent more than ten years integrating different astronomical systems from both Chinese and Western traditions, ultimately completing the voluminous *An Integration of Calendrical Learning* 曆學會通 (*Lixue huitong*). These contributions established Xue Fengzuo as one of the most important and renowned astronomers in the early Qing dynasty.

Drawing from the doctoral dissertation of Longfei Chu, colleague of the author of this review in the University of Science and Technology of China, this Chinese-language book, consisting of seven chapters, offers the first comprehensive analysis of Xue Fengzuo's astronomical work, with particular focus on the heliocentric theory presented in the *True Principles of the Pacing of Heavens*. In Chapter 1, the author revisits Xue Fengzuo's life and works in the light of newly discovered historical materials. Chapters 2–5 address the theories of the sun, moon, outer planets, and inner planets, respectively. In these four chapters, the first section of each chapter provides a detailed description of the relevant theory in the *Tabulae Motuum Coelestium Perpetuae* and compares it with the content of Copernicus' *De Revolutionibus*; the second section discusses the theory in the *True Principles of the Pacing of Heavens* and highlights the differences between it and the *Tabulae Motuum Coelestium Perpetuae*, such as textual errors and algorithmic discrepancies; the third section studies the astronomical theories in his *An Integration of Calendrical Learning*, especially the adjustments made on the basis of the *True Principles of the Pacing of Heavens*. In Chapter 6 and 7, the author further examines the sources of each volume of Xue Fengzuo's *An Integration of Calendrical Learning* and explores the characteristics of his calendrical methods, respectively. Finally, the book concludes with a summary discussion that provides a preliminary analysis of the dissemination and impact of Xue Fengzuo's astronomical work in the Qing dynasty. Additionally, the book includes an appendix with an important historical material about Xue Fengzuo's life excerpted from the *Overview of the Collections on the Two Rivers* 兩河清匯易覽 (*Lianghe qinghui yilan*).

The late Ming and early Qing period is a time of significant interaction between Chinese and European knowledge. The introduction of the Copernican system into China was undoubtedly a crucial event in this era. As the first work to systematically study the early introduction of the Copernican system in seventeenth-century China, the book not only clarifies many important issues, but also further discusses the characteristics of integrating Chinese and Western astronomy at that time, which can provide us with a deeper understanding of cultural and scientific exchanges between China and the West.