



The History of Clocks and Timekeeping in China

Ep. 343

PINYIN / TERM	CHINESE	ENGLISH / MEANING
Yǔ the Great	大禹	Legendary king famed for "the first successful state efforts at flood control." He founded the (up to now) mythical Xia dynasty which inaugurated dynastic rule in China. He is revered for his upright moral character that was pointed to as a model for future rulers
Púyǐ	溥仪	1906-1967, the last emperor of imperial China going all the way back to Qin Shihuang. He reigned as the Xuantong Emperor from December 1908 to February 12, 1912
Hàn	汉朝	Dynasty founded in 206 BC. It lasted until 220 AD with an interregnum period lasting 9-23 AD
Táng	唐朝	Dynasty founded in 618 and lasting until 907 AD. Wu Zetian reigned as empress of her Zhou Dynasty from 690-705
Western Zhōu	西周	The portion of the Zhou Dynasty that lasted 1046 to 771 BC when the capital was at Fenghao
Shāng dynasty	商朝	Ancient dynasty that lasted 1600 - 1045 BC
Zhāng Héng	张衡	78-139 AD, polymathic scientist and statesman who lived during the Han dynasty. He achieved success as an astronomer, mathematician, seismologist, hydraulic engineer, inventor, geographer, cartographer, ethnographer, artist, poet, philosopher, politician, and literary scholar. An early example of a "universal man"
Míng Zhāng zhī zhì	明章之治	The period during the Reigns of Han Emperors Míng and Zhāng
Sū Sòng	苏颂	polymathic scientist and statesman. Excelling in a variety of fields, he was accomplished in mathematics, astronomy, cartography, geography, horology, pharmacology, mineralogy, metallurgy, zoology, botany, mechanical engineering, hydraulic engineering, civil engineering, invention, art, poetry, philosophy, antiquities, and statesmanship during the Song dynasty
Èrshísì Jiéqì	二十四节气	The 24 Solar Terms is a traditional Chinese system that divides the solar year into 24 equal segments based on the position of the sun. These terms help mark the changing seasons and guide agricultural activities. The solar terms are part of the Chinese lunisolar calendar and are still used today in various aspects of Chinese culture
Dìdòngyí	地动仪	literally means an instrument for measuring the movements of the Earth which could discern the direction of an earthquake some 500 km away
Yì Xíng	一行	683–727, astronomer, Buddhist monk, inventor, mathematician, mechanical engineer, and philosopher during the Tang dynasty. His astronomical celestial globe featured a liquid-driven escapement, the first in a long tradition of Chinese astronomical clockworks
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Kāiyuán Era	开元	A particularly flourishing time during the reign of Tang Emperor Xuanzong. It lasted 713-741
Emperor Xuánzōng	唐玄宗	Tang emperor who reigned 712-756
Liáng Lìngzàn	梁令瓚	Artist, astronomer, inventor, mechanical engineer and politician of the Kaiyuan era during the Tang Dynasty. Together with Yi Xing, he co-invented a mechanized water clock
Northern Sòng Dynasty	北宋	That part of the Song Dynasty that lasted 960-1127 when the capital was located in Kaifeng

Zhāng Sīxùn	张思训	10th century Chinese astronomer and mechanical engineer during the early Song dynasty, credited with creating an armillary sphere for his astronomical clock tower that employed the use of liquid mercury (dripped periodically from a clepsydra clock). The liquid mercury filled scoops of the waterwheel would rotate and thus provide the effect of an escapement mechanism in clockworks and allow the astronomical armillary sphere to rotate as needed
Emperor Tàizǔ	宋太祖	Personal name Zhao Kuangyin, the founding emperor of the Song dynasty of China. He reigned from 960 until his death in 976
Kāifēng	开封	City in Henan Province on the south bank of the Yellow River. The Northern Song capital was at Kaifeng, then called Bianliang
Zhézōng	宋哲宗	Song emperor who reigned from 1085 to 1100. He was succeeded by his younger brother Huizong
Huizōng	宋徽宗	Song emperor who reigned 1100-1126. He got to preside over the demise of the dynasty when it was based in Kaifeng
Běncǎo Tújīng	本草图经	The Illustrated Classic of Materia Medica, compiled by Su Song
Shuǐyún Yíxiàngtái	水运仪像台	Water-Powered Armillary Sphere and Celestial Globe Tower, the world's first hydromechanical astronomical clock tower
Hán Gōnglián	韩公廉	Song official who was the Acting Secretary of the Ministry of Personnel. He worked with Su Song on the armillary sphere and clock tower
Yuán	元朝	The Yuan Dynasty that lasted from 1271-1368
Míng	明朝	Dynasty founded by Zhu Yuanzhang (the Hongwu Emperor) that lasted 1368 to 1644
Zhān Xīyuán	詹希原	Ming Dynasty engineer who made further advances in horological technology. He introduced sand as a motive power rather than water
Zhōu Shùxué	周述学	16th century Ming engineer who made further advances on Zhan Xiyuan's mechanical clocks
Zīmíngzhōng	自鸣钟	Chiming mechanical clocks
Wànlì Emperor	万历帝	Long-reigning (but not long ruling) Ming Emperor who sat on the throne from 1572-1620
Guǎngzhōu	广州	Capital city of Guangdong province. Also a historic port city that went back to ancient times. In the west it was known for many centuries as Canton
Sūzhōu	苏州	Major city in Jiangdu Province known for its beauty and high culture
Nánjīng	南京	Capital city of Jiangsu Province
Yángzhōu	扬州	A prefecture-level city in central Jiangsu, also known for its cultural past
Kāngxī	康熙	Second Emperor of the Qing Dyansty who reigned 1661-1722
Qiánlóng	乾隆	Third Emperor of the Qing Dyansty who reigned 1722-1735
Yōngzhèng	雍正	Fourth Emperor of the Qing Dyansty who reigned 1736-1796