

中国古代天文文物图集

中国社会科学院考古研究所编著
文物出版社出版

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说 明

我国是世界上天文学发达最早的国家之一。我国不但有丰富的文化典籍记录了古代天文学的成就,而且还遗留有许多古代天文文物,形象地表现了古代天文学发展的实况,它们都是研究我国古代天文学史的珍贵资料。对于散处各地的古代天文文物加以汇集整理,是很有必要也很有意义的一项工作。

这次汇集整理工作至1977年底截止,选出五十二项文物,编辑了这本《中国古代天文文物图集》。选定文物的标准有三个:首先是文物的年代,限定在1840年以前;其次,必须是与天文有密切关系的;另外,有些虽然从科学史的意义并不那么突出,但从历史文物的角度却有它的代表性,因而也适当地予以选入。

全书图版共一〇八幅,其中彩色版一四幅。大体上是按年代早晚的顺序排列的。每项文物都有简单的说明,注明文物的年代、出土的时间和地点、形制和必要的尺寸、收藏单位,以及与这项文物有关的参考文献。

本书选录的文物是从新石器时代开始的。郑州大河村仰韶文化遗址中彩陶上的太阳纹图案,山东莒县大汶口文化遗址中陶尊上的刻文,都反映着史前时期人们对天象的认识,在人类文化发展史上具有重要的意义。殷墟甲骨卜辞中所保存的丰富的天象记录,代表着奴隶社会天文学的发展概况,当时在天象观测方面取得了很大的进展,已经有了相当完备的历法,无可辩驳地证实了我国是世界上天文学发达较早的国家之一。

我国封建社会时期的天文文物,内容十分丰富。选入本书的有古老的天文台和天文仪器,有著名于世界的各种星图,也有公元前二世纪所写的天文专著和完整的历谱。它们都从各个方面反映了我国古代天文学发达的盛况。

近年以来,天文考古的最大收获是关于汉代天文文物的出土。著名的马王堆汉墓中发现了一幅可能早到公元前四世纪的《彗星图》,图中描绘了不同类型的彗头、彗尾,

说明当时对彗星形态的观察已很细致,分类也很科学。同墓还出土了公元前二世纪的帛书《五星占》,这是我国现存最早的一部天文专著,它的附表中记录了自秦始皇元年(公元前246年)至汉文帝三年(公元前177年)七十年间,岁星(木星)、填星(土星)和太白(金星)在天空中运行的位置,测出的会合周期已相当精确,这不能不使我们对两千多年前的我国天文学家所取得的成就为之惊叹!

安徽阜阳西汉汝阴侯墓中发现的漆制“圆仪”,是目前所见时代最早的与天文仪器有关的文物,盘上所标的二十八宿度数,是久已失传了的古度,这对研究汉以前的赤道坐标系的起源发展问题,提供了新资料。

时代稍晚一些的两汉中、晚期(约公元前二至一世纪)的漏壶和东汉铜圭表也都是新发现的重要天文文物。本书所收录的三件漏壶都属于泄水型沉箭式漏壶,是当时普遍使用的计时器。仪征东汉墓中的铜圭表虽然缩小了十倍,但它却清楚地表现了当时的圭表形制,也是一件珍贵文物。

汉代太初以前所用的历法究竟是什么历?由于缺乏实例,始终是一个谜。临沂汉墓中出土的元光元年(公元前134年)历谱,为我们提供了研究古六历的重要实例。目前对这个问题虽有不同看法,我们相信在“百家争鸣”方针的指引下,这个谜迟早是会被揭晓的。

我国古代的星图有着悠久的历史。时代较早的星图虽然多属示意性质的,但从这些图中所绘的部分天区和单个星官的情况,仍可研究古代不同历史时期人们对星官的认识。目前所见的科学性星图,是从公元八世纪初叶的敦煌卷子中的唐代星图开始的。以后又有杭州五代吴越墓的石刻星图,北宋《新仪象法要》中的星图,苏州南宋石刻星图,北京隆福寺明代星图,常熟明代石刻星图,莆田明代星图,明徐光启《赤道南北两总星图》等,它们反映着各个时期对恒星观测的水平,为我们研究古代星官以及对现代恒星的认证都有非常重要的参考价值,同时,也表现了我国古代科学家在世界科学史上所作出的巨大贡献。

我国是一个多民族的国家,各兄弟民族都为悠久而灿烂的中华文化作出了应有的贡献。本书中所选录的古代高句丽、鲜卑、回鹘、契丹、藏族、蒙古族、傣族以及新疆地区的古代少数民族的天文文物,正反映了这个历史事实。

我国的古代文化是世界古代文化的一部分,我国古代科学家在中外文化交流上也作出了贡献。本书中所收录的唐代七曜历、黄道十二宫的图形和一部分星图,以及北京明清观象台上所保存的清初天文仪器等,都是我国古代天文学史上中外文化交流的例证。本书中的某些天文文物也是世界天文学史上的重要文物。

古代科学由于受着时代的局限，不可避免地在某些方面深深地涂上了宗教迷信的色彩，本书所选录的很多文物都具有这个缺陷，正说明科学总是在与宗教迷信的严重斗争中逐步发展的，因而，剔除糟粕，发扬精华，是我们整理古代文化遗产中的首要任务。

以上所介绍的只是本书内容的一个简单的轮廓。至于对每项文物的评价，我们另外编辑了《中国古代天文文物论集》一书，对本书中的重要文物，都有专题论文加以阐述，读者可以参阅。

汇集整理工作是由国家文物事业管理局领导的和组织的，中国社会科学院考古研究所天文文物小组徐苹芳、邵望平二同志承担了整理和编辑工作。提供资料的单位(按本书图版排列的先后为序)有：郑州市博物馆、山东省博物馆、中国历史博物馆、中国社会科学院历史研究所、天津市历史博物馆、湖南省博物馆、安徽阜阳地区博物馆、甘肃省博物馆、陕西兴平县茂陵保管所、内蒙古自治区伊克昭盟文物工作站、南京博物院、河南省博物馆、山西省文物工作委员会、南阳市博物馆、故宫博物院、吉林省博物馆、吉林集安县文物保管所、敦煌文物研究所、辽宁省博物馆、洛阳博物馆、旅顺博物馆、陕西省博物馆、陕西乾县文教局、中国科学院图书馆、甘肃敦煌县文化馆、天津市艺术博物馆、新疆维吾尔自治区博物馆、浙江省博物馆、杭州市文物管理委员会、南京市文物管理委员会、扬州博物馆、南京图书馆、河北省文物管理处、河北省博物馆、苏州市博物馆、河南登封县文管所、中国科学院紫金山天文台、北京图书馆、江苏常熟县文物管理委员会、福建莆田县文化馆、北京市文物管理处、北京天文馆、内蒙古自治区文物工作队、常州市博物馆、中央民族学院、北京民族文化宫等。此外，中国科学院自然科学史研究所、北京天文台、上海天文台、上海自然博物馆和文物出版社等，在整理编辑过程中也曾予以多方面的协助。本书编成后，由祖国天文学整理研究小组主持，邀请有关单位，对书稿作了审定。特在此一并致谢。

由于我们的水平有限，书中不可避免地会有很多缺点和错误。我们诚恳地欢迎读者批评指正。

中国社会科学院考古研究所

一九七八年二月

An Album of Ancient Relics and Documents Connected with Astronomy

The ancient relics and documents connected with astronomy published in this album are limited to those discovered before the end of 1977. They are arranged for the most part in a chronological order in a total of a hundred plates, of which twenty are in color. Each of them is accompanied by a brief text indicating its date, time and place of its discovery, and measurement, as well as the location or the name of the institution where it is preserved and a bibliography.

Among those dating from the Neolithic Age, the painted pottery sherds with the sun designs unearthed from a Yangshao site near Zhengzhou and the pottery *zun*-vase with an incised sign uncovered from a Dawenkou site at Juxian in Shandong Province, probably reflecting the astronomical concepts of the prehistoric people, may occupy an important place in the history of the cultural development of man. The wealth of astronomical records preserved in the oracle inscriptions of Yinxu, Anyang, which embody the astronomical knowledge of the Chinese people in the slave society, show that China is among the few countries in the world in which astronomy developed at a very early date.

From the Han dynasty onwards, ancient monuments and artifacts connected with astronomy became particularly rich. Among those included in the present album are a picture of comets of the fourth century B.C. and an astronomical work called the *Wu Xing Zhan* 五星占 (Astrology Based on Five Planets) unearthed from one of the well-known Han tombs at Mawangdui in Changsha. The former depicts no less than eighteen different comets while the latter contains a record of the movements of the Jupiter, Saturn and Mars from 246 to 179 B.C. and a rather accurate list of their synodic periods. They attest to the impressive knowledge of the Chinese astronomers in the early stage of the feudal society. Other Han dynasty artifacts connected with astronomy include a lacquer circular instrument engraved with the twenty-eight *Xiu* and the *Xiu* extensions in degrees in accordance with an ancient measurement, unearthed from the Western Han tomb at Fuyang County in Anhui Province; the bronze waterclocks or clepsydras unearthed at Mancheng in Hebei Province, Xingping in Shanxi Province and the Yikezhao League in Inner Mongolia; a bronze *gui biao* 圭表 or gnomon shadow template uncovered from an Eastern Han tomb at Yizheng County in Jiangsu Province and a calendar of the first year of the reign of Yuan Guang (A.D. 134) unearthed from the Han tomb at Linyi in Shandong Province.

Star maps appeared at a very early date in China and the present album contains more than twenty of such maps. Among these are a Tang dynasty star map found on the back of a manuscript scroll found at Dunhuang, a planisphere engraved on stone uncovered from a tomb of the State of Wuyue of the Five Dynasties period excavated at Hangzhou, the planisphere originally published in the Northern Song work entitled *Xin Yi Xiang Fa Yao* 新仪象法要, the Southern Song stone engraving of a planisphere preserved at Suzhou, the Ming dynasty painted planisphere originally preserved at Longfu Temple 隆福寺 of Beijing, the Ming dynasty stone engraving of a planisphere preserved at Changshu in Jiangsu Province and the *Chi Dao Nan Bei Liang Zong Xing Tu* (General star maps of the south and the north polar projection). All of these are of great scientific value.

China is multi-national state in which numerous fraternal nationalities have contributed to the development of a great national culture. The astronomical artifacts made by the ancient Gaogouli, Xianbei, Uigur, Qidan, Tibet, Mongol and Dai peoples, as well as those made by the other ancient minority nationalities of the Xinjiang region, published in the present album are proof of this historical fact.

From very early times, Chinese astronomers have benefitted from the cultural exchange between China and other countries. For instance, some of the artifacts published in the present album, such as the *Qi Yao Li* 七曜历 (Seven Luminaries Calendar) of the Tang dynasty, the representation of the *Huang Dao Shi-er Gong* 黄道十二宫 or the Solar Zodiac and some of the star maps, and the early Qing astronomical instruments preserved at the Ming and Qing dynasties observatory at Beijing all attest to this fact. For this reason, the artifacts published in the present album are of great interest to the world history of astronomy.

For those who are interested in a more detailed study of these relics and documents, a sister volume entitled *Zhong Guo Gu Dai Tian Wen Wen Wu Lun Ji* 中国古代天文文物论集 (Papers on the Astronomical monuments and artifacts of Ancient China) has been published separately.

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