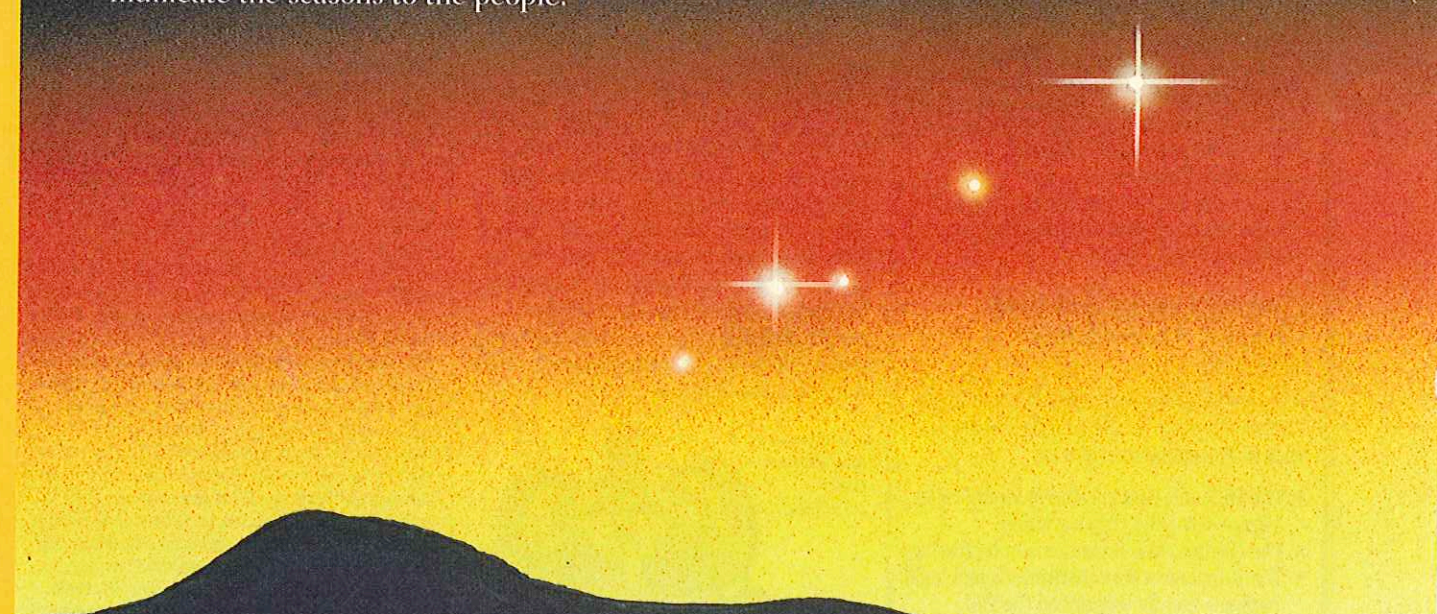


THE Mandate OF Heaven

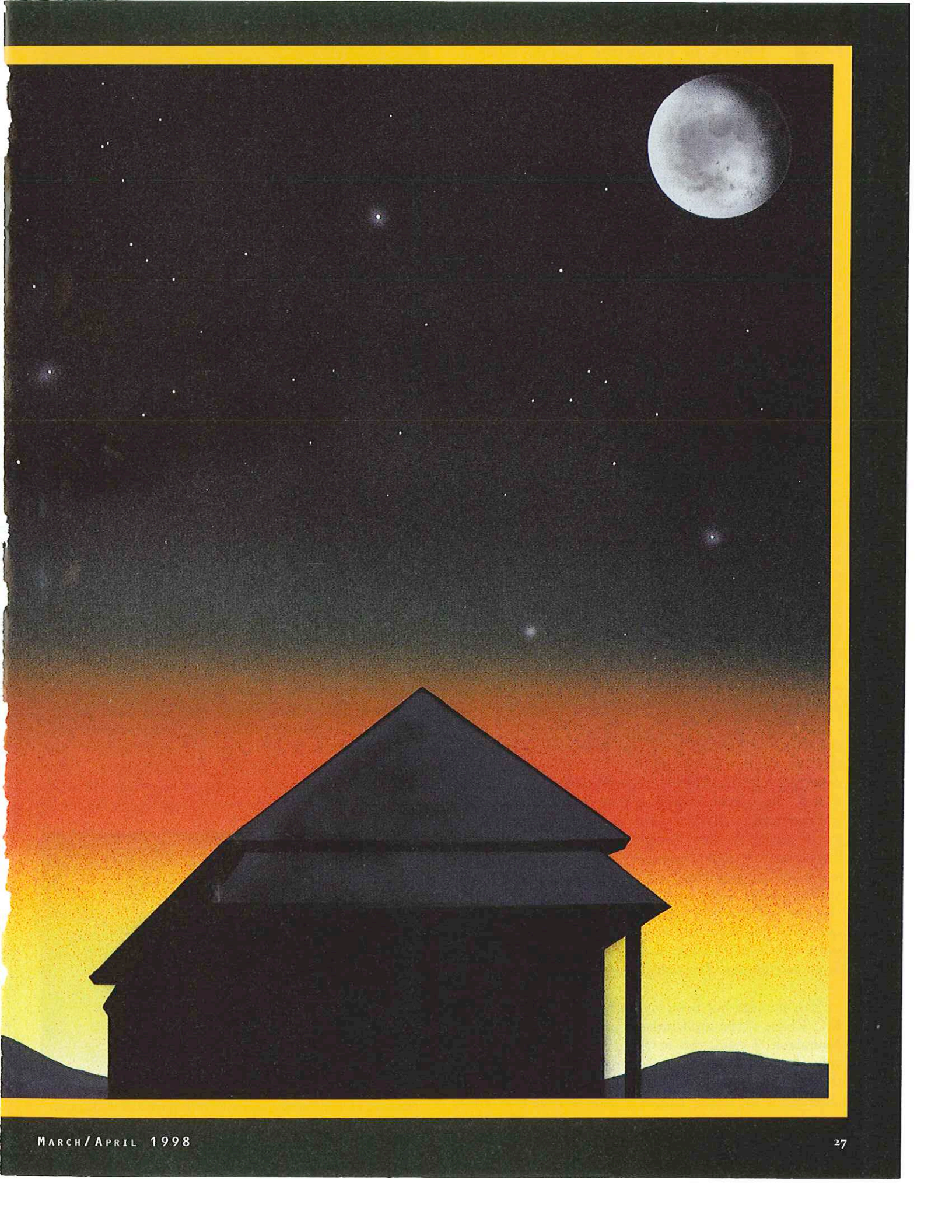
Comprehending celestial patterns was a fundamental requirement for Chinese kingship.

by DAVID W. PANKENIER

FOR EARLY CHINESE RULERS, OBSERVING THE HEAVENS AND COMMUNICATING THE PASSAGE of time to the people were divine obligations, which accounts for a preoccupation with astronomy, astrology, and calendrical science throughout Chinese history, and explains why the ability to predict celestial events came to be seen as a barometer of a dynasty's success. The correct orientation of any consecrated space, the scheduling of religious ceremonies, and the proper conduct of seasonal occupations all depended on the king. The ability to comprehend the celestial patterns (e.g., seasonal constellations) and to maintain conformity between astral and terrestrial realms became a fundamental qualification for kingship. To mistime sacrifices to the ancestors or natural powers would surely invite disaster. Hence, Heaven's ancient mandate, first explicitly set forth by Zhou Dynasty rulers in the mid-eleventh century B.C. and preserved in the canonical Book of Documents (ca. sixth century B.C.), exhorted China's rulers to "observe the Heavenly images and communicate the seasons to the people."



The five visible planets—Saturn, Venus, Mercury, Mars, and Jupiter—were believed to be the ministers of Shangdi, the Lord on High. Their conjunction in the predawn sky of February 1953 B.C. was thought to indicate Shangdi's conferral of the right to rule on the Xia Dynasty.



There is evidence from the Neolithic onward of the importance placed on the relationship between people and the sun, moon, stars, and planets. Neolithic Yangshao burials of the fifth and fourth millennia B.C. in various locations across northern China are oriented consistently to the cardinal directions. Mid-third-millennium B.C. polychrome pottery from Dahecun, in north-central China, is decorated with lunar, solar, and possibly stellar motifs. A tomb at Xishuipo in Henan Province excavated in 1987 contains clamshell pavements that may depict three prominent constellations—the Tiger, the Dragon, and the Big Dipper—pushing back to 3000 B.C. the evidence for observations of celestial patterns (see page 30). This burial and others at Xishuipo may be of shamans or religious figures of high social standing. Equally intriguing is a jade turtle found that same year in a 4,500-year-old tomb at Hanshan Lingjiatan in Anhui Province that confirms the turtle's role as a sacred simulacrum of the cosmos. A rectangular plaque between the turtle's upper and lower shells is incised with a design that resembles (but is not) a compass rose, suggesting a very early conceptualization of the world as a center from which influence radiates toward the eight cardinal and intercardinal directions. The earliest written records of astronomical phenomena are found on Shang Dynasty (thirteenth century B.C.) oracle bones. Divinations inscribed on turtle shells and shoulder blades of cattle mention eclipses, sacrifices to seasonal stars and constellations, solstices, and other observations about which the Shang court sought supernatural guidance. During this period, the early Bronze Age, city buildings and walls began to be regularly oriented to the cardinal directions, signaling the importance of cosmography to kingship.

A fourth-century B.C. narrative history known as *Discourses of the States* includes a passage alluding to the importance of shamanism in early Chinese civilization:

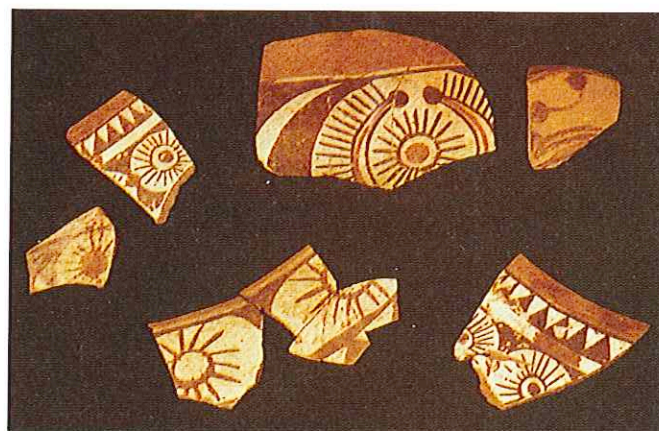
Anciently men and spirits did not intermingle. At that time there were certain persons who were so perspicacious, single-minded, and reverential that their understanding enabled them to make meaningful collation of what lies above and below, and their insight [enabled them] to illumine what is distant and profound. Therefore the spirits would descend into them. The possessors of such power were, if men, called xi [shamans], and if women, wu [shamanesses]. It is they who supervised the positions of the spirits at the ceremonies, sacrificed to them, and otherwise handled religious matters. As a consequence, the sphere[s] of the divine and the profane were kept distinct. The spirits sent down blessings on the people, and accepted from them their offerings. There were no natural calamities.

This passage has been variously interpreted. In 1983 K.C. Chang of Harvard University saw it as testimony to the central role of shamanism in Chinese politics. Since Heaven was where all the wisdom of human affairs lay, access to that wisdom was requisite for the establishment of political authority. In the mythic past, everybody had had that access



An inscribed plaque, top, within a jade turtle found in a tomb in Anhui Province, dated ca. 2500 B.C., shows the world as a center from which influences radiate outward. In early China the forms of the turtle and the cosmos were thought to be similar.

through shamans, but since Heaven had been severed from earth, only those who controlled that access had the wisdom, hence the authority, to rule. Shamans, therefore, were a crucial part of every state court; the king himself was actually head shaman. I believe that the above passage, rather than providing a clue to the central role of shamanism in ancient Chinese politics, actually accounts for the decline of



Pottery with astronomical motifs from a ca. 2500 B.C. village at Dahecun, Henan Province, reflects an early interest in the heavens.

Courtesy David W. Pankenier

Courtesy David W. Pankenier

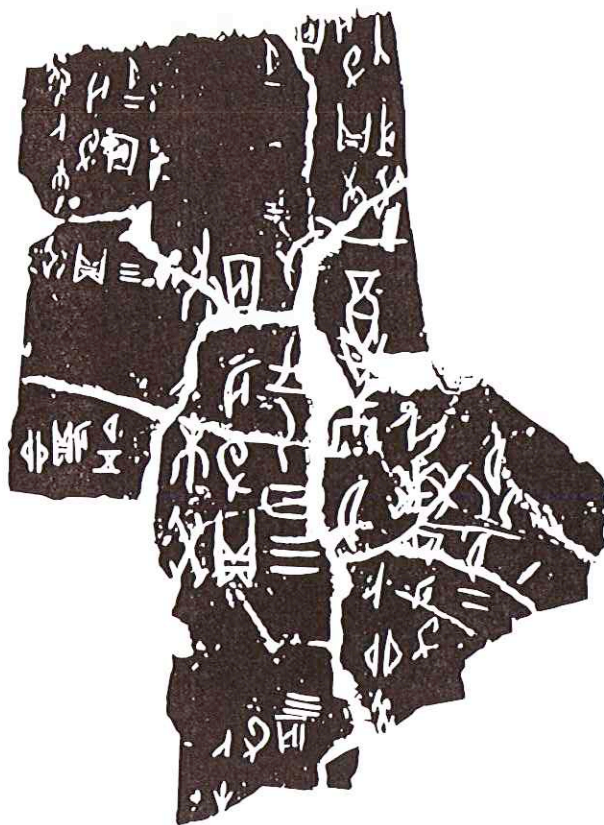
shamanistic practices among the ruling elite as a consequence of the emergence of a new kind of esoteric and highly specialized knowledge of Heaven embodied in time-keeping, calendrics, astronomy, and astrology. As part of the formation of centralized states, and as confidants of the kings, court astrologers became the custodians of the kind of knowledge associated with calendrics. According to Sima Qian, a Han Dynasty (206 B.C.–A.D. 220) royal astrologer and author of China's first comprehensive history, the first-century B.C. Historical Records, the passage reflects the emergence of bureaucratic control of religious observances and the knowledge of Heaven as preeminent concerns of the state. The period to which the passage refers, the Neolithic-Bronze Age juncture (mid-second millennium B.C.), probably saw the introduction of the calendar and other sacred technologies like divination and written record keeping.

"Heaven," a translation of the Chinese *tian* (variously sky, day, or transcendent deity), changed over time from an archaic sky divinity to an anthropomorphized interventionist sky god, to an abstract cosmic power. At the center of Heaven, represented by the celestial pole, or axis mundi, about which the universe revolved, resided the deity Shangdi, the Lord on High. From there Shangdi commanded the processes of nature and a hierarchy of subordinate supernatural entities. The king occupied a similar position on earth; hence Confucius (ca. 551–479 B.C.) compared the ideal ruler to the unmoving pole star around which the whole cosmos revolves. By the early second millennium B.C., it became a principal duty of a Chinese ruler to assure that human activity—from labor in the fields, to military campaigns, to religious ritual—conformed as closely as possible to the seasons and movements of the

heavens. Chinese rulers believed that by divining celestial phenomena, especially those that deviated from the norm, it was possible to discern Shangdi's will. Comets, eclipses, meteor showers, and violent or freak meteorological phenomena inspired a sense of awe and dread. Often these were interpreted as warnings that Shangdi or the ancestral spirits were displeased. The Zhou Dynasty (1046–256 B.C.) made this belief an article of faith in Chinese dynastic ideology and denoted it by the term *tian ming*, or Heaven's Mandate. Heavenly signs were believed to signal the bestowal of legitimacy on a worthy person who had demonstrated his capaci-



Courtesy David W. Pankenier. Map by Lynda D'Amico



Inscription on a thirteenth-century B.C. Shang oracle bone recording a lunar eclipse is indicative of a growing preoccupation with astronomical phenomena in early imperial China.

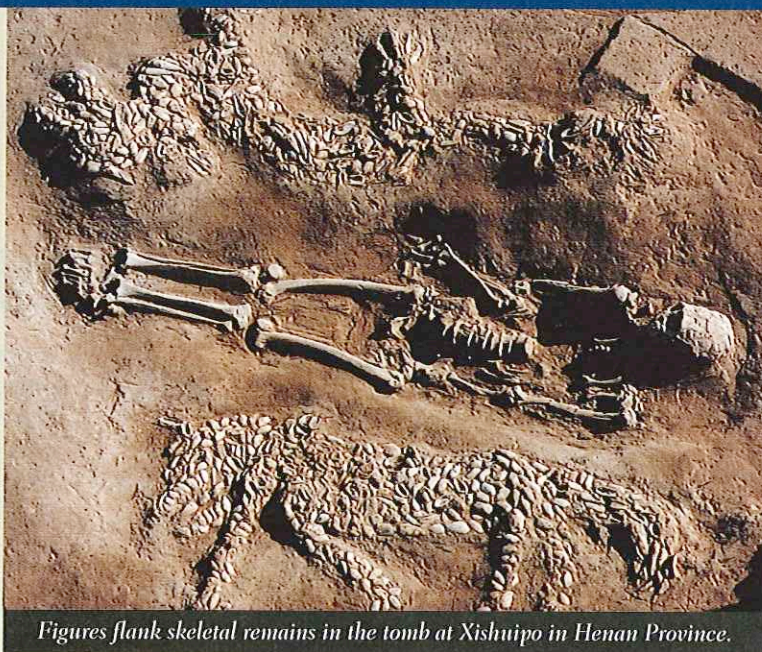
ty for benign leadership and a proper respect for divine intentions. In this way a spectacular comet or eclipse could, under the appropriate political circumstances, be both ominous for a ruling house and auspicious for would-be usurpers.

The rarest of celestial portents, and consequently the most important, was a close massing of Saturn, Jupiter, Mars, Venus, and Mercury in the night sky, like a "string of pearls" or a "jade scepter" according to late Zhou accounts that allude to these impressive spectacles. The five planets—bright objects that moved independently of the background of stars—would certainly have commanded attention as they wandered among the otherwise changeless constellations, occasionally meeting briefly in groups of two or three, more rarely four, and rarest of all, five. Given the conceptualization of the supernatural realm as analo-

gous to human social and political organization, it is not surprising that the planets' relative freedom of action could be likened to that of a ruler's minions, dispatched to distant locations on the king's business or gathering occasionally to deliberate policy. Thus, oracle-bone inscriptions mentioning Shangdi's "Five Minister Regulators" probably refer to the five planets whose behavior and function qualified them for high rank in the supernatural hierarchy. In view of the historical responses to exceptional clusters of the five planets, it seems that such "deliberations" of the five planetary spirits were taken to signal momentous shifts in policy at the high-

Dragon and tiger forms in a 3000 B.C. tomb may be the earliest map of the stars.

Charting the Heavens



Courtesy Sun Keqiang

Figures flank skeletal remains in the tomb at Xishuiipo in Henan Province.

Feng Shi of the Chinese Academy of Social Sciences has suggested that clamshell pavements in a tomb at Xishuiipo in Henan Province dated to 3000 B.C. may be a map of the Tiger, Dragon, and Big Dipper constellations. If his interpretation is correct, the find pushes back the inception of astronomy in China by some 2,000 years.

The skeleton lies with its head to the south and its feet to the north. To the west of the skeleton lies a figure of an animal, probably a tiger; to the east a dragon; and to the north (at the skeleton's feet) an enigmatic triangle with a "handle" made of two human femurs that Feng says depicts the Big Dipper. Feng asserts that north is associated with the earth—in this tomb the direction toward which the skeleton's feet point and the tomb's rectangular end (a shape linked with the earth). Conversely, south, toward which the skeleton's head lies, is associated with the sky, and the semicircular end of the tomb represents the vault of the sky. Feng further argues that the alignment of the skeleton, the pavements, and the tomb walls marks off the solstices and equinoxes.

Feng may not be right. Nathan Sivin of the University of Pennsylvania dismisses his claim outright: "History is a dangerous occupation in totalitarian countries, and Chinese historians are under a great deal of political pressure to claim ancient scientific priorities. Pictorial diagrams are not star maps." A big problem with Feng's argument is that the layout of the tomb does not pre-

cisely reflect the relationship of the constellations in the sky. The tail of the dragon should point to the north and its head to the south. In other words, if intended to represent the actual appearance of the constellations in the sky, the heads of the tiger and dragon should point in opposite directions. Even more telling is the fact that with the handle of the tomb's dipper pointing toward the dragon in the east, the scoop is above the pole and inverted, as if emptying its contents southward in the direction of the pole. The actual orientation of the Dipper and Dragon in the sky is not as depicted in the tomb. Given the extraordinary level of astronomical knowledge Feng attributes to the designers of the tomb, it is difficult to believe they would have committed such clumsy mistakes in arranging these powerful images. If the arrangement is purposeful, it undermines Feng's assertion that the figures are meant to represent a map of the sky. Other scholars have suggested different interpretations. Harvard University's K.C. Chang has argued that the burial is that of a shaman with depictions of his two animal helpers, reflecting Chang's preference for shamanistic interpretations of Neolithic and early Bronze Age juxtapositions of human and animal motifs. As archaeologist Robert Murowchick of Harvard University's Fairbank Institute has pointed out, "the Xishuiipo tomb is an unparalleled find. Until new evidence becomes available, no one can say Feng is right or wrong."—D.W.P.

est level of the supernatural realm. In fact, there is a remarkably close correlation of unusual planetary gatherings with dynastic transitions throughout Chinese history. Small wonder then that Sima Qian concluded, "when the five planets gather, this means a change of governing virtue [cosmological influence]."

AN ABUNDANCE OF LITERARY and chronological evidence drawn from numerous Zhou and Han sources suggests that these celestial events were taken from the start to signal Shangdi's recognition of the legitimacy of a new regime and withdrawal of the mandate from the existing one. The first marked the rise of the Xia Dynasty in 1953 B.C., followed by the Shang in 1576 B.C., and the Zhou in 1059 B.C. The latter is recorded in the third-century B.C. chronicle known as the Bamboo Annals in the reign of Di Xin of Shang and his rival King Wen of Zhou. A few years before the Zhou overthrow of the Shang Dynasty, "the five planets gathered...a great scarlet bird alighted on the Zhou altar to the soil." The cluster of five planets was clearly visible for many nights in late May 1059 as the "great scarlet bird," the Vermilion Bird constellation, set in the northwest "clasp[ing] in its beak a jade scepter of authority"—the five planets. From historical accounts, we know that King Wen promptly began political and military actions to challenge the Shang king but died before the struggle was decided. Shortly thereafter, in 1046 B.C., his son King Wu defeated the Shang at the Battle of Muye. From this time on early Zhou rulers displayed an intense preoccupation with "proper attention to Heaven's awesomeness," as recorded in their contemporary pronouncements. Early Zhou records of state worship of Heaven refer to the king's surveying the four cardinal directions from the vantage point of the axis mundi, indicating that one of the first official acts of the new Zhou king was to establish ceremonially the legitimacy of Zhou authority over the earth. This preserved an archaic conception of the world, already familiar from the Shang oracle-bone inscriptions, as a self-contained cosmological and cultural realm over which the royal charisma extended from the center to the four quarters just as Shangdi's did in Heaven.

During the Han Dynasty the belief that a beneficent Heaven would issue warnings to mankind by means of portentous phenomena in the skies or on earth became a cornerstone of the imperial ideology. It was thought that the

emperor's purpose in worshipping Heaven was to foster the correct relationship between Heaven, Earth, and Man. Heavenly portents became ideologically indispensable to newly founded dynasties. The spread of such concepts is strikingly confirmed by the 1995 excavation of a perfectly preserved silk brocade bag from a grave at the ancient Silk Road oasis of Niya in the far west of Xinjiang Uighur Autonomous Region. Buried by the sands of the Taklamakan Desert since the fourth century, the oasis was discovered by Sir Aurel Stein in 1905 and has been the focus of recent joint Sino-Japanese excavations. Woven into the colorful textile from the Eastern Han Dynasty (A.D. 26–220), in addition to tiger, unicorn, crane, and peacock motifs, cloud patterns, sun, and crescent moon, is the inscription, "When the five planets appear in the east it is beneficial for China." Evidently, by the Han Dynasty the astrological significance for China of impressive clusters of the five planets was already such a popular notion that epigrams like this had become part of the decorative vocabulary.



Commemorative bronze ritual vessel was cast in the mid-eleventh century B.C. by Li, a subordinate of the Zhou king, Wu. The inscription inside the vessel mentions the conquest of the Shang Dynasty by King Wu and the role of the planet Jupiter in sanctioning his victory.

After repeated episodes of wholesale manipulation of such omens during the Han Dynasty, astral portentology, along with the sciences of divination and calendrics, became a matter of national security and were strictly controlled by the government. Unauthorized dabbling in astrological prognostication and calendrical science became a capital offense, though the law was seldom enforced. If a predicted celestial portent such as a solar eclipse failed to materialize, the emperor's surpassing virtue could be credited with averting the disaster. On the other hand, if an unanticipated astral portent appeared, interpretive license could be exercised and the threat averted by the emperor's taking

Continued on page 34

China's Oldest Surviving Observatory

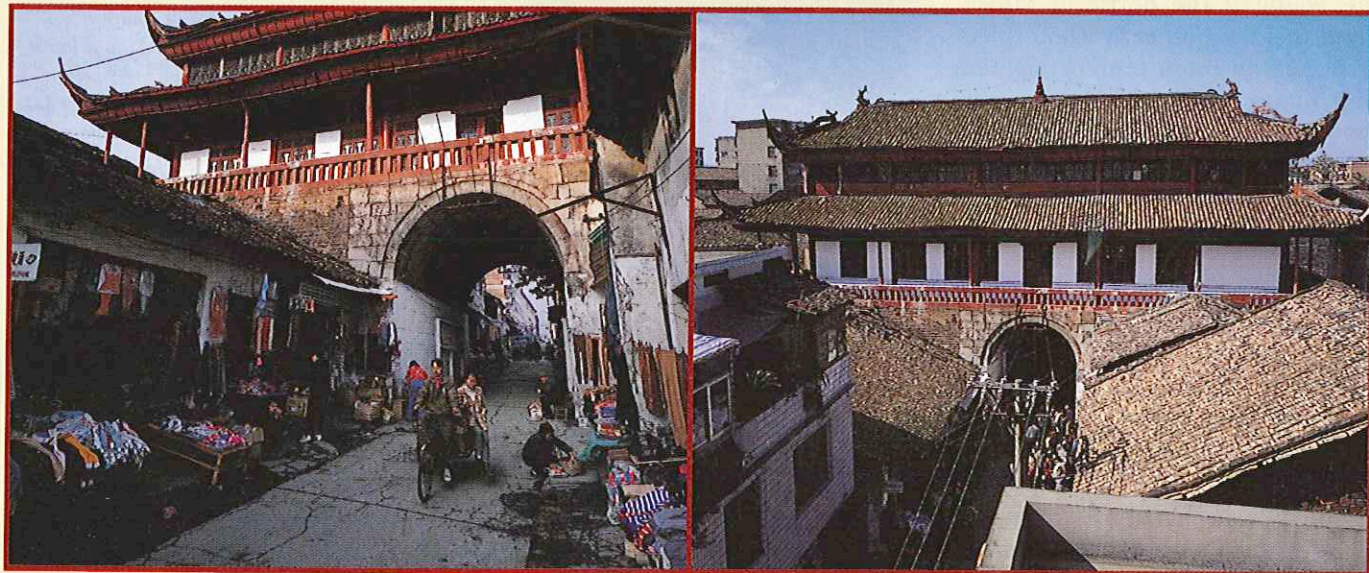
UNTIL THE LATE EIGHTEENTH CENTURY, the Drum Tower in Yichun City, with its midtown location and tunnel-arch doubling as an echo chamber, signaled the passage of time with drums, gongs, and horns. In 1994 Bo Shuren, senior research fellow at the Chinese Academy of Sciences in Beijing, and other experts concluded that the Drum Tower was, in fact, the Yuanzhou Astronomical Clock Tower. Built during the mid-Southern Song Dynasty (between A.D. 1127 and 1279), it is the oldest surviving observatory and clock tower.

A detailed account of the construction of the Yuanzhou Clock Tower survives in the 1514 Gazetteer of Yuanzhou Province, which even gives the name of Lun Zhi, the clock tower's first overseer. Its builder was Teng Qiangshu, who served as prefect of Yuanzhou from 1219 to 1221, and it is likely that work on the clock tower began early in his posting there. Depictions of the tower appear in detailed city plans and records from 1514 through the early twentieth century. These records, as well as the discovery of bricks in the tower inscribed with dates matching those of recorded early Ming restorations of the Yuanzhou Clock Tower, confirm the identification.

As an aspect of the Mandate of Heaven, the observation of the heavens and communication of the passage of time to the people persisted from the earliest times as an obligation of Chinese rulers. In the imperial period from 221 B.C., astronomical observatories and clock towers, typically located astride main thoroughfares in provincial cities, became the embodiment of this mandate. By the time of the Southern Song, historical records show that publicly maintained clock towers, which announced the changing of the guard every two hours throughout the day

and night, were functioning in at least eight cities in Jiangxi Province alone. The range of observational activity permitted to local observatories was no doubt highly circumscribed and limited to timekeeping. (After manipulation of astral omens during the Han Dynasty [206 B.C.–A.D. 220], astronomical observations and portentology were closely controlled by the government.) Among these observatories only three—Yuanzhou, Ningdu, and Nanchang—had gnomons (devices for measuring the sun's shadow); of these, only the Yuanzhou Astronomical Clock Tower has survived.

The tower is an 18-foot-high masonry platform, on top of which a wood-frame structure rises 43 feet. Two long terraces extend beyond the platform to the northeast and southeast. Chinese researchers Luan Xingli, Xie Zhijie, and Li Xianfang determined that at least as early as the Southern Song Dynasty a compass and bronze water clock were installed on these terraces for use in tracking the stars by night and the sun by day. Unfortunately, none of the instruments has survived; the original water clock was already said to be missing in 1667 at the time of the first of several Qing Dynasty (A.D. 1644–1911) restorations.



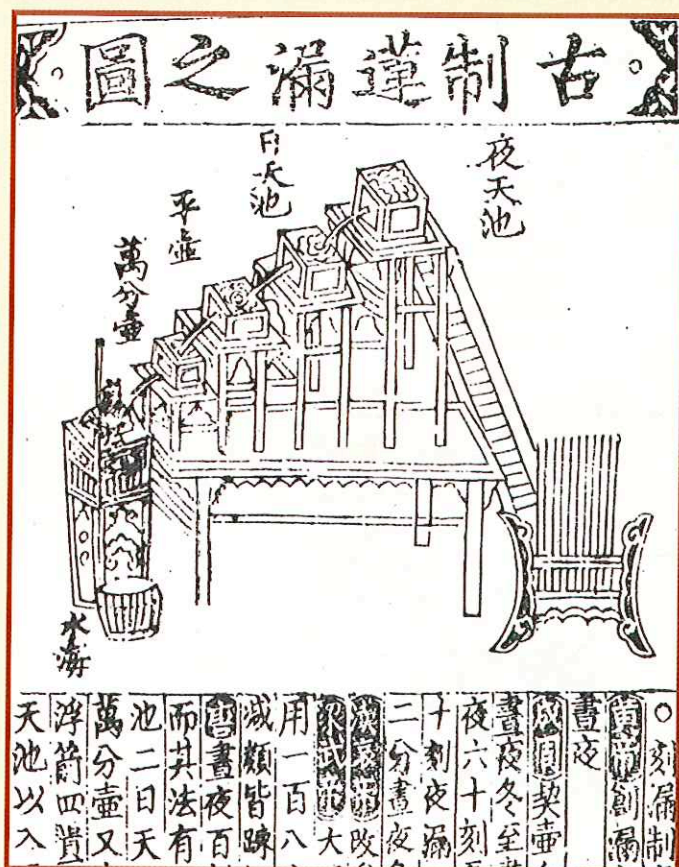
Drums, gongs, and horns sounded the passage of time at the thirteenth-century A.D. Yuanzhou Astronomical Clock Tower, Jiangxi Province.

According to local histories, the tower's equipment included—in addition to the bronze components of the water clock and auxiliary items like water buckets and watch tallies (counters used to mark the passage of successive watches)—a compass and gnomon for calibrating the clock by means of noontime observation of the sun's meridian passage, and drums and horns for announcing the quarter-hours. From the list of its components, it is apparent that the water clock, installed in 1219, was of a type perfected by Lü Cai (d. 665) in the early Tang Dynasty (618–906). The passage of time was marked by the constant flow of water from a main reservoir through several tanks to a final container. Further calibration using the movement of celestial bodies and compensation for temperature and humidity brought the accuracy of such clocks to as little as 20 seconds of error per day, a precision unmatched until the advent of reliable mechanical clocks in eighteenth-century Europe. The astronomical function of the Yuanzhou Clock Tower set it apart from towers used solely for timekeeping. The Yuanzhou Gazetteer's detailed historical account and other early Ming references to the tower as a "platform for observing Heaven" confirm that the terraces were part of the original design and were dedicated to astronomical observation. When a Ming Dynasty magistrate, Li Han, renovated the clock tower in 1616, he "restored and recast the bronze armillary instrument originally made by [Yuan] Tianzheng and installed in the observatory." This armillary was used for observing meridian transits of the 28 lunar mansions (constellations) across the night sky, making it possible to calibrate the water clock using the stars at night as well as the sun by day and thereby significantly improving its accuracy. Li Han also rebuilt a shrine dedicated to the guardian spirit of Yuanzhou, Yuan Tianzheng, whose rites were officially celebrated in the clock tower. Some ancient sources identify this shadowy figure as a renowned Tang (A.D. 614–906) astrologer, others as an Eastern Han (A.D. 25–220) recluse who is supposed to have dwelt on nearby Yuan Mountain and who is credited with making his own armillary instrument. Tianzheng is, however, also a Chinese name for the Big Dipper, or Ursa Major. It is possible that the clock tower's overseer was paying respect to the Big Dipper's ancient role in China as a seasonal timepiece. As the Ho-Kuan-Tze ("Master of the Pheasant Cap"), a third-century B.C. text, notes,

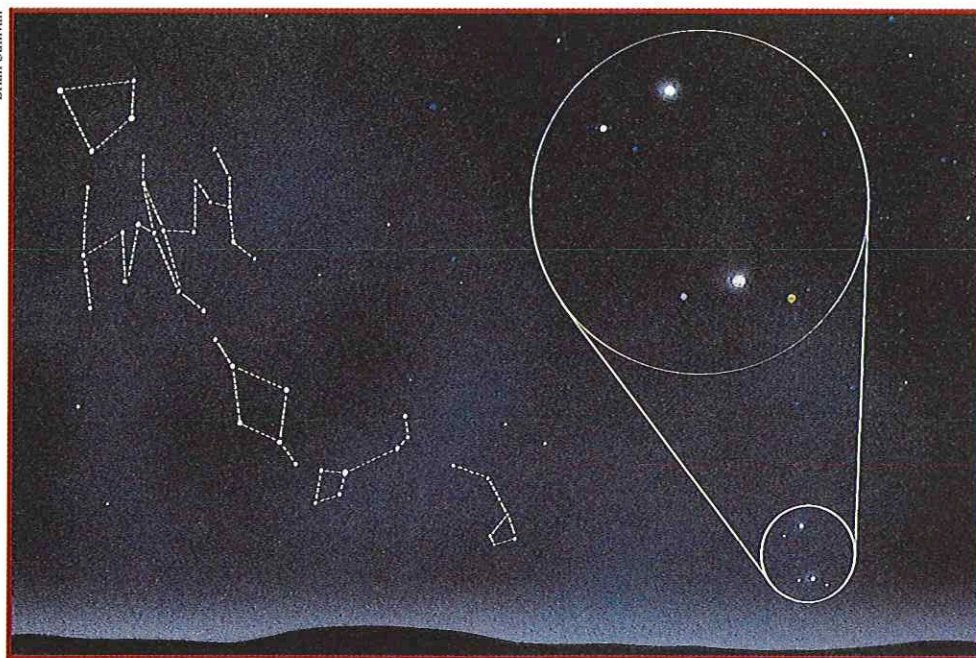
When the handle of the Dipper points to the east at night-fall, it is spring to all the world. When the handle of the Dipper points to the south, it is summer to all the world. When the handle of the Dipper points to the west, it is autumn to all the world. When the handle of the Dipper points to the north, it is winter to all the world. As the handle of the Dipper revolves above, so affairs are set below.

In the mid-Qing Dynasty (1644–1911), the Yuanzhou Clock Tower was still a highly admired local attraction, famous both for its timekeeping role and for being one of

the most imposing architectural edifices in the vicinity—famous enough, in fact, to be commemorated in poetry penned by local officials. Although imperial astronomical observatories were built in different locations by successive dynasties, none is older than the Yuanzhou Clock Tower. Dating to just over half a century later is the giant masonry gnomon at Dengfeng near Mount Song in Henan Province. Built in 1276 during the early years of the Yuan or Mongol Dynasty (1260–1368) by Guo Shoujing, a renowned astronomer and mathematician, it is known as the Duke of Zhou's Tower for Observing the Sun's Shadow. Outside China, the Yuanzhou Clock Tower also predates by some two centuries the monumental observatory built at Samarkand in 1428 by Ulugh Beg (1394–1449), grandson of Tamerlane. As far as is known, however, neither the Dengfeng nor Samarkand observatories served a public timekeeping and reporting function. Although portions of the original masonry and timber structure have been rebuilt and restored over time, especially after a major fire in 1543, the Yuanzhou astronomical clock tower is unique in being the earliest surviving public facility combining observing, timekeeping, and reporting tasks. Its local character, centuries-long service, and civic purpose bear eloquent witness to the diligence and sophistication with which scholar-officials at even the lowest level of the imperial bureaucracy carried out Heaven's Mandate.—D.W.P.



A 1478 illustration shows a water clock of the type used in the Yuanzhou tower.



A planetary conjunction near the head of the Vermilion Bird constellation in late May 1059 B.C. was thought to herald the fall of the Shang and the rise of the Zhou Dynasty.

Continued from page 31

certain ritually prescribed steps. These could even include a public proclamation in which the ruler would assume personal responsibility for Heaven-sent afflictions. With the consolidation of imperial power after the Han Dynasty, no unpredicted planetary massing had the consequences for the ruling dynasty as did those very early in China's history. If the empire was prosperous, strong, and at peace, no pretender, however well placed, was likely to challenge the legitimacy of the dynastic mandate simply on the basis of what transpired in the sky. Astrology and portentology were bureaucratized by the court, and a standard canon of officially recognized planetary portents marked the ascendancy of historical dynasties. By the Ming Dynasty (A.D. 1368–1644), official sources recognized five astrologically significant massings of the five planets, all but one of which we can verify by computing the positions of the planets for those times. Three marked dynastic foundings (Zhou in

May 1059 B.C., Han in May 205 B.C., and Song in April A.D. 967), while the remaining two, which occurred in mid-dynasty, were understood to have signaled the beginning of the end for the ruling house (Zhou in the eighth century B.C., and Tang in October, A.D. 750). Ming records do not take account of the two earliest planetary massings in 1953 and 1576 B.C. Because of the ominous nature of mid-dynasty massings of planets, a predicted gathering of all five in early A.D. 1524 was highly controversial, even though it was obscured by the sun's glare and could not actually be observed.

When the optimal period of 516.33 years for such massings is extrapolated forward from 1576 B.C., it becomes apparent that the February A.D. 1524 conjunction belongs to a remarkable series of planetary clusters, most of which were recorded by the Chinese. With the Han Dynasty and the advent of the imperial era of Chinese history, Confucianism and the doctrine of the Mandate of Heaven became the state ideology. Throughout later imperial China, astrological history remained a cyclical interpretation of the growth and decay of dynasties. In more recent times, despite decades of indoctrination in the thoughts of Marx, Lenin, and Mao Tse-tung, one still finds ordinary Chinese citizens quite willing to discuss the legitimacy and longevity of the present rulers in terms of the Mandate of Heaven. Given current political and economic trends and the pace of change, millennial thinkers may be anticipating a spectacular massing of planets to rival the archetypal events of the second millennium B.C. As it happens, on September 8, A.D. 2040, all five planets will once again gather within a space of fewer than nine degrees—signaling the conferral of Heaven's ancient Mandate on what regime, one wonders? ■

DAVID W. PANKENIER is associate professor of Chinese at Lehigh University.



Text on an Eastern Han (A.D. 26–220) brocade bag declares planetary conjunctions to be favorable omens for China.