POSSIBLE ORIGINS OF THE CHINESE MIRROR

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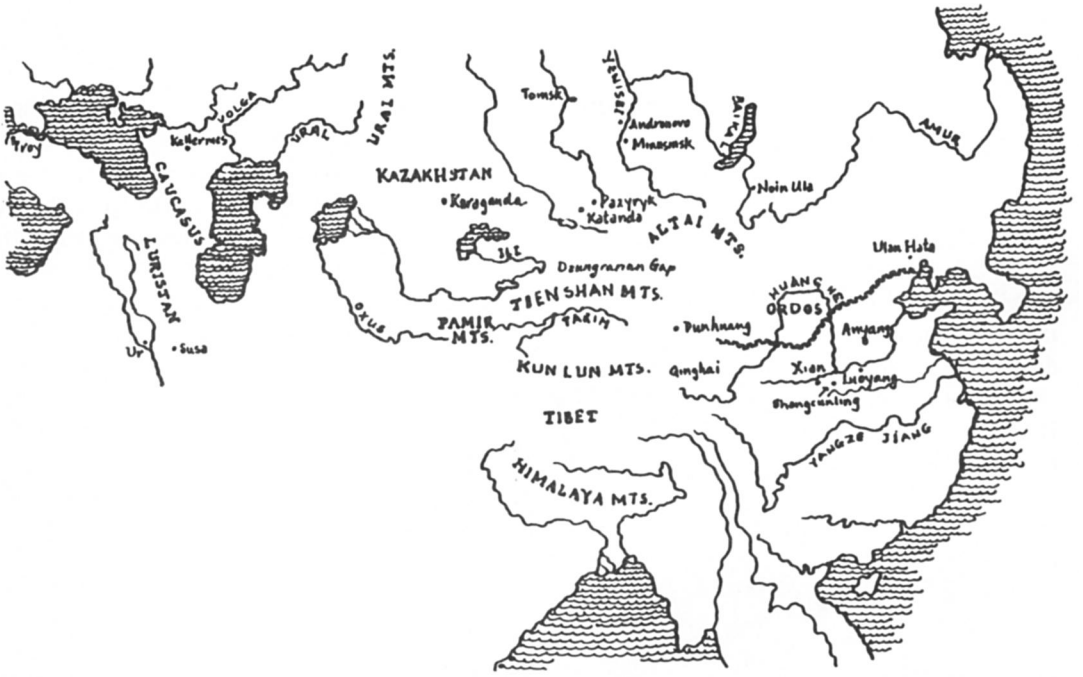
The typical Chinese mirror is a thin bronze disk with a highly polished reflective surface on the face and decorations cast in low relief on the back. A small, slender loop-shaped knob projects at the center of the back; the mirror was held by a cord threaded through the knob.[1] Such mirrors first appear in China in significant numbers during the Eastern Zhou period (770–256 B.C.), particularly the last century or so.[2] It is at this time that mirrors became a common artifact among the grave goods buried with the dead and also began appearing in references in Chinese texts. These ancient literary sources provide the earliest information about the philosophical connotations as well as the potent magical powers associated with mirrors in China.

Sparse references, preserved in fragmentary texts dating mostly from the end of the Zhou period, convey a commonly held concept that mirrors reflect much more than a person's physical appearance.[3] A few examples clearly illustrate this idea. One frequently quoted entry in the *Zuo Juan* (658 B.C.) comments: "Heaven has robbed him of his mirror (made him blind to his faults)."[4] Another from the *Guo Yu* reads: "Therefore they came to destruction and found no mirror for looking backwards (and taking warning)."[5] The Daoist writings of *Zhuang Zi* emphasize the mirror as a reflection of the wisdom of the universe: "The heart of the sage is quiet, it is a mirror of Heaven and Earth, a mirror of all things," or "The Perfect man employs his heart as a mirror."[6]

The magical properties so often associated with mirrors do not emerge in literary sources until just after the Zhou. Inscriptions on mirrors are not generally found on examples surviving from the Zhou or earlier but are often incorporated in the designs on mirror backs during the Han (206 B.C.–A.D. 220) and later, connecting mirrors with the spiritual or cosmological realms and with magical or talismanic powers. One consistent theme is the mirror as a talisman warding off evil spirits or demons who can wreak havoc on both the living and the dead. Many inscriptions invoke protection and focus on wishes for good luck in the form of long life, prosperity, and grandsons. Such good luck in China results from a harmonious balance in the universe, where everything is in proper order: "The bright mirror of green auspicious (metal), by it you emit light; holding it you regard the four quarters and reflect the image of the centre; (on it are) the Red Bird [of the South] and the Black Warrior [Tortoise and Snake of the North], and the Lion soars about, to the left, the Dragon [of the East] and to the right the Tiger [of the West] eliminate what is baleful; may your sons and grandsons be complete in number and be in the centre; may you long preserve your two parents; may you have joy that never passes."[7]

The animals mentioned in the above inscription guard the four quarters of the universe and the center. They are often found as part of the decoration of a group known as "TLV" mirrors. On the back of this popular type of Han mirror was a kind of shorthand cosmic diagram, including the four animals, other immortal beings, a square, and characteristic markings resembling T's, L's, and V's.[8] It is believed that such mirrors assured the deceased the most favorable position in the cosmos and provided a guide or map for the journey to the hereafter.



At the same time, the traveler possessed a potent protective talisman useful while traversing the great unknown.[9]

The demon-chasing power of mirrors was also recognized during the Han and earlier by the Daoist alchemists, who sought immortality through elixirs and physical transformation. The famous manual *Bao Pu Zi*, written by Ge Hong in the fourth century A.D., devotes some passages to mirrors as demonfuges and describes the talisman needed to insure the safety of the Daoist alchemists preparing elixirs deep in the mountains and forests.[10] Besides picking only the propitious days to go into the mountains and dancing certain magical steps, they wore mirrors on their backs and carried special diagrams to ward off evil spirits.[11] Wei Boyang, considered the father of alchemy in China, mentions dew mirrors in his second-century A.D. work.[12] Apparently, mirrors made of a specially treated silver were used to collect dew at night, dew that was then drunk to obtain longevity and even immortality.[13]

Mirrors obviously also had a practical function as a toilet accessory. Some examples have been found with other toilet articles in their original lacquered wooden boxes in Eastern Zhou tombs.[14] The recent excavation of the Western Han tomb that contained the well-preserved body of the marquis's wife, Lady Dai, at Mawangdui near Changsha, included a lacquered toilet box (*lien*) that held a mirror, combs, brushes, and pots of make-up.[15] Another entry from the Eastern Zhou text *Zuo Chuan* describes mirrors as being carried in small pouches hung from the girdle, leather pouches used by men and silk pouches by women.[16] And the famous fourth-century hand scroll attributed to Gu Kaizhi, "Admonitions of the Court Instructress" in the British Museum, shows court ladies at their toilet. One sits gazing into a mirror that is held up by a wooden stand as an attendant combs her hair. Nearby, another attendant waits with an open *lien* containing cosmetics.[17]

Excellent typological studies of mirrors dating from Eastern Zhou and Han have been done by a number of scholars. Some emphasize shape

and designs; others, inscriptions and symbolism.[18] For the Six Dynasties (220-589) and Tang (618-906) periods, specialized works exist that focus on specific new decorative motifs or iconographic programs.[19] In all this research, the questions of where and when Chinese mirrors originated have never seemed relevant. Until the 1950s, archaeological evidence confirmed the view that mirrors emerged and proliferated during the Eastern Zhou period. The one possible earlier example at that time, excavated at Houjiazhuang, Tomb 1005 (late Shang, c. 1300-c. 1028 B.C.), at Anyang in 1934, was ambiguous enough because its very small size (6.5 centimeters in diameter, see Fig. 1) and its concave shape could lead one to dismiss it as a button.[20]

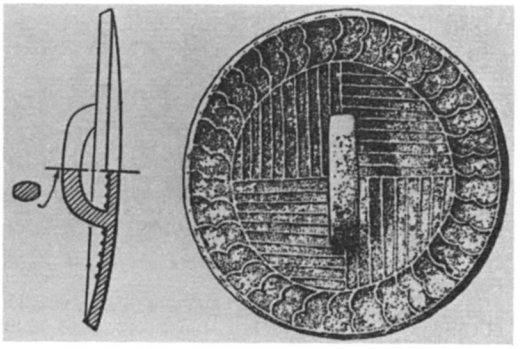


Fig. 1 Bronze mirror. c. 1300-1028 B.C. 6.5 cm. China, Houjiazhuang, Tomb 1005, Anyang

Then, in 1956-1957, four mirrors were recovered in 3 of the 234 burials from the Guo State at Shangcunling in Henan province (see Figs. 2 and 3).[21] This cemetery has been dated to the period between late Western Zhou (1028-770 B.C.) and early Eastern Zhou (770-256 B.C.), with a terminal date of 655 B.C., when the Guo State was destroyed. Chinese archaeologists date the mirrors from this site to between the eighth and seventh centuries B.C. These finds essentially pushed the first appearance of bronze mirrors in China earlier than had been perceived—to the very end of the Western Zhou period or the very beginning of the Eastern Zhou. More significantly, recent excavations from the undisturbed late Shang Tomb 5 of the well-known imperial consort Fu Hao (Lady Hao) at Anyang have contributed four even earlier mirrors (see Fig. 4). And the earliest mirror found to date was unearthed from the late Neolithic-early Shang site of Guinan Xian (see Fig. 5), Qinghai province, on the western periphery of the Chinese empire, datable to 2000 B.C.[22] From these more recent and important finds, it is now possible to con-

Fig. 2 Bronze mirror. Eighth-seventh century B.C. c. 6.7 cm. China, Shangcunling, Henan

Fig. 3 Bronze mirror. Eighth-seventh century B.C. 6.7 cm. China, Shangcunling, Henan

clude that bronze mirrors were first used in China as early as the late Neolithic. However, since the number of these early mirrors found at Shangcunling, Anyang, and Guinan is very small—a total of nine so far—it is not yet clear if there is a direct line of development from these early mirrors to the later ones. The nine differ significantly in décor and form as well as in size from their typical later Eastern Zhou counterparts. Furthermore, the late Neolithic–late Shang mirrors from Guinan and Anyang differ dramatically from the late Western Zhou mirrors from Shangcunling. These differences cannot all be easily explained as evolutionary,

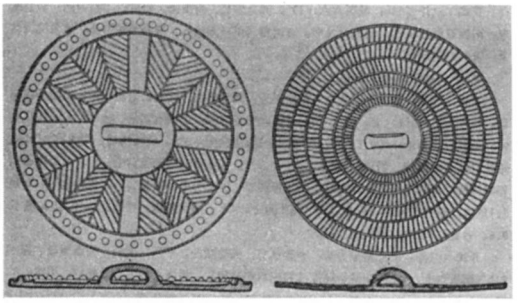


Fig. 4 Drawings of patterns on mirrors from Lady Hao, Tomb 5, Anyang

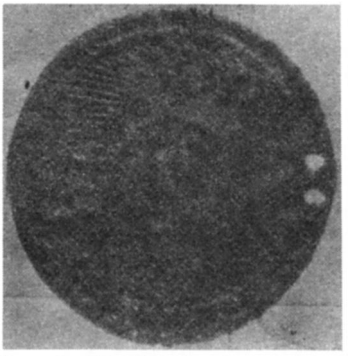


Fig. 5 Bronze mirror. c. 2000 B.C. 9 cm. China, Guinan Xian, Qinghai

earlier, cruder versions evolving into more elegant, sophisticated ones. Reviewing this early group of excavated examples will make the questions and issues more apparent.

As mentioned before, the earliest mirror excavated in China so far comes from Guinan Xian in Qinghai province (see map). This small mirror, 9 centimeters in diameter, was found on the chest of the deceased in Tomb 25.[23] Although difficult to assess from the blurry photograph published in the excavation report, the back of the mirror has a pierced knob handle and a seven-pointed-star pattern with parallel lines (see Fig. 5). Near the rim are two holes, presumably for suspending or perhaps wearing the mirror. The presence of the two holes, in addition to the more usual knob handle, suggests that they were added because the owner might not have known how the handle worked. This site belongs to the Qijia culture, which is geographically and culturally transitional, linking the Neolithic and Bronze Ages, and can be dated to about 2000 B.C.[24] Simple copper ornaments and implements have been found at Qijia sites but no other bronze objects. Located far west of Xian, this culture spreads from Qinghai to eastern Gansu province to Ningxia (Ordos), adjacent to the dry steppes of northwest China and Inner Mongolia. To date, no other bronze mirrors have turned up among the Qijia finds.

Lady Hao's Tomb 5 at Anyang, excavated in 1976, yielded four mirrors ranging in size from 12.5 centimeters in diameter to 7.7 centimeters, with two at 11.7 centimeters.[25] All four mirrors have simple decorative patterns in one of two styles: either concentric rings, or parallel or diagonal lines in low relief (see Fig. 4). The largest and one middle-sized mirror share the same décor: two thin raised threads forming a band filled with evenly spaced bosses around the outer edge (see Fig. 4, left). Another thread encloses the loop handle, and the space between the handle and outer band has been divided

into four areas. These four areas are further subdivided by parallel diagonal lines that create a zigzag or leaflike pattern. The other two mirrors, one middle-sized and the smallest, have seven concentric circles filled with parallel lines (see Fig. 4, right).

Tomb 5 contained over 1,900 objects, 460 of which are bronze ritual vessels and ceremonial weapons and some 750 of which are jades.[26] The décor found on almost all the bronzes and the jades is characteristic of the late Shang vocabulary, whereas the patterns on the mirrors are not. Although small bosses and raised threads can be found on late Shang ritual vessels, the combination found on the mirrors remains decidedly distinct, even unique. These simple, somewhat crudely cast designs also seem inconsistent with the high level of craftsmanship achieved on the bronzes and even on the less exalted objects in the tomb, where relief décor often exhibits multilayered bands rising against fine, tightly spiraled backgrounds. The same kind of inconsistency of design and quality distinguishes the questioned mirror found in Tomb 1005 at Houjiazhuang in 1934, also at Anyang, and late Shang (see map). This tomb was one of six smaller burials found near larger royal tombs; unfortunately all had been looted. Dated approximately the same as Lady Hao's tomb, the Houjiazhuang mirror, 6.5 centimeters in diameter and similar in design to the Fu Hao mirrors, has a concave face, a large loop handle, a scalloped border, and four quadrants created by alternating directions of parallel lines (see Fig. 1). Its décor is again inconsistent with the typical late Shang vocabulary and the few bronze vessels remaining in these looted tombs.[27]

The next group of mirrors, dating from the eighth to the seventh century B.C., are from the Guo State cemetery at Shangcunling.[28] The three mirrors identified in the site report came from two tombs.[29] Tomb 1650 yielded two small, plain mirrors, one 5.9 centimeters in diameter and the other 6.4 centimeters. Both lack decoration on the back except for the bow-shaped loop handle and what seems to be a low lip around the rim. The third and largest mirror, 6.7 centimeters in diameter, came from Tomb 1612. It has a pair of bow-shaped loop handles on the back, no raised lip, and two felines, a flying bird, and a walking deer, all executed in a thin raised thread relief (Fig. 3). Ambiguously described in the excavation report as a "bronze bow surface shaped object," a fourth mirror, about the same size as the largest mirrors, was unearthed from Tomb 1052.[30] The decoration is divided into two rings (Fig. 2). The outer ring has four elongated animals alternating with two birds that follow or face each other, and the inner ring has two tigers curved around the central loop handle. These creatures are depicted in wide, flat bands in low relief with further detail articulated within each band. Of the two decorated mirrors from Shangcunling, the second, with animals in flat, low-relief bands, fits comfortably within the characteristic style and vocabulary of motifs expected on Western Zhou bronzes of the ninth or eighth century B.C. The first example does not.

Often ignored but of equal interest are the two plain mirrors from Shangcunling mentioned above. Such plain mirrors with large loop handles, with or without a lip, have been overlooked or occasionally misidentified in site reports as bronze lids.[31] In addition to the two found at Shangcunling, at least three more have been found and dated to Western Zhou (1028–770 B.C.), to the first half particularly. One, 8.7 centimeters in diameter, with no lip and a bow-shaped loop, has recently been published in the catalogue of bronze objects from the Shenxi Provincial Museum in Xian, unfortunately without any provenance (see Fig. 6).[32] Another, 10.5 centimeters in diameter, was excavated from Tomb 178, at Changjiapo, also near Xian in Shenxi province (see map).[33] This mirror, without a lip, was the only one found among

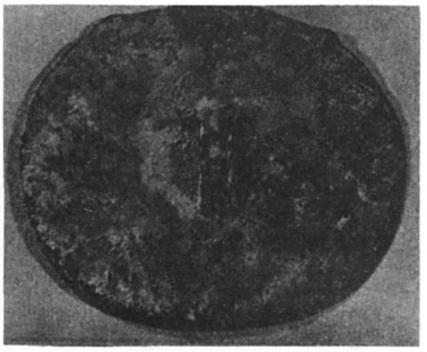


Fig. 6 Bronze mirror. Western Zhou, c. 1028–770 B.C. 8.7 cm. China, Shenxi Provincial Museum, Xian, Shenxi

182 tombs and was among the tombs dated to the first half of the Western Zhou period. The third was excavated at Baichang near Beijing, Hebei province, and was exhibited and labeled as a Western Zhou find in the Capital City Museum, Beijing; it is not yet published.[34]

From the above discussion and descriptions, the few mirrors that predate the proliferation of mirrors in Eastern Zhou fall into two distinct groups. The first comprises one Neolithic-Shang mirror and the five late Shang examples dating from c. 2000 B.C. to the eleventh century B.C. found at Guinan, Lady Hao's Tomb 5, at Anyang, and Houjiazhuang, Tomb 1005, also at Anyang (see Figs. 1 and 4). The second includes the Western Zhou to Eastern Zhou mirrors, dating from c. the eleventh or tenth century B.C. to the eighth or seventh century B.C., four from Shangcunling, two from the Xian area, and one from Beijing (see Figs. 2, 3, and 6). The first and earliest group of mirrors exhibits a coherence in style. Although the sizes vary from 6 centimeters to 13 centimeters, all share basically the same raised-thread linear patterns. At the same time, however, these early mirrors show no stylistic connection to the second group of Western Zhou mirrors, whose sizes cluster around 6 to 7 centimeters.

Interestingly, except for the one mirror from Shangcunling that has motifs in a style considered typical of the period (see Fig. 2), the mirrors in *both* groups are stylistically unrelated to the common vocabulary found on most objects produced during their respective periods. Furthermore, the Shangcunling mirror illustrated in Figure 3, decorated with two tigers, one bird, and one deer, has no stylistic relationship to the subsequent development of mirrors in Eastern Zhou. So far, both groups of early mirrors remain isolated phenomena and problematic in the general context of the development of mirrors. Dr. Thomas Lawton, in his catalogue *Chinese Art of the Warring States Period* in the Freer Gallery of Art, points out: "In contrast to the paucity of bronze mirrors dating from the Shang and early Eastern Zhou, large numbers dating from the Warring States have been found. Like earlier examples, they are usually round and small. Unlike earlier examples, Warring States bronze mirrors are thinly cast and their cast decoration reflects the elegance that is characteristic of other artifacts of the period."[35]

In past writings, some scholars have raised the possibility that Chinese mirrors were influenced from various sources outside of China. Sueji Umehara, the venerable Japanese scholar, writes in 1959 that the Chinese mirror has a Scythian origin: "Un point également très important à noter en ce qui concerne l'origine du miroir Chinoise en Scythe."[36] Dr. Lawton also notes: "These early mirrors are primitive in decoration, which is in sharp contrast to the sophistication of the motifs on contemporary bronze vessels. As a result some scholars have questioned whether they were actually made in China."[37]

The possibility that Chinese mirrors were imported into China or copied from imported models gains more support when both groups of early mirrors are reviewed in light of the Bronze Age southern Siberian material of the Andronovo (second millennium B.C.) and

Karasuk (c. thirteenth-eighth century B.C.) cultures (see map).[38] Almost all the mirrors from the second group can be tied closely to the Karasuk material. Small, plain mirrors with large loop handles mostly without lips have been excavated by the hundreds in the Minusinsk Basin from the Karasuk culture.[39] In southern Siberia, there is a long tradition of mirror making that emerged about the second millennium B.C. Russian scholar Lubo-Lesnichenko, in his book on Minusinsk mirrors published in 1975, observes: "It is possible that mirrors in China owed their appearance to the influence of Southern Siberian examples."[40] Most southern Siberian mirrors have no rims, but similar plain mirrors with loop handles and rims have been unearthed in Central Asia at Uzbekistan near Samarkand and have been dated to the second millennium B.C.[41]

This tie to southern Siberian artifacts is also strengthened by the décor on the mirror from Tomb 1612, Shangcunling. This rimless mirror with a large loop handle shows two felines with mouth open, tongue out, teeth bared, and long tail, as well as one bird and one deer (see Fig. 3). The "x-ray" style of execution with thin outlines and interior details has no parallel on Zhou Dynasty bronzes. It can also be found on rock carvings in Siberia as early as the second millennium B.C.[42] A similar feline with mouth open, tongue out, teeth bared, and long tail can be seen on a stele that is part of a grave circle dated to the first millennium B.C.[43]

The late Neolithic–late Shang mirrors also parallel the early Bronze Age Andronovo culture in Siberia (see map). Here, again, a number of mirrors have been found at three second-millennium sites.[44] So far, most of the mirrors appear undecorated. However, this material has been poorly published, and proportionately little has been excavated of the early Bronze Age sites in this area. Although the bronze mirrors themselves do not have decoration similar to the examples from China, the pottery from this culture does, showing many variations of the parallel-striated-line patterns.[45]

If the Shang mirrors did not come directly from contact with the Andronovo culture in southern Siberia, they may have come from an intermediary area not yet discovered. This is suggested particularly by the mirror from Qinghai province (Fig. 5). Professor Max Loehr, in his discussion of Bronze Age weapons, points out the northern elements in Shang bronze knives found at Anyang. He postulates a pre-Anyang bronze culture that carried Siberian elements from the Andronovo or Karasuk cultures as well as other influences.[46] This linking culture would have preceded, contributed to, and co-existed with the Shang and Zhou Dynasties. The single mirror excavated in Qinghai may have come from this intermediary culture, possibly located in Gansu province (see map). As mentioned earlier, the Qijia culture spread to eastern Gansu province and Ningxia (Ordos), adjacent to the steppes. Apparently, the resident Karasuk culture in the Minusinsk Basin maintained contact with the Ordos and indirectly with China (see map).[47]

Although the presence of bronze mirrors in China can be established as early as the late Neolithic, the stylistic features of the early mirrors do not point to a single evolutionary line of development. The two groups of early mirrors—late Neolithic–late Shang, Western Zhou–early Eastern Zhou—remain problematic, raising questions that make the issue of the origins of Chinese mirrors worth examining.

Not only are there very few early mirrors, these few pieces differ markedly from the contemporary art styles that exist alongside them. The single mirror (Fig. 5), for example, is the only *bronze* object so far found among the extensive remains of this late Neolithic transitional culture. Its location, on the western periphery of China, may be significant, and the added holes suggest that this mirror was an oddity or curiosity. Yet this mirror does share stylistic

elements with the five late Shang ones; perhaps all came from the same source. For these late Neolithic–late Shang ones, the case for the tie with the earlier southern Siberian Andronovo culture can be made strongly, but the possibility of another intermediary Bronze Age culture somewhere between southern Siberia and far western China also makes sense.

Even more significantly, the sharp break in style and type between the late Neolithic–late Shang group and the Western Zhou group further strengthens the argument that the early mirrors were probably not made in China or that they were Chinese copies of imports. Stylistic continuity from the late Shang to early Western Zhou mirrors would have been expected; such continuity of all other major art forms has long been documented through excavation, literary sources, and stylistic analysis of the close ties between the late Shang and their Zhou conquerors.[48] Certainly, Western Zhou bronzes exhibit their own stylistic idiosyncrasies but cannot deny their Shang parentage. The lack of connection between Shang and Zhou mirrors points to a second wave of influence or imports from the later southern Siberian Karasuk culture, perhaps through nomadic tribes in Ningxia (Ordos) into Zhou China. Few scholars would deny the existence of northern nomadic influence on Zhou Dynasty art. The ties with southern Siberia are the strongest and clearest with the plain flat mirrors, plain rimmed mirrors, and mirrors decorated with the "x-ray" animal styles. Only with more excavations, further stylistic and typological comparisons, and ideally metallurgical analysis can the questions raised by these early Chinese mirrors be unequivocally resolved. At the same time, more information will also further elucidate the complex interactions between China's Bronze Age culture and the cultures of her near and far neighbors.

NOTES

1. The earliest bronze mirrors known in China are relatively small, thin, and light. Most are circular, but there are a few early square examples. By the Han and later, mirrors become progressively larger, thicker, and heavier; the loop handle is eventually transformed into a round boss with a hole. The rim remains wide and thick from the Han until the Tang (618–906), when some become lobed or foliated.

2. Throughout the text and notes, the Pin-yin system of romanization has been used except for published works where other systems have been used.

The Eastern Zhou period (770–256 B.C.) is actually the second half of the Zhou Dynasty, which begins at 1122 or 1028 B.C., depending on the chronology used. A recently revised chronology suggests a more general date of the eleventh century B.C. The Zhou kings were forced to move their capital from the western site of Xian eastward to the city of Luoyang. The move in 770 B.C. marks the beginning of the Eastern Zhou period, which is further subdivided into two periods, referred to as the Spring and Autumn (Chun Qui) period (722–456 B.C.) and the Warring States (Zhan Guo) period (475–221 B.C.).

3. This section on symbolism is not intended to be an exhaustive study but is mainly intended to provide a general context for the use and meaning of mirrors in China. The integrity of early Chinese texts of the Zhou period varies greatly. Some are very fragmentary and corrupt, and others are reconstructed from later versions; most are a pastiche, combining original parts and later additions. An efficient summary of the dates of ancient Chinese texts and their usefulness as primary sources can be found in Burton Watson, *Early Chinese Literature* (New York and London: 1965).

4. Bernhard Karlgren, "Early Chinese Mirror Inscriptions," *Bulletin of the Museum of Far Eastern Antiquities* no. 6 (1934):12.

5. *Ibid.*

6. *Ibid.*

7. *Ibid.*, p. 35, no. 120. The parentheses were inserted by the translator of the text and the bracketed information by the writer of this article.

8. See Anneliese Bulling's monograph *The Decoration of Mirrors of the Han Period* (Ascona: 1960), pls. 8–11, 13, 29, 30, 35, and 37–42a, for a good range of TLV mirrors.

9. For a summary of the various interpretations of the TLV symbols, see Michael Loewe, *Ways to Paradise, the Chinese Quest for Immortality* (London, Boston, and Sydney: 1979), pp. 60–85. What has yet to be accomplished is a systematic study of the placement of excavated mirrors in tombs in relationship to the deceased's body to see if any additional information can be deduced about the symbolic role of mirrors. For examples, both the late Neolithic mirror from Guinan, Xian, Qinghai, and two from Shangcunling were found on the chest of the deceased; see *Kaogu* no. 4 (1980):365, and *Shang-ts'un-ling Kuo-kuo mu-ti* (The Cemetery of the State of Kuo at Shang-ts'un-ling), in Chinese with an English abstract (Peking: 1959), p. 27. In Han Tomb 25 at Shao-kou, near Luoyang, the body was buried with twenty-seven mirrors placed to the right and left side of the head, on the chest, and at the feet, suggesting a strong protective role; see *Lo-yang Shao-kou Han-mu* (The Han Tombs at Shao-kou, Loyang) (Beijing: 1959), p. 160.

10. Joseph Needham, *Science and Civilization in China*, vol. V, pt. III (Cambridge: 1965-), pl. CDLXXI. Eliade discusses the practice of the Altaic shamans wearing mirrors as part of their apparel to help them see the world or to help them placate the spirits: Mircea Eliade, *Shamanism, Archaic Techniques of Ecstasy*, trans. Willard Trask (Princeton: 1974), pp. 153–154.

11. Needham, pl. CDLXXI.

12. *Ibid.*, p. 71.

13. *Ibid.*, p. 31, n. (a).

14. See Cheng Te-k'un, *Archeology in China*, III: *Chou China* (Cambridge: 1963), pp. 160, 253–254.

15. *Changsha Mawangdui Yihao Hanmu Fajue Jianbao* (A Brief Report on the Excavation of Han Tomb No. 1 at Mawangdui, Changsha) (Beijing: 1972), pl. 18, no. 1; pl. 19, nos. 1 and 2.

16. Karlgren, 13–14. Except for the mirrors in cosmetic boxes, which seem to be associated with females, mirrors are generally found in the tombs of both men and women.

17. This painting in the British Museum is generally accepted as an excellent tenth-century copy of an original fourth-century work.

18. For some of the literature on early mirrors, see Doris Dorenwend, "The Early Chinese Mirror," *Artibus Asiae* 27, nos. 1–2 (1964):78–98. See the *Bulletin of the Museum of Far Eastern Antiquities* for articles by Bernhard Karlgren: "Huai and Han," no. 13 (1941):1–128; "Some Pre-Han Mirrors," no. 35 (1963):161–169; "Early Chinese Mirror Inscriptions," 9–79. Bulling provides a good general bibliography.

19. For example, see Alexander C. Soper, "Addendum: Jen-shou Mirrors," *Artibus Asiae* 29 (1967):55–66; Nancy Thompson, "The Evolution of the T'ang Lion and Grapevine Mirror," *Artibus Asiae* 29 (1967): 25–40.

20. Cheng Te-k'un, *Archeology in China*, II: *Shang China* (Cambridge: 1960), p. 172, fig. 40. For the questions raised about this "button" mirror, see Kao Ch'u-hsien, "Yin-tai ti i mien t'ung-chung chi ch'i hsiang-Kuan chih wen-ti" (Problems of the Bronze Mirror Discovered from a Shang Burial), Academia Sinica, *Bulletin of the Institute of History and Philology* 29 (Taipei: 1958):685–721 and pl. 2.

21. There are three mirrors identified in the report. However, there is another object identified as a bronze lid that most scholars believe is a mirror. *Shang-ts'un-ling*, pl. 38, no. 13; pl. 40, no. 2.

22. *Yinxu Fuhao Mu* (Tomb of Lady Hao at Yinxu in Anyang), in Chinese with an English abstract (Beijing: 1980), pp. 104–105, fig. 65; *Kaogu*, no. 4 (1980):365, fig. 1.

23. *Kaogu*, no. 4 (1980):365.

24. *Ibid.*; and *Kaogu*, no. 4 (1977):223.

25. *Yinxu Fuhao*, pp. 103–104, fig. 65: 1, 2; pl. XII, 1, 2.

26. For a discussion of the tomb's contents, see *Yinxu Fuhao* and also Wen Fong, ed., *The Great Bronze Age of China* (New York: 1980), pp. 175–189.

27. Dorenwend describes the décor on the Houjiazhuang Tomb 1005 mirror: "While scallops are seen on a variety of Shang animals the central linear design is not typical of late Shang art" (79, n. 1).

28. *Shang-ts'un-ling*, p. 27.

29. *Ibid.*, p. 27, figs. 20, 21; see also n. 21.

30. *Shang-ts'un-ling*, pl. XXXVIII, no. 13.

31. Undecorated mirrors are made during the late Eastern Zhou period or Warring States until Western Han. These plain mirrors are different from the Western Zhou ones and the southern Siberian examples discussed later in the article. Late Eastern Zhou plain mirrors are discussed in an article by Wang Chung-shu, *Kaogu*, no. 9 (1963):516–520.

32. *Shenxi Chutu Shang Zhou Qingtong Qi* (Bronze Vessels of the Shang and Zhou Unearthed in Xian), 2 vols. (Beijing: 1979), vol. I, p. 125, no. 144.

33. *Fengxi Fajue Baogao* (Report on the Excavation at Fengxi, 1955–57), English abstract (Beijing: 1962), pl. LXXI, no. 3.

34. This mirror was seen in the Capital City Museum (Ducheng Powuguan), Beijing, during the summer of 1983. Later inquiries for photographs and additional information have not yet been answered.

35. Thomas Lawton, *Chinese Art of the Warring States Period, Change and Continuity 480–222 B.C.*

(Washington, D.C.: Freer Gallery of Art, 1982), p. 82.

36. Sueji Umehara, *Kanizen no kokyo no kenkyu* (L'Étude sur le miroir anterieur à la dynastie des Han), French summary (Kyoto: 1935), p. 20.

37. Lawton, p. 82.

38. See A. C. Mongait, *Archeology in the U.S.S.R.* (Baltimore: 1961), pp. 146–151, for a general description of the Andronovo and Karasuk cultures. A fuller discussion of the Siberian mirrors can be found in the article by Dr. Karen Rubinson that follows. The author is grateful to Dr. Rubinson for assistance with Russian references.

39. Large numbers were found at Tomsk in southern Siberia. A. Komarova, "Tomskii mogil'nik pamiatnik istorii drevikh plemen lesnoi polosy zapadnoi sibiri," *Materialy i issledovaniia po arkheologii SSSR, Moscow* 24 (1952). These flat mirrors with no raised rim and large loop handles, according to Rubinson, are a fairly localized phenomenon restricted to southern Siberia and are found in simple graves in relatively large quantities.

40. Ye. I. Lubo-Lesnichenko, *Privoznye zerkala minusinskoi kotloviny* (Moscow: 1975), English summary, p. 160.

41. Ye. Ye Kuz'mina, "Metallicheskiye Izdeliya enéolita i bronzovogo veka v srednei azii," *Arkheologiya SSSR* (Moscow: 1966), pl. XIII. According to Rubinson, there are a few examples of rimmed mirrors in the area of Minusinsk. A few of this type have thin raised-relief decoration, either geometric or figural. For a splendid example of a plain rimmed mirror from a stray find in the Altai that can be attributed to the seventh century B.C., see Karl Jettmar, *Art of the Steppes* (New York: 1964), p. 89, fig. 50.

42. For a selection of "x-ray"-style animals on rock carvings in southern Siberia from about the second millennium, see A. D. Okladnikov and A. I. Martynov, *Sokrovishcha tomskikh pisanits* (Moscow: 1972).

43. *Avant les Scythes*, exposition (Paris: 1979), p. 135, no. 135.

44. The three second-millennium sites occur in Khoresmia, in Samarkand Oasis, and in Kazakhstan. See Rubinson, this journal, nn. 4–6.

45. For an example of an Andronovo mirror and pottery in southern Siberia, see M. P. Grianov, "Istoriya drevnikh plemen verkhnei obi," *Materialy i issledovaniia po arkheologii SSSR, Moscow* (1956): no. 48, pl. 3.

46. Max Loehr, *Chinese Bronze Age Weapons* (Ann Arbor: 1956), pp. 101–105. This volume includes an excellent discussion of early southern Siberian Bronze Age cultures.

47. Emma C. Bunker, C. Bruce Chatwin, and Ann Farkas, *Animal Style Art from East to West* (New York: 1970), p. 71. In Lady Hao's tomb, the iconography and style of a few of the smaller jades suggest connection with the northern nomadic cultures–for example, the small jade mules (see *Yinxu Fuhao*, pl. XXX, no. 2).

48. For a summary of the relationship between the Shang and Zhou peoples, see Wen Fong, pp. 193–199.