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The Circulation of Bronze Mirrors in Late Prehistoric Xinjiang (2000–200 B.C.)



Yanlong Guo

ABSTRACT

Decades of archaeological excavations have yielded a large number of bronze mirrors from late prehistoric sites in Xinjiang. Scholarly attention has been invested in fitting these specular discs into a singular origin story of the Chinese mirror. Repositioning them within the context of the eastern Eurasian steppe, this article instead takes Xinjiang mirrors as artifacts indexing both diverse local developments and transregional patterns of circulation. A typological framework is proposed based on shape and structure: knob mirror with a flat rim, knob mirror with a flanged rim, grip mirror with a long handle, tanged mirror with a short protrusion, and knobless and handleless mirror. The presence or absence of zoomorphic décor enables even finer distinctions. ArcGIS mapping is employed to investigate the geo-cultural distributions of the different mirror types across Xinjiang. As a result, this article argues that the circulation of bronze mirrors in late prehistoric Xinjiang entailed four aspects of creative processes of cultural exchange, including diversity, fluidity, connectivity, and adaptability. Diversity is manifest in the richness and variety of Xinjiang mirror types. Fluidity challenges the knob-versus-grip dichotomy long held in academia. Connectivity captures frequent and multiple exchanges across all parts of the steppe that generated pan-regional styles and facilitated transfer of mirror casting techniques and designs. Adaptability foregrounds the agency of local invention and adaptation. The combined local-global perspective brings into focus the intricacies of mirror circulation centered in Xinjiang, a pivotal geographic and cultural hub of East-West exchange long before the Han empire's opening of the Silk Road in the second century B.C. **KEYWORDS:** circulation, bronze mirrors, late prehistoric Xinjiang, center-periphery.

INTRODUCTION

Decades of archaeological excavations have yielded about one hundred circular bronze discs from late prehistoric (2000–200 B.C.) sites in Xinjiang, the northwesternmost region of present-day China.¹ Records of the discs are scattered in archaeological reports, many only recently published. These portable and polished objects are identified as mirrors primarily based on their potential reflectivity and formal resemblance to later counterparts.² Cast in bronze, a precious metal in prehistoric Xinjiang, these mirrors represent some of the most luxurious objects consumed by various groups of nomadic peoples, a point of departure for this study.

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Xinjiang mirrors have been objects of interest in scholarly debates about the inception of the Chinese mirror. Studies have put forward different zones—the Central Plain (Lee 1984), Hexi Corridor (Li H. 1988; Li X. 1997; Song 1997), Chinese highlands (Lin 1986, 1998), Xinjiang (Liu 1993, 1999), southern Siberia (Juliano 1985), and Central Asia (Jaang 2011; Mei 2012; Rubinson 1985)—as the birthplace of the Chinese mirror. The search is for linkages between the eastern Eurasian steppe (hereafter, the steppe) and the Central Plain, long held to be the cultural core of Chinese civilization (Fig. 1). The main goal of previous scholarship has been to tell a single-origin story that is unavoidably tied to agendas and positions which take Xinjiang as either the origin or the passive receiver of mirrors from elsewhere.

This article shifts attention from constructing a singular trajectory of the mirror to a multi-centered landscape by tracing out the circulation of early mirrors through many routes of connection. As Kong Xiangxing and Liu Yiman (2001) have suggested, the history of the so-called Chinese mirror is not one straight line but involves diverse paths. Katherine Linduff and Jianjun Mei (2009:279) also call for more dedicated research on the emergence of mirrors in the wider Eurasian context. This article responds by accentuating interregional interactions and local reactions to interactive currents as seen through prehistoric mirrors in Xinjiang, an Eurasian crossroad. It situates these highly mobile specular discs in the immense space of the steppe that encompasses Xinjiang, the Chinese highlands, southern Siberia, and Central Asia (Kuzmina 2008; Yang et al. 2016).

Historically known as the Western Regions, Xinjiang is a provincial-level autonomous region of China in the northwest of the country. Its natural geography is defined by highlands and desert basins (Chen and Hiebert 1995). The Altai Mountains



Fig. 1. Geography of the Eastern Eurasian Steppe (map by Tracy Tien, Smith College Spatial Analysis Lab).

to the north are where China, Russia, Mongolia, and Kazakhstan come together, with the Tianshan Mountains in the middle and the Kunlun Mountains forming the northern edge of the Tibetan Plateau; the Junggar Basin and the Tarim Basin lie between these ranges. To the east of Xinjiang are the Chinese highlands, “a vast, interconnected political theater with three macro-regions, i.e. the northeastern highlands, the loess highlands, and the western highlands” (Li M. 2018:23).³ Bordering Xinjiang to the north is southern Siberia, which includes the Russian Altai, Minusinsk, and Tuva regions (Kiselev 2014). Xinjiang’s western neighbor, Central Asia, is roughly equivalent to today’s Afghanistan, Turkmenistan, Kazakhstan, Uzbekistan, Tajikistan, and Kyrgyzstan, an extensive and complex land mass encompassing high plateaus and mountain ridges as well as deserts, forests, and meadows (Dani and Masson 1992).

Late prehistoric Xinjiang was never a monolithic entity, as the archaeological cultures there continually shared material cultural attributes with neighboring counterparts. Transregional and transcontinental exchange was a defining characteristic of Late Bronze Age and Early Iron Age Eurasia, as pastoral nomadism forged a mobile economy and mode of life that facilitated frequent exchanges of material goods, technologies, and cultures (Anthony 2010; Frachetti 2008; Kohl 2007; Kuzmina 2007). To understand the reciprocal relations between local and regional centers through mirrors, this article adopts Sunjay Subrahmanyam’s (1997, 2005) ‘Connected Histories’ approach emphasizing both local innovations and transcultural exchanges. Rejecting the predominant nationalist historiography, Subrahmanyam, in his phenomenal research of the early modern world, argues that “ideas and mental constructs, too, flowed across political boundaries in that world, and—even if they found specific local expression—enable us to see that what we are dealing with are not separate and comparable, but connected histories” (1997:748). Subrahmanyam’s (1997:745) theoretical strategy connects previously compartmentalized national histories and sheds light on “the interface between the local and regional level on the one hand (what we may call the ‘micro’-level), and the supra-regional, at times even global (what we may term the ‘macro’-level).” As a result, the current study highlights the geo-cultural significance of Xinjiang as a regional center of mirror consumption and a contact zone for material and cultural exchanges of luxury goods, metallurgical techniques, and habitual practices. Examining prehistoric Xinjiang mirrors from this relational perspective also unsettles the conventional historical narrative that singularizes a Chinese artistic identity and essentializes the hierarchy of the cultural center (the Central Plain) and peripheral frontier (the steppe).

Moving beyond the idea of unidirectional influence, this study of early Xinjiang mirrors pursues a set of interrelated questions: What types of mirrors were circulating in Xinjiang? What geo-cultural patterns of mirror distribution can be observed? How stable were the boundaries between different types? And which internal and external forces might have been responsible for the development of mirror production in late prehistoric Xinjiang? Close scrutiny reveals that the life of Xinjiang mirrors cannot be reduced to a singular diffusionist story but evolved through multiple trajectories involving both local innovation and transregional exchange. I argue that late prehistoric Xinjiang afforded flows of mirror design, metallurgy, and metal products, and that the life of early Xinjiang mirrors is best characterized as diverse, fluid, connected, and adaptable.

MIRROR TYPOLOGY

A variegated array of mirror forms circulated across the vast land of Xinjiang. To reveal their material and cultural diversity, I employ a typological framework based on the most comprehensive listing of known prehistoric mirrors in this region to date (Table 1). The three primary classes in this typology are mirrors cast with a knob at the center, those with a tangentially attached handle, and those without a knob or a handle. Each primary class includes specific types named after characteristic structural elements. For instance, there are two types of knob mirrors, one with a flat rim, one with a flanged rim. Décor constitutes a finer division: while some pieces are decorated, others are completely plain. Absence or presence of a particular décor is a significant indicator in subdivisions of mirror types. This framework is neither rigid nor perfect, since mirrors in different groups according to structural morphology are sometimes closely linked by ornamentation; such cross-group connections are discussed below as they arise. In this taxonomy, Roman numerals represent three primary classes, English letters the secondary types, and Arabic numbers the decorative subtypes. It should be noted that the sample size of the third category is still too small to allow subdivision.

- IA1. Knob mirror with flat rim and no décor
- IA2. Knob mirror with flat rim and geometric décor
- IB1. Knob mirror with flanged rim and plain surface
- IB2. Knob mirror with flanged rim and zoomorphic décor
- IIA1. Grip mirror with plain handle
- IIA2. Grip mirror with zoomorphic handle
- IIB1. Tanged mirror with plain surface
- IIB2. Tanged mirror with zoomorphic décor
- III. Knobless and handleless mirror with flat rim

IA. The Knob Mirror with Flat Rim

Type IA mirrors are the most common, long-lived class in prehistoric Xinjiang, yielding some of the oldest surviving specimens (Fig. 2). Several pieces are decorated (IA2), while most are plain (IA1); but, far from being entirely homogeneous, each of the two subtypes exhibits differentiating features. At least 25 specimens of the undecorated subtype have been uncovered across Xinjiang. Featuring a slender loop-shaped knob at the center of the non-reflecting surface, most IA1 mirrors appear coarse, imperfectly round, and measure between 6 and 11 cm in diameter. IA2 mirrors are decorated with geometric patterns composed of simple rectilinear and curvilinear lines. On the back of a Tianshanbeilu mirror, for example, dense and straight lines radiate from the central knob, running across the four concentric circles cast in thin lines (Hami 2013:36).

IB. The Knob Mirror with Flanged Rim

The second major type (IB) is distinguished from the IA mirror by a raised flange.⁴ Like its IA counterpart, the IB type includes two subtypes, the plain IB1 and the ornamented IB2. Seventeen IB specimens have been reported (Fig. 3). Fifteen of them, undecorated, measure about 9 to 12 cm in diameter, larger than those of the IA mirrors. Their raised flanges, perpendicular to the disc, are usually about 0.5 to 1 cm

TABLE I. BRONZE MIRRORS UNEARTHED FROM LATE PREHISTORIC XINJIANG

LOCATION	GEOGRAPHY ^a	TYPE	QUANTITY	DATE (B.C.)	CULTURE	REFERENCE
Tianshanbeilu, Hami	ETM	IA1	4	1800–1600	Tianshanbeilu	Hami 2013
Yanbulake, Hami	ETM	IA1	4	1300–600	Yanbulake	Xinjiang Weiwu'er & Xinjiang 1989
Dongheigou, Hami	ETM	IA1	1	500–100	Heigouliang	Xinjiang Wenwu & Xibei 2009
Chawuhu, Hejing	TBNE	IA1	2	1000–800 ^b	Chawuhu	Wang & Lü 1999
Mohuchahan, Hejing	TBNE	IA1	8	1000–800	Chawuhu	Xinjiang Wenwu 2016
Habuqihan, Hejing	TBNE	IA1	1	1000–600	Chawuhu	Xinjiang Wenwu & Hejing 1999
Liushui, Yutian	TBSE	IA1	1	1108–493 ^b	Liushui	Zhongguo Shehui 2006, 2016
Niya	TBSE	IA1	1	1500–1000	?	Yu & Reshit 1998
Nu'erjia, Changji	MTM	IA1	1	1000–800	Subeixi	Xinjiang Wenwu 2015a
Kuokesuxi, Ili	IRV	IA1	1	505 ± 30 ^b	post-Andronovo	Xinjiang Wenwu 2012a
Aletengyemule, Tacheng	JBWE	IA1	1	770–210 ^c	?	Xinjiang Wenwu 2017
Sa'en sai, Urumqi	MTM	IA2	1	1000–600	Subeixi	Xinjiang Wenwu & Wulumuqi 2012
Jiayi, Turfan	MTM	IA2	1	1000–200	Subeixi	Tulufan & Xinjiang 2014
Mohuchahan, Hejing	TBNE	IA2	2	1000–800	Chawuhu	Xinjiang Wenwu 2016
Tianshanbeilu, Hami	ETM	IA2	3	1800–1600	Tianshanbeilu	Hami 2013
Mohuchahan, Hejing	TBNE	IB1	1	1000–800	Chawuhu	Xinjiang Wenwu 2016
Habaihan, Habahe	JBNE	IB1	1	1300–800	Late Qiemu'erqieke	Xinjiang Wenwu 2015b
Qiemu'erqieke, Altay	JBNE	IB1	1	500	Late Qiemu'erqieke	Xinjiang Wenwu 1981
Aletengyemule, Yumin	JBWE	IB1	1	770–210 ^c	Post-Andronovo?	Xinjiang Wenwu 2017
Aletengyemule, Yumin	JBWE	IB1	1	770–210 ^c	Post-Andronovo?	Xinjiang Wenwu 2017
Baiyanghe, Tacheng	JBWE	IB1	2	820–590 ^c	?	Xinjiang Wenwu 2012b
Dalujiaowan, Shawan	JBWE	IB1	1	800–200?	?	Xinjiang Wenwu & Shawan 2016
Kizil, Aksu	TBNE	IB1	1	1000–600	Chawuhu	Xinjiang Weiwu'er et al. 1997
Qunbake, Luntai	TBNE	IB1	1	950–600 ^b	Chawuhu	Zhongguo Shehui & Xinjiang 1987
Yanbulake, Hami	ETM	IB1	1	1300–600	Yanbulake	Hami 2013
Shimenzi, Changji	MTM	IB1	2	700–300	Post-Andronovo	Xinjiang Wenwu 2014
Sa'en sai, Urumqi	MTM	IB1	2	1000–600	Subeixi	Xinjiang Wenwu 2013

(Continued)

TABLE 1. (Continued)

LOCATION	GEOGRAPHY ^a	TYPE	QUANTITY	DATE (B.C.)	CULTURE	REFERENCE
Dalongkou, Jimusar	MTM	IB1	1	600–200	Saka?	Chi 1994; Xinjiang Wenwu 1997
Kuokesuxi, Tekesi	IRV	IB1	1	505 ± 30 ^b	post-Andronovo	Xinjiang Wenwu 2012a
Chawuhu, Hejing	TBNE	IB2	2	800	Chawuhu	Wang & Lü 1999
Qiafuqihai, Gongliu	IRV	IIA1	4	700–300	Saka	Ling et al. 2008
Jirentai goukou, Nileke	IRV	IIA1	1	1600–1400	Andronovo?	Wang Y. et al. 2019
Sikeshu, Usu	IRV	IIA1	1	500–200	?	Xinjiang Weiwu'er 2011a
Tiemulike, Xinyuan	IRV	IIA1	2	400–250	Suodunbulake	Xinjiang Wenwu 1988
Sa'erbulake, Nilka	IRV	IIA1	1	500–300	Suodunbulake	Qi & Wang 2008
Dongmaili, Ili	IRV	IIA1	1	800–200	Suodunbulake	Xinjiang Weiwu'er 2011a
Dalujiaowan, Shawan	JBWE	IIA1	1	800–200?	?	Xinjiang Wenwu & Shawan 2016
Qunbake, Luntai	TBNE	IIA1	2	950–600	Chawuhu	Zhongguo Shehui & Xinjiang 1991
Baluntai, Hejing	TBNE	IIA1	1	500?	?	Xinjiang Weiwu'er et al. 1997
Shengjindian, Turfan	MTM	IIA1	2	200–50	Gushi	Tulufan 2013
Jiaohe goubei, Turfan	MTM	IIA1	2	500–200	Subeixi	Lianheguo et al. 1998
Wupu, Hami	ETM	IIA1	1	1300–1000 ^b	Yanbulake	Xinjiang Weiwu'er 2011b
Tuobeiliang, Yiwu	ETM	IIA1	1	500–200	Yanbulake+Pazyryk?	Xibei et al. 2014
Yeshikelieke, Tekesi	IRV	IIA2	1	500–300	Suodunbulake	Xinjiang Wenwu & Yilizhou 2005
Weizixia, Yiwu	ETM	IIA2	1	500–300?	?	Hami 2013
Xinjiang (the Met)	N/A	IIA2	1	500–300?	?	Bunker et al. 2002
Baiqi'er, Yiwu	ETM	IIB1	1	800–400	Yanbulake+Pazyryk?	Hami 2013
Tuobeiliang, Yiwu	ETM	IIB1	1	500–200	Yanbulake+Pazyryk?	Xibei et al. 2014
Heigouliang, Barköl	ETM	IIB1	5	767–413 ^b	Heigouliang	Xinjiang Wenwu & Hami 1994; Ren M. 2011
Chaiwopu, Urumqi	MTM	IIB1	1	500–300	Subeixi	Xinjiang Wenwu & Xibei 1998
Chawuhu goukou, Hejing	TBNE	IIB1	1	695–470 ^c	Chawuhu	Zhongguo Shehui & Xinjiang 1990
Chawuhu gouxi, Hejing	TBNE	IIB1	1	600–300	Chawuhu	Xinjiang Wenwu & Hejing 1994
Zhagunluke, Qiemo	TBSE	IIB1	1	500–100	Zhagunluke	Xinjiang Weiwu'er et al. 2002
Keriya, Hotan	TBSE	IIB1	1	387–A.D. 56 ^c	Zhagunluke	Zhong-Fa 1998

(Continued)

TABLE 1. (Continued)

LOCATION	GEOGRAPHY ^a	TYPE	QUANTITY	DATE (B.C.)	CULTURE	REFERENCE
Ji'erzankale, Tashkurgan	TBSWE	IIB1	2	600–400 ^b	Xiangbaobao?	Zhongguo Shehui 2015
Sawudiege'er, Fuyun	JBNE	IIB1	1	300	Pazyryk?	Xinjiang Wenwu 2015f
Haizikou, Fuyun	JBNE	IIB2	1	?	?	Yu 2015
Qunbake, Luntai	TBNE	III	1	950–600	Chawuhu	Zhongguo Shehui & Xinjiang 1991
Ji'erzankale, Tashkurgan	TBSWE	III	1	600–400 ^b	Xiangbaobao?	Zhongguo Shehui et al. 2017
Baiyanghe, Tacheng	JBWE	III	1	820–590 ^c	Post-Andronovo?	Xinjiang Wenwu 2012b
Kezijia'er, Altay	JBNE	III	1	300–100?	?	Xinjiang Wenwu 2015c
Tuwa xincun, Bu'erjin	JBNE	III	1	600–200	Pazyryk?	Xinjiang Wenwu 2015d
Suke'erte, Fuyun	JBNE	III	2	300 B.C.–A.D. 1	Suke'erte	Xinjiang Wenwu 2015e
Sa'en sai, Urumqi	MTM	III	1	1800–1500	Okunevo?	Xinjiang Wenwu 2013
Sa'en sai, Urumqi	MTM	III	1	500 B.C.–A.D. 200	Subeixi	Xinjiang Wenwu 2013
Subeixi, Shanshan	MTM	III	1	400–100	Subeixi	Xinjiang Wenwu & Tulufan 1994
Tekesi	IRV	III	2	800 B.C.–A.D. 1	Suodunbulake	Wang B. 1962
Shankou shuiku, Gongliu	IRV	III	1	800–400	Suodunbulake	Xinjiang Wenwu 2006
Chawuhu, Hejing	TBNE	III	1	1000–800 ^b	Chawuhu	Wang & Lü 1999

^a ETM = 东天山 [Eastern Tianshan Mountains]; IRV = 伊犁河谷 [Ili River Valley]; TBNE = 塔里木北缘 [Tarim Basin Northern Edge]; TBSE = 塔里木南缘 [Tarim Basin Southern Edge]; TBSWE = 塔里木西南缘 [Tarim Basin Southwestern Edge]; WTM = 西天山 [Western Tianshan Mountains]; JBNE = 准噶尔北缘 [Junggar Basin Northern Edge]; JBWE = 准噶尔西缘 [Junggar Basin Western Edge]; MTM = 中天山 [Middle Tianshan Mountains].

^b ¹⁴C dated.

^c Tree-ring dated.

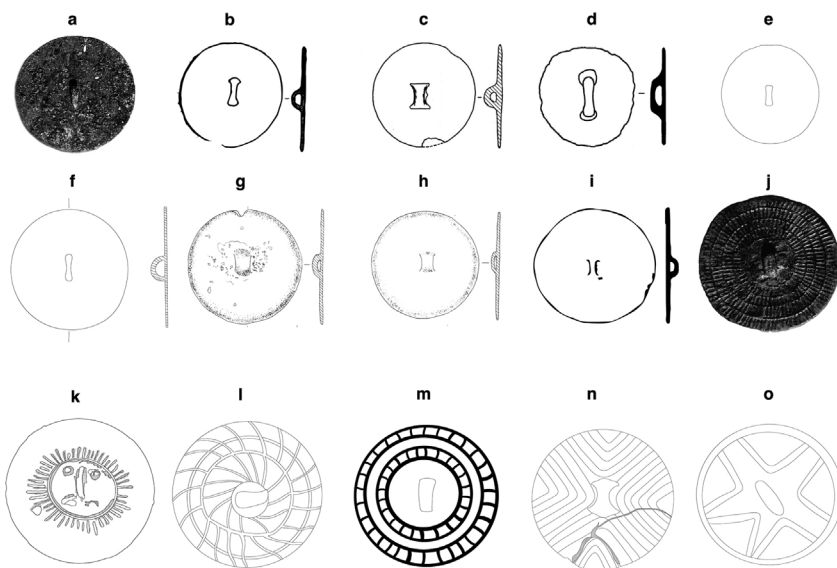


Fig. 2. Type IA mirrors from Xinjiang: (a) Tianshanbeilu (Hami 2013:89); (b) Yanbulake Tomb 64 (Xinjiang Weiwu'er and Xinjiang 1989:fig. 23.6); (c) Kuokesuxi II Tomb 59 (Xinjiang Wenwu 2012a:fig. 22.2); (d) Dongheigou (Xinjiang Wenwu and Xibei 2009:fig. 37.6); (e) Nu'erjia Tomb 34A (Xinjiang Wenwu 2015a:fig. 14.5); (f) Aletengyemule (Xinjiang Wenwu 2017:fig. 25.8); (g) Mohuchahan Tomb 124 (Xinjiang Wenwu 2016:157); (h) Mohuchahan Tomb 8 (Xinjiang Wenwu 2016:19); (i) Chawuhu Tomb 206 (Wang and Lü 1999:fig. 163.16); (j) Tianshanbeilu (Hami 2013:89); (k) Tianshanbeilu (Hami 2013:107); (l) Sa'en sai (Xinjiang Wenwu 2013:fig. 100.2); (m) Mohuchahan Tomb 128 (Xinjiang Wenwu 2016:163); (n) Mohuchahan Tomb 130 (Xinjiang Wenwu 2016:166); (o) Jiayi (Tulufan and Xinjiang 2014:16) (tracings by Doris Yixuan Tang).

high. The Dalongkou site, east of Jimsar county along the northern foot of the Tianshan Mountains, yielded the largest specimen of this kind, measuring 20.5 cm in diameter (Changji and Changji 1993:42). The IB2 subtype, featuring zoomorphic patterns, is scarce in Xinjiang. Both extant IB2 mirrors belong to Phase I of the Chawuhu site (Lü et al. 2001:174). A feline, probably a tiger, rendered in profile decorates the two nearly identical mirrors.

I IA. The Grip Mirror

The IIA mirror consists of a circular disc with a long, attached grip (Fig. 4). This narrow handle invites the user to grasp the mirror with a single hand. More than 20 IIA mirrors have been unearthed in Xinjiang. The first subtype (IIA1) is a mirror with a plainly made handle that varies in shape and length. In the mirror from Hami's Wupu cemetery, eastern Xinjiang, a long handle measuring 6.8 cm extends from the edge of an 8.5 cm diameter disc (Xinjiang Weiwu'er 2011b).

Mirrors of the second subtype (IIA2) have tangentially attached grips fashioned in the shape of a zoomorphic figure. At present, Xinjiang has yielded only three IIA2 mirrors, two chance finds and one archaeological specimen. All their handles represent

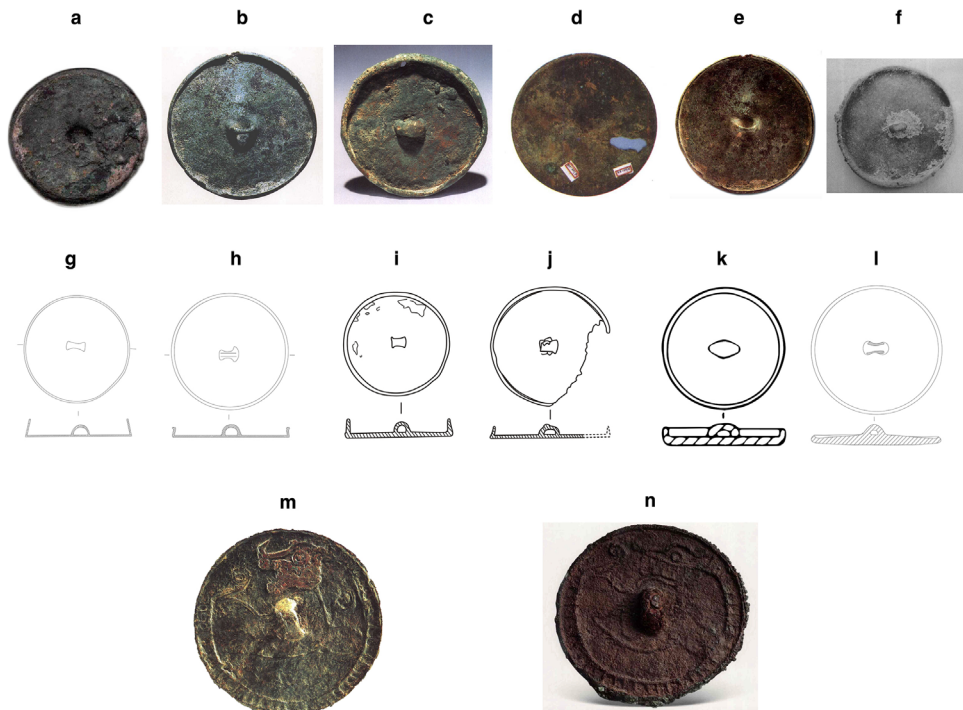


Fig. 3. Type IB mirrors from Xinjiang: (a) Habaihan (*Xinjiang Wenwu* 2015b:pl. 82); (b) Qiemu'erqieke (*Qi and Wang* 2008:223); (c) Kizil shuiku (*Xinjiang Weiwu'er et al.* 1997:239); (d) Dalongkou (*Changji and Changji* 1993:32); (e) Yanbulake (*Hami* 2013:145); (f) Qumbake (*Zhongguo Shehui and Xinjiang* 1987:pl. 5); (g) Aletengyemule Tomb 17 (*Xinjiang Wenwu* 2017:35); (h) Aletengyemule Tomb 6 (*Xinjiang Wenwu* 2017:35); (i) Sa'en sai Tomb 106 (*Xinjiang Wenwu* 2013:106); (j) Sa'en sai Tomb 89 (*Xinjiang Wenwu* 2013:93); (k) Baiyanghe (*Xinjiang Wenwu* 2012b:24); (l) Kuokesuxi (*Xinjiang Wenwu* 2012a:11); (m) Chawuhu Tomb 165 (*Xinjiang Weiwu'er et al.* 1997:171); (n) Chawuhu Tomb 114 (*Shenzhen* 2011:55) (tracings by Doris Yixuan Tang and Yanlong Guo).

the ibex, a type of ungulate indigenous to the region. The example scientifically excavated at the Yeshikelieke cemetery in Tekesi has an ibex handle that appears soldered to the rim (*Xinjiang Wenwu and Yilizhou* 2005).

IIB. The Tanged Mirror

The IIB group comprises circular mirrors with short, perforated tangs cast in one piece. Like the other types, IIB mirrors are either plain (IIB1) or feature zoomorphic motifs (IIB2) (Fig. 5). Mirrors of this type have a perforation at the center of the tang. On one found in the Chaiwopu cemetery in Urumqi, the drilled aperture is large and wide (*Qi and Wang* 2008:210). The protruding tang is too short to serve as a grip, but casings made of leather or other organic materials may have been used to extend its length and make it graspable (*Rudenko* 1970:114).

The IIB2 mirror resembles the overall structure of the IIB1 mirror but is distinguished by zoomorphic décor, usually a single standing animal such as an

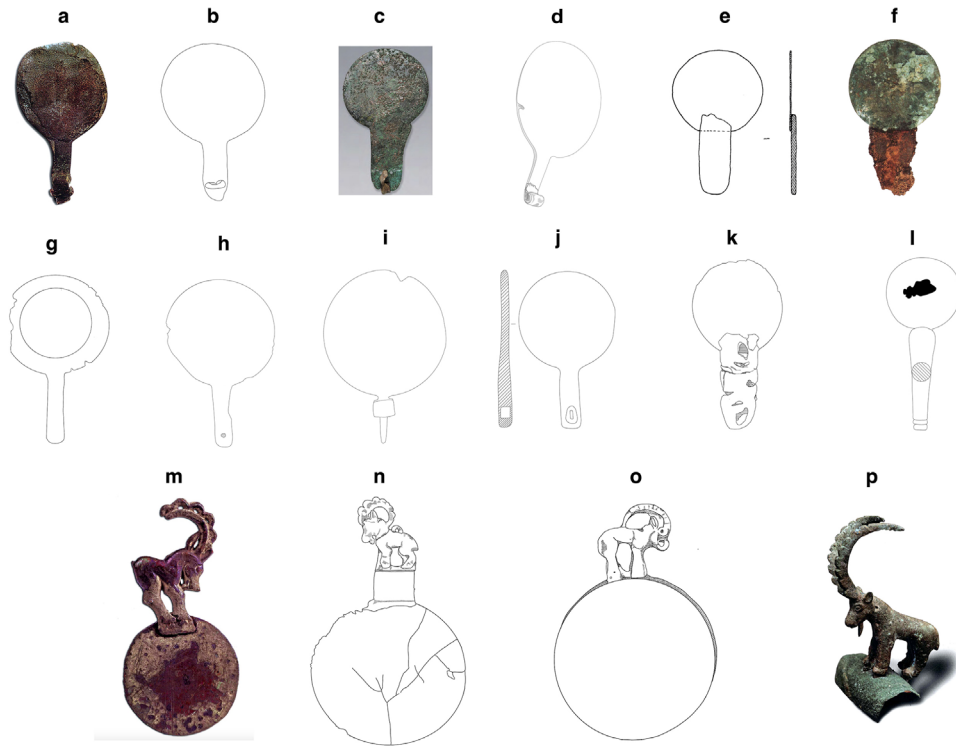


Fig. 4. Type IIA mirrors and a zoomorphic bronze finial from Xinjiang: (a) Wupu (Hami 2013:57); (b) Dongmaili (Xinjiang Weiwu'er 2011a:178); (c) Dalujiaowan (Xinjiang Wenwu and Shawan 2016: pl. 6); (d) Jirentai goukou (Xinjiang Wenwu et al. 2017:68); (e) Jiaohe goubei Tomb 10 (Lianheguo et al. 1998:63); (f) Baluntai Tomb 1 (Xinjiang et al. 1997:177); (g) Sa'erbulake (Qi and Wang 2008:251); (h) Tiemulike Tomb 6 (Xinjiang Wenwu 1988:64); (i) Sikeshu (Xinjiang Weiwu'er 2011a:95); (j) Qunbake (Zhongguo Shehui and Xinjiang 1991:693); (k) Tuobeiliang (Xibe et al. 2014:32); (l) Shengjindian (Tulufan 2013:44); (m) Weizixia (Hami 2013:207); (n) Yeshikelieke (Qi and Wang 2008:251); (o) The Metropolitan Museum of Art (Bunker et al. 2002:183); (p) Baiqi'er (Hami 2013:160) (tracings by Doris Yixuan Tang).

ungulate or a feline executed in thin, threaded relief or intaglio on the reverse side. There is only one brief report of a IIB2 mirror in Xinjiang. It was found at the Haizikou cemetery along the northern edge of the Junggar Basin (Yu 2015:8). Adorned with a crouching tiger, the mirror has a wide perforation at the center of the tang.

III. The Knobless and Handleless Mirror

The third category refers to mirrors that do not easily fall into either of the first two categories. The Type III mirror also consists of a circular disc and flat rim but differs from the other mirror types by the absence of a knob or handle. So far, more than a dozen specimens of this obscure type have been exhumed in Xinjiang (Fig. 6). On average, these mirrors measure about 10 cm in diameter. About half of them are



Fig. 5. Type IIB mirrors from Xinjiang: (a): Zhagunluke (Qi and Wang 2008:45); (b) Baiqi'er (Hami 2013:161); (c) Heigouliang (Hami 2013:167); (d) Chaiwopu (Xinjiang Wenwu and Xibei 1998:22); (e) Tuobeiliang (Xibei et al. 2014:32); (f) Chawuhu (Zhongguo Shehui and Xinjiang 1990:517); (g) Keriya (Zhong-Fa 1998:36); (h) Ji'ertzankale (Zhongguo Shehui 2015:pl. 14); (i) Sawudiege'er (Xinjiang Wenwu 2015f:57); (j) Chawuhu gouxi (Xinjiang Wenwu and Hejing 1994:4); (k) Fuyun (Yu 2015:8) (tracings by Doris Yixuan Tang and Yanlong Guo).

perforated with small holes along the edges. For example, the mirror from the Baiyanghe cemetery in Tacheng is pierced with three tiny apertures closely aligned around the edge (Xinjiang Wenwu 2012b). These apertures may have been used to help affix wooden handles or attach mirrors to the body. No ornamented example of this type has been found in Xinjiang.

MIRRORS IN XINJIANG: CONTEXT AND SPATIO-TEMPORAL PATTERNING

Archaeological Contexts

To date, all Xinjiang mirrors with archaeological provenance are from burials. This is not only because mirrors were cherished toiletry articles used for everyday cosmetics and in the afterlife, but also because tombs have been the predominant archaeological sites in Xinjiang. The aboveground and underground structures of the tombs that contained mirrors share common vocabularies, albeit with a fair degree of variation. The majority of the tombs were covered with a circular stone mound or a surrounding stone fence, typical surface markers in prehistoric Xinjiang burials

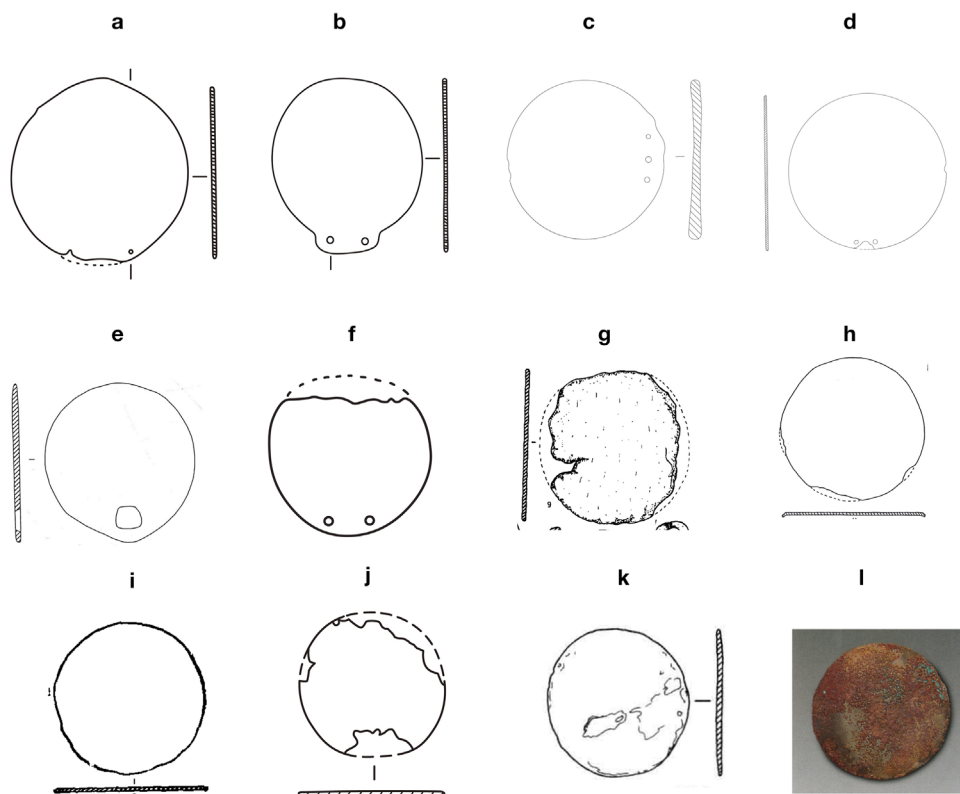


Fig. 6. Type III mirrors from Xinjiang: (a, b): Suke'erte (*Xinjiang Wenwu* 2015c: pl. 59); (c) Baiyanghe (*Xinjiang Wenwu* 2012b:24); (d) Subeixi (*Xinjiang Wenwu and Tulufan* 1994:16); (e) Tuwa xincun (*Xinjiang Wenwu* 2015d:209); (f) Kezija'er (*Xinjiang Wenwu* 2015c:115); (g) Chawuhu IM 218 (*Wang and Lü* 1999:249); (h) Shankou shuiku (*Xinjiang Wenwu* 2006:34); (i) Qunbake (*Zhongguo Shehui and Xinjiang* 1991:71); (j) Ji'erzankale (*Zhongguo Shehui et al.* 2017:563); (k) Sa'en sai Tomb 37 (*Xinjiang Wenwu* 2013:51); (l) Sa'en sai Tomb 82 (*Xinjiang Wenwu* 2013:pl. 53) (tracings by Doris Yixuan Tang and Yanlong Guo).

(Chen and Hiebert 1995:283). In some cases, both structures marked a burial site. The ground-level stone fence was fashioned in a round, quadrilateral, or triangular shape. Beneath the surface markers were earthen shaft pits, sometimes built with stone cists or earthen side chambers. While some corpses were interred with flexed legs, others were in extended supine poses. In a few cases, the deceased rested in wooden coffins or wooden beds. Excavators have found both single and multiple burials within one grave.

Early Xinjiang mirrors were proximal to the deceased. They were most frequently positioned near the waist of the body but were sometimes placed alongside other body parts such as chest, arm, hand, or head (Fig. 7). Of the ten IA mirrors unearthed at Hejing's Mohuchahan cemetery, five were buried next to the waist of the deceased, three near the chest, one by the left hand, and one by the head (*Xinjiang Wenwu* 2016:19, 21, 103, 156, 158, 162, 166, 188, 191, 231). The various mirror placements

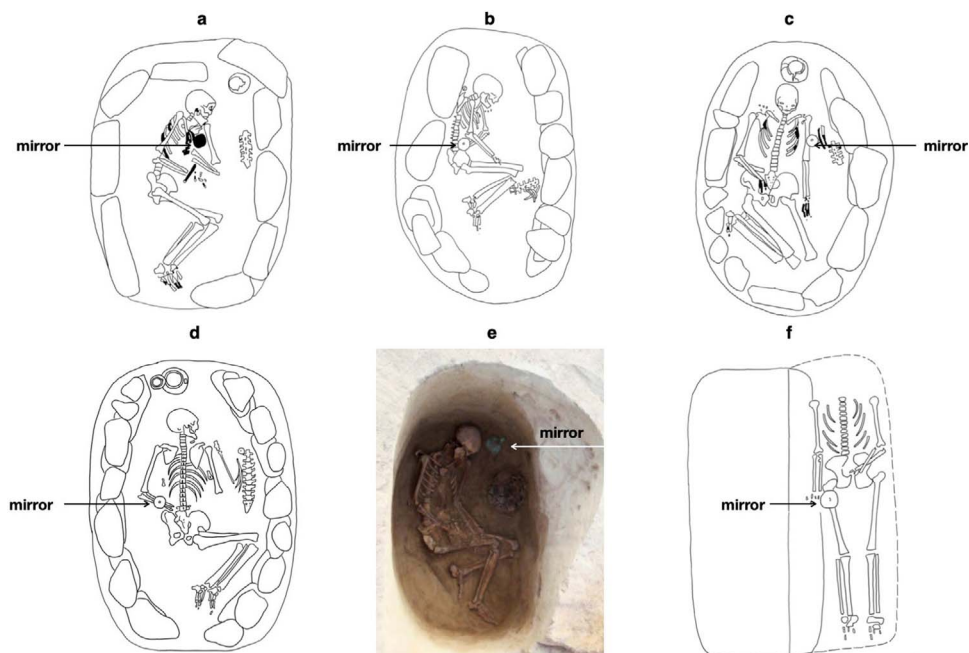


Fig. 7. Layout plans of various tombs containing mirrors in Xinjiang: (a) Mohuchahan Tomb 10 (Xinjiang Wenwu 2016:21); (b) Mohuchahan Tomb 124 (Xinjiang Wenwu 2016:156); (c) Mohuchahan Tomb 125 (Xinjiang Wenwu 2016:158); (d) Mohuchahan Tomb 150 (Xinjiang Wenwu 2016:188); (e) Jirentai goukou Tomb 49 (Xinjiang Wenwu et al. 2017); (f) Habaihan Tomb 3 (Xinjiang Wenwu 2015b:190) (tracings by Fubin Song).

seem deliberate and indicative of different ways they were used or carried in life. A mirror near the head may have symbolized the inspection of the face. When put in the hand, it reenacted the act of holding. A mirror on top of the chest may have been hung from the neck or sewn onto the costume. Those around the waist were likely tied to the body; leather cords piercing through a perforated knob or a hole could have readily fastened a mirror to a girdle.⁵

When not in use, these treasured objects were stored in cases made of fur or wood. For instance, a IIB1 mirror unearthed at Pazyryk Barrow 2 was found inside a leopard fur case attached with a golden disk as well as blue and black beads (Rudenko 1970:114). Likewise, the archaeologists of Tomb Ak-Alakh-3 on the Ukok Plateau in the Russian Altai Mountains uncovered a IIA1 mirror encased in a wooden box engraved with a deer image (Polosmak 2014).

The majority of prehistoric mirrors in Xinjiang seems to have been associated with burials of local elites. One magnificent example is Dalongkou Tomb 10 at Jimusar, enclosed under a large, circular stone kurgan 20m in diameter (Chi 1994; Xinjiang Wenwu 1997). Its elliptical underground grave, constructed of pebbles, interred one corpse with extended legs in a supine position. According to the report, this tomb might have belonged to a high elite of the Saka Culture dated from the sixth to the second centuries B.C. (Xinjiang Wenwu 1997:45). Many other tombs containing mirrors were built in large scale and buried with prestige objects.

Amongst the thirty-five mirror owners with identifiable genders, 31 were women of different ages while only four were men.⁶ According to the report, one of the youngest female owners, the occupant of Mohuchahan Tomb 106, was about fifteen years old, whereas the mirror owner from Tomb 151 of the same cemetery was more than sixty-five years old at death (Xinjiang Wenwu 2016:134, 190). Sometimes, a mirror was buried with other gendered items such as jewelry, cosmetic tools, and sewing or weaving tools (Xinjiang Wenwu 2012a:8; Xinjiang Wenwu 2016:137, 232).

Chronology

The dating of the mirrors is mostly dependent on the dating of the burials in which they were found. These different mirror types originated and prevailed in different time periods, but their temporal overlaps with one another are equally noticeable (Fig. 8). The earliest IA1 specimens are attributed to Phase III of Hami's Tianshanbeilu site around 1500 B.C. (Lü et al. 2001:184). Some later specimens date from 1000 to 800 B.C. Those unearched at the Kuokesuxi cemetery in Ili and at the Dongheigou cemetery in Hami, dated around the fifth century B.C., represent the late development of this subtype (Xinjiang Wenwu 2012a; Xinjiang Wenwu and Xibei 2009). The IA2 mirror with geometric decorations emerged slightly later than the IA1 mirror, as attested by the three specimens from Phase IV of Tianshanbeilu (ca. 1800–1600 B.C.) (Hami 2013). This decorative style was perennial in Xinjiang, where archaeologists have unearched four later specimens: two at Mohuchahan, Hejing (ca. 1000–800 B.C.), one at Sa'en sai, Urumqi (ca. 700–600 B.C.), and one at Jiayi, Turfan (ca. 1000–200 B.C.) (Tulufan and Xinjiang 2014; Xinjiang Wenwu 2016; Xinjiang Wenwu and Wulumuqi 2012).

IB represents a newer trend than IA, because it appeared at the beginning of the first millennium B.C. and lasted until the second century B.C. As carbon-14 dating reveals, the absolute chronology of Chawuhu Phase I, to which the two mirrors adorned with coiled felines belong, falls into the timeframe of 1000 to 800 B.C. (Shao 2018:182). So far, the most recent IB1 mirror to be found in Xinjiang is from the Aletengyemule site in Tacheng, which is tree-ring dated as late as 210 B.C. (Xinjiang Wenwu 2017).

The earliest extant IIA1 mirror in Xinjiang, represented by the Jirentai goukou specimen, appeared around the sixteenth century B.C. (Wang and Ruan 2015). The Wupu mirror was also dated prior to 1000 B.C. (Xinjiang Weiwu'er 2011b). The majority, however, fall into the eighth through third centuries B.C. The only archaeologically acquired IIA2 specimen, the Yeshikelieke mirror, dates between the

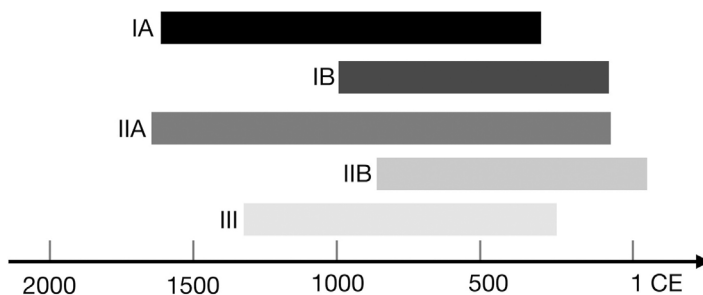


Fig. 8. Timeline of the five major mirror types in late prehistoric Xinjiang (diagram by Yanlong Guo).

fifth and fourth centuries B.C. (Xinjiang Wenwu and Yilizhou 2005). Parallel IIA2 examples from other parts of the steppe also date around 500 B.C., a point I return to in the discussion of transcontinental exchange.

The IIB mirror had a much shorter life span than the IIA type, mainly circulating during the second half of the first millennium B.C. For instance, the Chawuhu cemetery that yielded one IIB1 mirror is tree-ring dated from 695 to 470 B.C. (Zhongguo Shehui and Xinjiang 1990). It is evident that IIB mirrors continued into the early historical period of Xinjiang, when Han-style mirrors were first imported to and imitated in this region. As the tree-ring date of the Keriya site at Hotan shows, the IIB1 mirror might have been in use as late as A.D. 56 (Zhong-Fa 1998).

Except for one mirror unearthed from the Sa'en sai Tomb 37, dated ca. 1800–1500 B.C. (Xinjiang Wenwu 2013:173), Type III specimens in general postdate 1000 B.C. For instance, Tomb 82 at the Sa'en sai cemetery is dated later than 600 B.C. (Xinjiang Wenwu 2013:173).

In sum, circular knob mirrors with a flat rim (IA) and grip mirrors (IIA) are the two earliest types, emerging no later than the mid-second millennium B.C. and lasting throughout late prehistoric Xinjiang. While one Type III mirror is dated as early as the first half of the second millennium B.C., the majority fall into the first millennium B.C. IB mirrors with flanged rims had a shorter span of popularity, mainly circulating from 1000 to 200 B.C. IIB mirrors with short tangs predominantly circulated during the late first millennium B.C. It is noteworthy that there is clear chronological overlap between the different mirror types. The chronological range of different mirror types may increase with more excavated examples. For example, in comparison to mirror types IA and IIA, types IB and IIB are represented by fewer mirrors, which may possibly account for their shorter apparent time ranges.

Spatio-Cultural Distribution

To situate mirrors spatially and culturally is to map the diverse, dynamic landscape of mirror circulation in prehistoric Xinjiang. The enormous land mass of prehistoric Xinjiang can be roughly demarcated into three mega zones—the eastern Tianshan Mountains, the Tarim Basin, and the Junggar Basin—each of which contain smaller geographic units (Guo W. 2012; Han 2007; Shao 2018). As the geographic and topographic environment of Xinjiang largely determined land areas fit for human habitation and trade and migration routes, it is unsurprising that burials were concentrated along the southern and northern edges of the Tianshan and Altai Mountains, with some scattered along the southern fringe of the Kunlun Mountains.

While almost every major mirror type has been found in different parts of Xinjiang, it is possible to discern some preliminary regional-cultural patterns of circulation (Fig. 9).⁷ For instance, IIA mirrors were concentrated in the Ili River Valley, while IA types were mainly distributed along the Tianshan Mountains. The sites that yielded the IA mirrors lie at the eastern, middle, and western feet of those mountains, traversing a distance more than 1000 km. The eastern Tianshan area seems to be an early center for this knobbed, flat-rim mirror type, as they appear not only geographically close but culturally affinitive among the Tianshanbeilu (ca. nineteenth–thirteenth centuries B.C.), Yanbulake (ca. fourteenth–fourth centuries B.C.), and Heigouliang (ca. eighth–third centuries B.C.) cultures (Li S. 2005; Lü et al. 2001; Qian W. 2006; Ren R. 2017; Shui 2001; Zhang et al. 2016). IA mirrors were present at the Chawuhu Culture (tenth–sixth

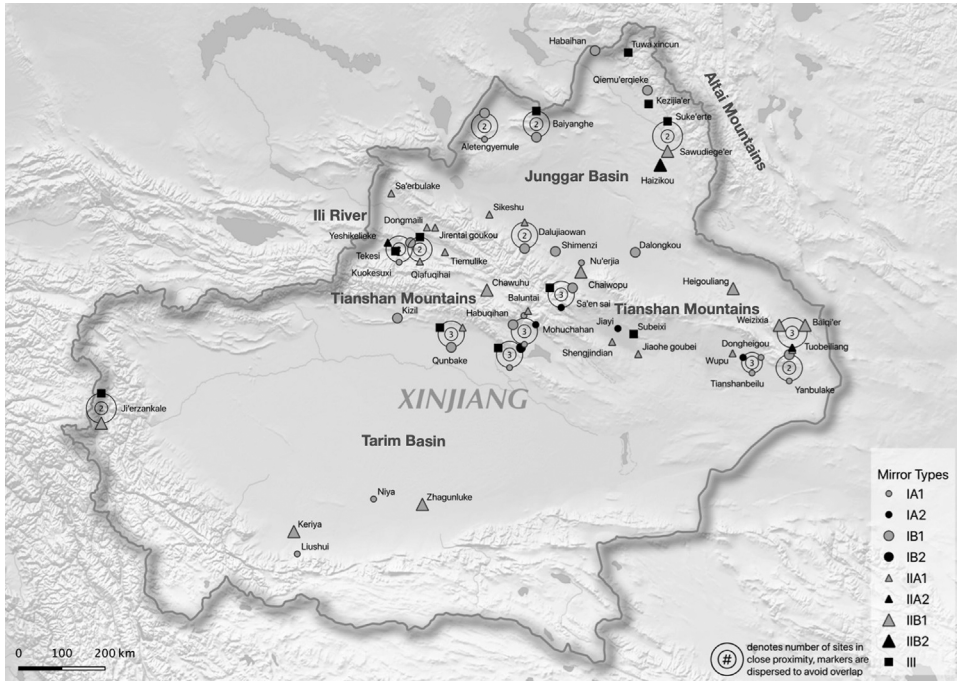


Fig. 9. Distribution of mirror types and subtypes in Xinjiang (map by Tracy Tien, Smith College Spatial Analysis Lab).

centuries B.C.) along the northern edge of the Tarim Basin, which maintained communications with Yanbulake, its eastern neighbor 700 km away (Chen Ge 1991, 2001; Lü 1999). About 200 km north of Chawuhu lies the Subeixi Culture Nu'erjia site (ca. tenth–second centuries B.C.), which may have assimilated cultural influences, especially burial practices and pottery, from Hexi Corridor through Yanbulake (Chen Ge 2002; Guo W. 2012; Shao 2018:393).

To date, only two IA1 mirrors have been unearthed from westernmost Xinjiang. The Kuokesuxi specimen at Ili was associated with a local post-Andronovo culture dated around the eighth to fourth centuries B.C. (Xinjiang Wenwu 2012a). Similarly, the Aletengyemule specimen at Tacheng has been tree-ring dated to as late as 210 B.C. (Xinjiang Wenwu 2017). It seems that the distribution of IA1 mirrors in western Xinjiang was quite sparse, in stark contrast to eastern Xinjiang.

The IA2 mirror exclusively circulated in the middle and eastern Tianshan Mountains. The archaeological cultures that have yielded IA2 mirrors include Tianshanbeilu, Chawuhu, Subeixi, and late Sa'en sai (ca. 1000–600 B.C.), which also contained a number of IA1 mirrors. It is noteworthy that the Sa'en sai bronze assemblage bears some resemblance to that of the nearby Subeixi and Chawuhu cultures (Shao 2018:392).

Like their IA counterparts, Type IB mirrors were scattered along the Tianshan Mountains, but occurred more frequently around the Junggar Basin in northernmost Xinjiang, which maintained close ties with contemporaneous cultures of southern Siberia. A few IB specimens were uncovered from the Yanbulake and Chawuhu

cultures along the eastern and middle Tianshan Mountains, which also yielded IA mirrors, as noted above.

Although several IIA mirrors were arrayed along the eastern and middle Tianshan Mountains, many come from the Ili River Valley and neighboring regions. The Jirentai goukou site that yielded the earliest IIA specimen is associated with the Andronovo cultural complex in Central Asia, where handled mirrors were popular. The remaining Ili specimens are linked to the subsequent Suodunbulake Culture (ca. 1100–100 B.C.), which to some extent assimilated Andronovo and Chust cultural elements from Central Asia (Chen Ge 2000; Han 2007:116; Ren R. 2018). The grip-and-loop structure, however, seems to have been unique to the Xinjiang IIA mirrors, representing a local adaptation of the type.

Most IIB mirrors link to archaeological cultures around the Tarim Basin, with a few distributed along the middle and eastern Tianshan Mountains as well as the Junggar Basin. Those unearthed in eastern Tianshan are attributed to the Chawuhu and Heigouliang cultures, which used IA mirrors as well. The Tuobeiliang and Haizikou specimens seem to have been associated with Pazyryk Culture (ca. sixth to second centuries B.C.) from southern Siberia, which was known for its widespread use of IIB mirrors. Two other IIB mirrors from the southern fringe of the Tarim Basin are linked to Late Zhaganluke Culture (fifth to first centuries B.C.), which was similarly influenced by Pazyryk (Shao 2008, 2018:417).

To date, no Type III mirror has been found in eastern Xinjiang. Of the extant specimens, one from Sa'en sai Tomb 82 and another from Subeixi Tomb 17 are linked to the Subeixi Culture along the middle Tianshan Mountains. A specimen found at Sa'en sai Tomb 37 is attributed to Okunev Culture (2000–1500 B.C.), a Bronze Age culture in the Minusinsk Basin, partly because of its earlier date, although the attribution is only preliminary. About 350 km southwest of Sa'en sai, one tomb in the Late Chawuhu Culture Qunbake cemetery yielded a Type III mirror along with an IIA1 mirror (Zhongguo Shehui and Xinjiang 1991:701). The other mirrors of the type are from northwestern Xinjiang. Along the western edge of the Junggar Basin, the Baiyanghe specimen, which is drilled with three holes on the fringe, is associated with a local post-Andronovo culture (Shao 2018:164). On the northern edge of the Junggar Basin, the Tuwa xincun and Suke'erte sites are associated with Pazyryk Culture to the north. The Tekesi and Shankou shuiku examples are ascribed to the Suodunbulake culture active in the Ili River Valley. The Ji'ertzankale specimens at Tashkurgan are linked to the Xiangbaobao cultural type (ca. 1000–300 B.C.) (Zhongguo Shehui et al. 2017), which seems to have had strong ties with the Andronovo (ca. 2000–900 B.C.) and Chust (ca. 1500–900 B.C.) cultures in neighboring Central Asia (Shao 2018; Shui 2001).

DISCUSSION

Diversity: A Typological Mosaic

Coexistence of different subtypes and even types of mirrors within a cultural sphere was not uncommon in prehistoric Xinjiang. At the Tuobeiliang site (ca. 500 B.C.) of the eastern Tianshan Mountains, where Yanbulake and Pazyryk cultural elements were present, archaeologists unearthed both grip (IIA1) and tanged (IIB1) mirrors. Heigouliang Culture from the same region has yielded IA1 and IIB1 mirrors. IA1 and

IB1 mirrors also coexisted at the Aletengyemule site on the western edge of Junggar Basin. On the northern fringe of Tarim Basin, the Qunbake cemetery contained four major mirror types—IA1, IB1, IIA1, and III. Ili's Jirentai goukou site in western Xinjiang yielded not only one IIA1 mirror but also a ceramic mold for casting a IA1 mirror, further attesting to the co-existence of non-grip mirrors and grip mirrors within an archaeological culture. This phenomenon indicates that no single mirror type was confined within a particular region or an archaeological culture. The shared and widespread uses of various kinds of mirrors exhibit prehistoric Xinjiang inhabitants' common interest in these portable objects.

As this study shows, material and cultural diversity is a distinctive characteristic of Xinjiang mirrors. The artistic diversity of mirrors from late prehistoric Xinjiang far exceeds that of the Central Plain, where early mirrors were relatively sparse and show limited design variations (Jaang 2011; Kong and Yiman 1984, 2001; Wang G. 2015; Wu X. 2017). Prior to the fifth century B.C., mirrors in the Central Plain were sporadic and mainly Type IA (Wu X. 2017), a stark contrast to the heterogeneous and dynamic landscape of mirrors in Xinjiang.

Fluidity: Revisiting the Knob versus Grip Dichotomy

By general consensus, Chinese academia has placed early mirrors across the Eurasian continent into two major categories—those with central knobs (*juniu jing* 具纽镜) and those with tangential handles (*jubing jing* 具柄镜). These two have been conceived as completely separate, independent artistic traditions that purportedly match two cultural systems, with the vertical grip mirror epitomized by the Western (Egyptian-Greek-Roman) tradition versus the circular knob mirror of the Eastern (Chinese) tradition (Gao Q. 1958; Kong and Yiman 1984; Tan 2017). The morphological fluidity of prehistoric Xinjiang mirrors challenges this seemingly incommensurable dichotomy. In other words, the cultural gulf between grip and knob mirrors was not unbridgeable, at least not in Xinjiang.

First of all, the very existence of Type III mirrors problematizes the taken-for-granted binary. As the above discussion has revealed, mirrors under this category are cast without knobs or handles. Manufacturing mirrors of this type seems the most economical and least technically demanding, as no knob, handle, or flange had to be molded together with the circular disc. On average, each mirror measures about 10 cm in diameter, which would allow the user to comfortably cup the disc in the hand. A Type III mirror might sometimes have been repurposed into a grip mirror by drilling two or three small apertures near the fringe, as exemplified by the Baiyanghe, Kezijia'er, Suke'erte, and Subeixi specimens. The same method can be traced back to the beginning of the second millennium B.C. in the Hexi Corridor. At the Gamatai site of the Early Bronze Age Qijia Culture (2300–1600 B.C.) in Guinan county, Qinghai province, a IA2 mirror (Fig. 10a), sometimes labeled the “earliest Chinese mirror,” shows two small apertures drilled at the edge of the disc; excavators found traces of wood in the holes and surmised that a wooden handle had once been attached to the disc (Qinghai and Beijing 2016:130). In other words, a knob mirror could be transformed into a grip mirror by drilling a few holes and attaching a handle to the edge.

Likewise, a grip mirror could use a knob for attachment. Mirrors with a vertical grip were the most typical form in Egyptian and Greco-Roman civilizations. However, the

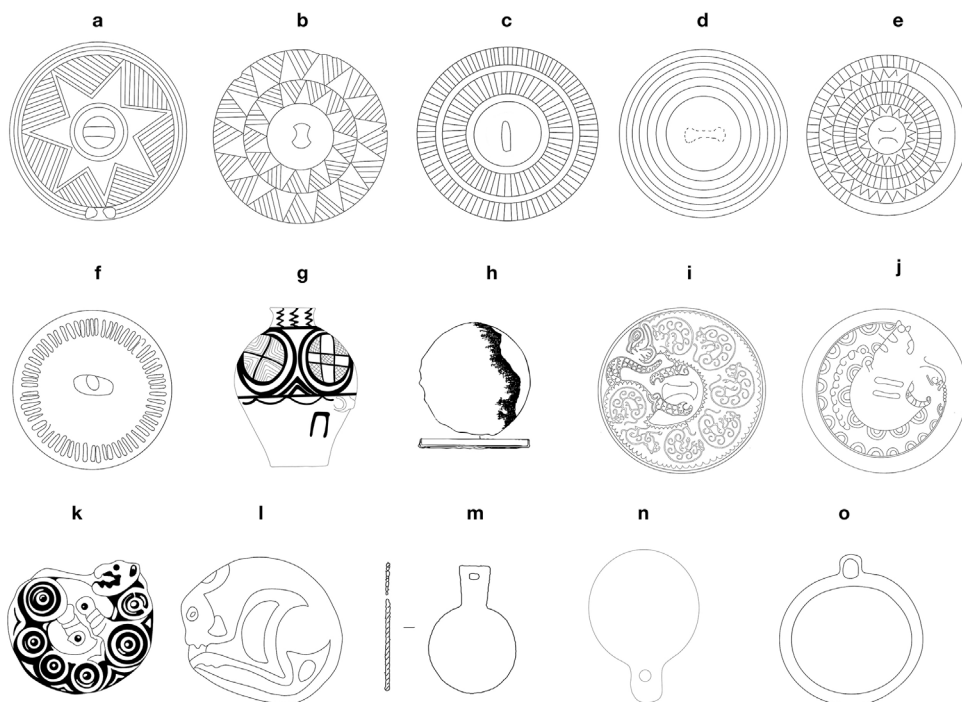


Fig. 10. Early mirrors and other objects from the Chinese highlands: (a) Gamatai mirror (Qinghai and Beijing 2016:130); (b) Linxia mirror (Wang G. 2015:10); (c) Pingliang mirror (Gao A. 1991:95); (d, e) Houqianyi mirror (Zhang Wenrui 2017:17); (f) Daohugou mirror (Guo D. 1987:87); (g) Machang type pottery jar (Wenwu 1979:162); (h) Ningcheng mirror (Neimenggu and Ningcheng 2009:389); (i) mirror in the collection of the Museum für Asiatische Kunst Berlin (Wagner and Butz 2007:45); (j) mirror in the Moriya Collection (Umehara and Harada 1955:256); (k) Ordos plaque (Wu E. 2008:245); (l) Ningcheng plaque (Neimenggu and Ningcheng 2009:289); (m) Pingshan Sanji mirror (Hebei 1987:173); (n) Linze Haowa mirror (Zhang Wenli 2002:59); (o) Tianshui Majiayuan mirror (Gansu 2014:65) (tracings by Doris Yixuan Tang).

Xinjiang grip mirrors are not identical to these western counterparts because their handles usually feature small perforated knobs or holes through which some sort of cords could be passed to securely attach the mirror to a waistband or riding saddle. The Wupu mirror from Hami is an example (Fig. 4a). At the bottom of the long handle is a loop-shaped knob measuring about 1 cm in height and tied with a leather strip.

In addition to the grip-and-loop structure, Xinjiang mirror makers drilled holes into the terminus of the grip; straps could be passed through these holes and tied. As discussed above, the short tangs of IIB mirrors, likely derived from IIA mirrors, could be used as handles when wrapped with leather or other casing. Furthermore, the wide perforation at the center of the tang invites its user to pull through a textile ribbon or leather belt to tie the mirror to a waistband or saddle.

Such morphological fluidity blurs the assumed boundary between grip and knob mirrors, suggesting that they were not strictly distinguished by the mobile pastoralists of the steppe. It further implies that many prehistoric cultures in Xinjiang stood

between and embraced the two mirror traditions. Like many other material phenomena, these morphologically fluid mirrors reflect convergences of different cultural forms within and outside Xinjiang.

Connectivity: Transcontinental Exchange

The evidence of local metallurgy associated with mirror production in prehistoric Xinjiang is very limited and it is impossible to determine with certainty where any of the known Xinjiang mirrors were cast. That said, it is possible to discern preliminary patterns in the movements of the mirrors and relevant metallurgical and cultural knowledge.

Prehistoric Xinjiang mirrors did not develop in isolation; rather, external impetus was a crucial factor in stimulating regional developments. Bronze Age and Early Iron Age cultures in Xinjiang connected with their neighbors to the east, west, and north. Some contacts were sporadic, small-scale, and indirect, while others were direct, large-scale, and frequent. This interconnectedness is discernible in stylistic analogues between the Xinjiang mirrors and counterparts across the steppe, where the presence of mirrors of all the major types and subtypes suggests transregional styles. Thanks to multiple routes across the mountains, grasslands, and deserts that enabled migration and trade between Xinjiang and neighboring regions—especially Central Asia, southern Siberia, and the Chinese highlands (Frachetti 2012; Jaang 2011, 2015; Mei 2000; Shao 2018; Yang et al. 2016)—bronze mirrors were widely coveted by different groups of nomadic peoples.

Late prehistoric Xinjiang maintained close ties with Central Asia. Starting from the second millennium B.C., networks of mobile pastoralists and traders connecting Xinjiang and Central Asia prompted eastward travel of objects, design, and metallurgical knowledge (Chen and Hiebert 1995; Frachetti 2012). The relationship was reciprocal. Painted pottery and stone sickles attributed to Chust Culture in Fergana Valley might have been introduced from Xinjiang (Guo W. 2012; Mei 2000). On the other hand, Central Asian mirrors were one possible outside stimulus for the early development of IA1 and IIA1 mirrors in Xinjiang.

Regular interactions between southern Siberia and China proper began no later than the eighth century B.C. (Marsadolov 2012). There are close resemblances between burial practices such as the body in a flexed position, horse sacrifice, and various kinds of metal artifacts at Siberian sites and those observed at several archaeological sites along Xinjiang's Altai and Tianshan ranges during the first millennium B.C. (Ma 2008). It is thus not surprising to see many parallels between Xinjiang mirrors and those from southern Siberia. Except for Type IA2 and Type III, almost all the major types of mirrors were widespread in the prehistoric cultures of Xinjiang's northern neighbor, indicating continual cultural exchange between the two regions.

The Chinese highlands also frequently interacted with Xinjiang during the second and first millennium B.C. Previous scholarship has contended that bronze metallurgy and artifacts such as bronze mirrors moved eastward from Xinjiang (Fitzgerald-Huber 1995; Jaang 2011; Liu 1999; Li S. 2005; Mei 2009), while painted pottery spread westward from Hexi Corridor into Xinjiang (Liu 2016; Mei 2009). This article revises the hypothesis, arguing that the corridor was also an early center of mirror design and production that spurred the circulation of IA mirrors in Xinjiang.

Type IA Mirrors — It has been assumed that IA1 mirrors originated in Central Asia (Jaang 2011; Mei 2012; Rubinson 1985). There is no doubt that Bronze Age Central Asia was an early center for incubating the material culture of IA1 mirrors in the steppe. To date, a number of IA1 mirrors have been unearthed from Late Bronze Age sites in Khoresmia, Samarkand, Fergana, the Amu Darya delta, and Zhetysu, all of which are dated from the late second millennium to the beginning of the first millennium B.C. (Kuzmina 2007:409; Rubinson 1985:47). In other words, the circulation of IA1 mirrors in Central Asia was more or less concurrent with counterparts in eastern Xinjiang, where the Yanbulake mirrors date from 1350 to 950 B.C. (Zhang et al. 2016). The Tianshanbeilu specimens (1800–1600 B.C.) even predate their Central Asian counterparts. By comparison, the dating of the IA1 mirrors from western Xinjiang adjoining Central Asia is much later (around 500 B.C.), making it clear that the earliest IA1 mirrors in Xinjiang did not necessarily originate in Central Asia.

If the IA1 mirrors at Tianshanbeilu and Yanbulake of eastern Xinjiang did not come from Central Asia, does it mean that they originated independently? The latest archaeological evidence suggests looking for the source of inspiration farther east towards Hexi Corridor. At the newly excavated Xichengyi site (2100–1600 B.C.) in Zhangye, about 450 km southeast of Hami, archaeologists uncovered a foundry site with evidence of bronze casting activities, including slag, copper ores, crucibles, bellows, mace-head bivalve molds and, most interestingly, a stone mold for an IA1 mirror dated prior to 1700 B.C. (Chen Guoke 2017; Chen et al. 2015) (Fig. 11). The established “chain of metallurgical operations at Xichengyi” (Jaang 2015:190) forms a stark contrast with the relative paucity of finished products, indicating that the Xichengyi bronze foundries manufactured mirrors and other artifacts for peoples beyond the local community. Evidently, the influence of the metallurgical center along the Hexi Corridor reached Hami’s Tianshanbeilu Culture, which had a material cultural affinity with Xichengyi and other related sites (Chen Guoke 2017; Jaang 2015; Zhang et al. 2016). The physical traits of inhabitants in the two regions also seem to indicate close similarity (Wei 2017:108). It is thus reasonable to propose that eastern stimulus from the Hexi Corridor was at least partly responsible for the initial circulation of IA1 mirrors in Xinjiang.

Decorated IA2 mirrors were preferred over plain IA1 mirrors in Hexi Corridor and across the Chinese highlands (Fig. 10). Considering their near absence in Central Asia and southern Siberia, the IA2 mirrors with geometric decorations found in Hami again point to the interactions between eastern Xinjiang and the Hexi Corridor (Mei 2000, 2003b). The best-known example is the aforementioned Qijia Culture Gamatai mirror (Qinghai and Beijing 2016:130); its back is adorned with several blocks of parallel lines that define the empty area as a seven-pointed star. This star design reminds one of the Jiayi mirror from Turfan, eastern Xinjiang. The second IA2 specimen, a chance find uncovered in Linxia, Gansu, is adorned with triangles of parallel lines alternating with empty triangles arranged in three concentric rings (Zhongguo Qingtongqi 1998:2). The third IA2 example, accidentally found at a waste recycling station in Pingliang (Gao A. 1991), Gansu, shows two concentric circles filled in with short radial lines. Its design looks quite similar to that of the Tianshanbeilu and Mohuchahan mirrors.

Liu Xuetao has speculated that the IA2 mirrors in the Hexi Corridor were imported from eastern Xinjiang (Liu 1999), but current evidence is insufficient to offer a conclusive answer. Considering that Qijia Culture is dated earlier than Tianshanbeilu

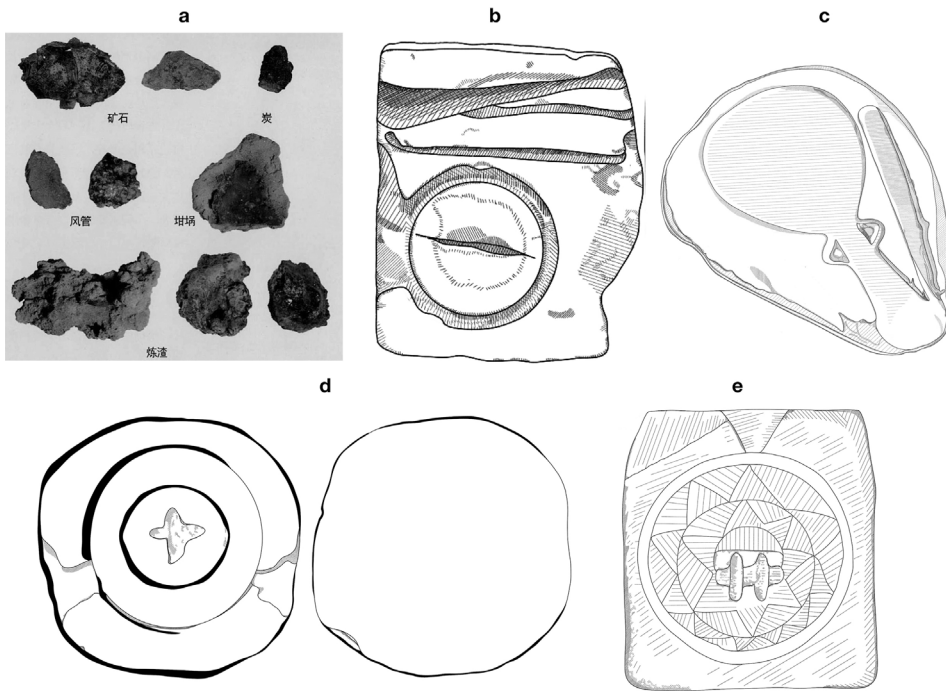


Fig. 11. Stone and pottery mirror molds and other metallurgical remains from Xinjiang and the Northern Zone: (a) Jirentai goukou smelting remains (Ruan 2019:16); (b) Jirentai goukou mold (Xinjiang Wenwu et al. 2017:67); (c) Yining mold (Liu and Li 2008:57); (d) Xichengyi mold (Guoke Chen Guoke 2017:40); (e) Dongfeng dajiahsan mold (Bai 2010:4) (tracings by Doris Yixuan Tang).

Culture, it is plausible that Qijia artisans first experimented with geometric décor, which then inspired the Tianshanbeilu mirror makers to the immediate west.

Tracing the extensive circulation of geometric décor reveals the popularity of IA2 mirrors across the entire Chinese highlands, ranging from the Ordos region of Inner Mongolia (Andersson 1932; Tian and Guo 1986:143) to the Houqianyi site of northern Hebei (Zhang W. and Zhai 2016) and the Daohugou site of southern Liaoning (Guo D. 1987). While the Ordos specimens are chance finds without reliable dating, the Houqianyi and Daohugou mirrors are dated around the twelfth century B. C., later than the IA2 mirrors from Xinjiang and Hexi Corridor. It is clear, however, that these later IA2 mirrors in the northeastern highlands were not created by imitation but through active appropriation, as none of the mirror decorations are identical. Four stone molds of Type IA2, uncovered from Jilin and dated to around the fifth century B. C., affirm this point (Man 1987; Tang 1992; Zhang Y. 1990). For example, in the Dongfeng mold (Fig. 11), the triangles filled with slanting lines show stylistic affinity with the Gamatai and Linxia specimens, although nuanced differences are also evident. Compared with the single-looped mirrors from Hexi Corridor, the molds from the northeastern highlands are carved with double loop handles at the center, a typical feature of locally produced mirrors in the Far East during mid-first millennium B.C.

Type IB Mirrors — The earliest known flanged IB1 mirrors trace back to mid-second millennium B.C. in the Sappali Culture of southern Uzbekistan (Chernykh 1992) and

late second millennium B.C. in the Andronovan settlement at Stepnyak, northern Kazakhstan (Kuzmina 2007:410). While the IB1 subtype originated in Central Asia, it proliferated in southern Siberia (Fig. 12). Two of the most exquisite specimens of this kind were unearthed from Arzhan kurgan no. 2 in Tuva dated to the end of the seventh century B.C. (Cugunov et al. 2006, 2010; Simpson and Pankova 2017). The mirror owners, a couple whose lavish burial contained more than five thousand gold items, have often been identified as a Scythian ruler and his wife, even though there is no evidence that the pastoralists buried at Arzhan were Scythians. Around the seventh and sixth centuries B.C., variants of the flanged mirror were distributed at royal Scythian burials in Kelermes and among early Scythian remains throughout the northern Caucasus (Rubinson 1985). As a result, the IB1 mirror is sometimes labelled the “Scythian type” (Kuzmina 2007:104). However, the dynamic nature of mirror circulation and production refutes a simple causal linkage between Scythian expansion and IB1 mirrors in Xinjiang.

No Type IB1 mirror has been uncovered in the Central Plain or Hexi Corridor. The easternmost appearance of this subtype is Ningcheng, eastern Inner Mongolia, where the Xiaoheishigou and Nanshangen cemeteries yielded six IB1 mirrors in total

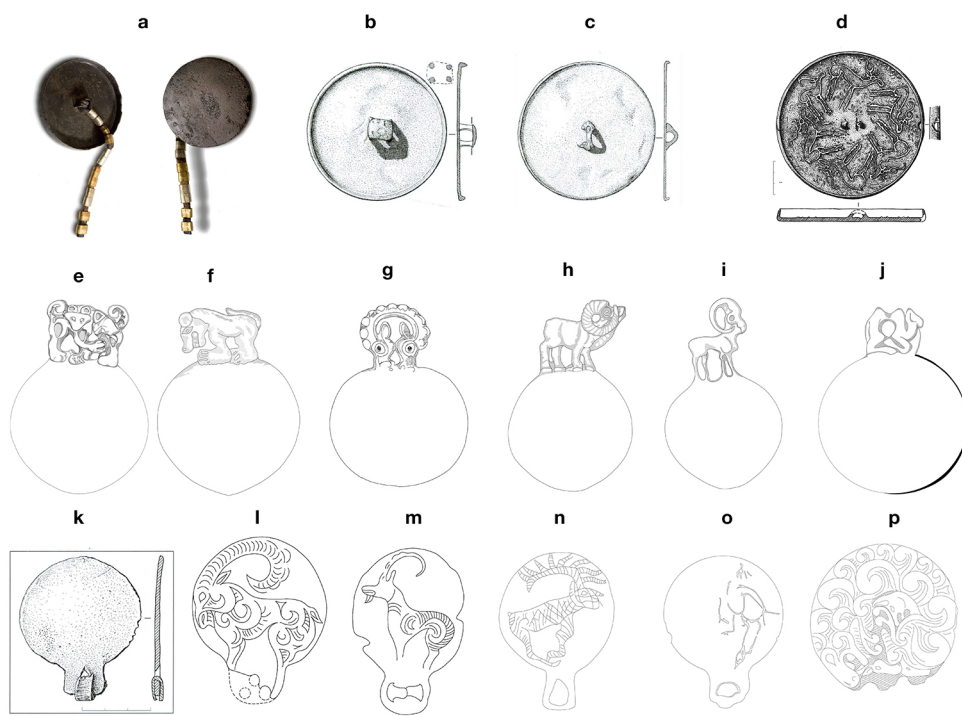


Fig. 12. Early mirrors from southern Siberia: (a) Arzhan kurgan no.2 (Cugunov et al. 2006:42); (b) Altai (Tishkin and Seregin 2012:18); (c) Altai (Tishkin and Seregin 2012:19); (d) Bukhtarma, Altai (Tishkin and Seregin 2012:79); (e) Tuva (State Hermitage Museum, no. 2351–286); (f) Tuva (Wu E. 2008:194); (g) Minusinsk (Gosudarstvennyĭ 1991:179); (h, i) Minusinsk (Wu E. 2008:194); (j) Altai (Korolkova 2000:203); (k) Tytkesken, Altai (Tishkin and Seregin 2012:31); (l) Tuva (Wu E. 2008:194); (m) Tuva (Kubarev 1996:325); (n) Ulaangom (Kubarev 1996:325); (o) Ulaangom (Kubarev 1996:324); (p) Justdy, Altai (Kubarev 1996:322) (tracings by Doris Yixuan Tang).

(Liaoning and Zhongguo 1973:35; Neimenggu and Ningcheng 2009:389) (Fig. 10). The two sites are linked to Upper Xiajiadian Culture and dated around the ninth and early eighth centuries B.C. As contemporaneous southern Siberian cultures had close ties with Upper Xiajiadian during this period (Yang et al. 2016), it is likely that the Ningcheng mirrors were imports from southern Siberia or local imitations.

In contrast to the prolific discoveries of IB1 mirrors, very few IB2 specimens have been excavated in the steppe. One flanged mirror, adorned with six elks in thread relief, is a stray find from Bukhtarma, Russian Altai (Tishkin and Seregin 2012:92) (Fig. 12d). This exquisitely cast IB2 mirror is associated with the Arzhan–Maiyaemir period of Pazyryk Culture from the late seventh to early sixth century B.C., although the differences between the Bukhtarma mirror and the Chawuhu specimens in terms of motif and composition are notable. Two other IB2 specimens are said to be from the eastern loess highlands. One, a chance find with raised flange and zoomorphic décor is stored in the Japanese Moriya collection (Umehara and Harada 1955) (Fig. 10j). This unprovenanced mirror, allegedly exhumed from Inner Mongolia, has a double-ring knob encircled by a coiling feline in thin-thread relief. The second example, currently at Berlin’s Museum für Asiatische Kunst (Wagner and Butz 2007), is decorated with a feline motif showing close stylistic affinity with the Chawuhu mirrors (Fig. 10i). The collector Hans Bidder’s record indicates that it was originally retrieved from the Ordos region.

As previous scholarship has revealed, coiled carnivore images were prevalent decorations on small bronze ornaments, especially belt plaques, across the expansive Eurasian steppe during the ninth and fifth centuries B.C. Some scholars insist on a single origin of the motif, tracing it back to the eastern Pontic–Caspian steppe (Kossack 1998). Others, however, entertain multiple origins, proposing that the curled tiger motif originated in Upper Xiajiadian Culture from the eighth to seventh centuries B.C. (Lin 2008; Wu E. 2002). Consequently, Lin Yun has labeled the Berlin mirror as a product of the Upper Xiajiadian Culture, which is known for its early adoption of the curved feline motif (Lin 2008). It should be noted, however, that no Upper Xiajiadian sites have yielded an IB2 mirror and, rather than resemble the Upper Xiajiadian example from Ningcheng, the curled feline motif of the Chawuhu mirrors seems more similar to that of the bronze plaques from Ordos (Fig. 10k–l).

Type IIA Mirrors — To date, we have no grip mirrors from the Bronze Age and Early Iron Age cultures of the Hexi Corridor or Chinese highlands at large. By contrast, late Bronze Age (ca. 1800–1500 B.C.) Central Asia had an early and flourishing tradition of IIA1 mirrors (Fig. 13). One of the earliest extant examples is a grip mirror unearthed at the cemetery of Kangurtut in the Vakhsh Valley of southern Tajikistan (Vinogradova and Lombardo 2002:81). Parallel examples of mirrors with projecting handles have turned up at a number of sites associated with the BMAC sites in Central Asia, especially at Sapalli in southern Uzbekistan and Dzharkutan in northern Tajikistan (Kuzmina 2007:408). Furthermore, there is evidence of local production in several stone molds of Type IIA1 from the Chust culture in the Fergana Valley of eastern Uzbekistan, which borders western Xinjiang (Zadneprovsky 1962:269). Central Asian artisans designed both plain grips and anthropomorphic handles. One such example, uncovered in Sapalli, southern Uzbekistan, is a highly stylized human-shaped handle with the arms akimbo and the head merging with the disc (Dani and Masson

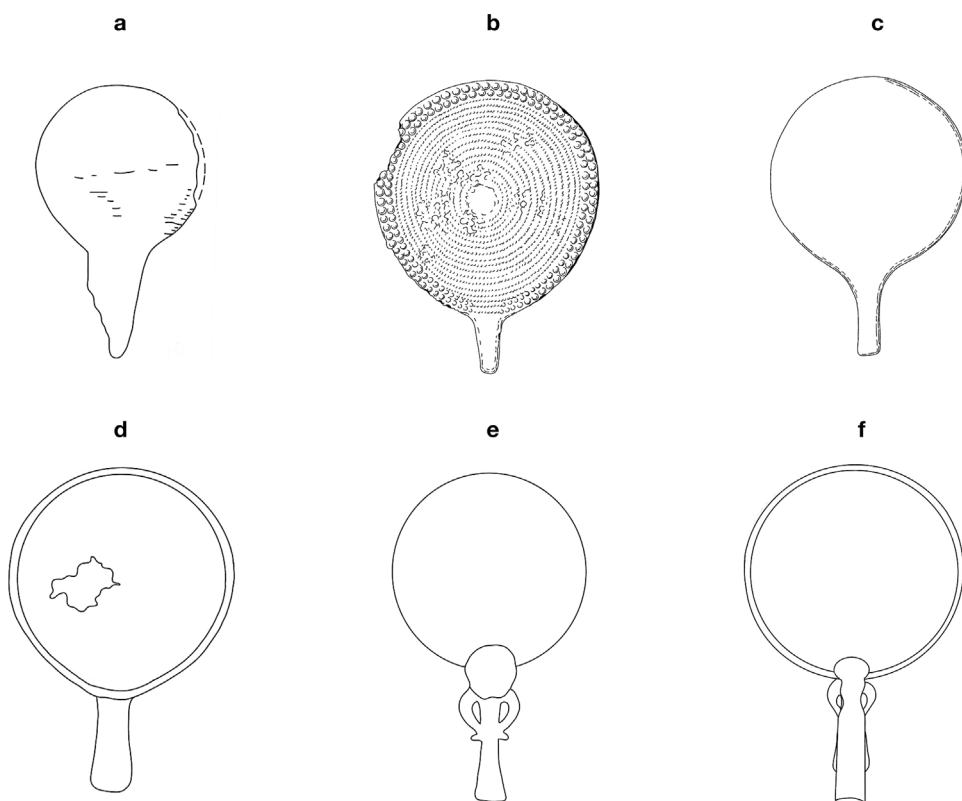


Fig. 13. Early mirrors from Central Asia: (a) Kangurtut (Vinogradova and Lombardo 2002:109); (b) Tepe Hissar (Yule and Schmidt 1982:22); (c) Tepe Hissar (Yule and Schmidt 1982:25); (d) Tepe Hissar (Vinogradova and Lombardo 2002:111); (e) Bactria (Louvre Museum no. 28539); (f) Sapalli (Dani and Masson 1992:341) (tracings by Doris Yixuan Tang).

1992:341). A nearly identical example has been found in the same region (Pierre 1977:115).

Is it possible that some of the IIA1 Xinjiang mirrors were imports from these Central Asian cultures or at least inspired by Central Asian counterparts? The short answer is yes. As others have observed, western stimulus was to some extent responsible for the inauguration of rudimentary bronze metallurgy in Ili (Wang L. et al. 2019). Copper and bronze objects such as shaft-hole axes, sickles, and cauldrons from Ili find parallels in the adjacent Andronovo cultural complex (ca. 2000–900 B.C.) of Kyrgyzstan and Kazakhstan.

It may not be a coincidence that the earliest remains of mirror production, several stone molds dated to the beginning of the first millennium B.C., have turned up in the Ili River Valley (Fig. 11). In addition to three stone mirror molds uncovered in Yining and Tekesi, archaeologists found stone molds for axes, spades, spears, awls, and hairpins in this region (Liu and Li 2008), which indicate organized and developed metallurgical activities around 1000 B.C. The Yining stone mold, 16.5 cm in length and 12 cm in width, casts a mirror with an elliptical disc and a long handle gradually widening from top to bottom. A pair of small curved rings attach where the handle adjoins the disc. Its

formal affinity with the aforementioned Sapalli mirror is indisputable and verifies that Ili mirror artisans had close ties with Central Asia. But interestingly, no actual mirror in this shape has been uncovered within Xinjiang. It may be that the finished products made in Ili were exported to neighboring communities to the west but not to the east. The morphological difference between the Ili stone molds for casting grip mirrors and excavated IIA1 specimens in Xinjiang also demonstrates that diverse sources of production and localized varieties evolved from the prototypical grip mirror in Central Asia.

Contrasting with its long, thriving IIA1 tradition, Central Asia has yielded very few IIA2 finds. Mirrors with tangential zoomorphic handles in Xinjiang seem to have been primarily connected with counterparts that emerged in southern Siberia during the first millennium B.C. (Fig. 12). Some southern Siberian IIA2 mirrors represent a single standing animal, such as an ibex, Bactrian camel, or feline, all of which are indigenous to the steppe. Others are shaped to depict animals in combat or have looped rings terminating with two identical animal heads (Korolkova 2000:203; Kubarev 1996; Tishkin and Seregin 2012; Wu E. 2008). Two of the Minusinsk mirrors, one representing an ibex and another an argali sheep with large corkscrew horns, echo the ibex handles of their Xinjiang counterparts despite the enormous geographic distance between those sites. The IIA2 mirrors found in the Altai Mountains have been associated with Pazyryk Culture and those from the Minusinsk Basin are attributed to Tagar Culture.

From the tenth through second centuries B.C., the semi-mobile Tagar people prospered in the Minusinsk Basin, where the Sayan Mountains surrounded its grasslands (Bokovenko 1995b, 2006). Equipped with highly developed bronze metallurgy, Tagar artisans created diverse representations of animals typical of the local fauna. The most popular zoomorphic motif was the sculpted argali sheep (Shao 2016), which decorated not only mirrors but also cauldrons, finials, and helmets. The cross-media phenomenon is evident in a bronze finial surmounted by an ibex unearthed at Hami's Baiqi'er cemetery (Hami 2013:160), which closely resembles that of the Weizixia mirror from the same region (Fig. 4m,p). Bronze finials with animal sculptures abounded in southern Siberia as early as the ninth to eighth centuries B.C. (Yang et al. 2016:230–232) and gradually spread southward and eastward to Xinjiang and the Chinese highlands (Wu E. 2008). It is now clear that sculpted animals on finials and mirrors belonged to the same repertoire.

Type IIB Mirrors — At about 500 B.C., the tanged mirror adorned with zoomorphic motifs in relief sprung up in parts of southern Siberia (Fig. 12). Like that of the IIA2 mirrors, IIB2 décor appears highly individualized, ranging from ibex to stags, horses, and animal combat scenes. The IIB2 mirror with a broken and missing tang unearthed from the Justyd valley of Altai (Kubarev 1996:322) is decorated with a stylized feline that shows close affinity with the IA2 mirrors from Chawuhu. Dated between the fourth and third centuries B.C., the Justyd mirror represents cross-type borrowing and a later development of the motif. Ulaangom in northern Mongolia has yielded two Type IIB2 mirrors, one engraved with a stag in profile (Wu E. 2008:194) and another with the contour of a horse (Kubarev 1996:324). Tuva, northeast of Ulaangom, has yielded the richest finds of tanged mirrors with zoomorphic engravings of ibex, stags, horses, and animal combat (Bokovenko 1995a; Kubarev 1996). On several IIB mirrors from Tuva, engravings of the ibex echo the sculpted ibex of IIA2 mirrors in Xinjiang. The

Tuva IIB2 mirrors are attributed to the late stage of Uyük–Sagly Culture in the fifth and fourth centuries B.C. (Bokovenko 1995a). Considering that tanged mirrors with zoomorphic motifs were widespread in Tuva, it is highly likely that the Haizikou mirror was an import from the region or a local imitation of that style.

Plain IIB1 mirrors often coexisted with IIB2 mirrors in southern Siberia (Kubarev 2001; Moyer 2012:150; Tishkin and Seregin 2012). A mirror unearthed at Tytkesken, Altai is attached to its hollowed tang with a leather strap, similar to the IIB1 mirror from Xinjiang's Chawuhu. These Altai mirrors are assigned to Pazyryk Culture during the fifth and fourth centuries B.C. (Tishkin and Seregin 2012). Almost concurrently, IIB1 mirrors appeared in the second phase (500–300 B.C.) of Tagar Culture at Minusink (Kiselev 2014:266).

No IIB2 mirror has been found in the Chinese highlands or the Central Plain, even though findings of IIB1 mirrors have been sporadically reported in the former region (Fig. 10). Like their Xinjiang counterparts, these mirrors have short tangs with either wide apertures or narrow holes pierced at the distal end (Neimenggu 1989:66; Neimenggu and Neimenggu 1977:112). The mirror unearthed at Sanji, Pingshan, Hebei province (Hebei 1987:173), for example, closely resembles the IIB1 mirror found in Sawudieger, Xinjiang. The circulation of this mirror type in Hexi Corridor is further attested by three mirrors respectively excavated at the Haowa site in Linze (Zhang Wenli 2002) and Majiayuan site in Tianshui (Gansu 2014). The Haowa example is largely the same as the IIB1 mirrors in Xinjiang. In the case of the Majiayuan specimens, however, the tang is evolved into a semicircular loop, which probably represents a local adaptation of the design. Most of the mirrors are dated around the fourth century B.C., slightly later than some of their counterparts in Xinjiang and southern Siberia.

Type III Mirrors — It has been assumed that plain discs with flat rim but without knob (Type III) were predecessors of IA1 mirrors in Central Asia (Jaang 2011; Mei 2012; Rubinson 1985). The earliest known mirrors of this type appeared in Stage III of the Namazga culture during the late fourth millennium B.C. (Chernykh 1992; Masson and Sarianidi 1972:116) and the Bactria–Margiana Archaeological Complex (BMAC), a Bronze Age civilization of Central Asia dated from 2100 to 1700 B.C. (Kuzmina 2007:408). However, this presumed linear development from the knobless round mirror with flat rim to the flat-rimmed knob mirror should not be taken for granted and requires more evidence. In the case of Type III mirrors in Xinjiang, the majority fall into the time span of the first millennium B.C. and a few as late as the first century B.C., which means that this mirror type may not be simply taken as a prototype for IA1 mirrors.

Adaptability: Local Transformation and Production

Scholars often debate whether the presence of a certain technique or product in a certain region indicates diffusion or independent invention. The above discussion shows that external stimulus from Xinjiang's east, west, and north spread relevant designs and knowledge into Xinjiang. While the late prehistoric inhabitants of Xinjiang may have borrowed certain mirror forms and metallurgical techniques from adjacent areas, there is no reason to neglect or downplay their ability to adapt and develop traditions of mirror production and use.

When a certain mirror type originating in one region was disseminated to another, on many occasions the artisans of the second region did not merely imitate the original design but altered it. This explains why so many variations of the same type exist. For instance, albeit stylistically similar, each IA2 mirror's geometric pattern appears unique. The variety suggests that these mirrors were neither standardized nor produced by the same workshop but more likely the products of local and even individual preferences. Likewise, the zoomorphic motifs decorating the IB2, IIA2, and IIB2 mirrors were simultaneously transregional and local. No matter whether it is a feline or an ungulate, every motif is recognizable and specific to the region, perhaps inspired by local fauna. Despite their stylistic affinities, each ibex on a grip mirror with zoomorphic handle (IIA2) takes a somewhat unique form. The individuality of each ibex in the Xinjiang mirrors is further accentuated by comparison with the two aforementioned Minusinsk examples adorned with the ibex. Another major difference between the Minusinsk and Xinjiang specimens is that the former discs are fashioned in an oval or medallion-shape, which may have been a regional characteristic in southern Siberia (Chlenova 2000).

Local mirror-making adaptations were also manifest in the different techniques—soldering, riveting, or inserting—employed to affix the handles of the three Xinjiang IIA2 mirrors. Furthermore, Xinjiang artisans made handles using local raw materials such as iron and wood. For instance, the Jiaohe goubei and Baluntai mirrors each has a long, iron grip soldered onto the rim of the disc (Lianheguo et al. 1998:63; Xinjiang Weiwu'er et al. 1997:177) (Fig. 4e–f). Turfan's Shengjindian cemetery, dated to the second and first centuries B.C., even yielded two composite mirrors, each of which consist of a fragmented bronze disc framed by a wooden handle (Tulufan 2013) (Fig. 4l). While inheriting the basic grip feature, these Turfan specimens appear quite distinct from the Sapalli grip mirrors, again affirming that a Xinjiang IIA1 mirror cannot be simply treated as a slavish copy of its Central Asian precedent.

The widespread and diverse circulation of mirrors in Xinjiang strongly suggests that localized mirror production must have existed. Discoveries of mirror manufacturing facilities have been sparse because most excavations in Xinjiang have been limited to tombs and because molds and other production tools may not have been treasured as burial objects. Recent excavations, however, reveal evidence of local IA1 and IIA1 mirror production in western Xinjiang, including remains of a bronze foundry and molds for mirror casting (Fig. 11).

The bronze foundry at Jirentai goukou in Ili is carbon-dated from the sixteenth to fourteenth centuries B.C. (Wang and Ruan 2015, 2016; Wang Y. et al. 2019; Xinjiang Wenwu et al. 2017). Archaeologists uncovered from the site fragments of copper ores, slag, furnaces, crucibles, blowpipes, stone molds, and, most importantly, a bivalve ceramic mold that measures 12 cm long, 9.8 cm wide, and 4.4 cm thick (Xinjiang Wenwu et al. 2017). Judging from the photograph provided in the report, this mold was used for making the IA1 plain knob mirror with flat rim. It is a composite mold for casting not only a plain knob mirror but also a bronze awl.

There is evidence of IIA1 mirror manufacturing in the Ili Valley as well. As noted in the previous section, three stone molds, including two unfinished specimens from Tekesi and a complete example from Yining, date to the turn of the first millennium B. C. (Liu and Li 2008). In the Yining mold, along with the sunken impression of the mirror is the hollow cavity of an awl, a composite design similar to the Jirentai goukou mold. Ili mirror artisans may have relied on local sources, as deposits of copper ores

were rich in the area, as evidenced by three prehistoric copper mine sites: Nulasai (Mei and Li 1998), Yuantoushan (Wang M. 1984), and Kezile kecangbei (Wang Y. et al. 2019). At the Nulasai site, archaeologists have excavated more than a dozen ancient mining shafts and a large quantity of slags. Several other ancient copper mines have been uncovered in northern and eastern Xinjiang as well (Qian W. 2006:31). Further investigation of smelting and casting workshops in these areas will enable us to gain a clearer understanding of mirror production on the local level.

CONCLUSION

Regardless of where the mirrors were manufactured, the single origin approach can hardly capture the polycentrism of late prehistoric mirrors in Xinjiang. Elaborating on his notion of connected histories, Subrahmanyam (2005) observes that the history of a region cannot be seen in isolation, as objects, designs, ideas, and peoples flowed across political and cultural borders through a porous network. The circulation of early mirrors makes visible such connected histories centered upon Xinjiang during the last two millennia B.C. Late prehistoric Xinjiang was a hub of exchange and interaction between numerous ethnic and cultural groups near and far. In other words, mirror circulation entailed diverse, fluid, connected, and localized processes of cultural exchange.

First, diversity is manifest in the richness and variety of mirror types. Although archaeological research tends to match certain types of objects with discrete cultural units, geo-cultural analysis of early Xinjiang mirrors captures circulation patterns transgressing spatial-cultural boundaries. Second, prehistoric Xinjiang mirror designs were fluid in that they do not easily fit into the neat classificatory scheme of mirrors from the Mediterranean and Chinese worlds. Rather, mirror artisans and users actively adapted, combined, and transformed a diverse array of mirror styles incompatible with the assumed dichotomy of knob versus grip mirrors. Transcontinental connectivity is another important feature of early mirrors in Xinjiang, a crossroad of the Eurasian continent. Frequent and multiple exchanges across all parts of the steppe generated pan-regional styles and facilitated transfer of mirror casting techniques and designs. Last but not least, it is apparent that the agency of local artisans was pivotal. They adapted and localized new mirror forms originated elsewhere.

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NOTES

1. Chen Kwang-Tzsu and Fredrik T. Hiebert (1995) proposed 400 B.C. as the end point of the prehistory of Xinjiang, but Chinese archaeologists generally accept 200 B.C. as the end of prehistoric Xinjiang (Guo W. 2012:25–27; Shao 2018:2). The underlying rationale behind the second view is that there is

no extant textual account about Xinjiang prior to the expedition of Zhang Qian (d. 114 B.C.), a diplomat of the Western Han Dynasty (206 B.C.–8 A.D.), to this region during the late second century B.C. Therefore, this article adopts the second view. The end point of the periodization happens to correlate with the introduction and frequent importation of Han-style mirrors to Xinjiang in the second century B.C.

2. Even though the majority of unearthened mirrors are too rusty to yield a mirror image, the polished frontal surface of a few well-preserved specimens still manifests their specular reflectivity as mirrors. For example, a flat-rimmed knob mirror adorned with radial lines unearthed from Pingliang, Gansu still shimmered upon excavation (Gao A. 1991). Another flat-rimmed mirror without a knob unearthed from Sa'en sai Tomb 82 in Xinjiang's Urumqi also remains partially reflective (Xinjiang Wenwu 2013: plate 53). For another example, a stray find with raised flanges found by Sven Hedin in Gansu and currently collected at the Museum of Far Eastern Antiquities, Stockholm, still reveals a polished frontal side (see carlotta.smvk.se/carlotta-em/web/object/1016700).
3. The Chinese highlands is a vast arc of grasslands interspersed with deserts, brushlands, waterways, and mountain passages stretching from Qinghai and Gansu, through Inner Mongolia, Shaanxi, to northern Hebei, Liaoning, and Jilin in the far east. Scholarly literature often refers to it as the nomadic belt of the Great Wall area, the Northern Zone, or China's northern frontier. Because of the Sinocentric implication of the latter three terms, I have decided to adopt the more neutral appellation "Chinese highlands" to designate this extensive region.
4. The practical function of flanged edges remains unclear. Kuzmina (2007:410) surmises that the flange would be used to contain water, which would "help seeing a reflection," but this conjecture ignores the fact that the surface, which would potentially serve as a water container, is actually the back side of the mirror attached with a protruding boss at the center.
5. Given the absence of written records, interpreting the functions of mirrors in nomadic societies has been a daunting task. Nevertheless, relying on later historical sources, modern ethnographic accounts, and morphological analysis, previous scholars have conjectured various interpretations regarding the social meanings of mirrors in prehistoric steppe societies as cosmetic articles, status markers, symbols of the sun or sunlight, amulets, and shamanistic paraphernalia (Cheng 1992; Liu 1999; Rubinson 2002; Tishkin and Seregin 2012:95–102).
6. Sex determination have been based on skeletal analysis in the archaeological reports. The exceptions include a single IA1 mirror from Mohuchahan Tomb 8 and three Type III mirrors found at Sa'en sai Tomb 37 and Tomb 82 and Shankou shuiku Tomb 11, whose occupants were adult men. My preliminary investigation of mirror distribution by gender based on the database of Xinjiang mirrors is quite different from Karen Rubinson's, who states that of the nine first millennium B.C. kurgans in Tuva that contained mirrors, five occupants were identified as men and four women (Rubinson 2002:68).
7. On a cautionary note, geo-cultural analysis of the distribution of Xinjiang mirrors is experimental, as the spatial-cultural framework of prehistoric Xinjiang archaeology is still in its nascent state. The huge accumulation of archaeological material in recent decades has led to incessant naming of new archaeological cultures, which can be bewildering. On the one hand, it may be that closely related archaeological remains have been relegated to distinct material cultures; on the other hand, the same group of materials may have been assigned different names. Last but not least, caution dictates that we do not unreflectively correlate an archaeologically defined culture with a past group of people, as the concept of "archaeological culture" is primarily a convenient device for classifying assemblages of artifacts, not people, in terms of similarities and differences.

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