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JADE I. INTRODUCTION

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Regional overview. Jade carving in pre-Islamic Central and Western Asia was largely an east Iranian and Turkic phenomenon, and the same holds true for the Islamic tradition. Under Muslim rule jade carving was probably widespread in the eastern parts of Persia, and it is likely that Samarqand, Balkh, Herat, and Nishapur (Nišāpur) were particularly important centers. This is not surprising, given the sophisticated and age-old lapidary traditions in the region, and the relative proximity to Khotan, the great classic source of rough jade.

The jades of India may be seen as a major but highly individualistic and prolific branch of the Iranian school. In the sixteenth and seventeenth centuries, the Indian school was much influenced by the European hardstone carving tradition, while continuing to develop within the overwhelming nurture of the Indian artistic tradition and genius. The jade artifacts that originated in India between the 16th and 18th centuries were highly sophisticated, exhibiting refined craftsmanship. They were much appreciated in China, and many pieces have survived in former imperial collections; that of the emperor Qianlong (r.1735-96) is known to have been extensive and distinguished, and particularly noted for his commissioned inscriptions carved on many of the pieces (cf. Skelton, 1972, pp. 106-8; Teng, 1983, 2004).

Mineralogy and technology. The jade of objects that originated in Iran is nephrite. The mineral belongs to the tremolite-actinolite series of the amphibole family; it is slightly less hard than the quartzes (at 6 1/2 on Moh's scale), but is extraordinarily tough due to the interlocking felt-like structure of its crystals (Webster, pp. 223-24). Like other hardstones, it is worked by drilling, grinding, sanding and polishing with grits and powders, typically harder than itself and delivered on, or as a component of, mostly rotary tools, such as discs, points, tubes, and rods. These tools may be composed of a variety of materials, depending on their intended use: from lac and wood—attested by Jawhari of Nishapur in his treatise, *Jawāher-nāma-ye Neẓāmi*, dated 592/1195-96 (Jawhari, p. 218)—through copper and soft iron. The grits and powders involved range from quartz through garnet, corundum, and diamond. Exceptionally detailed and valuable information on the cutting and polishing of gemstones is to be found in Abu'l-Qāsem Kāšāni's treatise, *ʿArāyes al-jawāher wa nafāyes al-aṭāyeb*, dated 700/1301. Kāšāni mentions, in connection with the cutting of rubies, wheels of lac, lead, wood, and copper (p. 42), and describes a long process of cutting, polishing, and tests, involving such abrasives as emery, shell, marcasite, and clay.

The myth that jade presents exceptional technical difficulties not encountered when dealing with other hardstones is remarkably persistent. Yet the technology is exactly the same as that used for other hardstones. Indeed, in some ways jade is easier to cut than, for example, the quartzes. Compared to them, not only is jade slightly less hard, but its toughness reduces the likelihood of breakage in the process of cutting, as well as later. Problems may arise at the polishing phase of finishing jade pieces, especially if a highly glossy surface is required, but these are neither significant nor insurmountable. Moreover, for most of the West Asian material, such a surface was never sought.

Terminology. In Persian and Arabic literary sources, the words *yašm*, *yašf*, *yašb*, and *yaṣb* are used for jade, though *yašb* and *yaṣb* are generally understood to refer more precisely to jasper, a variety of cryptocrystalline quartz closely related to the chalcedonies such as carnelian and agate. Assadullah Souren Melikian-Chirvani (1997/2000, esp. pp. 123-26; cf. Pelliot, p. 424) has collected extensive material, tracing apparent cognates of these words to Old Babylonian and Old Assyrian texts. The overwhelming likelihood is that essentially all of the ancient Near Eastern use of *yashpu*/*ashpu*, even if cognate with *yašf*/*yašb*, must actually refer to the cryptocrystalline quartzes

chalcedony (including agate) and jasper. This is borne out by any extensive survey of the thousands upon thousands of extant hardstone objects from the period in question.

Jade has always been noted for its beneficial properties, a lore which in East Asia stretches back into prehistory. In medieval Arabic, Persian, and Turco-Mongol sources, these purported properties are mainly apotropaic and medicinal, ranging from assuring victory in combat and protection from lightning to the prevention and cure of ailments of the internal organs. The modern English word *jade* is derived from the French *pierre de l'éjade*, resp. *l'éjade* and *le jade*, which in turn is derived from the Spanish *piedra de ijada* resp. *hijada*, a stone which cures internal ailments of the area of the small ribs resp. flanks. This was once seen as a cure for all sorts of colic, and became conflated with *piedra de los riñones* (kidney stone). In the sixteenth century, after the discovery of the use of jade in Central America, the stone "seems rapidly to have acquired a reputation as a treatment for kidney diseases" (Middleton and Freestone, p. 413). The eighteenth-century use of *nephrite* for jade reflects the same medicinal presumption, as it is derived from *nephroi*, the Greek word for kidneys (cf. Lat. *lapis nephriticus*: kidney stone).

But the ultimate derivation of the Spanish name for jade, and the issue of its supposed powers, bristle with controversy arising from a series of ancient associations of words in the Turkic, Mongol, Iranian, and Sanskrit languages. Some of the Spaniards who discovered the Native Americans using jade may have been aware of these connections, the Asian names and beliefs, and the medicinal and apotropaic powers already associated with them in Asia. Muslim dynasties had ruled over parts of the Spanish peninsula from the beginning of the 8th century to the end of the 15th century; and European Christian rulers sent their ambassadors, such as Clavijo (d. 1412), to the Timurids and the Mongols. Words such as *yāt*, *yāi*, *yadā*/*jada* /*yadeh*, *jādu*, and *jādi* occur in the context of Turkish and Mongol ceremonies in which a shaman uses stones to induce rain, storms, and the like; the association of *yadā*/*jada*/*jādu* with magical powers is illustrated by *yada-taš* (Turk. magic rain stone, possibly, at least at times, of jade—see below). In all likelihood any envoy to Central Asia would have heard stories about these wondrous practices, as well as jade's putative medicinal properties for the internal organs, and the similarity between *yada* and *ijada* would not have been lost on a Spaniard. In today's Mongolian folklore (personal communication from an elder jade connoisseur and dealer of Ulan Bator, 2006), jade (*haš*) is considered

most beneficial for the kidneys (*bur*), and this is probably an extremely ancient belief (for the characterization of *haš* as Qalmuq and *qas* as Mongolian, see Pelliot, p. 424; cf. Turk. *qāš* and Pers. *yašm*/*yašb*).

An etymological connection between Old Turkic *yat* and *yada*/*jada* and similar-sounding words in modern Western European languages has been ruled out (Clauson, p. 883; cf. Pelliot, p. 424). Moreover, it has been asserted that "the *yada* or *jada* stone is a bezoar and has nothing to do with 'jade', either with the word or the thing" (Pelliot, p. 424). But this claim does not accord with the literature on the Bezoar-stone (Pers. *bāzahr*), which is a well-documented agent for neutralizing poison, including occasionally poisonous stings (Ruska and Plessner, pp. 1155-56). Nor is it supported by the medieval literature about the weather-influencing properties of the *yada-taš*, mentioned above. It should be remembered in this context that in Chinese culture as late as Tang times (Schafer, p. 225), it was the emperor, in his role as chief shaman, "who compelled the attendance of the rain-dragons with his wand of green nephrite;" and the awareness in 12th-century eastern Iran of stories revealing the importance in China of the shamans' role in bringing beneficial rain is well attested by Marvazi (p. 25) and others. The use of *qāš* for jade in Turkish is attested since the 11th century, first by Biruni (p. 198), and later by Kashghari (Kāšḡari, p. 511). Jade was probably extracted at Kashghar (Kāšḡar) by this time, but the passage in *Kashghari's Dictionary* (of the 1070s) is apparently based on the corresponding one in Biruni's book, *Ketāb al-jamāher fi maʿrefat al-jawāher*. Biruni uses the terms *Qāš* and *Qārā Qāš* for the two rivers of Khotan from which jade was extracted, whereas Kashghari calls them the *Urung Qāš Okuz* and the *Qārā Qāš Okuz*.

Mines and varieties. The acknowledged classic source of nephrite for both the Chinese and Western Asian worlds for millennia was Khotan, near the foot of the Kunlun mountains, on the southwest side of the Tarim Basin. The mineral appears in a wide range of greens (typically more or less dull and blending with other colors), as well as colors ranging from a pure, translucent white (the rarest and the most sought after both in western and eastern Asia) through various shades of off-white, to yellowish, tan, iron-red (normally occurring in the pebble's rind, where the iron content is strongly oxidized), to brown and black (the last almost invariably a very dark green when viewed through strong transmitted light). Even relatively small pieces of nephrite are very often variegated both in color and degree of translucency. Biruni states: "Jade (*yašm*) is extracted from two river valleys in Khotan where the reeds (or

canes) form thickets. One of the river valleys is called Qāš, and there *the superior white material* is extracted, and it is not taken from its ultimate source [i.e., it is found as rollers in the streambed and not at its origin, from which it is washed down]. *The big pieces of it are reserved for the king personally*, and the small ones are for the populace" (p. 198; italics added). The author of the *Ḥodud al-ʿālam* (372/982) had earlier reported that "the jade stone (*sang i yashm*) comes from the rivers of Khotan" (*Ḥodud al-ʿālam*, tr. p. 86)

It seems now established that in early times the Chinese had other sources of nephrite in China itself (Middleton and Freestone, pp. 414 and 417, apud Guang and Zhichun). Another major source, Kashghar, seems to have been feeding jade into the supply stream, probably starting as early as the 11th century, and in any case not later than the 13th. In a Persian panegyric from the late 11th or early 12th century by Lāmeʿi of Gorgān, a warrior wears "Kashghar jade" on his arms (Melikian-Chirvani, 1997/2000, p. 132). But as indicated above, Kashghari does not expand on Biruni's information. Jawhari of Nishapur, writing about a hundred years after Kashghari, also repeats Biruni, and adds that Khotan is the only known source of jade (*yašb*, p. 219). Aḥmad b. Yusof al-Tifāši (1184-1253), however, indicates only Kashghar as the source of jade, from where it was exported "to all countries" (p. 195). Although for a number of reasons Tifāši is not the best-informed of authorities, his account, in a manner similar to and combined with literary evidence like the aforementioned panegyric, indicates that Kashghar was a source of jade, whose deposits must have been exploited in a significant manner before his time in order for him to have heard of it. At the beginning of the 14th century, Kāšāni (p. 139) observes that jade (*yašb*) "comes in varieties, and its mines are in Ḵitāy and Ṭuḡmāj." Ḵitāy/ Khitay, Anglicized to Cathay, is an old name for northern China, and was derived from the name of the Ḵitāʾ confederation, while Ṭuḡmāj, also spelled Ṭuḡmāj, is a region in Turkistan. Kāšāni's usage of "Ḵatāy" may not, however, have referred to northern China but to the former territory of the Qārā Ḵatāy, a branch of the Ḵatāʾ who moved to the south and west in the 12th century and were the overlords of much of Turkistan in the period leading up to the conquests of Chingiz Khan. Nevertheless, the possibility that northern China may have been an important source of nephrite is suggested by the fact that on a recent visit to Mongolia the author became aware that jade is retrieved there and was able to acquire significant amounts of rough nephrite, including sizable pieces of fine white material. Its source does not seem to be officially documented, but according to word of mouth this material is sold on the Chinese market. It appears plausible that

this source was already exploited long ago, but escaped scholarly attention.