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Study on the etched carnelian beads unearthed in China

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Abstract

Etched carnelian beads originated in the Indus Civilization; this kind of ornaments and its manufacturing techniques were spread to the whole Eurasia Continent. The etched carnelian beads unearthed in China can be classified into four types, the comparisons of which to their foreign counterparts may reveal their different sources and diffusion routes. The etched carnelian beads and their glass imitations unearthed in China had influences to the making of the glass "eye beads" in China.

Keywords: Carnelian beads–China–history; compound eye beads; dissemination routes; Indus Valley Civilization

Introduction

Etched carnelian beads are a special kind of beads which are artificially etched. In the past, scholars including A. F. Belllasis, N. G. Majumdar, Ernest Mackey, and H. C. Beck have studied the manufacturing process of carnelian beads and classified them into three types based on their designs: red beads with white decoration, white beads with black lines, and red beads with etched black lines (Niharika 1993: 13–4).

In 1972, Dr. Xia Nai (Tso Ming) identified a carnelian bead unearthed at Shizhaishan Cemetery in Jinning County, Yunnan Province. He compared this bead with other specimens collected in Khotan and Xayar, Xinjiang and studied them (1974), which drew special attention among academics. Before his research, Chinese academics were unclear about the origins of the beads and often treated them as common agate ornaments. Following Xia's research, a number of carnelian beads have been identified from the archaeological finds, most of which having clear provenance associated with burials. This information laid a solid foundation for subsequent studies and was used widely as archaeological evidence for cultural communications between China and abroad. This paper will concentrate on archaeological data of etched carnelian beads in the pre-Han period and Han Dynasty, analyze different types of the beads, compare them with similar beads found abroad, explore their origins and dissemination routes, and discuss the mutual influences of the designs between carnelian beads and other beads used as ornaments.

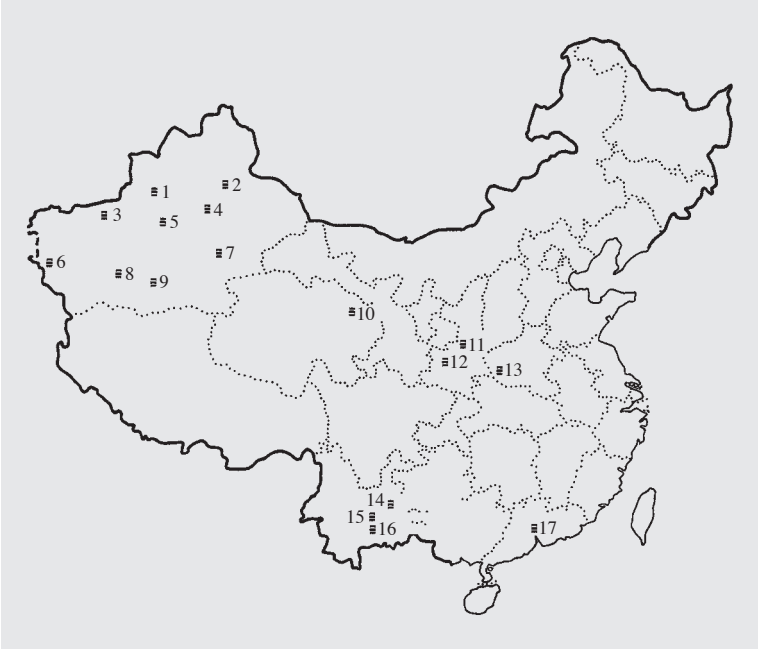

Figure 1 Distribution of the carnelian beads unearthed in China.
1. Qongkok Cemetery, Nilka County; 2. Dalongkou Cemetery, Jimsar County; 3. Bozdong Cemetery, Wensu County; 4. Chawuhu (Charwighul) Goukou Cemetery, Hejing County; 5. Yultuz bagh, Xayar County; 6. M10, Pamir; 7. Loulan Ancient City; 8. Khotan; 9. Niya Site; 10. Shang Sunjiazhai, Datong County; 11. Maquan, Xianyang; 12. Yimen Village, Baoji; 13. Xiasi, Xichuan County; 14. Batatai Cemetery, Qujing; 15. Shizhaishan Cemetery, Jinning County; 16. Lijiashan Cemetery, Jiangchuan County; 17. Guangzhou.

The types of carnelian beads unearthed in China

At least 55 carnelian beads of the pre-Han periods or Han Dynasty unearthed in China have been identified to date. Most of these

beads are found in northwestern China or in Yunnan and Guangdong Provinces, only a few from the Central Plains (Figure 1). All beads are red colored with etched white designs, and of them, 40 are published with pictures. Only a few unearthed carnelian beads are dated later than the Han Dynasty, and found in areas of Xinjiang, Qinghai and Tibet. These beads will not be discussed in this paper.

The carnelian beads found in China are classified into four types based on designs.

Type A: elongated beads with bulging belly and a pattern of horizontal lines. The ones most commonly found in Xinjiang, Yunnan, and Guangzhou are decorated with thin lines (Figures 2:1 to 2:4). A few of them (3 pieces) found in Xinjiang and Yunnan are etched with thick lines (Figures 2:5 to 2:7). The one piece found in Xichuan County, Henan Province is assumed to be of the same type based on Dr. Xia Nai's description. The published picture of this bead is not clear thus it could only be assessed by Xia's description.

Type B (11 pieces): most of them are similar in shape to Type A beads, but a few are round in shape. The beads are decorated with rather complicated geometric patterns, and some have dots between the geometric patterns. All Type B beads are found in Xinjiang (Figures 2:8 to 2:17).

Type C: designs on the beads imitate eye shapes; two subtypes are recognized based on the numbers and layout of the "eye patterns".

Type Ca (three pieces): round or oval shaped beads with several "eye patterns"; these are similar to the compound eye beads (Figures 3:1 and 3:2).

Type Cb: only one piece is found. This round bead has only one "eye pattern" and the bead itself looks like an "eyeball (Figure 3:3)."

Type D (two pieces): round or near-square shaped beads with cross or swastika (卐) pattern (Figures 3:4 and 3:5).

Origins of the carnelian beads found in China

The earliest carnelian beads found in China so far are dated to the early half of the first millennium BCE. By contrast, carnelian beads had already appeared in the Indus Valley and Mesopotamia by the third millennium BCE (Mackay 1933). In addition, no sign of carnelian bead manufacturing is ever found in China. The 16 carnelian beads found in the Lijiashan Cemetery at Jiangchuan are likely imported goods since their drilling

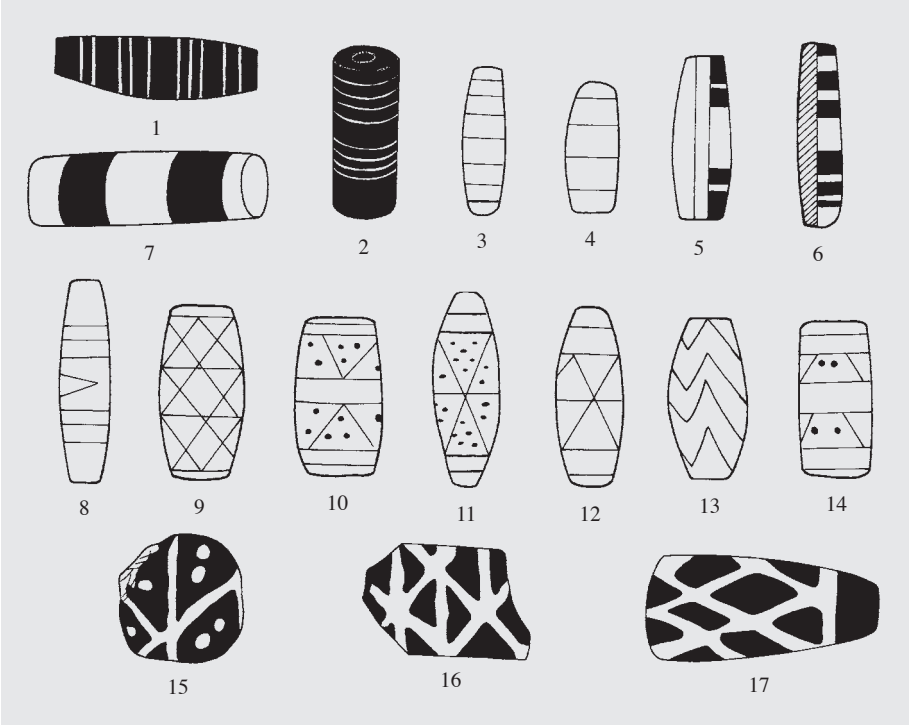

Figure 2 Carnelian beads of Type A and Type B found in China.
1. M13 of Shizhaishan Cemetery, Jinning; 2. M23 of Shizhaishan Cemetery, Jinning; 3. M69 of Lijiashan Cemetery, Jiangchuan; 4, 5 and 9–14. 85WBBM41 of Bozdong Cemetery, Wensu County; 6. M10, Pamir; 7. M13 of Qongkok Cemetery No. 1, Nilka County; 8. M5 of Dalongkou Cemetery, Jimsar County; 15–17. Aurel Stein's Khotan collection (1–7. Type A; 8-17. Type B).

Figure 3 Carnelian beads of Type C and Type D unearthed in China.
1. M24 of Lijiashan Cemetery, Jiangchuan Country; 2 and 4. Aurel Stein's Khotan collection; 3. M8 at Shang Sunjiazhai, Datong County, Qinghai; 5. Huang Wenbi's collection from Xayar, Xinjiang (1 and 2. Type Ca; 3. Type Cb; 4 and 5. Type D).

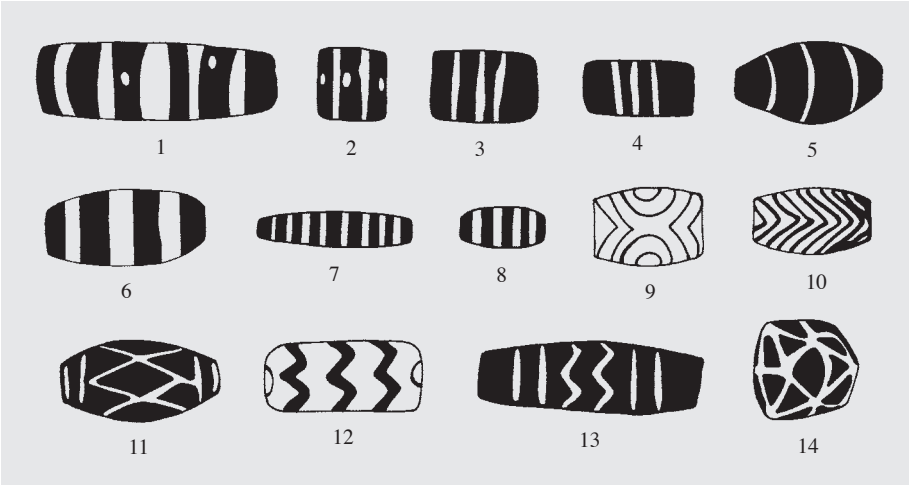

Figure 4 Carnelian beads of Type A and Type B unearthed outside China.
1–3. The Northern Black Polished Ware Culture of the Indian Subcontinent; 4, 11 and 12. Megalithic Culture of India; 5 and 13. The Maurya Dynasty Period; 6. Kish, Iraq; 7 and 8. The Pyu sites, Myanmar; 9 and 10. Chanhu Daro Site, Harappa Culture Period; 14. Taxila Site (1–8. Type A; 9–14. Type B).

technology is utterly different from traditional Chinese drilling on jade and agate. Therefore, we believe that the carnelian beads unearthed in China are all imported from other regions, and are indications of early cultural exchanges.

Based on current research, carnelian beads originated in the Indus Valley and later disseminated widely in the Near East and Southeast Asia as a result of trade in Eurasia. Nonetheless, those found in the Near East bore distinct local design styles (Aruz 2003), and beads found in Southeast Asia were made of materials different from those in the Indus Valley. These show that in addition to trade products, technologies were also disseminated. Manufacturing was likely present in Southeast Asia as well as the Indus Valley (Theunissen 2000). This is important in understanding the origin of carnelian beads found in China. Up to this point, these beads have not been analyzed. As a preliminary analysis of the origins of these beads, all we can do is to compare them with those found outside China based on types.

Type A constitutes the largest number of unearthed carnelian beads with a wide geographical distribution in China; the dating of these finds is from the Spring-and-Autumn Period (and possibly as early as the Western Zhou) to the Han and Jin Dynasties. In the earliest period, the Indian beads with a pattern of horizontal lines are found in relatively large numbers (Figures 4:1 through 4:5). Dr. Xia Nai has noted an unearthed bead from Kish (Figure 4:6), West Asia, but such find is rare. Therefore, the early Type A carnelian beads found in Xinjiang and Henan are likely associated with those of the Indus Valley. Many Type A beads are also found in Southeast Asia in the Iron Age (Figures 4:7 and 4:8), however, it is possible that some of the beads are locally produced. Similar beads appear also in Guangzhou and Yunnan, dated either later or at the same time as those found in Southeast Asia. Since all are in the same proximity geographically, it is possible that contacts between differing regions existed. Therefore, beads found in these places were likely from Southeast Asia.

Type B beads are mostly found in the Indus Valley (Figures 4:9 through 4:14), with a few in West Asia. The ones found in the royal mausoleums at Ur are believed to be imported from the Indus Valley (Dubin 1987: 182). Those found in the Arabian Peninsula and dated from the late 3rd millennium BCE to the 3rd century CE, are also considered imports from India by sea trade (De Waele 2006). It is quite clear that the Indus Valley is the place where the Type B carnelian beads originated.

Type C is divided into two subtypes. Subtype Ca beads are very close to the Compound Eye pattern glass beads; Beck (1933) referred to these as an early type of etched carnelian beads (before 2000 BCE). However, the compound eye glass beads were not introduced to India till the late 5th century BCE (Dikshit 1969). As the existence of local workshops in the Near East that manufactured carnelian beads, Subtype Ca beads are most likely obtained from West Asia rather than from India. Subtype Cb beads are similar to those found in Bahrain, Ur, Kish, and Nippur, dating roughly from the late 3rd to the early 2nd millennium (Aruz 2003). A large amount of these beads of this same period are also found at Chanhu Daro, Harappa, and Taxila in the Indus Valley (Figure 5:1). It is thus quite difficult to determine a specific provenance for the type of carnelian bead found in a Han tomb at Datong in Qinghai Province. However, in the same cemetery archaeologists also found two pieces of gilt glass beads with possible Indian origins (Shi and Zhou 1990); thus, this bead is likely imported from India as well.

The two styles of ornamentation found on Type D beads are also found extensively in the Indus Valley, in a variety of different patterns. The ones decorated with the "cross pattern," as Xia Nai pointed out, are almost identical to those unearthed at Taxila (Figure 5:2), which were likely introduced from the Gandhara region. There are many carnelian beads with the "cross pattern" that have been found in India (Figures 5:3 through 5:6), although so far not a single bead having the "swastika (卐)" pattern has been found. Yet, many beads made of glass, stone, coral, lapis lazuli, and gold decorated with the "卐" pattern have been found. These beads could be traced to sites from the early Indus Valley civilization and

are presumed to have been used as amulets (Figures 5:7 and 5:8). Thus, it is plausible that the Type D beads are closely related to the Indus Valley.

Dissemination routes of carnelian beads found in China

In summary, Type A beads found in the Han tombs in Guangzhou and Yunnan might have been imported from Southeast Asia, while those of Type Ca were likely brought in from West Asia, and the rest were imported from the Indus Valley. I will focus more on the Indus Valley provenance in the following discussion.

The majority of carnelian beads are found in Xinjiang and are dated to the pre-Qin period. The most likely way to travel into Xinjiang from the Indus Valley is to pass Pamir from the northeastern part of Afghanistan and Pakistan, and Kashmir. Not far from Kashmir is Taxila, once an important center of Northern Indus civilization where a large number of carnelian beads were found; this was probably a production center of beads. The beads found in tomb M10 at the Taxkorgan Tajik Autonomous County in Pamir (Figure 2:6), can be taken as evidence of this travel route. Coincidentally, carnelian beads are often found in female Saka burials dating from the 8th to the 6th centuries BCE in Tajikistan, Pamir; these include all four types of beads discussed above (Figures 6:1 through 6:4). They are all likely imports from India.

Carnelian beads were found in Saka tombs in the Fergana Basin of Uzbekistan and Tianshan Mountains in Kyrgyzstan (Yablonsky 1995: 237). These regions can be reached from the Pamir region by continuing northbound. Thus, we cannot rule out that the early Indian carnelian beads found in the central and northern parts of Xinjiang might have come by this same route.

After Zhang Qian's expedition to the west (138-114 BCE), as part of the "Silk Road," the southwest route via Pamir to India became more reliable. Carnelian beads found in the Bozdong Cemetery in Wensu County, Xinjiang, the Shang Sunjiazhai Cemetery in Qinghai, Maquan in Xianyang, Shaanxi, and at the Han and Jin ruins in Niya and Xayar, all reflected the existence of trading activities at this time. Concurrently, outside of China, discovery of carnelian beads includes the four pieces found in Tillya-Tepe, Afghanistan, which date approximately to the early Eastern Han (25-220 CE; Figures 6:5 through 6:8, Cf. Sarianidi 1985:244).

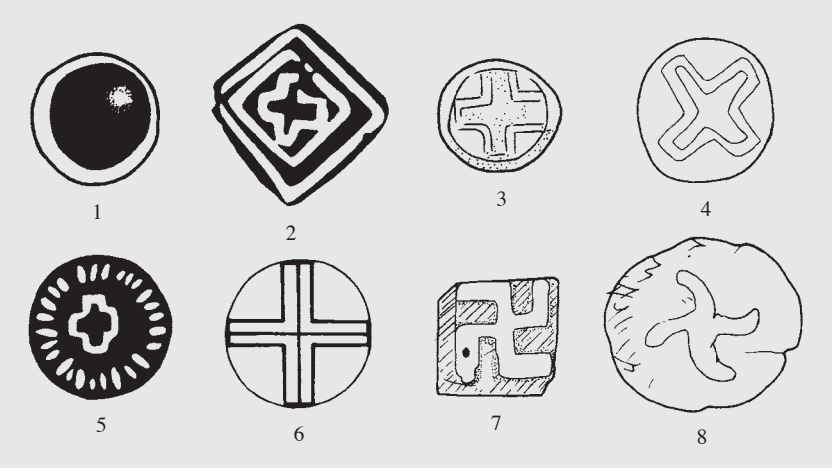

Figure 5 Carnelian beads of Type Cb and Type D and gold beads with swastika design unearthed in India.
1 and 2. Taxila Site; 3. Harappa Site; 4. Porkalam Site; 5. Machad Site; 6. Kaudinyapura Site; 7 and 8. Piprahawa Site (1. Type Cb; 2–6. Type D; 7 and 8. Gold beads with swastika design).

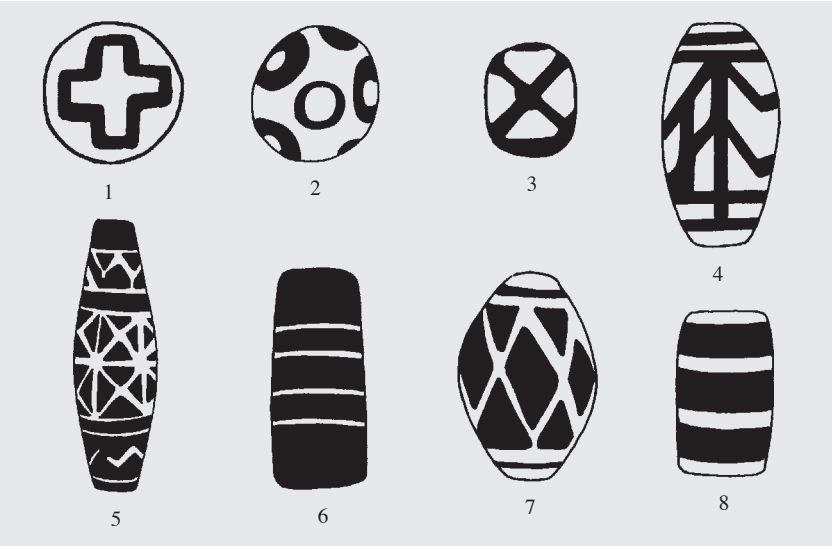

Figure 6 Carnelian beads unearthed on the dissemination routes.
1–4. The burials of Saka people in Pamir; 5–8. The Tillya-Tepe in Afghanistan.

The development of carnelian beads in China

With limited imports, Chinese were not acquainted with the complicated manufacturing techniques of etched carnelian beads when they first came to China. Therefore, it seems reasonable that a large number of beads imitating carnelian beads appearing in China were made of glass. Most of them are imitations of Type A and B etched carnelian beads, including those found in tomb M58 in the

ancient Qufu City dating to the mid or late Warring-States Period, in a Xiongnu cemetery at Daodunzi in Tongxin County, Ningxia dating to the mid to late Western Han, in tomb M2 at Changdong of Changde City, Hunan Province, dating to the late Eastern Han and in several tombs of Han and Jin Dynasties at Sampul in Lop County, Xinjiang.

Figure 7 The coffin ornament found in M1 of Mashan Cemetery in Jingzhou, Hubei.

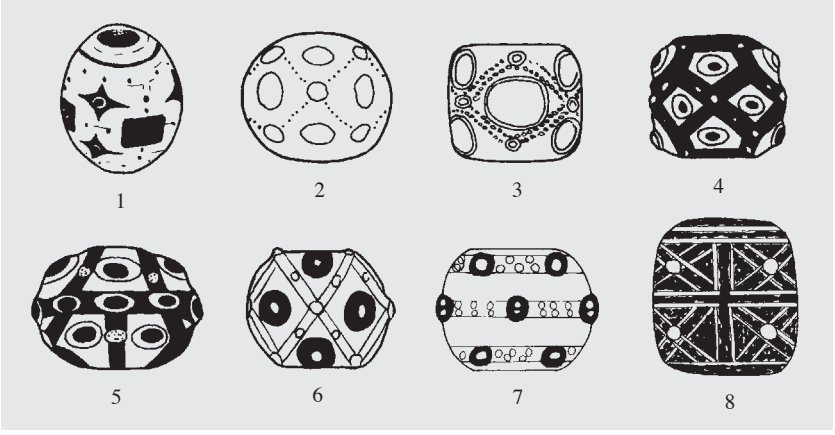

Figure 8 Geometric style "eye pattern" glass beads.
1. M52 in the ancient capital city of the Lu State at Qufu, Shandong; 2. A tomb of the mid to late Warring-States Period at Zhongyangquan in Lincheng County, Hebei Province; 3. M615 of the Chu State of the Warring-States Period in Changsha; 4. M25085 of Ta'erpo Cemetery in Xianyang, Shaanxi; 5-7. M46386 of Ta'erpo Cemetery in Xianyang; 8. M172 of Yangzishan Cemetery in Chengdu.

The case worth noting is a glass tube found in tomb M1 of Mashan Cemetery in Jingzhou, Hubei Province. The dark gray colored tube has gold and white bands, and is decorated with rhombic and round dots, and a pattern of conical protrusions. It was found strung together with a strip of yellow gauze and a carnelian-like "eye pattern" glass bead, this was used as a coffin ornament lying in the middle of the *huangwei*-pall at the head-end of the coffin (Figure 7). This glass tube, apparently an imitation of the Type B etched carnelian bead, indicates that foreign culture had already entered the Chinese mortuary practice in the pre-Qin times.

A large number of compound eye glass beads dating from the late Spring-and-Autumn Period are found in China. One type of these beads has a special pattern formed by several individual units. Each unit has different components of circular, ovoid and triangular patterns, outlined by either dotted or straight lines (Figure 8). The differing manners of outlining distinguish the two different styles of eye pattern glass beads. Jiayao An (1996) and other scholars have pointed out that this type of glass bead was found only in China, and they were new creations by Chinese craftsmen. We would like to suggest that Types B and C carnelian beads that came from afar inspired and influenced such creations. This reveals a very interesting phenomenon that both outlining designs are derived from the imported beadwork. They then merged into new types of bead patterns in China, creating new designs which the origins of the prototypes have been largely obscured.

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Postscript

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