



Metalwork from the 10th to the 13th Century

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Introduction

Next to ceramics, metalwork is the second largest group of objects in the collection of the Herat National Museum. The majority of the objects is unpublished, except for some specimens that were discussed and depicted by A. von Gladiß in a short chapter of the guide to the National Museum Herat published by U. Franke in 2008 and by A. Melikian-Chirvani.¹ It is worth noting, however, that some of the objects described by Melikian-Chirvani are not in the collection any more. This refers, among others, to the small lobed cup which he described in three publications², a rose-water sprinkler,³ a mortar,⁴ and a signed bronze cauldron.⁵ The latter was stolen from the collection in September 2008.

The collection mainly comprises objects that were most probably produced in the Eastern Iranian world, in the province of Khorasan or Transoxania. In terms of chronology, the 10th to the 13th centuries are especially well represented. Even if many of the pieces are fragmented or damaged, the collection is of particular interest, because it comprises several types of objects, such as ewers with cylindrical body and punched decoration (Figs. 49–53)⁶ that do not belong to the general canon of 'Eastern Islamic metalwork' represented by international collections of Islamic metalwork.

Unfortunately, the provenance of most of the pieces is unknown. Judging by their unaffected condition, at least some of them must have reached the collection through the local

art-market, whereas others show clear traces of archaeological find context, probably from the region around Herat or present-day western Afghanistan. It is an established and well-known matter of fact that at least up to the 13th century Herat was an important metalworking centre. This is indicated by signed objects such as the famous 'Bobrinsky bucket'⁷, another bucket in the Hermitage⁸ and the so-called 'Tiflis-ewer'⁹ as well as by signatures of craftsmen with the nisba *al-Harawi*, meaning 'from Herat'.¹⁰ Besides, written sources mention the city as a centre of metalworking crafts. Thus, al-Qazwini writes in the 13th century that brass vessels decorated with silver inlays were made in Herat.¹¹ Al-Muqaddasi, as well as the famous polymath al-Biruni, highlight the role of the city for the processing of iron.¹² Al-Biruni also writes that weapons were manufactured in Herat and that iron ingots were traded from there to Multan.¹³ Still another interesting information is found in geographical treatises which report that the province of Khorasan was well known for its copper mining.¹⁴

Objectives and Methodology

Whereas the appended catalogue describes the majority of Islamic metalwork objects in the collection, the present chapter concentrates on those groups that are represented by a larger number of exemplary pieces. Next to complete pieces, fragments or partly damaged objects are presented as well. They have proven to be of particular interest because their damaged condition is quite revealing regarding techniques of manufacture and working steps.

The objects are presented according to their suggested date. Since the provenance of most of the pieces is unknown, a comparative approach was chosen to define an approximative dating and localisation. In a second step the objects are classified according to both techniques of manufacture and decoration as well as form. The method of manufacture was assumed from visual inspection only. Since it was not possible to analyse the body material of the metal objects, most of them are generally described as copper-alloys.¹⁵ The

1 von Gladiß 2008. Melikian-Chirvani refers to pieces in the collection in several articles. The respective references are given throughout the present chapter.

2 Melikian-Chirvani 1975, 189–190 Fig. 2; Melikian-Chirvani 1977, 135 Fig. 15; Melikian-Chirvani 1982, 28 Fig. 3.

3 Melikian-Chirvani 1982, 66 Fig. 32.

4 Melikian-Chirvani 1982, 68 Fig. 38.

5 Melikian-Chirvani 1982, 66 Fig. 33.

6 HNM 02.14.86 (cat. no. M89), HNM 02.25.86 (cat. no. M92), HNM 02.27.86 (cat. no. M93), HNM 04.04.86 (cat. no. M90), HNM 02.11.86j (cat. no. M91).

7 St. Petersburg, Hermitage Museum Inv. No. IR 2268.

8 St. Petersburg, Hermitage Museum Inv. No. IR 1668. The attribution of the bucket is controversial. In his latest discussion of the piece Ivanov suggests an attribution to Seljuk Anatolia (Ivanov/Rogers 2004).

9 Tiflis, Tiflis Museum, Inv. No. MS 135.

10 Melikian-Chirvani 1982, 71–72.

11 Allan 1979, 134.

12 Allan 1979, 140.

13 Allan 1979, 67.

14 On the Arabic geographic texts, see Allan 1979, V–VI.

15 Studies that deal with analyses of alloy types and manufacture techniques of Islamic metalwork are still few. In addition to the seminal contributions by Craddock (1979; 1998) see more recently Ponting (2004; 2008 on the hoard from Tiberias) and LaNiece 2003.

only exception is the group of so-called high-tin bronze, which is discussed in a separate paragraph. This particular material can be distinguished from brass or bronze by its silvery colour, the characteristic black patina and the typical sharp breaks which are due to its brittleness.

High-Tin Bronze Vessels

The collection of the Herat National Museum comprises a comparatively large number of high-tin artefacts. The appearance of this special material is easily recognisable. The uncorroded surface of the alloy is silvery or golden in colour, its peculiar patina varies from a glossy black, as on jug HNM 03.14.86 (Fig. 2), to an ashy grey. The corrosion products are black or green and tend to develop in wart-like configurations. Another distinctive feature of the alloy is its brittleness. It breaks easily and the breaking lines are sharp and clean. These features are due to the high tin content of the alloy, which varies from 21 % to 24 %.¹⁶

The alloy is only malleable between 500° C and has its melting point at around 750–800° C. In this state it can easily be forged to shape by hammering. Then, it has to be quenched at a temperature above 520 °C in order to retain enough malleability to allow for some finishing process. Whereas, if it is left to cool slowly, the alloy becomes brittle. The collection of the Herat National Museum contains several thin walled high-tin vessels that were obviously shaped by forging at red heat and subsequent quenching. Some high-tin artefacts, however, are rather thick walled and were formed by casting.¹⁷

Arabic and Persian authors date the introduction of high-tin bronze, which they call *sefidruy*, *talqoon*¹⁸ or *nuḥās abyad*¹⁹, to the late 7th century. Accordingly, the Umayyad governor of Iraq, al-Hajjaj, banned drinking out of gold and silver vessels and gave orders that all gold and silver vessels be broken. Subsequently, the craftsmen "mixed tin and copper for the grandees and rich people"²⁰ as a substitute for precious metal. Archaeological evidence suggests, however, that the manufacture of a specific copper-alloy with a high amount of tin had already been known in Persia since the 7th century BCE and was used in India and China from the 3rd century CE onwards.²¹ This is to say that the introduction of high-tin bronze in Early Islamic times was not an invention but rather a rehabilitation or adaptation of a pan-Asian technological phenomenon. Whether it was actually reinvented by Iraqi craftsmen, as tradition has it, is still open to discussion. It is obvious though that today high-tin artefacts are represented in comparatively large numbers in collections from the Islamic East, in particular in the former provinces of Khorasan, Sistan and Baluchistan. Apart from that the scant



Fig. 1 High-tin bronze vase (HNM 05.03.86l, cat. no. M1)



Fig. 2 High-tin bronze jug with peculiar patina (HNM 03.14.86, cat. no. M2)



Fig. 3 High-tin bronze, flattish tray (HNM 01.04.86, cat. no. M3)

evidence from archaeological contexts²² and one specimen signed by an artisan from Sistan (*Abu Nasr Muhammad ibn Ahmad al-Sijzi*)²³ indicate that the production centres of high-tin artefacts were actually located in the eastern provinces. In the Islamic West, on the other hand, high-tin artefacts were among the finds from the Tiberias hoard in present day Israel and from a hoard in Denia, in southeast Spain.²⁴ Generally speaking, however, their proportional occurrence in West Islamic contexts is marginal. Both, the accounts of the invention of high-tin bronzes in Iraq and the archaeological evidence indicate that items from this special alloy were luxury goods that were produced in the eastern Islamic lands and traded throughout the Islamic world.

In his seminal contribution on 'The White Bronzes of Early Islamic Iran', Melikian-Chirvani distinguishes two major groups of objects, wares

without decoration and wares with geometric patterns. High-tin bronzes with silver inlays such as the best known surviving specimens, the so-called 'Wade cup' and the 'Vaso Vescovali'²⁵, are not considered. The collection of the Herat National Museum holds two vessels that belong to Melikian-Chirvani's first category. One of the standard types he describes is a vase with squat rounded body resting on a broad base. The flaring fluted neck has approximately the same height as the body.²⁶ In the Herat collection this type is represented by HNM 05.03.86l (Fig. 1). In contrast to this common type, the cast jug HNM 03.14.86 (Fig. 2) is rather unique. It measures 14.7 cm in height, with a rounded body resting on a broad foot and a small ring handle on the body. Its slightly conical, broad neck is fluted. The body is subtly faceted with three rows of lanceolate facets and its surface shows a distinctive black patina with areas of pale yellowish hue. As to its shape and technique of manufacture, the jug is clearly related to the vases with rounded or faceted bodies and fluted necks described above. These vases have no ring handle, but in his analysis of the shape Melikian-Chirvani compares them to a miniature pottery vase from Khotan, which has a ring handle attached to the body.²⁷ Based on comparison with silver-vessels from Sasanian Iran and T'ang China, Melikian-Chirvani dates the 'wares without decoration' to the 8th century.

Another diagnostic feature of the 'wares without decoration', which Melikian-Chirvani does not, however, explicitly mention is the fact that they are cast. This feature distinguishes them from another group of high-tin bronze vessels, which are likewise undecorated, but which were forged to shape by hammering at red heat.

Due to the difficulties in the manufacturing process of high-tin bronze, closed forms such as the aforementioned jug are less common. Rather, the vessels show simple open forms such as hemispherical bowls or flattish trays. In line with this, the majority of high-tin vessels in the collection of the Herat National Museum are trays and deep hemispherical bowls. An example of the first form is the large, undecorated tray HNM 01.04.86, which measures 35.5 cm in diameter (Fig. 3). As to its form it represents a standard type, a flat tray with slightly convex bottom and narrow, slanting, slightly convex walls. In the collection of the Herat National Museum this form type is represented by several examples. They vary with regard to their diameters as well as to the thickness of their walls. Thus, the tray HNM 01.26.86 (Fig. 4) measures only 25.2 cm in diameter and its walls are decidedly stronger than those of HNM 01.04.86 (Fig. 3). On the outside it shows the characteristic blackish patina and traces of scraping. The inside shows three concentric incised circles. A comparable pattern can also be seen on the inside of a tray with narrow rim depicted by Melikian-Chirvani.²⁸

Another standard type that is represented by undecorated as well as decorated varieties consists of deep hemispherical bowls of various sizes. In the collection of the Herat National Museum the undecorated type is represented by two closely related hemispherical bowls, which probably served as drinking vessels (Fig. 5, HNM 01.17.86; Fig. 6, HNM 01.28.86). Both bowls measure



Fig. 4 High-tin bronze tray (HNM 01.26.86, cat. no. M6)



Fig. 5 High-tin bronze bowl (HNM 01.17.86, cat. no. M14)

16 Ponting 2008, 41.

17 One high-tin bowl, which was evidentially made by casting, is mentioned by Ettinghausen 1957, 362 Figs. 15–17.

18 On Persian words used to describe high-tin bronze, see Melikian-Chirvani 1974, 124–125 and Allan 1979, 47–48.

19 Baer 1983, 2.

20 Melikian-Chirvani 1974, 124.

21 Allan 1979, 46–47. – Ponting 2008, 24.

22 Allan 1979, 48.

23 Ettinghausen 1957, 338. – Allan 1979, 48.

24 Ponting 2004.

25 Allan 1990, 472.

26 Melikian-Chirvani 1974, 127.

27 Melikian-Chirvani 1974, 127–128.

28 Melikian-Chirvani 1974, 132.



Fig. 6 High-tin bronze bowl (HNM 01.28.86, cat. no. M16)



Fig. 7 High-tin bronze tray with punched decoration (HNM 01.05.86, cat. no. M4)

19 cm in diameter and have no foot ring, their base is slightly rounded. The exterior of HNM 01.28.86 also shows the characteristic black patina. The clearly visible marks on the surface of HNM 01.17.86 are probably traces left from turning on the lathe. In contrast to the aforementioned jug and vase, both bowls were forged to shape by hammering at red heat and finished on the lathe. In his article on the so called Wade-cup, R. Ettinghausen reports that hemispherical bowls with slightly drawn-in rim and rounded bottom

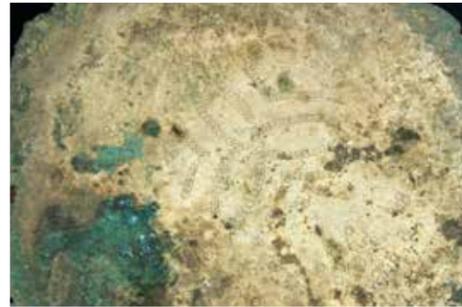


Fig. 8 High-tin bronze tray with punched decoration (HNM 01.07.86, cat. no. M5)

are found among Samanid and Ghaznavid metalwork²⁹, which implies a dating of the pieces to the 10th or 11th century.

Next to undecorated high-tin items the collection comprises several vessels with incised or punched decoration. They can be subdivided into vessels with decoration based on simple circles and dot punches and vessels with more intricate punched and engraved designs. The first group is represented by nine trays, varying in size between 24 cm and 39 cm.³⁰ A characteristic example is HNM 01.05.86, which was reportedly discovered in the district of Ghorriyan, located 60 km to the west of Herat (Fig. 7). This rather flimsy, flattish tray measures 36.7 cm in diameter, its height amounts to 6.5 cm. It has a slightly convex bottom and narrow, slanting, slightly convex walls. The simple decoration is based on dotted circles and consists of a centrally placed, three-petaled rosette, surrounded by groups of punched dots forming a wavy band or a diaper, respectively. Another band with diagonally placed lines of punched circles frames the edge of the tray. Very similar in form and decoration are the trays HNM 01.07.86 (Fig. 8) and HNM 01.18.86 (Fig. 11). According to Melikian-Chirvani, who provides depictions of two comparable trays, a series of flat high-tin bronze trays was brought to the bazaar in Ghazni and acquired

²⁹ Ettinghausen 1957, 337.

³⁰ HNM 01.05.86 (cat. no. M4), HNM 01.06.86 (not in the catalogue), HNM 01.07.86 (cat. no. M5), HNM 01.18.86 (cat. no. M8), HNM 01.29.86 (not in the catalogue), HNM 01.32.86 (cat. no. M10), HNM 01.26.86 (cat. no. M6), HNM 01.31.86 (cat. no. M9), HNM 01.31.86b (not in the catalogue).



Fig. 9 High-tin bronze bowl with punched decoration (HNM 01.21.86, cat. no. M15)



Fig. 10 High-tin bronze bowl with punched decoration (HNM 01.12.86, cat. no. M12)

by the Muze-e Rawza in Ghazni. Furthermore he mentions that fourteen high-tin bronze vessels were dug up at Toshkan, a few miles from Keshm in Badakhshan. The depicted tray from Toshkan is closely related in terms of form and decoration to the Ghazni tray as well as to the trays in the collection of the Herat National Museum. In Toshkan the trays decorated with dotted circles were found together with a tray decorated with a Naskhi-inscription in twelfth-century style. Based on this evidence Melikian-Chirvani has proposed to date trays with dotted circle decoration to the 12th century as well.³¹

The group with more intricate punched and engraved designs in the collection of the Herat National Museum is represented by four examples. HNM 01.21.86 (Fig. 9) and HNM 02.28.86b (cat. no. M18) are almost identical as regards their decoration. Both hemispherical bowls with rounded bottom show incised and punched decoration on the outer wall composed of incised lozenges and punched dotted circles filling the interstices. A band of dotted circles frames the upper edge, whereas

³¹ Melikian-Chirvani 1974, 140–142.



Fig. 11 High-tin bronze bowl with punched decoration (HNM 01.18.86, cat. no. M8)



Fig. 12 High-tin bronze bowl with punched decoration (HNM 01.16.86, cat. no. M13)

the bottom is decorated with a six-pointed star. The size of the bowls, however, varies considerably. Whereas HNM 01.21.86 measures 26 cm in diameter, HNM 02.28.86b has a diameter of 13.6 cm. Closely related to these two bowls is HNM 01.12.86 (Fig. 10), likewise a hemispherical bowl with rounded bottom measuring 24.2 cm in diameter. Its decoration is restricted to the outer wall and consists of an incised zigzag band framed by groups of dotted circles.