Openwork
in Early Islamic Metalwork
from Khorasan and Transoxiana

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Introduction

Metalwork from Khorasan is a well-known magnitude in the history of Islamic art. Thanks to the large number of metal objects from this region, and due to the studies carried out on them over the past years, the 'bronzes' from Khorasan are firmly inscribed in the history of Islamic art. In many respects, it can be called exceptional what metalworkers of Khorasan of the Islamic period inherited from their predecessors and transformed according to new conditions. Through the first Islamic centuries until the Mongol invasion, they developed particular styles and methods in metalwork. The qualities that result from the techniques used in making these objects, as well as the creation of designs and motifs that were applied to decorate these vessels, render the bronzes from Khorasan unmistakable. The achievements of metalworkers of Khorasan are hardly matched elsewhere in the Islamic world.

Over the past years, some scholarly studies have appeared which focus on metalwork in Khorasan and Transoxiana during the Islamic era, particularly before the Mongol conquest.[1] The combined results of these studies shed light on different aspects of metalwork, dividing it into coherent groups in terms of techniques of craftsmanship, types of decorations, courses of craftsmanship, and materials used. Meanwhile, only a small part of those works that are preserved today in museums and collections come from archeological excavations. Also, very few of these works bear an exact date. Therefore, attributions of these works in space and time have been determined in a comparative way, and this, in turn, has led to ambiguities that necessitate a re-examination of chronological and spatial categorizing. The present research attempts to re-examine the geographic attribution and the dating of a small number of works, and to establish the validity of this type of categorizing more comprehensively.

The range of Islamic metal objects that are grouped under the name of Khorasan bronzes is in fact very wide with regard to typological and stylistic characteristics. This provokes the

[1] Relevant literature will be adduced in the individual chapters of this study. Suffice it here to say that the works by James Allan, Anatoli Ivanov, Geza Fehervari and Asadullah Souren Melikian-Chirvani have laid a firm ground on which the characteristics of Khorasanian metalwork have been established.

question whether all of these objects can actually be attributed to Khorasan? It could also be possible that the metalworking industry of Khorasan exerted such a strong influence in the wider region that other areas were affected, especially neighboring areas such as Transoxiana. Is it not likely that part of what is already known as Khorasan metalworking has been produced in adjacent areas such as Transoxiana? There is no easy answer to this question, since the relationship between Khorasan and Transoxiana has not always been that of two distinct landscapes, with regard to either political boundaries or cultural characteristics, through the early Islamic period, i. e. from the Arabic-Islamic conquests of the 7th-8th centuries until the Mongol invasion of the 13th century. At times, Arabic geographical literature counted important cities of southern Transoxiana such as Bukhara and Samarqand as parts of Khorasan, while others described Transoxiana as a geographical unit of its own. In the field of metalwork and other art, the regional differentiation between Khorasan and Transoxiana has been carried forward in recent studies by Islamic art historians, so that significant groups of metalwork have been attributed to one of the regions; so that their belonging to Khorasan is considered an indisputable fact.[2]

There is no doubt that some of the most splendid metal objects of the Islamic world were produced in Khorasan, with the city of Herat as one centre of production. As a contrast, the role of Transoxiana has usually been overlooked or underestimated. Therefore, it seems necessary to re-evaluate the evidence and look at those factors that have not been taken into account so far. For example, in the process of classifying and identifying, decorations have usually not been addressed as much as the overall forms and shapes of objects. However, changes in the decorations and their execution on the metalwork of these areas clearly show a lively development and testify to the creativity of metalworkers. Some of these types of decorations can be termed as a particular style and methods of fabrication can be seen as hallmarks of certain gropus. These may be identified with regional traditions. In this context, openwork decoration constitutes a very important feature. It allows to classify certain groups of these objects according to their technique of production and according to particular motifs that were selected for ornamentation. There is a large number of metal objects decorated with openwork in various collections and museums of Islamic art. The oil lamp and the lamp stand kept in the Linden Museum in Stuttgart with the inventory

[2] Cf. for example: Melikian-Chirvani, Assadullah Souren: Islamic Metalwork from the Iranian World. London 1982.

number A41251 form particularly impressive examples, not only in terms of their size, but also for their elegant shape and the fine execution of their decoration. The two objects are exhibited together in the museum, and previous studies that have so far been carried out on them have assumed that they belong together and represent a set.[3] As described below, large expanses of the surfaces of both the oil lamp and the lampstand are decorated with openwork. The primary goal of the present study is to re-examine these two objects, focusing on the openwork decorations, to identify the type of motifs that were used and to establish the context from which these motifs originated. In this regard, it attempts to compare them with similar objects including incense burners, oil lamps, pots, lamp stands, etc., including fragments of such objects, which are displayed in various museums.

A number of these objects are kept in the Museum of Islamic Art in Berlin (Staatliche Museen zu Berlin, Preußischer Kulturbesitz), in the Linden Museum (Staatliches Museum für Völkerkunde) in Stuttgart, and in the Bumiller Collection (Universitätsmuseum für Islamische Kunst) in Bamberg. Twenty-nine of these were studied directly, to form a major part of the material basis for the present study, together with the oil lamp and the lampstand at the Linden Museum. Besides, comparable objects in other collections of Islamic art were also studied. Among these, objects kept in the Louvre, the David Collection in Copenhagen, the National Museum of Iran, the Reza Abbasi Museum in Tehran, the Great Khorasan Museum in Mashhad, and the Benaki Museum in Athens were also carefully examined. Other objects are located in various museums in North America and other parts of the world, where direct viewing was not possible. These objects were studied through the available literature.

As mentioned above, the ultimate goal of this study is to attribute the two objects at the Linden Museum to their cultural context on the basis of these comparisons. At the same time, it should also help classifying groups of metal objects that are decorated in a similar way with the characteristic use of openwork. The contents of this study is presented in five chapters. In the first chapter, the oil lamp and the lampstand at the Linden Museum are described. In chapters two and three, the motifs of decoration of the lamp and the lampstand are traced back to other contexts; they are compared with other examples of

[3] von Gladiß, Almut: „Islamische Metallarbeiten des 9. Bis 15. Jahrhunderts“, in: Kalter, Johannes and Margareta Pavaloi (eds.): Usbekistan, Erben der Seidenstraße (exhibition catalogue), Stuttgart 1995, pp. 123-137, here pp. 127-128; Kalter, Johannes: „Die Höfe - Zentren der Macht - Zentren der Kunst - Verbreiter des Glaubens“. In: H. Forkl et al. (eds.): Die Gärten des Islam. (exhibition catalogue), Stuttgart, 1993, pp. 77-105, here p. 87.

metalworks with similar openwork decoration. Both chapters terminate in hypotheses on the origings of the respective objects, clarifying the differences between the lamp and lampstand. Separate from this, technical aspects of the openwork objects, and of scientific analyses of Khorasan bronzes, are dealt with in chapter 4. The results of the study are summed up in a brief concluding chapter. Appendices contain an extract of information from historical texts on region of Khorasan and Transoxiana in the early Islamic centuries, and lists of objects that were studied in the collections in Bamberg, Berlin and Stuttgart.

The present study is the result of research that was carried out at the University of Bamberg, as part of the research project titled “Khurasan – Land of the Rising Sun. A cultural landscape as a core region for the formation of the material culture of the Islamic World, with respect to its representations in collections and museums”, which was funded by the German Ministry of Education and Science in the programme on “The Language of the Object”. Parts of the study were presented in lectures at a study day in the Louvre Museum[4] and at the Khorasan Conference at the Linden Museum of Stuttgart in 2016.[5]

[4] Object in Context: Musee du Louvre, research programs on the medieval Persian World, 5 April 2016.
[5] Heartland of Islamic Culture: Khurasan from Early Islam to the Mongols and beyond, Linden Museum Stuttgart, 3-4 November 2016.

Chapter I:
The oil lamp and lampstand in the Linden Museum, Stuttgart Inv. no. A41251

An oil lamp and lampstand of brass-like metal held at the Linden Museum, Stuttgart, under the joined inventory number A41251, form a most impressive group measuring approximately 110 m in height (Fig.1). Engraved in some parts, their surfaces are mostly decorated with openwork. The size and the high quality of workmanship indicate that the two objects were intended not for everyday usage, but to serve in an elite context, or for particular purposes. Extant literature on these objects is confined to brief descriptive articles in exhibition catalogues[6] and to a study in which methods of metal analyses were tested on coins and on objects from pre-Mongol Khorasan.[7] Without quoting further evidence, authors have suggested a date in the 11th-century AD. The geographical attribution varies between Uzbekistan, or more specifically, the city of Bukhara,[8] and Afghanistan.[9] The way in which the pieces are displayed in the museum suggests that they belong together. Nevertheless, a closer investigation of the artifacts, as an important part of this study below, shows that the two are very different, having little in common except their material and size, and a possible connection through the source from which they were acquired. Therefore, the lamp and lampstand were classified into two separately groups. I will argue below that no further connection between these parts exists but that they originate from different contexts.

[6] See note 3 above.
[7] Korn, Lorenz: „Datierung durch Metallanalyse? Kunsthistorische und naturwissenschaftliche Methoden zur Einordnung ostiranischer Bronzeobjekte“, Tribus 52 (2003), pp. 118-165, here: p. 149.
[8] von Gladiß 1995, pp. 127-128.
[9] Kalter 1993, p. 87.

Fig. 1: the Oil Lamp and Lampstand in the Linden Museum, Stuttgart. Inv.no. A41251

Fig. 2: Oil Lamp, Linden Museum, Stuttgart

The Oil Lamp in the Linden Museum, Stuttgart

The object is 28 cm high, of which the height of the the foot alone occupies 12 cm (Fig. 2). The main body and container together are 8 cm hight, while the lid and handle measure 9 cm each. As mentioned earlier, the vessel is largely decorated with openwork, covering a large part of the lid, body and the foot. The expanses of openwork are similar in design, with only minor differences in details. Additionally, some parts of the lamp are decorated by engraving. The ornamentation consists predominantly of geometrical motifs in circles which are divided into eight sections. However, the lamp could be divided into the following distinct parts:

The lid was cast in a single piece, although it has the appearance of four separate parts that were attached together (Fig. 3).

Fig. 3: The lid of the Oil Lamp

The top of the lid is a handle, terminating in a rosette, ca. 4 cm wide divided into eight parts. Each segment incorporates a small circular depression which seems to have contained decorative metal pieces or stones (Fig. 4). The concave surface of the main part of the lid is decorated with openwork. The ornamentation consists of a motif that is repeated in one horizontal line around the lid (Fig. 5).

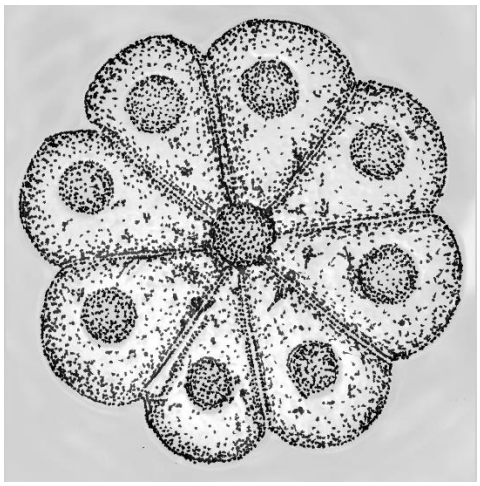


Fig. 4: The top of the handle

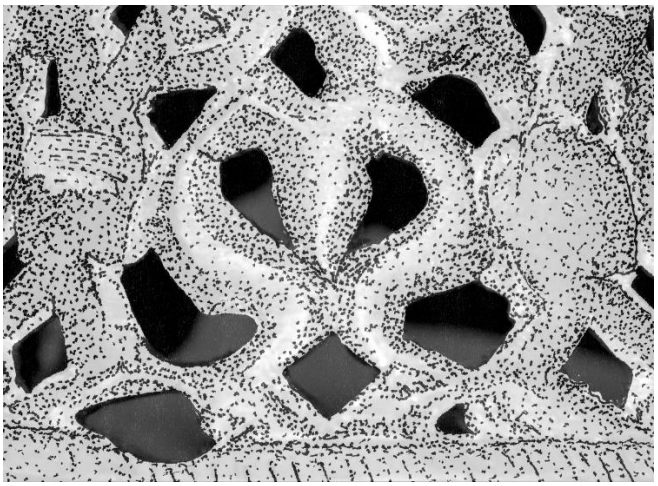


Fig. 5: Openwork decoration on the lid

The body of the lamp, functioning as container for the fuel, was also cast in one piece including the three nozzels. The main nozzle is located at the front and has a symmetrical shape, protruding from the body in a marked step. It is flanked by the other two, which are asymmetrically adapted to the lamp's left and right sides from which they bend outward (Fig. 6).

Fig. 6: The body of the oil lamp

The domical upper part of the body incorporates openwork all around. Again, the openwork motif is repeated in a horizontal line (Fig. 7). On the lower parts of the body and the flanks of the nozzles, some engraved decorations can be seen. Here, the motifs mainly consist of circles that are divided into eight parts (Fig. 8).

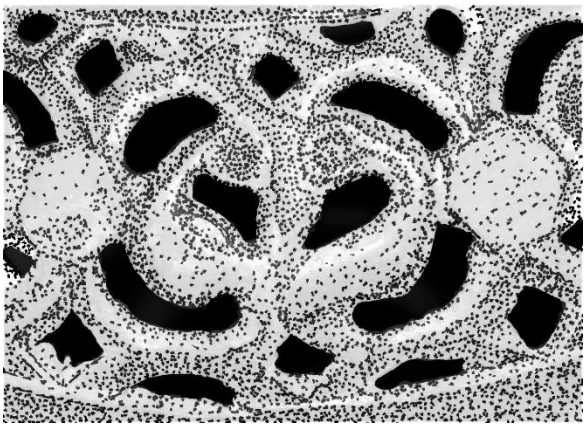


Fig. 7: openwork of the upper part of the body

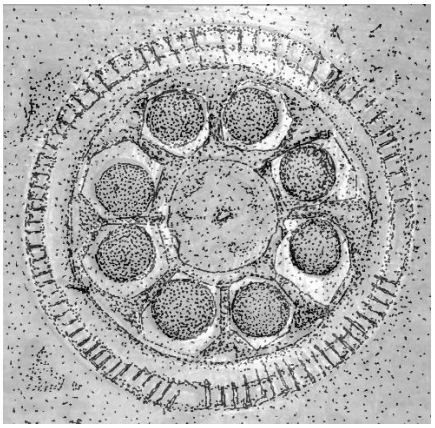


Fig. 8: Engraved decoration of the oil lamp

among which two circular decorative motifs can be seen that incorporate a Central-Asian or Chinese ‘knot of good luck’ (Fig. 9). This motif spread in Chinese culture, probably from the earliest period, but certainly from the Tang Dynasty (7th-10th cent.) onwards. In Chinese language, "knot" and “luck, felicity" have the same meaning, with the possible associations of reunion, friendliness, warmth, marriage, love, beauty, wisdom, prosperity etc. Chinese traditional decorative knots developed into a set of specific signs: By combining different knots or other adorments, auspicious motifs are formed, representing, for example, the formulae "Full of Joy", "Happiness & Longevity", "Double Happiness", "Luck and

Auspiciousness as one wishes" [10] On the springing of the lamp nozzles, the top is also decorated with engravings which in turn have the same motif of the good-luck knot (Fig. 10). For the engraved decoration of these parts of the objects, hammer, chisel and punches were used (Fig. 11).

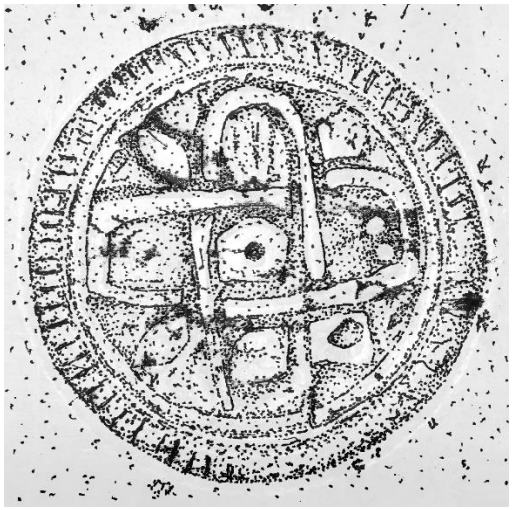


Fig. 9: Engraved decoration of the oil lamp

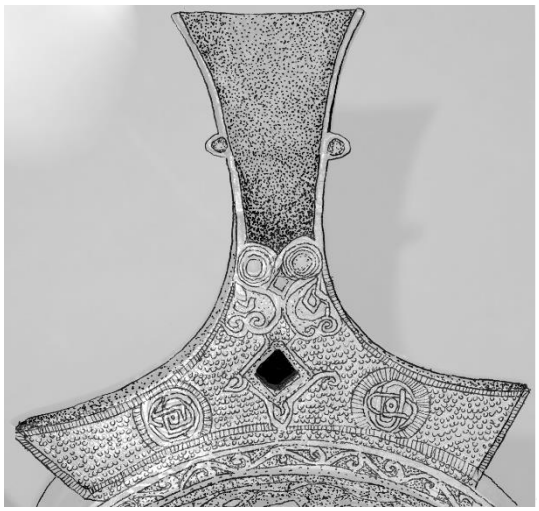


Fig. 10: Engraved decoration constaining a ‘good-luck’ knot

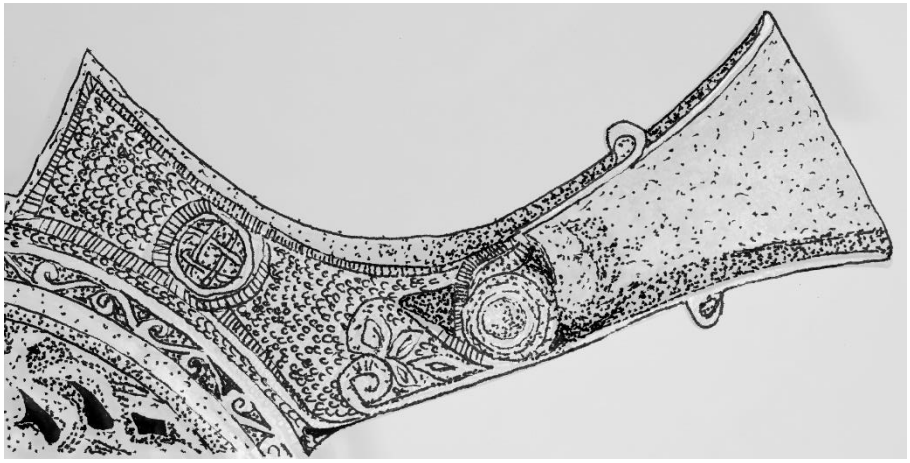


Fig. 11: Engraved decoration containing a ‘good-luck’ knot

The foot of the lamp is also decorated with openwork. Here, the motif is exactly like that on the lid and the body of the vessel; the only difference being that it is arranged in two rows, thus covering a larger area (Fig. 12).

[10] Chang, Zonglin and Xukui Li: Aspect of Chinese culture. Beijing 2006.

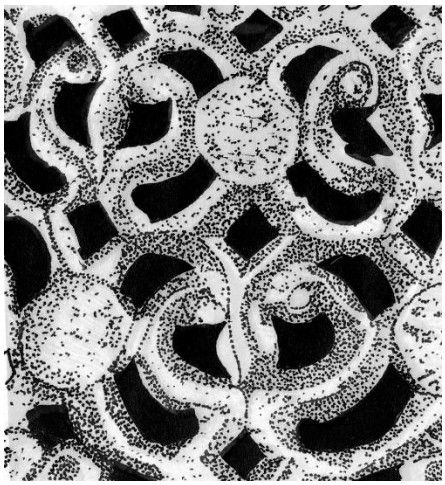


Fig. 12: openwork on the foot

An inscription in Kufic ductus is seen at the bottom of the openwork, thus encircling the lower edge of the object (Fig. 13).

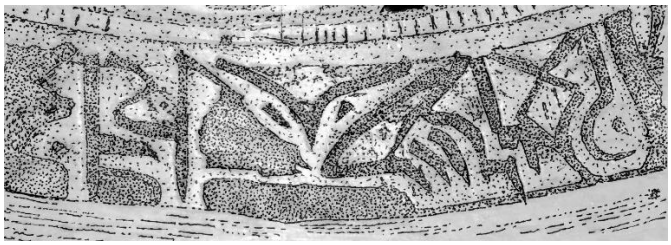


Fig. 13: Engraved decoration as inscription in *Naskh*

The text of the inscription, consisting of good wishes, reads as follows:

بالیمن والبرکة والسرور والکرامة والسعادة والعافیة والصحة والبرکة والولایة

“Felicity, blessing, happiness, God’s grace, joy, health, integrity, good fortune and blessing to its owner.”

The wording of this inscription is very similar to many others that follow exactly the same scheme. Some examples have been published by Assadullah Souren Melikian-Chirvani in his catalogue of Iranian metalwork in the Victoria and Albert Museum.[11]

It is evident that the inscription makes no explicit reference to the master who made the lamp, nor to the person of its owner. Althoug it seems obvious that only few people could have afforded an object of this size and quality, the name of the owner is nowhere to be seen on the lamp.

[11]Melikian-Chirvani 1982.

The handle of the vessel has been cast separately and attached to the vessel. The remaining part is a ring-like rod in the shape of a circle (Fig. 14). It seems that the larger part of the handle is missing, as the top has broken off and the remains resemble the claws of a bird. Each claws has three toes, one directed to the front, one to the rear, and the third turned outward. Comparing the remains with similar artifacts, it appear safe to guess that a bird such as an eagle or a rooster was originally placed on the handle (Fig. 15).

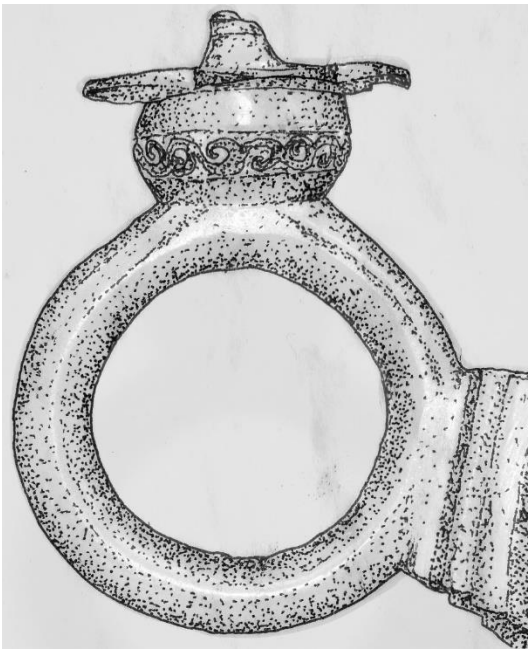


Fig. 14: The handle of the oil lamp

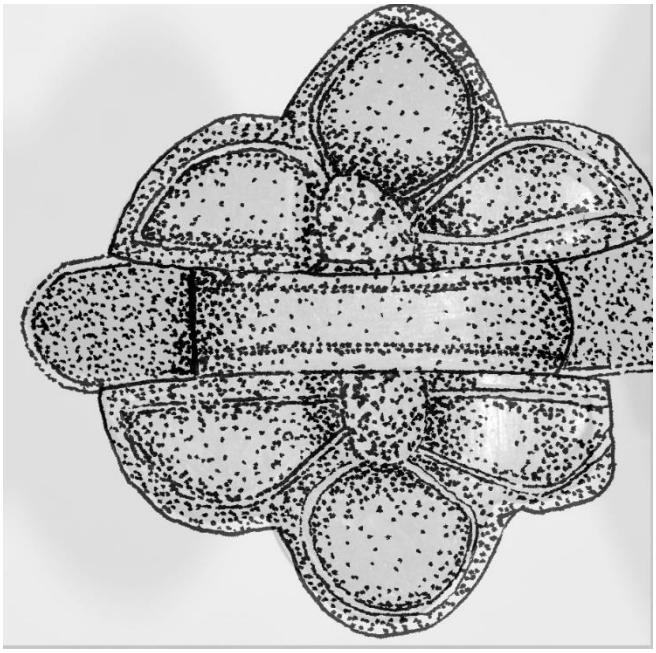


Fig. 15: The handle of the oil lamp, View from above

In total, the object is composed of four parts, with each part cast separately and then attached to the others. Comparing the exterior and interior of the lamp, it becomes clear that the exterior was polished after casting, thus enhancing the golden, lustrous appearance of the surface.

As the present study is focused on the particular features of openwork decoration, it will be attempted furher below to analyse the motif of the lamp's openwork and to compare it with similar ones on other artifacts and in architectural ornament, to trace its origins in pre-Islamic Art and to follow its transformations through different periods. Ultimately, this should be a help to arrive at a more precise dating of metalwork with similar openwork.

Fig. 16: Lampstand in the Linden Museum, Stuttgart. Inv. no. A41251

The Lampstand in the Linden Museum, Stuttgart

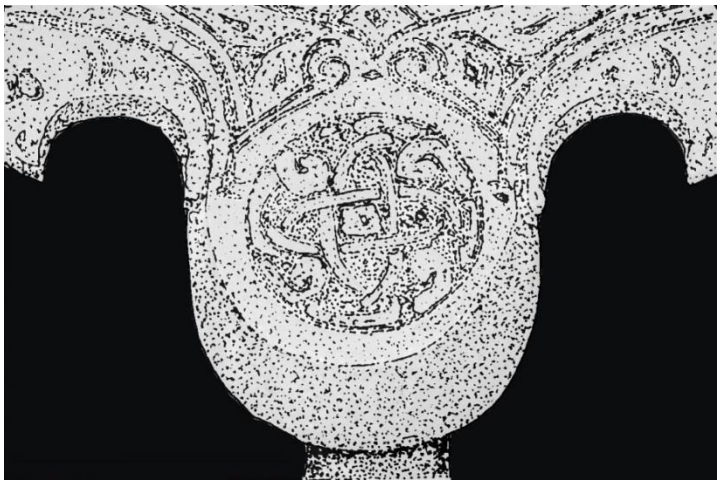
The second object inventorized under the number of A41251, the lampstand (Fig. 16) is to be described here before it can be compared with similar objects, with a focus on its openwork decoration, and hypotheses around of its attribution can be formulated. The lampstand is spectacular with regard to its size, reaching a height of 110 cm. It consists of

five separate parts, joined with bajonet cuffs or soldered together. They will be introduced in a bottom-up order.

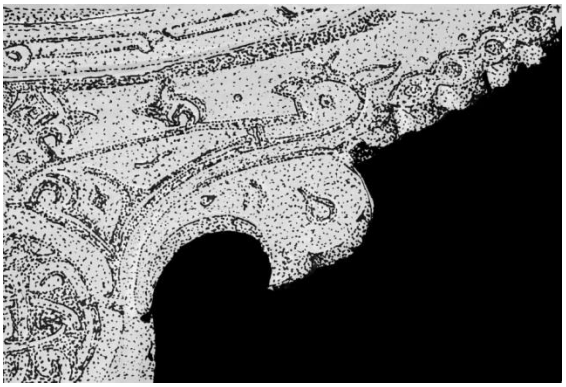
The basis consists of a domical body, resting on three legs and with a cenral flange for the shaft on top (Fig. 17). The vessel's weight is distributed evenly among the three legs.

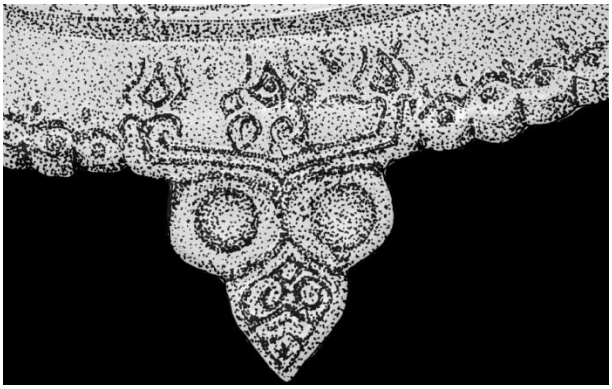
Fig. 17: Lampstand in the Linden Museum, Stuttgart. Basis, Inv.no. A41251

Each of the three legs is somehow anatomically shaped, with a bent ‘knee’ and a massive foot (Figs. 17, 18). The upper side of each knee bears an engraving, a Central Asian good-luck knot, 3 cm in diameter (Fig. 19), flanked symmetrically on both sides with bird’s heads protruding from the margin of the basis and with wings engraved on the surface, which elicit a feeling that two birds stand guard on each of the legs (Fig. 20). In addition, a cinquefoil palmette sticks out from the margin halfway between the legs (Fig. 21).



Figs. 18-19: Lampstand in the Linden Museum, Stuttgart. Basis, Inv.no. A41251





Figs. 20-21: Lampstand in the Linden Museum, Stuttgart. Basis, Inv.no. A41251

The most important decorative element on the basis, however, appears in the patterned openwork covering a considerable portion of the rounded surface (Fig. 22). Within a frame 6.5 cm wide, three rows of cinquefoils are arranged and separated by interwoven bands that form a web of small hexagons or six-pointed stars (Figs. 22-23).

Figs. 22-23: Lampstand in the Linden Museum, Stuttgart. Basis, Inv.no. A41251

While the grid of hexagons or stars has no direction in itself, all of the cinquefoils in this pattern point upwards. As will be shown below, this is a common feature in openwork on a group of comparable metal objects. Above the openwork, another engraving encircles the basis of the lampstand like a chain around the central flange that rises 7 cm high (Figs. 24-25).

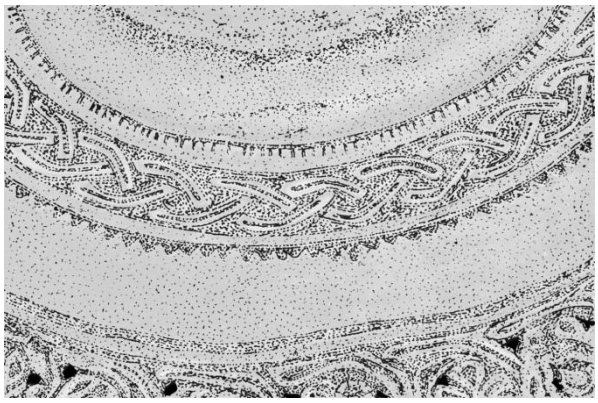


Fig. 24: Lampstand in the Linden Museum, Stuttgart. Basis, Inv.no. A41251

Fig. 25: Lampstand in the Linden Museum, Stuttgart. Upper part of the basis, Inv.no. A41251

Like a tall column, the shaft of the lampstand rests on the basis that has just been described. However, the cylindrical middle section of the shaft is adjoined by linking elements at either end. The linking part, c. 10 cm in height, has a bulbous knob between two convex profiles on the top and on the bottom. The knob, in turn, is ornamented with openwork that again

shows the combination of interlaced hexagons arranged in two rows and filled with cinquefoils (Fig. 26).

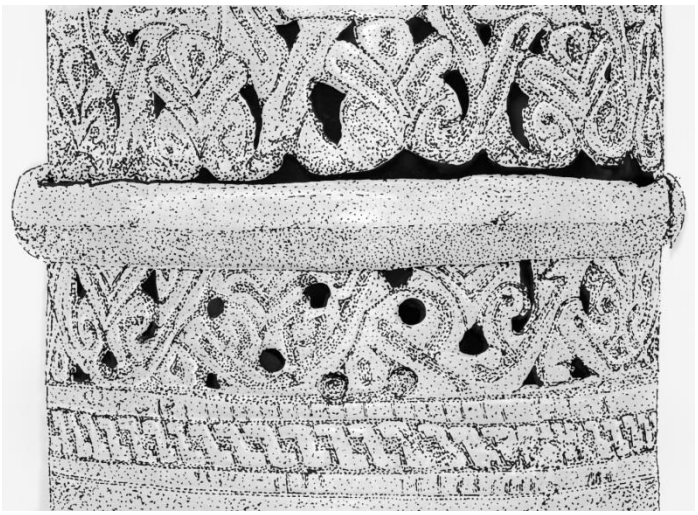
Fig. 26: Lampstand in the Linden Museum, Stuttgart. Lower linking knob, Inv. no. A41251

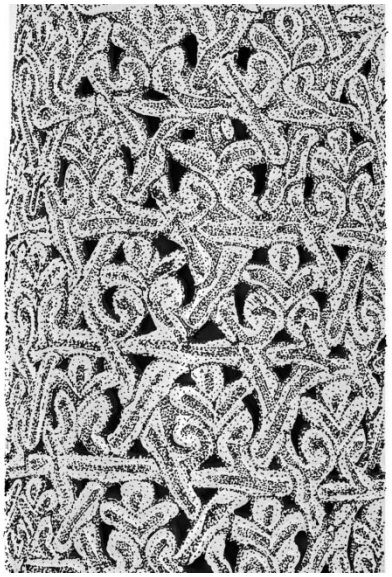
Above, the cylindrical main column of the lampstand rises with a height of nearly 54.5 cm. It is divided into three zones, the lowest of which is formed by epigraphic band with an illegible Kufic inscription (Fig. 27). This band, approximately 3 cm tall, includes a mixture of letters, leaves and flowers. The upper endings of the letters “alef” and “lām” are ornamented with flowers and leaves.

Fig. 27: Lampstand in the Linden Museum, Stuttgart. Lower zone of the shaft, Inv. no. A41251

Fig. 28: Lampstand in the Linden Museum, Stuttgart. Lower zone of shaft, Inv. no. A41251

The central zone above the inscription forms the longest element of uniform decoration, with a great number of cinquefoils in openwork repeated alongside each other (Fig. 28). Its lower part is damaged and has been unprofessionally mended by means of a metal band(Fig. 29). The openwork cinquefoils, worked out in the same fashion as on the foot, cover the surface in ten rows of hexagons (Fig. 30).





Figs. 29-30: Lampstand in the Linden Museum, Stuttgart. Central zone of shaft, Inv. no. A41251

It can be remarked that the elements of this pattern cohere, as the lower pair of leaflets of the cinquefoil grows directly out of the horizontal hexagon bar underneath. Also, it can be seen that both the cinquefoils and the intertwined lines are uniformly designed with a central groove on each element (Fig. 31).

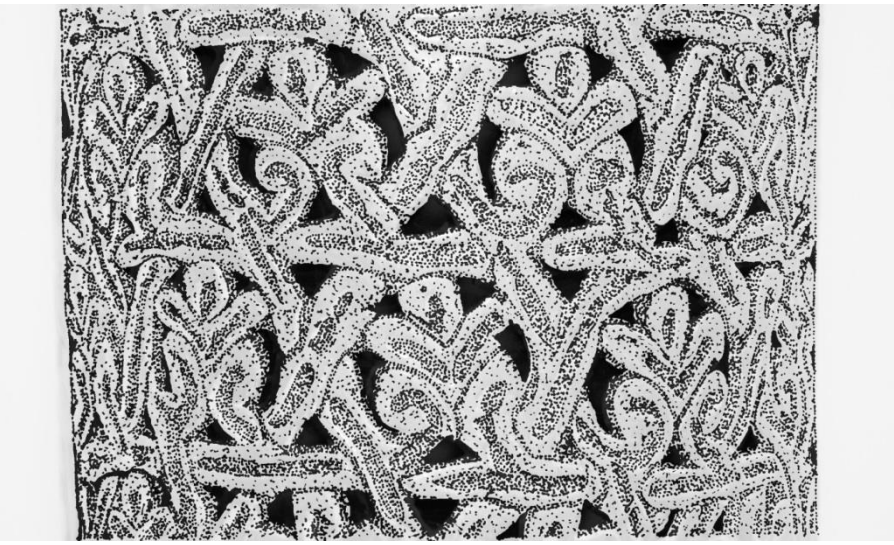


Fig. 31: Lampstand in the Linden Museum, Stuttgart. Central zone of shaft, Inv.no. A41251

The upper zone of the shaft is engraved with an inscription like its lower counterpart. Like its lower counterpart, it too contains letters tempt in the Kufic script ornamented with leaves and flowers, and has so far not been deciphered (Fig. 32).

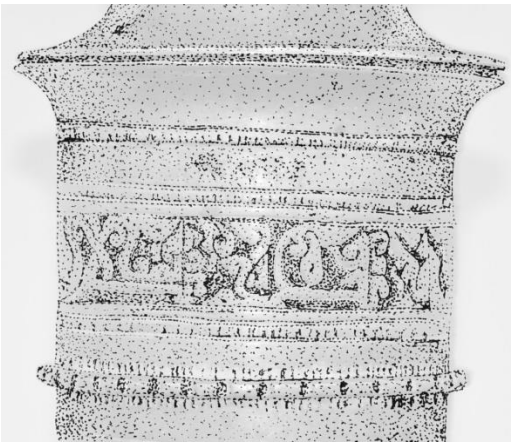
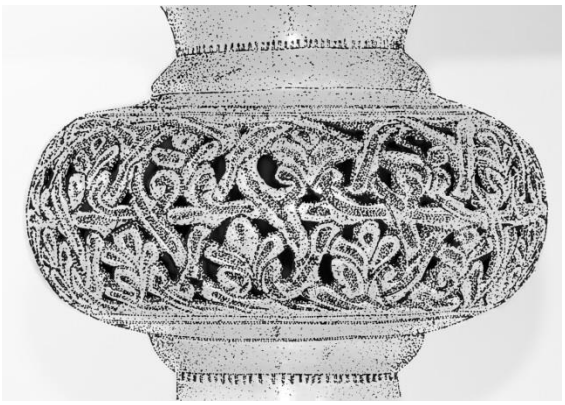


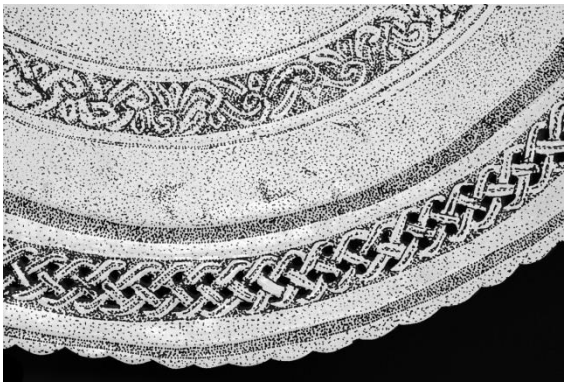
Fig. 32: Lampstand in the Linden Museum, Stuttgart. Upper zone of the shaft, Inv.no. A41251

Corresponding to its lower end, the shaft bears a bulbous knob at its upper end that links it to the disk or tray on top (Fig. 33). Again, the globular central part is decorated with openwork of cinquefoils repeating in two rows (Fig. 34).

Figs. 33-34: Lampstand in the Linden Museum, Stuttgart. Upper linking knob, Inv.no. A41251

The uppermost part of the lampstand consists of a tray measuring 38 cm in diameter (Fig. 35). Its surface is divided into various concentric decorated and undecorated zones, in which openwork and engraving ornaments alternate. On the outer margin, a plaited band of three strings is another element of openwork (Fig. 36), followed by an engraved frieze of vegetal ornament. The centre of the tray is occupied with a circle of 5 cm in diameter, formed by a band of seven cinquefoils around the focal point (fig. 37).

Figs. 35-36: Lampstand in the Linden Museum, Stuttgart. Tray,
Inv. no. A41251

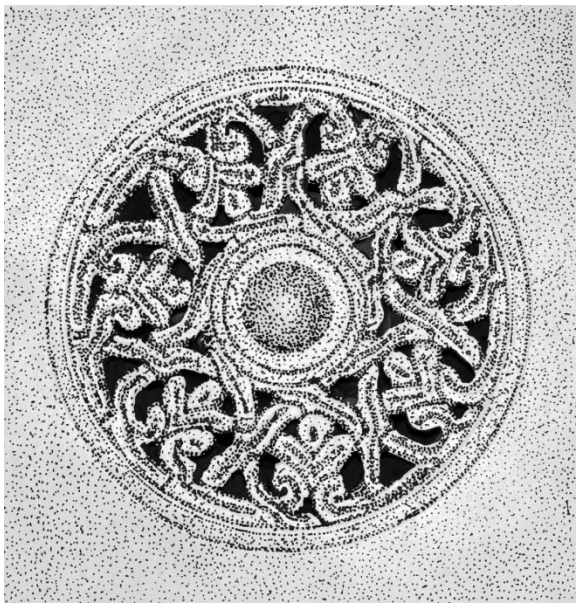


Fig. 37: Lampstand in the Linden Museum, Stuttgart. Centre of the tray,
Inv.no. A41251

As mentioned above, the lampstand and the lamp have been presented in various exhibition catalogues and studies. For their provenance, Bukhara around the year 1000 AD as well as 12th- century Afghanistan have been mentioned, without quoting further evidence except for a general comparison with Ghaznavid and Saljuqid metalwork of the Khorasan region.[12] The lampstand's large size, it is assumed, indicate that it was used at the court of a ruler. The chronological and geographical attribution seems to be supported by the comparison with another lampstand in the Victoria and Albert Museum.[13] However, closer investigation reveals that the two have little in common except for the general shape. In fact, study has so far discussed the elements of the lampstand in detail, particularly not its openwork decoration. Therefore, it appears imperative to look for other items that show comparable features.

[12] Cf. above, notes 6-7. Cf. also Dreßen, Wolfgan Ex Oriente: Isaak und der weiße Elefant (exhibition catalogue), Aachen 2003, p. 293, no. 519; Pohle, Frank and Peter van den Brink (eds.): Karl der Große - Charlemagne: Orte der Macht (exhibition catalogue), Dresden 2014, p. 66, no. 064.
[13] Melikian-Chirvani 1982, p. 17.

Chapter II:
The Wing Palmette as Openwork In Early Islamic Metalwork from Khorasan and Transoxiana

1. Introduction

The first group of Islamic metal objects with openwork decoration from Khorasan and Transoxiana is discussed in this section. This group consists of artifacts in various forms, including incense burners, utensil lids, and parts of lampstand. Despite their varied forms and applications, all of these artifacts are associated through the similities in the openwork, hence their classification into the same group. Beyond this group, this chapter is dedicated to a motif that is found nearly everywhere in the early Islamic art, for example in architecture, metalwork, ceramics, wood, glass, stone and Textiles. Examples of this motif can be found throughout many regions of the Islamic world.

It was before World War I that Ernst Herzfeld chanced upon the beveled style in the context of his archaeological investigations in Samarra.[14] Over the last one-hundred years, many archaeologists and art historians worked on this subject and presented their ideas. Among others, Richard Ettinghausen has discussed it in a specific paper.[15] Closely connected with the beveled style is the motif of the wing palmette, an iconographic element that had its origin in pre-Islamic Iranian culture, but found its way into the array of forms that were expressed in the beveled style and in later decorative styles that were formed under its influence.[16] In the following, question of formal development will be asked, in the field between style and iconography: What is the origin of this motif? Which ancient cultures contributed to the development of this motif? How was it introduced to Islamic art, playing a significant role in its evolution?

[14] Herzfeld, Ernst: Der Wandschmuck der Bauten von Samarra und seine Ornamentik (Forschungen zur islamischen Kunst, 2.1: Die Ausgrabungen von Samarra, vol. 1), Berlin 1923.

[15] Ettinghausen, Richard: "The beveled style in the Post-Samarra Period" In: G. C. Miles (ed.): Archaeologica Orientalia in Memoriam Ernst Herzfeld, Locust Valley NY 1952, pp. 72-83.

[16] Kröger, Jens: „Vom Flügelpaar zur Flügelpalmette: Sasanidische Motive in der islamischen Kunst", Bamberger Symposium : Rezeption in der islamischen Kunst, vom 26.6.-28.6.1992, Barbara Finster, Christa Fragner, Herta Hafenrichter, Stuttgart, Franz Steiner Verlag, 1999, pp.193-204.

In addition to these questions of overarching importance, it should also be asked how and when the motif of the wing palmette came to be used in metalwork? How was the motif transformed as it was incorporated into metalwork, and in which way this was related to the application of the 'beveled style'? In order to suggest answers to these questions, several objects have to be considered across different media.

2. A series of Incense burners and other objects with wing palmette decoration

Two incense burners in the Herat Museum and in the Linden Museum Stuttgart

To start with, two bowl-shaped incense burners are introduced, one of which is kept at the National Museum of Herat in Afghanistan (inv. no. HNM 01.30.86b) and the other at the Linden Museum, Stuttgart (inv.no. VL A00095). Both are very similar: The general shape is bulbous, with a wide opening on top towards which the shell is bending in a tight curve, while the lower part is slightly higher and elongated towards the splayed foot. The Stuttgart incense burner war measured as 17 cm high and 23 cm in diameter. The main part of the body is entirely decorated with openwork, while the top bears an epigraphic frieze and the bottom is ornamented with an arcaded pattern (Figs. 38-40). The similarity between the two objects is so close to suggest that they were made in the same workshop, if not after the same model.

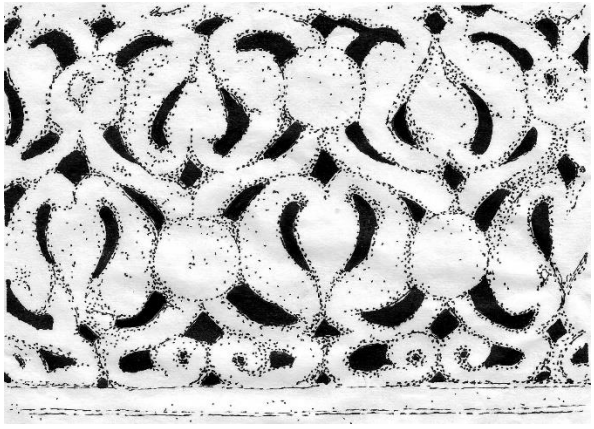


Fig. 38: Incense Burner.Herat Museum, Inv.no. HNM 01.30.86b

Fig.39: openwork of incense burner in the Linden museum

Around the opening runs a frieze of circular depressions, accompanied by an epigraphic band in boldly sharpened Kufic letters. On the Stuttgart incense burner, the text of the band reads as follows:

الوبركة والكاملة والسرور والكاملة والسعادة والشاملة والسعادة والكاملة والكاملة لصاحبه

"Complete blessing, complete joy, perfect hapiness, integrity, perfect and complete happiness, to its owner.

When first published, the vessel in the Linden Museum was attributed to Bukhara and dated roughly around 1000 AD.[17] It has to be noted, however, that the similarity with the lamp inv. no. A41251, described above, was obvious to the author, so that the earlier attribution of the lamp and lampstand 'ensemble'[18] was adopted also for the incense burner.

Similar in epigraphic style to the inscription on the Stuttgart censer, it likewise consists of wishes of good fortune. In her study of the metal objects of the museum, Martina Müller-Wiener dates the vessel to the 10th century AD, suggesting that it was made in Meymaneh, in Afghanistan.[19]

The ornament of the central zone of the body consists of a motif that is repeated in two rows all around the vessel. It consists of pairs of S-shaped tendrils, arranged symmetrically and terminating in two sharpened half-palmettes. The ends of the latter are joined in a pointed leaf that is oriented downward in the lower row and upward in the upper row (Fig. 39). It is this motif and the way it was shaped in the openwork decoration that puts the two incense burners in the immediate context of the lamp in the Linden Museum (inv. no. A41251). It should be noted that the connection between the S-shaped tendril is not only provided by the pointed leaves, but that an additional linkage is created by a disk that covers the tendrils where they approach each other in the curves of the S.

[17] Fleischhauer, Werner; Jan Lauts; Erwin Petermann, Jahrbuch der Staatlichen Kunstsammlungen in Baden-Württemberg, 39 (2002), p. 203.

[18] Cf. above, note 6.

[19] Melikian-Chirvani, Assadullah Souren: Les Bronzes du Khorâssân: III, Studia Iranica (1975), pp.194-195 and Müller-Wiener, Martina: "Metalwork from the 10th to 13th centuries", in: U. Franke and M. Müller-Wiener (eds.): Ancient Herat: Collections of the Museum and Archive in Herat. Areia Antiqua vol. II, Berlin 2016, p. 31.

Fig. 40: Incense burner. Stuttgart, Linden Museum, Inv.no. VL A00095

An incense burner in the Louvre Museum (Inv. no. MAO 1255)

In order to know this type of incense burners better, it is useful to look at an example kept at the Louvre Museum (Fig. 41).

Fig. 41: Incense Burner. Paris, Louvre, Inv. no. MAO 1255

Although of smaller size, this incense burner is similar to the two objects that have just been described. From the similarity in shape, decoration and fabric, it seems likely that it originated from the same regin and period.[20] However, there is a marked differerence in the way the motifs of the openwork are arranged: While the pointed leaves at the center of each unit are oriented alternately upwards and downwards on the previous pieses, they point uniformly downwards on the object in the Louvre

Two incense burners with decorated disks

With regard to the linkage between the motifs, two other incense burners can be introduced. One is held at the Bumiller collection, Bamberg (inv. no. BC-0860) (Fig. 42)[21], while the other one was sold at Christie's in 1989.[22] Christie's auction catalogue attributes the object to the 12th century AD and indicates "Khorasan" as the region of origin. (Fig. 43). The two incense burners are very similar and have much in common with the two that were described first above. However, these two burners are distinct from the others in a significant detail: As before, two rows of openwork cover the perimeter of the incense burners.

[20] Makariou, Sophie (ed.): Nouvelles acquisitions: arts de l'Islam 1988-2001, catalogue, Paris 2002, p. 76. Here, the incense burner is dated to 10-11th centuries AD and attributed to Iran.
[21] Unpublished. Purchased from an antique dealer in Afghanistan in 1989 (personal communication Manfred Bumiller).
[22] Christie´s Auction, Cat. No. 4037, London April 1989, p. 195, lot. 463.

Fig. 42: Incense burner. Bamberg, The Bumiller Collection, Inv. no. BC-0860

But between them another element has been placed like a horizontal chain interlocking with the other motifs. It separates and links the two rows, so that the vertical S is interrupted and it is made clear that the rows should be understood as consisting of smaller motifs that are approximately heart-shaped and consists of tendrils converging in half-palmettes, from the tips of which the join in the pointed leaf (Fig. 44).

Apart from this, the ornamental disks linking the motifs are decorated by an engraved good-luck knot, in a similar shape as it had appeared on the lamp A41251 (Fig. 45).

Fig. 43: Christie's. April1989 Lot. 463

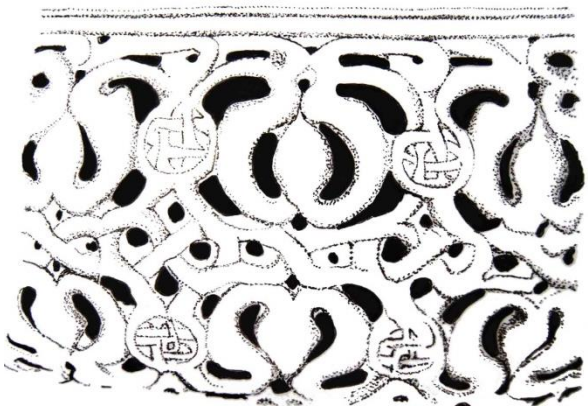


Fig. 44: Openwork of the incense burner at the Bumiller Collection, Inv.no. BC-0860

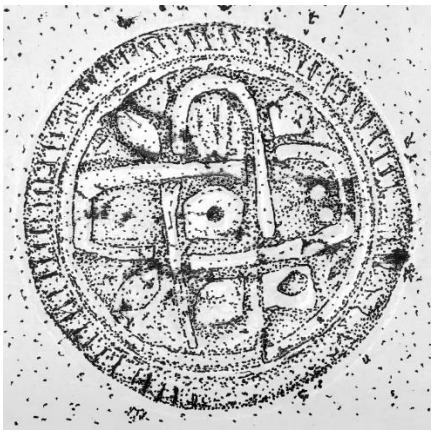


Fig. 45: Knot engraved on the oil lamp,

Linden Museum Inv. no. A41251

Lid of an incense burner in the Bumiller Collection, Bamberg

This chain-like openwork can be observed on other metalworks. A bronze lion head in the Bumiller (Inv.no. BC-0174) is a good example. It seems that this artifact could have functioned as part (lid) of an incense burner (Fig. 46).

Fig. 46: A bronze lion head in the Bumiller collection, Inv.no. BC-0174

The openwork consisting of chain-like interlocking bands forms a frieze around the neck of the lion. In this context, it is worth to be mentioned that numerous examples of lion heads,

all attributed to Khorasan, exist in collections and museums of Islamic art around the world; most of them are dated to the 11th -13th centuries AD.[23]

Two incense burners from the art market

The discussion is supplemented by further examples of incense burners. First, an incense burner can be mentioned that was auctioned at Christie's in 1991 (Fig.47).[24] Here, features of the first and the second groups of incense burners are combined: While the general pattern of the openwork is similar to that of the the first group (two rows of openwork decorations placed immediately on top of each other with no other element in between), there are disks bearing engraved Central Asian good-luck knots, as they had been observerd on the second group. The auction catalogue attributeds the incense burner to eastern Iran, 13th century AD.

Fig.47: Christies, Islamic Art and Indian Miniatures, 8 King Street, 8 October 1991, Lot. 204
Fig.48: Sothebys, Islamic works of Arts and Ancient and Islamic Glass, London, April 1980, Lot.15

A strikingly different variant is introduced by an object of identical shape, but with another kind of openwork, consisting of interlacing bands in which the interstices are filled with cinquefoil motifs. The description of catalogue the incense burner states that it originates from Iran and dates back to the 11th century AD (Fig.48).[25] The cinquefoil motif that has

[23] Hauptmann von Gladiss, Almut and Jens Kröger: Berlin, Staatliche Museen Preußischer Kulturbesitz, Museum für Islamische Kunst (Loseblattkatalog unpublizierter Werke aus deutschen Museen), vol. 2. Metall, Stein, Stuck, Holz, Elfenbein, Stoffe, Mainz 1985, pp. 17-18, no. 227; Fehérvári, Géza: Islamic Metalwork of the Eighth to the Fifteenth century in the Keir collection. London 1980, pl. 38, no. 112-113.
[24] Christie's auction: Islamic Art and Indian Miniatures, London, 8 October 1991, Lot 204.
[25] Sotheby's auction: Islamic works of Arts and Ancient and Islamic Glass, London, April 1980, Lot.15.

already been introduced above on the Stuttgart lampstand will be dealt with further below. Here, it is important to state that two vessels of nearly identical shape and produced with the same technique are dated two hundred years (or more) apart in the literature. While authors and the actors on the art market seem to agree that all of these objects date from the pre-Mongol period, there seem to be no criteria to attribute them to a more specific period. In most cases, Khorasan or eastern Iran (both apparently used synonymously) is given as the region of origin, while the attribution to Bukhara by the curator of the Linden Museum seems to be an exception.

Two incense burners with an eightfold decoration

At this point, two more incense burners can be referred to, which are similar to those previously discussed as their overall appearance is concerned. A slight difference can be seen in the slightly compressed shape, flatter than the others, and with a wider opening. The openwork on this incense burner, however, is different from the preceding examples. Large circles divide the spherical surface into eight cartouches that are filled with vegetal ornament of interlacing bands and cinquefoils. Again, a Kufic inscription containing good wishes runs along the upper edge of the incense burner. The incense burner is attributed to the Khorasan region, 11th century AD (Fig. 49).[26]

Fig.49: Sotheby's, Islamic works of Arts, London, April 1982, Lot.10

Fig.50: The Herat Museum, inv. no. HNM 01.15.86

[26] Sotheby's: Islamic works of Arts, London, April 1982, lot 10.

Another example of the same type is kept at the Herat Museum in Afghanistan (inv. no. HNM 01.15.86). The openwork of this incense burner is designed in exactly the same manner. The incense burner was found in Afghanistan and was attributed to the 10th century AD (Fig. 50).[27]

Two incense burner in the Bumiller Collection, Bamberg and in the Metropolitan Museum

A comparable incense burner with a similar arrangement of the openwork decoration can be found in the Bumiller collection, inv. no. BC-922. In comparison to those described above, this incense burner is smaller and has a narrower foot, but it bears a similar inscription in Kufic script on the top edge, followed by a frieze of circular depressions. The particular feature of this piece is that the six roundels are filled with depictions of animals (Fig. 51). An incense burner of the same type is kept at the Metropolitan Museum in New York (Fig. 52) It is attributed to 12th-century Iran.[28] A similar object is depicted in the *Survey of Persian Art*.[29]

Fig. 51: The Bumiller Collection, Inv.no.BC-922

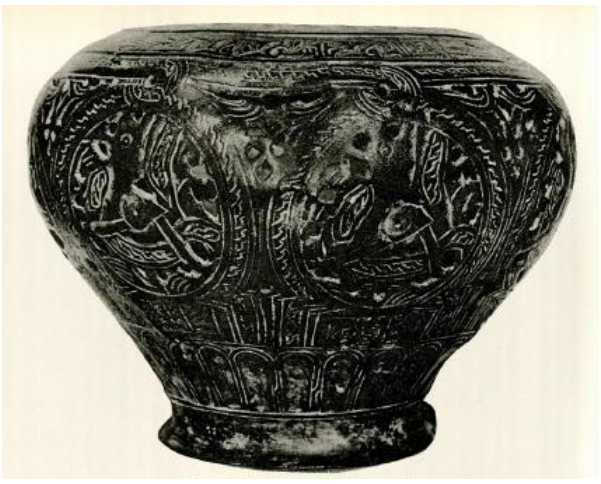


Fig. 52: the Metropolitan Museum of Art, Inv.no. 1963, 63.16.4

A ceramic incense burner

It should be noted that there are also ceramic incense burners of this type, with the characteristic features of the shape and also part of the decoration just like the prototypes

[27] Melikian-Chirvani 1975, p. 194 and Fig. 5; Franke, Ute and Almut von Gladiss: National Museum Herat - Areia Antiqua through time, Berlin 2008.
[28] Ettinghausen, Richard: Islamische Kunst, Meisterwerke aus dem Metropolitan Museum. Berlin 1981, Fig. 38.
[29] Pope, Arthur Upham and Phyllis Ackerman: A Survey of Persian Art from Prehistoric Times to the Present, 4 vols., London, 1938-39, repr. in 14 vols. London/New York/Tokyo 1964-1967, vol. 13 pl. 1290A.

made of metal (Fig. 52). Just like with other classes of objects, it is easy to see that the ceramic artisan aimed at imitating metal objects. Piercing the walls of a ceramic object is not very common – a technical challenge that can however be mastered with some experience – and in this casee it followed the example of the metalwork.

The ornamentation on this ceramic incense burner is however different from that on the metal variants. Straight lines form a geometric openwork grid, and motifs are combined from square, circular and triangular forms. According to the auction catalogue, the object was dated to the 12th century, which seems in keeping with the mononchrome turquoise glaze. The attribution to either Iran or Syria appears quite vague.[30]

Fig. 53: Ceramic vessel. Sotheby's, October 1984, lot 128

As observed so far, a large number of such incense burners with similar overall appearance exist in collections and museums (most of them outside the Islamic Middle East). The openwork decoration of these objects shows identical features of fabric, while the motifs show a limited range of variety. According to descriptions in auction catalogues and museum publications, all of them belong to eastern Iran or Afghanistan, which is almost synonymous to Khorasan, and the dating varies between the 10th-12th centuries AD.

While an in-depth study is still missing, it seems that the relative uniformity of the style of these objects can be explained from a combination of factors: The purpose of burning incense made it desirable to produce vessels from which the smoke could exit through a number of small openings (in addition to the large opening in the centre). The manner of

[30] Sotheby's auction: Cat: Islamic works of Arts, Carpets and Textiles, London, October 1984, lot 128.

producing the vessels by casting would certainly have encouraged the use of certain shapes. Thus, the way of forming motifs with flanged profiles of the 'beveled style' may have suggested itself for the casting technique. As casting required great technical expertise, the number of workshops was probably limited. This would also have proposed a certain uniformity in fabric and motifs. However, general fashions in design could also have played a part. Fashion made it desirable to own objects that conformed with a certain style, or with an iconography of motifs. Both seems to have been the case, as the following examples may demonstrate. It appears logical that both the decorative and the practical roles of openwork determined its shape.

Two objects in the Bumiller Collection

Openwork can be found on other classes of objects that served different purposes. For example, the lid of a bronze vessel from the Bumiller Collection (Inv.no. BC-1194) shows nearly the same motif as on the incense burners that were introduced above. Supposedly, the vessel was used as something other than an incense burner while its openwork seem to be decorative only. The openwork allowed the contents of the vessel to be easily seen (Figs. 54-55).

Fig. 54: Openwork on the lid of a vessel in the Bumiller collection, Inv.no. BC-1194

Fig. 55: lid of a vessel in the Bumiller Collection, Inv.no. BC-1194

Another example from this collection is a single-nozzle oil lamp with openwork on its rounded top (Inv.no. BC-1677). Undoubtedly, the openwork motif on the lamp is decorative and, unlike incense burners, it serves no practical purpose (Fig. 56).

Fig. 56: oil lamp in the Bumiller collection, Inv.no. BC-1677

The principal motif constituting the openwork is nearly identical to the previously discussed examples. (Fig. 57). It consists of a symmetrically arranged pair of tendrils with half

palmettes that unite in a central pointed leaf. The individual motifs are connected with disks that link the tendrils at half level.

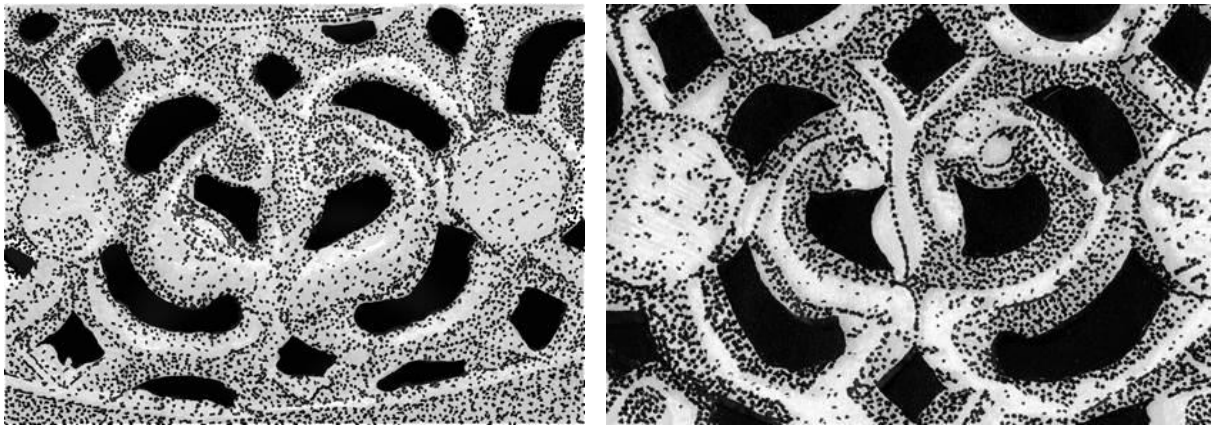


Fig. 57: openwork on an oil lamp in the Bumiller collection, Inv.no. BC-1677

A vase in the Linden Museum, Stuttgart

In order to investigate the transformations of this motif, it is necessary to examine its utilization on some other artifacts. Here, another vessel from the Linden Museum (Inv. no.A 360 76L) is referred to which is important in the evolution of the motif. It is a vase-like vessel made of bronze and covered by thick layers of green patina (Fig. 58). The vessel is 23 cm tall and 17.2 cm wide. Its upper part of the is damaged and incomplete. In a short article in an exhibition catalogue, it has been dated to the 11th century AD and attributing to Transoxiana.[31] This is more or less in keeping with other attirbutions, as demonstrated above. However, as with most of these objects, no archaeological documentation on the provenance is available, so that the validity of such statements is questionable.

[31] Von Gladiß 1995, p. 128, fig. 209.

Fig. 58: Bronze vase. Stuttgart, Linden Museum, Inv. no.A 360 76L.

Various ornaments are visible on this vessel, some of them engraved and the rest being openwork. What is important here is that the openwork decoration occupies central positions on the object. While the domical foot has a frieze of interlacing bands and the upper body is adorned with a medallion depicting a bird, the decoration on the widest part of the body consists of the very motif that has been discussed above. Here, it has been slightly modified in that the central leaf is broken up into two half-palmetters which seem to echo the larger pair of leaves next to them (Fig. 59). It appears that this shape represents a late stage to which the motif had developed, in which an earlier, meaningful composition of elements was changed to a more elegant appearance. Further below, it will be shown that the element which took the central position in earlier versions of the motif can be identified as a pomegranate.

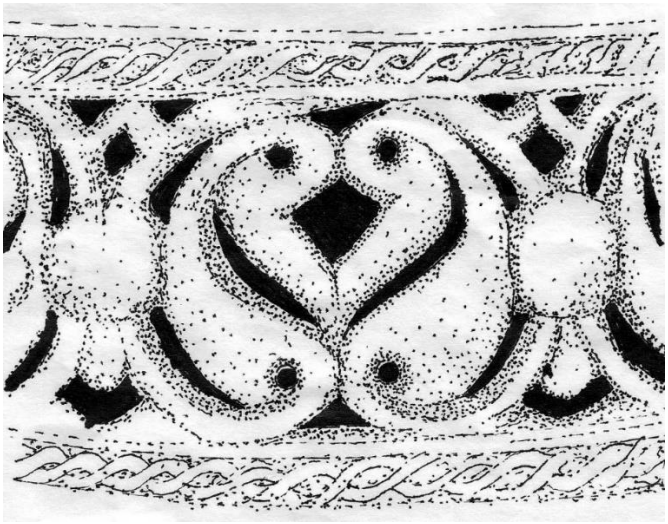


Fig. 59: Openwork on Vase or Vessel in the Linden Museum, Stuttgart.

In fact, it is also possible to identify the lateral elements of the motif as a 'wing palmette', as the two leaves into which the lateral tendrils are terminating are symmetrically spread like a pair of wings. The pre-Islamic origin of this motif will be examined further below.[32] Here, suffice it to say that in the arrangements that have been discussed so far, no specific meaning has become visible from the motif itself or from the context in which it has been arranged on the objects. However, it is important to note that it is usually placed in a central position, which seems to give it some importance. As a contrast, the repetition of the motif in a row detracts from its characteristic shape and makes it part of a mesh with a geometric order. By applying this motif in the openwork pattern on incense burners, artisans managed to create a grid that allows smoke to exit from the vessel other than through the central opening, thus lending a practical aspect to the decorative motif.

Datings that have been attributed to the various objects in the relevant literature range from the 10th to the early 13th centuries. It has to be underlined that there seems to be no hard evidence on which these attributions are based and that the art historical considerations which lie behind them have not been discussed *in extenso*. However, the comparison of the motif with other media, among which stucco takes a particular place, will demonstrate that a dating from the 10th century onwards is not unlikely. Such a comparison can suggest

[32] Kröger 1999.

possible sources from which the artisans of Khorasan could have taken the inspirations for incorporating this motif into their works.

3. Samarra stucco decoration, the wing palmette and the pomegranate

In order to provide a wider background, we shall move to a different place: Samarra, the capital of Abbasid caliphate between 836 and 892 AD. Much has been written about the importance of this place for our knowledge about Islamic art and its formation. The art of Samarra in some way represents a stage of development when the different roots of Islamic art had become obsolete and the various elements and stylistic currents had been amalgamated to something more coherent. Among the artifacts from the Abbasid Samarra that have been extensively studied, we can turn our attention to stucco decoration of the so-called styles B and C. A hundred years ago, Ernst Herzfeld prepared the first drawings of these stuccos, which he published in great detail in his later monograph on the wall decorations of Samarra (Fig. 60).[33]

Fig. 60: Stucco panel from Samarra. Museum für islamische Kunst, Berlin, Inv.no. I. 3481

It has been observed that the style of Abbasid art of the 'Samarra period' spread from the capital area of Iraq, where it can be observed best in Samarra, to the provinces of the

[33] Herzfeld 1923; Northedge, Alastair: "Creswell, Herzfeld, and Samarra." Muqarnas 8, 1991, pp. 74-93.

caliphate, where objects and buildings that are widely distributed show some characteristics that apparently reflect the fashion of the capital area.[34] An important observation in this respect has been made by Richard Ettinghausen, who traced the spread of the 'beveled style' (termed "Samarra style C" by K. A. C. Creswell) across the Islamic world.[35] However, it can be seen that Muslim artists, for example in Egypt, not only used extensively used the beveled style as architectural ornament or to decorate woods, crystal and glass. Interestingly, features of the so-called "style B" are also visible in many examples of Islamic stucco, metalwork and other media. From the many examples, it can be seen that craftsmen did probably not just copy from prototypes that the had in their hands, but that the elements and their arrangements that were specific of theses styles, were understood and used independently, re-worked and re-grouped by different craftsmen. Given that the examples are so widely scattered, it is difficult to trace a clear path from Iraq to central and northeastern Iran. However, the similarity of motifs and styles through different media suggests that the connections were made by travelling craftsmen as well as by objects that were transporte.

Stucco decorations at Naʾin and from Rayy

The relationship between the stucco decorations of the Great Mosque (*Jameʿ* Mosque) of Naʾin and the stucco of Samarra has been widely discussed in the literature.[36] The stucco on the arches above the antemihrab bay has been classified as a mixture of styles B and C, and have been dated to the first half of the 10th century. In the spandrels, the large circular motifs catch the eye. (Fig. 61). It consists of a pomegranate flanked by two leaves which extend upwards. The presence of the clearly identifiable pomegranate in this motif appears as a crucial difference from the beveled style of Samarra, in which elements are much more abstracted from any possible natural prototypes. Although pomegranate-like elements can be detected in Samarra stucco motifs, it seems that the iconography of Naʾin is the continuation of this motif from the Sasanian period, with little change. Its position in the stucco of Nain indicates that the motif is emphasized and therefore potentially meaningful.

[34] Allen, Terry: Five Essays on Islamic Art, Sebastopol CA 1988, p. 85.
[35] Ettinghausen 1952.
[36] Finster, Barbara: Frühe iranische Moscheen vom Beginn des Islam bis zur Zeit salǧūqischer Herrschaft, Berlin 1994, p. 240.

Fig. 61: Stucco decoration in the *Jameʿ* Mosque of Nain

Several stucco panels kept at the National Museum of Iran, under the collective inventory number of 3267, originate from excavations in Rayy.[37] They are commonly dated to the 11th century. The panel featuring an oblong frame with two birds has a pattern of six-pointed stars and hexagons in its central field (Fig. 62). Some of the geometric cells contain a vegetal decoration consisting of a pomegranate flanked with two leaves that terminate in half palmettes. In principle, it is the same arrangement as in the *Jameʿ* Mosque of Naʾin (Fig. 63). The same motif can be seen in the stucco mihrab that was probably discovered together with the other panels, and which bears the inventory number 3266 (Fig. 64). The frame and the arch of the flat niche bear inscriptions quoting verses from the Qurʾan.[38] In the central panel under the smaller arch, the same motif can be identified in multiple repetition.

[37] Pope, Arthur Upham: "The National Museum in Teheran." Bulletin of the American Institute for Iranian Art 6/7 (1946), pp. 78-101, here: p. 88, figs. 18-20.

[38] For the inscriptions on this stucco mihrab, cf. Ābyār, Manṣūr: "Bar-rasī-i katībahā-i miḥrābhā-i gačī dar mūza-i millī-i Īrān", Asar 35 (1382 [=2003]), pp. 74-84.

Fig. 62: Stucco panel from Rayy. National Museum of Iran, Inv.no. 3267

Fig. 63: Stucco panel from Rayy. National Museum of Iran, Inv.no. 3267, detail

Fig. 64: Flat stucco mihrab from Rayy. National Museum of Iran, Inv.no. 3266

Two other stucco panels of this group, with the collective inventory number 3265, show the pomegranate element in different arrangements. On the first panel, the combination of the pomegranate with flanking leaves appears in the smaller fields, while isolated pomegranate elements are placed in the rays of the central eight-pointed star (Fig. 65-67).

Fig. 65: Stucco panel from Rayy. National Museum of Iran, Inv.no. 3265

Fig. 66: Stucco panel from Rayy. Tehran, National Museum of Iran, Inv.no. 3265, detail

Fig. 67: Stucco panel from Rayy. Tehran, National Museum of Iran, Inv.no. 3265, detail

The second panel shows the more abstracted shape of the pomegranate, alsmost like a leaf, at the centre of the large ten-pointed star (Fig. 68-69). Here, the motif appears as the most important part of the stucco decoration.

Fig. 68: Stucco panel from Rayy. Tehran, National Museum of Iran, Inv.no. 3265

Fig. 69: Stucco panel from Rayy. Tehran, National Museum of Iran, Inv.no. 3265, detail (inverted)

In all of these panels, the pomegranate can be seen in different shapes and with different arrangements of the accompanying leaves. It can be argued that the variations in which the pomegranate appears demonstrate that it frequently occupied an important position, but that it could be adapted to many different uses in surface ornament. Ultimately, this is the same as can be observed in metalwork.

The role of the pomegranate

The pomegranate plays a key role in this type of ornamentation and is repeated many times in almost all of these stucco panels, as well as in the stucco of the Great Mosque of Na'in. Hence the question: How and when was the pomegranate added to this pattern? What can be inferred from the appearance of this fruit in the pattern? From where did the Muslim artisans take this motif from? What did it imply, and were the form and the meaning of the

motif transformed after the advent of Islam? Answers to these questions will be difficult to find, as the evidence is not clear-cut; but they have a relevance o the relationship between Iranian and Islamic cultures. For the given context, the stuccos and objects in other materials ma help to specify since when and how the motif became an ornament for metalwork. In order to do so, it is first necessary to investigate the history of this motif in the art of more ancient times. First, the significance of the pomegranate in pre-Islamic art should be elucidated.

The pomegranate in Achaemenid art

Some examples of the pomegranate fruit and flower motifs can already be found in Achaemenid art. The tree and its fruit seem to have been of utmost importance to Achaemenid Iranians, sanctified by their religion. As we will see, the pomegranate and its flower were incorporated into one of the most important pictorial reliefs at Persepolis in this period. But first, we take a look at an object kept at the Reza Abbasi Museum in Tehran, with the inventory no. 2625 (Fig. 70).

Fig. 70: Pomegranate, gold. Tehran, Reza Abbasi Museum, Inv. no.2625

The object is generally attributed to the Achaemenid period, although no clear evidence is provided for the dating. It is made of hammered and granulated gold. The pomegranate

shape is unmistakable, and corresponds to the size of the object. A ring is incorporated into the lower part, which allows the object to be worn on the hand or as a necklace. The granulations on the surface are shaped in geometric triangles, but they can still be associated with pomegranate seeds. The fact that a pomegranate was imitated in gold provides evidence that this fruit enjoyed the highest prestige in the Achaemenid period.
A striking iconographic setting for the pomegranate, however unexpected it may be, is the well-known treasury relief portraying Darius I or Xerxes I in a general audience (Fig. 71). . The relief, now preserved in the National Museum of Tehran, was originally placed at the center of the front wall in the eastern staircase of the royal audience hall (apadana) at Persepolis. The construction of the apadana goes back toDarius I (522-486 BC). It was one of the oldest halls in the palace complex of Persepolis, intended for Nowruz celebrations and for meeting the representatives of the affiliate countries.[39]

Fig. 71: Treasury relief. Tehran, National Museum of Iran,

In this famous relief scene, the great king is depicted receiving representatives of the lands that belonged to the great Achaemenid Empire. He is greeted by an official, while the person behind the throne is usually identified as the crown prince. The enthroned king is holding a long staff in his right hand, while he carries a large flower in his left. Commonly, the flower is considered a lotus.[40] The crown prince also holds a similar flower. It has a cup-shaped calyx with pointed petals; but its most characteristic feature are the two buds below the calyx.

[39] Schmidt, Erich F.: The Treasury of Persepolis and Other Discoveries in the Homeland of the Achaemenians, Chicago 1939, p. 27.
[40] Ghirshman, Roman: The Arts of Ancient Iran: From Its Origins to the Time of Alexander the Great, New York 1964, p. 258.

Careful comparison of the floral motif in the relief with various flowers in nature has convinced the present author that the relief does not depict a lotus flower but a Persian Pomegranate Flower.

Fig. 72: Treasury relief. Tehran, National Museum of Iran, details

It should be mentioned that the lotus is a member of the Nymphaeaceae family of aquatic herbs. The only flower of the plant is supported by a thin and soft stem which floats on water through its circular leaves. The buds of the flower are located on separate stems. This flower withers quickly when taken out of the water. All of this speaks against an identification of the flower in the Persepolis relief with a lotus.

It seems that the current identification of the relief flower with a lotus has been based on the general assumption that Achaemenid relief art is strongly influenced by Egyptian reliefs. Here, the iconography of the king holding a lotus (a sacred plant in ancient Egypt) seems to have been current. However, in the opinion of the author, the artistic influence of other cultures on Achaemenid relief art should not overemphasized with regard to iconography. It seems much more convincing to associate the flower in the hand of the king, at a central point in the depiction of royal ceremonial, with a meaning rooted in Iranian culture.

The pomegranate plant is known by the name of *Punica Granatum* and recognized by its large and exquisite flowers. All pomegranate species are native to Iran, with Fars province being the natural habitat of most of them. The pomegranate flower is fragrance-free and is found in fiery red to orange-red colors. They are 3.5 to 7.4 cm long, and 3.8 to 5 cm wide, with a diameter of 3 cm and more.[41]

[41] Kheyrodin, Hamid and Sadaf Kheyrodin: "Important [sic] of Pomegranates in Iran." International Journal of Research Studies in Agricultural Sciences (IJRSAS) Volume 3, Issue 10 (2017), pp. 1-9.

As mentioned earlier, the discussed relief depicts two spherical appendices beside the main large flower, which can be be identified as buds. Two globular-oblong buds springing from the stem immediately below the flower are characteristic of the pomegranate.
Therefore, it seems that the sculptors of the royal relief depicted two buds just below the pomegranate flower held by the king, perhaps also in order to evoke the impression of a stem that thrives with many flower, thus symbolizing a thriving dynasty. Besides, the two buds maintain symmetry and balance. In other reliefs of Persepolis, pomegranate flowers can be seen in the hands of other elite members, but none are as big, symmetrical, and elegant as the one held by the king, a means to highlight the glory of the king's position.

The pomegranate and the wing palmette in Sasanian art

It seems that the role and significance of the pomegranate tree and its fruit did not diminish through the ages but gained in importance and became more widespread in iconography. From the Sasanian period, many cases are known in which the pomegranate is depicted. It is combined with other royal motifs, which demonstrates its importance as a royal symbol.
As an example, a seal impression from the Sassanid period can be pointed out, which is kept at the Metropolitan Museum in New York. (Fig.73)

Fig. 73: Seal impression, Sasanian period. New York, The Metropolitan Museum of Art

Three pomegranates can be seen, placed at the end of the branches of a tree. Two birds are sitting on the lateral pomegranates and picking on the fruit in the middle. The symmetrical arrangement is completed by the two palmette-like wings at the bottom, in between of which the tree springs. The combination of elements on the seal shows clearly that the

pomegranate tree and its fruit were used symbolically. As the wing palmette motif was used by the Sasanian kings, it indicates at least the prominent social class of the seal's owner. As to the pomegranate, it seems safe to say that the it was used in conjunction with the wing palmette, and that it was important from a religious or political point of view. The combination of the two motifs on this seal, however, marks the dawn of a new motif which was extensively used in various forms during the Islamic period.

The wing palmette seems to have been used whenever it was necessary to emphasize that an object or an architectural ornament belonged to a royal context. This is the case for the stucco panel held at the Museum of Islamic Art in Berlin (Fig. 74). On this object, the wings have an appearance as if belonging to an eagle.

Fig. 74: Stucco plaque. Berlin, Museum of Islamic Art, Inv.no. I.1084

Moreover, the wing palmette was used as an element in the crown of a few Sassanid kings. numerous examples of which exist in depictions of the Sasanid kings and their coins. (Fig. 75).

On the gold coin of Khusrau II in the Malek Museum, Tehran (inventory no. 278), it is visible that the wing palmette forms the upper part of the crown, and that a crescent and a star ar

placed on a rod between the two leaves. The far-reaching implications of this particular iconography cannot be discussed here.

Fig. 75: Gold coin of Khosrau II Parviz. Tehran, Malek Museum, Inv. no. 278

The wing palmette from Sasanian to Islamic art (one)

The bust of the Sasanian king was as an essential element of Sasanian coinage. Together with the bust, the crown with the pair of wings (and the cresent-and-star motif) was incorporated into the imagery of early Islamic coinage in the eastern regions of the caliphate. The so-called Arab-Sasanian coinage continued royal Sasanian imagery through the first decades of Islam, and even after the coin reform of ʿAbd al-Malik, rulers of certain regions kept this post-Sasanian tradition and used the royal bust on their coins. This way, the pair of wings can be found on the coins in some regions of Iran such as Tabaristan until about two hundred years after the Muslim conquest (Fig. 76). The motif of the wing palmette became part of the visual repertoire of early Islamic Iran. Certainly, it lost some of its royal significance after the Muslims had defeated the Sasanians, and other symbols became more important as signs of royal authority. This is probably the reason why the motif could become so widespread and was used on all kinds of objects.

Fig. 76: Dirham of Saʿid ibn Daladj, dated 152 AH/769 AD. Tehran, Malek Museum, Inv.no. 232

A large bronze tray in the Museum of Islamic Art in Berlin (Inv. no. I.5624) indicates how the wing palmette was used on other objects during this transitional period (Fig. 77).

Fig. 77: Bronze tray. Berlin, Museum of Islamic Art, Inv. no. I.5624

Usually, this object is dated to the 7th-8th century.[42] The central round of the tray is occupied with the depiction of a building, probably a palace, in frontal view. The architecture of the building and the surrounding garden appear similar to motifs of Sasanian art (Fig. 78).

Fig. 78 Bronze tray. Berlin, Museum of Islamic Art, Inv. no. I.5624, central medallion

An important element is the wing palmette below the building, arranged as if the wings were carrying the building. This seems to underline that the pair of wings continued to enjoy a meaningful position. Assuming that the object was made after the Muslim conquest of Persia, it can be concluded that it belonged to a person of wealth and influence, who still adhered to pre-Islamic principles and perhaps religion. This explains why it has been difficult to classify the artifact as a work of Islamic art.

Fig. 79: Bronze tray. Berlin, Museum of Islamic Art, Inv. no. I.5624, detail

[42] Al-Khamis, Ulrike, Stefan Weber, et al: Early Capitals of Islamic Culture. The artistic legacy of Umayyad Damascus and Abbasid Baghdad (650-950) (exhibition catalogue), Munich 2014, p. 30.

Wing palmettes can also be seen on the outer margin of the tray, under each of the twenty-two arcades that surround the central medallion, crowning the compositions of vegetal ornament that fill the arcades (Fig. 80).

Fig. 80: Bronze tray. Berlin, Museum of Islamic Art, Inv. no. I.5624, detail

If the pair of wings ever had a royal or religious significance in the Sasanian period, it was probably lost at this time. As it was used in various positions on different objects, it became more and more separated from its original meaning, which was probably royal authority protected by divine will. Similar adaptations of Sasanian royal symbols continued through several centuries in various regions of the Islamic world.[43]

It is the combination of the wing palmette with the element of the pomegranate that had appeared on metal objects with openwork decoration. The question is whether this motif was composed by Muslim craftsmen from the elements that they had inherited, perhaps on different paths, from Sasanian culture, or whether there was a more direct way of transmission. Surprisingly, there seems to be evidence for a longer history of this combination, so it seems that it could be adopted as a complete and finished unit.

Wall decorations from Ctesiphon and Kish

In this respect, a stucco plaque from Ctesiphon may be indicative, which is kept at the Metropolitan Museum of Art New York (inventory no. 32.150.21) (Fig. 81). The city of Ctesiphon, capital of the Parthian and Sasanian Empires, was located on the eastern bank of the Tigris, and about 35 kilometres southeast of present-day Baghdad.

[43] Shokoohy, Mehrdad: "Sasanian Royal Emblems and Their Reemergence in the Fourteenth-Century Deccan." Muqarnas 11 (1994), p. 71.

Fig. 81: Stucco wall decoration from Ctesiphon. New York, The Metropolitan Museum of Art, Inv.no. 32.150.21,

The relief plaque measures c. 30 cm square. It bears the same motif in ninefold repetition: It consists of two feathered leaves flanking a pomegranate in the middle. The leaves in this image seem to belong to the pomegranate tree. The repeated motifs do not overlap but are simply placed side by side. In comparison to the seal impression discussed above, it seems as if the wings had been adapted to form leaves that belong to the same biological unit as the flower or fruit. This way, the motif appears more unified but also more stylized. It is easy to think of it as a later stage of development compared to the seal impression which took a more direct approach of depicting the two elements in combination, but not merged to a single motif. A parallel to the stucco from Ctesiphon appears in stucco panels that were found at Kish.[44] . Here, one design shows the same motif enhanced with a ribbon that binds the branches of the leaves and of the fruit together (Fig. 82).

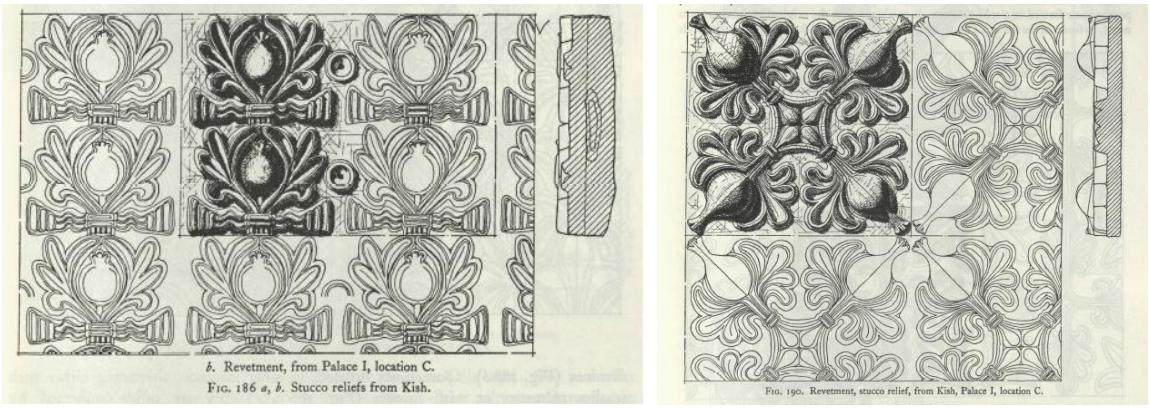


Fig. 82: Stucco panels found in Kish

The decorative ribbon is reminiscent of depictions of Sasanid kings who tied their hair using a similar band. This way, the association of the motif with royal iconography is underlined.

[44] Pope and Ackerman 1964-1967, vol. II, pp. 609, 611, 613.

The other design combines four pomegranate-leave motifs in one field in a diagonal, concentric arrangement. The fourfold arrangement appears as a novel way of implementing the pomegranate design, in which the properties of the pomegranate as a plant are played down in favour of a geometric order.

A Dish from Susa in the Musée du Louvre,

An Abbasid blue-and-white dish found in Susa, which is now kept in the Louvre (inventory no. MAO S. 488), is a typical product of 9th-century Iraq. It shows one of the ways in which the pomegranate motif was adapted by craftsmen in Islamic Mespotamia (Fig. 83).[45] The oversized pomegranate in this pattern exceeds the top of the frame created by the two leaves on its sides. This feature could also be seen in some of the stucco panels discussed above. In the light of the evidence presented above, it appears that not only the motif is certainly rooted in Sassanid art. It is even reasonable to say that a process of alteration and stylizing of the motif took place in the Sassanid period, and that the Muslim artisans, at first, did not apply many changes to the motif.

Fig. 83: Ceramic plate from Susa. Paris, Louvre, Inv.no. MAO S. 488

While the general arrangement indicates that the Muslim artisans adopted the motif directly from Sasanid prototypes, there are also differences. Here, the pomegranate is a perfectly round fruit, wheareas the Sasanian examples appear rather elongated upwards, here the fruit is perfectly round. The palmette-shape of the leaves has been changed to a bunch of

[45] Makariou, Sophie: Islamic Art at Musée du Louvre, Paris 2012, p. 74, no. 53.

leaves that are long and thin, and that are only distantly reminiscent of the palmette when seen together. While the light brushstrokes give an appearance of spontaneous irregularity, the arrangement of the leaves is in fact strictly symmetrical. Besides, the two inner leaves that converge on top of the fruit indicate that the idea of a closed form was still present in the presentation the motif as a visually unified figure.

The wing palmette from Sasanian to Islamic art (two)

Above, it has been argued that the combination of wing palmette and pomegranate was already current at the end of the Sasanian period, so that Muslim artisans could adopt it without many changes. However, it appears that the wing palmette motif as such was also transferred from pre-Islamic to Islamic art.

This is suggested by a bronze ewer in the Hermitage, St. Peterburg (inv. no. 3-5750). Its body is covered with high-relief decoration, in which geometrical and vegetal elements are combined. The wing palmette occupies the most important place on the front side of the body (Fig. 84). It appears spectacular in its dynamic, rising in slight curves and with spiraling ends of the two wings. A date of the 8th-9th century, which has been attributed to this object,[46] means that it originates right from the first transitional period from pre-Islamic to Islamic culture, similar to the bronze tray in Berlin. Like on the Berlin tray, the wing palmette appears as a meaningful iconographic element that could still exist in its own right, but probably no longer imbued with its full meaning, as the authorities and values of pre-Islamic Iran had begun vanish and were replaced with a new, Islamic order.

[46] Pritula, Anton D. and S. B. Adaksina: Vostok i zapad: iskusstvo islamskogo mira: katalog vystavki, tansl. by E. S. Petrova: East and West: Art of the Islamic World (exhibition catalogue), St. Petersburg, 2011, p.112.

Fig. 84: Bronze ewer. St. Petersburg, Hermitage Museum, Inv.no. 3-5750

It has been demonstrated above that the wing palmette can be considered a symbol of authority, presumably of the connection between the royal and the divine, during the Sasanian period. It seems that the wing palmette became abstracted from a pair of eagle wings which subsequently adopted the shape of half-palmettes or pointed leaves. While the feathered wings were clearly identifiable as such on the royal bust with the crown and on the seal impression, where they had been combined with the pomegranate, they had been adapted to feathered leaves in the stucco representations of pomegranates in the stucco decoration of palaces.

A case in which the motif of the wing palmette appears in an outright Islamic religious context can be seen in the Great Mosque of Kairouan (Tunisia), built in 836 and refurbished during the later 9th century.[47] The famous lustre tiles that decorate the qibla wall around the

[47] Renz, Alfred: Geschichte und Stätten des Islam von Spanien bis Indien. Munich 1977, p. 129.

mihrab were most probably imported from Iraq, as proved by the rare technology of their production, the colours used and the style of their drawings: All of these have an exact counterpart in the lustre pottery of Iraq at the same period.[48] One of the tile bears the wing palmette motif, with the characteristic curved ends of the wings or leaves (Fig. 85).

Fig. 85: Lustre tile from the Great Mosque of Kairouan

In accord with the fashion of the time, the motif is embedded in a dense pattern, which leaves little background betweent the elements. Similar to the manner of Samarra stucco decoration, the two branches of the wing palmette are continued with two additional leaves. Another element on the middle axis appears similar to a flower or fruit, and immediately arouses the association of the pomegranate, with its scaled interior that might imitate the seeds of the pomegranate and with its scalloped and pointed outline that might be interpreted as petals of a flower. Still, the difference in patterning renders these elements distinct from each other. What is more, it highlights the wing palmette, which stands out against the other elements with its peacock-eye patterning. It is interesting to note that obviously this motif was not considered offensive in a mosque, either as an image of living things, or as a symbol. Had the wing palmette been understood as a sign of Sasanian royal authority, it is most unlikely that the patrons of the mosque would have used the tile in this place. The fact that it was used here indicates that the significance of the motif had already vanished to a great degree, or that it was no longer specific. The wing palmette may have

[48] Porter, Venetia: Islamic Tiles, London 1995, p. 28.

been associated with something noble, but certainly not with specific concepts of pre-Islamic Iranian origin. This was different from Iran, where the wing palmette continued to be used in royal portraits of the kings of Tabaristan on their silver coins, as presented above. The way in which the motif was transferred to the Islamic west can be understood as an adaptation of fashions from the caliphal court at Samarra to the provincial centre of Kairouan, through the import of precious material for the decoration of a prestigious building. This way, the wing palmette entered the sphere of the Islamic western Mediterranean as a form that was understood as part of the decorative repertoire of the latest Iraqi fashion, but not as an element derived from ancient Iran. If there was a religious connotation, it was already islamicized, just like the depiction of wing palmettes in the Dome of the Rock in Jerusalem had been part of an Islamic religious concept.[49]

In some way, this use is similar to the appearance of the pomegranate motif on the stucco decoration in Rayy, discussed above. Here, the motif of the pomegranate appeared six centuries after the stucco decorations at Ctesiphon and Kish. The differences are clearly visible, but they are in fact not very large: While the motif is placed in high relief on an empty ground in the Sasanian stuccos, it is embedded in a mesh of other elements in the stucco decoration in Rayy. In Rayy, the surface is at one physical level with other elements, which are treated in the same decorative manner. Still, while the forms of the leaves and the fruit are adapted to geometric principles, they are not very far removed from those in the Sasanian examples, where the rigid geometrical arrangement is already clear. Thus, it appears that the Muslim Iranian artisans did not have to make great changes in order to incorporate the motif into their decorative scheme. However, this very incorporation removed the last bit of specific meaning that had been carried by the motif. It was even possible to use the pomegranate element in the central part of a mihrab, with little or no difference to the neigbouring wall panels. The combination of pomegranate and wing palmette had lost the royal and religious significance that it carried during the Sassanid period. It was no longer a symbol, but had descended to an ornament.

Some ceramics with vegetal decoration

[49] Grabar, Oleg: The Shape of the Holy: Early Islamic Jerusalem, Princeton University Press, 1996.

The way in which the elements of the wing palmette and the pomegranate motif were incorporated into larger designs can be better understood when we look at some ceramics that were made between the 9th-11th centuries across the Islamic world. A pottery bowl on display at the Metropolitan Museum (Rogers Fund, inventory no. 1963, 63.16.3) belongs to the group of lustre ceramics produce in Fustat (Egypt) in the 11th century AD.[50] The interior surface of the bowl is painted with vegetal decoration in which leaves or half palmettes are arranged symmetrically. In a bottom-up sequence, one leave grows from the tip of the other (Fig. 86).

Fig. 86: Lustre-painted ceramic bowl made in Fustat. New York, Metropolitan Museum of Art, Rogers Fund, 1963, 63.16.3

The general arrangement, including the shape of some leaves, is very similar to that on the tile from the Great Mosque of Kairouan.[51] The pomegranate flower motif at the center of this pattern has been turned into a triple leave, proving that the incorporation of this motif in the Great Mosque of Kairouan was not accidental but reflect common practice in these

[50] Grube, Ernst J. and Marie Lukens Swietockowski: "The Galleries of Islamic Art", The Metropolitan Museum of Art Bulletin, 23.6 (February 1965), p. 214.
[51] Jenkins, Marilyn: "Early Medieval Islamic Pottery – The Eleventh Century" Muqarnas, Vol. 9 (1992), p. 59.

parts of the Islamic world, but also that at some point it was no longer recognized as a pomegranate.

Remarkably similar to the bowl just discussd is a dish that was found in Nishapur and that is kept at the National Museum of Iran in Tehran (inventory no. 3050). Its lustre painted decoration uses the same forms and follows the same principles as that on the former (fig. 87). One difference is the omission of the central 'pomegranate' element, while another lies in the use of the peackock-eye pattern on the cavetto of the dish.

Fig. 87: Lustre-painted dish discovered in Nishapur. Tehran, National Museum, Inv. no. 3050

While an attribution of this dish to Egypt may be considered on the basis of the similarities, it seems more likely that it was made in Iraq, where the peacock-eye pattern was common, and that it was exported from there to Nishapur. Apparently, high-quality pottery like lustre wares were coveted in Khorasan, with the consequence that artistic designs could travel over long distances. The result was that designs in the Mediterranean and in the Islamic East resembled each other very closely. The two examples indicate that artisans in different parts of the Islamic world were aware of fashions and of the potentials of certain designs.

This potential did not depend on the close copying of a single motif or decorative scheme, but was more widely explored by artists who used the same manner of arranging elements in a different way. For example, a variation of the patterns presented above can be seen on a bowl that was probably made in Afrasiyab (present-day Samarqand) in the 10th century and that is now in the Metropolitan Museum of Art (inventory no. 28.82).[52] Here, groups of leaves in flowing lines are arranged symmetrically in each quarter of the circular surface. The central pair of half-palmette leaves can also be interpreted as representing a pomegranate (Fig. 88). A parallel can be seen in a bowl in the National Museum of Kuwait (Al Sabah Collection, Inv.no. LNS 26 C).[53]

Fig. 88: Ceramic bowl with slip decoration, Central Asia, 10th cent. New York, the Metropolitan Museum of Art, Inv. no. 28.82

Another, closer variation appears on a bowl at the David Collection in Copenhagen (inventory no. 26/1962). It is attributed to Iraq and dated to the 9-10th centuries AD.[54] Again, the leaves grow out of each other's tips and folded against each other to fill the available space, so that little background remains visible (Fig. 89). This arrangement does not exactly match the patterns on the tile from Kairouan and on the ceramics quoted above. However, the underlying principle is the same. Actually, it corresponds with the principle of the 'beveled style' in the stucco decoration of Samarra.

[52] Ettinghausen, Richard, Oleg Grabar and Marilyn Jenkins-Madina: Islamic Art and Architecture, 650-1250 (The Pelican History of Art), New Haven 2003, p. 121.
[53] Watson, Oliver: Ceramics from Islamic Lands, London/New York/Kuwait 2004, p.221, Fig. Cat. Gb.2.
[54] Evans, Helen C. and C. Ratliff (eds.): Byzantium and Islam, Age of Transition (exhibition catalogue), New York 2012, p. 232.

Fig. 89: Lustre-painted ceramic bowl. Copenhagen, The David Collection, Inv.no. 26/1962

In some examples of stucco decoration that were probably made under the influence from Samarra, this principle can be seen in striking parallels to the arrangement of vegetal elements on the ceramics. At Kharab Sayyar in Northern Syria, the four vertical friezes in room H of the large house, and the panel in room D show elongated leaves placed close to each other in a folded sequence so that the background is reduced to a groove between them (Figs. 90, 91).[55] It appears as a surprise that the pomegranate with flanking leaves appears at the centre of the panel in room D, neaerly in the same shape as it was later used in the panels at Rayy. This testifies to the flexibility that the stucco workers practiced during the Samarra period, in combining various elements and uniting them under the same stylistic treatment.

[55] Haase, Claus-Peter: "The Development of Stucco Decoration in Northern Syria of the 8th and 9th Centuries and the Bevelled Style of Samarra," in: A. Hagedorn and A. Shalem (eds.), Facts and Artifacts. Art in the Islamic World, Leiden 2007, pp.456-58, Figs. 12, 16, 18.


Fig. 90: Kharab Sayyar (Syria), four friezes in the large house, room H.

Fig. 91: Kharab Sayyar (Syria), room D, detail from the right square

Features of the 'beveled style' in different media

It has been mentioned above, and has been a constant background of the preceding discussion of the pomegranate and the wing palmette, that a certain way of treating decorative forms tended to subvert the iconographic value of motifs by creating a kind of visual filter or cover that made those motifs blend into a general ornamental context. As mentioned, this mode of rendering forms has been labeled the 'beveled style' in the context of the Abbasid arts of the Samarra period. In order to better understanding the manner in which this stye worked, or perhaps the 'grammar of ornament' of this style, it can be useful to look at more examples from a variety of media.

Near Eastern woodwork from the Abbasid period has been preserved in a number of examples. Here, we turn more or less arbitrarily to the remains of wooden furniture kept at the Benaki Museum in Athens, with the inventory no. 9148. It is attributed to Egypt and dated to the end of the 9th century AD.[56] An epigraphic band in Kufic accompanies a large frieze of vegetal ornament in which upright palmettes alternate with flowers that are flanked with leaves. While this seems to be identical with the pomegranate motif at first sight, there is a crucial difference in that the two leaves move downwards and meet at the bottom. Smaller leaves branching off at the top are used for framing the upper part of the flower All elements are carved with beveled surfaces that converge to the bottom of the incised contours, so that there is practically no background left between the elements (Fig. 92-93).

[56] Evans and Ratliff 2012, no. 162.

Fig. 92: Decorated wooden panel. Athens, Benaki Museum, Inv.no. 9148

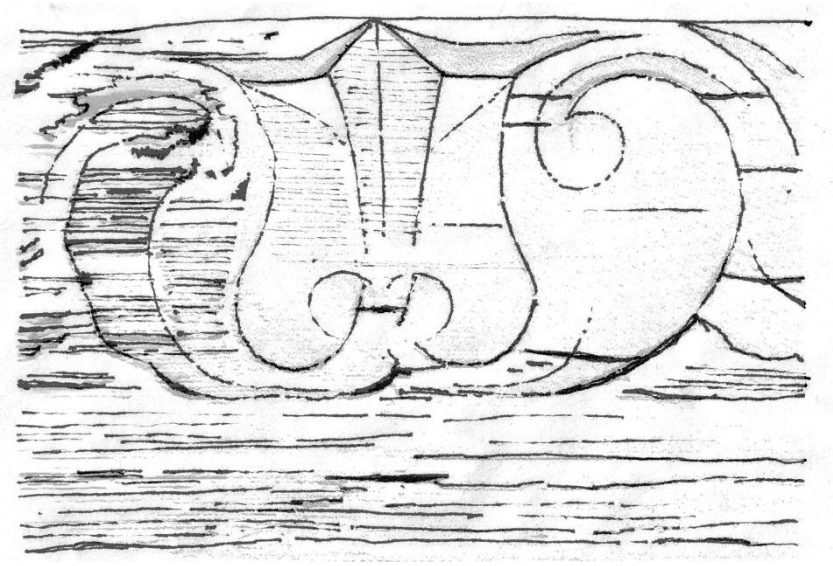


Fig. 93: Decorated wooden panel. Athens, Benaki Museum, Inv.no. 9148

Similar examples of woodwork are kept in the Museum of Islamic art in Berlin (Fig. 93).[57] All of them are attributed to Egypt and dated to 9th-11th centuries AD.[58] What is important in this group of woodworks is the fact that the wing palmette motif can be seen in both ways pointing upwards or downwards. Similarly, the wing palmette can be found with leaves moving downward and meeting at the bootm, on two artifacts dated to the 9th century AD in

[57] Museum für islamische Kunst in Berlin, Inv. no. I. 57/64, I. 11/67, I. 55/64.
[58] Hauptmann von Gladiss und Kröger 1985, pp. 210-13.

the Islamic Museum in Cairo.[59] It seems that at least on Egyptian woodwork the arrangement of the motif with leaves in one direction or the other was more or less arbitrary. Numerous other cases can be quoted.[60] For the overall impression of the object, the exact direction of tendrils and leaves was apparently not decisive.

Fig. 94: Carved wooden panel. Berlin, Museum für islamische Kunst, Inv.no. I.11/67

It seems that the visual impact of the patterned surface was a strong incentive for the designing of these objects. This seems also to have been the driving forces behind the decoration of a silver bottle kept at the Metropolitan Museum with the inventory no. of 69.224. In seven rows, the same motif is repeated in a staggered arrangement (Fig. 95). At a closer look, the combination of a disk with two lateral rounded leaves can be identified as a highly stylized version of the pomegranate motif. The way in which it has been used on this bottle would clearly indicate an Islamic date. Given the degree of abstraction and the multiplication of the motif, it seems possible to parallel it with the 11th-century stucco mihrab from Rayy. However, the shape of the bottle continues the Sasanian tradition and seems to indicate a much earlier date, perhaps of the 8th century, and this is how the bottle has been classified in the literature.[61]

[59] The Arts Council of Great Britain (ed.): The Arts of Islam. An exhibition organized by the Arts Council of Great Britain in Association with the World of Islam Festival Trust (exhibition catalogue), London 1976, pp. 282, 283, pl. 435.
[60] Curatola, Giovanni: Art from the Islamic Civilization: From the Al-Sabah Collection, Kuwait, London/New York 2012, nos.14, 15, 42, 69.
[61] Ettinghausen, Richard: "Islamic Art", The Metropolitan Museum of Art Bulletin 33.1 (spring 1975), p. 5.

Fig. 95: Silver Bottle. New York, the Metropolitan Museum of Art, Inv.no. 69.224

A parallel might be seen in a ceramic bowl, also in the Metropolitan Museum and with the inventory no. of 1970.25, datable to the 12th century, in which a similar arrangement can be seen in a similar execution of relief.[62] Perhaps the dating of the silver bottle should be assumed closer to this example than to the Sasanian period.

Quite different from the 'beveled style' in their whole visual impact, and in their concept of three-dimensionality, engraved decorations should also be considered when studying the relationship between motif and style. Some examples allegedly from Daylaman, probably of Sasanian or early Islamic date, have been adduced elsewhere.[63] For our discussion, a glass flask from Nishapur is of interest which is kept in the Benaki Museum.[64] The ovoid bottle is decorated in several horizontal registers, of which the central one is wider and bears the

[62] Ettinghausen 1975, p. 8.

[63] Otavsky, Karel and Sheila S. Blair: Entlang der Seidenstrasse, frühmittelalterliche Kunst zwischen Persien und China in der Abegg-Stiftung, Riggisberg 1998, pp. 269, 275, 276.

[64] Kröger, Jens: Nishapur, Glass of the Early Islamic Period, New York 1995, p. 162.

mentioned motif, pair of palmette leaves from which a central element grows up, similar to the wing palmette with pomegranate (Fig. 96).

Fig. 96: Glass bottle from Nishapur. Athens, Benaki Museum

Other glass objects like a mug and a jug, both datable to the 9th century AD, show a similar motif.[65] At Nishapur, more glass vessels were found on the site of Tappeh Madreseh, on which the motif is visible.[66] Other examples have been quoted in the literature.[67] The majority of these glass vessels are dated to the 10th century AD and attributed to northeastern Iran. It can be concluded that by that time the motif of the wing palmette had become widespread among glassmakers.

However, it seems that it was rare among metalworkers who were not casting the decoration in high relief. A small flask found in Nishapur, perhaps a container for *kohl* (antimony-based eyelid cosmetic), is kept in the Metropolitan Musem under the inventory no. 39.40.48. The decoration incised into its limited surface shows two leaves bending over a central almond-shaped element. This appears reminiscent of the pomegranate motif, but the similarity is rather distant (Fig. 97).

[65] The Arts Council of Great Britain 1976, p. 138.
[66] The Metropolitan Museum of Art, Inv.no. 40.170.55,
[67] Curatola 2012, p. 229, no. 211-212.

Fig. 97: Bronze flask from Nishapur. New York, The Metropolitan Museum of Art, Inv.no.39.40.48

Although different from materials from which movable objects were made, such as metal, ceramics and glass, the material of stucco has proved just as flexible for the implementation of new artistic trends. Therefore, the stylistic development of stucco of which examples were given above, was usually comparable to that of other media. Evidence for this should be supplemented by some further cases, which demonstrate the broad range of stylistic developments between the Samarra period and the Mongol conquests.

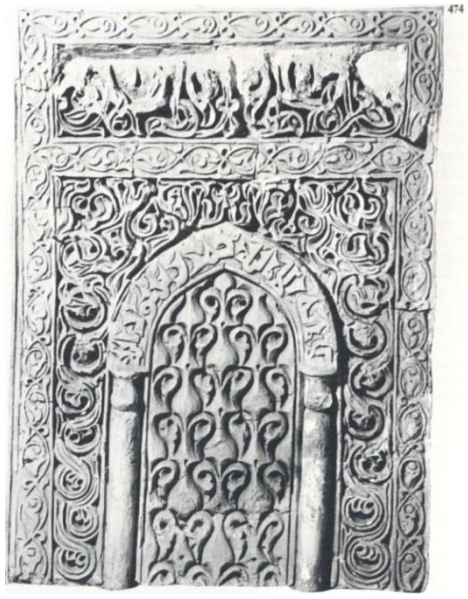


Fig. 98: Stucco mihrab. Baghdad Museum, Inv.no. A 1376

Several examples that can be considered close offshoots of the Samarra stucco are the kept in the National Museum of Baghdad. One of them is a flat mihrab panel, on which the outer field is filled with an original composition of leafy tendrils, while the central panel under the

arch is designed as a dense composition of interlocking pomegranate fruits in the 'beveled style' (Fig. 98).[68] A tenth-century date appears likely.

As a contrast, some remains of Abbasid stucco at the Dair as-Suryani in the Wadi Natrun in Egypt, which have been attributed to the 9th century,[69] appear rather conservative. The row of superimposed twin leaves from which pointed leaves and a pomegranate are erected in the middle axis, is completely flat with a sharp contrast between the upper surface and the shaded background (Fig. 99). On the whole, this seems to represent a stage of stucco before the spread of the 'beveled style'.

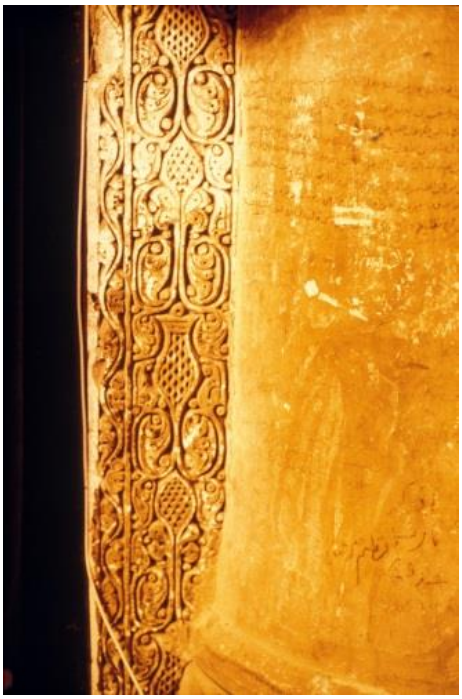


Fig. 99: Stucco wall decoration at Deir al-Suryani (Egypt). Photo: R. Hillenbrand

Interestingly, the wing palmette ornaments are oriented downwards similar to those seen on the Egyptian woodwork. In fact, the leaves start from the top and their tips meet at the bottom of the motif. Motifs on this stucco are repeated in the same way as mostly seen on Egyptian woodwork.

The Mosque at Balkh (Afghanistan) that is known under the name of "Nine domes" (Noh Gonbad) has long been recognized as one of the most important ensembles of stucco decoration of the Abbasid period. Just how it should be dated has been a matter of

[68] The Arts Council of Great Britain 1976, p. 300.
[69] Ettinghausen 1952.

controversy, and suggestions range from mid-8th to the 11th century.[70] The stucco can be divided into various stylistic groups, which may or may not have been produced at the same period. On the capitals of the round pillars, the ornament resembles style B of Samarra. The motif that is visible here appears very close to the pomegranate between two leavers turned upward (Fig. 100). However, the degree to which the motif has been stylized makes it difficult to agree with a dating in the early Abbasid period.

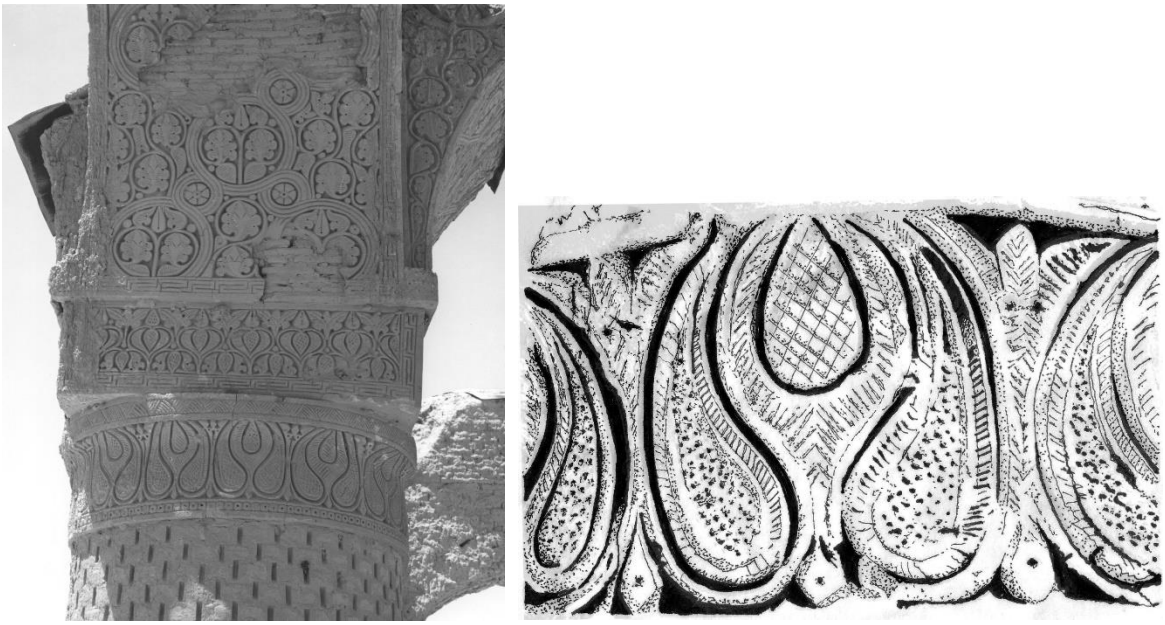


Fig. 100: Stucco decoration at the Mosque of Noh Gonbad in Balkh

An accurate date, however, is given in the inscription of the Mausoleum of Arab-Ata in the village of Tim in Uzbekistan. The building was erected in 367/977. The stucco panels filling the three deep niches in the façade terminate in a pomegranate motif with a hatched surface, not unlike that on other stuccos described above (Fig. 101). It should be remarked that the lateral leaves are unconnected with the pomegranate fruit.

[70] Melikian-Chirvâni, Assadullah Souren: "La plus ancienne mosquée de Balkh," Arts Asiatiques 20 (1969), p. 9; Golombek, Lisa: "Abbasid Mosque at Balkh", Oriental Art 15.3 (1969), p. 189; - According to an article by Chahryar Adle, it was built in the 2nd half of the 8th century by the Abbasid vizier Fazl-e Barmaki: Adle, Chahryar: "Trois mosquees du debut de l'ere islamique au Grand Khorassan: Bastam Noh-gonbadan/Haji-Piyadah de Balkh et Zuzan d'apres des investigations archeologiques", in, R. Rante (ed.):, Greater Khorasan: History, Geography, Archaeology and Material Culture, Berlin, 2015, pp. 89-114.

Some stuccos from Nishapur, also datable to the 10th century, show very similar features, for example the frieze kept in the Metropolitan Museum under the inventory no. 40.170.440.[71] This stucco decoration follows a similar principle as the wooden frieze from the Benaki Museum described above.[72] The alternating motifs comprise also a pomegranate with two flanking leaves (Fig. 102).

Fig. 101: Tim (Uzbekistan), Mausoleum of Arab Ata, 977 AD

Investigation of other artifacts found in Nishapur shows that the plasterers of this region used the motif extensively for decorating buildings. The motif can be even found on small stucco panels.[73]

[71] Dimand, Maurice S.: A Handbook of Muhammadan Art. 2nd rev. and enl. ed., New York 1944, p. 125; cf. also Wilkinson, Charles K.: Nishapur, Some Early Islamic Buildings and Their Decoration, 1986, Fig. 1.154; Curatola 2012, no. 106.
[72] Wilkinson1986, Fig. 2.31.
[73] Wilkinson 1986, Fig. 1.118.

Fig.102: Stucco Frieze from Nishapur. New York, The Metropolitan Museum of Art, Inv.no. 40.170.440

In the Masjid-i Gunbad at Sanga-i Paʾin, south of Mashhad, the mihrab also bears a frieze with a row of stylized pomegranate fruits that are flanked by feathered leaves (fig.103). The decoration of this stucco mihrab appears, again, entirely two-dimensional. The building inscription of the mosque is dated to 531/1137.[74] The almond shape of the pomegranate is similar to that in the stucco panels of Rayy.

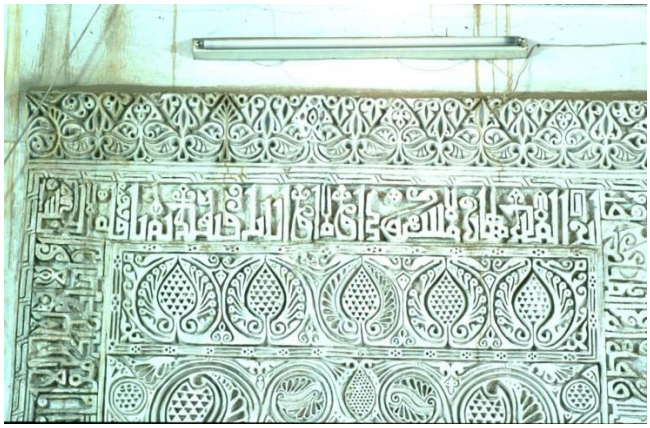


Fig. 103: Sangan-i Pa'in (Iran), Masjid-i Gunbad, Mihrab

A rather interesting variant of the wing palmette motif in stucco decoration appears in the building (probably a mausoleum) named “Davazdah Emam” in Yazd, which is dated to 529/1038. On the mihrab, the wing palmette motif is placed in a central position under the

[74] Korn, Lorenz: „Der Masǧid-i Gunbad in Sangān-i Pā’īn (Ḫurāsān/Iran): Architektur, Baudekor und Inschriften“, Beiträge zur Islamischen Kunst und Archäologie 2, Wiesbaden 2010, pp. 81-103.

arch, but it is only executed in outlines and not in full relief.[75] The same is the case in the mihrab of the ʿAli Mosque at Nushabad near Kashan.[76] It seems as if the hood of the mihrab was intended to receive a more elaborate decoration in stucco relief, with elements interlocking in a way similar to the 'beveled style', but that this was never executed (Fig. 104). A date in the 12th or early 13th century appears likely for this composition. Due to the unfinished state, it is difficult to establish the intended appearance of the motifs, but the basic shapes and relations between them are visible.

Fig. 104: Stucco mihrab in the Masjid-i 'Ali, Nushabad near Kashan (Iran)

In the small town of Zavareh, the mosque of Pa Menar is famous for its stucco decoration despite recent damages and losses through modernization. The date of the earliest stuccos has been established as 461/1068-69, while the latest phases have only been discussed superficially in the literature.[77] The walls next to the mihrabs are covered with stucco ornament that can be characterised as a further development of the 'beveled style' with interlocking palmette leaves (Fig. 105). It appears likely that this wall decoration was only

[75] Creswell, K. A. C.: The Muslim architecture of Egypt, Volume 1, 1978, p. 223 and Hillenbrand, Robert: Islamic Architecture. Form, Funciton and Meaning, Edinburgh 1994, pp. 291, 294.

[76] Hillenbrand, Robert: "Saljuq Monuments in Iran: IV. The mosques of Nushabad", Oriental Art N.S. 22 (1976), 265-77.

[77] Peterson, Samuel R.: "The Masjid-i Pā Minār at Zavāra: A redating and an analysis of early Islamic Iranian stucco",Artibus Asiae 39 (1977), pp. 60-90; idem.: "The Masjid-i Pā Minār at Zavāra: A redating and an analysis of early Islamic Iranian stucco - II", in: R. Hillenbrand (ed.) The Art of the Saljūqs in Iran and Anatolia. Proceedings of a Symposium held in Edinburgh in 1982. Costa Mesa, CA, 1994, pp. 59-70.

created during the 13th century AD. Similar forms can be seen in woodcarving of the same period, from Mesopotamia to the Hindukush.

Fig. 105: Stucco decoration on the walls of the Masjid-i Pa Minar at Zavareh (Iran)

The last example from the field of stucco decoration comes from the Great Mosque of Forumad (or Faryumad) in the western part of Khorasan, with a stucco decoration that can be attributed to the later part of the Saljuq period.[78]. The soffits of some arches are decorated with a network of tendrils into which pointed leaves have been integrated (Fig. 106). With the densely spaced combination of elements and the hatching on some of the leaves, this appears as a far descendant from the 'beveled style' compositions of earlier centuries.

Fig. 106: Stucco decoration in the Jameʿ Mosque of Farumad (Iran), soffit of a lateral arcade

[78] Godard, André: "Les anciennes mosquées de l'Iran", in Āthār-é Īrān, 1/2 (1936), pp. 187-210.

At a closer look, the individual unit can be described as two leaves springing from a central stem, pointing downwards and uniting in a smaller leaf that points upward in turn. With the exception of another vertical leaf that is inserted above the two larger ones, the arrangement of these elements makes a close comparison with the openwork on the first of the incense burners that have been described above (Linden Museum inv. no. VL A00095). There are even decorative disks applied on the tendrils, to connect the motifs.
It seems obvious that the stucco workers in Khorasan of the Saljuq period used patterns that were also current on metalworks with openwork decoration.

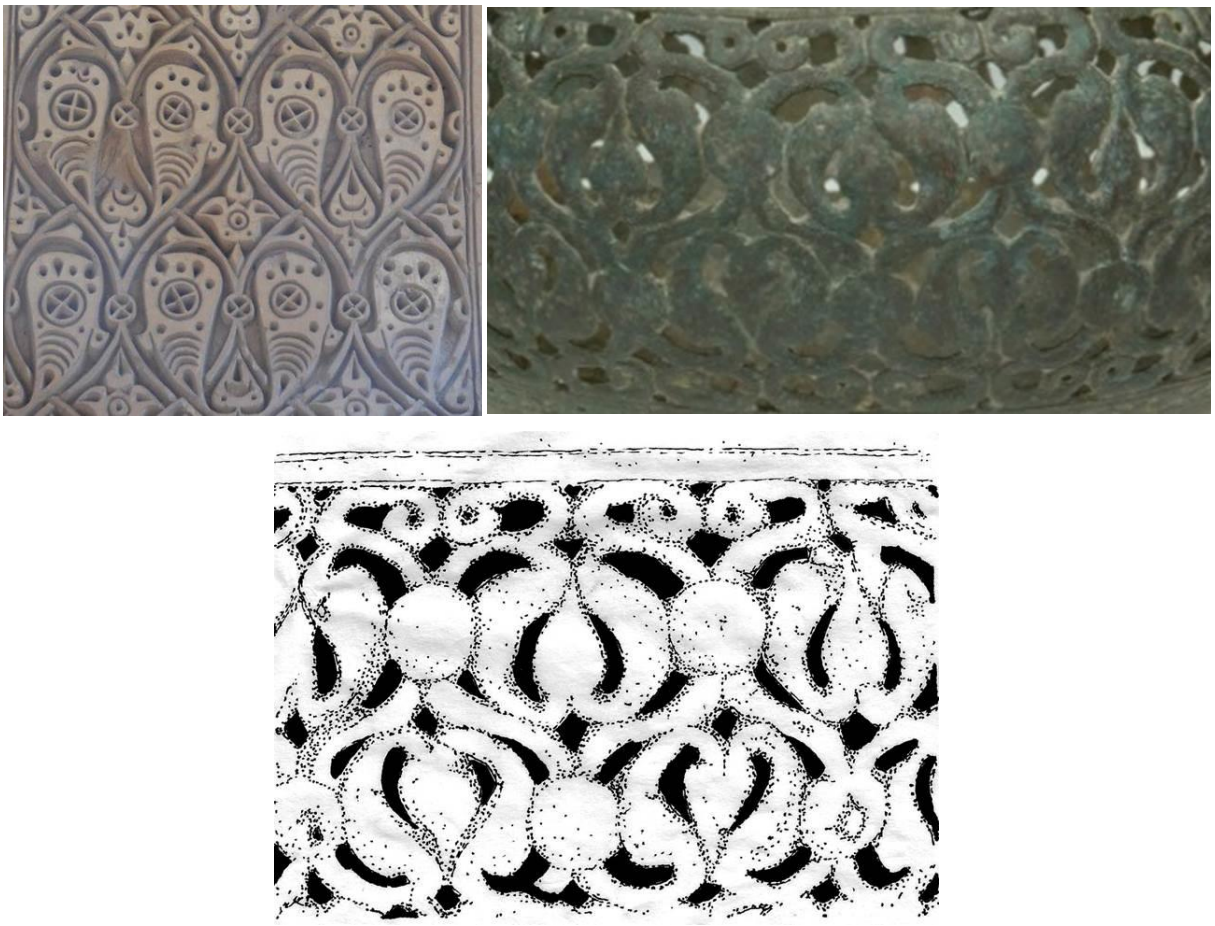


Fig. 107: the stuccos in the Jameʿ Mosque of Farumad. Openwork on the incense burner in the Linden Museum in Stuttgart

4. Conclusion: The merging of forms and a loss of meaning

From the evidence that has been presented, it has become cleaer that there was a continuity in the use of certain motifs in the art of the Middle East, and Iran in particular, from the pre-Islamic periods into the Islamic period. The question how this transition went,

during a period of fundamental changes in politics and culture, cannot be easily answered. Craftsmen, usually working within a tradition of a workshop, can be assumed to have been conservative in their approach. Changes were brought about with new technical possibilities or with the demands of cultural change – either as a change of taste, influencing aesthetic concepts, or as a change of values and meanings, influencing the iconography of objects and their decoration.

It has been demonstrated that the motif of the wing palmette had been current in Sasanian art as a sign of which the exact meaning is difficult to determine. Its association with royal images suggests a meaning of royal authority, or of divine consent and blessing for royal authority. As such, it would have been difficult to adopt this symbol in an Islamic context, although there is no clear association of the wing palmette with a particular confession of faith. Still, the termination of the Sasanid dynasty with the Islamic context would have made it impossible to apply the same symbol with the same meaning under the new rule. Instead, the wing palmette was adopted as part of the decorative repertoire of early Islamic art in different media, from stucco through wood, glass, ceramics, to metalwork.

A similar thing happened to the pomegranate. A royal symbol in the Achaemenid period, it became widespread in the Sasanian period, used to decorate palace walls with stucco relief. It is possible that the symbolic value of the pomegranate had already exhausted during the late Sasanian period, so that the pomegranate was not much more than a motif of ornament, imbued with some auspicious meaning, as prosperity and fertility were generally associated with the pomegranate.

The amalgamation of the two motifs in early Islamic decorative is difficult to trace, and it cannot be pinned down to a particular moment. However, it is important to note that the general development of ornament in early Islamic art was a decisive factor for the integration of these former symbols into a repertoire of decorative elements. The evolution of vegetal decoration from their late antique shape through abstraction, and their re-formulation in the ‘beveled style’ made it possible to integrate these elements in an overarching system that followed its own rules. Plasterworkers of Samarra and artisans working on other materials were certainly in contact, either personally or through their works. This, together with the centralized structure of the Abbasid empire, made it possible that the forms could spread widely. Metalworkers in Khorasan must have been eager to participate in these developments and to design their objects accordingly. They used their

technical skill to implement the vegetal motifs, which their ancestors had used, in a new design.

The fact that the motif of the wing palmette and the pomegranate were widely used in different parts of the caliphate makes it difficult to arrive to a closer geographical attribution for the openwork bronzes that are decorated with these motifs. However, the provenances of the openwork bronzes make it clear that this whole group originated from the Islamic East, i. e. Khorasan in the wider sense. The occurrence of the mentioned motifs and the intimate connection with the 'beveled style', in turn, prove that the workshops that produced these bronzes were not working in isolation, but in places that were well connected with other centres of art and culture, so that they were able to pick up trends and inspirations and turn them into artistic innovations in their field of specialization. Metalworkers in the urban centres of Khorasan, be it at Nishapur, Herat or Balkh, would have been in a position to participate in the formation of new decorative styles in this way. They were technically high-skilled, which was a prerequisite for producing thin casts that could also comprise openwork decoration. Since the Sasanian period, the metal workshops of Khorasan were long acquainted with the motifs that were now used as part of a comprehensive surface decoration. For the chronology of the openwork bronzes, it seems important that most of them can be associated with a style that was current until the first half of the 12th century. This corresponds with the fact that inscriptions on the openwork objects are mostly designed in Kufic letters, while round scripts hardly occur at all.

One of the latest bronzes with openwork decoration may be seen in an incense burner in the shape of a lion that is now part of the Khalili Collection (inv. no. MTW 1525).[79] As usual with these animal-shaped censers, the body consists of two pieces that are connected with a hinge. Nearly all surfaces of the body are pierced with openwork, which consists of freely arranged tendrils and thin curled leaves. Only occasionally some palmettes can be seen. The motif of the wing palmette and the stylised pomegranate cannot be seen in the openwork. However, there is a place on the neck of the animal that is not pierced with openwork but engraved with curved lines and tendrils, probably alluding to the mane of the lion. The manner in which the curved lines are arranged symmetrically along the axis of the animal makes a distant comparison with the motif that has been the main topic of this chapter. On

[79] Khalili, Nasser D.: "A Recently Acquired Incense Burner in the Khalili Collection." Muqarnas 21 (2004), pp. 215-218.

the lion, the motif can only be recognized after looking at the history of its abstraction through centuries. This would fit a dating of the lion figure towards the end of the relevant period, during the 12th century.

Fig. 108: Incense burner in the shape of a lion. The Khalili Collection, Inv. no. MTW 1525

Chapter III
The Cinquefoil Motif as Openwork in Early Islamic Metalwork From Khorasan and Transoxiana

1. Introduction

This section discusses the use of the cinquefoil as motif in openwork applied on metal objects, as it is the most striking feature of the lampstand in the Linden Museum. Similar to the wing palmette and to the pomegranate, this motif was widely used on a series of metalworks which share characteristics in their technique of production, in their shapes and decoration. All of this speaks in favour of attributing them to a coherent geographical region and time period.

The items relevant for the study of this motif are mainly incense burners, lampstands, lamps, lids and some other rather ornamental items and vessels. As far as they have been dealt with in the literature, the majority of these works have been attributed to the Khorasan region and to the period between the 11th and 12th centuries AD. Due to the lack of archaeological information, it is difficult to verify these attributions, so that they must be seen as hypothetical in many cases. However, the sheer number of objects that have been acquired by collections and museums through the art market with certain provenances does constitute circumstantial information that should be considered. The majority of objects that will be studied in the following are kept in the Berlin Museum of Islamic Art (three pieces)[80], the Linden Museum in Stuttgart (five, of which the lampstand inv. no. A 41251 stands out in its significance)[81], and the Bumiller Collection in Bamberg (eleven items)[82]. Objects from other collections come in mostly for comparative purpose. This will be particularly relevant for items made of materials other than metal. Like in the case of the motifs studied in

[80] Inv.nos. I.1/73, I.1502, I.1990.2.

[81] Inv. nos. A41251, A 34411, A37237, A34410, one unnumbered piece. –Some of the objects have been briefly discussed in the scope of exhibitions; cf. Kalter 1993; von Gladiß 1995; Dreßen 2003; Pohle and van den Brink 2014.

[82] Inv. nos. BC-0068, BC- 0132, BC-0954, BC-1315, BC-1362, BC-1464, BC-1490, BC-1975, BC-2231, BC-2506, BC-3403.

chapter II, studying the motif of the cinquefoil on works of ceramic an in architectural ornament can greatly help to specify the date and the region where it was current. While it is true that the method by which this motif was implemented on metalworks fundamentally differed from the application of the motif to other materials, it is assumed that artisans were able to receive inspirations from other materials, so that it is methodically sound to look across the boundaries of different media.

From the general picture, it is certain that the motif had a long history in the art of pre-Islamic cultures of the Middle East, and that it continues throughout the history of Islamic art, in a variety of materials. There are, however, variations according to each region, which can be revealed when studying the forms in detail. An important step is to compare the evidence with that of dated objects or those objects that have a secure provenance, rare as they are during the pre-Mongol period. This provides a few hinges for the attribution in chronology and geography. Another important task is to trace the origin(s) of the motif. It should be attempted to clarify when and from where Muslim artisans adopted the motif and how they began employing it in their craft. The question is also: what changes did the motif undergo during this process of integration? What did it imply when the motif was used in openwork, concerning functional, iconographic and decorative aspects? Certainly, there will be no definite answer to most of these questions from the metal objects with openwork alone, but they can contribute to completing the image of Islamic ornament and its use.

2. A group of incense burners

Typically, these bowl-shaped incense burners cast with openwork have a bulbous body that is fully rounded in its upper half and tapers towards the bottom. The large central opening on top is approximately as wide as the foot of the vessel. Openwork occupies the upper rounded part except for a frieze of circular depressions around the central opening, accompanied by an epigraphic band in Kufic script. The lower part of the vessel is usually decorated with an engraved frieze of narrow arcades.

The incense burner kept at the storage room of the Berlin Museum of Islamic Art (inventory no. I.1990.2) measures 14 cm in height and 23 cm in diameter; it weighs 1097 g (Fig. 116).

Fig. 109: Incense burner. Berlin, Museum für islamische Kunst, Inv.no. I.1990.2

The openwork on this censer occupies the surface on the rounded part of the body. It is organized in a geometrical pattern of interlacing bands forming hexagons and six-pointed stars in three horizontal registers. Each hexagon is filled with a cinquefoil, a palmette with five lobes that are visually separated by engraved lines and which grow out of the interlacing bands. The limited scale and the large number in which this element appears give the result of a chain-like pattern that encircles the vessel in three rows. While the leaves of the upper row are directed downward, those in the two lower rows point upwards. (Fig. 110).

Fig. 110 Incense burner. Berlin, Museum für islamische Kunst, Inv.no. I.1990.2, detail

The inscription on the upper part of the object seems to contain no clearly legible text (Fig. 111). According to the electronic database of the museum, the object has been attributed to Iran or Afghanistan and dated to the 10th-11th century AD.[83]

Fig.111: Incense burner. Berlin, Museum für islamische Kunst, Inv.no. I.1990.2

Three more incense burners strongly resemble the first example that has been introduced here. One of them is kept in the Bumiller Collection in Bamberg under the inventory number of BC-1362. It is 11.7 cm tall, 16.5 cm wide, and weighs 672 g. It resembles the other items studied so far, and can be considered a smaller replica of the Berlin Museum's incense burner (Fig. 112).

[83] http://www.smb-digital.de/eMuseumPlus.

Fig. 112: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1362

The cinquefoils in the upper row point downwards, whereas the two lower rows are filled with cinquefoils standing upright (Fig. 113).

Fig. 113: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1362, detail

Another example of the same group can be seen in an incense burner that was on offer at Sotheby's in 1980 (Fig. 114).[84] With a diameter of 22.8 cm, it matches the object in Berlin in

[84] Sotheby's, April 1980, lot 15.

size. The auction catalogue dated it to the 11th century AD and indicated Iran as the place of origin.

Fig. 114: Incense burgner. Sotheby's, London, April 1980, lot 15

Fig. 115: Incense burner. Ashkhabad, Institute of History of the Turkmenian Academy of Sciences

Finally, an incense burner at the Institute of History of the Academy of Sciences of Turkmenistan (Fig. 115) gives an interesting piece of information: It was recovered during excavations at Serakhs in 1970.[85] With a height of 15.7 cm, it seems to be slightly larger than the object in Berlin. Its decoration corresponds exactly to that of the the other three examples. The parallels between these pieces are so close that they must not only be attributed to the same period an region, but that an origin from the same workshop should be considered. The place of excavation at Serakhs in southern Turkmenistan gives a hint as to where the production could have been located. However, as most of the other objecst with a similar design seem to originate from Afghanistan and Transoxiana, this hypothesis appears problematic.

An incense burner in the Bumiller Collection (inventory no. BC-2506) resembles the preceding examples, but is of much smaller dimesions. It weighs 439 g, measures 8.8 cm in height and 12.2 cm in width (Fig. 116). This object was purchased from the art market with a provenance from Afghanistan.

Due to the reduced size, the openwork decoration has only two rows of hexagons filled with cinquefoils. The leaves point upwards in the lower row and downwards in the lower row

[85] Loukonine, Vladimir and Anatoli Ivanov: Persian Art: Lost Treasures, London 2003, p. 121, no. 99.

(Fig. 117). The inscription framing encircling the central opening bears no readable text (Fig. 118).

Fig. 116: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-2506

Fig. 117: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-2506, detail

Fig. 118: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-2506, detail

A different type of decoration is represented by an incense burner kept at the Linden Museum, Stuttgart (inventory no. A34411). The vessel is 14.8 cm tall and 20 cm wide. The shape is similar to that of the preceding examples, although slighty more bulbous (Fig. 119). According to the files of the museum, the object has been dated to the 10th-11th centuries.

Fig. 119: Incense burner. Stuttgart, Linden Museum, Stuttgart, inv.no. A34411

The openwork decoration reaches further down and occupies a larger part of the body than on the preceding examples. The striking diffence concerns the organization of the ornament: The interlacing bands form no longer six-pointed stars, but interlocking hexagons with double outlines. Within each hexagon, a five-lobed palmette stands upright. Compared to the previous examples, the whole decorative pattern makes more intricate and fragile impression, as the douple outlining of the hexagons leaves more spaces open. In addition, the object is distinguished by the inlay on the central lobes of the palmettes (Fig. 120).

Fig. 120: Incense burner. Stuttgart, Linden Museum, Inv.no. A 34411, detail

Another group of incense burners is worth examining here. This group consists of several items, of which two are kept at the Linden Museum, Stuttgart, two in Herat and two at the Bumiller Collection. While their overall shape resembles that of the previous four items, they differ in the decoration.

The first of these objects is an incense burner kept at the Linden-Museum with the inventory no. VL A2479001. It is 12.5 cm high, 18.5 cm wide and weighs 702 g.

Fig. 121: Incense burner. Stuttgart, Linden Museum, Inv.no. VL A2479001

The openwork decoration on the vessel's main body is divided into six equal sections by large circles, formed by interwoven bands. Each circle contains seven cinquefoil palmettes that are integrated into a six-lobed knot with a star at its centre. The palmettes are oriented to the center of this composition, in which the palmette stands upright (Fig. 122).

Fig. 122: Incense burner. Stuttgar, Linden Museum, Inv.no. VL, A2479001, detail

The spandrels between the circles are likewise filled with cinquefoil palmettes (Fig. 123).

Fig.123: incense burner at the Linden Museum, Stuttgart, Inv.no. VL, A2479001, details

A particular feature of this object is the lavish silver inlay. It covers almost all of the intertwined bands, the circles and the six-lobed knots with wavy lines and little disks. It can be seen that the artisan enhanced the structural lines of the decoration as more important, while leaving the palmettes undecorated. In the larger framework of Khorasanian metalwork, the emergence of silver inlay at a larger scale began around 1140,[86] so that it can be suggested to date this object around or after that date.

Similar in organization, but without inlay, are the incense burners at the Herat Museum (Figs. 124-125). One of them is 15.5 cm high and bears the inventory no. HNM 01.15.86. It is attributed to the 10th century AD, with Maymana in northern Afghanistan as a provenance.[87] Like on the object in Stuttgart, interwoven bands divide the vessel's surface into six roundels, inside which cinquefoils fill the interstices of a six-lobed know. Contrary to the previous example, the Kufic inscription on the rim of this vessel is legible as a series of benedictions.[88] The other incense burner in the same museum, with almost the same shape and decoration, bears the inventory no. HNM 01.30.86a.[89]

Fig. 124: Incense Burner. Herat Museum, Inv.no. HNM 01.15.86

Fig. 125: Incense Burner. Herat Museum, Inv.no.HNM 01.30.86a

[86] Ward, Rachel: Islamic Metalwork, London1993, p. 72.
[87] Melikian-Chirvani 1975, p.195, fig. 5.; Franke and von Gladiss 2008, p.40.
[88] Melikian-Chirvani 1975, p. 195.
[89] Müller-Wiener, Martina: Herat Museum cat., 2013. HNM 01.30.86a, cat. no. M40.

A very similar incense burner was on offer at Sotheby's in 1982 (Fig. 126).[90] Again, the similarity of the three objects is so strong that an origin from the same workshop can be postulated.

Fig. 126: Sotheby's, London, April 1982, Lot. 10

Slightly diffent in its proportios is an incense burner, this time kept by the Tareq Rajab Museum in Kuwait, with the inventory no. MET-0175. This vessel is 18 cm tall with an opening of 13.5 cm in diameter (Fig.127). It has been dated to the 10th-11th century.[91]

Fig. 127: Incense burner. Kuwait, Tareq Rajab Museum, Inv.no. MET-0175-TSR

[90] Sotheby's, London, April 1982, Lot. 10

[91] Tareq Rajab Museum Kuwait, http://www.trmkt.com/metalworkdetails.htm (last accessed Jan. 2020).

A variant of this type is represented by an incense burner in the Metropolitan Museum of Art, New York, with the inventory no. 75314. The considerable difference to those objects presented in this series so far lies in the fact that the openwork decoration is organized in eight circles instead of six openwork circles. Nonetheless the circles contain the same kind of cinquefoils which are oriented towards the center, like in the previous examples. The incense burner has been attributed to 12th-century Iran.[92]

Another variant can be seen in some vessels that appear very similar at first sight, but the components of the decoration are actually different: In the Linden Museum in Stuttgart, an incense burner with the inventory no. Inv.no. A37237 is marked by a slightly more compressed shape, 13 cm tall and 27.6 cm wide (Fig. 128). Again, the decoration is organized in six roundels. However, the roundels are cut off at the bottom, where the lower zone continues with an angular division, so that the remaining segments are reduced to a horseshoe form that rests on vertical bands, like arcades on pillars. Previous mentions have attributed this incense burner to Central Asia or Transoxiana, dating it to the 11th century AD.[93]

Fig. 128: Incense burner. Stuttgart, Linden Museum, Inv.no. A37237

[92] Ettinghausen 1981, no.38.

[93] von Gladiß 1995, pp. 129-131, fig. 212.

Fig.129: incense burner at the Linden Museum, Stuttgart, Inv.no. A37237, detail

It should be remarked that the tendrils in the openwork decoration of this object do not terminate in cinquefoil palmettes but in trefoils with pointed leaves (Fig. 129).
The same can be seen on an incense burner in the Bumiller Collection, inventor no. BC-1975. It measures 19 cm in height, 28.2 cm in diameter and weighs 1806 g (Fig. 136). Here, it can be seen that the openwork “arcades” continue the rhythm of the six circles downwards.

Fig. 130: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1975

Generally similar features can be seen on another object housed in the Bumiller Collection, inventory no. BC-1464. The surface of the vessel is heavily worn and therefore details of the

decoration are hard to recognize. Howver, it is obvious that the decoration is organized in the same manner with trefoils pointing to the centres of the circles (Fig. 131).

Fig. 131: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1464

Fig.132: Incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1464, detail

An incense burner that was offered at Sotheby's in 1992 exhibits the same features, although the condition in which the surface relief was preserved appears to have been much better (Fig. 133).[94]

[94] Sotheby's, London, October 1992, lot 119.

Fig.133: Incense burner. Sotheby's, London, October 1992, lot 119

With respect to their shape, all of these incense burners may be classified as one group. They are also adorned with similar ornaments, with openwork and engravings. The engravings are limited to the geometrical lines on their lower part and the Kufic inscriptions on their rims. But their principal ornament is the openwork motif which almost covers the vessels' entire surface. Based on the type of openwork ornaments, the vessels can be categorized into two distinct groups, one in which the cinquefoil motif is used within a regular, consistent mesh of interlaced bands, accounts for the principal motif, while the other group uses broad intertwined bands to create large roundels that are in turn filled with more intricate geometric and vegetal decoration. Conspicuous variants in this group can be seen in the use of trefoils instead of cinquefoil palmettes. One of the censers stands out by the fine silver inlay on its surface, which can be taken as evidence that it was produced not earlier than the 12th century. It is also worth noting that, except for one object that was excavated in Serakhs, all of the items studied so far seem to have been acquired from Afghanistan.

3. Incense burners and oil lamps

Incense burners with a long handle, of a type completely different from that of the previous section, can supply important information on the development of the cinquefoil motif. In general, this type can be traced back to the late antique Mediterranean[95] and to Sasanian Iran.

[95] Evans and Ratliff 2012, p.180.

The first piece to to be mentioned here is kept the Linden Museum, with the inventory no. A34410. The pan rests on three legs and is closed with a globular lid on a hinge. It measures 34 cm in length and 20 cm in height (Fig. 134). According to the museum files, it is dated to the 9th-10th century.

Fig. 134: Incense burner. Stuttgart, Linden Museum, Inv.no. A34410

The lid is decorated with openwork that pierces large parts of the surface. It is divided into five large roundels, inside of which four trefoils point towards the crossing lines in the center. This pattern corresponds to a degree with the decoration of some of the bulbous incense burners described above, particularly with those on which trefoils were used.
Of a similar type, an incense burner in the Metropolitan Museum (inventory no. 1976.102), can be adduced. It is 24.2 cm long and 13.6 tall (Fig. 135).[96] Bronze leaves in the shape of vine leaves form the openwork of the lid. Despite its late antique aura that these vine leaves are apto to evoke, this object has been dated to the 8th or 9th centuries and attributed to Iran.[97]

[96] Ettinghausen, Richard: “Islamic Art”, The Metropolitan Museum of Art Bulletin 36.2 (fall 1978), p. 17, with illus.
[97] Canby, Sheila R.: "The Scented World: Incense Burners and Perfume Containers from Spain to Central Asia." Arts of Asia 42 (2012). p. 122, ill. fig. 6

Fig. 135: Incense burner. New York, The Metropolitan Museum of Art, Inv.no. 1976.102

A similar object, however with a cubical body, can be seen in the Al-Sabah Collection, in Kuwait (Inv.no. LSN 409 M). While the lid is missing, it can only be assumed to have been decorated in the same way as the body. It is adorned with openwork and tendrils that are very similar to those on the lid of the Linden Museum's incense burner just mentioned (Fig. 136). The object measures 7.6 cm in height and 28.5 cm in length, and it has been attributed to 9th-10th century eastern Iran.

Fig. 136. Incense burner. Kuwait, The Al-Sabah Collection, Inv.no. LSN 409 M

Incense burners of this type are frequent in museums and collections of Islamic arts all around the globe, and their places of origin includes almost all corners of the Islamic world, ranging from Egypt to Central Asia. In terms of date, they vary from the 8th to the 10th century AD. This makes it impossible to determine a clear place of origin for this type. It seems that it was widely used in continuation of pre-Islamic paractice, and that the motif of the trefoil and cinquefoil palmette simply continued from the pre-Islamic into the Islamic period. Various manners can be observed in which an abstraction from the more naturalist depiction of tendrils, leaves and flowers towards a more rigid scheme was developed in metalwork.

Two oil lamps currently housed in the Bumiller collection show different approaches. Their basic type is the same: The container is half-rounded on the side where a lug serves as a handle, whereas the nozzles protrude on the other side. Openwork decoration is limited to the cover of the container and a movable lid on the front part with the nozzles. The three-nozzled lamp with the inventory no. BC-0068 is 9 cm tall and 22 cm long (fig. 137). On one side of the body, a Kufic inscription is engraved that has so far withstood attempts to decipher it but the style of which appears typical of the 9th-10th centuries AD. The openwork decoration consists of a symmetrical mesh of tendrils, the ends of which terminate in cinquefoil elements.

Fig.137: Oil lamp. Bamberg, The Bumiller Collection, Inv.no. BC-0068

The two-nozzled lamp with the inventory no. BC-1315 is only 5.7 cm high and 13 cm long. In a similar system of tendrils as on the preceding lamp, trefoils occupy the place of the cinquefoils.

Fig. 138: Oil lamp. Bamberg, The Bumiller Collection, Inv.no. BC-1315

The difference coincides with the smaller size of the latter object. However, there is also the question whether both trefoils and cinquefoils were current during the same period and in the same context.

A three-nozzled lamp in the Momtaz Collection in London-Chelsea, excels with the high perforated shield that extends upwards from the back of the container and gives the lamp, a total height of 25.7 cm. While the openwork in the field features trefoils, the crowning elements on the shield are cinquefoil palmettes with a pointed central leaf (Fig. 139). The inscription on the flank of the container can be read as “Work of Muhammad al-Balkhi”.[98] Again, the nisba of the craftsman does not constitute reliable information on where the

[98] Ward 1993, p. 12, fig. 3.

object was made. However, it speaks in favour of an attribution to northern Afghanistan or the Oxus region. A span from the 10th-12th century has been suggested for the dating of the object.[99]

Fig. 139: Oil Lamp. London/Chelsea, Momtaz Gallery

A very similar lamp is kept at Copenhagen in the David Collection, with the inventory no. of 4/1998. It is attributed to Iran or Afghanistan and dated to the 10th-12th centuries.[100] Again, trefoils and cinquefoils are combined in the openwork decoration (Figs. 140, 141). In the light of the inscription on the lamp of the Momtaz Gallery, the dating appears late and the attribution rather vague.

[99] Momtaz, Irene and Pinder-Wilson Ralph: Momtaz Islamic Art: Ornament and inscription, London 2004, p. 32.
[100] Von Folsach, Kjeld: Art from the Islamic World in the David Collection, Copenhagen 2001, no. 470.

Fig. 140: Oil lamp. Copenhagen, The David Collection, Inv.no. 4/1998

Fig. 141: Oil lamp. Copenhagen, The David Collection, Inv.no. 4/1998, detail

With regard to the regional attribution, it is important to note two finds from Taraz in Kazakhstan. One of them is a three-nozzled example of a type similar to those introduced so far.[101] Here, a regular mesh of interconnected cinquefoils forms the cover and the lid (Fig. 142). The dating to the 11th-13th centuries that has been suggested for this lamp appears somewhat late. The provenance is, of course, not proof of a place of production, but it gives a hint to the region in which objects with this kind of ornament wer current.

[101] Baypakov, Karl M., Sh. Pidaev and A. Khakimov (eds.), Toreutics (The Artistic Culture of Central Asia and Azerbaijan in the 9th–15th Centuries, vol. III), Samarkand 2012, p. 50, fig. 5.

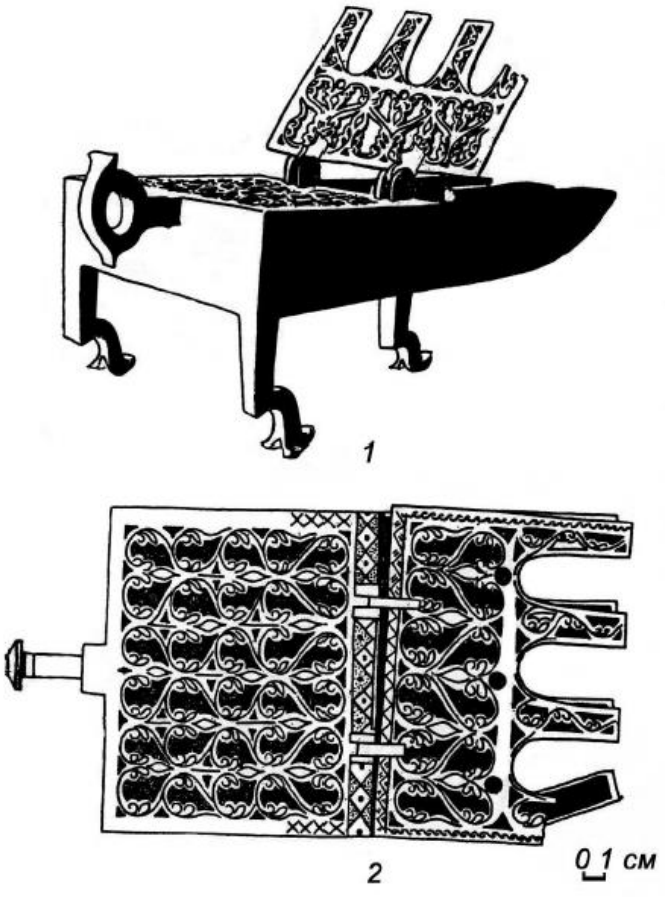


Fig. 142: Oil Lamp. Discovered at Taraz settlement, Kazakhstan

The other lamp from Taraz belongs to a different type and has been dated to the 10th-11th centuries:[102] From the disc-shaped body, five nozzles protrude radially on one side of the body, while the handle is attached to the other side (Fig. 143). The two outer nozzles are directed slightly forward at their springing and then bend outward. The principle of this design is comparable to that of the great lamp in the Linden Museum (A41251). The surface on top of the body bears a ring of openwork decoration. Little spirals ending in trefoils form a tendril around the central opening that was once covered with a lid.

[102] Ibid, p. 47.

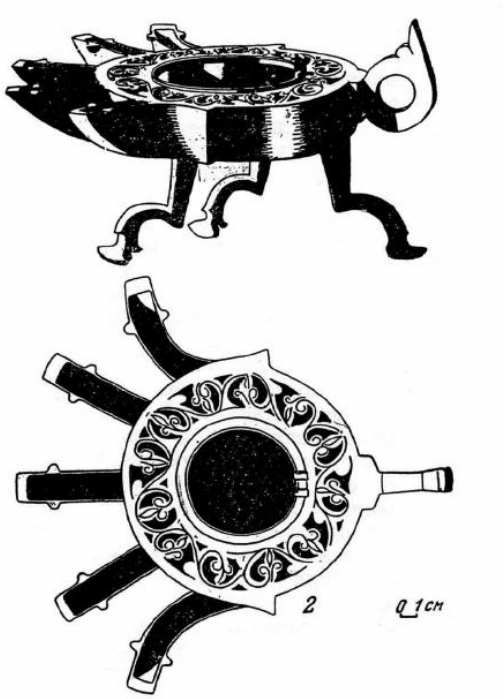


Fig.143: Oil Lamp, Discovered at Taraz settlement, Kazakhstan

Another find, this time from Uzbekistan, is also comparable to the preceding object.[103] The three-nozzled lamp is decorated with an ornamental openwork band around the opening on the domical part of its body. Here, the trefoils stand upright in little heart-shaped rings (Fig. 144).

Fig. 144: Oil Lamp, from Uzbekistan

An oil lamp of unique shape, composed of a large basis, the body with two nozzles and a leaf with figural decoration on the handle, was publish as one of the holdings of the Louvre, inventory no. 74B.[104] Cinquefoil palmettes in a staggered arrangement form a grid on the

[103] Ibid., p. 49
[104] Pope and Ackerman1964-1967, vol.13, p. 1287 A.

front of the basis. Their shape is reminiscent of classical palmettes, but the object has been attributed an 11th-12th century date.

Fig. 155: Oil lamp. Paris, Louvre Museum, Inv.no. 74B

An object in the Bumiller Collection (inventory no. BC-0954, 12 cm long and 9 cm high) is shaped as a bird, of which the tail functions as a nozzle that might have held the wick of an oil lamp, whereas the body would have contained the oil, were it not for the openwork on its breast that makes it difficult for the object to hold muh fuel. Therefore, an identification as a handle or finial of another object is more likely (Fig. 146).

Fig.146: Oil lamp (?), Bamberg, The Bumiller Collection, Inv.no. BC- 0954

The openwork is composed of a simple four-lobed know with a cinquefoil palmette on top. A considerable number of such birds exist; items that were once incense burners, oil lamps, or parts thereof. Some of these objects have been studied and have been associated with north-eastern Iran, Afghanistan or Transoxiana and with a likely period of production between the 10th-12th centuries and, in some cases, in the 1200s AD.[105]

Fig. 147: Part of an incense burner (?). Bamberg, The Bumiller Collection, Inv.no. BC- 0132

[105] See: the David Collection, Inv.no. 19/1962; Museum für Kunsthandwerk, Frankfurt am Main, Inv. 1297175648; Museum für Islamische Kunst, Berlin, Inv.no. I. 27/59 and I. 6/60; the Joseph Ternbach Collection, Inv.180; the Mahboubian Collection, Inv.550

A similar object can be seen in the head, breast and forelegs of a lion or lynx in the Bumiller Collection, inventory no. BC-0132. It measures 10 cm in height and 8 cm in length and can be assumed to have been part of a larger object (Fig. 147). The breast of the animal is decorated with openwork in similar manner to that of the bird.

Animal shapes were frequently used for incense burners in Iranian and Central Asian metalwork through many periods. Frequently, birds or felines were chosen as prototypes for these stylized animal censers. The bodies of the animals are perforated in various ways.

Fig. 148: Part of an incense burner. Berlin, Museum für islamische Kunst, , Inv.no. I.1/73

The Museum of Islamic Art in Berlin keeps an object in the shape of the head of a lion or a lynx (inventory no. I.1/73), which was probably made as part of an incense burner (Fig. 148). The neck of the animal is pierced with openwork consisting of interlaced bands that form hexagons into which cinquefoils and trefoils have been placed (Fig. 147). This vessel has been dated back to the 12th century, and attributed to 'eastern Iran', which can be taken as synonymous with Khorasan.[106] This object has been compared to a censer in the shape of a

[106] Hauptmann von Gladiss, Almut: Loseblattkatalog, Museum für islamische Kunst, Berlin 1984, vol. 2, pp. 17-18.

lion that is dated by inscription to 577/1181-82 AD, in the Metropolitan Museum (Fig. 149).[107]

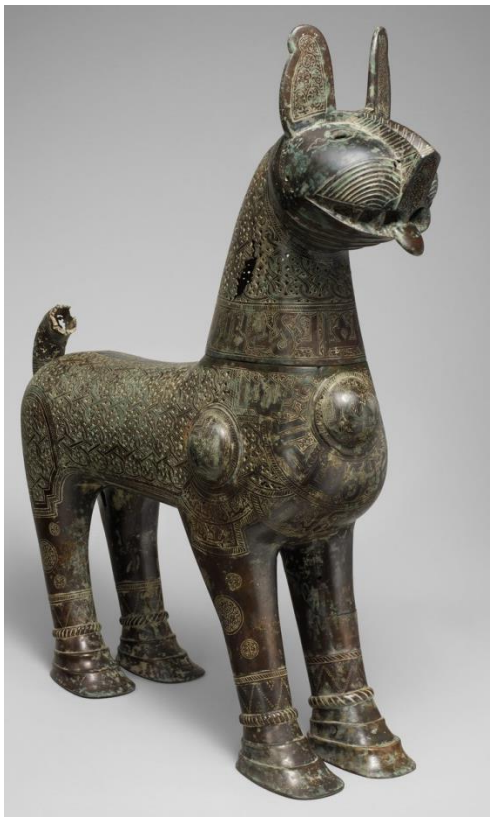


Fig. 149: Incense burner. New York, Metropolitan Museum of Art, inv. no. 51.56, Rogers Fund, 1951

The lion head in Berlin can also be compared to a similar lid in the David Collection, inventory no. 46/1948. The decoration combines engraved patterns with openwork, including palmettes as the termination of spiral-circle (Fig. 150). The head is suggested to originate from 12th-century Iran.[108] This vessel is in turn comparable to an item, probably also the lid of an incense burner, housed in the University of Michigan Museum. Is decoration also consists of openwork comprising cinquefoil and other patterns. It is also dated to the 12th century AD.[109]

[107] Ibid.
[108] C. L. Davids Samling, Copenhagen 1970, p. 203.
[109] Grabar, Oleg: Persian Art Before and After the Mongol Conquest, April 9-May 17, University of Michigan Museum of Art (exhibition catalogue), Ann Arbor 1959, pp. 26 and 53, no. 27.

Fig. 150: Lid of an incense burner. Copenhagen, The David Collection, Inv.no. 46/1968

Other objects of a similar kind have been dated to the 11th and 12th century AD.[110]
The group of incense burners, lamps and animal-shaped objects demonstrates that the cinquefoil was a feature of openwork decoration, not limited to bulbous incense burners but current in various other contexts. While the dating of these objects is usually based on stylistic comparisons, the lion figure in the Metropolitan Museum indicates that the use of this kind of decoration extended into the second half of the 12th century.
Five more objects will now be introduced that confirm the impression of a great variety of objects on which the cinquefoil was used.
In the Museum of Islamic Art in Berlin, a vase-like vessel is kept under the inventory no. I.1502, 23.6 cm high and 12.6 cm, high, which is decorated with openwork on its foot as well as engraved ornament on its body (Figs. 151-152). The openwork consists of an interwoven band forming a frieze of hexagons in which cinquefoils are placed upright.

[110] Ibid, p. 59, No. 48; and the Keir collection, Inv.no. 112-113.

Fig. 151: Vase. Berlin, Museum für Islamische Kunst, Inv.no. I.1502

Fig. 152: Vase. Berlin, Museum für Islamische Kunst, Inv.no. I.1502

On the museum homepage, the vase is dated to the period between the 10th-11th centuries, with Iran or Afghanistan as its place of origin.[111]

A vase of completely different shape, with a body almost completely pierced with openwork, is kept in the Bumiller Collection (inventory no. BC-3403). It is 15 cm high and 12.7 cm in

[111]http://www.smb-digital.de/

diameter. Its body shows two rows of cinquefoils which create a decorative network (Fig. 153).

Fig. 153: Vase. Bamberg, The Bumiller Collection, Inv.no. BC-3403

In a different way, tendrils and cinquefoil palmettes are arranged on the lid of a vessel, probably an incense burner, also in the Bumiller Colleciton (inventory no. BC-1490).
It is 14.6 cm tall and 13 cm wide. Its surface is pierced by openwork ornaments to a large extent, including even the finial in the form of a pomegranate. The tendrils form a complicated pattern of interlaced arches and spirals, into which the cinquefoils are integrated. Contrary to the previous versions, the leaves do not point to a single direction, but in varying directions (Fig. 154). A Kufic inscription extends over all four sides of the square basis. It consists of good wishes for the unnamed owner on three sides and the signature of a certain Abu l-Hasan al-Tawaʾifi on the fourth side. The name does not give any hint as to the time and place at which the object was produced. The style of the inscription would fit a dating to the 10th-11th century AD.

Fig. 154: Lid of an incense burner. Bamberg, The Bumiller Collection, Inv.no. BC-1490

In a similar way, an incense burner in the Brooklyn Museum has a lid that is entirely pierced with openwork, in which a frieze with a tendril containing cinquefoils takes the central position. It is dated to the 10th or 11th century AD (Fig. 155).[112]

Fig. 155: Incense burner. New York, The Brooklyn Museum. After Baer 1983

[112] Baer, Eva: Metalwork in Medieval Islamic Art, New York 1983, p. 137.

4. A group of lampstands

The starting point for collecting comparative material for the cinquefoil motif had been the lampstand in the Linden Museum (A41251). There are other lampstands with comparable features in their openwork decoration, but some of with different motifs or combinations of motifs.

Comparable to the lampstand in Stuttgart in its general shape is a piece in the Hermitage Museum in St. Petersburg, with the inventory no. IR-1449 (transferred from the Bobrinsky Collection in 1925). With an overall height of 89.5 cm, it is smaller than the lampstand in the Linden Museum. It consists of segments of several shape, with the difference that the shaft is not cylindrical but octagonal. Openwork adorns exactly the same parts as those of the Linden Museum(Fig.166). A date in the 11th century AD has been suggested.[113]

Fig. 156: Lampstand. St. Petersburg, Hermitage Museum, Inv.no. IR-1449

Two similar lampstands, one in the Detroit Museum and one in the University of Michigan Museum, have been attributed to Khorasan.[114]

The Joseph Ternbach Collection in the Israel Museum, Jerusalem houses a lampstand that is 61 cm tall and rests on four legs (instead of the usual three. Its parts resemble that of the

[113] Loukonine, Vladimir and Anatoli Ivanov: Lost Treasures of Persia: Persian Art in the Hermitage Museum, 1996, no.109.

[114] Scerrato, Umberto: Metalli islamici, Milano 1966, pp. 66-7, no. 28; Grabar1959, p. 29 and 51, no. 41.

Linden Museum's lampstand in form and proportions. It has been dated to 12th-century Iran.[115]

Another lampstand of this kind, 87 cm tall, was offered at Christie's in 2008.[116] The way in which the foot, the shaft and the knobs of the central part are decorated with openwork is almost identical with the one in the Linden Museum. 12th-century Khorasan was suggested as its origin (Fig. 157).

Fig.157: Lampstand. Christie's, Art of the Islamic and Indian worlds, April 2008

Another lampstand, in the Institut du Monde Arabe in Paris, displays similar openwork ornaments. 90 cm tall, it is supported by three legs in the shape of a lion or a lynx. The surface ornaments are differenct from those on the items. Besides, its basis is not circular in shape but cuboid. Nevertheless, cinquefoils are used in the openwork decoration. The lampstand is dated to the 12th century and attributed to Iran.[117]

A comparable lampstand, 76.5 cm tall, is also kept in the Museum of Art History at Geneva. It fully resembles the Linden's lampstand in its overall appearance, having its entire surface

[115] Merhav, Rivka: A Glimpse Into the Past: The Joseph Ternbach Collection (exhibition catalogue) Jerusalem 1981, p. 227, no. 179.
[116] Christie's: Art of the Islamic and Indian worlds, April 2008, lot 80.
[117] Art de l´islam, Institut du Monde Arabe, Paris, 2009, no. 95.

covered by openworks, and also in the division of ornament. However, the decoration does not include cinquefoil patterns. This object has been attributed to 11th-century Iran.[118] Under the inventory no. BC-2231, the Bumiller Collection keeps two parts of a lampstand. The basis and the shaft together measure 63.4 cm in height. The basis has an original shape, as it rests on three double legs, in the shape of a pair of animal forelegs, while the rest of the animal's body is missing (Fig. 158).

Fig. 158: Foot of a Lampstand. Bamberg, The Bumiller Collection, Inv.no. BC-2231

The domical part of the foot concerns us most is the lampstand's openwork patterns. The stand bears a row of openwork cinquefoils which in a chain-like fashion encircle its body. Unlike the former examples, the patterns are repeated in one row only, where at the same time they strikingly resemble the ornaments carved into the Linden Museum's lampstand (Fig. 159).

[118] Falk, Toby: Treasures of Islam: Exhibition, Musée d'art et d'histoire, Geneva, London 1985, no. 258.

Fig.159: foot of a Lampstand, The Bumiller Collection, Inv.no. BC- 2231

The shaft of the lampstands has two knobs at its upper and lower ends. Both of them are decorated with openwork featuring cinquefoils, very similar to the basis. The central part in between is hexagonal, with stripes of openwork in the middle and relief ornament at both ends. Here, the openwork has the shape of a plaited band (Fig. 160).

Fig. 160: Shaft of a Lampstand. Bamberg, The Bumiller Collection, Inv.no. BC-2231

Another lampstand, or parts thereof, was found in excavations in Azerbaijan and is now kept in the National Museum of History of Azerbaijan. A dating to the 11th-12th centuries has been suggested.[119] The upper part of the shaft and the tray are missing. Obviously, the general shape resembles that of the previous example, with the difference that the three feet are single and massive. The openwork decoration of the hexagonal shaft is also organized in vertical bands. The vegetal elements, however, are formed as trefoils with pointed leaves (Fig. 161).

Fig. 161: Lampstand. Baku, National Museum of History of Azerbaijan

The last, and perhaps the most important, lampstand to be studied is the one housed in the Kabul Museum. Again, basis and shaft constitute separate parts. The basis on three legs has the same shape as the other examples that have been introduced so far (Fig. 162)

[119] Baypakov et al. 2012, p. 231, pp. 276 and 285.

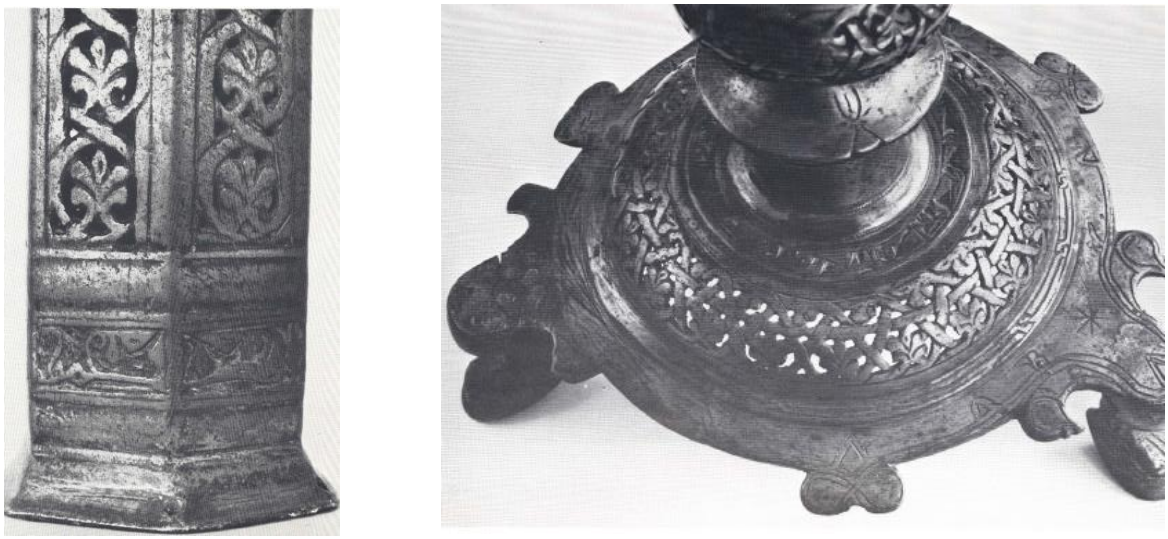


Fig. 162: Lampstand. Kabul, The Kabul Museum

Both the basis and the hexagonal shaft are decorated with openwork in which cinquefoils appear as the principal motif. Contrary to the previous examples, the frieze on the basis consists of one row and a half of hexagons or six-pointed stars.[120] The shaft is ornamented with stripes of openwork in which cinquefoils stand upright in an ascending column.[121] Relief fields at both ends contain inscriptions with good wishes in Kufic script. This lampstand has been attributed to 10th-century Khorasan.[122]

All the lampstands reviewed in this section are interconnected one way or another by their shape and decoration. Some of them are alike in their overall appearance. There are minor differences in the form of the shaft, whether it is polygonal or cylindrical. Also, measures and proportions differ. Besides, the vessels' ornaments are interrelated. They are arranged in a similar way, and motifs are also similar in principle. Differences concern the motifs – plaited bands, trefoils, or cinquefoils – and the way of their exexcution. In general, their treatment appears rather uniform, which may suggest that a certain conservatism prevented innovations in this field.

5. Incense burners in the shape of the animals

There is another, somehow related group of objects. Made in the shape of lions or lynxes, the items in this group of incense burners exist in considerable numbers in museums and

[120] Melikian-Chirvani 1975, pl. VII-VIII, fig. 3-4.
[121] Ibid, pl. VIII, Fig. 4.
[122] Ibid. pp. 192-3.

collections of Islamic arts. They can be considered a popular form in the world of Islamic metalworking. and their spectacular shape as well as the craftsmanship made these pieces attractive to collectors. An examination of items on sale in three auction houses revealed that over the last four decades, at least 150 animal-shaped incense burners were sold at considerable prices [123]. It can only be guessed that a certain share of this marke has also been served by fakes, whilethere are important objects the authenticity of which is beyond doubt. They also testify to the widespread use of openwork including the cinquefoil motif. In the culture of Seljuk Iran, particular meaning was attached to the lion and the lynx as 'royal' animals. From this association, its depiction in the form of incense burners can be best explained.[124]

An important example is an incense burner kept in the Hermitage Museum,with the inventory no. IR 1565. Made in the shape of a beast, probably a lynx, it is cast in bronze and adorned with copper and silver (Fig. 163). With a height of nearly 45 cm, the object bears ornaments in the form of engravings and openwork.[125] An inscription engraved on the animal's breast contains words of good withes together with the signature: "Work of Ali ibn Muhammad al-Taji". Alternatively, the name has been read as "al-Tahi"[126] or "al-Salehi"[127].Datings vary between the 11th[128] 12th century AD[129]. The earlier date is not unlikely, as a similar, if smaller, figure has been recovered during an excavation in Hulbuk (Tajikistan), in a layer belonging to the 11th century AD.[130] It is interesting to note the arrangement of openwork decoration on the body and neck of the animal, with cinquefoils in a grid pattern of interlacing bands forming hexagons, just like the ornament on the bowl-type incense burners and the Linden Museum's lampstand. In other words, there is no difference in terms of the technique used to make and arrange the motif, making them all seem to be products of one group of metalworkers.

[123] Based on a study of auction catalogues of Christie's, Sotheby's and Bonhams between 1980 and 2015.
[124] Tanavoli, Parviz: Lion Rugs, the Lion in Art and Cultural Iran, Basel 1985, p. 13.
[125] Encyclopedia of World Art, vol. 8 Indo-Iranian Art – Landscape Architecture, New York 1963, p. 74.
[126] Enderlein, Volkmar: Islamische Kunst, Dresden 1990, p. 124.
[127] Pope and Ackerman 1964-1967, vol.13 p. 1304.
[128] Piotrovsky, Mikhail B. and J. Michael Rogers (eds.), Heaven on Earth: Art from Islamic Lands. Works from the State Hermitage Museum and the Khalili Collection (exhibition catalogue), Munich 2004, p. 86, no. 36.
[129] Mayer, Leon A.: Islamic Metalworkers and Their Works, Geneva 1959, p. 37.
[130] Baypakov et al. 2012, p. 96 and 154.

A similar lion-shaped or lynx-shaped incense burner is held in the David Collection under the inventory no. 48/1981. It measures 24.4 cm in height and 29.5 cm in length (Fig. 164).[131]

Fig. 163: Incense burner. St. Petersburg, Hermitage, Inv. no. IR 1565

Fig. 164: Incense burner. Copenhagen, The David Collection, Inv. no. 48/1981

The surface is adorned with engraving and openwork patterns with openwork occupying most of the space. The ornament includes cinquefoils, pointing mostly upward but in various directions on the neck. This makes it comparable to bowl-shaped incense burners in the Bumiller Collection and in the Berlin museum, which have been described above.[132] An attribution to eastern Iran or Afghanistan (equaling Khorasan) in the 11th and 12th centuries has been suggested.[133]

An animal-shaped censer in the Louvre (gift of D. David Weill, 1933, AA19), 28.5 cm tall and 32.5 cm long, shows a decoration of slightly different character (Fig. 165). Apart from an inscription with good wishes engraved on the animal's breast, openwork is prominent on the vessel. Most of the openwork consists of geometrical figures produced by straight lines at right angles.[134] However, the animal's neck bears a large cinquefoil motif on one of the most

[131] Von Folsach, Kjeld: Islamic Art, the David Collection, Copenhagen 1990, p.189.
[132] The Bumiller Collection, Inv.no. BC-2506 and BC-1362; Museum für islamische Kunst, Berlin, Inv.no. I.1990.2.
[133] Canby, Sheila et al.: Court and Cosmos. The Great Age of the Seljuqs (exhibition catalogue), New York 2016, p. 219, no. 136a.
[134] Gaubet, Annie: The Louvre, Near Eastern Antiquities, Paris 1991, p. 78.

prominent parts of the object. The incense burner has been dated to the 11th century AD and attributed to eastern Iran.[135] A piece similar to that in the Louvre and in the Hermitage is kept in the National Museum of Iran in Tehran. It was found in the Gorgan region and has been dated to the 11th or 12th century AD.[136] Openwork motifs cover the entire surface of the animal's body and neck, while an inscription in Kufic script containing words of well-wishing is engraved across the breast. The openwork consists of interlacing bands forming diamonds, into which trefoils have been composed.

Fig. 165: Incense burner. Paris, Louvre, gift of D. David-Weill, 1933, AA 19

Fig. 166: Incense burner. The Khalili Collection, Inv. no. MTW 1525

The Khalili Collection holds another important and similar incense burner, with the inventory no. MTW 1525.[137] It is 27 cm tall and its body, except some tiny parts, is entirely covered with openwork ornaments (Fig. 166). The motifs on the animal's body and head are different in type. While the motif appearing on the body consists of various intertwining flowers and leaves, the beast's head and neck bear show the familiar cinquefoils placed in several rows, pointing downward and upward. A date in the 12th or early 13th century AD has been suggested.[138] The exuberant shape of the tail and the dented mane are unusual.

[135] Makariou 2012, p. 111.
[136] Bazin, Germain: The History of World Sculpture, New York 1976, p. 215. no. 378
[137] Piotrovsky and Rogers 2004, p. 87, no. 37.
[138] Art de l islam, Institut du Monde Arabe, Paris, 2009, no. 98.

An incense burner housed in the Cleveland Museum of Art is similar to the some of the preceding objects (Fig. 167). Resembling a lynx, the burner is 35.6 cm tall and displays openwork ornaments on its body. The item is attributed to the Khorasan of the Seljuk era.[139] Another censer of similar overall appearance is kept in the David Collection, with the inventory no. 3/1970 (Fig. 167). It is 20 cm tall and has been dated to the 12th century AD.[140] The incense burner housed in the Atkins Museum of Fine Arts, Kansas City, belongs to the same group. Large parts of the animal's body are pierced with openwork. Here, the same pattern extends over the neck and breast of the animal (Fig.198).[141] . Engraving is never used on the item, while openworks constitute the only decoration on the object. It has been attributed to 12th century Iran.[142]

Fig. 167: Incense burner. Cleveland Museum of Art

Fig. 168: Incense burner. Kansas City, The Atkins Museum of Fine Arts

Perhaps the most important incense burner of this shape is the one currently kept in the Metropolitan Museum (inventory no. 51.56, Rogers Fund, 1951).[143] With a height of 85 cm, this incense burner is one of the larges pieces of this kind. Unusual are the round bosses on the breast and the shoulders (Fig. 169). Openwork and engraved ornaments cover the entire

[139] Du Ry, Carl J.: Die Welt des Islam, Baden-Baden 1980, pp. 116, 120, 122.
[140] Von Folsach 1990, p. 68.
[141] Ferber, Stanly: Islam and the Medieval West, New York 1975, no.22.
[142] Scerrato 1966, no. 29.
[143] Hibbard, Howard: The Metropolitan Museum of Art, New York 1980, p. 117.

body of the beast.[144] It should be noted that the decoration is organized in intertwined wavy lines forming little cartouches, which are filled with pairs of trefoils. A rare feature is the inscription that contains the date of 577/1181-82 and the signature of a certain Jaʿfar b. Muhmmad b. ʿAli. Allegedly, the object was found in Tayabad (Khorasan), which suits the general picture of an origin of this kind of metalwork in the wider region of Eastern Iran and Southern Central Asia.

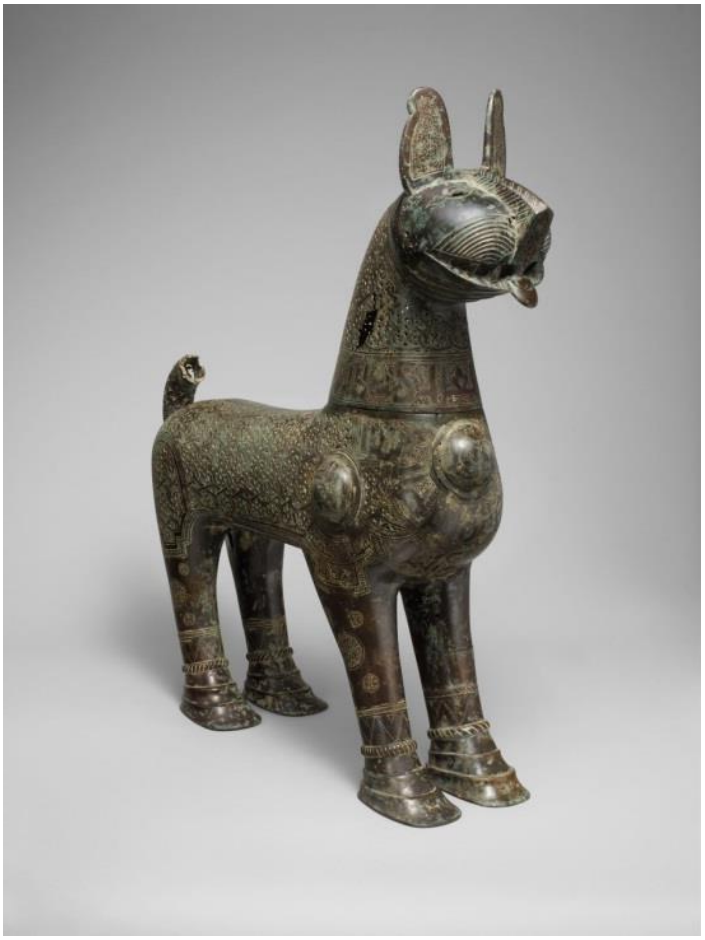


Fig.169: Incense burner. New York, Metropolitan Museum of Art, inv. no. 51.56, Rogers Fund, 1951

From the iconography and design of these objects, it seems clear that the choice of shapes, motifs and styles of execution was guided by aspects of meaning, aesthetic as well as practical considerations.

Another group of incense burners to use openwork with the cinquefoil motif at large are the vessels in the shape of birds — usually birds of prey, or game birds such as the partridge or chukar.

[144] Komaroff, Linda: Islamic Art in the Metropolitan Museum, The Historical Context, New York 1992, p.4

The first item of this type to be introduced here is an incense burner in the shape of a partridge, belonging to the Metropolitan Museum, Rogers Fund, 1949, Inv.no. 49.60.1 (Fig. 170). It measures 17.8 cm in height. Openwork containing trefoils covers its back above the tail and wings. The arrangement resembles the pattern used on bowl-type incense burners previously studied. While one row of trefoils moves upward, another row orients downward. The object has been attributed to 12th century Iran.[145]

Fig. 170: Incense Burner. New York, The Metropolitan Museum of Art, Rogers Fund, 1949, Inv.no. 49.60.1

Fig. 171: Incense Burner. Cleveland, The Cleveland Museum of Art, Inv.no. 48.458

Two very similar incense burners are kept at the Cleveland Museum of Art, with the inventory no. 48458, and at the Keir Collection, with the inventory no. 109. Both resemble the one in the Metropolitan Museum in terms of shape, arrangement and motifs of ornament (Figs. 171-172). With a height of 18.5 cm, the bird in the Keir collection is slightly larger, but otherwise looks so strikingly similar that one might attribute it to seem to be products of one location and date. The item has been dated to a period between the 11th-

[145] Parke-Bernet Galleries. "Public Auction Sale, Part 2, May 11–14, 1949", in: The Notable Art Collection Belonging to the Estate of the Late Joseph Brummer, New York 1949, pt. II, no. 111, pp. 24-25, ill. p. 25.

13th centuries, with Iran as the place of origin.[146] The same Collection houses other incense burners comparable to the previous samples in shape and openwork ornaments.[147]
Also, the David Collection owns the figurine of a bird (inventory no. 24/1968) that may have served as an incense burner, although it lacks openwork decoration. It hase been attributed to 11th-12th century Iran.[148]

Fig. 172: Incense burner. Dallas, The Keir Collection, Inv. no. 109
Fig. 173: Bird figurine. Berlin, Museum für islamische Kunst, Inv. no. I 2/75

Similarly, the Museum of Islamic Art in Berlin keeps an object of the same type (inventory no. I 2/75), with a height of 12.5 cm (Fig. 173). While its shape resembles that of other incense burners described above, its decoration consists mainly of engraved lines forming geometrical figures, and there is no true openwork decoration. An attribution to 11th- and 12th-century Iran has been suggested.[149]
More objects of this kind are kept by other collections. One example is in the Freer Gallery of Art; again it has been attributed to 12th-century Iran.[150] A private collection in Frankfurt owns a similar bird (height: 17 cm), for which an origin from Nishapur has been claimed, however without good evidence, and a date in the 11th and 12th century AD has been suggested.[151]

[146] Grube, Ernst: Islamic Pottery of the Eighth to the Fifteenth Century in the Keir Collection, London 1976, p. 76, no. 37a.
[147] Ibid., nos. 37b-c.
[148] Von Folsach 1990, p. 65.
[149] Von Gladiss und Kröger 1985, Blatt 11-12, No. 220.
[150] Atıl, Esin: Islamic Metalwork in the Freer Gallery of Art, Washington 1985, pp.88-89
[151] Kussmaul, Friedrich: Das Tier in der Kunst Irans. Ausstellung des Linden-Museums in Zusammenarbeit mit dem Institut für Auslandsbeziehungen, 22. Juli - 8. Okt. 1972, Linden-Museum, Stuttgart, No. 146.

From the examples of metalwork that have been introduced here, it is abundantly clear that openwork with cinquefoil palmette decoration can be found on a large group of objects, mostly incense burners but also lamps and a few other objects. While some of them display close similarities in the motifs of their decoration and their arrangement, the margins of this group are not easy to determine. It seems that trefoils, sometimes also plaited bands, were used in nearly the same manner as the cinquefoil decoration. However, the use of the motifs and the arrangement of decorative parts are not always the same, so it may be possible to delineate groups. For the general picture, it is important to note that some objects have an archaeological provenance, ranging form Azerbeijan through Khorasan (Serakhs and Hulbuk), to Southeastern Kazakhstan (with the city of Taraz/Talas). It is also of great importance that one of the finds could be attributed to an archaeological context of the 11th century, while the piece in the Metropolitan Museum is dated by inscription to 577/1181-82. The lampstand from the Linden Museum (A41251) shares many features with the lampstands and other objects presented here, However, they do not give a completely satisfying picture, as those pieces whith are closest parallels in design are undated.

6. The cinquefoil motif in other materials

Parallels between metalwork and other materials are manifold concerning formal and iconographic developments. Frequently, shapes of metalwork were imitated in ceramics. There is a wider field of correspondence when we look at certain motifs that were used in ornamental contexts. As we have seen on the example of the pomegranate and the wing palmette, a certain repertoire of motifs could be characteristic of particular cultural traditions. Far from being restricted to one medium, the use of motifs was, on the contrary, rather flexible and extended over all kinds of materials. For the cinquefoil motif, too, it appears reasonable to look for parallels in other materials. Naturally, we cannot expect to find cinquefoil in openwork in ceramic objects, as the material does not allow the sculpting of delicate pierced forms and openwork on ceramic objects appears rather coarse. However, the cinquefoil occurs frequently on the painted decoration of ceramics originating from the wider region in question. From these materials, it may also be possible to trace it back to its frequent earlier occurences in Islamic and pre-Islamic art. As the cinquefoil can be classified as a rather basic vegetal motif, related to the palmette on the one hand and to the trefoil on

the other hand, it may be difficult to delineate it clearly from these two, and to attribute a specific meaning to it.

An earthenware bowl in the National Museum of Iran, with the inventory no. 8299, is an example of a tendril pattern with cinquefoils covering the surface of the vessel (Fig. 174). It is attributed to 10th-century Nishapur.[152]

Fig. 174: Ceramic bowl. Tehran, National Museum of Iran, Inv. no. 8299

A more stylized variant of a tendril pattern covering the surface of a bowl can be seen in the Foroughi collection in Tehran. The large vessel (26.5 cm diameter) combines trefoils and cinquefoils in an elaborate composition that fills the space evenly, and is framed by a circular inscription (Fig. 175). It has been attibuted to the 9th- or 10th-century Nishapur.[153]

[152] Karīmī, Fāṭeme and Moḥammad Y. Kiyānī: Honar-e sofālgarī-ye doure-ye eslāmī-ye Īrān (= Iranian Pottery of the Islamic period), Tehran 1364 (=1985), pp. 126-7.
[153] Ghouchani, Abdollah: Katībehā-ye sofāl-e Nīshābūr (= Inscriptions on Nishabur Pottery), Tehran 1986, pp. 118-9.

Fig. 175: Ceramic bowl. Tehran, Foroughi Collection

The style of this bowl is similar to a group of underglaze slip-painted ceramics that were traditionally attributed to Nishapur, or alternatively to Afrasiyab (Samarkand), but which have recently been characterized as products of Binkhath (present-day Tashkent).[154] The most famous piece of this group is kept in the Freer Gallery of Art in Washington D.C. (inventory no. 57/24).[155]

Fig. 176: Ceramic bowl. Washington D.C., Freer Gallery of Art, Inv.no. 57/24

This large bowl (39.3 cm in diameter) is designed with a large Kufic inscription on an outer circle, while the center bears a circular composition of five trefoils. This ornament is

[154] Ilyasova, S., J. Ilyasov, R. Imamberdyev, E. Iskhakova: Net blaga v bogatstve: glazurovannaia keramika Tashkentskogo oazisa IX-XII vekov, Moscow 2016.

[155] Ilyasov, J.: "A celebrated bowl in the Freer Gallery: Nishapur, Samarkand or Tashkent?", Tribus 65 (2016), pp. 156-177.

comparable to the openwork appearing on some of the bowl-shaped incense burners discussed above.[156] Traditionally dated to the 9th or 10th century and attributed to Nishapur, the ceramic bowl should be considered a product of Binkath (Tashkent) according to recent research.[157]

A bowl that was excavated at the site of Tappe Madrase in Nishapur is now kept in the Metropolitan Museum of Art under the inventory no. 40.170.15. The bowl has been dated to the 10th century AD.[158] It measures 10.8 cm in height and 35.8 cm in diameter. The central roundel within the circular Kufic inscription is filled with a symmetrical composition of cinquefoils and trefoils, which closely resembles that of some openwork metal objects (Fig. 177).

Fig. 177: Ceramic bowl. New York, The Metropolitan Museum of Art, Inv.no. MMA 40.170.15

Although the design of this piece differs from that of the Freer Bowl, it is also unusual for the pottery of Nishapur. Besides, the workmanship of the bowl matches that of the ceramics

[156] Linden Museum, VL.A2479001 and A37237; The Bumiller Collection, BC- 1464 and BC- 1975
[157] Ghouchani 1986, pp. 66-7; Ilyasova, et al. 2016, p. 134; Ilyasov 2016.
[158] Wilkinson, Charles K.: Nishapur, Pottery of the early Islamic period, New York 1973, p. 131, No. 2.

from Binkath (Tashkent). Therefore, it should be considered an import from Binkath to Nishapur.[159]

Fig. 178: Ceramic Bowl. Kuwait, Tareq Rajab Museum, Inv.no. CER102TSR

A composition that is similar to the central part of the Freer bowl can be seen on a bowl in the Tareq Rajab Museum, Kuwait (inventory no. CER102TSR). With 4.5 cm in height and 13.3 cm in diameter, this bowl is smaller than the preceding examples. A 10th-century date has been suggested for this piece.[160] The rotating pattern of four trefoils can be compared to the arrangement of vegetal elements on some of the bowl-shaped incense burners introduced before.[161] It is also comparable to the openwork pattern on the tray of the lampstand in the Linden Museum (A41251).

In a similar way, ornamental cinquefoils appear on a ceramic bowl in the Reza Abbasi Museum in Tehran (inventory no. 51-44). It measures 25.5 cm in diameter. Encircled by a Kufic inscription consisting of good wishes, the central roundel contains a vegetal ornament resembling that of the Freer Gallery's bowl, however with cinquefoils instead of trefoils. , The leavers are more elongated and have a sharper point than those of the previous examples.

[159] Ilyasova et al. 2016; Ilyasov 2016.
[160] Fehérvári, Géza: Ceramics of the Islamic World in the Tareq Rajab Museum, London 2000, p. 56, No. 53.
[161] Linden Museum, VL.A2479001 and A37237; The Bumiller Collection, BC-1464 and BC-1975.

From the ceramics presented so far, it can be conlcluded without doubt that the cinquefoil and the trefoil alike were common motifs in the vegetal ornament on the slip-painted ceramics of Khorasan and Central Asia of the Samanid period.

It is possible to re-trace the use of the cinquefoil to earlier periods in Islamic art, in architectural decoration as well as on objects. It is usually taken to represent vine leaves, a motif that shows a continuity from pre-Islamic periods.[162] Examples come from regions west of Khorasan, from the heartlands of the caliphate.

Again, the stucco decoration from Samarra (836-892 AD) is an example for the stylized use of the ancient motif, making it hardly recognizable as vine leaves. Therefore, the cinquefoil motif — sometimes changed into the trefoil motif. On one piece in the Museum of Islamic Art in Berlin (Inventory no. I.3482), seven cinquefoils are placed in a hexalobe that is, in turn, fitted into a hexagram. (Fig. 179). Another piece shows individual cinquefoils filling one cell each in a grid of diamonds (Inventory no. I.3483-1), an arrangement that seems to pre-empt that on some of the openwork bronzes (Fig. 180).

Fig. 179: Stucco panel from Samarra. Berlin, Museum für islamische Kunst, Inv.no. I. 3482

Fig. 180: Stucco panel from Samarra. Berlin, Museum für islamische Kunst, Inv.no. I. 3483.1

Forerunners of this ornament have been documented in the architectural decoration of the early Abbasid and of the Umayyad period, and even earlier examples can be found in the

[162] Riegl, Alois: Stilfragen. Grundlegungen zu einer Geschichte der Ornamentik. Berlin 1893; repr. Munich 1985, 259-346.

stonework of Byzantine Syria and Coptic Egypt. In these earlier stages, the leaves are usually combined with grapes and appear less stylized than in the Samarra stucco.
An object from this period, on which the vegetal design with cinquefoils is developed in a manner similar to that of the later openwork bronzes, is the ivory box in the Museum of Islamic Art in Berlin, inventory no. 2977.

Fig. 181: Ivory box. Berlin, Museum für Islamische Kunst, Inv.no. 2977

The object has been attributed to Syria or Egypt between the 7th and 8th centuries.[163] The suface of the vessel is entirely covered with tendrils ending in countless cinquefoils – in this case it may be appropriate to use the term 'vine leaves'.[164] The stems of the tendrils spring from vases at the bottom, a motif that brings to mind similar examples from Sasanian art.[165] Ornaments of this kind, consisting of vine leaves or cinquefoils, have been compared to mosaics of the Umayyad period in Jerusalem.[166] Inherited from Late Antique and Sasanian art and adopted by early Muslim artists, they were converted over time into 'arabesques'.[167]

7. Conclusion: The cinquefoil motif from pre-Islamic to Islamic art

For the eastern regions of the caliphate, the transformation of vine leaf ornament into more abstract patterns can be followed in a comparison of Sasanian silver objects with later

[163] Brisch, Klaus (ed.): Museum für Islamische Kunst, Berlin, Stuttgart 1980, Kat. Nr. 7; 26-27.
[164] Kühnel, Ernst: Die islamischen Elfenbeinskulpturen. VIII-XIII. Jh., Berlin 1971, 25 no. 1 pl. 1.
[165] Brisch 1980, Kat. Nr. 130.
[166] Riegl 1893, repr. 1985.
[167] Kühnel, Ernst: Die Arabeske. Sinn und Wandlung eines Ornaments, Berlin 1949; 2nd ed. Graz 1977.

metalwork. Here, it can be asked in which way the individual elements were transformed and how their arrangement on the objects was changed.

A silver bowl with a vine ornament is on display in the Freer Gallery of Art in Washington DC A tendril ending in grapes and five-petaled leaves forms a frieze encircling the rim of the vessel (Fig. 182), for which a date in the 6th or 7th century AD has been suggested.[168]

Fig. 182: Silver bowl, Sasanian period. Washington D.C., Freer Gallery. Founders Society Purchase, Sarah Beacon Hill Found, Inv. no. 62.266 © https://commons.wikimedia.org

Another relevant Sasanian bowl is kept in the collection of the Abegg-Foundation at Riggisberg (inventory no. 8.119.65).[169] Here, the vessel's outer surface is entirely covered with vine tendrils, amongst which human and animal figures are moving.

A similar design can be seen on a silver bottle in the British Museum in London (inventory no. 1897,1231.189), which was found in Mazanderan, and on a silver bottle in the Reza Abbasi Museum in Tehran. Numerous other silver vessels belonging to the Sassanid period show the motif in a similar fashion. It seems that the vine motif was nearly as frequent in Sasanian iconography as hunting scenes, which have been identified as a key element of royal Sasanian iconography.

It is no surprise, then, that the vine leaf or cinquefoils also appears in the stucco decoration on the walls of palaces of the Sasanian period, especialy those in Kish and Ctesiphon (Fig. 183).

[168] Peck, Elsie Holmes: "A Sasanian Silver Bowl", Bulletin of the Detroit Institute of Arts 47 no. 2 (1968), p. 24.
[169] Otavsky and Blair 1998, pp. 222-23.

Fig. 183: Stucco decoration from Kish. New York, The Metropolitan Museum of Art

Possibly, a royal association can be derived from the fact that the cinquefoils was present in the stucco of palaces and on silver objects. A regional attribution seems also possible, as most of the objects with cinquefoils apparently originated from northern Iran.

Fig. 184: Stucco panel from Chal Tarkhan. Paris, Louvre, Inv. no. MAO 416

Fig. 185: Silver dish from Deylaman. Cleveland, The Cleveland Museum of Art.

The stucco panel from Chal Tarkhan near Rayy, kept in the Louvre with the inventory no. MAO 416, shows singular vine leaves alternate with ducks in a checkerboard pattern (Fig. 184). The stylized shape of the leaves appears as a forerunner to Umayyad and Abbasid stucco. A silver dish that was excavated in the region of Deylaman[170] shows elaborate tendrils with stylized leaves (Fig. 185).

A ewer in the David Collection in Copenhagen (inventory no. 17/2001) seems to represent one of the earliest examples preserved from the Islamic period in which the cinquefoil motif

[170] Shepherd, Dorothy G.: "Sasanian Art in Cleveland", The Bulletin of the Cleveland Museum of Art, 51, No.4 (Apr.1964), pp. 79 and 81.

was applied on a metal object. The cast pitcher is is 27.7 cm tall with a diameter of 14 cm. A fleshy tendril circles across the surface of the body, terminating in leaves that have a silhouette similar to those from Chal Tarkhan (Fig. 186).

Fig. 186: Ewer. Copenhagen, The David Collection, Inv.no. 17/2001

With a likely date of production in the 9th century AD[171], the ewer can serve as an example of the first metal vessels to be adorned with this motif.

Considering that pre-Islamic traditions remained particularly alive in the northern Iranian regions with which the items are associated, one might argue that the tradition of using these motifs in metalwork remained alive in the art of these localities and were thus transmitted to the Samanid period. However, the ubiquity of the cinquefoil motif in the early Islamic period, with examples coming from various regions of the caliphate, it is difficult to assume a single line of transmission. Clearly, if the vine leave had a royal connotation during the Sasanid period – an assumption for which the evidence is only circumstantial –, this royal lustre was lost during the late Sasanian or early Islamic period, and the motif was

[171] Von Folsach 2001, p. 294, no. 453.

incorporated into the wider array of Islamic ornament. However, it seem that the use of the motif on metalworks became a hallmark of Iran, and is not visible on metal objects produced in the western part of the Muslim world. Apparently, using the cinquefoil motif in the context of openwork was something exclusive to the metalworkers of the eastern regions of Khorasan and Central Asia. Here, it had a counterpart in the decoration of ceramics. Thus, it appears not unlikely that the craftsmen of Khorasan inherited the cinquefoil motif directly from a Sasanian tradition, even if they adapted its shape to their own aesthetics, and to the context of openwork in bronze (or related copper alloys).

In order to assess the importance of traditions that were incorporated into Islamic art with regard to the cinquefoil motif in openwork, it is also necessary to consider evidence from the Byzantine sphere. There is evidence, including extant items in museums, that the widespread use of the motif in the Eastern Mediterranean was concomitant with its application in the Sasanian Empire.

Fig. 187: Incense burner. New York, The Metropolitan Museum of Art, Inv.no. 63.150

An incense burner kept at the Metropolitan Museum of Art under the inventory no. 63.150 is relevant. It is 16.8 cm tall and 13.7 cm wide. The cylindrical body, supported by three narrow, short legs, is surmounted by a lid of approximately the same height (Fig. 187). The censer has been dated to the 6th century AD.[172]

The openwork comprises the whole surface of the object. It takes the shape of vine tendrils forming adjacent circles, into which figures and vine leaves, i. e. cinquefoils, have been

[172] Evans and Ratliff 2012, p. 180, No. 122A.

placed. The three factors: the overall shape of the object, the use of openwork and the occurrence of cinquefoils, appears closely related to the incense burners that have been described above. Thus, it is compelling to assume a line of tradition from Byzantine incense burners to the Islamic objects.

Fig. 188: Incense burner. Paris, Louvre, Inv. no. E 11708

Another incense burner, housed in the Louvre with the inventory no. E 11708, shows a later development. It was acquired in Egypt and has been dated to the 8th-10th centuries. With a size of 28 cm in height and 17.8 cm in diameter, it is larger than the previous example. Its openwork ornament consists of a mesh of spiraling tendrils terminating in vine leaves or cinquefoils (Fig. 188).

Similar objects from 8th-century sites in Jordan confirm the impression that the Byzantine tradition of openwork was adopted in metalwork of the Islamic period:

A censer excavated at al-Fudayn in 1986, now in the Archaeological Museum of Jordan at Amman (inventory no. J15710), is also decorated with openwork, though not with the cinquefoil motif. Comparable is an incense burner found on the citadel of Amman, also in the Archaeological Museum of Jordan with the inventory no. J1663. These examples indicate that the practice to design objects with openwork continued to live on among the metalworkers of the Eastern Mediterranean and the Levant. At the same time, not a single

metal item with openwork has been recovered in Khorasan or Transoxiana that can be dated to the 8th century or earlier. It seems that the incentive to produce bronze objects with openwork developed in Eastern Iran after the Islamic conquest, be it under the influence from the Mediterranean, be it for other reasons.

From the various groups of objects presented above, from the arrangement of decoration and the relations between varying motifs, a likely sequence of development suggests itself. It is presented here as a hypothesis.

First, it seems that incense burners with a domical lid and long handle were produced, more or less copying the type of Mediterranean censers. The ornamentation of these objects, too, resembled that of those prototypes, with rather wide openings between the metal fillets, comparatively small leaves, and an arrangement of elements that was not always guided by symmetry. However, the figural elements of the pre-Islamic objects gave way to mere geometrical and vegetal motifs. Epigraphic elements are absent from these early Islamic incense burners. This is in keeping with the observation that the lid with a domical shape that is kept in the Bumiller Collection (BC-1490), which in fact bears an inscription, shows an 'advanced', more abstract form of openwork with uniform tendrils and cinquefoils. According to the shapes of the letters, a dating of this object to the late 10th or to the 11th century AD seems not unlikely.

On the censer with straight handle that is kept in the Linden Museum (A34410), it can be observed the decoration is organized in large circles. This may form an important point of comparison to the bowl-shaped incense burners. Among these, a number show a design in which six large adjoining circles form the dominating element in the openwork, into which the smaller tendrils and leaves are composed. One may venture the hypothesis that this design of incense burners preceded the one in which an arrangement of interlacing bands forms a dense grid of hexagons or hexagrams creates a more unified impression. In other words, the design in which the circles constituted an intermediate level of elements that divided the openwork zone into smaller fields was given up in favour of a design of larger expanses that were filled with one and the same pattern. The division into larger circles had made it necessary to arrange the tendrils within in a rather flexible way, with leaves pointing into different directions, and the circles had also created triangular spandrels in between, into which leaves had to be composed. All of this was changed towards an arrangement in which superimposed rows of hexagons or hexagrams form a regular grid.

This hypothesis is complicated by the fact that a variant of the 'circle design' forms arcades with horseshoe arches (e. g. on the incense burner in the Linden Museum, inv. no. 37237) – a motif that could also be derived from an older, perhaps Mediterranean or Levantine, source.

While these examples appear somehow connected with design principles of the early Islamic period, the objects adorned with the strongly geometrical openwork of the hexagon scheme seem to represent a more unified understanding of decoration that is subordinate to the larger lines delineating the decorated fields and shaping the contours of the object. If the transition between these design concepts can be pinpointed in chronology, a likely period may have been between the second half of the 10th and the first half of the 11th century AD.

Another aspect of change concerns the form of the leaves that form the principal vegetal element of the decoration. It seems that here, too, a development from a certain variety to uniformity can be observed. While the leaves on the earliest objects show variants in contour and filling, the later examples are routinely shaped as cinquefoils with rather equal leaves. Possibly, the trefoil persisted as a variant until the later 11th or even into the 12th century. However, it seems that the fashion trend towards a uniform design favoured the increasing use of the cinquefoil. It seems that this is not only visible on the bowl-shaped incense burners, but also on other objects such as the animal-shaped incense burners, on oils lamps and lampstands. As a chronological marker, the lion-shaped (or lynx-shaped) censer in the Hermitage (inventory no. IR 1565), a parallel to which was found in an archaeological context of the 11th century, indicates that the change must have been under way by this time.

For possible places of production, the archaeological provenances of individual pieces is not necessarily a good indicator. The fact that the lion or lynx parallel to that in the Hermitage was found at Hulbuk proves little about the place where it was made, and the same is the case with the oil lamps from Taraz or the alleged origin of the large lion of 577/1181-82 from Tayabad.

An indicator might be seen in the composition of the cinquefoil with a good-luck-knot adorning the breast of the bird-shaped object in the Bumiller Collection (BC-0954). As this motif seems to originate from Central Asia rather than from Iran, one might assume that it was first applied on metal objects produced in Transoxiana, before spreading to

neighbouring regions of Khorasan. This may also be in keeping with the frequent use of the cinquefoil on ceramics that were made in the region of present-day Tashkent.
How is the lampstand in the Linden Museum (inventory no. A41251) to be placed in this field? With its openwork decoration organized in rows of hexagons filled with cinquefoils, avoiding variations from one part of the object to another but rather giving the different parts a unified appearance, the lampstand is best classified towards the end of the development outlined above. It has its closest counterpart in the bowl-shaped censer in the Berlin museum (inventory no. I.1990.2), with regard to the arrangement of the decoration and the shape of the motifs. Together with similar lampstands, for example the one sold at Christie's in 2008 as well as the one in the Kabul Museum, and together with the lion-lynx in the Hermitage (IR 15656), a group is formed that can be dated with some likelihood to the late 11th or early 12th century, and which might have originated from a workshop in Transoxiana, if not the upper Oxus area.

Chapter IV
Technical aspects and scientific analyses of metalwork

1. The use of openwork on metal objects

Applying openwork on metalwork implies aspects that require further explanation. It is not obvious that parts of the surface of a metal object should be pierced with openings. This suggests that metalworkers have been interested in using this kind of decoration for various reasons.

Functional and decorative aspects

Openings in a metal object can both limit or widen its potential use. The pierced surface of objects shaped like a vase, such as those in the Linden Museum inv. no. A370 76L and in the Bumiller Collection BC-3403, make it impossible to fill them with water and thus use them as a container for liquid. On the other hand, the openings in the back of an animal figurine such as the partridges described above are apt to let smoke and steam emanate from the interior and thus enable its use as an incense burner. For the bowl-shaped incense burners, the pierced openings are not functionally essential, as the smoke is usually rising from the large central opening, but the small openings in the surface may help air circulation to fan the combustion.

In addition, there is a group of lamps, some of which also have the shape of a bowl with a wide opening. Some of them were made from sheet metal through which openings were pierced, which allow light to pass through. A glass holding the oil and wicks would have been placed in this metal bowl. An example can be seen in a lamp in the David Collection (inventory no. 17/1970). It is easy to imagine that the play of shadow and light falling through the openings created interesting effects. In some ideal constellation, even the inscriptions of the openwork might have been projected on the surrounding walls. But the more impressive effect was probably the immediate aspect of the'translucent' lamp itself.

Another effect of openwork is that it modifies the massive character of the object – aesthetically and physically. This can be particularly important with cast objects, which usually have thicker walls and are heavier than objects made of sheet metal. The piercing of the surface with openwork reduces not only the weight of the finished object but also the

consumption of metal for its production. It seems that among the incense burners presented above, the earlier examples with their larger openings were more effective in this respect. The artisans of the 11th-12th centuries may not have been interested as much in the economic effects of the openwork as in the aesthetic appearance that was enhanced by the pierced surface. After all, the cast metal objects of this period from Khorasan frequently have rather thin walls, so that the economic effect of openwork was rather low. Given that the creation of openwork passages on an object required more expertise and labour-intensive care, it is likely that the openwork on objects such as the lamp and the lampstand in the Linden Museum (inv. no. A41251) was motivated by aesthetic rather than economic reasons.

Methods of creating openwork on metalwork

Various methods were used to create openwork designs on metal products.

A type of casting, called the lost wax technique, is used to create objects with more complex shapes. This technique is used to make hollow objects. First, a core is made of clay, its surface is covered with wax, and the wax is shaped to the desired object. Subsequently, the surface of the wax is covered with an exterior layer of clay. Specific outlets are provided for air and gas, as well as for pouring the molten metal in. The core and the exterior shell are connected with rods, to keep them in the correct relative position. After the form has been heated for the wax to melt and flow out, it is ready for molten metal to fill all empty spaces that have resulted from the emptying of the wax. When the metal has been poured in and then cooled down, the outer clay crust is broken and the object is removed. This technique implies that a separate mold has to be created for each object. Or, in other words, each mold is used to cast one object.[173]

A variant of the lost wax technique operates with a hard and a soft kind of wax. Those parts of the cast that should be hollow are covered with hard wax, while surfaces are covered with soft wax. During the heating phase of the casting, the soft wax melts quickly and flows out. It is replaced by metal, while the hard-wax stays intact and thus, those parts remain hollow. With this procedure, it is easier to leave part of the surface of the object open, which results in a shape with openwork sections.[174]

[173] Baer 1983 p. 2.
[174] Ward 1993, p. 31.

A different method is to penetrate the surface of the complete object. In this method, the desired design is drawn on the integral surface of the metal. Some holes are then drilled to allow a saw blade to pass through. The design is cut out to create the openwork motif. This method is usually used for working objects that are made of wrought or beaten sheet metal.[175]

The openwork on the oil lamp and the lampstand (inv. no. A41251) at the Linden Museum in Stuttgart, just like the openwork on other cast bronze objects from Khorasan, was created using the lost wax method.[176] Thus, the openwork originated from the casting process of the two objects. Comparison of the outer and inner surfaces of the lamp and the lampstand reveals that the outer surfaces were rasped and polished, while their inner surfaces remained uneven, just as they had been cast.

2. Metal analyses on Khorasan bronzes

Scientific methods have not (yet) arrived at a point to accurately determine the date or place of the creation of an object by metal analysis. However, it is possible to reveal the exact amount of different material constituents in a metal object. Usually, the analytical methods such as AAS or XRF spectroscopy are destructive, involving that samples are taken from the object under consideration; however, recent development of detectors has made it possible to perform non-invasive XRF measurements.

The data obtained from samples yield information about the composition of non-organic materials of the respective parts of an object. These data alone give no information on the date or location when or where a historic metal object was made. Usually, specimens are examined in comparison, in order to find similarities and differences. If similar objects exist whose data of origin are known (e. g. from an inscription) or can be determined (e. g. from an archaeological context), it is possible to draw conclusions on the object of which the composition has been analyzed.[177] A critical issue will always be the degree of congruence or deviation that is considered critical for attributing an object to a certain context, or to

[175] Wulff, Hans E.: The Traditional Crafts of Persia: Their Development, Technology, and Influence on Eastern and Western Civilizations, Cambridge Mass. 1966, pp. 15-18.
[176] Baer 1983 p. 2.
[177] Korn 2003, pp. 118-165.

exclude it. A larger database that allows groups to be formed can be a prerequisite for viable conclusions.

During the Khorasan research project 2014-2017, a group of twenty-six objects from the Linden Museum were analyzed, of which twelve were decorated with openwork. Among these objects were the lamp and the lampstand discussed here (inventory no. A41251).[178] Specimens were taken from nine points of the surface of these two objects for analysis. Drill samples were taken from cast alloys, whereas thin toreutics had to be sampled by a jewellery saw. The chemical compositions of the samples were investigated by energy-dispersive X-ray spectrometry (EDXRF) following the quantification and correction procedures of Lutz & Pernicka (1996). Lead isotope analysis was accomplished by multiple-collector inductively-coupled plasma mass spectrometer (MC-ICP-MS). Some fragments were prepared by mounting in epoxy resin and appropriate specimen preparation for micro structural analysis. They were examined by optical light microscopy (OM) with quantitative image analysis and scanning electron microscopy (SEM) with attached silicon drift detector for energy dispersive X-ray analyses (EDX).[179]

Nearly all objects consist entirely of brass or of quaternary alloys of copper, tin, zinc, and lead, which are traditionally called gun-metals (Cu-Zn-Pb-Sn).

Of these, five specimens were taken from the lamp and four from the lampstand. Of the five specimens taken from the lamp, one was taken from the body, one from the handle, one from the bottom of the stand, one from the lid, and the last one from the solder on the lid's hinge.

By examining the results of the analysis of these five specimens, it was concluded that combinations of the materials were almost the same except for the one obtained from the solder, which was completely different from the rest. Comparison of the results of the first four specimens revealed that they all had a copper content between 60% and 70%.

Lab no	Sample origin.	Cu	Fe	Co	Ni	Zn	As	Ag	Sn	Sb	Pb	Bi
MA-161111	Lamp. corpus	69	0.44	0.03	0.16	7.4	0.37	0.091	4.2	0.50	18.0	0.07
MA-161112	Lamp. handle	69	0.38	0.04	0.17	7.8	0.40	0.077	4.0	0.47	17.2	0.05

[178] Schwab, Roland and Klaus Pernicka, „Archaeometallurgical examination of bronze objects from Khorasan in the collection of the Linden-Museum", Kurt Engelhorn Center for Archaeometry analysis report 16-099, dated 29.12.2016, to be published in: L. Korn, U. Franke and A. Krämer (eds.), Heartland of Islamic Art and Culture: Khurasan from Early Islam to the Mongols and beyond. Papers of the Conference held in Stuttgart, 3-4 November 2016.

[179] Ibid., p. 3.

MA-161113	Lamp. foot	68	0.37	0.04	0.14	8.5	0.34	0.071	2.70	0.42	19.3	0.05
MA-161114	Lamp. lid	60	0.29	0.03	0.11	6.4	0.25	0.077	2.62	0.43	30	0.05
MA-161115	Lamp. solder	0.90	0.07	<0.01	<0.01	0.3	0.00	0.013	34	0.138	65	<0.01
MA-161116	Stand, tray	73	0.36	0.03	0.13	6.5	0.43	0.082	2.58	0.79	16.6	<0.01
MA-161117	Stand, shaft	72	0.35	0.03	0.14	6.8	0.53	0.081	2.68	0.82	16.8	0.03
MA-161118	Stand. foot	74	0.60	0.04	0.09	8.5	0.34	0.060	1.95	0.44	13.6	0.02
MA-161119	Stand. foot	75	0.48	0.04	0.09	8.7	0.35	0.058	1.95	0.44	12.7	0.01

Table 1: Analysis results of metal contents of nine specimens taken from the lamp and the lampstand at the Linden Museum (A41251) (Schwab/Pernicka: Archaeometallurgical examination, 2016, table 2. Column 2 modified by the author)

The copper content was exactly the same in the body and handle of the lamp (69%) and not much different in the specimen obtained from the lampstand. However, the copper content in the lid was about 10% less than the other specimens. The manganese content was less than 0.01% in all specimens. The iron content in these four specimens was less than 0.5%. While the iron content in the handle and lampstand was roughly equal, the lowest iron content was found in the lid and the highest in the body. The difference between the iron content in these two specimens was about 15%. Moreover, the cobalt content in all of these specimens was up to a maximum of 0.04%. The cobalt content in the stand and handle was exactly the same and nearly equal in the body and in the lid with a very little difference from the two previous specimens. The nickel content in these four specimens did not differ significantly and was less than 0.2%. The zinc content in all four specimens was less than 4%. While the lowest zinc content was in the lid and the highest in the lampstand, the difference was not more than a maximum of 2%. This amount for actinium was also below 0.4% in all specimens with the lowest being in the lid and the highest in the handle. The zinc content in the handle was roughly double its content in the lid. Cerium content in all of these specimens was equal and below 0.01%. The study revealed that the silver content in all parts of the lamp was almost equal. While being slightly different in the body, it was between 0.07% and 0.09% in all the other parts which was not a significant difference. The tin content was found to be different in the specimens. While it was almost equal in the body and the handle (about 4%), the tin content found to be less than 3%, both in the stand and the lid. It was also found that the gold content was equal in all of these pieces and below 0.01%. There was a difference in the lead content. While it was approximately equal in the body, the handle, and the stand (between 17% and 19%), the lead content was significantly different in the lid, reaching 30%.

As was already mentioned, the results of this analysis indicated that the compounds of the solder of the lid's hinge were different from the other specimens introduced so far. Contrary to what could be expected, there was no copper in this compound: the copper content was below 1%. Interestingly, the zinc content was also quite different from the other specimens, being less than 0.5%. Conversely, the tin content was quite high and showed a big difference with the other four specimens, being more than 30%. No other analyzed specimen contained this much tin (exception). The same applies to the lead content. While the lead content of the other four specimens was below 20%, this figure was 65% in the solder which is a significant difference. Comparison of the composition of these materials proves that the lid's hinge was soldered to the body at another time and was not an original part of the lamp.
From the lampstand, four samples were taken from four different points of the object: One from the top tray, two from the basis, and one from the shaft. The copper content was almost equal for all these specimens, varied between 72% and 75%. This was slightly higher than the copper content in the specimens taken from the lamp, which were below 70%. In general, the data comparison revealed that the composition of the specimens taken from the body and the lampstand were similar to that of the specimens taken from the tray. The Lead content in all three specimens was almost equal. While the main components of solder on the lid were lead and tin, the lead content was nearly equal with the lead content in the other three specimens. This indicated that the lead in this solder and the one in the body were supplied from the same location; that is, they were mined from the same mine.
As Schwab and Pernicka have justly summarized, "the samples from the lamp stand with an oil lamp (A 41251 a+b) show that all parts of the lamp and the lamp stand are very similar in their chemical composition and lead isotope ratios, but they are not identical. Especially the individual parts of the lamp stand are chemically and isotopically divergent. It is not clear, if they were only produced separately and fit together in one workshop, or if they were arbitrary composed later."[180]
The analysis of lead isotopes can give additional evidence on the work process during the production of a cast object, and on the origin of ores. In particular, the copper and zinc ores of the brass that is used in the majority of Khorasan bronzes can be distinguished. With a comparison to characteristic isotope configurations of particular mining areas, information on the provenance of the material can be gained.

[180] Schwab and Pernicka (forthcoming), p. 6

Lab no.	208pbJ206pb	207pbJ206pb	2ospbJ204Pb	201pbJ204Pb	20spbJ2D4Pb
rMA-161111	2.0902	0.85099	38.430	15.646	18.386
MA-161113	2.1175	0.86518	38.308	15.652	18.091
MA-161115	2.1050	0.85856	38.408	15.665	18.246
MA-161116	2.1035	0.85680	38.446	15.660	18.277
MA-161118	2.0978	0.85490	38.413	15.654	18.311

Table 2: Lead isotope ratios of the analyzed objects. All values are given in mass percent (Schwab/Pernicka, Archaeometallurgical examination 2016, table 4).

In the case of the lamp and the lampstand (A41251), it is difficult to ascertain the origin of the ores, as the closest match is with a mining area in Central Iran.[181] However, it could be seen that the ores used for the different parts of the lamp were as closely related as could be expected, so that their common origin is certain. Also, the tray of the lampstand shows a corresponding configuration of isotopes (Fig. 189):

> "An example is demonstrated in Fig. 5. "The oil lamp A 41251 is made of several parts, five of which were sampled. Three are isotopically indistinguishable, namely the corpus and the base of the lamp as well as the plate of the lamp stand. Lncidentally, the latter is dated later which may have to be revised. All three samples also have similar trace element patterns and consist of a highly leaded alloy. Although the solder consist of a lead-tin alloy, its lead isotope ratios are very close to these three samples. This would suggest that the lead in the solder and in the copper alloy derives from the same source and, accordingly, the solder is indeed contemporary with the lamp. On the other hand, the base of the lamp stand has different lead isotope ratios and most likely was not made together with the lamp."[182]

[181] Schwab/Pernicka (forthcoming).
[182] Schwab/Pernicka (forthcoming), p. 9.

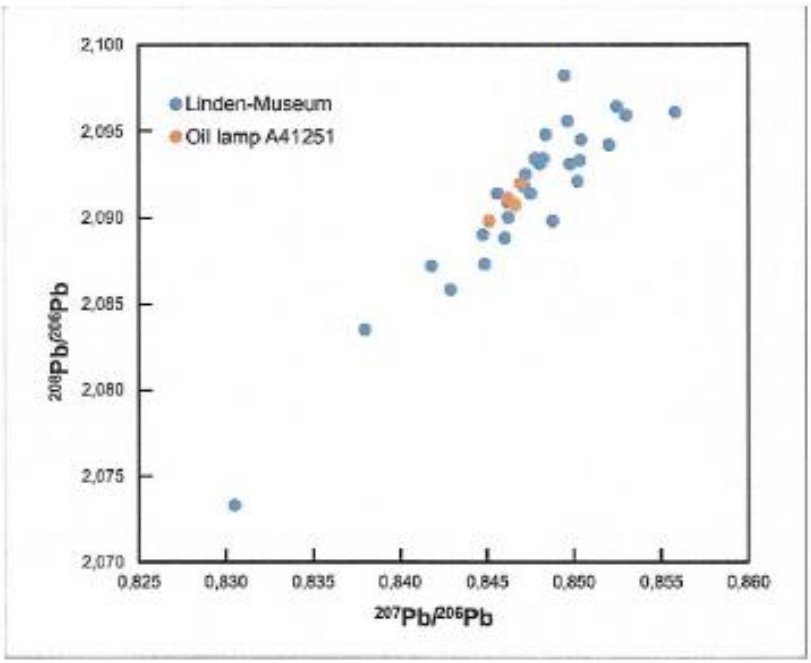


Fig. 189: Lead isotope ratios of all anlysed samples. Highlighted are five samples of the oil lamp A41251, two of which are plotting on top of each other (Schwab/Pernicka, Archaeometallurgical examination 2016, fig. 5)

From the analyses of the different parts of the lamp and the lampstand, it can be seen that the two objects are distinguisthed by the composition of their metals, but that the different parts of an object are rather closely related. Particiularly the copper contents appear indicative in this respect. This may result in the conclusion that the two objects come from different workshops. This image is modified by the lead isotope analysis, which has demonstrated that the ores used for the lamp are consistent, and that the ore used for the tray of the lampstand belongs to the same group, while the foot of the lampstand differs considerably. As a consequence, it can be assumed, that the lamp and the lampstand originate from different work processes. However, the materials used for the lampstand's tray came from the same source as those used for the lamp. It it possible to hypothesize that the tray versus the other parts of lampstand are of different origins and were only assembled later.

Chapter V
Conclusion

The purpose of this study has been to examine the lamp and the lamp stand kept in Linden Museum, outstanding examples of the so-called 'Khorasan bronzes', which can be considered one of the most significant products of pre-Mongol culture in the region of Khorasan. The study aimed at exploring the context of its openwork decoration, with regard to the stylistic development of Islamic ornament and the adoption of iconographic elements from pre-Islamic periods. In the publications where these two objects have appeared, they had been treated as a single set of two pieces that belong together. The origin of the lamp and the lampstands had been attributed either to Afghanistan (probably based on its provenance through the art market) or to Bukhara (based on criteria that were not disclosed). A dating to the 11th century AD had been proposed, likewise based on arguments that remained beyond discussion in the literature.

While the lamp and the lampstand match in size, in the technique of their making and in the appearance of their materials, it seems obvious that their belonging to a single set had to be questioned. Already at first sight, it becomes clear that the motifs of their openwork decoration are different, with rather sinuous vegetal elements on the lamp and a more geometrical array of ornaments on the lampstand. There are also connecting elements, such as the good-luck-knots that are engraved on both the lamp and the foot of the lampstand. The striking element in the design of the two elements is the openwork decoration that covers large parts of their surfaces. In chapters II and III of this study, this decoration has been compared to that on other, related objects. Cast 'bronzes' with openwork decoration form a large group among the so-called 'Khorasan bronzes', and it is possible to find close correspondences in the motifs and the arrangement of decoration among them. Most of the objects that are introduced in this discussion have been dated between the 10th-12th centuries. However, one of the problems of the field is the fact that very few pieces are securely dated either by epigraphic evidence or by an archaeological context. The vast majority have only been dated on stylistic ground, which has resulted in vague attributions, for which the arguments are not always made explicit.

Therefore, the present study attempted to create a wide context by adducing a large number of objects on which openwork with comparable motifs can be seen, and to trace the origin of these motifs back to earlier stages and other media, in which they were used in different contexts. This way, it became possible to identify the elements of which the ornaments are composed, and establish their original iconography. Objects for comparison come from a wide range of metalwork, first of all other 'Khorasan bronzes', but also Sasanian silver, and other materials such as ceramics and glass, as well as wood and stucco decoration on buildings. Relevant metal objects were found first of all in the three collections involved in the research cooperation on Khorasan of the years 2014-17, i. e. the Linden Museum in Stuttgart, the Museum of Islamic art in Berlin, and the Bumiller Collection in Bamberg. However, a large number of objects was also found in other museums and collections in the Middle East, in Europe and North America.

For the ornament on the lamp, it has been possible to identify its principal elements as the so-called wing palmette, in combination with the pomegranate. Both were rooted in ancient Iranian culture (a surprising discovery was made concerning the pomegranate in this field), and both occur frequently on objects of the Sasanian period. It seems that their connotation with royal authority was lost and that their original meaning obscured, so that it was easy to use these elements in a different context. They were adapted to a merely decorative use in a stylized form. While there is little evidence on the exact way in which this adaptation proceeded, it seems clear that it was more or less complete during the Samarra period (9th century), when the material culture of the Abbasid caliphate was fully developed. It can be assumed that stylistic fashions of Iraq, as the capital region of the caliphate, were influential in other parts of the empire. The combination of the wing palmette and the pomegranate was a common element in the Abbasid 'beveled style' and can be seen on a large number of objects. It is no surprise that it also entered the repertoire of craftsmen in Iran and spread rapidly. The transformation of the motif made it easy to adapt to different concepts of geometrical arrangement, as can be observed in various stucco decorations of the 10th and 11th centuries.

In metalwork, the use of the stylized wing palmette with the pomegranate seems to tbe restricted to Khorasan. Apparently, its adaptation to openwork was the work of craftsmen in this region. It is impossible to say to what degree it was still recognized as a motif originating from pre-Islamic, Sasanian culture. However, its integration in the ornament that stylistically

resembled the 'beveled style' of the Samarra period, suggests that its original meaning was completely lost. From the metalwork that is preserved, it seems that the use of this motif was indeed current between the 10th-12th centuries. For the lamp in the Linden Museum, comparison with other objets supports an attribution to the 11th century, and probably rather the second half of the 11th century.

For the ornament on the lampstand, it is easy to identify the cinquefoil as the central element of decoration. However, its adaptation from earlier contexts and its re-working for this kind of openwork are not easy to follow. Tendrils with five-lobed leaves, more specifically vine leaves, were a common element in the arts of all cultures of the ancient Middle East and Mediterranean. This makes it nearly impossible to pin down a particular origin from where this motif was adapted to the metalwork of Khorasan. However, it is possible to follow the process of adaptation of the cinquefoil from a vine leaf to an element that was integrated into the geometric arrangement of interlaced bands forming hexagrams, as it appears in the openwork of the lampstand in the Linden Museum. In comparison with other objects with openwork decoration, it becomes clear that this geometric arrangement should be considered a rather late stage in openwork decoration. Earlier stages can be seen in more varied arrangements in which parts of the openwork were dominated by large roundels. Also, it seems that openwork with cinquefoils was first applied on incense burners from the Byzantine Near East, and that the first objects with cinquefoil openwork in the Islamic period were also incense burners with a long handle. From there, the technique and the motif were adapted to other shapes and types of objects, such as bowl-shaped and animal-shaped incense burners, oil lamps, lampstands etc. Any possible religious meaning associated with the vine leaf was probably lost during this process of adaptation and transformation.

A component of geographic attribution comes in with the many examples of cinquefoil decoration in other media. Similar to the wing palmette and pomegranate motif, the cinquefoil is present in the stucco decoration of Samarra and othe places during the Early Islamic period; therefore it seems problematic to attribute it to a specific region. However, the occurrence of cinquefoils on ceramics from Transoxiana during the 10th-11th century indicates that this motif was particularly valued here. This could be an argument to locate metal objects with cinquefoild decoration in Transoxiana rather than other parts of Khorasan. Additional evidence might be expected from the occurrence of the good-luck

knot, which can also be found associated with some cinquefoil decoration in metalwork. However, as the knot occurs on the lamp in the Linden Museum as well as on the lampstand, there seems to be no specific difference between an association with cinquefoil or with wing palmette openwork. More convincing is the occurrence of cinquefoil decoration on archaeological finds of metalwork, in Taraz (Kazakhstan) and Hulbuk (Tadjikistan), proving that objects with this motif were in use in Transoxiana. However, it has to be admitted that archaeological evidence of this kind does not prove the place of production. Therefore, the attribution of the lampstand to Transoxiana must remain tentative.

The scientific analysis of the lamp and the lampstand support the view that they originated from different contexts, as their metal composition is different, while there seems to be a connection between the ores used for the casting of the lamp, and the ore used for the tray of the lampstand. However, the different metal composition is strong evidence that the two objects were not made as an ensemble.

Openwork as a technique of decoration on Khorasan bronzes was a particular development within this large family of metalwork. It was used on certain types of objects, such as lamps and incense burners, where the grid-like openings could have particular functions. But it appears also on other parts of objects like vases, where it had no practical use. The aesthetic effect of a perforated surface was probably appreciated, just like openwork was a rare feature on some stucco decoration. Casting objects with openwork decoration required particular skill and experience. The general development in the metalwork of Khorasan, however, went to an increase of sheet metal objects towards the end of the 12th century. From the examples of openwork decoration that were found in various museums and collection for the present study, it can be said that at the end of the 12th century, the production of metal objects with cast openwork had also ended.

Appendix I
Lists of Metalwork with openwork decoration in the Bumiller collection, Bamberg, in the Museum für islamische Kunst, Berlin, and in the Linden Museum, Stuttgart

Metalwork with openwork decoration in the Bumiller collection, Bamberg

No.	Inv.No.	Object
1	BC-0860	Incense burner
2	BC-0174	Lid of an Incense burner
3	BC-1194	Lid of an Incense burner
4	BC-1677	Oil lamp
5	BC- 2506	Incense burner
6	BC- 1362	Incense burner
7	BC- 1464	Incense burner
8	BC- 1975	Incense burner
9	BC-0068	Oil lamp
10	BC-1315	Oil lamp
11	BC- 0954	Oil lamp in form of a bird
12	BC- 0132	Oil lamp in form of a lion
13	BC- 2231	Upper part of an oil lamp
14	BC- 3403	Vase
15	BC- 1490	Lid of an Incense burner

Metalwork with openwork decoration in the Museum für islamische Kunst, Berlin

No.	Inv.No.	Object
1	I.1990.2	Incense burner
2	I.1/73	Lid of an Incense burner
3	I.1502	Vase
4	I. 5624	Tray

Metalwork with openwork decoration in the Linden Museum, Stuttgart

No.	Inv.No.	Object
1	A 41251	Oil lamp
2	A 41251	Lampstand
3	VL A00095	Incense burner
4	A 36076 L	Vase
5	A 34411	Incense burner
6	VL A2479001	Incense burner
7	A37237	Incense burner
8	A34410	Incense burner

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35- K. Rashidi
36- K. Rashidi
37- K. Rashidi
38- AfterFranke and von Gladiss 2002
39- K. Rashidi
40- Linden-Museum, Stuttgart, Photo: Anatol Dreyer
41- After: Makariou 2002
42- K. Rashidi

43- Christie's
44- K. Rashidi
45- K. Rashidi
46- The Bumiller Collection
47- Christie's
48- Sotheby’s
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50- After: Franke and von Gladiss 2002
51- The Bumiller Collection, University of Bamberg Museum of Islamic Art
52- After: Ettinghausen1981
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61- Lorenz Korn
62- 69- K. Rashidi
70- Reza Abbasi Museum, Tehran
71- K. Rashidi
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73- The Metropolitan Museum of Art, New York
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76- The Museum, Tehran
77- Museum für Islamische Kunst der Staatlichen Museen zu Berlin - Preußischer Kulturbesitz, Photo: Johannes Kramer
78- After Khmelnitskii, Sergei: Mezhdu Arabami i Tyurkami, Berlin 1992
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80- Museum für Islamische Kunst der Staatlichen Museen zu Berlin - Preußischer Kulturbesitz, Photo: Johannes Kramer
81- The Metropolitan Museum of Art
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135- The Metropolitan Museum of Art

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148- Museum für Islamische Kunst der Staatlichen Museen zu Berlin - Preußischer Kulturbesitz. Photo: Johannes Kramer
149- The Metropolitan Museum of Art
150- After: C. L. Davids Samling, Copenhagen, 1970
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170- The Metropolitan Museum of Art
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