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ANNALES

du 21e CONGRÈS de l'ASSOCIATION INTERNATIONALE pour l'HISTOIRE du VERRE

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efe glass

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du 21e CONGRÈS de l'ASSOCIATION INTERNATIONALE
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Cover image: Roman handle applique found in the Marmaray-Metro Excavations - Istanbul. 4th Century

in memoriam
YOKO SHINDO

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HANAR Elif

MOLD-BLOWN GLASS VESSELS IN DİYARBAKIR MUSEUM

The city of Diyarbakir, located in the heart of Mesopotamia and close to the trade routes in Syria and the Mediterranean basin, has hosted many civilizations from the Early Ages to the present. Its strategic position, which enriches the cultural structure of the city, has caused it to interact with the Syrian and Mediterranean cultures. This interaction has affected every aspect of life and also glass production. Therefore, many different forms of glass vessels produced by using different techniques that were obtained from the province of Diyarbakır and its surroundings, and especially the mold-blown ones, should be considered as clear evidences of this interaction.

In the collections of Diyarbakır Museum, there are 583 glass vessels, most of which are unpublished examples. This study focuses on only 55 of these glass vessels produced by the mold- blowing technique. They comprise1 date-shaped bottle, 2 grape-shaped bottles, 9 head-shaped bottles, 21 ribbed bottles, 13 sprinklers, 4 jugs and 2 amphoriskoi. 54 of these glass vessels were acquired through purchases, confiscations, transfers, excavations and grants. However, only one of these examples (Fig. 48) was found in a rock tomb that was discovered on an agricultural land belonging to Salihli village in Ergani during a salvage excavation carried out by the Diyarbakır Museum. Moreover, only one of these glass vessels (Fig.51-52) was cited in a previously published article[1].

Date-Shaped Bottle

The mold-blowing technique enables glass workers to produce glass vessels in the shape of many different objects[2]. It is generally believed that date-shaped glass vessels were produced in the glass workshops

1 BARIN 2007.
2 GROSSMANN 2002, 34.

Fig. 1: Date Shaped Bottle. 9,4 cm.

Fig. 2: Grape Shaped Bottle. 8,3 cm.

Fig. 3: Grape Shaped Bottle. 8,6 cm.

Fig. 4: Grape Shaped Bottle. 10,6 cm.

Fig. 5: Grape Shaped Bottle. 9,5 cm.

Fig. 6: Grape Shaped Bottle. 5,5 cm.

Fig. 7: Grape Shaped Bottle. 5,8 cm.

Fig. 8: Grape Shaped Bottle. 9 cm.

Fig. 9: Grape Shaped Bottle. 8,1 cm.

in Syria and Palestine. They were one of the most widely produced vessels all along the Mediterranean Coast[3]. These date-shaped or pine cone-shaped glass vessels[4]were used to preserve medicine and perfume.

The unique date-shaped bottle (Fig.1) in the collection of Diyarbakır Museum was acquired through purchase. It has a thick-walled, outwardly rounded rim, a short cylindrical neck, a date shaped body and a flat bottom. When compared with similar examples[5], it can be dated back to 1st–2nd CE.in terms of both the form and decorative characteristics.

Grape-Shaped Bottles

Produced in the form of a bunch of grapes[6] in the period from the end of the 1st CE. to the 3rd CE., these glass vessels were sometimes made as a joint of grapes in a bunch and sometimes in three bunches. They are made of brown glass in general and have purple and green colored examples resembling the real grape colors[7].

The two grape-shaped brown glass vessels (Fig. 2–3) in the museum are partially thick-walled and similar in terms of color, form, decoration, and size. They have folded rims, short cylindrical necks, grape bunch shaped bodies and rounded bottoms. When

3 LIGHTFOOT 1989, 75.
4 ENGLE 1978, 90.
5 ISINGS 1957, 94, Form 78/D; MATHESON 1980, 60, Fig.140; HAYES 1975, 33, Fig.89; CANAV 1985, 36, Fig.17; OLIVER 1980, 64, Fig.60; GROSSMANN 2002, 34, Fig.34; TAIT 1991, 73, Fig.93; YURTSEVEN 2006, 107, Fig.38; ISRAELI 2003, 140, Fig.150; ANTONARAS 2006, 76, Fig.117; SMITH 1982, Fig.6, No.57; ÖZET 1987, 604, Fig.10; LUCKNER 1994, 89, Fig.64; LIGHTFOOT 2017, 58, Cat.27; BERNET 1979, 54, Fig.73; STERN 1995, 117, Fig.99; WHITEHOUSE 2001,47, Fig.519; BARAG 1985, PL.14, No.119.
6 ISINGS 1957, 94.
7 GROSSMANN 2002, 35.

compared to similar examples[8], the grape-shaped bottles can be considered as the products of the 2nd – 3rd CE.

Head-Shaped Bottles

The earliest examples of head-shaped bottles are from the Archaic Period. In this period, molds made of terracotta and bronze materials were used for the production of head shaped vessels. These vessels are considered as the prototypes of the glass ones that were commonly produced in the Roman period[9].

These bottles are known to have been produced with a single head (faced) in the first half of the 1st CE. while they gained double or more heads from the 2nd CE.and on[10]. The distinctive and rare examples of these long cylindrical-necked, head shaped, and flat-bottomed bottles can bedated back to 3rd CE.[11]

The 9 human head-shaped bottles in the museum have all wide rims, cylindrical necks and flat bottoms and must be categorized according to the number of heads on their body. The bodies of two of these bottles are in the form of a single human head (Fig. 4–9); two of them are in the form of two human heads (Fig.10–11), and one of them is in the form of three human heads (Fig. 12).

Isigns[12] has defined the bottles decorated with a single human head as Form 78/A and with two human heads as Form 78/B, dating them to the 2nd CE. In addition, in some stud-

Fig. 10: Grape Shaped Bottle.10,8 cm.

Fig. 11: Grape Shaped Bottle. 9,7 cm.

Fig. 12: Ribbed Flask. 6,7 cm

Fig. 13: Ribbed Flask. 6,8 cm

Fig. 14: Ribbed Flask. 10 cm

Fig. 15: Ribbed Flask. 6,3 cm

Fig. 16: Ribbed Flask. 6,2 cm

Fig. 17: Ribbed Flask. 5,7 cm

Fig. 18: Ribbed Flask. 5,7 cm

Fig. 19: Ribbed Flask. 6,6 cm

Fig. 20: Ribbed Flask. 6,3 cm

Fig. 21: Ribbed Flask. 4,5 cm.

8 ISINGS 1957, 94, Form 78/E; HONEY 1946, 26, Kat.5/C; STERN 1995, 181-190, Fig.111-119; TAIT 1991, 73, Fig.93; BERNET 1979, 54, Fig.75; ANTONARAS 2006, 76, Fig.3/118; SMITH 1982, Fig.6, No.71; GROSSMANN 2002, 35, Fig.35; HORICHT 1991, 83, Fig.17/C.

9 GROSSMANN 2002, 30.

10 GROSSMANN 2002, 30; GURLER 2000, 71.

11 HAYES 1975, 33.

12 ISINGS 1957, 93, Form 78/B.

Fig. 22: Ribbed Flask. 5,9 cm

Fig. 23: Ribbed Flask. 5,8 cm

Fig. 24: Ribbed Flask. 5,2 cm

Fig. 25: Ribbed Flask. 5,9 cm

Fig. 26: Ribbed Flask. 7,8 cm

Fig. 27: Ribbed Flask. 8,2 cm

Fig. 28: Ribbed Flask. 6,6 cm

Fig. 29: Ribbed Flask. 7,7 cm

Fig. 30: Ribbed Flask. 4,9 cm

Fig. 31: Ribbed Flask. 7 cm

Fig. 32: Ribbed Flask. 5,2 cm

Fig. 33: Ribbed Flask. 5,3 cm

ies[13], the head-shaped bottles are mentioned to have been produced in 2nd–3rd CE. Similarly, the head-shaped bottles evaluated in the previous studies and the bottles in the museum collection were found to be similar in terms of form and decoration characteristics. This similarity can lead us to date the Diyarbakır samples to 2nd-3rd CE.

Ribbed Flasks

It is known that the glass vessels which were produced in the 3rd CE. are decorated with ribs. These vessel examples, which have both onion bodies and conical bodies, are considered to be typical for the 3rd CE. The bottoms and necks of some of these samples are similar to bottles and unguentaria from earlier periods[14].

Since the form and decoration in the production of ribbed flasks are different than the examples of flasks mentioned above, the 26 ribbed flasks in the collection of Diyarbakir Museum should be divided into sub-categories among themselves. For example, the ribbed and single-handled flask presented in Fig.13 has a handle and short cylindrical neck, spherical body and a slightly concave bottom. We can compare this flask to the 1st CE. Sidonian parallels[15].It is necessary to consider them as a similar production to the Syrian-Palestinian bottles of eastern Mediterranean origin. The reason is that although samples of ribbed bottles with the shape of

13 KUNINA 1997, 283, Fig.154; GROSSMANN 2002, 30, Fig.30; OLIVER 1980, 64, Fig.61; HONEY 1946, 26, Kat.516; LIGHTFOOT 2017, 59, Cat.28, BERNET 1979, 72, Fig.118; ISRAELI 2003, 221, Fig.2723; AKAD, FIRATLI and KOCABAŞ 1984, 19, Fig.47, FLEMING 1999, 16, Fig.4, WEINBERG and MCCLELLAN 1992, 127, Fig.100; HAYES 1975, 50, Fig.94; GÜRLER 2000, 72, Fig.91, OZET 1987, 604, Fig.11.

14 ISİNGS 1957, 119.

15 ÖZGÜMÜŞ 1989, 41, Fig.4; CANAV 1985, 37, Fig.18.

a melon or pumpkin were recovered from many graves, dating from the 1st CE., they were not recorded in the western settlements. As a result, they are thought to be imported from the region of Syria-Palestine[16].

Another ribbed flask presented in Fig.14 has an outward splaying rim, concave neck that was squeezed by a tool, oval body and round bottom. Its form and decoration are closely similar to the one from Afyon Museum which dates back to 1st CE.[17]

The ribbed body and single-handled flask in Fig.15 has a rim with a drain. The rim was first dragged outward and then folded inward. It has a cylindrical neck, cylindrical body with a slightly diminishing shoulder, and flat bottom. The examples[18] which have similar formal or decorative characteristics are dated to the second half of the 3rd CE. and lead us to date the Diyarbakır example back to the 3rd–4th CE.

There are 21 miniature ribbed flasks given in figures from 16 to 36. The upper parts of the rims of these thick walled and green-colored flasks were rounded after being folded downwards, upwards and inwards. They have short cylindrical necks narrowing towards the body, an apparent tool mark on the neck, spherical bodies and round bottoms. While all these vessels are of approximately the same size, the depth and the shape of the ribs on their bodies differ from each other. In addition to the deep and distinct rib patterns, there are also superficial ones. When published sources are reviewed,

Fig. 34: Ribbed Flask. 5,1 cm

Fig. 35:

Fig. 36: Ribbed Flask. 5,5 cm

Fig. 37: Gutturnium. 7,3 cm

Fig. 38: Gutturnium. 7,7 cm

Fig. 39: Gutturnium. 8,2 cm

Fig. 40: Gutturnium. 8,5 cm

Fig. 41: Gutturnium. 7,7 cm

Fig. 42: Gutturnium. 8,5 cm

Fig. 43: Gutturnium. 7,9 cm

Fig. 44: Gutturnium. 8,6 cm

Fig. 45: Gutturnium. 4,9 cm

16 STERN 1995, Cat.50-51,149-150.
17 LIGHTFOOT, 1989, 78, PL.3, Fig.4.
18 ISINGS 1957, 118, Form 98. OLIVER 1980, 125, Fig.220. VESSBERG 1952, PL.6, No.8; ISRAELI 2008, 378, Fig.99; HAYES 1975, 113, Fig.428; BERNET 1979, 139, Fig.249.

Fig. 46: Gutturnium. 9,1 cm

Fig. 47: Gutturnium. 9,1 cm

Fig. 48: Gutturnium. 7,5 cm

Fig. 49: Gutturnium. 10,4 cm

Fig. 50: Square Bottle. 10,5 cm

Fig. 51: Octagonal Bottle. 17,7 cm

it can be concluded that the ribbed miniature flasks[19]were produced between 3rd–4th CE.

Gutturnium

These vessels, also known as sprinklers (gutturnium), can be wide rimmed, long-necked, sometimes with bulbous-bodied and sometimes with conical-bodied. In some examples of these vessels, as seen in the early bottles and unguentaria, there is a slimming downin the inner part of the neck, where it joins the body. There are also samples without this kind of a slimming on the inner part of the neck[20].

In the museum, there are 13 vessels of this kind, also known as sprinklers. They get narrower along the inner side of their neck in the form of a set of circular glass with a hole on its center which slows down the flow of liquid in it. Furthermore, they are decorated with embossed zigzags, intersecting diamonds and concentric circle motifs.

9 green sprinklers (from Fig. 37 to Fig. 45) are similar in terms of form, decoration and size. For example, their rims are pulled outward, folded inward, and rounded on the upper part. Besides, they have wide, graded inner sections, slightly inclined rims, long cylindrical necks, spherical bodies with slightly compressed shoulders (Fig.44 conical)and flat bottoms. They have bodies embossed with zigzags.

The bodies of 2 other sprinklers are decorated with intersecting diamonds (Fig. 46–47). While the rim of Fig. 46 is wide and its inner part is slightly inclined, the rim of Fig. 47 is pulled outward, folded inward, and rounded on the upper part. However, both vessels have long cylindrical necks, tool mark on the necks, spherical bodies and flat bottoms.

One of the last two sprinklers was found in a rock tomb during a salvage excavation carried out by Diyarbakır Museum in Salihli Village (Fig. 48). The rim of this sprinkler is pulled outward, folded inward, and rounded on the upper part. It has a partially wide and slightly inclined rim that is slanted on the interior. It has a cylindrical neck, tool marks on its neck, spherical body, and a slightly concave bottom. Moreover, it has embossed concentric and circular motifs on its body. Another sprinkler, which was brought to the museum collection through purchase, is similar to the one found in Salihli but its body is onion-shaped (Fig.49).

19 ISINGS 1957, 119, Form 101; ÖZTÜRK 2013, 120, Fig.62; WHITEHOUSE 2001,158, Fig.678; STERN 1995, 196, Fig.132; HAYES 1975, 266, Fig.294; SIMPSON 2003, 147, Fig.12.

20 ISINGS 1957, 120.

These sprinklers were found widely in 3rd–4th CE.contexts[21]. It is clear that the sprinklers described in detail above are the production of the same period.

Bottles

In order to serve users's varying needs and meet the demand of the new products, some of the glass workshops worked with a special glass production technology which usually addressed the industry and trade[22] of this material. In the 2nd CE., different and new vessel forms were produced by the mold-blowing technique. In addition to being decorative, square, large and small glass vessels which were remarkable for their functional qualities started to be produced[23].

Prismatic vessels were preferred because they were more functional in the trade of liquids due to the easy packaging compared to cylindrical glass vessels[24]. Their thick walls were a major protection to prevent easy breakage. Merchants preferred secure and large-sized glass vessels to transport perishable products such as oil and wine. Moreover, the glass vessels produced in the same mold provided the merchants with the opportunity[25] to transport large quantities of products as well as the convenience for packing their goods[26].

The glass vessels offer the advantages of keeping the smell and taste of the material stored in the glass unchanged and facilitating the visibility of the material contained therein. Some of the square-bodied glass vessels produced by the mold-blowing technique, which had been designed probably by glass workshops and served as certain trademarks, were used by traders[27]. The bottom of some bottles were often embossed with geometric patterns such as a rosette in a ring[28].

In Diyarbakir Museum, there are 4 bottles which can be categorized according to their forms:

Square Bottle: Both the free blowing and the mold blowing techniques were used in the production of square bottles. However, mold-blown examples are quite high. Free-blown ones are generally seen around the Mediterranean. Examples produced by them old blowing technique are generally thin-walled, bluish-green in color and their bottoms are stamped[29].

The unique square bottle in the museum (Fig. 50) is a thick-walled and green colored vessel. It has a slightly rounded rim, a short cylindrical neck, a square body compressed on the shoulder and a flat bottom. The vessel has a handle that starts from the neck and ends on the shoulder and has a grooved ribbon on its upper part. Scholarly sources have asserted that square bottles similar to Diyarbakır example were widely produced in the 1st–2nd CE.[30]

21 ISINGS 1957, 119, Form 101. HAYES 1975, 78, Fig.282; OLIVER 1980, 120, Fig.208; BERNET 1979, 59, Fig.89; AKAD, FIRATLI and KOCABAŞ 1984, 33, Fig.113; ÖZTÜRK 2013, 117, Fig.59; ÖZET 1987, 604, Fig.9; MATHESON 1980, 79, Fig.207; BARKOCZI 1960, 54, Fig.123; CANAV1985, 40, Fig.27; STERN 1995, 196-197, Fig.129-132; LIGHTFOOT and ARSLAN 1992, 29, Fig.94; LIGHTFOOT 1989, 124-125, Fig.303.
22 GROSSMANN 2002, 22.
23 TAIT 1991, 81.
24 MEYER 1992, 31.
25 GROSSMANN 2002, 22; ISINGS 1957, 63.
26 OLIVER 1980, 23.
27 GROSSMANN 2002, 22.
28 GROSSMANN 2002, 23; ISINGS 1957, 64.
29 ISINGS 1957, 63-64.
30 ISINGS 1957, 63, Form 51/A; TAIT 1991, 82, Fig.100; WEINBERG and MCCLELLAN 1992, 68, Fig.89; CHARLESWORTH 1966, 27, Fig.2; KUNINA 1997, 285, Fig.169; ASTROM 1965,137, Fig.795; MEYER 1992, 31, Fig.229; LIGHTFOOT 2017,61-62,Cat.31-32; BERNET 1979,139, Fig.254; LIGHTFOOT and ARSLAN 1992, 110, Fig.59.

Fig. 52. Octagonal Bottle. 18,4 cm

Fig. 53. Square Bottle without handle. 12,4 cm

Fig. 54. Amphoriskoi. 8,2 cm.

Fig. 55. Amphoriskoi. 5,2 cm.

Octagonal bottles: The rims of these bottles are sometimes wide but generally flat. One characteristic of the glass vessels in this group is that the rim was first curled, then pulled downward and upward, then this process was repeated, and the rim was given a graded form. The large handle of the bottles is in the form of thin and thick strips[31]. Natural colors such as greenish or bluish green were preferred. Sometimes air bubbles appear on the surface of these vessels[32]. On the bottom of some of these vessel examples, there are stamped geometric patterns, such as badges often placed in a ring[33]. In the museum, there are 2 octagonal jugs (Fig. 51–52), which are parallel to this form. Their rims are two-staged which is pulled outward, folded inward, flattened, and widened; and they also have an octagonal body and long cylindrical neck which gets wider towards the body. There is a rosette-shaped decoration on their bottoms and their handles are stripped.

It is known that those glass items were produced extensively in the late 2nd CE[34]. Moreover, examples of octagonal glass vessels dated to 2nd–3rd CE. have been cited in many sources[35].The formal similarity of the octagonal glasses in the museum and the examples described above reveal that they date back to the same period.

Square bottle without handle: In the museum, there is asquare glass vessel with a rectangular body shown in Fig. 53 The rim of this bottle was rounded on the upper part after being dragged outward and folded inward. It has a wide rim, a short concave neck and a concave base. When compared to similar examples[36], the Diyarbakır bottle should be dated to 3rd – 4th CE.

Amphoriskoi

Since two amphoriskoi in Diyarbakir Museum have different body forms and decorative elements, they must be evaluated separately. The amphoriskoi in Fig. 54 has a wide rim that is dragged outward and folded inward, a short cylindrical neck, alight spherical body, and a flat bottom. Furthermore, it has stamped embossed decorations on its body that are not easily visible. When compared, it can be seen that the Diyarbakır

31 HAYES 1975, 37.
32 MEYER 1992, 31.
33 GROSSMANN 2002, 23; MEYER 1992, 31.
34 ISINGS 1957,66, Form 50/B.
35 BARKOCZI 1996, 94, Fig.295;KUNINA 1997, 285,Fig.168; ISRAELI 2003,256, Fig.330; MEYER 1992, 31, Fig.244.
36 BARKOCZI 1996,49, Fig.102; VESSBERG 1952, PL.7, Fig.40; LANCEL 1967, 31, Fig.8; HAYES 1975, 58, Fig.143; WEINBERG and STERN 2009, 133, Fig.297; ANTONARAS 2006, 306, Fig.5; AKAD, FIRATLI and KOCABAŞ 1984, 37, Fig.133.

example and the other examples[37] from the 1st CE. have parallel forms and decoration elements. Therefore, the Diyarbakır example must be dated back to the 1st CE.

The amphoriskoi in Fig. 55 has a slightly inclined rim that was rounded after being pulled outward and folded inward, short cylindrical neck, oval body squeezed on its edges, and pointed bottom. The lower part of the body has grooves that were shaped by mold-blowing. Compared to parallel examples[38], it is possible to date the pointed-bottomed amphoriskoi in Diyarbakir Museum to 2nd–3rd C.

SUMMARY

Due to the lack of studies in the field of glassmaking throughout the region, there is insufficient data to claim that the examples of glass in the Diyarbakır Museum were produced locally. These glasses, which were brought to the Museum by means of excavations, purchases, confiscations, grants and transfers, have a similar structure with the glasses of Eastern Mediterranean origin. However, the proximity of Diyarbakir to Syria and the trade relations in the Roman Empire period made it interact with Mediterranean cultures. Therefore, it is possible to see the most obvious reflections of this interaction in glass vessels in the museum collection.

In order to determine the origin of these vessels generally acquired to the museum collection by means of the aforementioned ways, which make it difficult to date them, the available scientific publications and the data obtained from the scientific excavations so far were investigated in order to determine their provenance. The glass vessels in the museum collection were compared with others on the basis of their production technique, form and decoration elements. The comparisons revealed that these glasses are similar to those of Eastern Mediterranean origin. This finding leads us to conclude that the glass vessels of the Diyarbakır Museum are either produced in the workshops in these centers or are local productions under the influence of these workshops.

37 ISINGS 1957, 32, Form 15; OLIVER 1980, 62, Fig.56; LIGHTFOOT 1989, PL.8, Fig.6; SMITH 1982, Fig.4, No.21; VESSBERG 1952, PL.6, No.22; ISRAELI 2003, 260, Fig.337; STERN 1995,153, Fig.56; CANAV 1985, 37, Fig.18; WEINBERG and MCCLELLAN 1992, 126, Fig.99. LIGHTFOOT and ARSLAN 1992, 62, Fig.23.

38 ISINGS 1957, 77-78, Form 60; OLIVER 1980,66, Fig.56; STERN 1995,158, Fig.65.

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