

ON THE ORIGINAL OF TWO PIECE OF GLASS AMPHORISKOS IN
GİRESUN MUSEUM*

GİRESUN MÜZESİ'NDEKİ İKİ CAM AMPHORİSKOS'UN
ORJİNALLİĞİ ÜZERİNE

О ОРГАНИЗМЕ ДВА СТЕКЛА АМФОРИСКОСА
В МУЗЕЕ ГИРЕСУНА

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ABSTRACT

The study includes observations on two glass amphoriskos in the group of archeological vessels in Giresun Museum. The artifacts that are gained to the museum by way of purchasing are protected in the storage. Amphoriskos were produced by using the core-formed technique. At first step, their photographs have been taken, the inventory information has been recorded and the catalog has been prepared.

After the examination on these works, it has been tried to reach information about the production places of such glass vessels or the way of arriving to the city by considering the form and appearance characteristics. Furthermore, it has been emphasized whether the studied works are original or not.

Key words: Giresun Museum, Glass, Amphoriskos, Core-Formed Technique, Fake Glass Vessels.

ÖZ

Çalışma, Giresun Müzesi'ndeki arkeolojik eserler grubunda yer alan 2 adet cam amphoriskos üzerine yapılan gözlemleri kapsamaktadır. Satın alma yolu ile müzeye kazandırılan eserler depoda korunmaktadır. Amphoriskoslar iç kalıp tekniği kullanılarak üretilmiştir. Eserlerin ilk olarak fotoğraf çalışması yapılmış, envanter bilgileri alınmış ve katalog hazırlanmıştır.

Bu eserler üzerinde yapılan inceleme sonrasında form ve bezeme özellikleri göz önünde tutularak bu tip cam kapların üretim yerleri veya kente geliş şekli konusunda bilgilere ulaşılmaya çalışılmıştır. Ayrıca incelenen eserlerin orijinal olup olmadıkları üzerinde durulmuştur.

Anahtar Kelimeler: Giresun Müzesi, Cam, Amhoriskos, İç Kalıp Tekniği, Sahte Cam Kaplar.

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АННОТАЦИЯ

В исследование включены наблюдения по двум стеклянным амфорикам в группе археологических работ в музее Гиресуна. Артефакты, приобретенные в музее посредством покупки, защищены на складе. Амфориски были изготовлены с использованием метода внутренней формы. Фотографии были сделаны впервые, была сделана инвентаризационная информация и подготовлен каталог.

Изучив эти работы, он попытался получить информацию о местах производства таких стеклянных контейнеров или о способе прибытия в город с учетом особенностей формы и внешнего вида. Кроме того, подчеркивается, оригинальны ли изученные произведения или нет.

Ключевые слова: Музей Giresun, Стекло, Амфорискос, Техника внутреннего формования, Ложная посуда.

1. Giriş

Amphoriskos, which we can be defined as perfume bottles or oil bottles, are small-sized ones of amphora-type vessels. They are carrying vessel which have narrow rim and neck, two handles from shoulder, generally oval body. It comes from the Greek "*amphi*-both sides" and "*phero*-carrying" words (Er 2004, 24, 25).

Within the context our study, originality of two amphoriskos will be examined and they will be compared with similar objects in terms of form, colour and ornament for the style criticism. In addition, another method which is applied to determine whether glass artefacts are counterfeit or not is spectrographic analysis (thermoluminescence). This method is based on the principle of luminescence as a result of the energy which occurs with heating materials such as mine, glass, tile (Temür 2013, 535).

For a better understanding of the study, it would be appropriate to address core-formed technique which is applied to produce these kinds of glass vessels and the history of amphoriskos which were produced by this technique.

From the early periods, the glasses were utilized by human beings in their lives have been produced in different shapes. The production of the glass as a vessel first appeared in the 16th century BC. The earliest technique for producing these vessels is the core-formed technique. In the early periods, it has been seen that aryballos, alabastron, oenochoe and amphoriskos that were used for storing oil and fragrance were produced by core-formed technique. Since they were small size bottles, at first phase inner moulds of the vessels was prepared to produce these vessels.

These moulds which are made by kneading fertilizer, clay, salt and water till formed as dough are called as "core" so the core-formed technique is called as "sand core, sand mould, core coiling" (Gürler 2000, 2; Öztürk 2013, 31; Temür 2013, 535).

At the first phase of the core-formed technique, the glass which was formed as paste is coiled in the form of thread or plunged into smelted glass in the moulded pot to provide to keep the glass on the core. Then the glass at the bit of the iron bar is rounded on a flat surface to ensure adhesion and correction on the mould and take the form of the mould. If any ornament is to be made on them- ornaments such as wavy lines, zigzags and bird feather figures are usually applied on these glass vessels. The colours to be used for the ornament are determined and each colour is melted in a separate pot. The molten glass is removed from the pot with the help of a pointed rod and turned into trail and wrapped on the moulded form in an order. The form is then rolled on a flat surface to ensure that the trails are integrated with the form. This is followed with using a pointed tool or a wooden comb to

bring the bird feather, zigzag or wave ornaments mentioned above. The form is then completed by adding rim, base and -handle if it is necessary-. When all these processes are finished, the glass is required not to cool and solidify. Therefore, the glass must be heated and rounded on the flat surface so that the glass can stay in the desired consistency. Thus, this ensures that the surface of the vessel to be smooth. Aftermath of the final construction phase, it is gradually cooled down, called annealing. The cooling process must be slow, otherwise the risk of glass cracking arises. After cooling, the mould material in the glass vessel is slowly scraped off. After the vessel is thoroughly cleaned, it is washed and ready for use (; Oliver 1980, 21; Weinberg and McClellan 1992, 19; Canav Özgümüş 2013,7; Eker 2016, 326, 327; Eker and Eker 2016, 18, Çiz. 7), (Fig.1).



Fig. 1: Inner Moulding Technique for Production of Glass Vessel (Lec. Kasım Eker)

When we look at the works produced by core-formed technique, we see that the first produced vessels date back to 16th century BC. It was extensively used from this century in Mesopotamia and Egypt till Classical and Hellenistic period, the beginning of 1st century AD, in Eastern Mediterranean, Black Sea region and Italy (Hayes 1975, 5; Eker 2016, 326). The earliest example of this technique is; A piece from the neck part of a bottle dated to 1525-1500 BC which was excavated in Tell Atchana and a part belonging to the neck part of the bottle which was dated to 1500 BC and excavated in Kırıkkale-Büklükale excavations (Barag 1985, 36, 42, no.7, Figure 1; Matsumura 2013, 277, Figure 6).

From 1200 BC to 9th century BC, there was a period of stagnation in the production of glass, but it has been seen that glass production revived since the 9th century BC. It has been understood that the core-formed technique was applied in this period and afterwards. In the 6th century BC it has been observed that Rhodes was particularly active in glass production.

When we look at vessel forms, it has been seen that glass vessels such as alabastron, aryballos, oenochoe and amphoriskos were produced under the influence of baked clay vessel forms. The existence of such vessels in Rhodes can be explained in two ways. The first, they were produced in Mesopotamia and then exported to Rhodes or were produced by glass masters who migrated to Rhodes from Mesopotamia (Lightfoot and Arslan 1992, 3; Temür 2013, 536). It was widely used until the emergence of the free blowing technique, which was a great revolution in glass making in the mid-1st century BC. During the 1st and 2nd centuries AD, glass art developed rapidly in Western Rome, and in the east, especially in the Syrian-Palestinian territory, it is seen that a setback began. However, in the 3rd and

4th centuries AD, this decline left its place to a rapid revival. Between the 5th and 7th centuries AD, the production of glass was continued in Eastern Rome (Byzantine), with forms and ornaments previously used (Stern 1977, 158; Laflı 2009) During this period, glass production was made in various construction and ornament techniques. However, as a form, generally materials used as tableware, ornaments, coin weights, lighting tools and architectural building elements have been produced (Harden 1956, Özgümüş 2000, 13, Erten 2005, Atila and Gürler 2009, 10). Nevertheless, in this period, the quality and carefully crafted glass vessels have been replaced with sloppy, exaggeratedly ornamented, mass-produced and larger sized vessels.

After a brief on the core-formed technique and its history, we need to compare the catalogue information of two amphoriskos that constitutes the main subject of our study with the counterparts in order to be able to decide about the originality of the artefacts.

2. Catalogue Information Of Amphoriskos In Giresun Museum

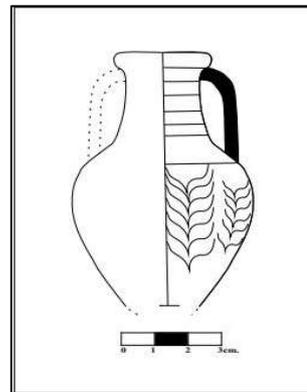
a. Amphoriskos With Base-Knob (Fig. 2)

Protected Height: 8 cm.

Width (Body) : 5 cm.

Diameter (Rim) : 3 cm.

Description: It was produced by applying core-formed technique. One of its handle and its base is broken. The body is made of semipermeable black glass. It has round and outward rim, long neck, ovoid body, base-knob and two reciprocal handles starting from the shoulders that ends at the rim. The rim, handles and base were added on body later. The rim with white trail, ornament lines made of white trails on the neck part, testaceous bird feather ornament made of white trail from the shoulder to the bottom of vessel, black base-knob and corrosion on the surface.



b. Pedestal Amphoriskos (Fig. 3)

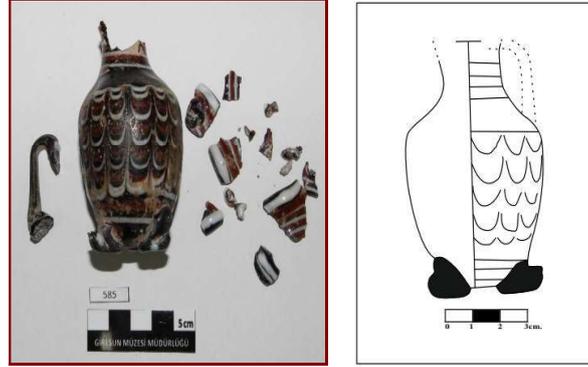
Protected Height: 8.5 cm.

Width (Body): 5 cm.

Width (Base): 4 cm.

Description: The neck and upper part is broken, made of core-formed technique, body is semi-permeable black glass, cylindrical neck, oval body, tripodal and it has one

handle. A line on the neck which was made of white and testaceous coloured trail and scalloping in same colours on the body part, a tripod added on the base, corrosion marks on some parts.



Catalogue information of amphoriskos mentioned above has been obtained the museum by way of purchase. Glass amphoriskos with two handles and pointed bases are characteristic vessels of the late 6th and 5th centuries BC. When we examine the earliest examples, it is seen that they are decorated with purple trail ornaments on a white surface. Through the late periods, it has been seen that frit was dark blue and ornament lines were generally turned into yellow, white and turquoise. These kinds of vessel forms have been examined under the group of Grose, “Mediterranean Core-Formed Glass Class I: B”, Harden, “Form 2”, Lightfoot, “Mediterranean Group I, Form I: I” by Grose and Harden and they have especially mentioned when these vessels were excavated in Rhodes necropolis (Grose 1989, 146,147 no.106; Harden 1981, 78-81, no. 163-175; Lightfoot 2007, 29, no.6). Moreover, the presence of such vessels has been known in the Black Sea due to commercial relations with the Mediterranean and Greece.

When the amphoriskos produced by applying core-formed technique are examined, both the features of the form and the colours give us information about whether the works are counterfeit or original. If we need to examine the amphoriskos in 6th -5th centuries BC, we can see that the amphoriskos belongs to Eastern Mediterranean exhibited in Corning Museum has a rim that shaped with drawing, a short neck, an oval body which narrows through the bottom, and knob-base. It has two handles starting from the shoulders and ends under the rim. The form has opaque and white body. On opaque white surface, there is an ornament made of purple trail and wavy ornaments on the body part and it dates back to 6th century BC (Fig. 4). In another example of the same museum, the same features as the form are seen while ornaments were made of opaque yellow and turquoise coloured trail on dark blue glass. In this work, dated to the 5th century BC, the ornaments were kept the same as the other one (Goldstein 1979, 126,127 No: 260,262), (Fig.5).

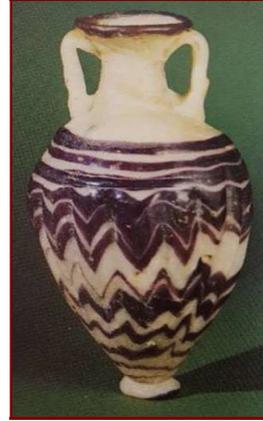


Fig. 4: Corning Museum , Amphoriskos 6th century BC
(Goldstein 1979, 126, No: 260)

Fig.5: Corning Museum Amphoriskos,
6th century BC
(Goldstein 1979, 127 No: 262)

While an amphoriskos from works of Kahramanmaraş Museum that we examined in our previous studies has the same features as form, it dates back to the end of 6th century BC- 5th century BC which has yellow and turquoise trails with zigzag ornament (Eker 2017, 38), (**Fig. 6**).

When we examine another example that excavated from Milas, we can see that the amphoriskos has two handles on a short neck and a body which was made of blue coloured glass and narrowing through downwards. Ornament area was formed by making lines with yellow trails on the neck and the bottom of body, and zigzag ornament was made with yellow and turquoise trails. This work which dates back to 5th-4th century BC probably has oval bottom and broken (Özet 1998, 38, no.5), (**Fig.7**).

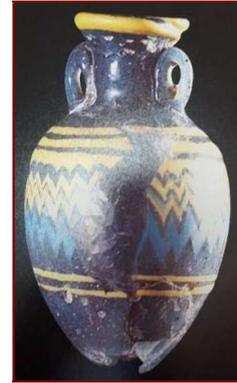
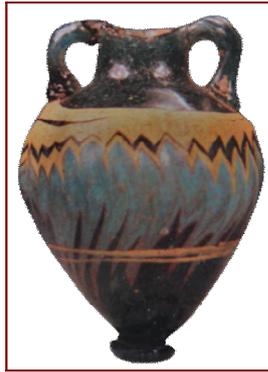


Fig. 6: Kahramanmaraş Museum Amphoriskos, **Fig.**
Late 6th century BC- 5th century BC
(Özet 1998, 38, no.5)

7: Amphoriskos from Milas,
5th and 4th century BC
(Eker 2017, 38)

When we look at the examples of 2nd-1st century BC, the amphoriskos with two handle and knob-base in Yüksel Erimtan Collection is a typical example of amphoriskos dates back to 2nd-1st century BC (Lightfoot and Arslan 1992, 28, No.1), (**Fig.8**). It has a long cylindrical dark-blue green neck, opaque black ovoid body and knob-base. It has two vertical handles- one of them is broken- starting from the shoulder part to the rim. While it was embellished with a line which was made of yellow and white trail from the rim to the shoulder part, the body is decorated with feather ornament made with white trail.

It has been excavated in Stratonikeia that we can again classify the examples of the same period. Amphoriskos grouped as Abstract Type II was made of black frit. It has round, outward rim, long cylindrical neck, oval body and knob-base. On the surface, lines were made of yellow and white trails from the rim to the shoulder and by using same colours, wavy ornaments was shaped on the body part. The lower part of the body was decorated with line ornament which was made of white coloured trail. It dates back to 2nd -1st century BC (Özet, 1998; 38, no.6), (**Fig. 9**).

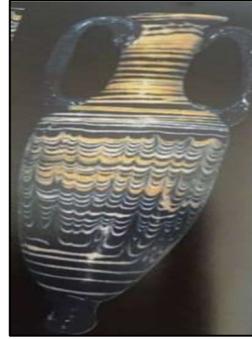
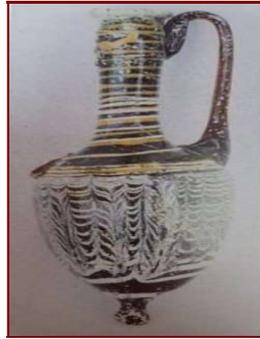


Fig. 8: Yüksel Erimtan Koll. Amphoriskos, 2nd -1st century BC (Lightfoot ve Arslan 1992, No.1) **Fig. 9:** Amphoriskos from Stratonikeia, 2nd -1st century BC (Özet 1998, no. 6)

3. Evaluation And Conclusion

As a result of the researches, we require to compare our works in terms of form and appearance. In these comparisons, although colours of amphoriskos in Giresun Museum are not as same as frit's colour of amphoriskos used in 6th and 5th century BC, it has been considered that they are similar in terms of form. Especially, it has been seen that features of forms of knob-base amphoriskos resembles the example shown in Figure 3 which is exhibited in Corning Museum. However, they do not correspond to each other in terms of colours (Goldstein 1979, 126, No: 260, 262). When we examine our example of Giresun Museum in detail, it composed of outwardly rounded rim, a cylindrical neck, and an oval body narrowing down through the bottom. Although the bottom part is broken, it has been understood that the work that submitted with its base has knob-base. The handles were added later which were produced by dripping the shoulder and drawing it upward and one of these handles is broken. When we examine it in terms of ornament, we can see that lines made of white trail from the rim which covers the neck, a kind of ornament which was made of brick color and white trail on black glass and it starts from the shoulder. Although the

examples of ornaments reflect the period, it has been considered that the colours used do not seem to be used on works of the period or they were used very rarely.

Our second example in the Giresun Museum is the work that is called tripod amphoriskos. In this work, although it is similar to the examples of 6th- 5th century BC in terms of some features of form, there are differences in terms of both form and colours. The neck and rim of our work are broken. The body of amphoriskos was made of black glass with core-formed technique shows an oval body profile slightly narrowed from the shoulder to the bottom. There are three legs on the bottom that are curved outwardly, and this form feature has not been seen till now. An opaque line which was made of white coloured trail on the part of the neck which is connected to the shoulder, festoon ornament was also on the opaque white and brick coloured trail on the body part. The legs were made by pulling black glass slightly outward and dripping on the base without ornament. Although it has similar features with the examples of the early period in terms of ornaments, it does not correspond to the works of the period in terms of neither form nor colour (**Fig. 10**).

As a result, when the originals of the glass amphoriskos produced by core-formed technique are examined, we see that they were produced between 6th and 1st century BC. It has been seen that there are differences between examples of the early period and late period in terms of both ornament and form. In our research, we have concluded that the works in Giresun Museum have similarities with the works which were produced in 6th-5th century BC. But, it has been considered that No2 pedestal amphoriskos could be counterfeit/fake due to the fact that it has similarities with amphoriskos from glass works in Samsun Archaeology Museum where both the original and fake works were registered (Temür 2013, Res. 2a,b) and it has similarities with counterfeit/fake amphoriskos¹ which are in Aydın Museum and Isparta Museum and published by Directorate General of Cultural Heritage and Museums in terms of both ornament and colour (**Fig. 11**).

In the amphoriskos we deal with, it can be seen that especially the colours do not comply with the amphoriskos which were produced by core-formed technique in 6th- 5th century BC. are 6th-5th centuries BC. When the glass vessels of Giresun Museum were examined, materials of inner mould could be seen because the works were broken, and it has been understood that inner mould was prepared by means of modern technique and materials. In addition, since the inner mould material is a mortar-like material and it was firmly stick on the glass, it probably caused to break the form while pulling out it from the mould. As a result of all these examinations, the idea that the amphoriskos are fake has been become clearer.



¹ <http://www.kulturvarliklari.gov.tr/TR,44739/kategorilerine-gore-sahte-eserler.html>



Fig. 10: An image of inner mould material which was applied to produce amphoriskos in Giresun Museum.

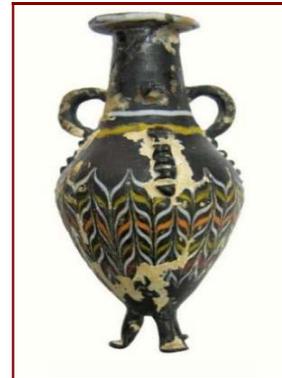


Fig. 11: Examples of glass amphoriskos made by core-formed technique that have been registered as counterfeit (<http://www.kulturvarliklari.gov.tr/TR,44739/kategorilerine-gore-sahte-eserler.html> 19 October 2017; <http://www.collector-antiquities.com/real-or-fake/fake-ancient-glass/fake-core-formed-glass/fake-core-formed-glass-2/fake-core-formed-glass-3.html>, 19 October 2017).

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