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From the Editor

The Turkish Archaeology and Ethnography Journal, which resumed publishing in September 2021 after an extended hiatus, returns with its 83rd issue.

Although the Journal focuses on academic content, we strive to make the magazine accessible to the public, including it in the archives of all the libraries and museums affiliated with the Ministry. Türkiye has been home to dozens of civilizations over the centuries. Our goal is to promote every aspect of Türkiye's cultural heritage, and thus to create awareness and ensure that these values are better understood and protected.

This Journal, which we are proud to note is one of the most established periodicals in its field in Türkiye and worldwide, accepts articles covering a wide scope of topics, from archaeometry to epigraphy, and from anthropology to museology. This diversity reflects our aim to spotlight Türkiye's richness in terms of cultural values; this issue offers readers an array of valuable works in different fields in connection with this goal.

Adding a new piece to his important body of work in the field of underwater archeology, Harun ÖZDAŞ, in "Karaburun Roman Period Rhodes Shipwreck: Preliminary Study Result" reveals that Türkiye has many artifacts not only under the ground but also underwater. We believe that this article will attract the attention of both academics and archaeology enthusiasts, as it examines the trade routes and main export products of the period, as well as the only Roman period shipwreck that has been accessed in Fethiye Bay. Soner ATEŞOĞULLARI's article "Progressive Museums in Türkiye", which includes the history of museology starting from the Ottoman Empire and the developments in Türkiye's museums in line with the current understanding of museology accepted globally, addresses the breakthroughs and innovations that Türkiye has made in the field of museology, especially in recent years, from different perspectives. "Flaviopolis Ancient City and Roman House Mosaics", a joint effort from Ayşe ERSOY, Kürşat KOÇER and Murat SERİN, deals with mosaic finds, including very rare examples, that illuminate the Roman Period of an ancient city about which little is known. Elif ÇETİN, in her article the "Moon and Moon and Star on Ottoman Flags", reveals that the history of the moon (crescent) and star on our flag goes back much further than is generally accepted, utilizing examples in museums and collections, as well as depictions and descriptions. Irmak Güneş YÜCEİL's article "Conservation Methodology of Metallic Icons and Liturgical Objects Collection from the Hagia Sophia Museum Directorate" aims to emphasize the importance of the methodological approach in conservation applications. The article draws attention as a valuable study aimed at addressing this deficiency with the methodology transfer carried out through a case example, emphasizing the lack of research and written resources in this regard. Özden KARABEKİROĞLU, in the article titled "Water Systems of the City of Seleucia ad Calycadnum in Antiquity" discusses the zoning activities of the ancient city, located on the borders of the Silifke district in the Mersin province, aimed to meet water needs in different periods, while considering these zoning activities in parallel with the political, military and economic developments of the period. Finally, Serap SINMAZ KILINÇ's article "Crimean Coins included in the Directorate of the Hagia Sophia Museum Collection" examines coins from the different periods of the Crimean Khanate, as well as bringing them to readers in connection with the relations of the Khanate and the Ottoman Empire and the traditions and histories of Orthodox Kazakhs living in the Ottoman lands.

I wish you an enjoyable read.

Prof. Dr. Harun TAŞKIRAN

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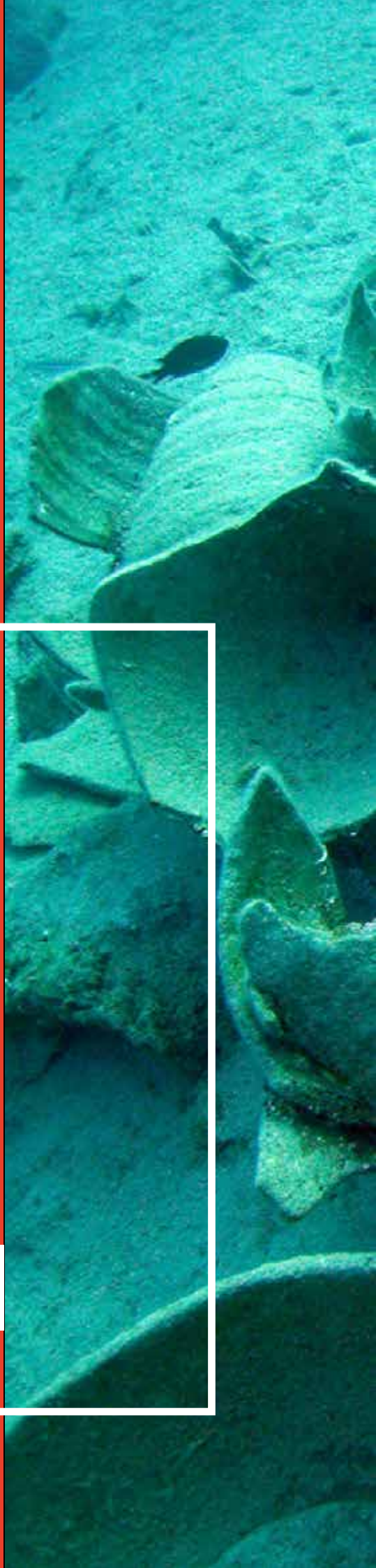

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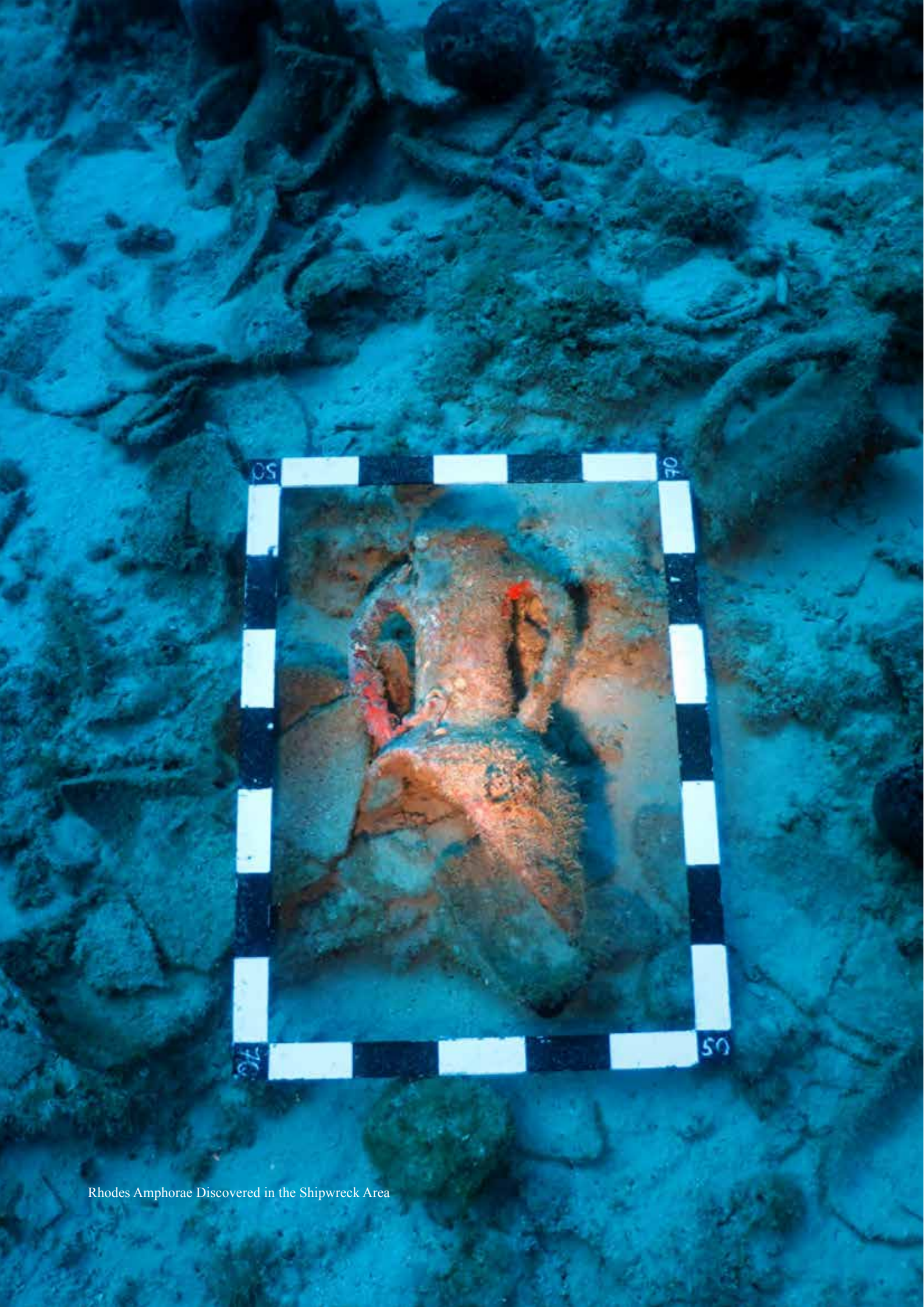
Doç. Dr. Harun ÖZDAŞ



Rhodes Amphorae Discovered in the Shipwreck Area

Karaburun Roma Dönemi Rodos Batığı: Ön İnceleme Sonuçları*

Karaburun Roman Period Rhodian Shipwreck: Preliminary Results

Doç. Dr. Harun ÖZDAŞ**

Özet

Türkiye Batık Envanteri Projesi kapsamında, Ege kıyılarında yürütülen arkeolojik sualtı araştırmalarında Fethiye Körfezi'nde MS 3. yy. Roma Dönemi'ne tarihlenen bir Rodos batığı tespit edilmiştir. Körfez ve Rodos Adası arasındaki ana ticaret rotası üzerinde bugüne kadar toplam 8 Rodos batığı bulunmuştur. Bunlardan 6 tanesi Helenistik Dönem'e, 2 tanesi ise Roma Dönemi'ne tarihlenmektedir. Karaburun Batığı ile Roma Dönemi batığı sayısı 3'e yükselmiştir. Batık, Rodos'un bu bölgedeki son ticari faaliyetlerini gösteren gemilerinden bir tanesine ait olmasından dolayı önem taşımaktadır. Bu dönemden sonra Rodos amphorası taşıyan gemi kalıntısına rastlanılmamaktadır. Ana kargosunu Rodos amphoralarının oluşturduğu batıkta, Knidos dâhil olmak üzere 4 farklı formda amphora tespit edilmiştir. Körfezin kuzey kıyısında, sualtında münferit olarak bulunan amphora örnekleri ise Rodos'un Roma Dönemi'nde bölgedeki kıyı ticaretinin yoğunluğunu ve izlenen rotayı göstermektedir. Kalıntılar, büyük olasılıkla Rodos Peraiası'nda yer alan yerleşimlerden bir tanesinden kargosunu aldıktan sonra batmış bir gemiye aittir. Buluntular, dönemin ana ihraç ürünü olan şarap ve amphora üretim atölyeleri arasındaki ilişkiyi göstermekte ve bölgesel ölçekte gemilerle yapılan deniz taşımacılığının somut bir delilini oluşturmaktadır.

Anahtar Kelimeler: Batık, Rodos Amphorası, Roma Dönemi, Deniz Ticareti, Rodos Peraiası

Abstract

During an underwater archaeological survey conducted along the coast of Aegean Sea as a part of the Shipwreck Inventory Project of Turkey, a Rhodian shipwreck was discovered in Karaburun, Fethiye Gulf dated to Roman period, 3rd century AD. In total eight Rhodian wrecks have been found on the main trade route between the Gulf and Rhodes Island. Six of the wrecks date to the Hellenistic period and two to the Roman period. With the Karaburun shipwreck, the number of the Roman period shipwrecks has reached three in the region. This shipwreck is important because it represents one of the last examples of ships engaging in commercial activities Rhodes in this region. No shipwreck dating after this period has been found carrying Rhodian amphoras. Besides the main cargo of Rhodian amphoras, four different forms of amphora, including the Knidos type, were found at the wreck site.

Additionally, some single Rhodian amphoras were found on the northern shore of the Gulf during the underwater survey. These amphoras indicate the intensity of coastal trade during the Roman period of Rhodes, as well as the route followed in the region during that period.

All of these remains at the site belong to a ship loaded with cargo that most probably came from one of the settlements in Rhodeian Peraia. This discovery also draws attention to the relationship between wine and amphora production workshops, which were the main export products of this period, and constitutes concrete evidence of the maritime transportation carried out by ships on a regional scale.

Key Words: Shipwreck, Rhodian Amphora, Roman Period, Maritime Trade, Rhodian Peraia

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** Assoc. Dir. Dokuz Eylül University / Institute of Marine Sciences and Technology, Haydar Aliyev Bulvarı No:100 İnciraltı, Balçova, İzmir, harun.ozdas@deu.edu.tr, ORCID ID: 0000-0002-6695-2130

Introduction

The first underwater surveys of the Gulf of Fethiye and its immediate surrounding regions were started by Bass (1965, 1974, 1976) in the 1960s and continued in the 1970s (Bass, 1982; Roslof, 1981) A large number of shipwrecks were detected during the studies carried out on the coasts (Rhodes Canal) enclosing Marmaris and the Bozburun Peninsula in the north and west direction from the exit of Fethiye Gulf. The 11th century AD Byzantine Shipwreck of Serçe Harbour (Serçe Limanı), discovered and excavated in this region, provides essential information on the history of shipbuilding (Bass and van Doornick, 2004) (Figure 1). Another shipwreck dating to the Hellenistic Period was detected in the immediate vicinity of the Byzantine Shipwreck in Serçe Harbor and this shipwreck was partially excavated (Pulak, Townsend, Koehler, and Wallace, 1987). Researches were continued by INA in the same region in 1983, 1984 and 1988 (Yıldız, 1984; Pulak, 1985; 1989).

It is seen that these researches are concentrated around the outer gulf between the Kötü and Kurtoğlu capes and Peksimet Island and on the Bozburun Peninsula, taking into account the transit routes of ancient ships. This route includes major port cities such as Telmessos, Kaunos, Physkos. In these studies, it is understood that the information provided by sponge divers in particular is decisive in the selection of research areas. A Rhodes shipwreck dated to the end of the 4th century BC, with a main cargo consisting of Proto-Rhodian type amphorae, was discovered at Kurtoğlu Cape, located at the western entrance of the Gulf of Fethiye. A Byzantine shipwreck dated to the 11th-12th centuries AD was found in Kötü Cape to the east of the gulf (Pulak, 1985: p.35-41) (Figure 1).

The shipwrecks identified in the researches that continued until the 1990s showed that the maritime trade, and thus the maritime traffic in the region, was active during a wide period of time from the 4th century BC to the 11th century AD. Another detailed study in the same region in the following years is the Türkiye Shipwreck Inventory Project (Türkiye Batık Envanteri Projesi) (TUBEP), conducted by us within the body of Dokuz Eylül University Marine Sciences and Technology Institute (DEÜ DBTE). In these studies, another shipwreck dating to the Archaic Period was found in Çaycağız Bay, located at the eastern end of the Bozburun Peninsula (Figure 1). With this shipwreck, it was possible to track the maritime trade of the region to the Archaic Period (Greene, Leidwanger and Özdaş, 2013).

Within the scope of TUBEP, unlike in other studies, a detailed inventory of the individual finds (ceramic objects, anchors, etc.) that have fallen or been left on the seabed, as well as the shipwrecks themselves, is kept and, based on this, regional and periodic maps of the sea trade are created by determining the routes followed in coastal trade. In the research, the north coast of the Gulf of Fethiye was examined in detail. The finds in the region are expected to reveal the route followed by ships in the light of concrete evidence.

In these studies, researches were carried out in a large area including the Bozburun Peninsula from outside the Gulf. During the research carried out within the scope of TUBEP, four Rhodes shipwrecks dated to the Hellenistic and Roman Periods were detected at the entrance of Loryma, in Kumburnu, in Haysız Burun and near Çaycağız Bay. In addition, four more shipwrecks were found by different teams in Serçe Harbor (Bass, 1980; 2004), Bozburun (Royal, 2006, no. Tk 05-AI) at Cape Devetaşı and in Cape Kurtoglu (Pulak, 1985; 1989) (Figure 1: no.1-8). A total of eight Rhodes shipwrecks have been detected in the region. Of these, six are dated to the Hellenistic period and two to the Roman Period. These findings give us a general idea of Rhodes' maritime activities in the region.

Apart from the heavily researched Bozburun Peninsula, a shipwreck dating to the Roman Period was discovered in the Karaburun (Figure 1: no. 9) during research carried out in 2009 within the scope of TUBEP in the inner part of the little-known Fethiye Gulf; and a detailed examination was conducted in the following years. With this shipwreck, the number of Rhodes shipwrecks in the region increased to nine, while the number of shipwrecks dated to the Roman Period increased to three.

The preliminary results of a study based on notes, photographs and drawings from the shipwreck site are presented in this article. A detailed examination was carried out on the amphorae in different forms unearthed from the shipwreck. The area where the shipwreck was found reveals the relationship between the amphora

production workshops and the wine production centres in the Peraia of Rhodes. (Senol 2015a: 193). It seems possible to consider Daidala among these production centres. (Figure 1).

1. Gulf of Fethiye

Located on the southwestern coast of Anatolia, just east of the Rhodes Canal, the Gulf of Fethiye (Glaukos Kolpos) was located on the border of Karya and Lycia. Small towns such as Lydai, Lissai, Kyra, Kalyanda and Daidala on the western shores of the Gulf are sometimes shown to be in Caria and sometimes in Lycia (Sevin, 2001: p. 136).

Although it is generally accepted that Lycia was bordered by Telmessos in the west and Phaselis in the east (Keen, 1998: p.17-18), it is thought that the border was between Daidala and Telmessos, especially in the west. Pliny (N.H. 5.XXIX) considers Daidala, Kyra, Kalyanda in Caria, while Strabo (14.2.2; 14.3.1-2) shows Daidala in the Peraia of Rhodes.

Fethiye Bay, located at the intersection of Caria and Lycia, is an important transit area for cruises from the Aegean to the Eastern Mediterranean. Land access is difficult in the Gulf and southern regions. However, the coastal port cities on the coast provided important opportunities for Lycian trade and communication between Egypt and the Aegean and Eastern Mediterranean regions, starting from the Gulf especially during the Roman Period. While the most significant resource of the Lycian Region, which is generally mountainous, was the timber used in shipbuilding, agriculture was the main source of wealth for Lycia from the Hellenistic Period. Sea trade in these agricultural products brought the region to an extraordinary level of prosperity in Roman and Late Antiquity Era(Foss, 1994: p. 1).

After Cyprus, the Rhodes Canal constituted the most important strategic crossing point for travel to the Aegean and westward. Rhodes, with its fleet of warships, took control of this channel by including the Bozburun Peninsula on the mainland. At the same time, it developed maritime trade via merchant ships and established economic dominance. Especially during power struggles in the Hellenistic Period, Rhodes leveraged its advantageous location for a long period. When Delos became a free market at the end of the Ptolemaic Period, Rhodes shifted its market towards the Eastern Mediterranean and Egypt (Dzierzbicka, 2015: p. 204).

The first commercial amphorae of Rhodes began to be seen from the 4th century BC. These amphorae were used to transport olive oil, almonds, dried figs, carob, honey and barley, in addition to wine.

(Şenol, 2006: p.105, 111-112; Aslan, Erdoğan, Orhan and Kılıç, 2018: p. 251). Rhodes, which had a say in Mediterranean trade, achieved a strong regional position by exporting its wines and agricultural products. It appeared to be specifically targeting the Eastern Mediterranean market (Held and Senol, 2010). In addition, the people of Rhodes, which was the only island in the Mediterranean to craft maritime laws named after itself, were both successful sailors and merchants (Kurul, 2014).

After the Eastern Mediterranean came under the rule of the Roman Empire, the balance of Mediterranean trade began to change. The maritime trade that developed under the control of Rome, taking into account the economic development and needs of the Empire's capital, influenced the formation of certain commercial routes (Şenol, 2015b: p. 246). Roman navies battled piracy, making the sea routes safer and subsequently stimulating trade. In the same period, it is seen that islands on the coast of Southwestern Anatolia became wine production centres (Şenol, 2009: p. 62-63). These agricultural products were transported to ports in the Mediterranean, propelled by the north-northwest wind in the square-sailed merchant ships utilized in the Roman Period (Casson, 1992: p.133, 135, 136).

Distinctive features in the Rhodes amphorae, which began to be produced in the 4th century BC , are observed from the first quarter of the 3rd century BC (Şenol, 2003: p. 14). The typical Rhodian amphorae of the Hellenistic Period were jugs with 80-90 cm height and a capacity of 23-30 litres (Empereur and Pinard, 1987) Rhodian wines were delivered by ships to the main settlements in the Mediterranean Basin.

From the 1st century BC, the Rhodes amphorae featured handles that curved slightly outwards and pointed upwards, making sharp turns. In the period leading to the 2nd century AD, the body of the amphorae narrowed and lengthened, the tapering of the handles sharpened, and the pedestal thinned and sharpened while taking the form of a spur. These features were an important benchmark in the dating of Rhodian amphorae (Şenol 2006, 113-114).

It is alleged that such amphorae were distributed across a wide geography, mainly in the Aegean, and eastern and western Mediterranean, as well as in Germany and Britain, and were produced from the 1st century BC until the beginning of the 2nd century AD (Aslan, Erdoğan, Orhan 2018: p. 255-257).

While Empereur's (Empereur and Picon, 1986; Empereur and Tuna, 1989) research revealed that production of Rhodes amphora took place in Peraia (Figure 1) as well as in Rhodes, the distribution of this production is shown in more detail in other research carried out in the region (Doğer and Şenol, 1996; Held, Şenol and Şenol 2007; Tuna, 1988; Doğer, 1994; Doğer and Tuna, 1994).

The Gulf of Fethiye also appears to have been under the control of Rhodes. The production of Rhodes amphorae in Peraia suggests that production may also have taken place in the Fethiye Gulf. Daidala, near Göcek Bay, which has a sheltered natural harbour in the north of Fethiye Gulf, is also located in Peraia (Figure 2) (Empereur and Picon, 1986: pp. 112-113, fig. 16; Lund, 1993: p. 362, fig.2). Although no land surveys have been carried out in the region, underwater finds indicate that there may have been amphorae production in this region as well.

2. The Rhodian Shipwreck of Fethiye Karaburun

The shipwreck, detected on the east coast of the Kapıdağ Peninsula in the west of Fethiye Gulf, is located approximately 30 m off the coast, between the island and the mainland, on rocky and sandy ground (Figure 2). Starting with a small group of amphorae at a depth of 15 m, the remains of the shipwreck appear scattered in five large and small groups on a steep slope, about 20 m long and 10 m wide, which descends to 35 m in. It is understood that the materials belonging to the shipwreck were buried in the slightly sloping dune at the end of the hillside.

The main cargo of the shipwreck consists of about 80 Rhodes amphorae with spur handles visible on the sea floor (Figure 3-4). In addition, 10 Knidian, eight cylindrical Agora M273 and three conical rimmed LR2/Dressel 24 Similis-type amphorae were found in the shipwreck area. Thus, it is understood that there are four different types of amphorae in the shipwreck. In addition, some ceramic pieces belonging to small kitchen containers, roof tiles and ballast stones are found in various places. The anchor of the ship was not found. Due to the limitations in our research permit, no drilling could be carried out for the wood of the ship. However, based on the sandy nature of the seabed, it is understood that the parts of the ship's wood and material are buried as much as those visible on the surface.

2. 1. Rhodes Amphorae with Spur Handles

About 80 amphorae with spur handles are seen scattered on the sea floor[1] (Figure 5: a-d). The dense sighting of Rhodes amphorae in the shipwreck area indicates that the ship's main cargo consists of these amphorae (Figure 6: a-b). A solid amphora detected to the east of the shipwreck was excavated (Inventory No: FKRB-2017-128-A)[2] and, during the investigation, grape seeds and pieces of charcoal were found inside the amphora. A C14 analysis of the charcoal fragment was performed.

The amphora in question has a form with a protruding rim, a long cylindrical neck, a spur-shaped oval cross-section vertical handle rising upwards from

1 During the control dive we made in the region in 2018, a robust Rhodes amphora with a spur handle was found on the rocky slope at a depth of 20 m. It was understood that this amphora was excavated illegally from the deep part of the shipwreck by unauthorized divers. This suggests that the shipwreck was destroyed by unauthorized divers over time and that intact specimens were excavated. Therefore, it is possible to say that the number of amphorae was much higher it would otherwise seem.

2 Results of radiocarbon analysis performed with Sigma 2 calibration method in TUBİTAK Laboratories (TÜBİTAK lab -1257 report no: 82325108-125.05-47/4125) is reported as 84.6% AD 321-415; 10% AD 258-285; 0.7% AD 290-295. C14 analyses conducted at TÜBİTAK usually give a very wide date range; C14 analysis gives us the range of AD 258-295 as the lower limit and does not date earlier. Based on this, it is possible to carry the finds to the second half of the AD 3rd century at the earliest. Archaeological finds support this date range.

the bottom of the rim, and a narrow body that tapers towards the bottom to a pointed end. The amphorae's rim diameter was 16.12 cm, the lip thickness was 2.91 cm, the body diameter was 40.55 cm, the height was 114.27 cm, and the capacity was 28.45 litres. The Rhodes amphorae found in the shipwreck also differ in size. Although most are in the form described above, some are smaller in size (Figure 5: c). This type of Late Rhodes amphorae with spur handles has been named in different ways such as Augst 6, Camulodumum 184, Callender 7, Haltern type 67, Hofheim type 74, Oberaden 79, Ostia LXV, and Peacock-Williams 9 (Şenol 2003: p. 26).

It is known that this type of amphorae was produced not only in Rhodes or on the islands, but also on the Anatolian coast, which is Peraia of Rhodes (Empereur and Picon, 1989: s. 224–226, Fig. 1). The clay structure of the Late Rhodes amphorae is compatible with the clay samples from the Anatolian coast. During research carried out in the region, remains of production were found in workshop wastes and ceramic dumps. Thousands of pieces were identified particularly in the excavations carried out at Hisarönü Ceramic Workshop (Doğer 1996: p. 237-238). The amphorae found in these excavations were examined under six groups and the samples with spur handles were dated to the middle of the 1st century AD (Şenol 1996: p. 2-3).

In addition, Peacock (1977: pp. 267, 269-270. fig. 3-4), who studied examples of this type of amphorae found in many parts of the Roman Empire in England, identified six different clay structures, especially the most common ones. Peacock says that the production areas of the 1st and 2nd clay may be Rhodes and Peraia. This type of amphorae, found especially on military bases in England and France, are dated to the middle of the 1st century AD.

Riley (1979: pp. 147-49) places this type of amphora recovered in Benghazi from the end of the 1st century BC to the third quarter of the 1st century AD. This type of amphorae was also found in the Dramnont D shipwreck, which was dated to the middle of the 1st century AD (Joncheray, 1974: pp.31- 33). We see examples dated to the AD 2nd century in Caesereia, Bodrum, the Agora of Athens, and Ostia (Zemer, 1977: p. 49-50 plate 15.38; Alpözen, Özdaş and Berkaya, 1995: p. 95). It is known that they were imported to England until the middle of the 2nd century AD (Sealey, 1985: p. 133-135). In addition, it was confirmed that this type of late amphora was produced until the middle of the 2nd century AD in the Hisarönü excavations (Şenol, 2003: p. 27).

A shipwreck bearing a Rhodes amphora was found at a depth of 91 m during deep-sea surveys on the coasts of Türkiye, around the Bozburun Peninsula, and it was dated to 50 BC - 50 AD (Royal, 2006: pp. 214-215). Since the amphorae in the shipwreck are covered with a thick layer of precipitate, the details of the forms are not visible. Another Adriatic Sea shipwreck is in Montenegro, at a depth of 92 m and dated to the 1st-2nd century AD (Royal, 2015:p. 203-204). In addition, many shipwrecks dating to the 1st-2nd centuries AD, as well as individual Rhodian amphorae, were found especially on the Croatian coast (Jurišić, 2000: pp. 5,14,49).

Late period examples of this type of amphorae are seen in the layer dated to the second quarter of the 3rd century AD in the Corinthian excavations. In addition, the samples recovered in Lyon are dated to the first half of the 3rd century AD (Slane, 2004: p. 366, 368, fig. 5; Joncheray, 1974: p. 31-33; Peacock and Willimas, 1986: p.102 -103). The inscription on a Rhodes amphora in France refers to Miletos wine (Desbat, Lequément and Liou, 1987: p. 152, L 13).

2. 2. Knidian (Pompeii 38) Amphorae

A total of 10 Knidian (Pompei 38) type amphorae were found in the shipwreck area (Figure 7: a-b). This amphora, which has a thin narrow mouth, a short neck, an egg-shaped body, and small cone-shaped handles with a ring around them, has small handles that connect from the neck to the shoulders. The rim diameter of the specimen (Figure 8: a-c) (Inventory No: FKRB-2020-005) extracted from the shipwreck is 5.50 cm, with a lip thickness of 1.02 cm and a trunk diameter of 25 cm. The full height of its counterparts reaches 50 cm. Although Knidian wine was especially popular in the Hellenistic Period, its impact during the Roman Period was not deeply explored. Empereur and Picon (1989: pp. 118-118, fig. 23) identified numerous workshops involved in the production of amphorae in Knidos and on the Datça Peninsula.

This type of amphorae was exported throughout a wide geography in the Mediterranean Basin from the 1st century AD. While the samples found particularly in the Eastern Mediterranean were dated to the 2nd-4th centuries AD (Dündar, 2013: p.169), the sample found in the Corinthian excavations was dated to the 2nd century AD (Williams and Zervos, 1986: p. 138, 165, p. pl.30. 8). Although it is similar to this example in terms of general size and form, the handles of the sample found in the shipwreck are more oval and the ring on the handle has a less sharp profile. The example found in the Agora of Athens (Grace, 1979: fig. 64) and dated to the Early 2nd century AD also differs in form. In this example, the body is narrower, and the handles and neck are longer. These aspects are also different from the amphora found in the Karaburun Shipwreck. Another amphora, in the Bodrum Underwater Archaeology Museum (Alpözen, Özdaş and Berkaya, 1995: p. 91), is different from the Karaburun amphora in terms of the handle. Although there is no complete consensus on the dating of these amphorae, the general consensus is that it is the 2nd century AD. However, there are also examples dated to a later period. These amphorae were found in numerous settlements in Europe (Pompeii, Ostia, Raetia, Noricum etc.). While these examples are usually dated between the end of the 1st century BC and the 2nd century AD, a sample found in Carnuntum (Austria) dates to the 3rd century AD (Bezeczkey, 2005: p. 43).

A similar underwater specimen, identified by Sibella (2002: p. 8, fig. 8) as coming from Datça Knidos, dates from the 1st-3rd century AD range. Other similar individual examples appear in the Lycian Region. These examples were found in Xanthos (Pellegrino, 2004: pp. 125-126, 134, fig. 3.3, fig. 16.4) and Letoon (Laroche, 2007: p. 330. fig. 6.1-2). While the finds at Letoon are dated to the 1st-2nd centuries AD, the amphorae at Xanthos were found in the context of the 3rd and 4th centuries AD. The example found in Patara is dated to the 3rd century AD (Dündar, 2013: p. 170 fig. 2-3).

A similar amphora example was found in the Grado Shipwreck, dated to 200 AD, at Aquileia in the Northern Adriatic (Auriemma, 2000: fig. 3, 12). Opait (2014b: p. 441, fig 1-2) places the specimen in Kythera, Croatia and it is morphologically dated to the 3rd century AD, while Grace (1979: fig. 66) dates the specimen recovered during excavations of the Athens Agora to the 4th century AD.

When we look at the subject in terms of shipwreck finds, we see that this type of amphora is not found in large numbers; such amphorae were most likely a small piece of cargo carried on board or kept for the use of the ship's crew. They are not observed as a common commercial good that makes up the main cargo of ships.

These examples constitute the last examples of the Knidian amphora form tradition. This type of amphora has been found individually in Fethiye Gulf, especially in the northern coast, close to the Rhodes amphorae, in five different points. It is believed that wine was contained in the amphorae, which are considered to have been produced in Knidos and on the Datça Peninsula. When we look at their close parallels, it is seen that, although this type of amphorae was used more commonly in the 2nd century AD, like the Rhodes amphora with spur handles, its use continued in the 3rd century AD.

2. 3. Cylinder-Shaped Amphorae (Agora M273)

Eight cylinder-shaped amphorae were detected in the shipwreck area together with the Rhodian and Knidian amphorae with spur handles (Figure 9: a-b). The fluted cylindrical body of the amphora, which has a narrow mouth, a short neck, and short ear-shaped handles, connects from the neck to the oval narrow shoulder, narrows sharply in the lower part and ends with a pointed bottom. The rim diameter of the amphora (Inventory No: FKRB-2020-012) recovered from the shipwreck is 9.25 cm; lip thickness 1.47 cm; the diameter of the trunk is 22.02 cm; the height is 49.91 cm; and the capacity is 9.86 litres (Figure 10: a). Apart from this example, two more amphorae have been excavated (Figure 10: b-d).

Şenol (2015b: p. 249) mentions that these types of amphorae were a South Aegean production. In addition, these amphorae are generally classified as Aegean amphorae and are considered to be of Samos or Western Anatolian origin. This amphora form, which is found in many places, is generally evaluated among Agora M273, which is a subgroup of the Samos Cistern Type form, which appeared in the 4th-5th centuries AD

(Opait, 2004: p. 302, fig. 22; Reynolds, 2010: p. 97-98, fig. 6; Klenina, 2014: p. 933, fig. 3.4).

The examples found in the Agora of Athens, which are among the early examples of this form, are dated 2nd-3rd century AD. (Opait. 2014 b: p. 443, fig. 22-24). Apart from these, an amphora sample found in Corinth and dated to the 3rd century AD (Williams and Zervos, 1983: p. 15, pl. 7. 28) shows the same form. Opait (2014a: pp. 50-51, fig. 24), who also named these amphoras as Cylindrical Aegean 1 amphorae (Silindirik Ege 1 amphoraları), notes that the earliest example of this form was found in Ouseir Al-Quadim. Opait (2014a: p. 52) also mentions that the distinctive morphological change in this form emerged in the 3rd century AD.

In one of the shipwrecks (Knidos S) dated to the first half of the 2nd century AD, this type of cylindrical amphorae was found together with the Agora 199 type during deep-sea surveys carried out on the Turkish coasts (Opait, Davis and Brennan, 2018: p. 313)., fig. 11, 316, fig. 13). Apart from this shipwreck, late examples of similar amphorae were found during the Yassıada Shipwreck excavation dated to the 4th century AD (Bass-Van Doornick, 1971: p. 34, pl.2 no.9).

2. 4. Spherical Body LR2/Dressel 24 Similis amphorae

A total of three amphorae with wide conical (bell) rims, short conical necks, small handles connecting from the neck to the shoulders, and wide spherical grooved bodies were found in the shipwreck area (Figure 11: a-b). Two of these amphorae were removed from the scope of our research. The rim diameter of the first sample (Inventory No: FKRB-2020-001) (Figure 12: a) is 16.60 cm; lip thickness 1.89 cm; while the trunk diameter is 55.69 cm. The second example (Inventory No: FKRB- 2020-002) (Figure 12: b) has a rim diameter of 16.60 cm; a lip thickness of 1.89 cm; and a body diameter of 55.69 cm.

The closest intact example to the amphora is in the Bodrum Underwater Archaeology Museum (Alpözen, Özdaş and Berkaya, 1995: p. 111). This example has a rim diameter of 12 cm; a lip thickness of 2 cm; a body diameter of 57.5 cm; and a height of 80 cm. Compared to this example in the Museum, the rim diameter of the samples found in the shipwreck is larger. It is not possible to tell the height of these amphorae since no intact examples were found in the shipwreck. However, the rim diameter and approximate body widths indicate that these amphorae are similar to the ones in the Bodrum Underwater Archaeology Museum. During the underwater survey conducted by Pulak (1988: pp.4-5; pic.8.) in Datça Iskandil Cape in 1987, a close analogue of this type of amphora was found in the Roman shipwreck area and dated to the 3rd century AD.

Early examples of this amphora type with long handles and conical bodies in a conical container form, called Dressel 24 and Dressel 24 Similis, are found in the second half of the 2nd century AD and in the 3rd century AD. This type of amphorae was examined in detail and the Central Aegean (Chios and Erythrai) has been given as the production region (Opait and Tsaravopoulos, 2011: p. 280, fig. 10, 12, 14, 53; Opait and Paraschiv, 2013: p.319, fig. 2). Dressel 24 Variation Similis form amphorae were found in the Knidos H Shipwreck, which was detected during deep-sea surveys conducted off the coast of Knidos, and the shipwreck was dated to the first half of the 2nd century AD (Opait, Davis, and Brennan, 2018: p. 310, fig. 8c). The same form is defined as “Zeet 90” by Gableri, Harshegyi, Lassanyi and Vamos (2009: fig. 4).

The closest example to the amphora found in the Karaburun Shipwreck dates to the 2-3rd century AD and was named Dressel 24-Konssos 15 by Auriemma, Degrassi and Quiri (2012: p. 266, fig. 9; 2015: p. 147, fig. 3). Another similar amphora found in Athens and Dobrudja (Bulgaria) was dated to the third quarter of the 3rd century AD and was named “Dressel 24 Similis D”. It was also mentioned that this type of amphora is a transitional form to the LR2 type amphora (Opait, 2007: p. 632, fig. 9. 49-50).

This form, which we interpret as the early examples of the LR2 form, later changed in the bottom and grooves, and shrank in size. and began to be widely used between the 5th and 6th centuries AD. This type of amphora was used widely since its first appearance, especially in the Aegean and Black Sea Regions. We see small-sized similarities of the samples found in the Karaburun Shipwreck dating to the 4th-5th centuries AD in the Black Sea Region (Karagiorgou, 2001: fig. 7. 1. 1-3).

It is claimed that such high capacity amphoras, which were also found in military centres, were used for olive oil (Opait and Paraschiv, 2013: p. 322, 325). It is believed that such large ceramic vessels, such as pithos, were mostly used for storing the supplies of the ship's crew on board. However, the discovery of three amphorae in the shipwreck raises the possibility that they may have also been part of the cargo.

2. 5. Corinthian Type Tile

Another ceramic material found in the shipwreck area is tiles (Inv. No: FKRB-2015- 011) (Figure 11: c-d). A total of four specimens were found on the surface, all of which are in the form of Corinthian flat imbrex tile (Wikander, 1988; Ohnesorg, 1990; Sarantidis 2015).

Wikander (1988: p. 209-2011) mentions that this type of tile was used in Roman and Late Antiquity. On the other hand, Hamari (2019: pp. 69-70, 115) states that there is a continuity in roof tiles from the Hellenistic Period and the Roman Period, and although Laconian type tiles are more common, the use of the Corinthian style tiles continues.

This type of tile, in the form of rectangular flat plates with raised borders on the long sides, is generally 36-117 cm in length and 20-85 cm in width; and is divided into subclasses (Wikander, 1988: p. 208; Özyiğit, 1988). Such tiles can also be found in shipwrecks dating to different periods across a wide geography from the Mediterranean to the Black Sea (Parker 1992; Munteanu 2010; Rossi, 2011). However, it is difficult to date the tiles based on the typology. Therefore, they are evaluated within the context in which they are found. The samples found in the Karaburun Shipwreck may have been used for the roof cover of the cabin in the stern of the ship. No other ceramic samples were found in the shipwreck area, apart from the covering tiles.

3. Other Finds Uncovered in Fethiye Gulf

In our research conducted within the scope of TUBEP on the western shores of Fethiye Gulf, 10-15 amphorae with spur handles were found in the Kızılkuyruk Cape. Although the group of finds, located on sandy ground at 35 m depth, was interpreted as a shipwreck, a definite conclusion could not be reached due to the low number of finds. The amphorae found are very similar to those found in the Karaburun Shipwreck.

In addition, in the research we conducted in the region between 2012 and 2013 in the Kurtoğlu Karaburun, Domuz, Tersane and Zeytinli islands, individual examples of amphorae with spur handles were found in the Bedri Rahmi Bay and outside the Gulf in Karacaören (Figure 2). All the finds we identified in our research are located along the northern coast of the Gulf of Fethiye and continue in the Gulf of Göcek.

4. The Ship's Cargo

It is accepted that the main export material of Rhodes was wine and that especially wine produced in the region was transported in these amphorae (Held and Şenol, 2010). The fact that the main agricultural production and export material of the region is wine indicates that the main cargo of the ship was most likely wine. The grape seed found in the amphora from the shipwreck also supports this view.

In addition, Polybius (IV, 56,3), one of the ancient writers, mentions that ten thousand jugs of wine were sent to Sinop. When Pliny (H.N.XIV. x.78-79) speaks of Kos Island wine, he says that Rhodian wine is similar to wine from Kos when sea water is mixed into it. Accordingly, it is possible to say that amphorae and wine produced on nearby islands and beaches were transported. On the other hand, it is known that fruits such as dried figs were carried inside the amphorae (Joncheray, 1974: pp. 31-33; Slane, 2004: p. 366).

In addition, there is a high probability that olive oil was held in LR2/Derssel 24 Smilis type amphorae (Opait and Paraschiv, 2013: pp. 322,325; Karagiorgou, 2001: pp.155-156). Since three of these amphorae were in the shipwreck area, it is believed that these amphorae contained a material required for the needs of the ship's crew.

5. Discussion

In the Karaburun shipwreck, mixed with Rhodes and Knidian amphorae with spur handles, the cylinder-shaped Agora M273 amphorae and LR2/Dressel 24 Similis amphorae, which we usually see later (4th-5th century AD), were found together. All the finds are

located in a single area collectively. The area where the shipwreck was found appears to be a suitable anchorage for ships, although no findings other than this shipwreck have yet been found in the surrounding areas. Therefore, it was concluded that all the remains nested in the same area and showing a homogeneous distribution belonged to the same shipwreck.

It is seen that the Karaburun Shipwreck contains a cargo of early examples of Agora M273 and LR2/ Dressel 24 Similis amphorae, which are cylindrical amphorae belonging to the Roman Period, and late examples from Rhodes and Knidos. Considering that all amphora forms are produced in the Aegean Region, it is understood that the ship was also used in regional trade in the Aegean.

What is remarkable in this case is that the cargo of the shipwreck consists of Rhodes amphorae with spur handles and grooves. There are no grooves in the amphora samples found in both Caseria and Athens.

It is known that fluted amphora forms in general emerged and became widespread in the 2nd century AD. Examples of Rhodes amphorae found in Corinth also have wide grooves on the body and neck, as in the Karaburunda Shipwreck. Slane (2004) dates these amphoras to the second quarter of the 3rd century AD. The Knidian amphora, which closely resembles the example found in the Xanthos excavations and the shipwreck, was found in a context dated to the 3rd-4th centuries AD. These data indicate that this type of amphora was used until the end of the 3rd century AD.

The C14 analysis results of the organic material (charcoal) recovered from the spur-handled Rhodes amphora from the shipwreck provide a range of 3rd-5th centuries AD. This data also prevents us from dating the finds recovered from the shipwreck to earlier than the 3rd century AD. Although the analysis results show that the probability of the finds belonging to the 4th century AD is stronger, more data is required to date the Rhodian amphorae counterparts, which constitute the ship's main cargo, to a period later than the 3rd century AD. For this reason, the Karaburun Shipwreck was dated to the second half of the 3rd century AD, based on the archaeological data.

There is a possibility that some quantities of the amphorae found on the surface are buried in the sandy ground in the shipwreck area. Therefore, considering the amounts of different types of amphorae found in the shipwreck, this vessel can be interpreted as a medium-sized (larger than 15 m) ship capable of offshore travel. However, it is not possible to say anything definite without excavation.

When we look at the subject from a larger scale, the statistical results in the shipwreck finds are remarkable. In certain periods, the number of sunken ships in the Mediterranean is higher than in other periods. Ships usually sink due to storms and bad weather, and approximately 75% of the ships that have been found are from the Roman Period. It is understood that there was an active maritime trade and therefore intense traffic in the Mediterranean during this period (Parker, 1992: p. 8-9). According to Parker's (1992) study, a total of eight Rhodes shipwrecks dating to the Roman Period were detected during underwater surveys in the Mediterranean. In Oxford[3] records, this number appears as 11.

In addition, three shipwrecks dating to the Roman Period, including the Karaburun, were detected in researches conducted in the Bozburun Peninsula, Fethiye Gulf and the immediate vicinity, while six Hellenistic period shipwrecks were found in the same region. These data indicate that, although Rhodes was active in maritime trade, the number of shipwrecks belonging to this period was low in the Mediterranean scale. It is seen that the Rhodes shipwrecks, detected in the course of researches conducted in Türkiye since 1960, are concentrated in the southwest of the Aegean region, which includes the Fethiye Gulf, the Bozburun Peninsula and the immediate surroundings.

It is understood from the studies conducted to date and from ancient sources that, especially in the Hellenistic Period, large quantities of agricultural products were exported in Rhodian amphorae and there was intense sea traffic in and around Rhodes. Research in the region indicates that this traffic continued to decline during the Roman Period compared to the Hellenistic Period. It is understood that this is not the case, especially given the trade to the east and west during the Hellenistic and Roman periods, when more ships were expected to have sunk. In the Rhodes Canal, a detailed study was carried out using sonar technology

3 Databases | The Oxford Roman Economy Project, Shipwrecks Database.

in a large area of the Bozburun Peninsula and the south, at depths up to 200 m off the coast. According to the results of the studies, it is seen that the shipwrecks are in shallower areas closer to the shore, rather than in deep waters. This suggests that ships preferred to cruise closer to the shore.

All the finds we identified in our research are located along the northern coast of the Gulf of Fethiye and continue in Göcek Bay. The distribution of the finds in the Gulf gives the impression that Daidala, the ancient settlement in the region, had a commercial relationship via the Gulf (Figure 2). Likewise, the findings indicate that there may have been an amphora workshop in the region and that some agricultural products, especially wine, were exported.

Among the individual spur-handled amphorae found in underwater research, Göcek Bay was mostly utilized and coastal navigation was preferred in the Gulf; It is understood that the ships followed the northwest coast at the exit of Fethiye Gulf, and from there

Conclusion

Fethiye Gulf is located in a position of geostrategic importance in terms of maritime trade with the Rhodes Canal located to the west. Rhodes established commercial dominance in the region by controlling the heavy sea traffic in the region with Peraia on the mainland. Underwater surveys of the Bozburun Peninsula, Fethiye Gulf and the immediate vicinity reveal that shipwrecks bearing Rhodes amphorae are most common in this region Although the number of Rhodes shipwrecks in the Hellenistic Period was high compared to those of the Roman Period, it is understood that Rhodes' regional domination continued through the Roman Period as well.

To date, the Karaburun Shipwreck is the only Roman Period shipwreck we have reached in Fethiye Gulf. The shipwreck, with a main cargo that consisted of the latest examples of Rhodian amphorae with spur handles, contains three types of amphoras, although they are few in number. Among the ruins scattered over an area of approximately 200 square meters, all amphora forms were found in a mixed form, in close proximity to each other, and in a mixed and intertwined state. No other shipwreck remains or traces dating to this period were found during the detailed investigations in the Karaburun region. The homogeneous distribution of the finds and the absence of other finds around the shipwreck indicate that all the remains belong to the Karaburun Shipwreck.

The Karaburun Shipwreck is of great importance as it provides data showing the latest activities of Rhodian regional maritime trade and transportation. After this period, no other ship remains carrying Rhodian amphora were encountered. Individual Rhodian amphorae and other finds detected in underwater surveys in the region indicate that the northern shores of Fethiye Gulf were frequently used by Rhodian ships during the Roman period.

Late specimens of the likes of the Rhodes and Knidian amphorae found in the shipwreck date back to the second half of the 3rd century AD. Early examples of cylinder-shaped Agora M273 amphorae and LR2/ Dressel 24 Similis amphorae date to the late 3rd century AD. In addition, the lower limit of the C14 analysis result indicates the second half of the 3rd century AD. Based on the analysis results and the close parallels of the amphorae, the Karaburun Shipwreck was dated to the second half of the 3rd century AD.

In evaluating the amphorae visible on the surface, as well as the amphorae that we believe are buried under the sand, it is understood that the ship was a medium-sized merchant ship with a length of about 15 m and a capacity of six tons. However, it is not possible to reach a definite conclusion without excavation.

The shipwreck illustrates the regional relationship between amphora production workshops and wine-producing farms in Peraia. It also provides concrete evidence of the sea connection between the Fethiye Gulf and Rhodes during the Roman Period.

All forms of amphora found in the shipwreck are production of the Aegean region. The findings prove that this shipwreck was that of a vessel traveling in the Aegean, and that the vessel was used for regional trade and transportation. When taken periodically, it is understood that the Karaburun shipwreck was one of the last ships operating in Rhodes.

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Appendix

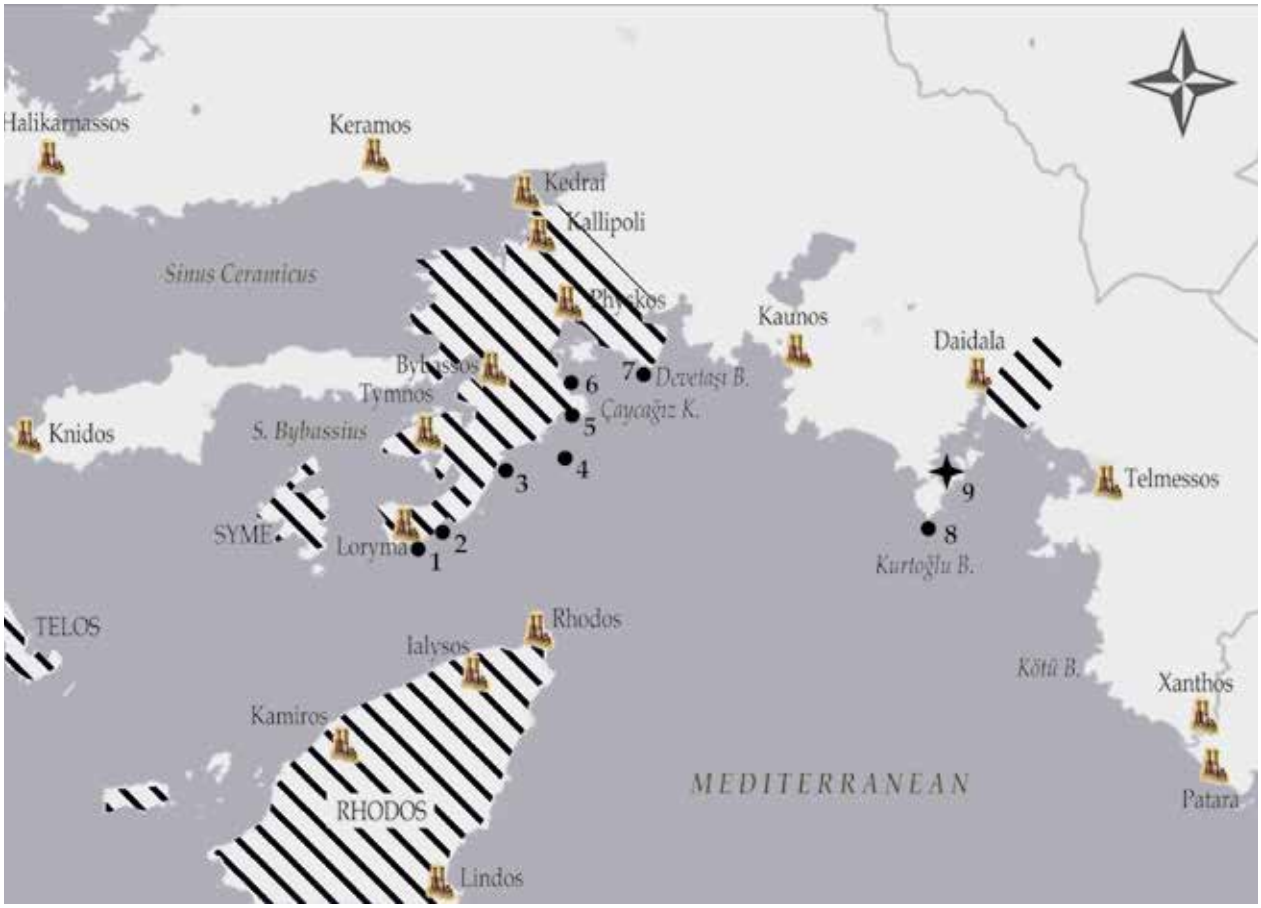


Figure 1: Peraia of Rhodes and Distribution Area of Rhodes Shipwrecks. No 1: Loryma Rhodes Shipwreck, 3rd century BC; No 2: Serçe Harbor Rhodes Shipwreck, 3rd century BC; No 3: Kumlu Cape Rhodes Shipwreck, 3rd century BC; No 4: Bozburun TK 05-AI: Julio-Claudian 1 Shipwreck, 50 BC-50 AD; No. 5: Haysız Cape Hellenistic Shipwreck, 3rd century BC; No 6: Çaycağız Rhodes Shipwreck, AD 1-2. YY.; No 7: Devetaşı Rhodes Shipwreck, 4th century BC. end-3. YY. head; No 8: Kurtoğlu Cape Rhodes Shipwreck, 4th century BC. end; No 9: Karaburun Rhodes Shipwreck, second half of the 3rd century AD. The borders of Peraia were produced using the publications of Lund (1993: fig. 2) and Empereur, Tuna, Picaon (Empereur and Tuna, 1989, fig.1; Empereur and Picon, 1989, fig. 1). (Map: N. KIZILDAĞ)

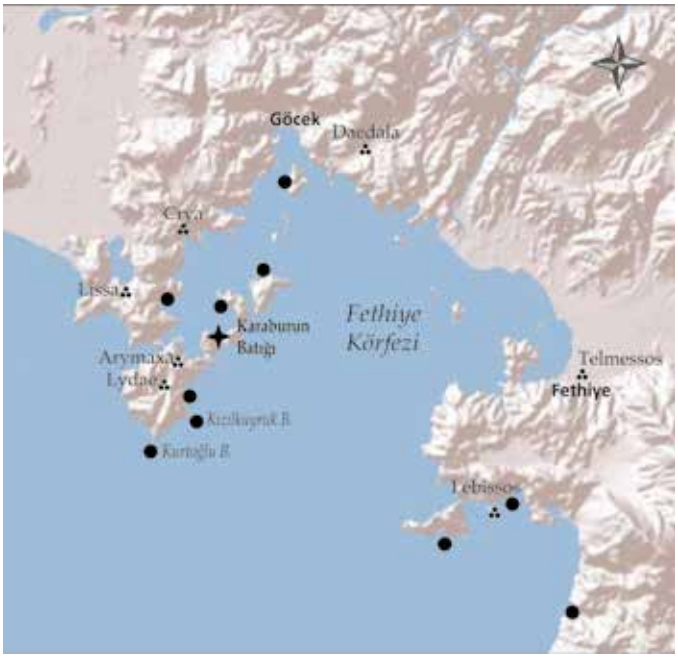


Figure 2: Distribution Map of Individual Roman Rhodes Amphorae Discovered in Underwater Research (Map: N. KIZILDAĞ)

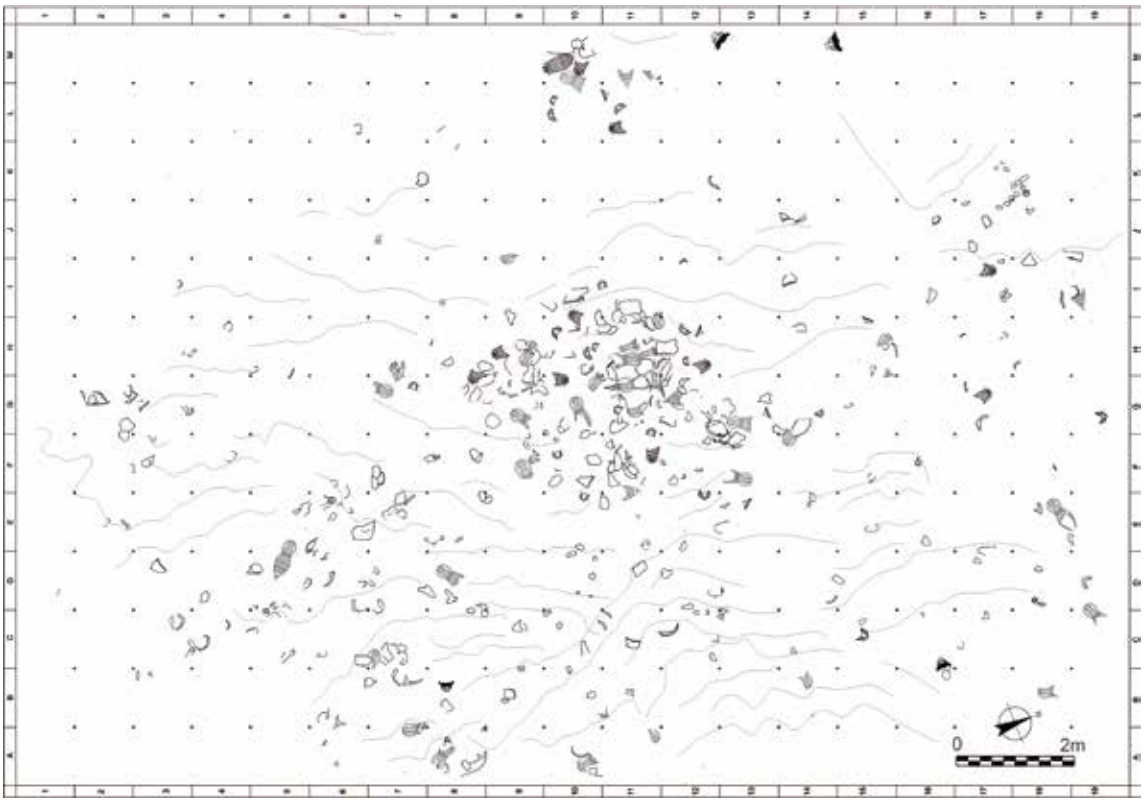


Figure 3: Karaburun Rhodes shipwreck Plan (Plan Drawing by: S. HARMANDAR)

Figure 4: General View from the Shipwreck Site (Photo: H. ÖZDAŞ)

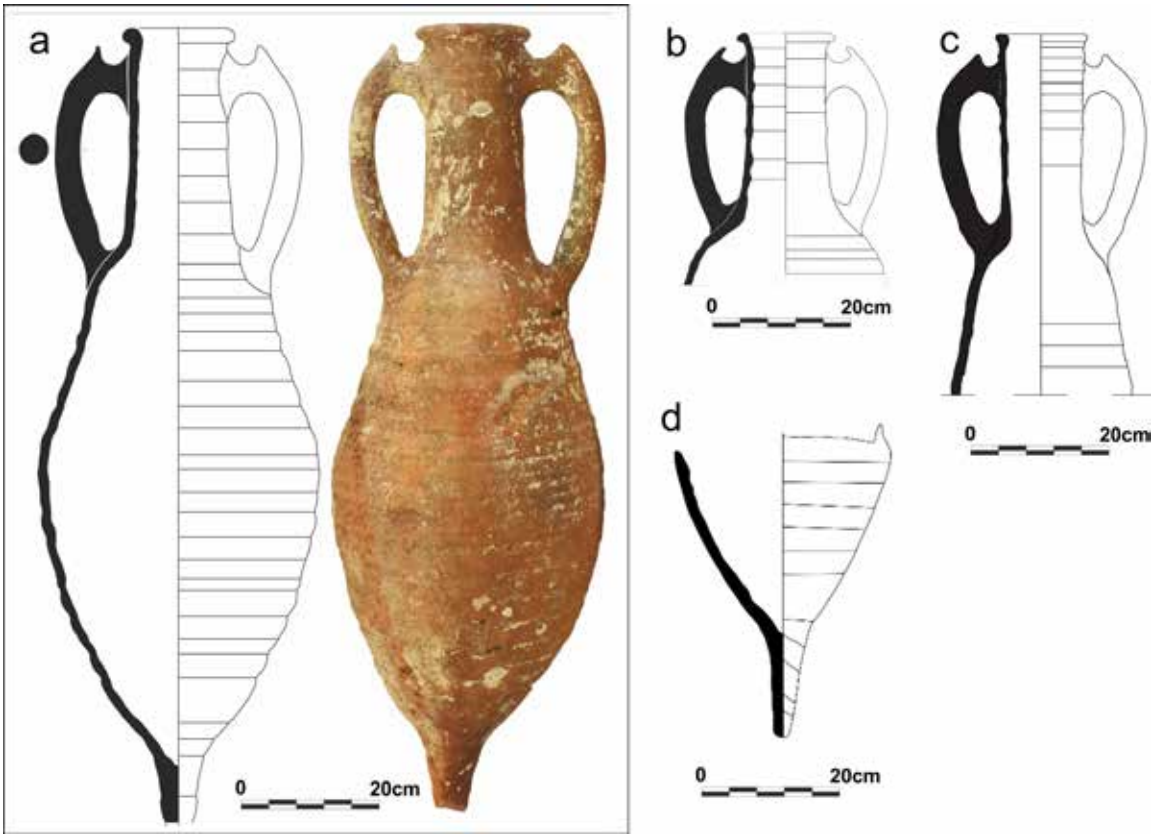


Figure 5: Rhodian Amphorae (Drawing by S. HARMANDAR)

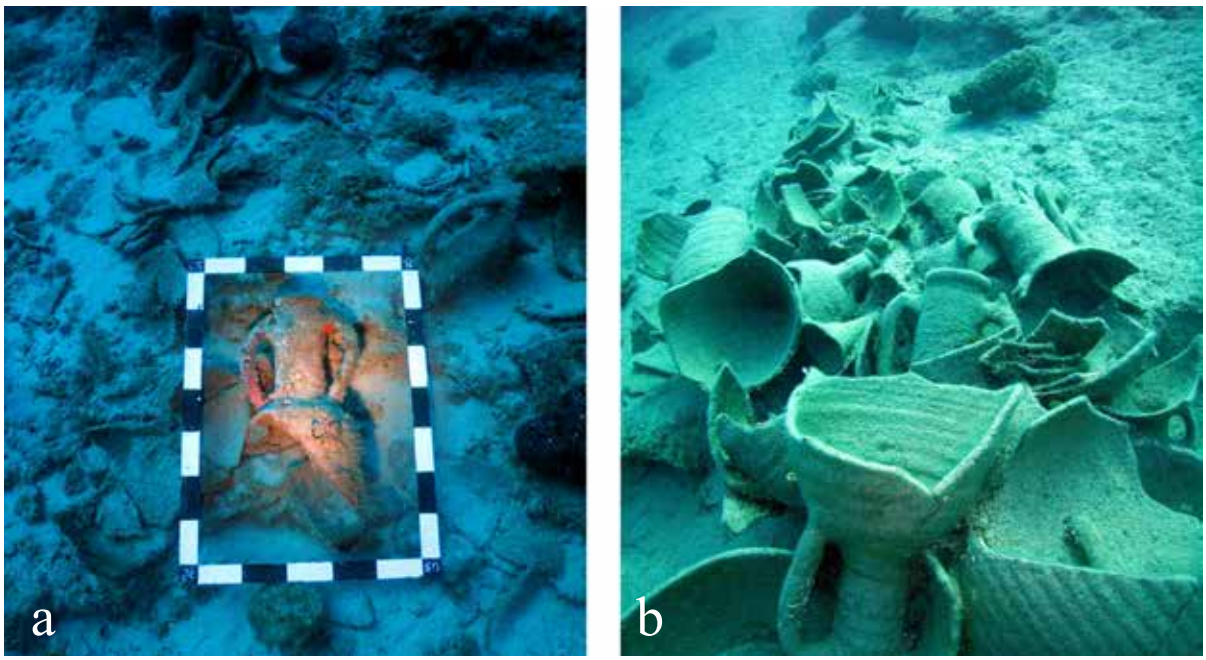


Figure 6: Rhodian Amphorae Discovered at the Shipwreck Site (Photo: H. ÖZDAŞ)

Figure 7: Knidian Amphorae (Pompei 38) (Photo: H. ÖZDAŞ)

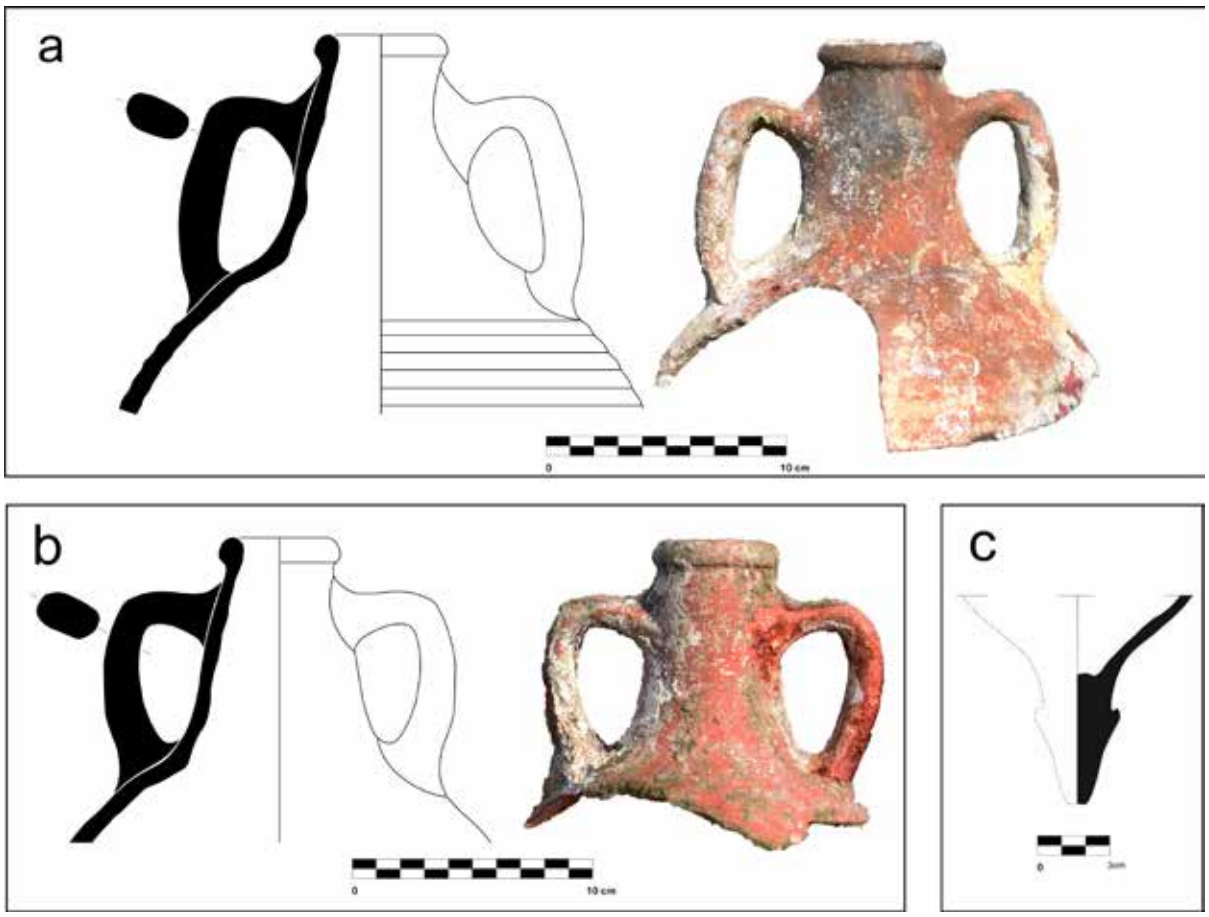


Figure 8: Knidian Amphorae (Drawing by S. HARMANDAR)

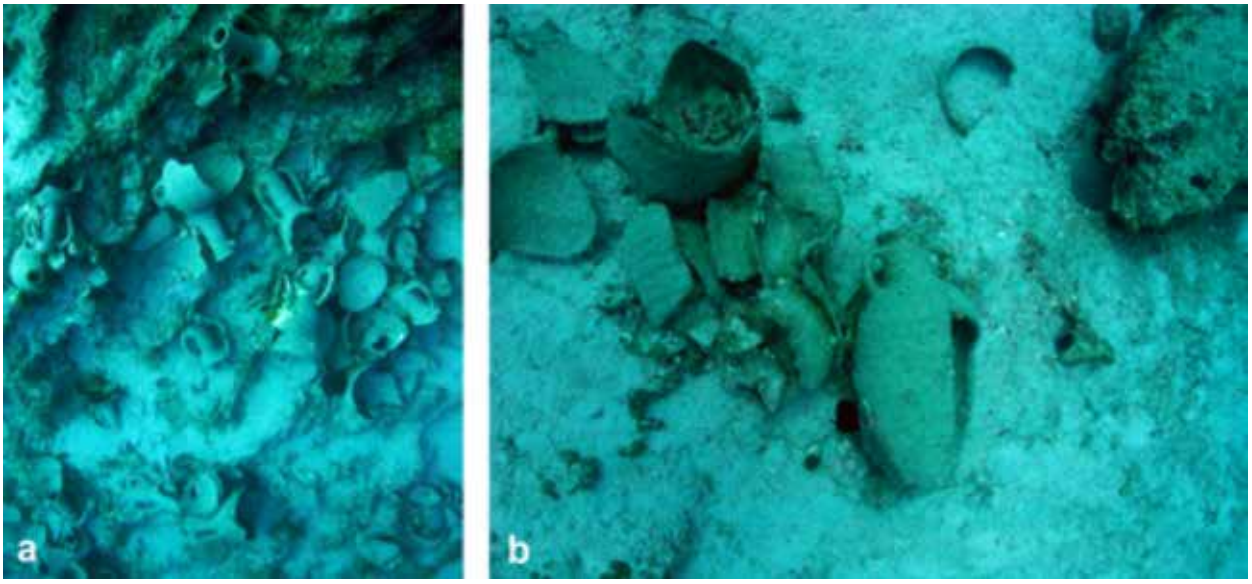


Figure 9: Cylindrical Amphorae (Agora M273) (Photo: H. ÖZDAŞ)

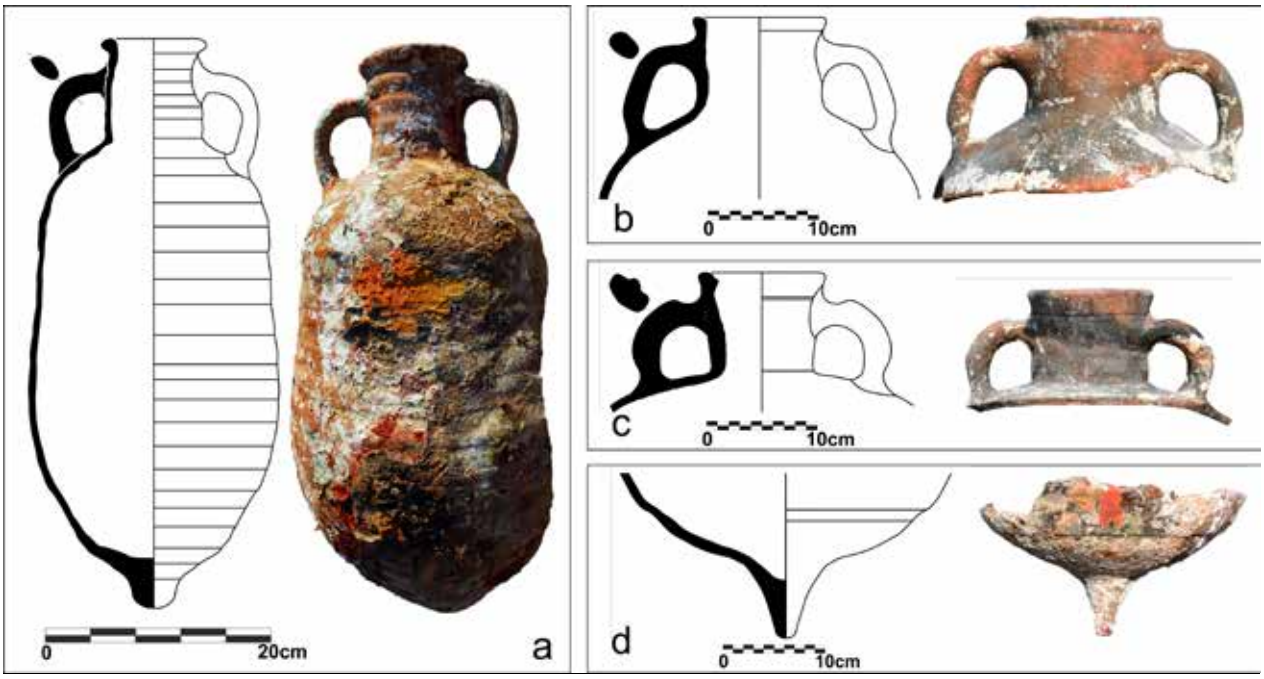
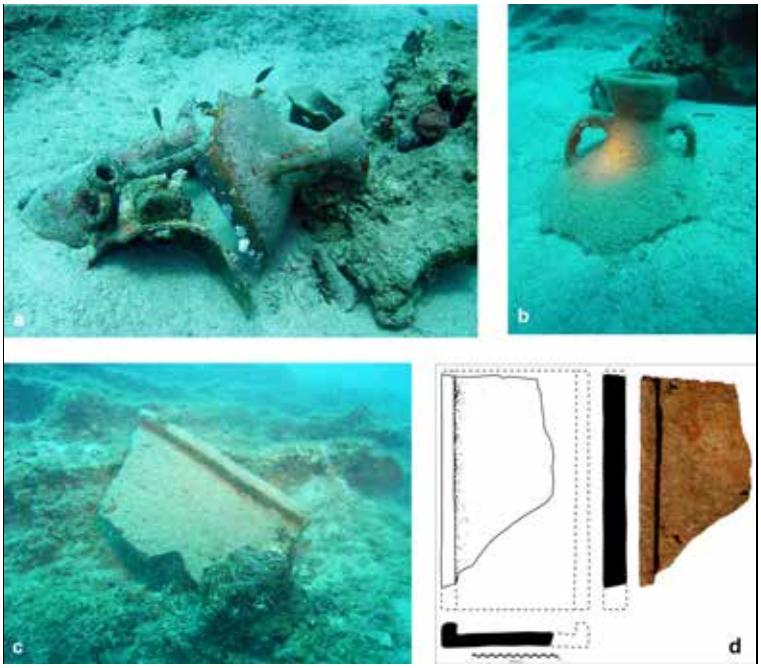
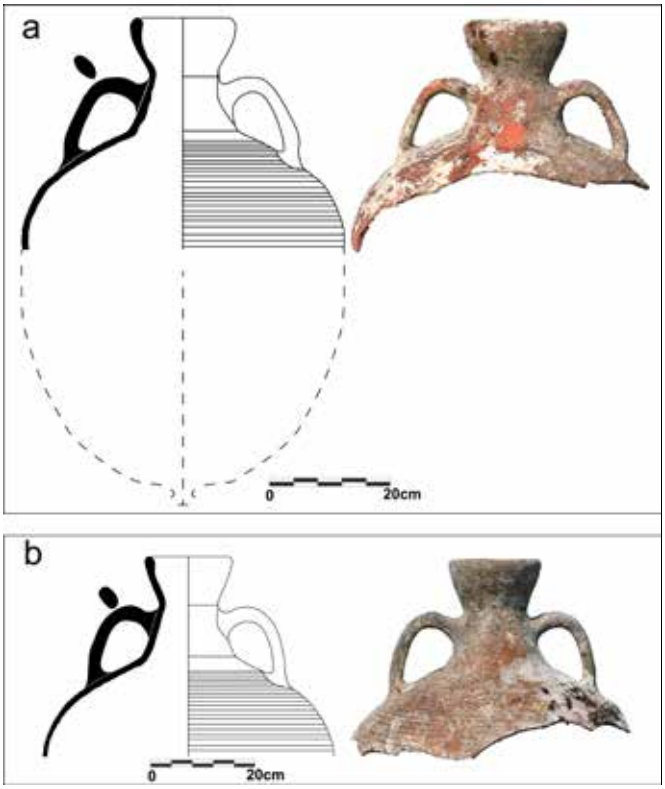


Figure 10: Cylindrical Amphorae (Agora M273) (Drawing by S. HARMANDAR)



Resim 11: Küresel Gövdeli LR2/ Dressel 24 Similis Amphoraları ve Korinth Tipi Kapama Kiremidi (Fotoğraf: H. ÖZDAŞ, Çizim: S. HARMANDAR)



Resim 12: Küresel Gövdeli LR2/ Dressel 24 Similis Amphoralar (Çizim: S. HARMANDAR)

Progressive Museums in Turkey

Dr. Soner ATEŞOĞULLARI

Gaziantep Zeugma Museum

Değişen ve Gelişen Türkiye Müzeleri[1]*

Progressive Museums in Turkey

Soner ATEŞOĞULLARI**

Museums have no boundaries, they have networks.

ICOM

Özet

Ülkemizde müzecilik Osmanlı İmparatorluğu'ndan günümüze uzanan köklü bir birikime sahiptir. İlk müzecilik faaliyetleri zengin tarihî ve kültürel mirasımızı "korumayı" hedefleyen, 19. yüzyılın Batılılaşma çabalarının bir göstergesi olarak ortaya çıkmıştır. Müzeciliğimiz, 1846 yılında Tophâne-i Âmire Müşiri Ahmed Fethi Paşa'nın gayretleri ile Aya İrini Kilisesi'nde açılan "Müze-i Askeri"den itibaren sürekli bir değişim ve gelişim içinde olmuştur. Çağdaş anlamda, 1881 yılında Osman Hamdi Bey'in göreve gelmesi ile başlayan müzecilik serüvenimiz, Cumhuriyet'in ilk yıllarından itibaren atılan akılcı adımlarla günümüze kadar gelişerek gelmiştir. 1980'den sonra açılmaya başlayan özel müzeler ile yeni bir ivme kazanan müzeciliğimiz, son yıllarda yerel yönetimler tarafından açılan Kent Müzeleri ile sayısal olarak da artış göstermiştir.

Anadolu'nun binlerce yıllık tarihsel ve kültürel mirasını barındıran Türkiye müzelerini, dünyadaki olumlu gelişmeler ile eş düzeye getirmek amacıyla, Kültür ve Turizm Bakanlığı tarafından son yıllarda önemli atılımlar gerçekleştirilmiştir. Ülkemizde müze sayısını artırmak, çeşitlendirmek ve müzelerimizi çağdaş müzecilik anlayışı doğrultusunda yenilemek amacı ile yürütülen çalışmalar çerçevesinde birçok yeni müze inşa edilmiş ve varolan müzelerin bakımı, onarımı yapılıp teşhir tanzimi yenilenmiştir. Birçoğunun ise yenilenmesine devam edilmektedir. Yaşanan bu değişim ve dönüşüm ile birlikte, ülkemiz bugün itibarıyla çağdaş müzeler konusunda dünyaya örnek teşkil edecek müzelere ev sahipliği yapmakta ve her geçen gün bu müzelere bir yenisi eklenmektedir. Yeni müzecilik anlayışı çerçevesinde, gelişen teknolojik olanakları da kullanarak oluşturulan sergileme teknikleri sayesinde, müzelerimiz bugün farklı bir görünüm kazanmıştır. Müzelerimizin eriştiği bu çizgiyi korumak, dünyadaki değişime bağlı olarak her geçen gün geliştirmek, Kültür ve Turizm Bakanlığının ana hedefleri arasında yer almaktadır.

Anahtar Kelimeler: Osman Hamdi Bey, Müze-i Hümâyûn, Atatürk, Çağdaş Müzecilik, Dijital Teknolojiler

Abstract

In Turkey, museology has a deep-rooted tradition from the Ottoman Empire to the present day. The first museum activities emerged as an indicator of the 19th century's Westernization efforts aimed at "preserving" our rich historical and cultural heritage. The museology has been in a constant change and progress since the Military Museum opened in the Church of Hagia Irene in 1846 with the efforts of the Marshal of the Imperial Arsenal Ahmed Fethi Pasha. In the contemporary sense, the adventure of museology has started with Osman Hamdi Bey's appointment in 1881 and has evolved to the present day with rational steps taken since the first years of the Republic. The museology, which gained a new momentum with the opening of private museums after 1980, has also increased in numbers with the City Museums opened by local governments in recent years.

1 This article has been created by expanding the presentation and introduction text of the book "Progressive Museums in Turkey" published by the General Directorate of Cultural Assets and Museums in 2014.

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** Dr Archaeologist, General Directorate of Cultural Assets and Museums, Department of Applications, Next to the 2nd Parliament Building, Ulus, 06110, Ankara, soner.atesogullari@kultur.gov.tr, ORCID ID: 0000-0001-5275-5825

Some major steps have been taken by The Ministry of Culture and Tourism in order to level up the museums of Turkey which contain thousands of years of historical and cultural heritage of Anatolia with the positive developments in the world. Many new museums have been built within the framework of the efforts carried out with the aim of increasing and diversifing the number of museums in our country and renewing our museums in line with the understanding of contemporary museology; also maintenance and restorations of existing museums have been carried out and permanent exhibition arrangements have been updated. Many of them are still being restored. With this change and transformation, today our country hosts museums that will set an example to the world in terms of contemporary museums and day after day a new one is added to them. Regarding a new understanding of museology, our museums have gained a different appearance today, thanks to exhibition techniques created by using advanced technological possibilities. One of the main objectives of the Ministry of Culture and Tourism is to preserve this line reached by our museums and to enhance it day by day in accordance with world-wide transformations.

Key Words: Osman Hamdi Bey, Empire Museum, Atatürk, Contemporary Museology, Digital Technologies

Introduction

Our museums are the most important institutions. Our museums host artifacts from the ancient past of Anatolia, while preserving and keeping alive the values and cultural memories of countless generations. Museums with an important role in the formation of the identity of society are non-profit institutions (ICOM, 2021) that serve society and its education; these are permanent and public "education and science" institutions created with the aim of preserving, displaying and promoting all kinds of information, documents and works related to the past (Keleş, 2003: p. 2; Atagök, 1990: p. 2-3; Karabıyık, 2007: p. 24-28). Museums with educational and instructional functions (Okan, 2018: p. 236-237) are among the essential elements of national and universal culture, providing scientific studies in addition to raising public awareness about cultural heritage. The Ministry of Culture and Tourism, which considers the development level of museums as the criterion of a nation's modernity, is committed to carrying into the future the concrete and intangible cultural heritage on these lands with an awareness of upholding the universal values of humanity, regardless of who left it on any date.

1. A Brief Overview of Our Museum History

The first museum activities in the country started with the Ottoman Empire and a collection of weapons, ammunition, tools, and other equipment, especially those obtained in wars, stored in the Hagia Irene Church since the conquest of Istanbul. The Hagia Irene was used as a weapon warehouse for many years under the name of "Cebehane".

(Çal, 2009: p. 318; Ersay Yüksel, 2021: p. 214). In the process of the regeneration movements in the Ottoman Empire from the beginning of the 18th century, and based on the idea of establishing a museum similar to examples in the West (Özkasim and Ögel, 2005: p. 97), in 1726 the Cebehane collection was organized and named "Dar-ül Esliha". Greek, 1999: p. 80; Özkan, 2004: p. 66; Ersay Yüksel, 2021: p. 214). In 1846, with the efforts of the Marshal of the Imperial Arsenal, Ahmed Fethi Pasha, the Cebehane Collection was organized as Mecma-i Esliha-i Atika (Ancient Weapons Collection) and Mecma-i Âsâr-ı Atîka (Ancient Artifacts Collection) and put into service as the "Müze-i Askeri" (Military Museum) in the Hagia Irene Church. (Yücel, 2006: p. 241; Öz, 1970: p. 951-952; Nazir, 2010: p. 99).

In 1869, when Mehmet Esat Savfet Pasha was the Minister of Education, the museum was named Müze-i Hümâyûn (Imperial Museum) (Hisar, 1933: p. 136; Ogan, 1947: p. 4; Türkseven, 2010: p. 36). Edward Goold, a teacher at the Mekteb-i Sultani (Galatasaray High School), was appointed as the director of the school (Eyice, 1985: p. 1598; Cengiz, 2010: p. 279; Gerçek, 1999: p. 118). The Âsar-ı Atîka Nizâmnâmesi (Ancient Artifacts Law), which was the first regulation of the Empire directly related to antiquities, was issued in 1869 (Çal, 1997: p. 392; Karaduman, 2004: p. 29, 73-76; Mumcu, 1969: p. 66). The regulation stipulates that those who want to search for antiquities in the Ottoman lands must obtain permission from the Ministry of Education; it decrees that the ancient works belong to the state and cannot be taken abroad, but can be sold

domestically (Şahin, 2007: p. 109; Ortaylı, 1985: p. 1599-1600).

As soon as he took office, Grand Vizier Mahmut Nedim Pasha abolished the museum directorate, and Austrian painter Pio Francesco Carlo Teranzio was appointed as the museum guard for the collection (Gerçek, 1999: p. 87-88; Kuruloğlu, 2010: p. 5).

When Mithad Pasha appointed Ahmet Vefik Efendi to the Ministry of Education on 15 June 1872, a new chapter was launched in the history of Turkish museology. The Imperial Museum was reopened and a German, Dr Philipp Anton Dethier, was appointed director (Eyice, 1985: p. 1601; Atasoy, 1984: p. 1459; Saatçı Ata, 2021: p. 463). During Dethier's tenure, artifacts found in the Hagia Irene Church were moved to the Tiled Pavilion; the museum was opened on 3 August 1881 (Cezar, 1994: p. 235-236; Eyice, 1960: p. 45-52). With the efforts of Dethier, on April 7, 1874, the second Ancient Artifacts Law, which allowed the sharing of artifacts found in excavations and the taking them abroad, came into force (Mumcu, 1969: p. 66; Yücel, 2006: p. 241; Ersay Yüksel, 2021: p. 216).

Upon Dethier's death on 3 March 1881, a foreign director was sought to replace him, and on 4 September 1881, Osman Hamdi Bey (Figure 1), son of Grand Vizier Edhem Pasha, was appointed as museum director on the orders of Sultan Abdulhamid II (Atasoy, 1984: p. 1460; Mansel, 1960: p. 291-301). With the appointment of Osman Hamdi Bey, a new era began in Turkish museology (Gerçek, 1999: p. 108; Ersay Yüksel, 2021: p. 216; Türkseven, 2010: p. 50). Edhem Pasha, who later became the Minister of Internal Affairs, sent circulars to the provinces demanding that ancient artifacts be protected and collected, and sent to Istanbul (Cengiz, 2010: p. 280).

Osman Hamdi Bey, who perceived the deficiencies in the 1874 Regulation, prepared a new Ancient Artifacts Law on 21 February 1884 designed to prevent the smuggling of ancient artifacts abroad. p. 60). In the regulation, which consisted of five sections and 37 articles and was aimed at preventing the West from plundering the archaeological riches of Anatolia, it was stated that archaeological artifacts found in the imperial lands belong to the state and it is forbidden to take them abroad (Yücel, 2006: p. 241; Türkseven, 2010: p. 53; Rukancı ve Anameriç, 2019: p. 387).

As a result of excavations in imperial lands, conducted by Osman Hamdi Bey between 1883-1895, and his transporting of valuable artifacts to Istanbul, the museum collection was enriched (Mutlu and Başaran Mutlu 2018: p. 67-68). After 17 sarcophagi unearthed from the Sayda Necropolis Excavation, including the 'Sarcophagus of Alexander', were brought to Istanbul in 1887 (Sönmez, 2020: p. 773-777), Hamdi Bey explained the need for a new museum building to the Grand Vizier and the Minister of Education; both officials were convinced and Hamdi Bey commissioned the Âsâr-ı Atîka Museum (Istanbul Archaeology Museum), the first museum building of our country, to be built in the garden of the Tiled Pavilion (Özkasim and Ögel, 2005: p. 96-102). The new museum opened to visitors on 13 June 1891, with the attendance and participation of government officials. The Neo-Classical museum building (Figure 2), designed by the architect Alexandre Vallaury, was completed in three stages with additions in 1903 and 1907 (Cezar, 1994: p. 257-258; Başgelen, 1999: p. 10). The museum is now one of the world's leading institutions with its architecture and unique collections (Figure 3)

Osman Hamdi Bey laid the foundations of contemporary museology in Turkey, ensuring that works in the newly opened museum were classified and their catalogues published (Koç, 2011: p. 151-164; Atasoy, 1984: p. 1458). In addition, in Konya (1899) and in Bursa (1904), museums were opened under the stewardship of Hamdi Bey (Muşmal, 2009: p. 91-92; Shaw, 2004: p. 126; Yaşayanlar, 2018: p. 565-567). Osman Hamdi Bey, who pioneered the first scientific excavations on the Ottoman geography and played a key role in shaping the concept of contemporary museology in our country (Atasoy, 1984: p. 1458), took important steps towards the institutionalization of our museum during his 25-year tenure (Özkan, 1999: p. 465; Özdoğan, 2006: p. 52-53; İhtiyar, 2011: p. 46).

Upon Osman Hamdi Bey's death in 1910, his brother Halil Edhem Bey was appointed as director (Tokgöz, 2013: p. 339-342; Cengiz, 2010: p. 283). Edhem Bey's first directive was to present the works exhibited in the museum in chronological order. The Istanbul Âsâr-ı Atîka Museum was divided into three sections, the Ancient Orient, the Greek-Roman-Byzantine, and the Turkish-Islamic periods; the old building of Sanayi-i Nefise Mektebi was reorganized in 1925 and opened

to visitors as "Eski Şark Eserleri Müzesi" (Ancient Oriental Works Museum) (Yücel, 1999: p. 62; Ünar, 2019: p. 72). In 1913, the Evkâf-ı İslamiye Museum (Museum of Islamic Foundations) was established in the soup kitchen of the Süleymaniye Complex. The name of the museum was changed to the "Turkish and Islamic Arts Museum" in 1927 (Öztekin, 2014: p. 51). Edhem Bey, who was the museum director until 1931 (Artun, 2019: p. 9-222), focused on scientific studies by preparing new catalogues for the museum (Mutlu ve Başaran Mutlu, 2018: p. 68; Koç, 2011: p. 151-164).

Under a directive by Mustafa Kemal Atatürk, the "Türk Âsar-ı Âtika Directorate" was established under the Ministry of Education on 9 May 1920 by the first government established in Ankara, immediately after the opening of the Grand National Assembly, and at the beginning of the national struggle (Bayram, 2008: p. 8; Madran, 1996: p. 63). In 1921, the Directorate was renamed the "Culture (Hars) Directorate" and important steps were taken for the development of our museum (Yücel, 1999: p. 67). Again, per a directive by Atatürk, a circular was issued by the Minister of National Education İsmail Safa on 5 November 1922 under the title of "Instruction on Museums and Âsar-ı Âtika" and sent to all provinces (Arık, 1953: p. 43-45). In this circular, which was an important step for the future of Turkish museology, the duties and responsibilities of museums were explained, as were descriptions of how these activities should be performed (Önder, 1989: p. 64).

With the proclamation of the Republic, museum studies again gained momentum; new museums were opened in numerous provinces, and existing museums reorganized in line with modern concepts. Between 1923 and 1943, and despite the adverse economic conditions of that time, 35 new museums were opened to visitors (Başgelen, 1999: p. 13; Karabıyık, 2007:p. 18; Mutlu ve Başaran Mutlu, 2018: p. 71). Museums reflecting the national culture were effective in instilling a national consciousness in a large portion of the population in the first years of the Republic (Karabıyık, 2007: p. 18-22). In addition to the newly opened museums, important architectural structures in Turkey also functioned as museums (Hisar, 1933: p. 133; Utkuluer, 2012: p. 3, 34-50, 137-141; Şahin, 2019: p. 134-137). Topkapı Palace was converted into a museum in 1924 per the proposal of Gazi Mustafa Kemal Atatürk, and began to receive visitors on 3 April 1924 as the nation's first palace-museum. The Ankara Ethnography Museum, the first museum built during the Republican Period, was opened to the public on 18 July 1930 (Şahin, 2019: p. 132).

Atatürk (Figure 4), who took important steps for the institutionalization of the nation's museums, also visited museums and ruins during his tours around the country (Önder, 1989: p. 69-70; Önder, 1975:), visiting the İzmir Museum on 3 February 1931 and writing in its memory book, "I visited the Izmir Âsar-ı Âtika Museum. It has been made useful with great care and attention, and I am pleased" (Önder, 1989: p. 69). Atatürk showed great interest in museums throughout his life, and personally provided for the establishment of many museums, truly laying the foundations of Turkish museums (Önder, 1989: p. 63-73).

In 1945, the "First Advisory Board for Antiquities and Museums" convened under the chairmanship of the Minister of National Education, Hasan Ali Yücel, and positive decisions were taken towards the development and improvement of the nation's museology. An important milestone in the history of museums in Turkey was in 1946, with the country's membership in the International Council of Museums (ICOM) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 1956, there were 33 museums and seven museum warehouses under the Ministry of National Education.

From the 1960s onwards, our museums have been renovated in line with the principles of modern museums and, along those same lines, the construction of new museum buildings began (Atasoy, 1984: p. 1467; Keleş, 2003: p. 5; Karabıyık, 2007: p. 20). Some of these museums were built according to the "Museum Project" prepared by the Ministry of National Education (Yıldız, 2001: p. 66). Although the buildings are identical, some important innovations in display techniques stand out (Atasoy, 1984: p. 1467). By 1963, there were 58 museums and 12 museum warehouses, and in 1973 there were 87 museums and 13 museum warehouses (Karabıyık, 2007: p. 20). These dedicated efforts in the 1970s and 1980s greatly increased both the number and diversity of the nation's museums.

The establishment of private museums was enabled with the 26th article of Law No. 2863 on the Protection of Cultural and Natural Assets. Thus the Vehbi Koç

Foundation Sadberk Hanım Museum, Turkey's first private museum, was opened to visitors on 14 October 1980 (Sadberk Hanım Museum, 2021). In the 1990s, the number of foundation museums and private museums increased (Karabıyık, 2007: p. 22). Today, 316 private museums affiliated to the Ministry make significant contributions to Turkey's museology via current activities and temporary exhibitions in Turkey as well as abroad (Zülfikar and Ediz, 2020: p. 76).

In the 1990s, the Bodrum Underwater Archaeology Museum, the Ephesus Museum and the Antalya Museum were pioneers in the sector with their exhibitions. In another pleasing development for the country's museum culture, many city museums were opened after 2000, bringing the cultural heritage of the country's cities to visitors along with a mission to create an urban awareness (Silier, 2010: p. 16-21; Tepekaya, 2018: p. 62-66; Buyurgan and Öztürk, 2021: p. 273-280). At the time of this writing, there are 208 museums affiliated to the Ministry of Culture and Tourism, 126 mausoleums, 142 archaeological sites and 316 private museums operating under the control of the Ministry, some of which have been presented with the "Museum of the Year in Europe" award in Turkey (Museums, 2021).

Turkey's museums, which have grown in diversity and quality over time, are also increasing in number day by day. Due to these positive developments, Turkey's museums have won numerous awards in Europe. On 6 May 2021, the Troy Museum (Figure 5) won the "European Museum of the Year Special Award" (European Museum of the Year), the longest-running and most prestigious museum award, granted annually by the European Museum Forum (EMF) under the auspices of the Council of Europe (European Museum of the Year, 2021). The European Museum of the Year Special Award went to the Eskişehir Odunpazarı Modern Museum for 2021. The Troy Museum was awarded the 2020/2021 "European Museum Academy Special Award", one of Europe's most important museum awards, on 18 September 2021. Thus, the Troy Museum became the first Turkish museum to receive both the Special Awards of the European Museum of the Year and the European Museum Academy.

2. Progressive Museums in Turkey

The understanding of museums has evolved from the past to the present. The traditional museum concept, which has a deep-rooted history in Turkey, has gradually started to be replaced by the concept of an innovative, interactive, and contemporary museology understanding, depending on the developments in the economic and technological sectors, as well as an increasingly globalizing world (Contemporary Museums, 2021). Depending on global developments, the concept of contemporary museology progresses on the axis of "New Museum" followed by "Post-Modern Museum" (Message, 2006: p. 603; Nielsen, 2021: p. 91-99). Depending on all these developments, Turkey's museums, aiming to carry the tangible and intangible cultural heritage of the past (Kasapoğlu Akyol, 2020: p. 75-76, 84) to the future, are now complex structures with equipment that facilitates a range of various functions, as well as permanent exhibition spaces.

Important studies have been conducted by the Ministry of Culture and Tourism in recent years to bring Turkey's museums, which contain Anatolia's millennia-old historical and cultural heritage, from being closed spaces to welcoming the outside world, and linking them with positive developments in the world. Many new museums have been opened within the framework of studies carried out to increase and diversify the number of museums in Turkey and to renew museums in line with contemporary museology criteria (Karadeniz, Okvuran, Artar and Çakır İlhan, 2015: p. 207-208, 112); The maintenance and repair of existing museums has been accomplished and exhibition arrangements have been renewed (Harmanda and Ateşoğulları, 2014). Many museums are still undergoing restoration. In all museum projects carried out as an interdisciplinary study, the use of contemporary exhibition and presentation techniques as well as traditional exhibition methods (Aykut, 2017: p. 225-241), are among the most important issues, along with the quality of visual and scientific information, creating cultural heritage awareness, appealing to a broad demographic via today's technological possibilities, and effectively communicating with museum visitors through interactive applications. In today's contemporary museum understanding (Kandemir and Uçar, 2015: p. 17-43; Çevik, 2021: p. 138-141) it is necessary to employ digital technologies

that stimulate multiple senses, as well as traditional methods, for displaying collections in a more effective manner (Bandelli, 1999:p. 21; Boyraz, 2019: p. 538-560; Zülfikar and Ediz, 2020: p. 84-89). In museums opened and renovated in recent years by the Ministry of Culture and Tourism, all the possibilities of technology are deployed in exhibition design as a requirement of the age; digital presentation techniques enable an interactive experience that also can generate awareness on cultural heritage (Keş and Başer Akyürek, 2018: p. 98-104). In modern museums, it is of great importance for visitors to access information presented in an exhibition via technological tools as well as traditional methods (Boyraz, 2012: p. 27-32). The use of technology in museums promotes expanded interaction between visitors and the museum's content, and a deeper perception and understanding of the displayed works (Ekiz, Yerlikaya and Kaya, 2018: p. 778). In this context, many new and renovated museums in Turkey are supported with visual and audio materials for promotional and information purposes that embrace all segments of society, with documentaries, interactive presentations, kiosks, digital animation, video projection mapping, high resolution digital screens, 3D animations, virtual reality (WR) (İpek, 2020: pp. 1062-1066), and augmented reality (AR). Digital technologies such as (Coşkun, 2017: p. 61-75; Bingöl, 2018: p. 46), mixed reality (MR) (Diker, 2019: p. 2002-216) and holograms (Boyraz, 2019: p. 559) (Figure 6) were used for the first time (Boyraz, 2013: pp. 113-128; Güzel and Sucaklı, 2020: pp. 78-81). The digital technologies currently utilised in museums are aimed at ensuring that visitors remain interested in and focused on the story being told. Such digital applications also expand capacity for more visitors, entertaining while teaching (Güzel and Sucaklı, 2020: p. 80-81).

In addition to the classic exhibition units supported by technological infrastructures, both new and renewed museums feature realistic silicon sculptures, dioramas, models and various 3D period animations designed to reinforce and support the presentation (Harmanda and Ateşoğulları, 2014: p.16-187). With changes in the understanding of exhibitions, the use of such tools in presentations is beneficial in accurately conveying the period atmosphere to the audience, as well as encouraging visitors to spend more time in the museum.

In addition to the utilization by museums of modern exhibition technologies in accordance with the "New Museology" understanding, education and communication are among museums' most basic functions (Özden and Dörter, 2010: pp. 24-25; Karadeniz et al., 2015: p. 208). With this approach, a focus on education and dynamism is prioritized in the newly built and renovated museums, with the aim of raising young generations with a high cultural level in the future and, at the same time, with a consciousness of protecting the cultural heritage.

Today, museums are undergoing a process of change and transformation. With the influence of globalization, the "museum" has become a "cultural unit", housing permanent and temporary exhibition halls, libraries, meeting rooms, laboratories and children/youth education workshops (Okan, 2015: p. 191). Erbay (2011: p. 2-6) states that museums that make up the memory of the society are "today, educational institutions that combine the elements that reflect the scientific and cultural past of the society and shape the future with art and culture".

In the 21st century, museums have ceased to be places that focus on works from the past, exhibited from an "encyclopaedic" point of view, but have become a centre of "life-culture" in line with the concept of museums that offer a variety of experiences to audiences and constantly renew themselves (Ulus, 2021: p. 37). Turkey's museums, which are increasing in number day by day, are not sterile places designed solely to preserve, store and exhibit works, but are designed to host national and international conferences, concerts, talks, seminars, workshops and webinars, organized for the education of their communities; important steps are being taken to transform museums into educational and cultural institutions (Kervankıran, 2014: p. 355-356, 363), where exhibitions are opened, films are screened, scientific publications are issued, and educational workshops especially for children and young people are active, contributing to the promotion of Turkey.

To bring museums closer to the community, improve communication and bring all segments of society together in a public space, the Ministry of Culture and Tourism ensures that visitors can have fun while learning, and meet their most basic needs

such as eating and drinking, shopping, and social communication (Mehmetoğlu et al. Abelsen, 2007: p. 269-284; Kervankıran, 2014: p. 351-353). As such, efforts are ongoing to transform museums into living, dynamic institutions where visitors enjoy themselves and participate in cultural events. For this purpose, in recent years, structures have been put in place to meet all needs and transform the existing museums, newly built and renovated by the Ministry of Culture and Tourism, into social living spaces (Harmanda and Ateşoğulları, 2014: pp. 6-279).

Based on museums' contributions to the development of society as educational institutions, thematic exhibition practices that emphasize certain themes and stories have started to be included in addition to the work-oriented, chronological exhibition approach in Turkey's changing and developing museums. With this understanding, in addition to archaeology and ethnography museums such as Atatürk House, memorial museums, history museums, etc., many thematic museums such as the Zonguldak Mining Museum (Figure 7), the Burdur Natural History Museum, the Islamic Science and Technology History Museum, the Galata Mevlevi Lodge Museum, the Lycian Civilizations Museum (Çevik, 2017: p. 18-29), the Kahramankazan 15 July Martyrs and Democracy Museum, the Ankara 15 July Democracy Martyrs Museum, and the Police Museum have been built in Turkey. As well, the IGA Istanbul Airport Museum, designed to be held with a different theme every year, was organized with the most distinguished works from various museums of Anatolia within the framework of its the first opening exhibition theme "Turkey's Treasures: Faces of the Throne". This exhibit hosted local and foreign visitors in 2020. (IGA Istanbul Airport Museum, 2021).

In museums, which have a vital importance in today's society in line with the change and transformation experienced in the world in recent years, there is a transition from the "work-oriented" exhibition understanding of the past to the "people-oriented" (Weil, 1997: p. 257; Karadeniz et al., 2015: p. 223; Aykut, 2017: p. 219; Tepekaya, 2018: p. 11; Kandemir ve Uçar, 2015: p. 31-32) exhibition understanding. It is believed that this change and transformation will progress much faster than expected, and museums will soon develop as "visually and information-oriented" in the near future. In this process, the "training of museum directors and staff" is essential to ensuring that our museums are change-oriented and sustainable (Erbay, 2017: p. 105, 113, 121).

In many of the recently opened public and private museums in Turkey, the conversion of visitors from passive tracker to active participant (Tepekaya, 2018: p. 33; Kasapoglu Akyol, 2020: p. 82) includes various interactive applications (Keş and Başer Akyürek: 2018: p. 98-104; Silier, 2010: p. 17). Museums, which play an important role in the individual development of younger generations, have turned into institutions that not only welcome the visitor with contemporary exhibition and presentation techniques, but also attract and communicate with visitors through various activities, organized by taking into account different segments of society (Boyraz, 2012: p. 25-27); Sezgin Özrili and Özrili, 2021: p. 203-205). With this change and transformation, the path is paved for museums to interact more closely with society.

Undoubtedly, the concept of communication has an indispensable importance for museums today (Ulus, 2021: p. 24, 37-38). Announcing events to be held in the museums on the museum's website, in written and visual media, on social media platforms such as Instagram, Facebook, Twitter, YouTube, and on national/local radio, television and billboard media is crucial in terms of integration with society and attracting more visitors. With the effective use of digital channels, museums not only promote their events, but can also introduce their collections to larger audiences quickly and practically. However, communicating with the public through digital technologies is also essential, particularly in terms of attracting the attention those who are not regular museumgoers. (Erbay, 2011: p. 75; Kervankıran, 2014: p. 352).

During the pandemic, the importance of effective use of digital technology by museums heightened, as museums made efforts to maintain communication with a public that could no longer visit a museum in person. Turkey's museums can and must improve their utilization of digital technologies. In the information age, expanding the visibility and accessibility of museums via the technological facilities present across every area of our lives has gained significant importance in terms of communicating with visitors (Akça, 2020: p. 271).

In an increasingly digitalized world, an inevitable consequence of the information age, the "Virtual Museum Tour Application" was launched by the Ministry of Culture and Tourism in recent months. The app was launched in order to digitize museum collections online and allow visitors to discover the museum and, especially, to attract younger generations (Y, Z and Alpha generation) (Boyraz, 2019: p. 540-541) to museums (Virtual Museum Tour, 2021). In these days when the COVID-19 pandemic (World Health Organization, 2020) is ongoing, and taking into account the current pandemic restrictions (Karadeniz 2020: p. 981-982), the app offers a virtual tour of around 45 museums and ruins (See. virtual tour: Schweibenz, 2004: No. 3; Karadeniz et al., 2015: pp. 217-218; Çalışkan Önal ve Yazıcı, 2016: s. 694-703; İhtiyar, 2011: s. 24-25; Tepekaya, 2018: s. 35; Okan, 2018: s. 217, 226, 237) (Virtual Museum Tour, 2021). Efforts are underway to further increase the number of sites and museums. The large increase in the number of people visiting museums in Turkey and worldwide via virtual tours during the pandemic (Virtual Museums, 2021), indicates that this practice will continue (Kasapoğlu Akyol, 2020: p. 77-83).

Conclusion

The number and quality of museums in a country should be perceived as an indicator of the construction of a healthy future alongside the deep-rooted accumulation of the past. As well, museums reflect a nation's respect for culture, art, history, and the land's past. In this context, it is among the priorities of the Ministry of Culture and Tourism to support private museums, and to enhance the number and quality of museums that undertake the task of preserving Turkey's cultural heritage and transferring it to future generations.

In line with studies conducted with the aim of increasing the number of museums in Turkey and renewing current museums in accordance with the concept of contemporary museology, the maintenance and repair of 161 museums under the responsibility of the Ministry of Culture and Tourism was carried out and exhibition arrangements were renewed. In the same period, 51 new museums welcomed visitors for the first time, and 16 existing museums such as the Şanlıurfa Archeology Museum (Figure 8), the Adana Museum, the Uşak Museum, the Kayseri Museum, the Mersin Museum, the Çanakkale Troy Museum and the Van Museum (Figure 9) started to serve in their newly built structures. The ongoing renovations of four museums and the continuation of the project and implementation studies for 17 new museums are promising developments for museology in Turkey.

Especially with the momentum gained in recent years, new museums such as the Hatay Archeology Museum (2014), the Gaziantep Zeugma Mosaic Museum (2011) and the Şanlıurfa Haleplibahçe Mosaic Museum (2015), which are some of the world's largest mosaic museums, opened to visitors. Today, Turkey hosts complex museums that serve as examples for the world in terms of contemporary museums; and new museums are added every day (Figure 10, 11). Newly built and renovated museums contribute to regional tourism as well as to the brand value of the cities in which they are located (Diker, 2019: pp. 200-201).

Together with the newly built and refurbished museums in many provinces, museum warehouses are being equipped with modern amenities, including air conditioning, consistent temperature regulation and other facilities to preserve cultural assets, and technological features that prioritize the protection of artifacts in the case of natural disasters. Restoration and conservation laboratories included in these newly built museum buildings are essential for the maintenance and repair of both exhibited and stored works. Museum laboratories serve in an integrated manner with Restoration and Conservation Regional Laboratory Directorates located in 10 provinces.

As a result of the investments made by the Ministry of Culture and Tourism to renew museums in line with the understanding of contemporary museology, museums in Turkey have started to attract attention from all segments of society: as a result, there is greater awareness of protecting the cultural heritage (Figure 12). Turkey's newly built and renovated museums attract attention from local and foreign visitors, featuring contemporary architecture and exhibition techniques supported by digital technologies. As well, due to the ongoing trend towards visiting museums in Turkey, and the rise in tourism, the number of domestic and foreign visitors to museums increases daily (Visitor statistics, 2021). As pandemic restrictions ease worldwide, the

habit of visiting museums, in Turkey and worldwide, is expected to rise exponentially.

In line with advancing technology, a primary objective of the Ministry of Culture and Tourism is to maintain the standards reached by Turkey's museums and to continuously enhance them, renovating existing museums in these lands along the understanding of contemporary museology and constructing new museum buildings.

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Appendix

Figure 1: Osman Hamdi Bey, the first Turkish Museum Director

Figure 2: Empire Museum - Istanbul Archaeology Museums

Figure 3: Osman Hamdi Bey and Staff of the Empire Museum

Figure 4: Mustafa Kemal Pasha, April 23, 1920

Figure 5: Çanakkale Troy Museum (Emre DÖRTER)

Figure 6: Anatolian Civilizations Museum (Soner ATEŞOĞULLARI)

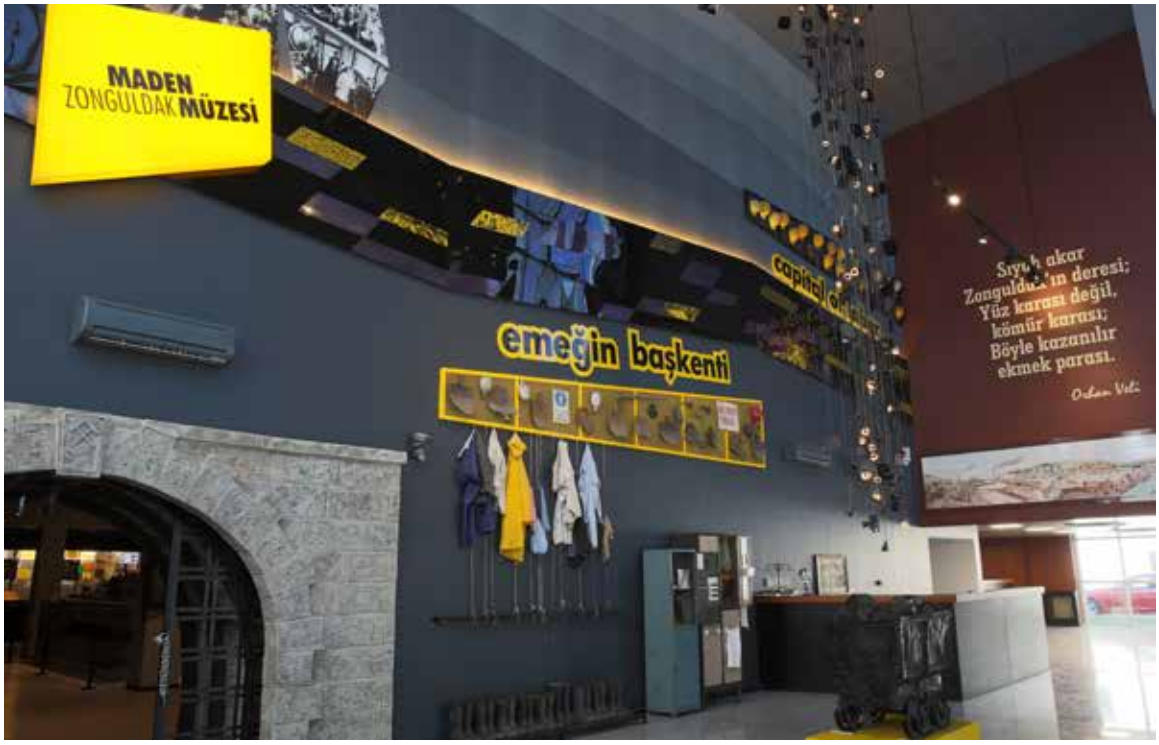

Figure 7: Zonguldak Mining Museum (Soner ATEŞOĞULLARI)

Figure 8: Şanlıurfa Archaeology Museum

Figure 9: Van Museum (Soner ATEŞOĞULLARI)

Figure 10: Hatay Archaeology Museum (Soner ATEŞOĞULLARI)

Figure 11: Gaziantep Zeugma Mosaic Museum (Soner ATEŞOĞULLARI)

Figure 12: Çanakkale Troy Museum (Troy Museum Archive)

Flaviopolis Ancient City Mosaics

Ayşe ERSOY, Kürşat KOÇER, Murat SERİN

Flaviopolis Antik Kenti ve Roma Evi Mozaikleri*

Flaviopolis Ancient City Mosaics

Ayşe ERSOY**

Kürşat KOÇER***

Murat SERİN****

Özet

Kilikya Pedias'ın önemli kentlerinden olan Flaviopolis Antik Kenti günümüzde tamamen Kadirli ilçesi yerleşimi altında kalmıştır. Son yıllarda Bağ Mahallesi'nde Osmaniye Müzesi'nce yapılan kurtarma kazılarıyla ortaya çıkarılan mozaik ve kalıntılarla tekrar gündeme gelen Antik Kent ile ilgili bugüne kadar kapsamlı bir bilimsel çalışma yapılmamıştır. Kurtarma kazılarıyla sadece parsel bazında kalıntılarına ve mozaik taban döşemelerine ulaşılan Antik Kent'in bir parselde yapılan kurtarma kazısı bile Flaviopolis Antik Kenti'nin Roma Dönemi'ni aydınlatması açısından çok büyük önem arz etmektedir. Bu makalede, Flaviopolis Kenti'nin tarihi hakkında kısa bir bilgi sunulup son yıllarda Osmaniye Müzesi'nce yapılan kurtarma kazıları sonucu bir bölümü ortaya çıkarılan Roma Dönemi'ne ait bir yapının iç atriumunda (avlu) ve tricliniumunda (ziyafet / kabul salonu) ve bir odasında ortaya çıkarılan mozaiklerde yer alan "Nereidlerin Geçişi ve Kassiopeia ve Tritonlar, Mevsimler ve Hayvanlar, Aeneas ve Dido'un Aslan Avı tasvirleri ve Geometrik Desenli Mozaikler incelenecektir. Mozaiklerdeki tasvirlerin Anadolu'da ve Roma İmparatorluğu'nun hakimiyetindeki Asya, Avrupa ve Kuzey Afrika ülkelerinde bulunan mitolojik konular içeren benzer kompozisyonlar içeren mozaiklerle karşılaştırılması yapılarak ikonografisi ortaya konulacaktır. Flaviopolis Antik Kenti'ne ait ilk yazılı belge niteliği taşıyan mozaikler bu makale ile ilk defa yayımlanarak bilim dünyasına sunulacaktır.

Anahtar Kelimeler: Atrium, Nereid, Pedias, Triclinium, Mozaik

Abstract

Flaviopolis, one of the most important ancient cities of Cilicia Pedias, has been entirely buried under the modern town of Kadirli. Thus far, no scientific research has been conducted about the antique city which came to the fore once again by the mosaics and other remains unearthed in the Bağ district during the recent excavations conducted by the Osmaniye Archaeological Museum. Even though the rescue excavations were only conducted in one parcel, the exposed floor mosaics and the other archaeological remains are regarded as extremely important finds due to shedding light on the Roman era of Flaviopolis.

In this article, following a brief historical background, an analysis will be carried out on the floor mosaics that include "Passage of Nereids, Cassiopeia and Tritons, seasons and animals, the lion hunt scene of Aeneas and Dido as well as geometric

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** Museum Director, Hatay Museum Directorate, Maşuklu Mahallesi, Atatürk Caddesi, No:1 Hatay Arkeoloji Müzesi, Antakya/HATAY, a-ersoy-0106@hotmail.com, ORCID ID: 0000-0002-5385-0872

*** Archaeologist, Osmaniye Museum Directorate, Fakıuşağı Mahallesi, Prof. Dr Alper Akınoğlu Caddesi, next to Kültür Merkezi, Osmaniye Merkez, kursat.kocer@kulturturizm.gov.tr, ORCID ID: 0000-0003-3084-7133

**** Museum Researcher, 15 Temmuz Şehitleri ve Demokrasi Museum, Yıldırım Beyazit Mahallesi, Enver Paşa Sokak, No: 6, Kahramankazan/ANKARA, serinmurat960@gmail.com, ORCID ID: 0000-0003-7559-3005

motifs" in the inner courtyard (atrium), the dining room (triclinium) and one of the rooms of a Roman period building, that were unearthed as a result of the recent excavations conducted by Osmaniye Archaeological Museum. In order to define their iconography, these mosaics are compared to other mosaics with similar mythological scenes and compositions from Anatolia as well as Asian, European and North African countries that were controlled by the Roman Empire. These mosaics that can be regarded as the first written documents from the ancient city of Flaviopolis will be published for the first time in this article and shared with the science world.

Key Words: Atrium, Nereid, Pedias, Triclinium, Mosaic

1. Mosaics in the Flaviopolis Ancient City

The ancient city of Flaviopolis was located in the centre of what is now the Kadirli district, Kadirli is the largest district of the Osmaniye province in terms of population and area. Flaviopolis, which was known historically by names such as Kars and Kars Bazar, was one of the important ancient cities established by Rome in Cilicia. The establishment of settlements by the kings who held various regions of Cilicia before it became a Roman province in 64 BC was related to the resettlement policy of the Romans in the region. Flaviopolis was the last city founded by Emperor Vespasian in 73 AD in the northeast of Cilicia Pedias during the Roman Period in Cilicia. There is a consensus that Flaviopolis can be localized to today's Kadirli district centre (Sayar, 1999: p. 211-212). Founded on the east bank of the Savrun Stream, Flaviopolis means "City of the Flavians". The Flavian dynasty ruled from 69 to 96 AD. Vespasian named the city he founded "Flaviopolis" as an indication of his Flavian descent.

The wealth of the city at that time stemmed from trade and the fertile land around it. The high hills to the east and west of the city form its necropolis. Two expansive necropolis areas, with many tombstones still intact, are evidence of the city's size and population at that time. The period of establishing new cities to Romanize Cilicia – a period that began in the middle of the 1st century BC and continued until the third quarter of the 1st century AD – ended with the establishment of the city of Flaviopolis at the beginning of the Flavian Period[1]. Titus and Domitianus ruled in Flaviopolis after Vespasian. According to H. Th. Bossert, there are no finds belonging to a period before the Roman Period in the city (Altay, 1965: p. 50, Ünal and Girginer, 2007: p. 450). After visiting Cilicia in 1875, British traveller Edwin John Davis wrote a travel book, mentioning the remains of the City of Flaviopolis in particular, the presence of rock tombs throughout the town, and the use of materials from the ruins of the ancient city for the walls of most of the town's houses. No written record of the ancient city of Flaviopolis was found in Kadirli. However, the existence of Flaviopolis is based on its topography and the coins of the period, although no trace of the city walls remains today. In 1892, Wilhelm stated that the remains of the city walls can be traced in the form of a line towards the Savrun Stream. The most important finds that brought the ancient city of Flaviopolis to the present are the tomb steles, columns, column headings and inscriptions. An inscription found in the region revealed the existence of the Dionysus Kallikarpos cult in the city (Ünal and Girginer, 2007: p. 361). Although it is known that this cult existed in Cilicia, to date, no statues related to the cult have been found. Kadirli was first established on the slopes of the hill to the east of the Savrun Stream; although the settlement was within a narrow area until 1865, it experienced substantial development with the Fıka-i İslahiye movement after 1865[2]. The increase in population and the urbanization of Kadirli, with the effect of internal and external migrations over time, resulted in the building stones left from the ancient ruins being used in houses and garden walls and thus not preserved. The two-meter bronze statue of Hadrian, discovered by chance in 1932 when a septic tank was opened in the centre of Kadirli, reveals the city's magnificence in Rome. Although the attention of the scientific world was directed to this region at the time the statue was unveiled, no scientific study was carried out in the region until the present, since the ancient city was under the modern district settlement; Alacami is the

1 For detailed information on the establishment process of Roman cities in Cilicia, see Sayar, 2012: p. 75-81 et al. Sayar, 2012: p. 75-81 vd.

2 On the development of Kadirli City Centre, see. Üçecam ve Hayli, 2003: p. 67.

only surviving structure that carries the ancient city of Flaviopolis to the present day. The building is the most important Late Antique Church in Anatolia to survive, together with Hagia Sophia.[3] In 1947, Bossert and Alkım conducted a study and a short study at Alacami; Prof. Dr. Halet Çambel started an excavation in Alacami in 1961 and unearthed important mosaics on the floor of Alacami. Since then, no archaeological excavations have been conducted in Flaviopolis. The extent of the Flaviopolis ancient city could not be determined exactly until the Osmaniye Museum conducted a sounding excavation in 2015 in the Bağ Mahallesi of the Kadirli district, close to Alacami. After the region was registered as a Third- Degree Archaeological Site, seven soundings were opened by the Osmaniye Museum in the sounding excavation that the parcel owner had performed to obtain a construction permit, and the first mosaics and remains of Flaviopolis, at a depth of 2 m, were unearthed in two trenches opened in the west of the parcel (Figure 1). After the drilling excavation, the parcel was registered as a First-Degree Archaeological Site and was taken under protection; scientific rescue excavations were then started in 2018 in Dere Mahallesi, block 237, parcel 38, under the direction of the Museum Directorate. In the first year of the excavations, mosaics depicting animals such as leopards and lions, which are limited to the guilloche pattern, were unearthed during the drilling, and the "Mosaic of the Seasons", a continuation of the mosaic of the animals, was unearthed in the north of these mosaics. Excavations continued in 2019 for nine months with 27 workers; cleaning, restoration and documentation works were conducted on the mosaics in 2020. At the end of three years, findings included the waterways belonging to the infrastructure of the Ancient City along the parcel, the atrium of a large villa, a fountain at the front of the atrium, the northern corner of an ornamental pool (impluvium) in the middle of the atrium, the southern and eastern corners of the banquet/ reception hall (triclinium) opening to the atrium of the Roman House (triclinium) and half of another room, the stump waterways carrying water to the villa, the pebble-built walls to the north of the parcel (which can be dated to the 5-6th centuries from coins found in the excavations), a small latrine, and rooms with hearths and workshops. The atrium of the Roman House, which was unearthed in the south of the parcel, was built on an east-west and north-south axis, surrounding the ornamental pool on both sides. In the south direction, the ornamental pool continues towards the road.

3 For detailed information about Alacami, see. Bayliss, 1997: p. 57-87.

1. 1. Mosaics in the Atrium of the Flaviopolis House

In this section of the Flaviopolis House, mosaics depicting the "Passage of the Nereids and Cassiopeia", "The Seasons" and "Animals" were unearthed during the rescue excavations carried out in 2018 and 2019.

1. 1. 1. Passage of the Nereids and Cassiopeia

This mosaic is a 3.20 x 5.40 m composition featuring geometric motifs on the outermost border in the northeast-southwest direction. Consisting of a successive geometric panel with circles and quadrilaterals in the middle, a thick exterior frame borders the main composition. A second thin frame, from the thick exterior frame to the main stage, surrounds only the scenes from the "Passage of the Nereids and Cassiopeia". The mosaics of "Passage of the Nereids" and "Cassiopeia and the Tritons", the main composition of the atrium, are also surrounded by a second border consisting of bud thorns and continuing like ivy. In this composition, the Nereids (sea nymphs) are depicted on two mythological sea creatures from left to right. The first Nereid is Iksaropieh (ΧΑΡΟΠΗ), whose brown floral shawl swayed in the wind, draped over her shoulders. Depicted as nude, Iksaropieh has a yellow himation draped on her right leg (Figure 2). She is seated slightly sideways on a sea creature with a dog's head, feet and torso and a fish's tail. Her head and torso are viewed from the front; her right arm raised and she is holding a bowl in her hand. Her other hand is on the creature's neck, as if to guide it. She is wearing arm bands and bracelets, as well as anklets. To the right of the scene is a second Nereid called Terpiomeneh (ΤΕΡΠΟΜΕΝΗ) (Figure 3). Terpiomeneh is also depicted nude, with her garment wrapped around one leg. She is seen as if viewed from the front and is sitting sideways on a floating sea panther with a fish's tail; the creature's claws are extended forward, holding the edge of Terpiomeneh's black coat and fanning it over her head. She is also wearing armbands, bracelets, and anklets. She has blonde hair parted in the middle.

The third figure is also a Nereid, coming from across the sea towards the two Nereids described above. She is sitting on the lap of Triton, a sea god with a human torso and a fish's tail. The Nereid has black hair pulled into a side bun, and is wearing bracelets and anklets. On both sides of her head is the ancient Greek inscription, Treitonis (ΤΡΕΙΤЬΙΝΙC) (Figure 4). The Nereid is facing Triton, holding an ornate bracelet in one hand and a container with jewellery in her right hand. Her himation is completely draped on one leg, with one leg and upper body completely bare.

1. 1. 2. Cassiopeia and the Tritons

The last mosaic unearthed towards the road was "Cassiopeia and the Tritons" (Figure 5). Cassiopeia is depicted standing upon an oyster shell borne by two Tritons, one young and one old. At the bottom of the composition is a horse-legged, fish-tailed mythological sea creature. Cassiopeia's himation is draped only across one leg, while her other leg and her torso are bare. She is holding her long black hair, which falls over her shoulders, with both hands bent from the elbow; there is a gold crown on her head and she is wearing a necklace decorated with large stones. Like the Nereids, Cassiopeia is wearing armbands, bracelets and anklets. At the bottom of the stage is Eros, who is extending a mirror to Cassiopeia; above her head is the inscription, "Cassiopeia" (ΚΑCCΙΕΠΙΑ) in ancient Greek. In the lower part of the scene are three large fish made of tesserae in green, yellow and blue tones. The inverse reflection of the direction of sea creatures and fish in the mosaic indicates that they are moving in the water. Cassiopeia, depicted as being carried in an oyster shell by two Tritons, one old and one young, was the wife of Cepheus, King of Ethiopia (Palestine). In mythology, Cassiopeia, who was known for her arrogance, claimed that she was more beautiful than the Nereids; thus, a beauty contest was held, which Cassiopeia won. This angered Poseidon, who sent floods to Cassiopeia's lands as well as a monster to threaten her daughter Andromeda (Kerenly, 1999: p. 49). In the mosaic, Cassiopeia is borne in an oyster shell by two Tritons; this, along with the crown on her head and a necklace of large stones around her neck, are intended to show that she won the beauty contest.

It is rare to find a depiction of the "Beauty Pageant of Cassiopeia and the Nereids" such as that in the mosaic of the inner atrium in the House of Flaviopolis. In Anatolian mosaics, particularly in the examples found in Zeugma and Antakya, which are centres of mosaics, other renderings of this beauty pageant have not been found. "The Beauty Pageant of Cassiopeia and the Nereids" is depicted in a mosaic exhibited in the Apamea Museum in the Qualaat al-Madiq town of Hama city; in a mosaic from the Aion House in the Paphos Ancient City in the Paphos Region of Southern Cyprus; and in a mosaic exhibited in the Syrian National Museum in the Palmyra Region. The Apamea Museum mosaic has 13 figures; in this mosaic, Amymone and Poseidon are observing; the judge is Aion, the god of time. At the end of the competition, Cassiopeia is crowned the winner, as seen in the mosaic depictions. The mosaic is dated to the 4th century AD (Dunbabin, 1999: pp. 169-170).

The mosaic in the 2-1-2 order, located in the banquet hall of a Roman villa called "Aion House" in the ancient city of Paphos in Cyprus, consists of five rectangular panels. The central panel of the composition features a depiction of the beauty contest between Ethiopian Queen Cassiopeia and the Nereids (Ling, 1998: p. 56-57). In the scene, Zeus and Athena observe the competition from above; Aion, the god of time, is in the upper right corner. The mosaic is named after Aion because he is located in the centre of the stage. He has a halo surrounding his head. He wears a crown and carries a sceptre in his left hand. His partially preserved right hand points to Cassiopeia as the winner of the competition. While the goddess Krisis presents a cross to Kassiopeia, the sun god Helios is seen extending his hand from the sky to congratulate her (Dunbabin, 1999: p. 230-231, Bowersock, 2006: p. 33, fig. 2.1).

In the "Cassiopeia Mosaic" exhibited in the Syrian National Museum in the Palmyra Region, Cassiopeia is depicted naked from the front. Nereids on both sides look on with astonishment (Olszewski, 2013: p. 229).

Nereids, Tritons, the hippocampus and sea creatures on the mosaics unearthed in the inner atrium of the Roman House of Flaviopolis are known as "Maria Thiasos" in early Roman art. Thiasos motifs are usually related to death (Wrede, 1976: p. 147). Nereids on mosaic flooring are usually seen in peristyle Roman

villas in places used as atriums (Er, 2004: p. 42). A Nereid sits on a sea creature with a horse's body, aerating his coat with his right hand, on the mosaic flooring in the atrium in Ephesus. A Triton accompanies the composition with a pitchfork (Türkoğlu, 1999: p. 173). Mosaics depicting Nereids are especially prevalent in Mediterranean countries (Şahin, 2007: p. 88), reaching a peak in the 3rd century AD (Şahin, 2007:p. 93), as sea-themed mosaics became fashionable among both the Roman and provincial aristocracy. In Rome and the provinces, peristyle atriums were decorated like rooms. In the depiction of "Poseidon's Abduction of Amphitrite by Seahorse Hippocampus" found on the peristyle floor mosaic of House B in the Ephesus Ancient City (Erdemgil, 1986: p. 138), the Nereid Amphitrite is similar to the Nereids in the Flaviopolis House mosaics. In both depictions, the himation is depicted draped towards the lower part of the body, the upper part bare, sitting on the sea creature and holding its shawl, which takes off in the wind with its hand. Tritons and Nereids are depicted in the floor mosaics of the structure called E Bath, which is currently on display in the Hatay Museum.[4] The depictions of Nereids and Triton found in the House of Flaviopolis and the tritons and Nereids, who share almost the same procession scene in both mosaics, differ only in their names. In the Mosaic of Oceanos found at Ain Temouchent in the city of Setif in Algeria and dated to the 4th century AD, there are four Nereids depicted on both sides of the head of a large Oceanos in the centre of the panel. The two Nereids in the upper part of the scene are shown riding on sea creatures, while the two Nereids at the bottom are swimming with dolphins (Dunbabin, 1978: p. 151). In the "Mosaic of Oceanos", found in a Roman villa in Deunas, Spain, two Nereid depictions of sea creatures were found on either side of Oceanos in the composition (Lassus, 1956: p. 31).

1. 1. 3. Mosaic of Seasons

Immediately after the main composition "Passage of Nereids and Cassiopeia", there is a mosaic of the seasons. This mosaic is 3.20 x 4.90 m, connected by a double braid on the east side of this scene (Figure 6). The mosaic features six square panels surrounded by a double braid. All six panels are connected by a swastika motif formed by the intertwining of the braids. In the first of the panels, from west to east, is depicted a frontal figure of a boy with blond hair, nude, turning his head to the level of his left shoulder and wearing a green cloak on his shoulders. The figure holds a sickle in his right hand and a sheaf of wheat in his left hand. There are ears of wheat in the lower part. Teros (ΘΕΡΟC), "Summer", is written on the upper part of the figure. On the second panel, there is a well-built boy with blond hair, nude, with an orange cloak on his shoulders, standing still and facing the other naked figure. The child holds a sickle in his left hand while holding two bunches of grapes in his right hand. Metoporon (ΜΕΘΟΠΩΡΟΝ), "Autumn" is written above the boy's head. The third panel is in the centre of this mosaic and features a portrait of a woman from the front, with her head slightly turned towards her right shoulder, dressed in a burgundy dress and a yellow vest (Figure 7). This figure, with the inscription Eutekneia (ΕΥΤΕ ΚΝΕΙΑ), "Good Descent, With a Noble Background", in the upper part of the scene, is the personification of the noble, blue blood concept. In the fourth panel, a naked, blond-haired, red-cheeked boy with a black cloak on his shoulder is holding a burgundy net with both hands. There are stylized flowers on the floor on both sides and the inscription Ear (ΑΙΑΡ) "Spring" at the top of the board. On the fifth panel, there is a depiction of an old woman standing with a slightly left frontal view, with her head covered and a headscarf extending from her shoulders to her arms and back. The woman is depicted with a bowl in her right hand and two amphorae standing on the ground in front of her and is pouring olive oil into a grey container. Keimon (ΧΕΙΜΩΝ), "Winter" is written above the woman. The depictions on the four sides of the female figure in the centre are personifications symbolizing the seasons. Each season is personified according to agricultural and seasonal activities. On the sixth panel, a naked, blond-haired boy with a dark cloak on his shoulder holds a bunch of grapes in his right hand and a partridge in his left. A black radish is located under the grape bunch. On the left of the figure is the inscription ΕΥΤΥ ΧΩΣΧΡΩ, "Infinite Abundance"; this figure is the personification of the concept of abundance (Figure 8).

The seasons, which are personified in mosaics in Anatolia and in Mediterranean countries, appear frequently in the Roman Period, during which celebrations were held by the aristocracy at the

4 For detailed information about the Hatay E Bath mosaics, see. Levi, 1945: p. 269-270.

beginning of the seasons. Flowers in spring, the grape festival in autumn and the wheat festival in summer were the most celebrated occasions (Parrish, 1984: p. 21). The use of seasons in domestic mosaics as a reflection of holidays was fashionable during the Roman Period. The centralized abstract concepts of the seasons are ideal figures that fill the architecture and decorations (Hanfmann, 1951: p. 211). Since the seasons are always seen as symbols of happiness and prosperity, they are often featured in ornaments and mosaics.

Mythological subjects are depicted in the first five panels of the mosaics, which are still exhibited in the Hatay Archaeology Museum and entered into the literature as the "Zemini Kırmızı Kaplamalı Ev (House with Red Floor)". These were found in the form of nine panels in a room belonging to the Roman House in the Daphne Ancient City. Seasons are depicted on the panels[5]. He is holding a kantharos in his left hand As in the Daphne Mosaic, boys are depicted in the "Mosaic of the Seasons", one of the mosaics in the House of Flaviopolis and the children don't have wings. The child representing the summer months is holding wheat sheaves and a sickle; the figure representing the winter months is clothed. That the figure representing autumn is holding a sickle in one hand and bunches of grapes in the other indicates that it has common features with the season's mosaics found in Daphne.

As well, in the Amisos seasons mosaic, Achilles-Thetis is personified and shown in the corners of the panel. The seasons are depicted as female busts. In the mosaic, a crown of vines and grapes on the head of the female signifies autumn; summer is signified by a crown of spikes, and a flower crown signifies spring. In winter, the woman is fully clothed and covers her head with the coat she wears (Şahin, 2004: p. 20-21). In the Amisos mosaic, the seasons are personified by women, and by children in the Flaviopolis and Daphne mosaics. However, the symbols of agricultural seasons such as grapes, sickles, wheat, flowers and clothed figures are consistent. In the Flaviopolis mosaics, the names of the seasons are also written on the heads of the figures, a feature not seen in the Amisos and Daphne mosaics. In the mosaics of Antakya, Amisos and Flaviopolis, the seasons are always confined by a double braid border; it is of interest that these borders are the same.

Eutekneia (ΕΥΤΕ ΚΝΕΙΑ), depicted in the Flaviopolis House mosaics, right in the centre of the Mosaic of the Seasons, is a figure of 'a Noble Past of Good Bloodline'. This figure is the personification of the royal/noble concept and is frequently seen especially in the Late Roman Period. The personification of the saviour concept (Levi, 1945: pp. 304-306) is seen in the "Soteria Mosaic" belonging to the cold (frigidarium) section of a bath found in Antakya (the mosaic is now exhibited in the Hatay Archaeology Museum); the "Megalopsyche Mosaic", located in the centre of the Yakto Mosaic in the Yakto Villa in Harbiye, depicts the personification of the supreme spirit and generosity.[6]

The Mosaic of the Seasons and the Passage of the Nereids - Cassiopeia and Tritons are divided into rectangular panels in a large composition and surrounded by a wide border with geometric and zigzag motifs (Figure 9). In the south of the Mosaic of the Seasons, the bottom part of a fountain paved with opus sectile and the lower part of a fountain with a volute chamfer made of limestone were unearthed.

1. 1. 4. Mosaic of Animals

The Mosaic of the Animals measures 6.20 x3.15 cm in the northeast-southwest direction, to the east of the ornamental pool, to the south of the Mosaic of the Seasons. It is divided into 12 rectangular and square panels. There are depictions of lion, deer, leopard, kneeling bulls, tiger and bear on the panels, as well as wheels of fortune (triskeles), zigzag motifs and Solomon's Knots (Figure 10).

This mosaic area, which was discovered during the sounding excavation of the Hatay Archaeology Museum in 2016, was partially destroyed by the concrete foundation of the house on the parcel. The composition consists of Solomon's Knot in a circle from north to south; a bull with horses in a rectangular panel (only the head part of which is completely destroyed); and a blue, yellow, red and white passion flower motif in the centre of the circle. In the centre of the rectangular panel measuring 78 x 46 cm to the east of this motif is a running deer in yellow and brown colours with a tree behind it. In the centre of the 110 x 70 cm rectangular panel to the west of the passion flower motif is a bear, in

5 Levi,1945. For detailed information, see p. 85-87.

6 Levi, 1945: p. 337-339. For detailed information about the Soteria Mosaic, see p. 337-339.

maroon and yellow colours; its outstretched claws give an impression of motion, and the area of the mosaic featuring its hind legs has been damaged. There is a Solomon Knot in the centre of the circle, and a grey and black leopard with a collar around its neck in the centre of the 110 x 70 cm rectangular panel. Again, in the centre, to the east of the passion flower motif in blue, yellow, red and white, is a running tiger (the area of the mosaic bearing its head has been damaged) in a rectangular panel; a kneeling bull in red, white, yellow and black in the centre of a 110 x 70 cm rectangular panel to the west of the passionflower motif, followed by a second Solomon Knot motif in the middle of the circle. In the centre of a rectangular panel measuring 110 x 77 cm is a running lion in red, yellow and black; to the east of this depiction is a diagonal decoration in yellow, red, black and white, set in a rectangular panel.

There is also an ornamental pool in the middle of the inner atrium of the Flaviopolis House. The ornamental pool consists of intertwined small shallow pools. There is a thick wall outside and a narrow pool inside the wall, and a section in the middle of the pool built with an inner wall, part of which is half-moon shaped. The top of the outer wall is covered with mosaics in geometric motifs, and the base of the inner pool is covered with square terracotta tiles. Half of the ornamental pool continues to the bottom of the street in the west, although only a small part of it in the north has been uncovered. The plan of the ornamental pool cannot be determined, as excavations have not yet been carried out on the street.

In the west of the villa's inner atrium, only the northern edge of the banquet hall of the villa is exposed, 3-4 cm higher than the inner atrium. The dining hall, which is covered with mosaics, extends towards a main avenue to its west; only one corner of it was uncovered within the parcel. The tiles of the mosaic feature geometric motifs, which is understood from the thick exterior curb where it belongs to a large-sized banquet hall. On the west-south edge of this border is the scene of "The Lion Hunt of Aeneas and Dido". Below this scene is an inscription, the last two lines of which are damaged and indecipherable. On the exposed edge of the second border surrounding the main stage and at the corner of the border, a figure of a maenad dancing on a sphere was found in the section where the wave belt formed an ellipse shape (Figure 11).

1. 2. Mosaics in the Banquet Hall of the House of Flaviopolis

1. 2. 1. Aeneas and Dido's Lion Hunt

The main composition in the great banquet hall (the triclinium) remained under the road. On the southern edge of the thick exterior frame of this banquet hall mosaic is a mosaic depicting "Aeneas and Dido's Lion Hunt" set in a rectangular panel bordered by a row of ivy leaves (Figure 12). In the main scene, there are three figures riding horses in the same direction. The first figure is Aeneas, wearing a helmet and a blue cloak and holding a spear in his right hand. Above his head is the inscription, "Aeneas" (AINIAC) (Figure 13). The middle figure is Dido, who also holds a spear in her right hand. The area of the mosaic featuring Dido's body has been damaged. The inscription "Dido" (ΔΙΔΟ) is written above this figure (Figure 14). The third figure on the panel is Ascanius, the son of Aeneas, who is wearing a helmeted blue cloak and a yellow robe. Ascanius' right hand, holding a bow, is reaching out. "Askanios" (ACKANIOC) is inscribed above this figure (Figure 15). Running alongside the three riders is a hunting dog with a leash on its neck; the dog is moving towards the lion, which has been shot by Ascanius with an arrow and is lying bloodied on the ground. The tiny details in the mosaic, including the blood flowing from the lion's back, attest to the fine workmanship in the mosaic.

Aeneas is the hero of Virgil's "Epic of Aeneas". In the 12-chapter volume, Virgil recounts the story of the Trojan hero Aeneas, from the time he and his father and son fled with survivors of the Battle of Troy to their subsequent settlement near Rome. In Virgil's epic, Aeneas reaches Carthage seven years after fleeing Troy. He encounters Dido, the daughter of the King of Carthage, and they fall in love. But Aeneas must leave Carthage and Dido, despairing, kills herself (Akşit, 1965: pp. 30-55).

Virgil's story of Aeneas and Dido is depicted in the mosaic belonging to the frigidarium of a villa bathhouse; the mosaic is now in the Somerset Country Museum in England. The mosaics are dated to the 4th century AD. The mosaic, called the "Low Ham Mosaic", presents a narrative story in five panels. In the first panel, there

is the scene where Aeneas lifts the crown on the ship, which he will present to Dido as a gift, and a scene where Aeneas sails to Carthage. In the first scene of the middle panel, Aeneas's son Ascanius and his mother Venus meet with Dido, in the middle the scene where Venus gives orders to Eros to destroy the love of Dido and Aeneas, the embrace of Dido and Aeneas, and in the last big scene at the bottom, The hunting scene of Dido and Aeneas takes place (Dunbabin, 1999: pp. 96-98) (Ling, 1988: pp. 113-114).

Similar to the mosaic depicting the "Lion Hunt of Aeneas and Dido" unearthed in the House of Flaviopolis, the Low Ham Mosaic features a rendering of Aeneas, Dido and Ascanius on horseback, cloaks flying in the air to indicate movement. In the House of Flaviopolis, the moment of the hunting scene of the three figures depicted on horseback is characterized.

Under the aforementioned mosaic is a four-line inscription in ancient Greek (the third and fourth line have been damaged and are indecipherable) that was found inside a tabula ansata. "ΓΕΓΟΝΕΚΑΛΩCΜΕΤΑΠΟΛΟΥΔΕ ΚΑ ΜΑΤΟΥΟΜΕΝΚΑΜΑΤΟC ΔΥCΤΡΟΥΙΚΑΔΙ ΠΑΡΗΛ ΘΕΝΤΟΔ...ΔΙΑΜΕΝΙΔ..." The translation of the inscription, per Prof. Dr Hamdi Sayar is as follows: "EY METAPOLOUDES! TURN INTO A BEAUTIFUL WORK (sweat blood). WORK, THE 20TH DAY OF THE MONTH DYSTROS CAME...". The most important part of the inscription, which would have provided the date, was entirely destroyed.

Inside the outer thick border consisting of geometric motifs and on the southern edge of a second square border surrounding the main composition in the middle of nested ellipses is a standing figure of a maenad. The maenad, wearing a chiton, appears to be dancing upon a sphere while holding a rod (Figure 11).

1. 2. 2. Mosaic with Geometric Pattern

To the north of the seasons mosaic, a room built with rubble stones supported by cut stones was unearthed. The room's floor is covered with mosaics; the outer curb of the mosaic is surrounded by a geometric border of triangles, quadrilaterals and squares on a dark background. The main composition in the middle is also divided into rectangular, square and rectangular panels, with geometric decorations in the middle of the panels; the pelta is decorated with swastika motifs.

2. General Assessment

The Nereids, Tritons, hippocampuses and other sea creatures depicted in the mosaics unearthed in the atrium of the villa are known as "Maria Thiasos" in the Early Roman art. Thiasos motifs are usually related to death (Wrede, 1976: p. 147). Nereids on the mosaic flooring were seen in peristyle Roman villas in spaces used as atriums (Er, 2004: p. 42). On the mosaic floor in the atrium in Ephesus, a nereid is sitting on a sea creature with the body of a horse, fanning her cloak with her right hand. The composition also features a Triton holding a trident. Mosaics depicting nereids were especially prevalent in Mediterranean countries (Şahin, 2007: p. 88 - 93), reaching a peak in the 3rd century AD, when sea-themed mosaics became fashionable among the Roman and provincial aristocracy. In Rome and the provinces, peristyle atriums were decorated like a room. In the depiction of "Poseidon's Abduction of Amphitrite by Seahorse Hippocampus" found on the peristyle floor mosaic of House B in the Ephesus Ancient City (Erdemgil, 1986: p. 138), the Nereid girl Amphitrite is similar to the Nereids in the Flaviopolis House mosaics. In both depictions, her himation is draped upon the lower part of her body while her torso is bare. She is sitting on the sea creature holding its scarf which takes off in the wind with its hand.

Tritons and nereids were depicted on the floor mosaics of the bath structure called the E Bath, which was found during excavations carried out by the French in Antakya and its environs in 1934[7].

Also in the villa's banquet hall mosaic, a maenad is depicted dancing along the curb of the main composition. Maenads, also known as Bacchantes, were the most mysterious members of the Dionysian cult. The adjective was also used for women who became ecstatic and uninhibited under the influence of the god, appearing to others as though they had gone mad. (Erhat, 1975: p. 45). In many scenes depicting Dionysius and his followers, maenads are shown dancing, playing tambourines or instruments adorned with bells on the edges called tympanum (Aygüneş, 2006: p. 17).

7 Levi, 1945. For Nereids in E Bath mosaics, see p. 269-270.

Conclusion

Mosaics adorning the floors of homes, villas, public baths, pools and fountains were an indicator of wealth, power, vanity and status during the Roman Period; these mosaics also communicate valuable information and details on these ancient cities. A majority of the mosaics and remains discovered in the settlement area of the ancient city of Flaviopolis, were found as a result of the sounding excavation in the Dere District in the centre of Kadirli, block 237, parcel 38, in 2015, and during scientific excavations carried out on a plot of 630 m2 between 2018 and 2020. It was concluded that the mosaics and remains belonged to the House of Flaviopolis. In this house, the uncovered interior atrium, the banquet hall and a room are covered with mosaics featuring mythological scenes, domestic and wild animals, seasonal personifications, and geometric motifs. From the frescoes and marble fragments found in the excavations, it is believed that the walls of the Roman House, especially those of the inner atrium, were covered with frescoes and marbles. Only a narrow 100 m2 section of the Flaviopolis House was unearthed during the excavations on the plot, and the remains and mosaics of the house extend towards a large street open to traffic in the west, a small street in the south, and today's buildings. The mosaics and architectural ruins found in the Flaviopolis House belong to the same period. In the excavations, the interior atrium, the ornamental pool, and the banquet hall were uncovered at the same elevation.

The 'animals' mosaic, located in the inner atrium, is combined with the 'seasons' mosaic and the outer curb of the other mosaic at the end of both compositions at the base. The 'seasons' mosaic is depicted with the same outer border and inner border connection as the mosaic depicting the nereids and Cassiopeia. These mosaics in the inner atrium are positioned to the north and west of the ornamental pool in the south. Both scenes are given in the inner atrium as an elongated composition. There is a 2-3 cm elevation difference between Aeneas in the dining hall and other depictions in the inner atrium. A long gap was found between the two mosaics, which may belong to the remains of a wall. Roman houses usually had an ornamental pool in the centre, an inner atrium surrounding the pool, and a banquet hall leading to the atrium. The architecture of the Flaviopolis Roman House, of which only a small part has been unearthed, also covers the same parts of the house, and it is difficult to draw up a plan in its current form. Small finds unearthed during the excavations also prove that the mosaics and remains belong to a single Roman House.

In the mosaics of the ancient city of Flaviopolis, particularly the border compositions are the same as those seen in mosaics in Zeugma, Antakya and Ephesus and other European and North African settlements under Roman rule. The borders surrounding the mosaics are the ornamental elements in the standard mosaic repertoire (Dunbabin, 1999: p. 169-173). Large areas are left for borders. Generally, selections from the repertoire of mosaic artists' were made by the owners of homes in the villas and borders; in the main compositions with figures, mythological subjects were handled in line with the wishes of the villa owner. In geometric mosaics, selections were made from the repertoire of mosaic artists. In mosaics, personification is characteristic, as seen in the mosaic of the seasons.

In the examination of the general characteristics of the Flaviopolis mosaics, mosaic masters used a realist style in the figures, featuring a wide range of colours. Although the realism in the figures is an indication of the mosaic artist's mastery, that the hands of the tritons are especially large compared to their bodies may be an indication that local masters were also involved in laying the mosaics. While glass tesserae are often used in jewellery and crowns in the mythological depictions in the mosaic of the inner atrium, it is noteworthy that the dancing maenad depicted in the banquet hall in the elliptical-shaped area that limits this depiction, and that Aeneas's clothing is composed entirely of turquoise glass tesserae.

The mosaics of the Flaviopolis House were unearthed in the south of the parcel during scientific excavations; in the light of architectural remains, including small finds and coins, it is possible to date it to the end of the 3rd century AD and the beginning of the 4th century. As noted, only a part of the inner atrium of a large Roman House, a side of the ornamental pool, a very small part of the banquet hall, a fountain and a part of a room were unearthed, as noted, in an area of 100 m². In the north of the house, a settlement area of 500 m2 of the parcel was found, as well as presenting the fashion of the period, and the architecture, fauna, flora,

and iconography seen in public and civil buildings. With the mosaics and remains uncovered after a three-year excavation, it has been proven that the ancient city of Flaviopolis, whose location could not be precisely localized by the scientific community, was located in the region of the Bağ, Tufanpaşa and Pazar neighbourhoods of the Kadirli district. The mythological depictions in the mosaics unearthed in the ancient city of Flaviopolis are artistically comparable to the Zeugma and Hatay mosaics from the same region. With the projects to be carried out, the parcel containing the mosaics will be converted into an open-air museum and opened to visitors, drawing attention to the region, and leading to the significant removal of other remains of the ancient city of Flaviopolis.

Which can be dated to the later period (5th-6th century AD) according to the Roman House based on coins and other finds.

In the settlement, the walls of which were dominated by a simple structure of rubble stones, a room with rubble stones and a room with three workshops in the middle of the circle, possibly using the columns of the "Roman House", a kitchen with three stoves and a small toilet (latrium) were found in the south of the room.

To date, the mosaics and the remains of a house of the ancient city of Flaviopolis are the earliest remains of Flaviopolis, which was discovered in the Kadirli district, that can illuminate the Roman period and provide important information on the period. In addition, the scene of "The Lion Hunt of Aeneas and Dido" was seen for the first time in this Roman House in Anatolia. The Low Ham Mosaic in the Somerset Country Museum in England is the second example found in publication scans. Again, a mosaic describing the beauty contest of the nereids and Cassiopeia has not been found in Anatolia until now. Only in mosaics exhibited in the Aion House in Paphos Ancient City in Paphos in Southern Cyprus, in the Apamea Museum in Syria and in the Syrian National Museum, are sections from this beauty pageant are depicted. Therefore, the two depictions found in the House of Flaviopolis are rare examples.

It can be stated that the House of Flaviopolis belonged to a noble, rich and aristocratic family based on its mosaic depictions and architecture. The mosaics adorning the floors of villas, baths and public buildings in the provinces during the Roman Period also provide information regarding the cultural and economic structure of that period,

** I would like to express my endless thanks to Osmaniye Museum experts Zeynep KAVUKLU, Ümit KAYIŞOĞLU, Halil ÇOŞAR, Oğuz GEZGİN, Kürşat KOÇER, Murat SERİN and other archaeologist-restorator friends and all other teammates who worked with great devotion in the excavations carried out in the ancient city of Flaviopolis.*

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Appendix

Figure 1: Excavation Site

Figure 2: Nereid named İksaropieh "ΧΑΡΟΠΗ"

Figure 3: Nereid named Terpiomeneh (ΤΕΡΠΟΜΕΝΗ)

Figure 4: Nereid named Treitonis (ΤΡΕΙΤΩΝΙC)

Figure 5: The Mosaic of Cassiopeia and Tritons

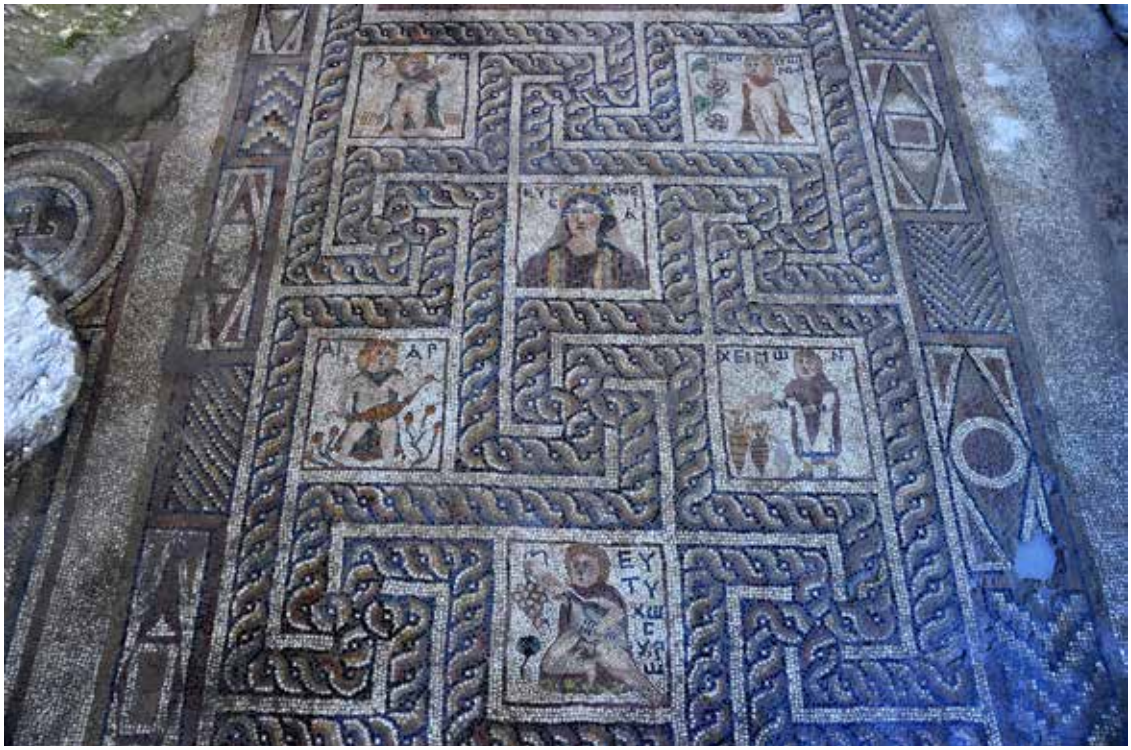

Figure 6: Mosaic of the Seasons

Figure 7: The Personification of the Concept of Nobility in the Mosaic of the Seasons

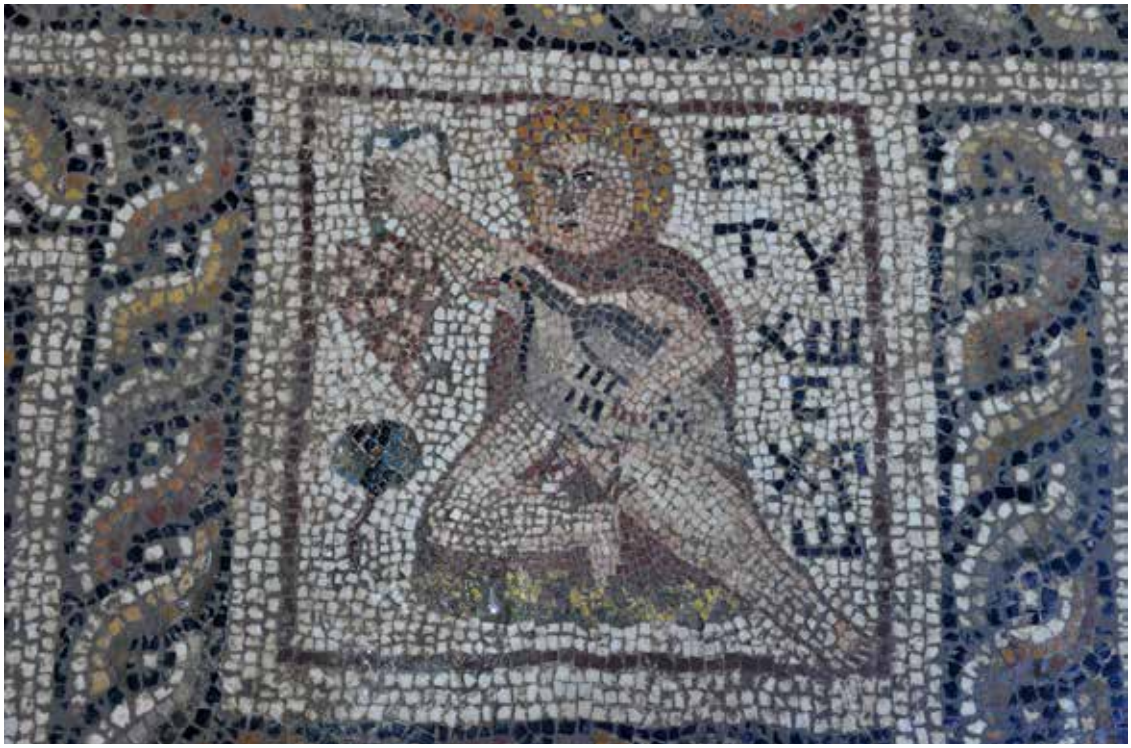

Figure 8: The Personification of the Concept of Fertility in the Mosaic of the Seasons

Figure 9: Mosaics of the Seasons and the Passage of the Nereids

Figure 10: The Mosaic of the Animals

Figure 11: Figure of the Maenad (?)

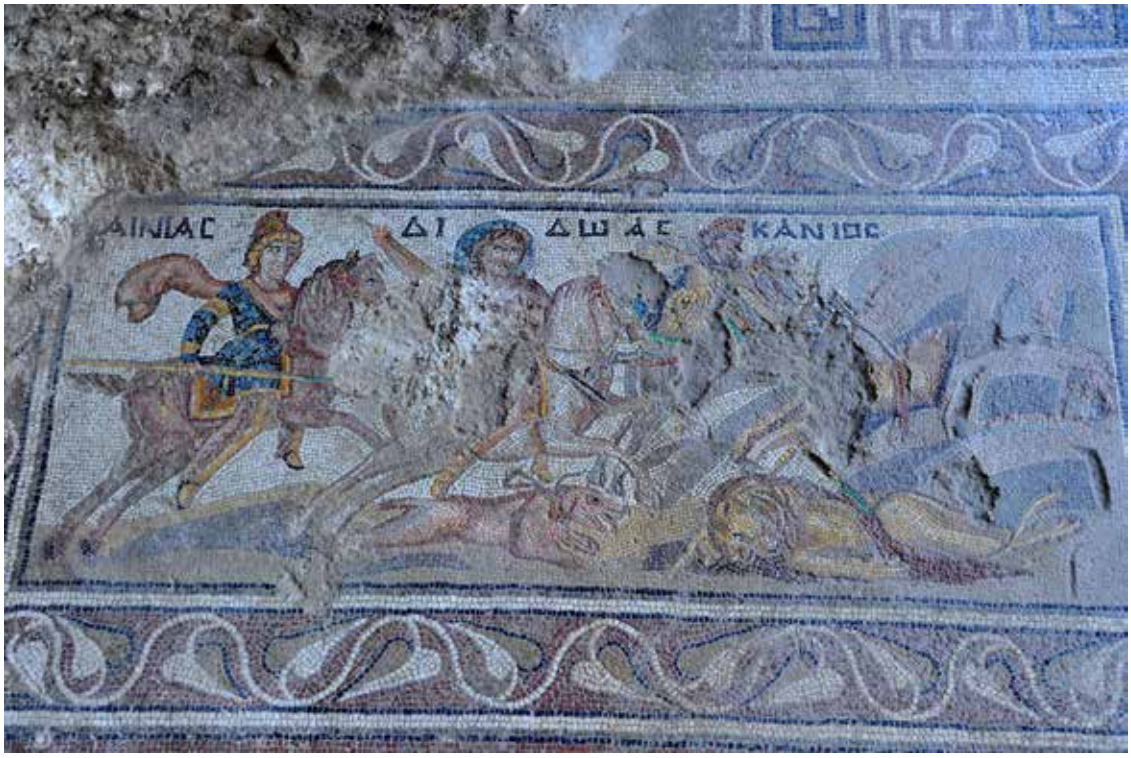

Figure 12: Aeneas and Dido's Lion Hunt Scene

Figure 13: The Figure of Aeneas

Figure 14: The Figure of Dido

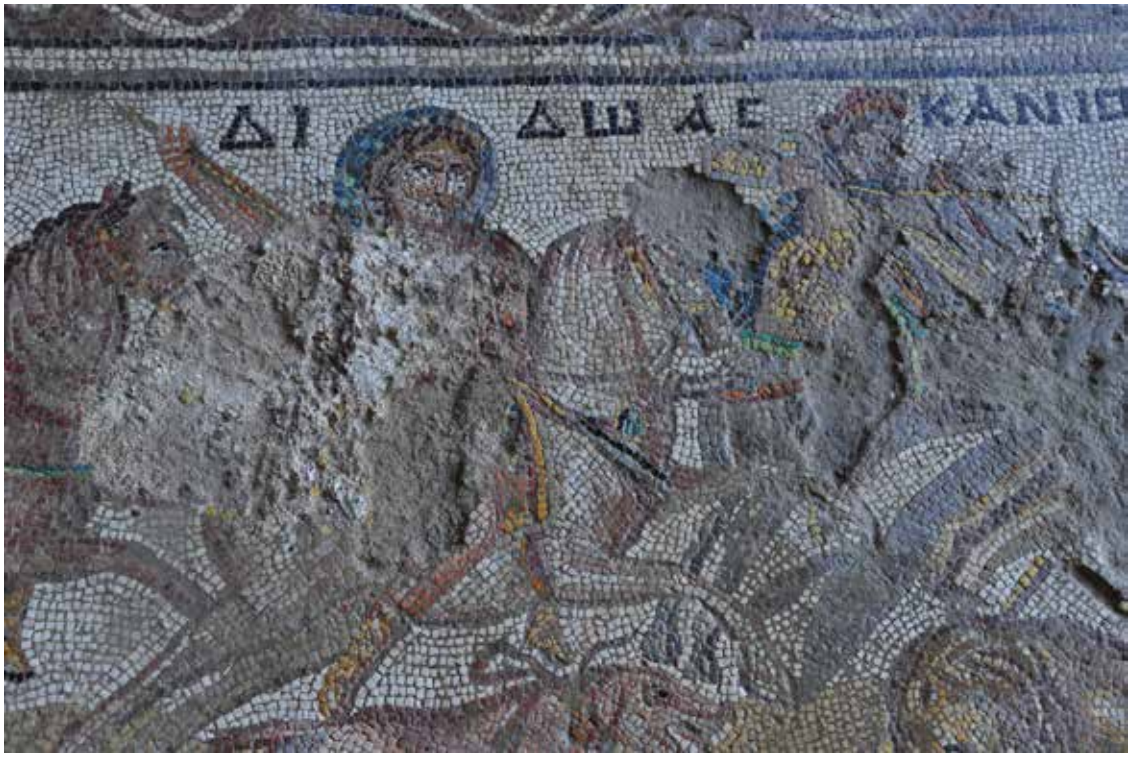

Figure 15: The Figure of Askanios (Right)

Moon (Crescent) and Star in Ottoman Flags

Elif ÇETİN


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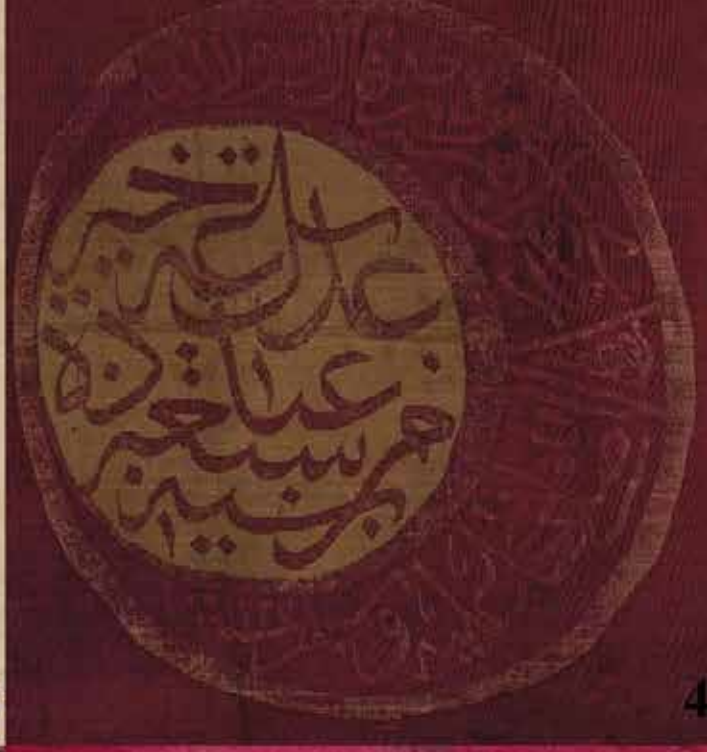
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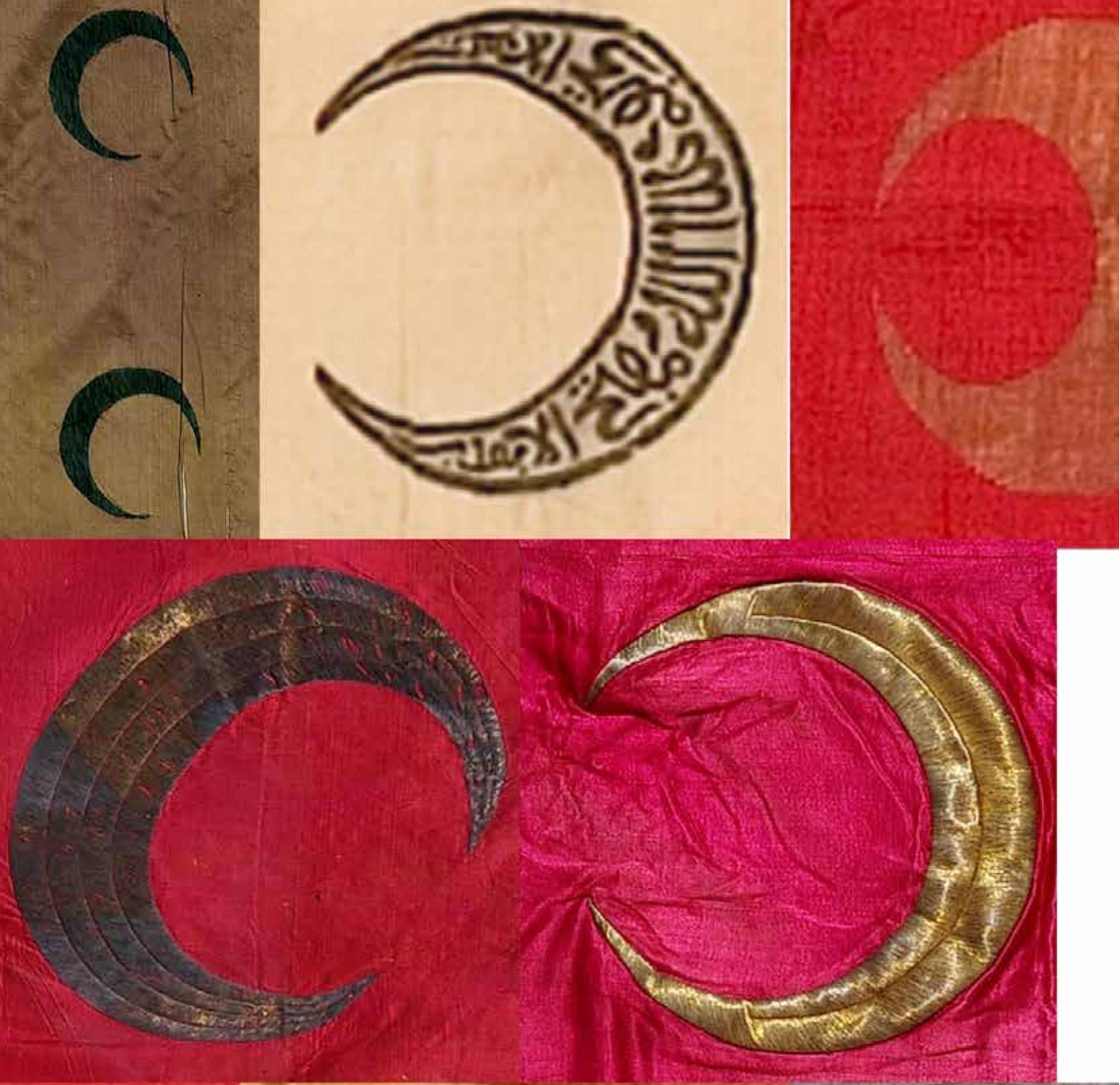

Osmanlı Bayraklarında Ay ve Ay Yıldız[1]*

Moon (Crescent) and Star in Ottoman Flags

Elif ÇETİN**

Özet

Ayın hilal biçiminin tek başına kullanımı Osman Gazi'ye kadar geriye götürebiliyorken, yanına yıldızın ilave edilmesi kaynaklarda genel olarak 18. yüzyıla tarihlendirilmiştir. Bu konuda genel kabul, ay yıldızın resmi kullanımının III. Selim Dönemi'nden sonra olduğu ve bu tarihten sonra yaygınlaştığıdır. Bu tarihten sonra bayraklarda; ayın şekli, yıldız köşe sayısının ve yıldız ile ayın konumlarının değişkenlik gösterdiği uygulamaların çok sayıda örneği mevcuttur. Ancak bu tarihten önceki uygulamalar hakkında bilgiler kısıtlıdır. Bayraklar fiziki nitelikleri ve kullanım alanları sebebiyle tahribata açıktır. Bu sebeple var olan (olması gereken) bayraklardan daha az miktarı günümüze gelebilmiştir. Günümüze gelebilen bayrakların azlığının yanında birçoğunun teşhir edilememesi de bayraklar hakkında bilgileri kısıtlamaktadır. Bu durumda bayrak görsellerinin nasıl olduğu sorusunun cevabını veren tasvirler ön plana çıkmaktadır. III. Selim Dönemi'nden öncesine ait birbirinden farklı tasvirlerde günümüzdekine benzer şekilde tek bir kompozisyonda resmedilen ay yıldızlı bayraklar tespit edilmiştir. Betimlemelerin birbirine bu denli benzeyişi tesadüfî olamayacağına göre III. Selim Dönemi'nden öncesinde de ay yıldızın günümüzdekine çok yakın biçimde kullanıldığını söylemek yanlış olmayacaktır. Bu çalışmada ay ve ay yıldızın Osmanlı bayraklarındaki kullanımı 20 bayrak örneği ve 16.-19. yüzyıl zaman aralığındaki 7 ay yıldız betimlemesi üzerinden incelenmiştir.

Anahtar Kelimeler: Ay Yıldız, Türk Bayrağı, Bayrak, Hilal, III. Selim

Abstract

While the use of the single crescent was seen as early as in Osman Gazi period, the addition of the star next to the crescent is generally dated to the 18th century in the sources. In this regard, the general acceptance is that the official use of the crescent star was after the III. Selim period and it became widespread thereafter. After this date, there are many examples of applications in which the shape of the crescent, the number of star vertices, and the positions of the star and crescent varied in flags. However, information about the applications before this date is limited. Flags are vulnerable to damage due to their physical qualities and areas of use. For this reason, fewer of the existing flags have survived to the present day. In addition to the scarcity of flags that have survived until today, the fact that most of them cannot be displayed limits the information about them. In this case, the depictions that answer the question "How were the flags designed?" have come to the fore. There are some crescent and star flags depicted in a single composition, similarly to today, in different examples from the pre-Selim era. Since the depictions cannot be so similar to each other by chance, it would not be wrong to say that, before the period of III. Selim, the crescent and star were being used in a very similar way to the present day. In this study, the use of crescent and star in Ottoman flags was examined through 20 flag samples and 7 crescent and star depictions from the 16th and 19th centuries.

Key Words: Crescent and Star, Turkish Flag, Flag, Crescent, III. Selim

1 The star and crescent in the miniature on the 102b leaf of the Şehname-i Selim Han manuscript, which is mentioned in this study, depicting the Ottoman Navy's Landing of Troops in Cyprus, was previously held by us under the title "On a Miniature with a Crescent and Star Decorated" at the 17th Medieval-Turkish Period Excavations and was presented as a paper at the Art History Studies Symposium (October 2013) However, in the intervening period, the paper book has not been published.

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** Expert Art Historian, Rapporteur, Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums, Samsun Regional Board of Conservation of Cultural Heritage, Kale Mahallesi, Sanat Sokak No: 6 İlkadım, SAMSUN, elif.sahinturk@ktb.gov.tr, ORCID ID: 0000-0002-4795-6777

Introduction

Focused on the crescent and star of Ottoman flags, this study has two aims. The first and primary objective is to show that the use of the crescent and star on Ottoman flags started in the reign of Selim III (1789-1807), (1789-1807) contradicting the common view that that these symbols have been used from at least the 16th century, per historic records and sources. The second objective is to more closely observe Ottoman flags and the examples exhibiting the crescent and star motif. For this purpose, seven of the crescent and star representations detected in the study were examined. The most important feature of these depictions is their striking similarity to the crescent and star on today's official Turkish flag; of these examples, five are from the period of Selim III.

After Selim III, examples of a crescent and star motif similar to those of today were seen in both surviving fabric flags and in pictorial depictions. The Military Museum and the Naval Museum both exhibit flags that have an open crescent-shaped moon, as it is today, and the star (the number of points vary). Ilkay Karatepe wrote on the flags in the Military Museum (Karatepe, 2008). In addition, it is possible to see examples of post-18th century flags in which the crescent and star are similar to today's, in the Flags and Sanjaks brochure issued by the Military Museum and Cultural Site (Anonim, 2008).

The flags in the Naval Museum were examined in a Master's thesis by Müge Kılıçkaya. In the Naval Museum, there is a 470 x 900 cm flag, captured in the Battle of Lepant (1571) and later brought to Turkey. This five-sided flag with a red centre and crescent-shaped medallions is similar to the five-sided Zulfiqar flags examined in this study (Kılıçkaya, 2007: p.113). Examples with crescents and five-pointed stars, like today's flags, are dated to the end of the 19th century and the beginning of the 20th century (Kılıçkaya, 2007: pp.139-142).

Another study in which flags are examined collectively is a Master's thesis on flags in the Tokat Museum called Embroidered Sanjak Samples (İşlemeli Sancak Örnekleri). In this publication, fifteen flags dating from the 17th, 19th and 20th centuries were examined (Çoban, 2013). The crescent and star motifs seen in these flags are from the later dates.

In the article, Art and Symbolism in a Group Sect Banner (Bir Grup Tarikat Sancağında Sanat ve Sembolizm), seventeen flags associated with the sect were examined; these flags also feature a crescent and a star. However, all the flags date to the 19th and 20th centuries (Uysal and Ceylan Erol, 2021: p. 562-586).

Fevzi Kurtoğlu's book The Turkish Flag and the Crescent is significant in that it includes photographs and drawings of flags in Topkapı Palace, albeit in black and white (Kurtoğlu, 1992). Two examples of the flags examined in Kurtoğlu's book were re-examined in this study and these images are provided in the tables in this paper (Kurtoğlu, 1992: p.72-76). (TSM 824) (Catalogue No: 3) (TSM 2) (Catalogue No: 2).

Depictions of a single crescent or a group of crescents are observed starting from the 15th century, via studies referring flag drawings from previous dates (Haseki A. Süheyl, 1929). Hüsnü Tengüz, who painted the Ottoman Navy, depicts Seydi Ali Reis's War with the Portuguese (1553) in a volume completed in 1918, and depicts the red flag with a Zulfiqar used by the Navy, as well as the burgee flags with multiple crescents (Anonymous, 1995: p. 35). In the same volume, an Ottoman Navy painting circa 1831 shows that the flags of the navy are rectangular and feature a crescent and star (Anonymous, 1995: p. 65).

In Katip Çelebi's Tuhfet'ül Kibar (1657), a first-hand source of the period, flags with open-ended crescents in single and multiple groups are flown by the naval forces of Bayezid II (For Katip Çelebi's drawing, see Bostan, 2005: p. 29).

Examples showing the use of the crescent and star together are mainly from the period of Selim III and later. In this study, five of the seven visuals examined under the title of Depictions and Descriptions are significant in that they are dated prior to the 18th century. Another important reason to assess the examined images is that they closely resemble the current flag of Turkey, which has a crescent and star on a red background.

With regard to the crescent and star symbols, there have been a number of studies on the use of the crescent and star together, the position of the Turkish moon, and whether the crescent's left or right orientation

is significant. (Eyice, 1987: p. 31- 66; Eyice, 1991: p. 297-298; Khalil Khalid, 1926a: p. 158-182; Halil Hâlid, 1926b: p. 36-51; Mollaoğlu, 1997: p. 537-545). In this study, the focus is on how the crescent and star are positioned within the flags.

1. Nature, Scope and Boundaries of the Subject

There are various opinions that the Turkish crescent and star motif originated with Central Asian Turks (Esin, 1972: p. 313-359; Tosyevizade Rifat Osman, 1931: p. 446-458) and Islam (Mollaoğlu, 1997: p. 537-545). The existence of examples showing that the Turks used the crescent and star prior to the onset of Islam confirms that the origin of the Turkish crescent and star is in Central Asia. However, regardless of its origin, it is certain that the crescent and star were beloved by the Turks and thus deployed in various configurations to the present day.

In the study, the word flag/ensign, which has various other meanings today, generally indicates a flag. This study was carried out in two stages on both fabric flag samples and on visual/written descriptions of flags; the analysed samples were catalogued and any existing information from the inventory entries was added.

Fevzi Kurtoğlu, who previously examined some of the flags in the Topkapı Palace Museum, states that there are more than 100 flags/ensigns in the Museum. In his book, Kurtoğlu presents and describes the visuals of approximately fifteen flags in the Topkapı Palace (Kurtoğlu, 1992). As there are no flags exhibited in Topkapı Palace as of today,[1] the existence or current status of the flags noted in Kurtoğlu's book is unknown. In 2013 and 2021, an application was submitted to the Topkapı Palace Museum Directorate regarding the flags with crescent depictions and publications from the Ottoman Period; nine flags were granted permission for examination in this study.

It was observed that the inventory entry numbered 1/824 in the application submitted to the Topkapı Palace Museum Directorate in 2013, was 117/824 in the 2021 application. While it is not known for certain whether the inventory numbering is the same, based on the description and photographs, it was understood that a sample (TSM 824) (Catalogue No: 3) examined in this study, and which is believed to have belonged to Yavuz Sultan Selim, was also examined by Kurtoğlu (Kurtoğlu, 1992: p. 76). In one example (TSM 2) (Catalogue No: 2), the definitions and information in the inventory entries are similar. However, the example is a drawing rather than a photograph (Kurtoğlu, 1992: p. 72). The visuals of four flags from the Topkapı Palace Museum examined in the study were previously published (TSM 824; 2621; 945, 3 Şahintürk, 2011: f. 175, f. 176, f. 178, f. 179) (Catalogue No: 3, 9, 6, 7). To date, there are no studies in which the images of five flags from Topkapı Palace have been published (TSM 1, 2, 10680, 10673, 10163) (Figures 1, 2, 3, 4, 5) (Catalogue No: 1, 2, 14, 19, 18). For this reason, it is believed that these flags were published for the first time with their visuals.

Flag samples found in the Amasya Museum with a flag on display were previously examined by Amasya Museum expert Muzaffer Doğanbaş (Doğanbaş, 2006: p. 30-36). In this study, unlike in the Doğanbaş evaluation, the three flags in the museum are handled within the framework of the crescent and star; the inventory books of ethnographic artifacts were scanned, and other elements, apart from flags, in which the crescent and star were present were determined.

The star and crescent displayed in the pear-shaped realm of the Amasya Museum, where the Silverhacıköy Banner is displayed, has five corners (Inv. No: 75). Also on display is a silver inlaid rifle butt with an open-ended crescent and flower-shaped six-armed star on the right side (Inv. F.81.3.1). Another displayed crescent and star (Inv. No: F-62-1-1) is a right-handed crescent and seven-pointed star on a silver-handled pistol. The inventory entry notes that the pistol is inscribed with the date 1895. In addition, there are examples of late-dated crescent and star motifs that came into existence via different materials in the warehouse of the Amasya Museum. These items include a Brass Seal Inv. No: F. 78. 38. 22 (199) 3019; an Ottoman Bracelet Inv. F. 78. 33. 45; a Silver Medallion Inv. No: F.79.10.47; and a Bronze Seal Inv. No: F. 79. 10. 226.

The inventory entries for the flag and the crescent and star artifacts exhibited in the Kuvay-ı Milliye (National Forces) Museum are now accessible. Alamet-i Farika Nişanı (The Medal of Distinguishing Characteristics)

1 20.09.2021

(Inv. 2001/6 E) and the Dardanelles War Medal (Inv. 2010/448) are the items exhibited in the Museum.

In addition, the ethnographic artifact inventory books of the Milas Museum, which has a star and crescent flag in its displays, were accessed and this information is included in this study.

Investigations were also conducted at the Sinop Archaeological Museum; while the Museum does not have flags on display, inventories of the ethnographic works were scanned and elements in which the crescent and star were observed were identified. A silver amulet (inventory number E: 8-2-72) features a slim moon with its tip pointing upwards and a six-pointed star inside; there is a crescent-star medal from the Sultan Reşat Period (inventory number E:1-1-73); and, in the garden display of the Museum, is an inscription dated H1227/M1812 with the crescent and an eight-pointed star.

The Ottoman flags and other materials (engravings, paintings, maps, etc.) depicting the flags that are in museums and collections abroad were examined through open access opportunities, and thus the symbols on these flags were also studied.

2. The Moon and the Crescent and Star on Ottoman Flags

A flag is a sign that symbolizes a nation, a state or an army. The sign derives its identity from the colours, shapes, symbols and signs included on it, thus revealing qualities related to the elements it serves. The lives, beliefs, customs and traditions of societies and the symbols of the objects they consider sacred play an important role in shaping these images. In Turkish societies, the flag continued to be used with an emphasis on "independence", with different forms and characteristics serving essentially the same purpose. As in other Turkish states, it is known that there are many flags with different characteristics, used together, which were an indicator of independence in the Ottoman Empire. The various symbols on these flags include but are not limited to moons, stars, suns, inscriptions, Zulfiqars, weapons and keys. Before moving on to flags with the crescent moon (crescent) which appear prior to the foundation of the state, and the crescent and star motifs reaching to the present day, it is necessary to acknowledge the notes in the sources regarding the crescent and star.

The crescent, which derives from the Arabic root "hell" and indicates "shouting, emerging, rejoicing", refers to the particular shape of the moon, a pointed arc, before and after the moon's conjunction (Gök and Kutlu, 2005: p. 275). The crescent symbol, which has a significant position in pre-Islamic Turkish culture, was perceived with the onset of Islam as evidence for the existence of God and was deployed with many other elements (Bozkurt, 1997: p. 13).

Ottoman flags deploy the moon in a variety of forms. The crescent shape of the moon, used since the early period, is sometimes described as open-ended, sometimes closed, and seen in single, double, and triple groups, with or without complementary stars, sometimes at the focal point and sometimes as a complement to the composition.

The sources regarding the addition of the star to the side of the moon (on the flags), as seen today, differ in the information provided. The use of the crescent and star in flags is generally dated to the 18th century (İlkin, 1938: p. 13; Köprülü, 1944: p. 418; Köprülü, 1992: p. 253; Özdemir,1973: p. 40; Haseki A. Suheyl,1929: p. 9; Tosyevizade Rifat Osman, 1931: p. 446).

Semavi Eyice says that the official use of the crescent and star began during the reign of Mustafa III (1757-1774) and became widespread during the reigns of Abdülhamit I (1774-1789) and Selim III (1789-1807) (Eyice, 1991: p. 298). It is the common view that the star and crescent came into official use via a law enacted during the reign of Selim III (1789-1807). (Eyice, 1991: p. 298; Özdemir, 1973: p. 40; Soysal, 2010: s. 225). It is stated that, during that time, the star had eight points and became five-pointed from the reign of Abdülmecid (Köprülü, 1992: p. 253; Anonymous, 1953: p. 3).

That the crescent and star were given official qualification during the time of Selim III creates a false impression that these symbols were first used at this time, and not earlier (Arseven, 1975: p. 198; Mahmud Şevket, 1983: p. 27; Sertoğlu, 1958: p. 37; Soysal, 2010: p. 224-225). Examples showing the use of the crescent and star in flags subsequent to the Selim Period are significantly more numerous than in the previous

periods. However, this is true for all flags, not just flags bearing the crescent and star.

The sources provide information attesting to the use of the crescent and star even prior to the reign of Selim III. But this information does not clearly indicate the colour and form of the flag. Eyice, who offers the most comprehensive information on the crescent and star, states that the Ottoman Empire was symbolized by the crescent and star in the West in the 16th century, that there are shapes resembling crescent and star motifs in some Turkish sanjaks, and that the sign of the star and crescent was used in manner similar to its use today (together with the Zulfiqar) (Eyice, 1987: p. 40-42). Tosyevizade Rifat Osman states that the crescent and star were used together in flags before Selim III, but they were removed after 1794 and then added again during the Selim III period. He also states that the star shape of the star and crescent flag was eliminated once and used again as the state flag (Tosyevizade Rifat Osman, 1931: p. 447-448).

There were many flags used simultaneously in the Ottoman Empire. Of these, the flags belonging to the sultan are called the Sanjaks of the Reign, and also described as Livay-ı Saadet, Elviye-i Sultani, Alemhay-ı Osmani, Alem-i Padişahi Alemhay-ı Osmani, Alem-i Sultani. Sultans had their own flags since Osman Gazi (Uzunçarşılı, 1984: p. 240). At the beginning of the reign of Suleiman the Magnificent, two of the Sultan's four sanjaks accompanied him during the war; the

other two belonged to the Janissaries. After Ayas Pasha was appointed as the second vizier, two more sanjaks were added (Çelik, 2009: p. 100). It is understood from the sources of the period that their number was

seven during the reign of Suleiman the Magnificent (Çelik, 2009: p. 95). It became customary to cut new sultanate sanjaks before excursions (Selânikî, 1999: p. 589). Selanikî states that the sultanate sanjaks included one white sanjak, two red sanjaks, one green sanjak, two tawny green and red sanjaks, and one yellow pied and red sanjak (Selânikî, 1999: p. 612).

Princes (şehzades) also had designated flags. There are sources stating that these flags were green (Sümer, 1954: p. 3398; Uzunçarşılı, 1943: p. 246). However, princely flags in red and black colours are also seen in some miniatures (Şahintürk, 2011: p. 184).

Viziers and commanders had their own flags, bestowed by the sultan. Information regarding these flags is available via the written sources of the period. (Çelik, 2009: p. 49, 85; Yılmazer, 2003: p. 384).

Army units also had designated flags bestowed by the sultan. The characteristics of these flags also indicated distinctions between rank and military class (Köprülü, 1944: p. 416; Mahmud Şevket, 1983: p. 25).

Considering that sultans, princes, commanders, viziers, important statesmen, army units, cities, and even communities all had their own flags, it seems obvious that more flags should have survived to the present.

However, even high quality, well-made flags (silk, satin, sateen, etc.) were often taken into battle and thus impacted by that environment.[2] It must be considered that flags could fall into the hands of the enemy, or were torn or otherwise damaged during battles, and thus did not survive. In addition, the dearth of surviving flags can be attributed to the events during the abolition of the Janissary Corps in 1826. During this time, various signs, titles, ranks, flags, etc. and other elements belonging to the Janissaries were destroyed to prevent a Janissary revival. Even the use of the word flag was forbidden on the grounds that it suggested a Janissary division (Köprülü, 1944: p. 418; Uzunçarşılı, 1943: p. 558-559). Instead, the Turkish word "sanjak (sancak)" was preferred (Flag, 1952: p. 467; Primary, 1938: p. 186).

3. Catalogue

The moon, crescent and stars on Ottoman flags were examined in two stages. The first stage was carried out through images of actual flag samples found in museums and collections. The second stage was conducted on depicted and/or described Ottoman flags.

3.1.The Moon Crescent and Star on Ottoman Flags in Museums and Collections

A total of twenty flags from museums and other collections were examined and the shapes of the crescent and star on the flags are explained. Of the

twenty flag samples examined, nine are in the Topkapı Palace Museum, three in the Amasya Museum, one in the Balıkesir National Forces Museum, one in the Milas Museum, two in the Khalili Collection, three in the Metropolitan Museum, and one in the Vienna Arsenal Museum.

Applications submitted to the Topkapı Palace Museum permitted access to inventory entries and the visual usage permission for nine flags. Unfortunately, there is no information on measurements or dates in the inventory entries. The information provided by inventory entries, including material, colour, and composition definitions, is explained in the catalogue section in the table provided in this paper. The inventory number is provided as obtained from the Museum. The flags are embroidered on both sides, but only one side is seen in the photographs. The flag belonging to Selim the Resolute (Yavuz Sultan Selim) (TSM 824), identified thanks to the publications in Topkapı Palace, was examined in different publications (Kurtoğlu, 1992: p.76; Öner, n.d.: p. 53; Çalık, 1973: p. 17-18). The dating of this flag was possible due to the writing in its realm (Kurtoğlu, 1992: p. 76; Tezcan and Tezcan, 1991: p. 88- 89). Although sources note that, in past years, the flag and the world were displayed together, today[3] only the realm is exhibited in the Weapons Section.

Two of the three flags featuring the moon, crescent and star in the Amasya Museum are exhibited; one flag is in storage. The inventory receipts contain size and material information. However, there are no flag photos or dating.

The flag (Catalogue No: 17) in the Balıkesir Kuvay-ı Milliye Museum is exhibited folded in four. The inventory receipt provides the flag's dimensions but no date information. Both sides of the inventory receipt are photographed. On the pink side of the flag is a tughra in the middle of two crescents and stars.[4]

Inventory information for the flag exhibited in the Milas Museum (Catalogue No: 16) is provided in a pdf format; it includes the dimensions of the flag and a photograph of one side of the flag. This flag is displayed in Milas Mansion.

Information on flags in the Khalili Collection and in the Metropolitan Museum was available via the respective websites of these institutions, and included dimensions, photographs, and dates. The flags examined in this section are provided in a table so that they can be examined more holistically.

3 20.09.2021.

4 This tughra is described on the receipt as the sultan's tughra. As the inventory photo is not clear, it was determined that the flag was opened by Liability Supervisor Museum Researcher Elife GÜMÜŞ and it was determined that the tughra did not belong to the sultan and therefore did not report a date.

Table 1: Ottoman Flags with the Moon, Crescent and Star[5]

Catalogue No	Period Date	Bulunduğu Yer / Envanter No	Malzeme / Form	Tanımı	Fotoğraf/Ölçü
1	Early Ottoman	National Palaces TSM Weapons Collection 1/01. (Flag) TSM 1-01 Sanjak	Dark Red Silk Fabric Rectangular	Three crescents sewn from yellow glazed fabric on top of dark red coloured silk fabric (per the inventory entry). The open-ended crescents face the flag's wing edge, that is, in the outer direction. There are no measurements in the inventory entry. However, when the photograph and chart in the entry are compared, it is possible to estimate the width as 1.5 m and the length as approximately 2 m. There is no historical information, but it is thought to belong to the Early Ottoman Period. There is distortion towards the wing edge of the flag and at the bottom, where the crescent is (TSM Env, 117/1). (Figure 1)	
2	Erken Osmanlı	National Palaces TSM Weapons Collection 1/02. (Sanjak)	Cream Silk Pentagonal	Made of cream-coloured silk fabric. Between the two borders towards the fly end, is a woven inscription: "Help is from Allah. Victory is near. Give good news to the believers!" A part of a verse from the Surah As-Saf is written. In the middle, in an open-ended crescent, it is written "Allahu miftahul ebvââb": "Allah is the key to (all) doors". The direction of the crescent is facing the hoist end The inventory entry does not contain measurements or date information. It is thought to be from the Early Ottoman Period. There is serious damage on the fly edge, especially the lower part of the crescent. It is also understood that some sections are separated from each other (TSM Env, 117/2). In Kurtoğlu's book, there is a drawing of a flag made of cream silk fabric, with inventory entry No:1/2, which is displayed in the Gun Hall and which fits this description. Measurements for the flag are not provided (Kurtoğlu, 1992: p.72). (Figure 2)	
3	Selim the Resolute (1512-1520)	National Palaces TSM Weapons Collection 1/824. (Sanjak)	Dark Red Silk Edges Baghdad Silk Pentagonal	A dark red background featuring the Zulfiqar and the Surah Al-Fath; the Surah Al-Fath is also at the pole side. Made of silk Baghdad fabric; two circles in green and two embroidered circles. Others are cut and edged with yellow thread (TSM Env, 117/824). The five-sided flag is surrounded by yellow border with crescents and stars inside. The Zulfiqar's hilt features a crescent and a star (Figure 6: Open-ended Moon and Stars 10/11). There are stars in the middle of two of the moons arranged in a medallion shape; these are complementary elements. It is evident from the fabric of the flag that it has undergone many repairs. The border surrounding the flag is inconsistent. At the tip of the Zulfiqar, the difference in material and pattern towards the fly end is evident. Kurtoğlu states that this flag, measuring 400x250 cm, is the sultanate sanjak belonging to Yavuz Sultan Selim, and that there is the inscription "Essultan İbnissultan Selim ibn Bayazıt İbn Mehmet İbni Murat Haledallahu milkehu" in its realm (Kurtoğlu, 1992: p. 76). 76).	 400x250 cm

5 The flags are ordered according to dates. First, the museums' inventory entries were adhered to. Where available, the period (Early-Late) is provided for samples that lack dating information. Flags for which date/period could not be determined were sorted according to similarities. The terms and their explanations in the table and text are as follows: Fly end: Outer edge of the flag; Fly Edge: Post or send side of the flag; Length of Flag: The length of the flag between the edge of the tip and the fly; Width of Flag: The length of the flag between the lower edge and the upper edge.

4	1683	Metropolitan Museum Access Number 11.181.1	Red Silk Pentagonal	The Zulfiqar and the medallions around it are located in the middle, close to the flag's edge. Above the Zulfiqar is written the last part of verse 95 of the Surah an-Nisā, "Ve faddalallahul mucahidine alal kaıdine ecran azima (And Allah has given the mujahids a great reward over the sitting ones)",and at the bottom is verse 96 of the Surah an-Nisā: "Deracatin minhu ve magfiraten ve rahmet. Ve kanallahu gafuran rahima. (His degree is forgiveness and mercy, and Allah is Most Forgiving, Most Merciful)". Although the writing on the Zulfiqar is from the 95-96th verses of Surah an-Nisā, the flag's inventory entry states that the verses are numbers 97-98 (Banner ca.1683, 2021, par.1). 1683, 2021, par.1). The writing on the Zulfiqar is the same as the writing seen on the flag from the Khalili Collection (TXT 36) (Catalogue No: 5). There is a crescent-shaped moon and an eight-pointed star on the inside of the medallion, which is stylized in the form of a flower towards the edge of the Zulfiqar (Figure 7: Closed Moon and Stars 1). Crescents surround the outer part of this medallion. On both sides of the Zulfiqar are medallion-shaped crescents with closed ends. The direction of the crescent is facing the fly end of the flag. There is writing both inside and around the crescent. These writings could not be read. The inventory entry states the flag's date as 1683 (Banner ca. 1683, 2021, par.1). (Figure 7: Closed Moon and Stars 10).	 199,8x169,5 cm
5	late 17th - early 19th century	Khalili Collection TXT 36	Red Silk	The background is red silk. The lower area of the Zulfiqar features is a crescent in the middle of a flower motif and an eight-pointed star inside. Above the Zulfiqar is written the last part of verse 95 of the Surah an-Nisā: "Ve faddalallahul mucahidine alal kaıdine ecran azima. (And Allah has given the mujahids a great reward over the sitting ones)"; below is verse 96 of Surah an-Nisā: "Deracatin minhu ve magfiraten ve rahmet. Ve kanallahu gafuran rahima (His degree is forgiveness and mercy, and Allah is Most Forgiving, Most Merciful)". The direction of the complementary crescent is towards the fly end (Banner txt 36, 2020). The composition in this flag closely resembles that of the flag from the Metropolitan Museum. (Me.11.181.1) (Catalogue No: 4) (Figure 7: Closed Moon and Stars 1/2)	 189 cmx59 cm
6		National Palaces TSM Weapons Collection 1/945. (Big Flag)	Green and Golden Red Pentagon	Green/gold/red background. There are embroidered moons and ray-shaped stars; The Word of Tawhid is written inside the moons. In the middle of the flag, the Surah Fatah is written inside a red border on a green background. Six (closed form) moons are used as complementary elements. The inventory entry did not contain measurements or dates, but it is noted as a "big flag" (TSM, Env, 117/945). (Figure 7: Closed Moon and Stars 12/13/14).	
7		National Palaces TSM Weapons Collection 1/03 (Sanjak)	Cream Silk and Tempered Fabric Pentagonal	Cream-coloured silk and tempered fabric. The border features inscriptions in silver thread on an olive background in a four-corner frame. On one side, several verses from the beginning of the Surah Al-Fath are woven into the fabric. In the middle of the olive-coloured crescent (it is written in this way in the inventory) is the word "Tawhid" in silver thread. Towards the fly end, the moon's tip is open, facing left; but the centre is swollen. In the composition of the flag ornament, there are symmetrical small crescent-shaped moons. The inventory entry did not contain measurements or dates; however, when the photograph and chart in the inventory information are compared, it appears that the height is approx. 4 m and width approx 2 m (TSM, Env, 117/3). (Figure 8: Open Ended Single Crescents 3/6/7).	

8	late 18th - early 19th century	Metropolitan Museum Access Number 14.43.2	Red Silk Quadrant	A square flag with a yellow circle in the centre; a star and crescent inside. The crescent and star are similar to those seen today. The five-pointed star is inside the crescent. The direction of the crescent is towards the fly end of the flag, as it is today (Banner 18th or early, 2021, par.1). (Figure 6: Crescent and Stars 9)	 111,1x126,4 cm
9		National Palaces TSM Weapons Collection 1/2621.	Green Dark Red and Glitter Woven Pentagonal	Green cloth, pointed tip, inscribed with the Ayet-el Kürsi. In the middle, the Word of Tawhid is woven in dark red and silver thread. The inventory entry did not contain measurements or dates; however, when the photograph and chart in the inventory entry are compared, it is understood that the height is approx. 4 m and the width more than 2 m. Two crescents complement the circles in the flag's composition. The ends of the crescents are closed and form a medallion. There are inscriptions on the crescent and the medallion. Inside the circle is written "Rıdvanullahi teala aleyhim ecmaıyn. (May Allah's blessing be upon all of them)". On one of the crescents, is the inscription "Adlü sâatin hayrun min ıbâdeti seb'îne seneten. (One hour of justice is better than seventy years of supererogatory worship)" (TSM Inv. 117/2621). This hadith was applied in the same way on different flags. (Me. 1976.312) (Catalogue No: 11); (Kh. Txt 224) (Catalogue No: 10), (Figure 7: Closed Moon and Stars 3/4/5) In a circle on the hoist end is the inscription "Vemâ tevfîgîî illâ billâh. (My success is only by Allah's will)" (TSM Inv. 117/2621).	
10	1810	Khalili Collection TXT 224	Beige and Dark Red Silk Pentagonal	Beige and dark red silk fabric. Two closed-form crescents in the middle of the composition. They have taken the form of medallions at the ends of the crescent; both the crescent and its interior feature inscriptions. Crescents seen here are complementary elements. In the middle row is the flag of Eyyüb El Ensari. By making a generalization in the flag's inventory entry, it is stated that the flag is dated 1253 Hijri and 1819/1820 Gregorian. However, the date 1225 (M.1810) is read on one of the crescents on the flag (Banner, Txt 224, 2021). (Figure 7: Closed Moons and Stars 3). In the crescent in the middle is the inscription "Adlü sâatin hayrun min ıbâdeti seb'îne seneten. (One hour of justice is better than seventy years of supererogatory worship.)" This hadith was applied in the same way on different flags. (Figure 7: Closed Moon and Stars 3/4/5). The names of the four khalifahs are written in the form of a medallion on the lower and upper edges of the flag. A similar example of this composition is seen in TSM 2621 (Catalogue No: 9) on a red background. However, the flag of Eyyüb El Ensari, which is present on this flag, is not on the TSM 2621 flag.	 216x316 cm
11	1819-1820	Khalili Collection Access Number 1976. 312	Red and Green Silk Pentagonal	Red background and green border. There is a Zulfiqar towards the fly end, and complementary medallions above the Zulfiqar, some of which are closed-form crescents. There are inscriptions inside and in the middle of the crescent, consisting of "Adlü sâatin hayrun min ıbâdeti seb'îne seneten. (One hour of justice is better than seventy years of supererogatory worship)". The direction of the crescent is oriented towards the fly end (Banner dated A. H., 2021, par.1). The hadith seen here has been applied in the same way on different flags (Figure 7: Closed Moon and Stars 3/4/5).	 294x217,2 cm

12	late 19th - early 20th century	Amasya Museum Display E- 2018-3	Yellow Glitter Quadrant	The inventory entry refers to this flag as the Shkodra Sanjak because it is from the Amasya Redif Battalion sent to Shkodra. One side is embroidered. The tip of the crescent is open and faces left. There is a tughra with the inscription "Lâ ilâhe illallah Muhammedürrasulullah" in the middle. The flag, which was on display in the past years, is kept in the warehouse today. A part of the 44th verse of Surah Al-Mu'min, "I entrust my affairs to Allah, Indeed, Allah is Seeing of [His] servants.", is inscribed inside the crescent (AM Env, E-2018-3). (Figure 8: Open Ended Single Crescents 8). The date of the flag is not included in the inventory entry. However, the Amasya Redif Battalion was established on 15 July 1835 (Bolat: 2000, p. 27), so the flag most likely dates after this (Photo: Mert MECEK Archive).	 142 cmx176 cm
13	1906	Amasya Museum Display E-2018-2	Burgundy - Green Sateen Quadrant	Rectangular flag in burgundy and green satin fabric, embroidered on one side, including within a 21-cm green section. The green part has an inscription and the names of the four caliphs are inscribed in circles at the corners. The Ottoman coat of arms is embroidered with yellow thread in the burgundy section in the flag's centre. On the coat of arms, the star and crescent are embroidered in green thread. Tassels are 10 cm (AM Env, E-2018-2). (Figure 6: Open Moon and Stars 6) The phrase "Long live my Sultan" is on the upper part of the coat of arms, on the right of the phrase "Bismillahirrahmanirrahim 1324 (1906)"; and on the left, "Nasrun minallahi ve fethun karip." (Doğanbaş, 2006: p. 31).	 175cmx135 cm
14	V. Mehmed (1909-1918)	National Palaces TSM Weapons Collection 1/10680.	Red, White Quadrant	According to the inventory entry, both sides are embroidered. The flag is white on one side, with red borders and Mehmed Reşat's tughra. The other side features a red and white bordered crescent and star. The edges are tasselled. When the photograph and chart are compared in the inventory entry, the height appears to be more than 1 m. The direction of the crescent-shaped moon faces the fly end, that is, outward. The moon and five-pointed star are the same as today (TSM Inv, 117/10680). (Figure 3)	
15	V. Mehmed (1909-1918)	Amasya Museum Display E-2018-1	Red Sateen Quadrant	According to the inventory entry, the Amasya Vilayet Banner is made of red sateen fabric and inscribed on both sides. The obverse features the Sultan Reşat tughra in yellow glitter. The Word of Tawhid is written on the back. Inside the tughra, there is a crescent and a five-pointed star on both sides. In addition, there are C-shaped crescents and a star in the lower part of the tughra. There is a lot of distortion on the flag with glittery fringes (AM, Env, E-2018-1). (Figure 6: Open Moon and Stars 12/13)	 132 cmx117 cm
16	V. Mehmed (1909-1918)	Milas Museum 2015/75 E Esk. 392	Red, White Green Silk Quadrant	Red silk fabric lined and double-sided. On one side, the tughra is embroidered in white; next to the tughra is a green embroidered crescent and star, and four lines of inscriptions embroidered in dark blue. On one side of the flag, "Le ileheillallahuhakkunnasrullahe ve fethun garib ve beşşril müminin. Muhamedun nasüllullah". On the other side, there is a salawat in the upper part, a basmala in the centre, and the name of Sultan Reşat under the tughra. It is in a worn condition. The crescent seen here is an open-ended crescent with a six-pointed star. The direction of the crescent is upward (MM, Env, 2015/75 E). (Figure 6: Open Moon and Stars 5)	 120 cmx100 cm

17	late 19th - early 20th century	Balıkesir Kuway-i Milliye Museum Hall - 2 Display 2006/437	Pink-Green Atlas Sateen Quadrant	Satin fabric embroidered on both sides. One side is pink, the other green. The pink side features a tughra within a square border and the crescent-star motif above and below the tughra. In the tugra is verse 30 from the Surah An-Naml: "Innehu min suleymane ve innehu bismillahir rahmanir Rahim. (It [The letter] is from Solomon, and it reads: 'In the Name of Allah-the Most Compassionate, Most Merciful.)". Two crescent and star motifs facing each other are above the inscription "Lailaheillallah" on the green side. It is embroidered with yellow thread. The crescent and five-pointed stars in both directions are similar to those seen today. The inventory entry notes that the flag belonged to the 42nd battalion of the Ottoman Empire and that it was dedicated to the Çarşı Mosque. The flag's date is unknown, but it is believed to belong to the late 19th - early 20th century. It is exhibited in a folded square (BM 2006/437). (Figure 6: Open Moon and Stars 7/14) (Photo: Elife Silver Archive)	 152 cmx166 cm
18	late 19th - early 20th century	National Palaces TSM Weapons Collection 1/10163.	Dark Red Silk Quadrant	Dark red silk fabric. In the centre is a crescent embroidered on both sides with yellow thread in the middle. The flag is fringed on three sides with silver thread. The inventory entry contains no date or measurement information, but when the photograph and charts in the inventory entry are compared, it is understood that the flag measures approx. 1 m x 1 m. The crescent seen here is as it is today and is in a single composition. It is believed that this small-sized flag may belong to the late 19th - early 20th century (TSM Inv, 117/10163). (Figure 5)	
19	late 19th - early 20th century	National Palaces TSM Weapons Collection 1/10673	Red Sateen Quadrant	Red satin with a moon is embroidered in silver thread on both sides. The inventory entry contains no date or measurement information, but when the photograph and charts in the inventory information are compared, it is understood that the flag's width and height are more than 1 m. The direction of the crescent faces the fly end, (right) side, as it is today. This small-sized flag is believed to belong to the late 19th - early 20th century (TSM Inv. 117/10673) (Figure 4).	
20		Vienna Arsenal Museum Unknown	Red-Pentagonal	Pentagonal in shape, with the Zulfiqar, its tip and medallion-shaped crescents in the centre. There are open-ended crescents on both sides of the Zulfiqar's hilt. The crescents are complementary elements of the composition (Kırkarlar, 2016: p.128). (Figure 7 Closed Moon and Stars 6)	

3.2. The Crescent and Star in Depictions and Descriptions

Flags are vulnerable to damage due to their physical properties. As noted earlier, written sources and surviving samples suggest the existence of numerous flags in the Ottoman Empire; but there are relatively few flags exhibited in museums, and many of these lack accurate dating information. There is also relatively little information on the quality and appearance of flags of the Early Ottoman Period. For this reason, miniatures dating from the period appear as primary sources. Period maps, paintings (especially war scenes), and engravings also provide information on the appearance of Ottoman flags. Crescents on Ottoman flags are frequently depicted in Western art; the majority of these paintings depict battle scenes.

Early examples of how the crescent and star were depicted on Ottoman flags were collected and their common points discussed. Those flags featuring only a moon were not examined; examples showing the crescent and star together as the focal point of the composition (i.e., not a complementary element) are discussed. Seven depictions of the crescent and star, similar to today's usage and forming the focal point of the flag, were identified. The earliest of these descriptions dates to the 16th century.

Information on these descriptions, and descriptions from the 16th-19th century period is provided in the table below.

Table 2: Crescent and Star in Depictions and Descriptions

Queue	Date Period	Composition	Artwork and Place	Definition	Photographs
1	1526-1527	Galleon (Miniature)	Kitab-ı Bahriye (The Nautical Book) Maritime Museum, 988 - 82 a Foil	Two flags waving on a sailing ship can be seen in **Piri Reis's Crescent and Stars Foil on the Galleon, Seen on Leaf 82a of the Naval Copy of Book No. 988 found in the Maritime Museum**, and the tip of the crescent is open. The number of vertices of the star is not understood. However, in both flags, the direction of the crescent faces the fly end. The flags are quadrangular in shape. The copy of Kitab-ı Bahriye numbered 988 is a copy of Piri Reis's work prepared in 1526 (Kitab-ı Bahriye 988, 2021, par.1). This depiction shows the use of crescent-star flags dating back to the 18th century, albeit without colour (for the drawing of Piri Reis, see. Bostan, 2005: p. 105).	
2	The first half of the 16th century	1532 Ottoman - Güns (Kőszeg) Siege (Engraving)	Getty Museum 89.GA.8	**Crescent and Star in Erhard Schön's 16th Century Engraving Describing the Ottoman - Siege of Güns in 1532** In the engraving depicting the Battle of Güns (1532), a crescent-shaped realm on the tent of Suleiman the Magnificent, and a star and crescent can be seen in the front. The engraving is registered at the Getty Museum with inventory number 89. GA.8. The tip of the crescent seen here is open. The star inside the crescent has six points. There is also a figure in the crescent. In the engraving, two flags with a single crescent and slit (burgee) are seen. However, that the crescent and star were on the tent of Suleiman the Magnificent, and not on the flags, is proof that the Ottomans were symbolized by the crescent and star. This engraving is important in that it demonstrates the use of the crescent and star (although not on the flag) in the 16th century (A Turkish Procession, 2020, par.1).	
3	1553	Book Cover (Engraving)	Profetia de i Turchi Georgijević Bartolomeo	**1553 The Crescent and Star on the Cover of the Book of Profetia de i Turchi** Semavi Eyice states that the crescent and star here were used as the coat of arms of the Ottoman Empire. This image in the book prepared by the priest Georgijević Bartolomeo is a wood engraving (citing from Göllner, Eyice, 1987: p. 59). The tip of the crescent seen here is open and facing upwards. Inside the crescent is a six-pointed star. This depiction, although not a flag, is important in that it shows that the star and crescent was used as a symbol of the Ottoman Empire.	

4	1581	Cypriot Siege of the Ottoman Navy (Miniature)	Şehname-i Selim Khan TSMK, 102 b Foil	**Şehname-i Selim Han Manuscript Describing the Anchorage of the Ottoman Navy in Limassol Bay and the Landing of Troops During the Cypriot Conquest, TSMK (A. 3595) Star and Crescent Seen in Foil 102b.** In the sea part of the composition, which reflects two parts as land and sea, two flags are depicted on a red galiot without people. Just above the galiot is the pentagonal Ottoman flag with a red background, (it is not fully understood whether it was placed on land or on the galley.) In the centre of the flag is a crescent-shaped moon and an eight-pointed star with the ends pointing to the flag's tip (left). The edges of the flag with the crescent and star are gilt on a red background, surrounded again by a gilt skipping border. This example is important as it shows that the crescent and star were also used in 16th century flags in a single composition (TSMK A.3595 y-102b). The miniature, measuring 26.2 x 21 cm, is attributed to Nakkaş (Miniaturist) Osman and Ali (Çağman, 1973: p. 425).	
5	1663	Ottoman-Venetian Wars (Table)	Doge's Palace Pietro Liberi	**The Crescent and Star in Pietro Liberi's painting** The Venetian Victory over the Turks in the Dardanelli, **depicting the Dardanelles War**, depicts the Ottoman-Venetian War. There are numerous flags of the Ottoman Empire featuring crescents. Open-ended crescents are depicted singly, in pairs and in triplets, with the Zulfiqar and a sword in the middle. One flag has a white crescent and star on a red background. The six-pointed star is next to the crescent. The crescent is facing the fly end of the flag, as it is today. The flag, which is depicted as billowing, is believed to have a pentagonal form. Also, red crescent flags are also seen in the background of the composition, similar to the ones in the foreground. These flags have star-like shapes next to the crescent, although it is not clear. (The Venetian Victory, 2021).	
6	1808-1821	İzmir Bay View (Wall Figure)	Kula Emre Village Mosque (Kula Emre Köyü Camii)	**The Star and Crescent Seen in the Murals of the Kula Emre Village Mosque, Belonging to 1808-1821** Red background crescent-star flags can be seen on sailboats in the view of İzmir Bay. Rüstem Bozer notes that the murals were made between 1808-1821/22 (Bozer, 1987: p.49). The colour of the flag is red and the crescent and star are not complementary elements; they are given in a single composition, as it is today. The flags belong to the naval power.	
7	1838/1839	Sacred Places of Judaism (Map)	The Jewish Museum Moshe Ganbash	**Star and Crescent on the Map Made by Moshe Ganbash** The painting is in The Jewish Museum. It features a steamship flying a rectangular Turkish flag with a red background, an open crescent and a six-pointed star. The crescent faces the fly end, as it does today. This map describes the holy places of Judaism and states that it was made in İstanbul (Jewish Museum Shiviti, 2021, par.1; Shiviti Moshe	

4. Comparison and Evaluation

This study of the crescent and star on Ottoman flags, was conducted with a total of twenty flag samples; fourteen are in Turkey and six are abroad. In addition, seven descriptions of flags dating from the 16th to the 19th centuries were assessed.

Examinations of the twenty fabric flags resulted in the following conclusions: The flags have four sides or five sides. Nine examples are pentagonal and ten are rectangular. In one example (Kha. Txt 36) (Catalogue No: 5), only the centre of the flag has survived and thus its overall dimension cannot be confirmed. However, similar examples suggest that this flag is pentagonal.

In the inventory of the Topkapı Palace Museum, where nine samples were examined, the flags' size and date information are not available. However, the dimensions of the flag (TSM 824) (Catalogue No: 3), allegedly belonging to the period of Selim the Resolute, is 400 x 250 cm, according to the sources. This is the largest flag among the samples. In a comparison of all flags with known dimensions, it is observed that the five-sided flags are larger than the four-sided flags, and that the sizes of pentagonal flags were getting smaller.

In the inventory, the materials of the flags are described as "silk", "sateen" and "satin". The flags' dominant background colours are mainly red and dark red, but beige-cream, green and white are also used.

In line with the examined samples, it is observed that the crescent-star was used as a compositional complement in the flags prior to the 18th century, indicating a continuity and similarity among the flags in terms of composition, colour and form. The flag template (TSM 824) (Catalogue No: 3), belonging to Selim the Resolute, is in a pentagonal form, featuring a Zulfiqar in the middle surrounded by closed moons with medallions. This flag was used frequently in the following years. (Kha. 239) (Txt 239, 2021, par.1.); (Me.11.181.1) (Catalogue No: 4); (Me. 1976.312) (Catalogue No: 11). In this template, there are examples where the central part of the Zulfiqar is the same, as well as examples depicting a different grip on the hilt. It is possible to state that there is a certain template, especially for the flags featuring the Zulfiqar, and that this template was consistently executed with only minor alterations. The pentagonal shape of the flag of Selim the Resolute was often used in reign banners, while the verses inscribed inside the medallion-shaped crescents are the same (TSM 2621) (Catalogue No: 9); (Me. 1976.312) (Catalogue No: 11); (Kha.224) (Catalogue No:10); in this respect, it appears that there is continuity in writing, form and content (Figure 7: Closed Moon and Stars 3/4/5).

The crescent shape of the moon has been used since the early period, an open-ended shape that is still used today (Catalogue No: 1); (TSM 2) (Catalogue No: 2), in a closed form to complement the medallion (TSM 824) (Catalogue No: 3); (TSM 2621) (Catalogue No: 9); (TSM 945) (Catalogue No: 6). Again, the crescent shape of the moon was frequently deployed as an ornamental detail and a complementary element in compositions (TSM 3) (Catalogue No: 7); (TSM 824) (Catalogue No: 3). The star shapes also differ. There are pointed stars, and stars in the form of rays. In some examples, the eight-pointed star in the middle of the Zulfiqar is decorated with crescent-shaped moons between the corners (Kha. 239) (Txt 239, 2021, par.1); (Kha. 36) (Catalogue No: 5); (Me.1976.312) (Catalogue No: 11) (Figure 6: Open Moon and Stars 1/2/3/4).

The flags featuring the star and crescent as the focal point of the composition date to the 18th century. (Me. 14.43.2) (Catalogue No: 8); (Mi. 2015/75) (Catalogue No: 16); (TSM 10680) (Catalogue No: 14), (BM. 2006/437) (Catalogue No: 17) (Figure 6: Open Moon and Stars 5/7/8/9).

The conclusions reached following an examination of the seven crescent and star motifs are as follows: five of the seven crescent and star depictions found in engravings, miniatures, oil paintings, wall paintings and maps belonging to the 16th-19th centuries are on the flags.

Of the remaining, one is depicted in the form of a coat of arms, and one is depicted on the sultan's tent. The commonality in these depictions is that the crescent and star are presented together, as they are today. Unlike the actual flag examples, in all these depictions, the star and crescent are the focal point of the composition. All the five crescent and star motifs depicted on the flags belong to the naval force. Except for the black and white drawing of Piri Reis, four examples feature a red background. It seems impossible that the similarity of these images, which were created at different times and

by people of different nationalities, is a coincidence. Based on the depictions, it appears that the earliest examples of the crescent and star flag were flown by the navy.

Particularly, the miniature detail in the Şehname-i Selim Han manuscript dated 1581 is important in terms of the composition's colour, form and processing.

The similarity of the crescent and the eight-pointed star embroidered on a red background with the crescent and star in the current Turkish flag is obvious, and the detail in the depiction is remarkable in this respect. This miniature is perhaps the oldest depiction of today's crescent and star in the Ottoman Empire (Figure 9).

Conclusion

The Turkish Flag Law, No. 2994 and dated 29 May 1936, decreed that the flag bear a white crescent and a star on a red background and with the entry into force of Law No. 2893 (annulling this law) on 22 September 1983, Turkey's current flag took its final shape. With this study, the different forms of the crescent and star used in the Ottoman Period in the flag, the shape of which is determined by law today, are revealed.

By examining the Ottoman flags via 20 fabric flag examples in museums and institutions worldwide, the view that Turkey's crescent-starred red flag has been used in similar ways since the 16th century has been opened to discussion. When the similarity of the crescent and star motifs in the depictions is taken together, the knowledge that the Ottoman Empire was symbolized with the crescent and star in the 16th century in the West, and the fact that after the abolition of the Janissary Corps the flag, banner, sign was destroyed or even the word "flag " was banned because it reminded of the corps, the conclusion is that the use of the crescent and star motif, within a single composition as it is today, dates from the 16th century, contrary to the widespread acceptance that it began in the 18th century.

Although such flags have been painted, drawn and otherwise represented in various mediums, it is believed that fabric flags are rarely seen due to their physical fragility, along with their loss in various battles and in the events that occurred following the abolition of the Janissary Corps. The answer to this question, yet unknown, may be found upon the release or discover of new archive records, as well as upon an expansion in the information and documents regarding such flags in museums, collections and other institutions. We hope that this study of the crescent and star relationship in flags will draw attention to the need for more research on this subject, and that it will contribute to the research on both flags and the crescent and star motif on flags.

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Appendix

Figure 1: Open End Tri-Crescent Rectangular Flag (Catalogue No: 1) (Presidency of National Palaces Administration, Topkapı Palace Museum, Weapons Collection, 117/1)

Figure 2: Pentagonal Flag with One Crescent Inscribed "Allahumiftahulebvââb": "Allah is the Key of (all) Doors" (Catalogue No: 2) (Presidency of National Palaces Administration, Topkapı Palace Museum, Weapons Collection, 117/2)

Figure 3: Rectangular Flag Embroidered on Two Sides, Belonging to the Period of Mehmet V (Catalogue No: 14) (Presidency of National Palaces Administration, Topkapı Palace Museum, Weapons Collection, 117/10680)

Figure 4: Rectangular Small Flag with Red Sateen Material (Catalogue No: 19) (Presidency of National Palaces Administration, Topkapı Palace Museum, Weapons Collection, 117/ 10673)

Figure 5: Single Crescent Red, Small Square Flag (Catalogue No:18) (Directorate of National Palaces Administration, Topkapı Palace Museum, Weapons Collection, 117/ 10163)

Figure 6: Open Moon and Stars

1: Me1976.312 **2 :** Me11.181.1 **3:** Kha. 239 **4:** Kha.36 **5:** Mi 2015 75 E **6:** AM:2018-2 **7:** BM 2006/437
8: TSM 10680 **9:** Me. 14.43.2 **10-11 :** TSM 824 **12:** AM 2018-1 **13:** AM:2018-1 **14:** BM 2006/437

Figure 7: Closed Moon and Stars

1: Me.11. 181.1	**2:** Kha. 36	**3:** Kha.224	**4:** Me. 1976.312	**5:** TSM 2621
6: Arsenal Müzesi	**7.**TSM 824	**8:**TSM 824 **9:** TSM 2621		**10:** Me.11. 181.1
11: TSM 824	**12:** TSM 945	**13:** TSM 945	**14:** TSM 945	**15:** TSM 824

Figure 8: Open Ended Single Crescents

1: TSM 1	**2:** TSM 2	**3:** TSM 3	**4:** TSM 10163
5: TSM 10673	**6:** TSM 3	**7:** TSM 3	**8:** AM 2018-3

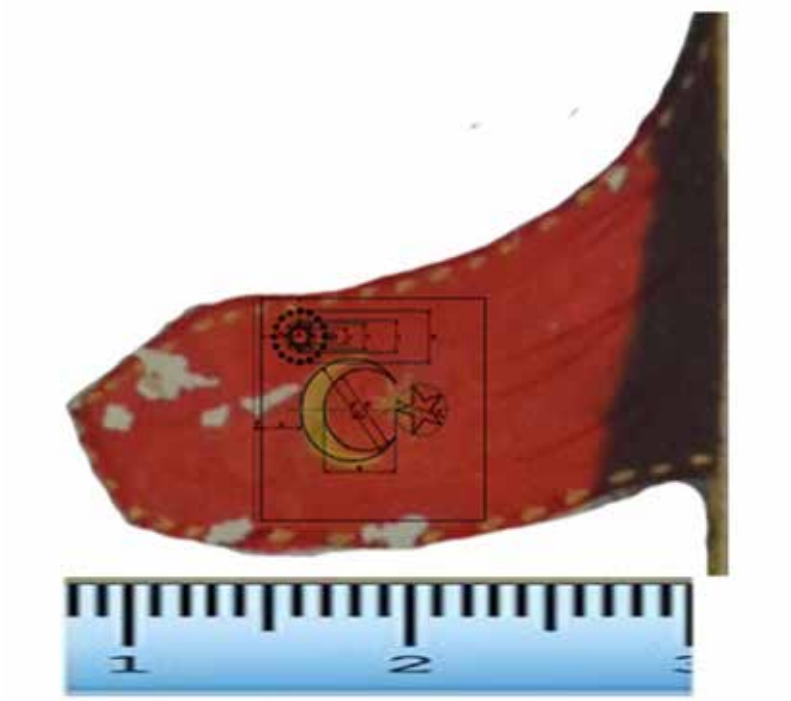

Figure 9: The Detail of the Star and Crescent Flag in the Miniature Describing the Ottoman Navy's Conquest of Cyprus, the Size Chart and Comparison of the Star and Crescent on Our Flag (TSMK, A.3595 y-102 b) (Drawing: Serdar ŞEKER)

Figure 10: Two Sides Embroidered Star and Crescent Rectangular Flag (Catalogue No: 17) (Balıkesir Kuvay-ı Milliye Museum, 2006/437) (Photo: Elife Silver Archive)

Conservation Methodology of Metallic Icons and Liturgical Objects Collection from the Hagia Sophia Museum Directorate

Irmak Güneş YÜCEİL


ДОСТОЙНО ЕСТЬ

Ayasofya Metal İkona ve Kilise Eşyaları Koleksiyonu Konservasyon Metodolojisi*

Conservation Methodology of Metallic Icons and Liturgical Objects Collection from the Hagia Sophia

Irmak Güneş YÜCEİL**

Özet

Bu çalışma, konservasyon uygulamalarında metodolojik yaklaşımın önemini vurgulamayı amaçlamaktadır. Google Arama ve Google Akademik araştırmaları ülkemizde koruma ve onarım uygulamalarına yönelik çevrimiçi yazılı kaynakların yüzde 3'ünde; çevrimiçi bilimsel yayınların ise yalnızca binde 8'inde metodolojik arka plana atıfta bulunulduğuna işaret etmektedir. İlaveten, Google Trends istatistikleri kullanıcıların ülkemizde bu konuda araştırma yapma eğilimi olmadığını ortaya koymaktadır. Makale, koruma ve onarım uygulamalarında metodoloji paylaşımına örnek teşkil etmek için bir vaka çalışmasını sistematik biçimde aktarmaktadır. Vaka çalışması 2014-2017 yılları arasında İstanbul Restorasyon ve Konservasyon Merkez ve Bölge Laboratuvar Müdürlüğü uzmanlarınca Ayasofya Müzesi Müdürlüğü metal ikona ve kilise eşyalarına yönelik konservasyon planlamasına odaklanmaktadır.

Kilise eşyalarının korunmasında karar alma süreci her bir eser grubunu kendi bağlamında analiz etmeyi ve tâbi olduğu inanış yapısı içindeki yerini kavramayı gerektirmiştir. Eserlerin malzeme, yapım tekniği, bozulma ürünleri gibi fiziki özelliklerinin yanı sıra cemaatteki ve tören içindeki hiyerarşik duruşunu kavramak ve eserleri gelecekteki potansiyel ziyaretçilerin gözünden görebilmek bu yaklaşımla mümkün olmuştur.

Uygulamalar, standart koruma basamakları olan belgeleme, tespit-teşhis, uygulama ve bakım doğrultusunda gerçekleştirilmiştir. Diğer çalışmalardan farklı olarak, bu makalede bahsi geçen aşamalar tamamlanması elzem birer amaç olarak değil, sistematik bir yaklaşımın uygulanmasını sağlayan araçlar olarak ele alınmıştır. İlaveten, uygulamada karar alma mekanizmasına etki eden unsurlar spesifik örnekler üzerinden paylaşılmıştır.

Sonuç olarak ortaya bilimsel esaslara uygun, etik yaklaşımları göz önünde bulunduran, sistematik ve düzenli ilerleyen, metodolojik olarak örnek teşkil edebilecek nitelikte bir çalışma çıkmıştır.

Anahtar Kelimeler: Konservasyon Metodolojisi, Restorasyon Metodolojisi, Metodolojik Araştırma, Onarım Metodolojisi, Koruma Metodolojisi

Abstract

This study probes to establishment methodological approach in conservation practices. According to most preferred online research engines in Turkey -Google Search and Google Scholar- only 3 percent of written sources over conservation and restoration refer the methodological background while 8 per thousand of the online scientific publications mention the methodology. The lack of Google Trends statistics on the subject also reveals that users do not tend to research methodology in conservation.

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** MA. Konservatör-Restoratör, T.C. Kültür ve Turizm Bakanlığı, Kültür Varlıkları ve Müzeler Genel Müdürlüğü, Ortadoğu Teknik Üniversitesi, Arkeometri Bölümü, Çankaya/ANKARA, igyuceil@gmail.com, irmak.yuceil@ktb.gov.tr / irmak.yuceil@metu.edu.tr, ORCID ID: 0000-0002-7699-0878

This article represents an example for sharing the methodology in conservation practices through a case study and its systematical explanation. The case study focuses on the conservation planning for the collection of metallic icons and liturgical objects from the Hagia Sophia Museum which was held in between 2014 and 2017.

The decision-making in conservation of liturgical objects was required analyzing each group of objects in their own context and understanding their place in the belief complex. Along with the examination of physical properties; we were enabled to comprehend the hierarchical stance of objects in the congregation and the ceremony and to see the artifacts through the eyes of future visitors with this approach.

Conservation steps - documentation, examination-diagnosis, implementation and maintenance– were followed. However, aforementioned steps are not considered as an essential goal in conservation, but as tools that enable the implementation of a systematic approach. Factors affecting decision-making are also discussed through specific examples.

In consequence, we undertook a study which proceeds systematically, taking ethical approaches into consideration, and aligned with scientific principles.

Key Words: Conservation Methodology, Restoration Methodology, Methodological Research, Methodological Background, Decision-Making

Introduction

Methodology, also known as system of methods, is a branch of science that examines the methods and procedures used in the production of the information needed to achieve a particular goal. In this context, conservation methodology can be considered as developing approaches that will serve the preservation of cultural assets, through determining methods, establishing models, and formulating hypotheses. Conservation methodology tests the ways that will ensure the survival of the artifacts and ensures that the necessary intervention and effective methods are determined.

However, online Turkish resource studies on conservation and restoration practices point to the lack of a systematic methodology sharing practice in our country. When the key phrase “Restoration and Conservation” is searched online, around 130 thousand results are reached, consisting of scientific articles, theses, reviews, lecture notes, etc. When the keyword “methodology” is added to the same search, the number of resources reached declines to four thousand via Google Search and 136 via Google Scholar. That is, in only 3% of the general search results on conservation and restoration; on the other hand, it is understood that only 8% of academic search results include the word methodology. This situation reveals that there are a limited number of resources that refer to the logical framework and decision-making mechanism of protection methods in Turkey.

While the number of searches in search engines for the keyword “Restoration and Conservation” have reached into the tens of thousands since 2004, it is noteworthy that there are no search statistics for the term “conservation/protection/repair methodology”.

This data indicates that there is no research and analysis tendency of the users regarding the protection methodology in Turkey.

In such an environment, where there is a methodological gap, it is unsurprising that scientific study (validation) samples in which the results of experiments and applications are verified by other researchers are not available. Because, unless the logical framework of an action is understood, it is not possible to criticize, develop or improve it.

This study has been prepared to provide an example to systematically explain the parameters that affect the selection of protection methods. As a case study, the methodological infrastructure of the Conservation Methodology of Metallic Icons and Liturgical Objects Collection from the Hagia Sophia Museum Directorate is discussed. Implementations were carried out in line with standard protection procedures, documentation, preventive protection, detection-diagnosis, implementation, and maintenance. However, unlike other studies, the stages mentioned in this article are not considered as essential work packages to be completed, but as tools that enable the completion of a systematic approach.

Preliminary studies have focused on identifying the physical and cultural context of artifacts, the values attributed to them, and the current conservation approaches. Studies are divided into two segments, "physical perspective" and "cultural perspective". These are further separated into "artifact-oriented" and "non-artifact-oriented" information sections. The methods and sources used in the systematic collection of information on the collection are shown in Table 1.

Area 1 in Table 1 shows the approach of collecting "work-oriented physical information". In this section, information such as the production material of the objects, the observed pollutants, other artifacts with which the artifacts interact, and the storage environment conditions were collected.

Approaches to the collection of "artifact-oriented cultural information" are described in Field 2 of Table 1. This area includes the usage area and purpose of the objects, the museums with similar collections, and the applied conservation studies.

In Table 1, "non-work-oriented physical information" has been compiled in the Field 3. This information is focused on the production techniques of church furniture, gold plating techniques, the detection of residues from the period of use, and the identification of the deterioration/protection mechanisms specific to the material and construction technique.

In the 4th section of Table 1, "non-material-oriented cultural information" is included. These include such topics as the values attributed to church items, pre- and post-ceremony maintenance practices, storage conditions in churches and houses, and the life process of items until they reach the Hagia Sophia Museum Directorate.

In the first part of the study, methods of bringing together systematic and organized information to answer questions about metallic church items are noted; the decision-making process in the preservation of liturgical objects was required in order to analyse each work group in its own context and to grasp its place in the belief structure to which it is subject. This approach made it possible to see the works through the eyes of potential future visitors, as well as to grasp the hierarchical stance of the works in the congregation and in the ceremony. The methodological approach, which was prepared in line with the information obtained, was constructed in seven steps (Appelbaum, 2007: p. 10):

1. Collection characterization
2. Evaluation of collection history
3. Determination of conservation status
4. Setting implementation goals
5. Determination of methods and materials
6. Realization of the application
7. Examination and regulation of environmental conditions

1. Collection Characterization: Description of Metallic Icons and Liturgical Objects

The collection and artifact identification were conducted in cooperation with museum experts and church officials. Elemental analysis with a handheld X-Ray Fluorescence (XRF) spectrometer for the determination of material types, as well as source scanning, elemental analysis and USB microscope examinations were conducted in the investigation of production and coating techniques.

Artifacts that comprise the collection include: cross icons (Figure 1a-b), crosses (Figure 1c-d), plates (Figure 1e), goblets (Figure 1h), relics (Figure 1f-n), liturgical fan/ripidia (Figure 1g), censers (Figure 1k), and a liturgical enclosure/tabernacle (Figure 1m).

The censers were made of silver and their inner chambers were found to be copper. There are soot residues in the chambers, due to use. Although the source studies indicate that there are nine rattles representing the nine classes of angels on the incense chains, it has been determined that there are fewer rattles on the incense chains in the collection. In order to preserve the original state of the censers, excessive interventions such as replacing missing parts were not made. The remains of frankincense have been taken under protection as they are a part of the experience of the artifacts and a source of scientific data.

It is understood that the goblets, dishes, liturgical fan, liturgical enclosure, and relics were produced

as gold plate over silver. Mechanical processing techniques such as settling, embossing, pressing, and scraping were used in the production of silver objects. Elemental analysis of demountable objects such as screws and bolts shows that these components are also made of silver. Silver objects are completely or locally plated with gold. According to elemental analysis, the mercury gilding (amalgam) technique was widely used in the plating of silver. Invisible areas such as the bottom of the glasses and the back of the dishes were left uncoated (Figure 4a).

Cross icons, plate icons, dipticon, and trypticons are made of brass containing small amounts of tin or bronze alloy containing lead. Source studies indicate that some 17th-century brass icons are relatively heavy, easily drawn, and reddish in colour; this difference is associated with higher lead-brass/copper ratios (Beaver and Espinola, 1991: p. 36). A comparable situation is detected in some of the icons that are the subject of the study. The reddish colour observed in brass artifacts has been associated with dezincification (Pollard and Heron, 2008, p. 207), a deterioration unique to the brass alloy (Figure 1m).

Microscopic examination findings and source research indicated that the icons were produced with the sand moulding technique. The protruding seraphim on the upper part of some icons were also poured and later welded to the body (Figure 2a). Depressions have been detected on the back of some icons in the form of a negative of the figure on the front face (Figure 2b). It is understood that these are caused by the lid closed behind the mould, thus preserving metal and preventing hot tearing (Beaver and Espinola, 1991: p. 36).

The front face of the icons, on which various scenes are depicted, is widely covered with gold. Two different techniques were applied in the coating. The mercury (Hg) reflected in the element analysis pointed to the mercury gilding (amalgam) technique. Elements such as iron (Fe), aluminium (Al), silicon (Si), calcium (Ca) have been detected in the works of the other group, indicating the presence of a binding layer in addition to visual findings (Sandu, Afonso, Murta, Tu De Sa, 2010: p. 49).

The mercury gilding (amalgam) technique is relatively more durable as it provides adhesion to the substrate with metallic bonds (Figure 3d-e). The gilding, which is physically attached to the surface with the binding layer, is more susceptible to mechanical effects. In fact, extensive losses in the coating layers of the artifacts treated with this technique have been documented (Figure 3a-b-c). It has been demonstrated that different treatment practices should be performed on these objects, which are included in the same artifact group.

Cupellation scratches indicating adjustment control have been detected on some precious metal objects (Figure 4a). The adjustment check is the last operation performed before the manufacturer and purity stamps are printed and is performed to ensure that the material was not altered during production. For the cupellation test, scraping is collected from the surface of the object with blunt tipped instruments and the initial weight of the powder sample is weighed (Figure 4a). The sample is then baked at high temperature in special crucibles called cupels. During this process, the impurities (copper, lead, etc.) in the alloy are oxidized in the oxygen environment and absorbed by the material from which the cupel is produced. Finally, pure silver, decomposed into beads, remains at the bottom of the pot (Figure 4b). The pure sample is weighed again and the ratio between the initial weight and the final weight is calculated in “Range” (Figure 6).

Elemental analyses of some silver artifacts have indicated that they are of rather low purity. Despite the copper content of up to 50%, the appearance of pure silver is dominant in these works (Figure 5e). The “depletion gilding” technique used in the Roman Empire since the early periods of Christianity may have been used in the production of these works (Dareque-Ceretti and Aucoutrier, 2013: p. 651; Grimwade, 1999: p. 18).

In this technique, a small amount of precious metal is added to the copper alloy. After production, the surface is treated with copper oxidizing acids (oxalic acid, nitric acid, etc.) (Cesareo et al., 2011: p. 50). The oxides are then removed, leaving behind a surface with increased precious metal content. The thickness of the enriched surface depends on the penetration depth of the oxidizers. Since there is no subsequent coating, it is resistant to mechanical effects such as friction. However, high copper content can cause corrosion in these artifacts.

An extremely characteristic distortion, which is thought to have been produced by surface enrichment,

was observed on a cross. There are spherical blue stone beads on the cross (Figure 5a). In the nails holding these stones, "pitting corrosion" and "corrosion mounds" were formed due to the anode-cathode interaction between the upper layer rich in corrosion-resistant metal and the weaker lower layer (Scott, 1983: p. 195; Figure 5b). It is noteworthy that the deterioration did not occur in the nails holding the red, green, and white glass beads (Figure 5b-c).

When the micro-sized sample taken from a physically damaged stone bead (Figure 5d) and dust samples from corrosion were examined by Raman spectroscopy, distinctive carbonate peaks were found in both samples. Due to the small size of the stone sample, it could not be characterized. However, the fact that the corrosion products consisting of copper carbonate minerals only occur in the nails holding the carbonate-containing stones pointed to the stone beads as the source of deterioration. The only way to stop this deterioration caused by the production material is to cut off the interaction with the moisture and indoor pollutants that contribute to the corrosion process. After the cleaning process, this application was carried out and the work was taken under passive protection.

2. The History of Metallic Icons and Liturgical Objects

Stamps reflecting the year of production, geography, workshop, and manufacturer information were observed on some parts of the collection (Figure 6). These stamps showed that church items were produced in workshops in St. Petersburg and Moscow in the 18th and 19th centuries. Detailed information about the process that the artifacts underwent from the day of their production until their arrival in the warehouse of the Hagia Sophia Museum Directorate was obtained through literature review, inventory books and museum archive research.

It has been found that the artifacts belong to the Orthodox Manyas Kazakhs, of Slavic origin, who lived in Balıkesir for three hundred years. In various sources, Manyas Kazakhs are associated with the Don Kazakhs living around the Don River, which was under Russian rule in the 17th century (Fındıkoğlu, 1964: p. 91; Somuncuoğlu, 2004). The Kazakh people, who had conflicts with Tsar Peter I, settled in the Manyas region around 1770. Fındıkoğlu (1964: p. 32) reports that members of the community went to Russia and brought various religious objects with them. Living as an introverted Orthodox community, the Kazakh people's immigration ideas which started in 1927, were put into practice in 1961-1963. Some of the Kazakh people living in the Kocagöl village took the Russian ferry from the Istanbul Galata Port and set out for Russia (Fındıkoğlu, 1964: p. 60). In documents obtained from the archives of the Hagia Sophia Museum Directorate, which coincide with the same date, it is recorded that some of the works were received from the Galata Waiting Hall.

As a result, it was understood that the artifacts were collected from the Kazakh churches closed in the Kocagöl village of Balıkesir province, Manyas district, and the Istanbul Galata Passenger Hall and brought to the Hagia Sophia Museum Directorate.

3. Ideal Preservation Status of Metallic Icons and Liturgical Objects

Conservation and repair work aims to keep artifacts stable for the longest possible time. Under discussion in this study is not the return of the work to its stable state when it was first produced; it is to maintain the continuity of a state in which it will exist for a longer period of time while maintaining traces of experience and originality. Three key elements have been identified for the determination of the ideal protected condition. These are:

- Conditional state of the work
- Interaction with its environment,
- The benefits and harms of the layers observed on the work.

Conditional examinations were conducted by investigating the layers seen in the artifacts one by one. The condition of each layer (carrier, coating, decorative elements, etc.) found in metal artifacts was examined separately and the state of preservation was recorded. As a result, it is understood that the majority of metal liturgical items are in very good/good condition, except for a few examples.

The indoor air quality of the museum depot was investigated to examine the interaction of the works with the surroundings. Aerial liquid samples were collected with dehumidifiers placed in various parts of the warehouse. These devices collect the moisture they absorb by condensing it in their inner chamber. While absorbing moisture, the device also attracts the polluting particles and ions present in the environment. Liquid samples were then elementally analysed with ICP-OES; Anion and cation analysis were performed by ion chromatography.

It has been observed that the pollutants detected in the liturgical items differ according to the usage area of the artifacts. The pollutants of ceremonial objects consist of superficial tarnishing and dust layers. However, thick deposits of soot and wax were found on copper alloy crosses and icons used in homes and churches near the areas where candles were lit.

Wax deposits caused corrosion on copper alloy objects. The gilding of the copper alloy icons – usually on the figures placed high – experienced shedding due to the friction effect of use. Wax and soot layers were removed in order to ensure ideal preservation, and excessive interventions such as completing the gilding were avoided.

Due to extended periods of disuse, dulling and tarnish have been observed in precious metal objects. A layer of yellow-brown tones was detected on the objects. Sulphur peaks seen in elemental analysis indicated that this deterioration was an initial level of silver tarnish. Sulphur layers were removed to achieve the ideal state of conservation. Similarly, matting on gold-plated surfaces has also been removed. The elements that triggered these deteriorations were determined by the analysis of the interior environment and contact between the artifacts and these elements was prevented.

Sediment-like residue (Fig. 7a-b) was detected at the bottom of a gold-plated goblet, which broke at the contact point connecting the stem part to the mouthpiece. Before cleaning, analyses were conducted on the source of the residue. Molecular analysis and saponifiable oil analysis were performed with FTIR in the sample taken from the residue. The glass was broken due to thinning in the same area where the sediment accumulated, indicating that this layer of sediment creates a chemical reaction that causes a weakening of the material. The analyses indicated that the residue could be wine and bread remains from the usage period of the glass. The sediment layer has been preserved due to the potential information it carries and because it is a trace of use.

4. Determining Implementation Objectives

In order to determine the implementation objectives, it is necessary to define the purpose of the study and define its scope. There are numerous combinations of techniques, materials and methods that can provide effective protection. In business planning, it is necessary to select those that are suitable for the current situation and resources.

Cost, which is one of the factors affecting the project, has an impact on the choice of method, especially since restoration materials are offered to the market at exorbitant prices. Budget planning and setting realistic targets will eliminate problems such as the interruption of the project while awaiting the necessary budget transfer for resupplying the consumed material.

5. Method and Material Selection

The business planning of this study began with the data collection and documentation as schematized in Diagram 1. The contradictions identified in the ongoing process by defining the current conditions and expectations were resolved in consultation with the relevant experts and units. A list of current protection methods was created. The reliability of these methods was tested and ranked according to risk levels. Application methods were determined by eliminating methods that pose a risk to material interaction and practitioner health.

6. Implementation

At this stage, the need for implementation unity emerged in works made of varied materials and exhibiting different types of distortion. Previously tested and determined methods for ensuring implementation

unity were turned into flowcharts (Diagram 2-3-4). The flowcharts show the agreed implementation procedure for any possible finding. Thus, style and implementation unity were achieved in this project, as many experts simultaneously contributed..

In accordance with article 6.3 of the "Regulation on Professional Ethics" Published 6. by ICOM in 1986, a joint decision was reached with experts from different disciplines in accordance with the phrases "passing the works on to future generations in the best possible condition", and "to seek the opinion of other experts from related disciplines during restoration work". Accordingly, the following have been decided:

– Removal of the wax and soot layers that would permit the corrosion process to continue and prevent the work from being studied by museum experts,

– Removal of the matte coating, which appeared to have been formed by the effect of ambient impurities and contaminants, on the gold-plated and silver works that demonstrated the power of the church and the "value" in the Christian belief during the period of use; and thus ensuring that the meaning and importance of the period of use is correctly perceived by the viewer,

– It is understood that the censers do not have a negative effect on the metallic essence; however, to protect the remains of the incense, which reflects the semantic integrity of a religious ritual,

– Bringing together multi-part and broken works using methods that will not be perceived by the viewer,

– To protect the protective patina layers that have formed on objects,

– Protection of the dark brown paint layer found in the spilled areas of the gold gilded works on brass mixture due to information about the production method and the lack of any completion process in the areas where the coatings are lost,

– Only passive preservation (temporary storage in a microclimate environment wrapped in acid-free paper) should be carried out, in case the cleaning of the pollutants damages the original elements in the lower layers.

7. Review and Regulation of Environmental Conditions

A series of experimental analytical studies were conducted in cooperation with the Çekmece Nuclear Research and Training Center (ÇNAEM) in order to determine the indoor air quality of the icon warehouse containing metallic icons and liturgical objects. This experimental study was conducted by the ÇNAEM, by adapting a larger application used for measuring the air quality of large cities to a smaller area such as an icon warehouse.

For the experimental study, liquid samples were collected from the humid air in the environment for ten days (in December) in a 60% humidity environment using the dehumidifiers available in the icon warehouse. In the icon warehouse, which consists of three chambers a dehumidifier was placed in each chamber and one litre of liquid samples was obtained from each device.

The liquid samples obtained were analysed by the experts of the ÇNAEM analytical examination unit using Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES) and Ion Chromatography (IC) techniques.

The data of 2013 and 2014 were collected from the manual thermo hygrometer in the icon warehouse of the Hagia Sophia Museum Directorate and graphed. The weekly recorded humidity and temperature data were calculated separately. The following formulas were applied to turn the data into annual graphs.

Daily average=Highest value + Lowest value/2

Weekly average=Sum of all daily averages/number of days

Monthly average=Sum of all weekly averages/ number of weeks

This application revealed that improvements to the warehouse's ambient conditions were necessary for the long-term preservation of the artifacts. However, at this stage, significant impasses were encountered on a technical and financial scale. The most important of these is due to the fact that the Hagia Sophia is a monumental structure. The Hagia Sophia is not suitable for carrying out large-scale warehouse arrangements as it is an important monumental structure that should

already be protected. The installation of the ventilation systems required to address the ambient conditions of the warehouse, which is located within the Hagia Sophia, posed a risk to the preservation of the structure's integrity. Therefore, as an alternative solution,

Conclusion

It has been determined that, in Turkey, there is a lack of methodological publications that systematically describe conservation practices with a methodological approach. This deficiency has been evaluated as an obstacle to the vertical development of conservation science, and therefore, methodology has been transferred through a case study in this study. This article does not aim to establish a universal methodology for conservation applications or to suggest materials and methods for future applications. On the contrary, it has undertaken to point out certain general issues that should be taken into account in these processes, noting that each discrete project should assess its specific decision-making processes in terms of both collection and museum environmental conditions. In addition, instead of transferring conservation applications in series, this article aims to create a tradition of broadcasting the logical framework underlying the selection of a particular method in a methodological style.

Considering the physical complexity of the icons and liturgical objects and the socio-cultural values they carry, the preservation of these artifacts has presented significant difficulties. These challenges can only be met by adopting a robust methodological approach that addresses all aspects of the object, including its surroundings and social context. This approach is guided by existing conservation principles and shaped by considering both financial and human resources.

Based on the systematic data collected in the study, approaches that coincide with conservation philosophies for religious artifacts were developed; layers that should be preserved/removed were defined; preservation methods, specific to the materials and techniques in which the artifacts were produced, were determined; and realistic targets, determined in line with technical, financial and infrastructure opportunities, were put into practice.

As well as being work-oriented, the application also considered the cultural value attributed to the artifacts, their usage habits, and the perspectives of potential visitors and researchers. Objects such as goblets, liturgical fans, censers, and relics are used in special occasions and ceremonies. After these objects are used, they are cleaned with great precision and stored in places that hold a specific significance. In this context, it is important that the church congregation feels that these works, which are sacred to them, are approached with as much reverence as they might display during a visit to the museum. Based on this phenomenon, the effects of time, such as dulling and darkening, are not considered as evidence of the experience and authenticity of the works. On the contrary, the artifacts, which are symbols of a living culture, were eliminated because they gave the impression that they were idle and neglected. In addition, residues hich are an important part of the experience of the artifact, were also found during the collection. These traces are also protected as they are a source of scientific data for future research.

While creating the project to preserve the collection of metallic icons and liturgical objects, the scope of studies conducted by other museums on the same group of works were investigated, as were the materials used, and the storage and exhibition methods. Methods and approaches have been adapted to current conditions. In this context, a universal unity of practice and wording was also provided.

While determining the application method, parameters such as financial and technical capacity, as well as the condition of the works, were taken into consideration. The collection consisted of a total of 475 pieces and involved different conservationists in different periods. Conservation methods for creating a unity of application and wording among experts have been turned into flowcharts Thus, the work progressed systematically and a stable application was provided for the cleanliness and protection of works throughout the collection.

In consequence, we undertook a study which proceeds systematically, taking ethical approaches into consideration, and aligned with scientific principles.

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* *The Hagia Sophia Museum Icon and Liturgical Objects*

Collection Conservation Project was conducted between 2014 and 2017 by experts at the Istanbul Restoration and Conservation Center and Regional Laboratory Directorate. The planning of the conservation and restoration methodology, elemental and microscopic analysis, and application unity studies were conducted by Irmak Güneş YÜCEİL. This study was successful thanks to the careful observations of Şirin KAYA, the conservator who took part in the planning and implementation stages, and the support she provided to her colleagues in every field. In addition, we would like to thank the conservators Elif İNCEGÜL, Gizem ATASOY, Buket KAFADAR, Merve HAFIZMEHMETOĞLU, Çiğdem YILDIRIM,

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Appendix

	PHYSICAL PERSPECTIVE	CULTURAL PERSPECTIVE
COLLECTING ARTIFACT-ORIENTED INFORMATION	**Information:** Investigation of the material of liturgical objects, types of deterioration, and pollutants, their interaction with the environment and each other, storage area **Source:** Objects that comprise the collection **Method:** Physical examination, non-destructive 1element analysis (hh-XRF), microscopic examination (USB), analytical examination of ambient conditions in terms of humidity-temperature (thermohygrograph) and environmental pollutants (ICP-OES, IC)	**Information:**: Purposes of use of liturgical objects, similar collections of Russian Orthodox liturgical objects, conservation, and restoration approaches to liturgical objects. **Source:**Church officials, conservation2 institutes, conservators who have previously developed a conservation methodology on similar artifacts **Method:** Literature review, consultation with religious officials, analogy study
COLLECTING NON-ARTIFACT-ORIENTED INFORMATION	**Information:** Production methods and characteristics, types of gold plating, specific protection and degradation mechanisms Source: Production methods and properties, types of gold plating, specific protection and deterioration mechanisms **Source:** Techniques used in the production of liturgical3 objects from precious metals in the 17th-19th centuries, principles of protection of precious metals and gilded artifacts **Method:** Materials science, history of coating technology and conservation resource scanning	**Information:**The values uploaded to the church items that make up the collection and the history that led them to the Hagia Sophia Museum Directorate stories 4 **Source:** Written documentation and experts' comments **Method:**Examination of the inventory books, interviews with the experts at the museum and with an interested in the subject

Tablo 1: Information Collecting Methodology for Metallic Icons and Liturgical Objects

Figure 1: Artifact Groups in the Icon and Liturgical Objects Collection of the Hagia Sophia Museum Directorate. Photo: Şirin KAYA and Irmak Güneş YÜCEİL

Figure 2: Weld (a) and Depressions (b) on the Back Surface of an Icon. Photo: Şirin KAYA and Irmak Güneş YÜCEİL

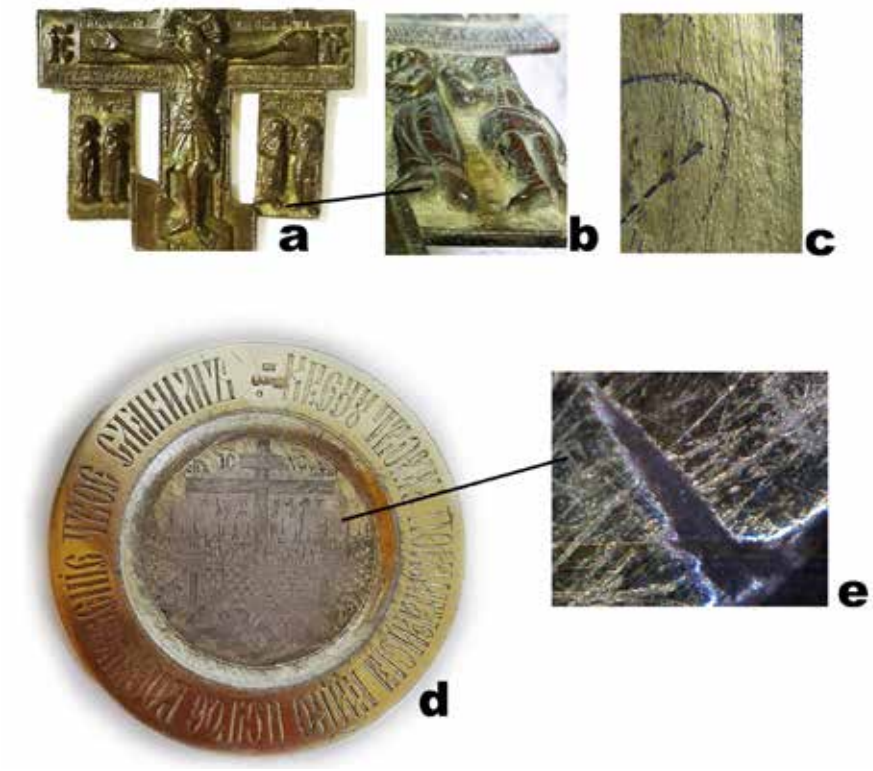

Figure 3: Macroscopic and Microscopic Appearances of Gold Plate Losses: Foil-coated Bronze Icon (a, b, c) and Silver Plate Coated with Mercury Gilding (d, e). Photo: Şirin KAYA and Irmak Güneş YÜCEİL

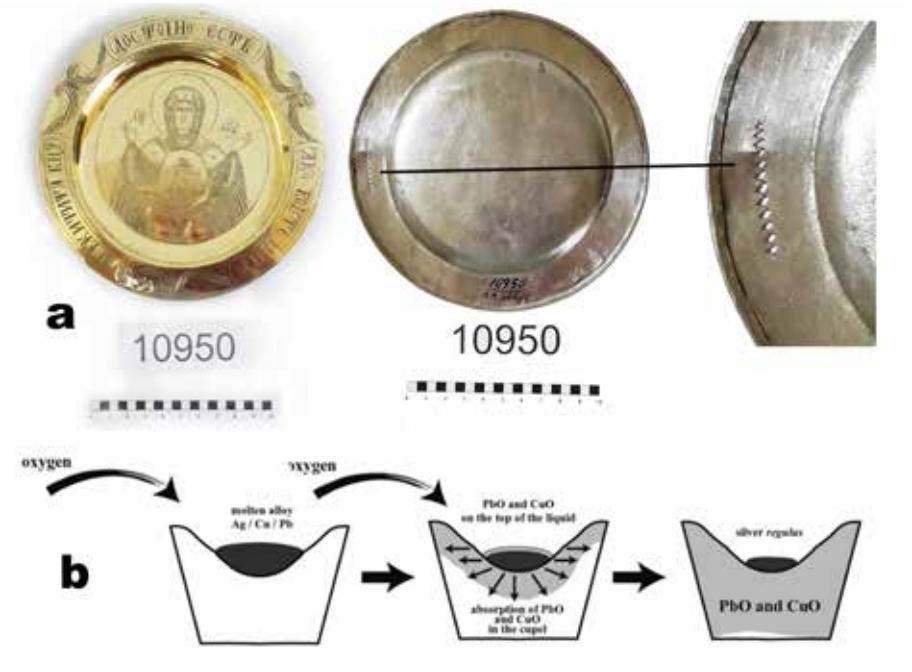

Figure 4: Coupling Scraping Lines on a Mercury Plating (Amalgam) Coated Silver Plate (a) and Schematic Illustration of the Coupling Process (b) Photograph: Şirin KAYA and Irmak Güneş YÜCEİL; Diagram (Torres, Thomas, and Aude Mongiatti, 2008: p. 60)

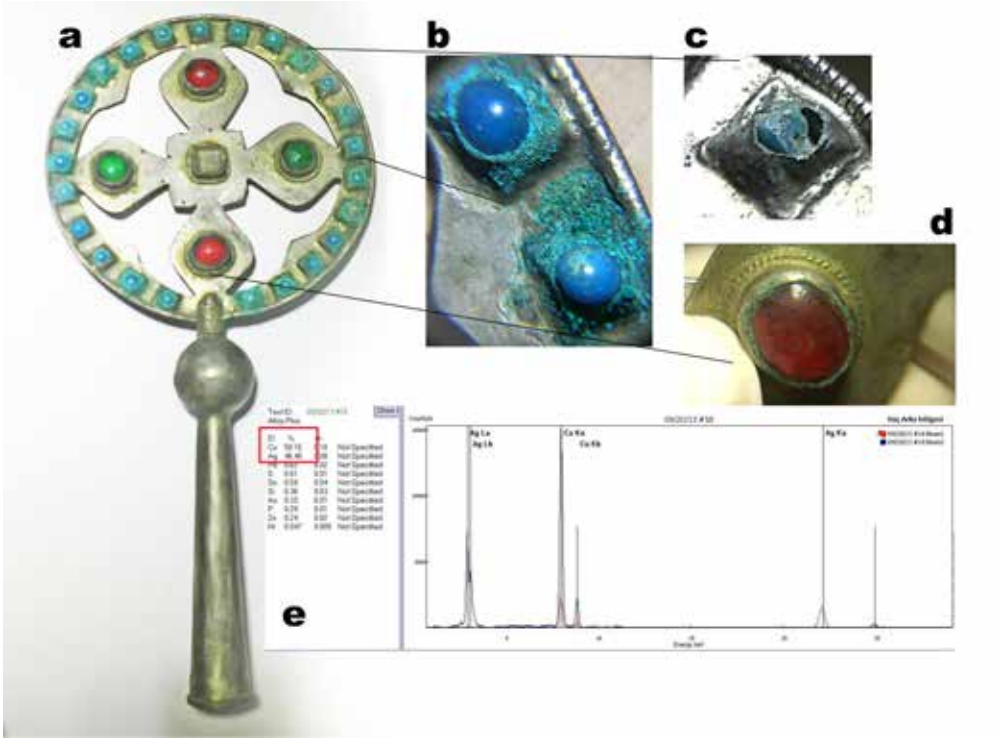

Figure 5: Analysis Result (e) Showing Corrosion Formation and High Cu Content of a Cross (a) Not Observed in Glass Beaded Nails (d) While Condensing in Blue Beaded Nails (b). Photo: Şirin KAYA and Irmak Güneş YÜCEİL

Figure 6: Master and Workshop Stamps on Russian Silver. Photo: Şirin KAYA and Irmak Güneş Güneş YÜCEİL

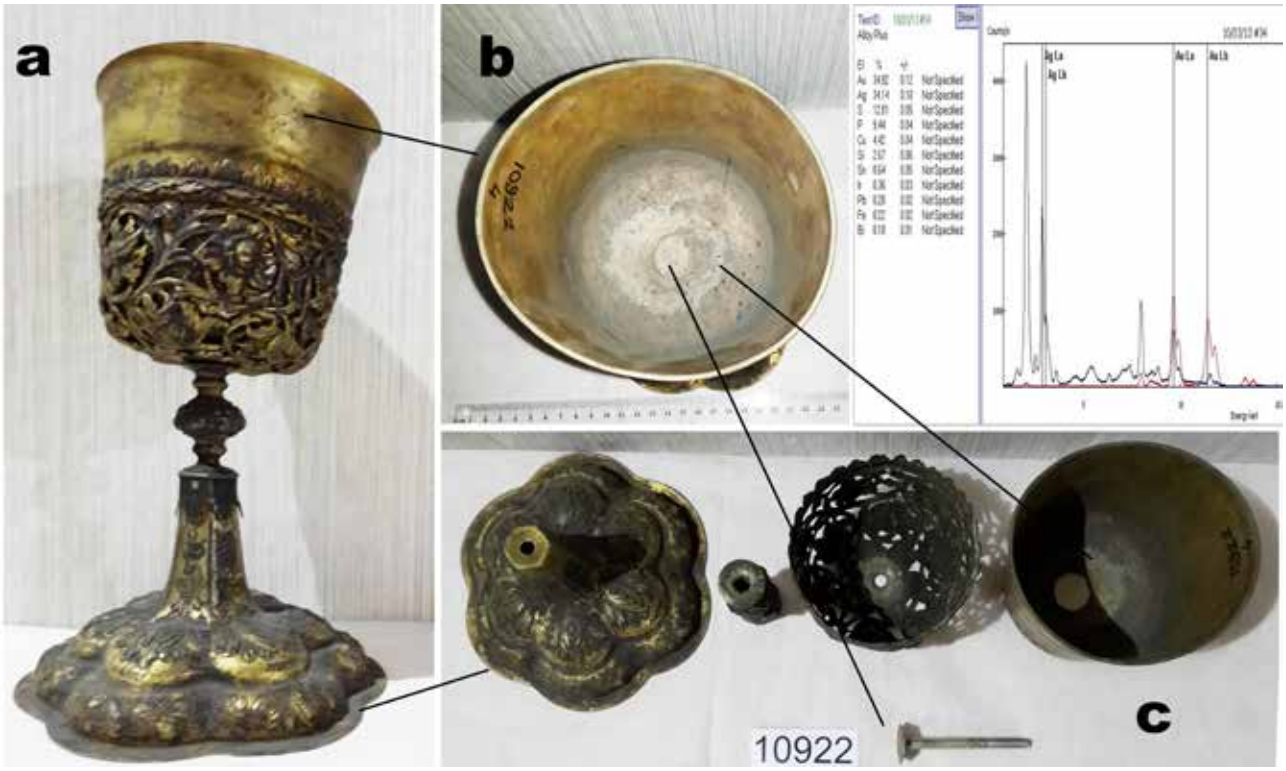

Figure 7: The Organic Residue Precipitated in The Cup Part (b) Of A Gold-Plated Glass Over Silver (a)And Fracture as A Result of Weakening in This Region (c). Photo: Şirin KAYA and Irmak Güneş YÜCEİL

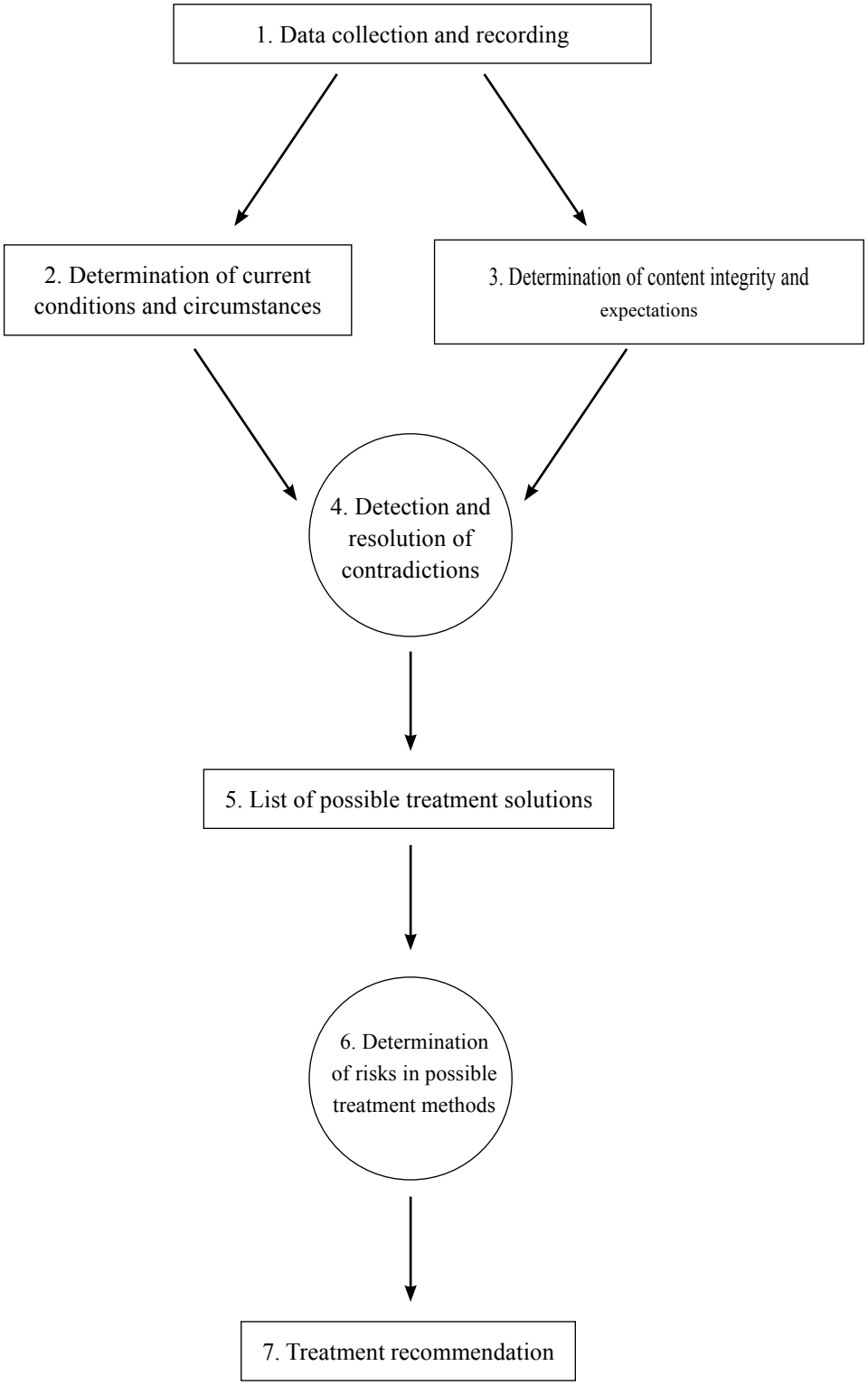

Diagram 1: Conservation Workflow for Metallic Icons and Liturgical Objects (Foundation for the Conservation of Modern Art, 1997)

CONSERVATION PROCESS FLOW OF DENSE WAX, SOOT, OILY LAYER AND DUST OBSERVED ON BRASS ARTICLES

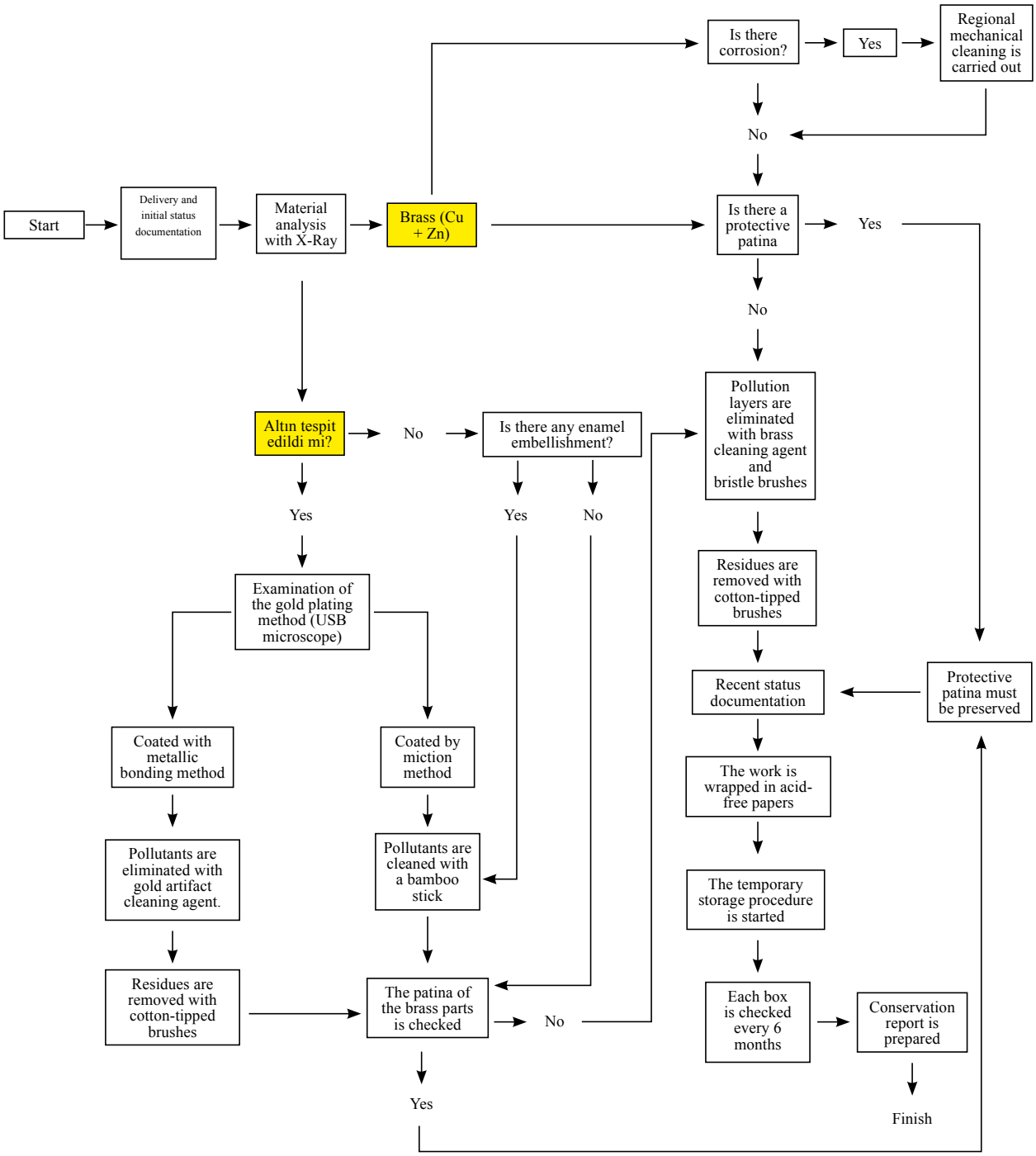

Diagram 2: Workflow for Copper Alloy Artifacts in the Metallic Icons and Liturgical Objects Collection (Irmak Güneş YÜCEİL)

YOĞUN MUM, İS, YAĞIMSI TABAKA VE TOZ GÖZLEMLENEN Silver ESERLERİN KONSERVASYON SÜREÇ AKIŞI

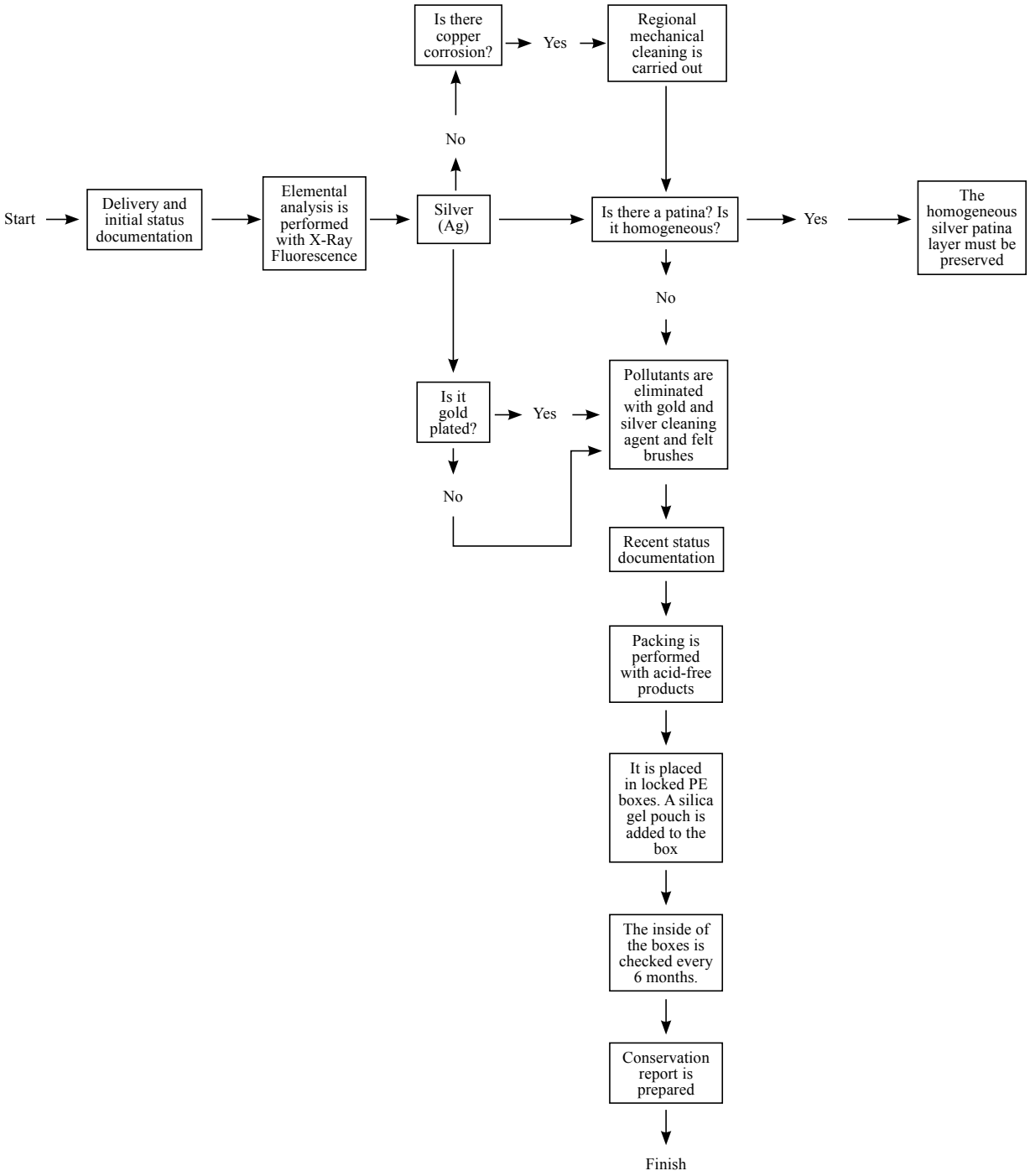

Diagram 3: Application Workflow for Silver Artifacts in the Metallic Icons and Liturgical Objects Collection (Irmak Güneş YÜCEİL)

Water Systems of the City of Seleucia ad Calycadnum in Antiquity

Özden KARABEKİROĞLU, Ayhan YALÇIN

Aya Tekla Underground Church

Antik Çağ'da Seleucia ad Calycadnum Kentinin Su Sistemleri*

Water Systems of the City of Seleucia ad Calycadnum in Antiquity

Özden KARABEKİROĞLU**

Ayhan YALÇIN***

Özet

Seleucia ad Calycadnum; Helenistik Dönem'de, çevresinde yer alan farklı yerleşim yerlerinde yaşayan insanların bölgeye yerleştirilmesi ile kentleşmiştir. Roma Dönemi'nde gelişerek zengin ve büyük bir kent haline gelmiş, ovalık bölgeye yayılmıştır. Büyüyen kentin su ihtiyacını karşılamaya yönelik öncelikle Roma Dönemi'nde kaynağından kente kadar suyu ulaştıran, 8 km uzunluğunda, yöresel taş-tuğla malzemeden sistemler inşa edilmiştir. Daha sonra Erken Bizans Dönemi'nde yapıldığı tahmin edilen, kente yakın Aya Tekla (Meryemlik) kutsal mekânının su ihtiyacının karşılanması da dikkate alınarak, 10 km kadar uzunlukta yeni bir su sistemi kurulmuştur. Bu su sistemlerinin kente ulaştığı noktadan itibaren dağıtımının nasıl yapıldığı bilinmemektedir. Her iki su sisteminde suyu taşımak için oluşturulan kanallar birkaç farklı tiptedir. Bazı noktalarda tamamen ana kayaya oyulmuş kapalı tüneller inşa edilmiştir. Derin vadilerde suyu vadinin karşı kıyısına taşımak için su kemerleri kurulmuştur. Bazı yerlerde kanalın bir tarafı anakaraya oyulurken, diğer tarafı pişmiş tuğla veya moloz taş malzemeden harçlı duvar biçiminde düzenlenmiştir. Kanalların büyük bir bölümünde kanalın tabanı ve yan duvarlarının içi horasan sıva ile sıvanmıştır. Böylece kanalın su sızdırması önlenmiştir.

Ayrıca, Seleucia kentinin bulunduğu alandaki ovalık bölümleri sulama amacıyla bir sulama bendi inşa edilmiştir. Su bendi, ırmağın kente ulaşmadan hemen önceki kısmında, ırmak yatağının dar ve dik bir kanyon oluşturduğu noktada yer alır. Kaynaklarda Antik Seleucia'nın su sistemleri hakkında detaylı teknik ve coğrafi bilgilere yer verilmemiştir. Seleucia antik su yolları hakkında daha ayrıntılı bilgi verebilmek amacıyla su kanallarının tüm kalıntıları, kente ulaştıkları noktalara kadar araştırılmıştır.

Anahtar Sözcükler: Seleucia, Su Sistemleri, Su Kemeri, Su Bendi, Su Sarnıcı

Abstract

The city of Seleucia ad Calycadnum was urbanized in the Hellenistic Period by settling down the people who were living in different settlements around. In Roman period, it developed into a big and rich city which spread over the plain region. In order to fulfill water requirements for growing city, 8 km long systems of local brick and stone material were built in the Roman period, which transported water from its source to the city. Later, taking into account the water needs of Aya-Tekla (Meryemlik) Church, close to the city, a new water system of about 10 km long was constructed to carry water from a different source which is thought to be built in the early Byzantine period. It isn't known how these systems distributed water after the point they reach to the city. In both systems the channels which are constructed to carry water are in several different types. At some points, closed tunnels which were completely carved into the bedrock were built. In deep valleys, aqueducts were erected to carry the water across the valley. In some places, one section of the channel was carved into the bedrock, while the other section was constructed as a mortared wall of baked brick or rubble stone. In most of channels, the bottom and the inside of the side walls were plastered with horasan plaster. Thus the water leakage was prevented.

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** Architect, General Directorate of Cultural Heritage and Museums, II. Near the Grand National Assembly of Turkey, Ulus/Altındağ/Ankara, ozdenkarebekiroglu@gmail.com, ORCID ID: 0000-0003-4396-5489

*** Retired Lecturer, Mersin University Rectorate, Mersin, ayyalcin33@gmail.com, ORCID ID: 0000-0001-8818-0517

In addition, an irrigation dam was built for the irrigation of lowland sections in the area where the city of Seleucia was located. The dam was on the part of the river just before it reached the city, where the river bed formed a narrow and steep canyon. There are no detailed technical or geographical information in resources, concerning the water systems of Ancient Seleucia. Therefore, in order to provide more detailed information on ancient water ways of ancient Seleucia water channels have been surveyed up to the point they reached the city.

Key Words: Seleucia, Water Systems, Aqueduct, Dam, Water Cistern

Introduction

Founded in the Hellenistic Period on the foothills of the Silifke castle terrace, the city of Seleucia was notably prosperous during the Roman Period, achieving advances in the fields of marine trade, education, and science, particularly in the 1st and 2nd centuries. To address Seleucia's clean water needs, water was supplied via canals, tunnels, and aqueducts from a spring that was eight kilometres north of the city. During the Byzantine Period, water was supplied by another waterway, from a spring located ten kilometres south of the city (Figure 9). There are a limited number of written sources that describe or reference these water systems. Although extensive studies of the water cisterns in Seleucia and Aya Tekla have been undertaken, no comprehensive study of the waterways has been conducted.

In this study, the pathways of the aforementioned water systems, from their sources to their destinations in the city, were surveyed, and a surface analysis for the ruins of the water infrastructure conducted.

1. 1. Hellenistic Seleucia

"Seleucia", also the origin of the name of today's city of Silifke, is named for its founder, Seleucus I Nicator. The settlement was established by people brought from the Holmoi and Olba towns via the synoikismos[1] method (Sayar, 1999: 198), and located in the upper parts of the Pazarkasi and Cami Kebir districts and on the top of Camlik Hill. Hellenistic Silifke appears to have been a small, hillside settlement. It was severely damaged during the final years of Seleucid rule, in conflicts between Seleucus I Nicator and Ptolemy I Soter. As Strabon noted, the residents of Seleucia had a culture distinct from that of the people of the mountainous area (Strabon, 2015: p. 257).

1 It refers to the coming together of dispersed human populations to create a city or the coming together of multiple cities in the Ancient Age. (https://www.arkeolojikhaber.com/haber-synoikismos-7438/). Retrieval Date: 01/01/2021.

2. 2. Roman Seleucia

With the shift to Roman rule, Seleucia acquired a city-state identity. During the time of Emperor Augustus, it eventually became a city with autonomy from the centre. (Sayar, 1999: p. 208). "During the Roman Empire, the city was at its zenith." (Bilir, 2014: p. 227).

2.1. Topography

Factors such as a growing population, an increased need for security, a developing economy, agricultural production and marine trade drove the settlement's expansion downward into the foothills. (Figure 1). The remains of this period of urban expansion can be seen today.

The city is accessed by a 2nd-century bridge over the Calycadnos River that connects the city to the north, and to Mersin via a mountainous area. Just beyond the bridge is a rocky elevation that can be accessed through steps cut into the rocks. As a result of these challenging conditions in the northeast, the city expanded eastward.

2.2. Public Buildings

Based on the ruins of certain monumental structures that existed until the 1970s, it is believed that the ancient Roman city had public structures such as a colonnaded street, temples, baths, an agora, a city council building, a gymnasium, a stadium, a library, and a fountain, Drawings and descriptions of western travellers in previous centuries, as well as ruins that are visible today, may confirm the presence of the city's ancient structures. It is also observed that, in the Roman Period, prosperous cities usually built large stadiums for chariot racing; Seleucia also had a stadium (Mansel, 1943 p.: 11, citing from Tremaux). Furthermore, it is

also known that there was an ancient theatre (Beaufort, 1818: p. 223), (Laborde, 1838: p. 129), (Langlois, 1861: p. 186). In a developed city such as Seleucia, it is believed that there would be multiple bath structures; in fact, a monolithic marble structure featuring a circular base and surrounded by a geometric mosaic, described as Opus sectile, was partially unearthed during excavations in 1981-82 (Figure 2). According to Şahin, the building, which might be from the 2nd or the 3rd centuries, was renovated in the middle of the 5th century; and the part of the building that resembles a dressing-undressing section may have been a bathing structure. (Şahin,1991: p. 160-163).

3. Seleucia ad Calycadnum Water Systems

Like many ancient cities, particularly those that were affluent and developed, Seleucia had waterways and water systems that supplied the city's clean water needs. These systems drew water to the city from a source such as a spring or river. The following sources indicate the existence of water systems.

3.1. Evidence of Water Systems

There is limited information regarding Seleucia's water systems. Among the few available sources is Evliyâ Çelebi, who observed old waterways on his route from Zeyne to Silifke. (Evliyâ Çelebi, 2005: p. 161). The water cisterns of the sanctuary of Aya Tekla, which were part of the Byzantine Period water system, are described technically in detail by E. Herzfeld and S. Guyer. (Herzfeld and Guyer, 1930: p. 78-87). Işıl Polat states that the waterway, built in the Roman Period, that feeds the cisterns in the Aya Tekla (Meryemlik) archaeological site is different from the waterway that passes through the shoreline and crosses the Lamos River (Limonlu River) as Meryemlik is located inland. Bildirici indicates that the water arrived in Meryemlik via a Byzantine Period waterway that began at the Bahçebaşı water source in the west (Bildirici, 1994: p. 411). Most of the aqueduct of this waterway, which Polat, Herzfeld, and Guyer uncovered during their research in the region in 1907 and documented with pictures (Figure 11), had fallen into ruin (Polat, 2004: p. 14). Özdemir supports this theory, noting that "It is understood that there were six aqueducts in good condition in 1931; however, most of them were destroyed" (Özdemir, 2017: p. 52).

According to C. Texier, the aqueduct that carried water to the Tekirambarı Cistern was destroyed. (Texier, 1842: p. 725). M. Bildirici and Ö. Bildirici classified the waterways and structures solely by their names: "Bahçebaşı waterway (Silifke); aqueduct (Rome); Tekiranbar (Silifke), the largest and most beautiful cistern, a monumental structure (Silifke)" (Bildirici and Bildirici, 2008: p. 1119-1120). M. Bildirici provided additional and extensive information regarding the waterways of ancient Seleucia in another publication; his research is also incorporated in this study (Bildirici, p. 462-466, 2009). M.H. Sayar, in his article on Tagae, a place of worship in a cave, states the following: "There are canals carved into the rocks a few hundred meters north of the offering inscription that supplied water to Seleukeia." (Sayar, 2001, p. 280). In another essay, Sayar provides information on Roman Period waterway elements: "The remains of a Roman-period aqueduct delivering water to the ancient city of Seleukeia are seen on the Göksu valley's slopes. The arches of the aqueduct we observed in the north of Silifke in 1999 must have been the aforementioned aqueduct" (Sayar, 2003: p. 64). However, during their inspections in the Aya Tekla region, U. Almaç, A. Özügül, and N. Semiz mention only water cisterns (Almaç, Özügül and Semiz, 2019: p. 140-141). In his tourism introductory book, C. Taşkıran provides some information on the Byzantine waterway, remarking, "The water source in Bahçederesi village feeds the system", a reference to Tekir Ambarı. (Taşkran, p. 50, 2004). Taşkran also notes the Roman waterway, stating that the water came from Bükdeğirmeni to Tagae. Then, it crossed the river via an aqueduct and reached Silifke via a Roman water channel, which was in a size a man could pass through, carved into the rocks. (Taşkıran, 2004: p. 51).

Although we cannot yet definitively confirm the method of water supply for Seleucia during the Hellenistic Period, we can determine its conditions during the Roman and Early Byzantine periods. Water was delivered from far distant sites to the city, notably in the 2nd century, in line with the city's expansion, during the Roman Period, to the foothills. The remnants of a water system can still be seen in rural regions near the city today.

3.2. First (Roman) Waterway

It is understood that during the Roman period, Seleucia's greatest and oldest water system brought water to the city from around eight kilometres to the north (Figure 3). The source of this waterway, which Bildirici referred to as the "Taşdöşeme Waterway" (Bildirici, 2009: p. 464), is in the Şıhlar neighbourhood of what is today's Bükdeğirmeni District, approximately at the coordinates of 36°26'59.40" North and 33°53'35.36" East, at an altitude of about 400 m. After leaving its source, the waterway continues in the form of a covered channel for 60 meters until it reaches the dry stream bed. A quarter of the aqueduct remains; the other three sources have collapsed (Aydınoğlu-Mörel, 2012: p.531), and it passes to the other shore of the stream bed, with the aqueduct reaching a length of 20 meters (Figure 4). The canal on the aqueduct is approximately 0.45 m wide and 0.70 m deep. The aqueduct's lateral surface is covered with a thick layer of lime measuring 0.15-0.20 m in places and resembling a drop of stone; this lime is a result of evaporated water from overflow in the aqueduct canal. Following the arch, the waterway continues for a few meters on the opposite shore, over a channel cut into the bedrock, adjacent to the current vehicle road. It was thereafter demolished as a result of road and residential construction. It is then excavated into the bedrock in the form of a specus (vaulted underground tunnel) or the form of a gallery and tunnel with mortared masonry passing beneath the ground. For waterproofing, the inner walls are coated with Khorasan plaster. However, due to debris pouring from the slopes, natural vegetation, and gardening at certain locations, it was either destroyed or remained under the ground. Due to the restricted technical capabilities of the time, the entire river was organized to produce curves and curlings in line with the region's landforms. The waterway falls to the shore of the Göksu (Kalykadnos) River after passing through the underground centre of the Bükdeğirmeni District. The waterway is approximately 3.5 kilometres long up to this point (Figure 3).

A modern house joins with another local source right below the existing asphalt road that goes through the neighbourhood. The holy well's four channels, dug into the bedrock, produce spring water. The holy spring's ceiling is in the shape of an arch made of face stone, and the sides are flat walls made of face stone. The building's floor features a pool-shaped depression carved into the bedrock. The water accumulating in this pool joins the main waterway coming from Şıhlar as it falls to the riverside through a channel constructed at the south end of the pool, again through an arched channel, after reaching a height of around 0.20 m. However, in the work of Bildirici, who visited the area, there is no mention of this holy spring that fed the Roman waterway (Bildirici, 2009). The water is known to reach the river's northern shore (from the western section) via the delta-alluvial heap produced in the riverbed by the dry stream in the village. However, due to natural causes and ground levelling, there is no evidence of the river on the delta. Following this point, a massive aqueduct was built in accordance with the era to allow spring water to reach the other side, with some of the aqueduct's pillars placed in the river. These pillars are eroded and fell into ruin after enduring a thousand years of the pressure and force of the river water. However, the remnants of the aqueduct's pillars, which convey water from the other (south) side of the river to the canal, can be seen[2] on land (Figure 5).

The water channel, which is now open on the arch, has an inner width of 0.50 m and a height of approximately 0.65 m. Due to the river's continuation, certain parts of the canal, which runs adjacent to the river for 50 meters beyond the aqueduct, have vanished. The remaining three kilometres of the canal, which runs parallel to the river in the form of a vaulted underground tunnel in accordance with the landforms and height, were demolished due to the vehicle road opened in line with public improvements. The part of the waterway, after approaching 400 m to the modern irrigation regulator today, is in the form of a tunnel carved into the mainland. However, because of the road and regulator construction, a substantial portion of this tunnel has been deformed. In the few sections next to the regulator that can stay intact with the control gratings, the tunnel has a width of 0.75 m and a height of 1.50 m, and a person may easily fit in it (Figure 6). After the

2 Bildirici, who provided the most precise information on this waterway to date, was unable to identify the foot of the aqueduct on the south side, despite seeing a water channel parallel to the river's south bank: "An old villager who resided in this region and gave us a tour of the area told us that their elders used to tell them that the water was carried from the Şıhlar Village on the opposite shore. However, in the sight of an engineer, it was not compelling. I have concluded that an aqueduct will be required on Göksu; there are no remnants of it, and the canal must have come from a very high elevation. Nonetheless, a further study should be conducted" (Bildirici, 2009: p. 463-464).

regulator, the waterway continues via a canal carved into the mainland, following the slope until it reaches the Eyceli area of Bucaklı District. The waterway along this line was found to be partially preserved.

The structure takes the shape of a 750-meter underground tunnel with mortared walls and vaults until it reaches the valley where the Bucaklı Cemetery is located. The water most likely flowed from the Eskiba Valley, which is roughly 300 meters long and contains the cemetery, to the opposite slope via a channel on a low wall. The Yemişkumu area of the Ayaş-Kızkalesi waterway is an example of this water transfer technique with an over-the-wall canal. The second option is that an aqueduct with a low capacity was employed. However, there is no trace of the waterway in this valley, either due to the natural erosion created by the dry stream or the man-made destruction effected by field clearing and burial grounds.

Traces of the waterway carved on one side of the mainland may be seen near the beginning of the Bucaklı District, which is commonly referred to as the "Ankara District" by locals, right on the coast of the main asphalt (Figure 7). Because the ground is fully covered with buildings and roads from this point to the city centre, it is impossible to determine which part of the waterway extends into the city after that point. Water distributors (castellum aquae) were built in the Ancient Period to direct spring water delivered by the stream throughout the city. Smaller water channels or pipes must have been used to direct water to the baths and fountains. Because Seleucia Ancient City is buried under today's modern city, precise information regarding its position and location cannot be acquired. However, the remains of a stone-paved waterway were found on the floor of today's Ziraat Bank, the foundation of which was excavated in the 1970s (Bildirici, 2009: p.463, cited from İzzet Aslan) and, during the investigation conducted by Bildirici in Silifke, he observed the saw block stones with a diameter of 0.25 m and carved like pipes inside, which indicate that waterway reached into the city.

In the 1st and 2nd centuries AD, Seleucia reached its zenith in terms of architectural, technical, social, economic, and philosophical development. The city's temple (Dikilitaş), Taşköprü, and stadium were all constructed during this time. It is probable that the Roman Period water system of the city was completed in this process.

3. 3 Second (Byzantine) Waterway

A second water supply system for the city is estimated to date from the Early Byzantine Period[3]. This water system begins at ten kilometres in air distance from the city. It emerges from the bedrock gutter at its source (Figure 9) in the Bahçebaşı part of Çadırlı District, southwest of Silifke, at the coordinates of 36°21'59.69" North and 33°48'17.09" East. The water accumulates in a pool carved into the rock floor, from which it is then conveyed to the canal (Figure 8). From its beginning to its end, the waterway was constructed in an uncovered form. The water source rises 510 meters above sea level. Water is carried from Bahçebaşı through a canal that curves, ascends and descends in accordance with the topographic structure. On the mainland, one side of the canal was carved or plastered, while the other was covered with stone-brick material. From the source, the canal reaches the northern slope of the Bahçederesi village valley. Most of the waterway is now covered with soils and vegetation originating from the hills. The canal reaches east from this point to the Silifke Organized Industrial Site, which is approximately seven kilometres from the source. On the Mut road, this point is 600 meters south of the current bagasse, feed factory. Here, the canal is split into two channels. One of the canals, which extends to the southeast and is made up of channels carved from massive stone blocks and mortared together, runs directly through the organized industrial site for 40-50 meters. However, it has been found that zoning actions have devastated these waterways in the last 20 years[4]. Following the flumes, the water flows through a 0.25-meter-wide, 0.35-meter-deep canal with one or two walls carved into the mainland or partly made of stone-brick material with lime mortar. The first 130 m

3 Bildirici provides the most detailed information about this waterway, albeit rather briefly: "It is known that there is a water source near Bahçebaşı, west of Silifke, and that this water comes to Meryemlik. Aqueduct and canal remains can be seen on this line. Given that today's water originates from Bahçebaşı, it is reasonable to assume that the Bahçebaşı canal supplies Meryemlik and Tekir Ambarı" (Bildirici, 2009: p. 464).

4 Local residents were the source of this knowledge. In Google Earth, 2004 satellite images, the place where the water channel separates and the remnants of the beginning of the part extending to Aya Tekla can be seen at the coordinates of 36°22'16.02" North and 33°53'45.95" East.

long aqueduct (Figure 10-Figure 11) is taken over and carried to the opposite hill in a valley it encounters. The arches in the middle of the aqueduct, at the deepest part of the valley, are two-storey.

The water is conveyed into the Aya Tekla Church, which has an altitude of 77 meters, from the slope south of the ancient tombs in the north of the Aya Tekla village, where it enters the mainland canal again. It extends as far as small baths and cisterns, as well as enormous open-top pools and closed cisterns, etc. A water distributor system must have been in place to disperse the water that is delivered to the Aya Tekla Church. Evidence has not yet been found, however, to indicate that it formerly acted as a water distribution system on the earth's surface.

The other branch, which splits off from the main channel, goes northeast, first reaching the west of the stabilized road that leads to the hill from the northwest of the Huriler (Erenler) Hill. Then, from the lower edge of today's Silifke Municipality garage and maintenance area, it follows the Silifke-Mut main road along the east coast until it reaches the southern foothill where Silifke Castle is located. The water channel's altitude is 86 meters high at this location. The remains of this water channel can still be seen today, running up the slope of the hill from the right side of the asphalt road that rises to the castle from across the city cemetery. At this point, the canal has a thickness of 0.45 m and a depth of 0.40 m.

It is known that the water channel, which reached the eastern part of the hill and was hypaethral, formerly drained into a tiny pool. Moreover, it is known that the water that rests in this pool is clarified by its residues sinking to the pool's bottom, and the clear water is conveyed to the Tekir Ambarı, a massive water cistern, via an intermediary canal (Figure 12). Because the bottom of the water cistern is filled with rubble, it cannot be seen whether gutters, pipelines or other means exist, that could carry stored water to lower elevations. Due to the accumulation of debris and the existence of contemporary buildings quite near the cistern, the remains of structures related to water distribution cannot be observed on the surface areas of the eastern (lower) outer edge of the cistern.

The following can be noted about the building of this second waterway at the beginning of the Byzantine Period: this system was constructed as a result of the inability to utilize the previous canal, which could not be restored because it was destroyed during the Roman Period; or it was deemed unsafe due to attacks by mountain tribes known as the Isaurians[5] in the latter half of the 4th century. This situation demonstrates that the optimal location for the water supply would be in the south and in an area that can be controlled.

It is therefore believed that the aqueduct collapsed but could not be repaired due to cost or safety concerns. Another possibility is that a new water line was created to accommodate the Byzantine military forces in this high area of the city and supply their water demands. Furthermore, it is possible that this waterway was built because the water from the Roman channel was insufficient for the city's needs. Whatever the cause, the second canal was designed to suit the demands of the Aya Tekla Sanctuary, which was becoming increasingly important, and the Byzantine Seleucia.

3.4. Third Waterway

Despite the fact that the Byzantine Seleucia did not serve the city centre, there is a third, shorter waterway nearby, on the slope of the hill above today's Sayaz District Cemetery, which leads to a water cistern with built-in wall arches[6]. At the coordinates of 36°24'39.26" North and 33°55'8.40" East, this road begins at an altitude of 120 m, one kilometre north of the aforementioned modern irrigation regulator, 50 m above Ağılı Çeşme on the right side of the Bükdeğirmeni District road, on the right side of the Bükdeğirmeni District road (Figure 13). Water flowing into the canal from a gutter carved into the mainland passes through a channel with a depth of 0.45 m and a width of 0.30 m, parallel to the forest road below it. During the road building, nearly all of the canal close to the forest road sustained extensive damage. On one side, the canal was carved into the mainland, while on the other, a mortared stone wall was created; on both sides, the canal was formed with mortared stone walls, and the inside was plastered with Khorasan. The waterway meets the asphalt pavement road that

5 For the Isaurians, see Kaplan and Tepebaş, 2015: p. 27-55.

6 Only Bildirici provides a brief description of this waterway, noting, "It is stated that a waterway delivering water to a religious structure on the left coast of Göksu." (Bildirici, 2009: p. 464). However, in the sketch he created (p. 462), he depicted this little waterway far further north than its current location.

leads to Karaböcülü (Çamlıbel) District after a total of 1.2 kilometres. It continues for 550 meters after the section that was demolished when the Çamlıbel road was opened and terminates at an arched cistern with a length of 15 meters, a width of 9.5 meters, and a depth of 5.5 meters on the bottom level at a height of 70 meters (Figure 14). The cistern walls' lower rows are built of 2.5-meter-long clean-cut stones, while the top section is made of Roman concrete mixed with tiny rubble stones. Khorasan plaster was used to plaster the interior walls up to the arch level.

Even the arches in the top portions of the side walls are made of Roman concrete poured on moulds supported from below, with stones placed within as filler material, rather than arch stones connected with keystones. Presumably, the top of building was covered, because the remnants of an arched wall linking the middle of the long sides are visible on the ground. In terms of building form and material, this river and cistern are likewise Byzantine constructions. The cistern lies 50 meters north of the uppermost current irrigation canal; there are no visible village ruins under the cistern, and the waterway ends here. Furthermore, the cistern's top and lower perimeters were gradually terraced with earthen ground and drywalls. It indicates that cistern water might have been used to irrigate the area with agricultural terraces surrounding the cistern.

4. Agricultural Irrigation Structures

Irrigated agriculture was not cultivated in the plain's region of Silifke, at least not in the Gazi and Göksu districts that remain inside the city today, according to historical records. On Göksu, however, another construction is not described in any source and that we have personally examined. This relic may be found in the Delik Geçme District, north of the city, around 390 to 400 m above the present irrigation regulator. This building's approximately 92 m long section of lime mortar stone walls, thicker than 2 m and tapering in the form of a triangular prism towards the top, which is believed to date from the Byzantine Period, has survived to the current day (Figure 15). The eastern part of the bend (below the Bükdeğirmeni District Road) has vanished entirely. People in the area refer to the bend as the "Infidel's Dam (Gavurun Barajı)".

Conclusion

Water was supplied to the settlement from a spring in the north of the city via waterways, including a bridge built over the Calycadnos River, during the Roman period, notably in the 2nd century AD. This magnificent feat of engineering could not be adequately protected or secured for what could have been one or multiple factors: damage incurred by the river's waters over time, and security problems in the region where the source is located; the cost of water system maintenance and repair; the attacks by the Isaurians in the north; and the city's growing population.

To fulfil the water demands of the Christian sanctuary Aya Tekla settlement, which was adjacent to the city, a second water system was built in the Early Byzantine Period, this time sourcing water from a different spring, southwest of the city.

The third channel for irrigation in a rural area near the city, along with a mortared stone wall dam in front of the river above today's modern regulator, were built to irrigate the plains area in the northern part of Seleucia, in addition to the aforementioned waterways. However, its construction was not related to the issues previously discussed.

The construction of dams and cisterns, waterways, and aqueducts along the ancient Seleucia shoreline demonstrates the city's massive architectural efforts to supply its water demands. These efforts were necessary because Aya Tekla is a pilgrimage site; as well, the city was built upland, away from the shore, to more effectively defend it from coastal invasions.

This study of Ancient Seleucia ad Calycadnum's water systems indicates that, in addition to the architectural design and material features of the water structures, the water systems of the city were inextricably linked to its economics, demographic structure, agricultural organization, and geographical and military placement.

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Appendix

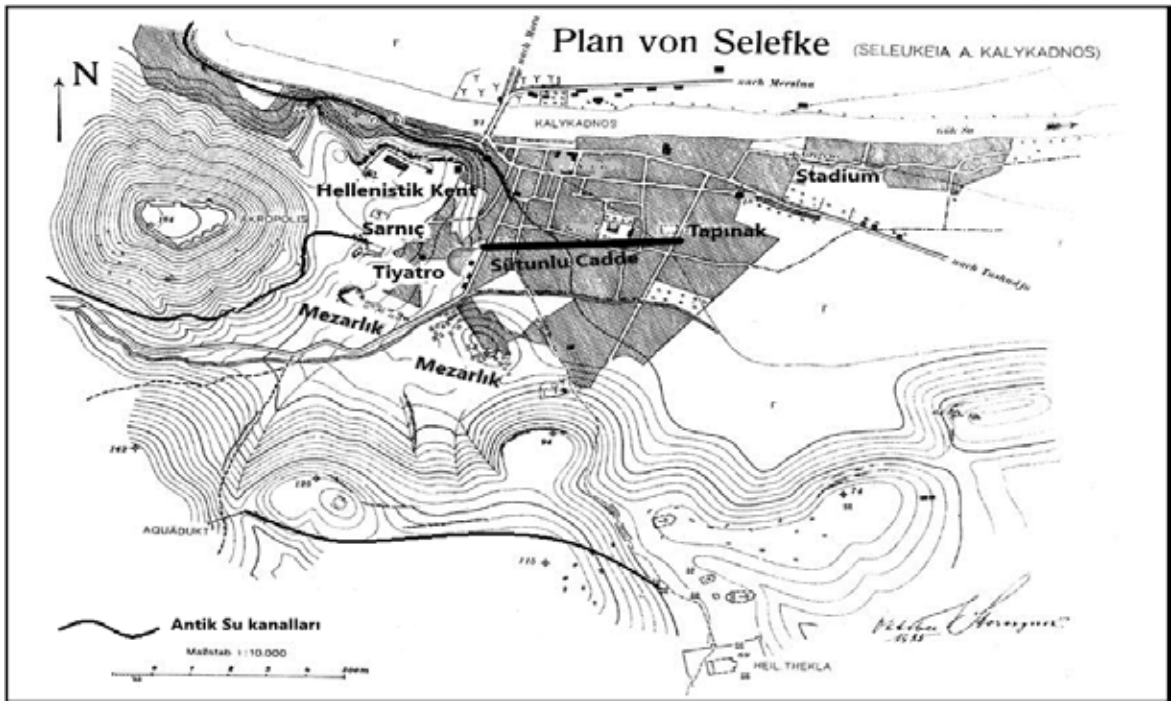

Figure 1: Roman Seleucia, (Possible) City Plan (MAMA III, Editing the 1925 Plan)

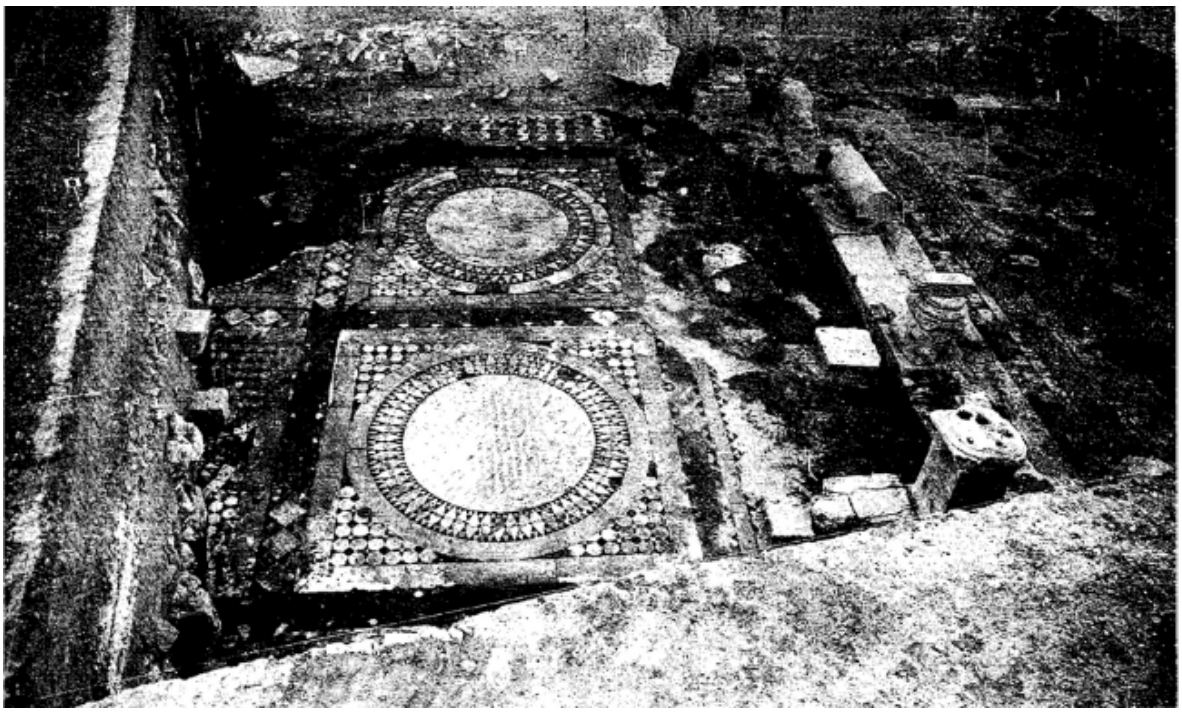

Figure 2: Mosaic Floor of the Bath (Şahin, 1991: p.167)

Figure 3: Seleucia First (Roman) Waterway Route

Figure 4: The beginning of the First (Roman) Waterway: Şıhlar (1st Aqueduct).

Figure 5: The beginning of First (Roman) Waterway: Göksu (2nd Aqueduct)

Figure 6: First (Roman) Waterway Tunnel (Around Eyceli)

Figure 7: Remains of the First (Roman) Waterway (Ankara District) Mahallesi

Figure 8: Seleucia Second (Byzantine) Waterway Route

Figure 9: Second (Byzantine) Waterway (Bahçebaşı Spring)

Figure 10: The 1st Aqueduct Carrying Water to Aya Tekla

Figure 11: The Waterway to Aya Tekla. Photo Taken During Herzfeld and Guyer's Expedition in 1907 (Herzfeld and Guyer, 1930)

Figure 12: Tekirambarı Water Cistern in the Early 20th Century (http://tr.pinterest.com/kemalemrek/silifke. 17.07.2020)

Figure 13: Third Waterway Route

Figure 14: The Cistern at the End of the Third Waterway

Figure 15: Gavurun Dam (Gavurun Barajı)

Crimean Coins Included in the Directorate of Hagia Sophia Museum Collection

Serap SINMAZ KILINÇ

Ayasofya Koleksiyonunda Yer Alan Kırım Sikkeleri*

Crimean Coins Included in the Hagia Sophia Collection

Serap SINMAZ KILINÇ**

Özet

Osmanlı İmparatorluğu'nun Kuzey Karadeniz'de son kalesi olarak kabul edilen Kırım Hanlığı; imparatorluğun ekonomik, siyasi, kültürel ve askeri alanlarında önemli bir rol oynamıştır. Kırım Hanlığı, Osmanlı devlet ananelerini idame ettirmiş ve hanlar, tahta çıktıklarında kendi adlarına para bastırmış, hutbe okutmuşlardır. İslami Dönem sikkelerini ele alan bu araştırmada, Ayasofya Müzesi Müdürlüğü İslami Sikke Koleksiyonu'nda yer alan 426 adet sikkenin Kırım hanlarına ait olan 42 adedi incelenmiştir.

Darp edildikleri hükümdarlara, ağırlıklarına, çaplarına, darp yeri ve tarihine göre tasnif edilen sikkelerin her biri tek tek fotoğraflanmış, boyut ve ağırlık ölçüleri alınmış; malzeme bilgisi, üzerindeki süsleme çeşidi ve Ayasofya Müzesi Müdürlüğü'ne intikali gibi çeşitli bakımlardan incelenmiştir. Sikkeler hakkında detaylı bilgiler müze envanter numarası altında tanıtılmış ve tanıtım sonrasında sikkenin künyesi ile ilgili bilgiler bir şema içerisinde toplanmıştır. Sikkeler, 18. yüzyılda Osmanlı topraklarına yerleşmeye hak kazanan Kazaklar tarafından bugünkü Balıkesir ili Manyas ilçesi Kocagöl köyüne getirilmiş ve burada Ortodoks Kazaklara ait kiliselere adak parası olarak bırakılmıştır. Adak parası/ Amulet yapılan sikkeler, ikonalara tutturulmak için delinmiş, zincir veya kulp takılmıştır. Zaman içerisinde kullanım sebebiyle aşırı derecede yıpranmış olduklarından birçoğunun sikke formu bozulmuş, kenarlarında kırıklar ve kesikler oluşmuş, üzerindeki yazıları silinmiştir. Sikkelerin çoğunda darp tarihine veya hangi hükümdar adına bastırıldığına dair bilgiye ulaşılamadığından kronolojik sıralama yerine Müze koleksiyonundaki envanter numarası sırası baz alınarak sikkelerin fiziki tanıtımı yapılmıştır.

İnceleme sonucunda elde edilen verilere göre; darp tarihi, darp yeri, malzeme, teknik, yazı ve süsleme özellikleri açısından sikkelerin değerlendirilmesinin yapılması Osmanlı tarihinde önemli yeri olan Kırım Hanlığı'nın, siyasi ekonomik ve kültürel tarihi hakkında ipuçları verirken, Kırım Hanlığı'na ve Osmanlı Devleti'ne ait sikke araştırmalarına katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Ayasofya Müzesi, Kırım Hanlığı, Sikke, Bahçesaray, Don Kazakları

Abstract

Considered as the last stronghold of the Ottoman Empire in the Northern Black Sea, the Crimean Khanate played an important role in the economic, political, cultural and military spheres of the empire. The Crimean Khanate maintained the Ottoman state customs and when the khans ascended the throne, they minted coins in their own name and make deliver khutbah. In this study, which deals with the coins of the Islamic period, 42 coins belonging to the Crimean Khans were examined, of the 426 in the Islamic coin collection of the Hagia Sophia Museum Directorate.

Each of the coins, which were classified according to the rulers for whom they were minted, their weight, diameter, place and date of the minting, were photographed one by one, their size and weight measurements were taken, they were examined in terms of material information, the type of decoration and their transfer to the Hagia Sophia Museum. Detailed information about the coins was introduced under the museum inventory number and after the introduction, the information about the coin's tag was collected in a diagram. In the 18th century, the coins were brought to the village of Kocagöl in today's Balıkesir province,

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** Museum Researcher / History Specialist, Hagia Sophia Museum Directorate, Binbirdirek Mah. At Meydanı Sokak, No:10 Sultanahmet/İstanbul, , serapsinmaz@gmail. com, ORCID ID: 0000-0002-5318-1488

Manyas district, by the Kazakhs who were entitled to settle in the Ottoman lands and left here as votive money to Orthodox Kazakh churches. The coins used as votive money/amulet were pierced, attached with chains or handles to pin them to the icons. Over time, since they were extremely worn due to use, the form of many coins was distorted, fractures and cuts occurred on the edges, and the writings on them were erased. Since most of the coins do not have information about the date of the minting and the name of the ruler for whom they were minted, they were physically introduced according to the inventory number instead of chronological order.

According to the data obtained as a result of the examination; it is thought that the evaluation of coins in terms of minting date, place of minting, material, technique, inscription and ornamentation features will give clues about the political, economic and cultural history of the Crimean Khanate, which has an important place in the Ottoman history, and will contribute to the numismatic researches on the Crimean Khanate and the Ottoman Empire.

Key Words: Hagia Sophia Museum, Crimean Khanate, Coin, Bahcesaray, Don Cossacks

Introduction

1. Crimean Khanate

As the last stronghold of Turkish heritage in Eastern Europe, the Crimean Khanate warrants closer examination. The Crimean Khanate is one of the longest-ruling branches of the Genghis Khan family (Kurat, 2002). A branch of Genghis' eldest son Jochi, descended from Toga Timur, settled in Crimea under the control of Toqtamış. The Crimean Khanate was founded by Hacı I Giray Khan in 1441 but the history of the state began in the 1420s. The oldest coin of the Khanate, dated 1441/42, belongs to its founder, Hacı Giray (Çiğdem, 2007: s. 134). The "Giray" Dynasty, descended from Hacı Giray, a Golden Horde prince descended from Genghis Khan, held the throne for about 350 years until the end of the Khanate. The Khanate includes the Crimean Peninsula, the Taman Region, and the steppes in the north of the peninsula. As one of the longest-lived states succeeding the Golden Horde empire, the Crimean Khanate was established in 1441 by Hacı I Giray Khan, a member of the Jochid dynasty of the Golden Horde, descended from Genghis Khan.

The head of a khanate was known as the "khan". The khan ruled with the approval and support of the four tribal chiefs and other members of the dynasty. The descendants of the khan were called sultans. In the Crimean Khanate, the "kalgay", second in line for the crown, referred to a type of heir, while "nureddin" was a term corresponding to the title of the second crown prince. The nureddin was the third in line for the crown (Urekli, 1988: p. 145-152). This title was established during the rule of Mehmet II Giray (Kancal, 1997: p. 180).

The Ottomans considered the Giray rulers as allies, first supporting them during rivalries with other Golden Horde clans and, after the 16th century, in conflicts with the Russians. The Crimean Khanate, the capital of which was Bakhchysarai, functioned as a buffer between the Ottoman lands and Russia and Poland.

The Ottoman involvement in the Crimean Khanate intensified in 1475, when Mehmet the Conqueror dispatched the Ottoman navy to Crimea under the command of Gedik Ahmed Pasha, appointing Menli I Giray as the khan, rather than the Genoese-supported Nur Devlet (İnalcık, 1944: s. 185-229). Following this manuever, the Ottoman Empire further increased its influence over the Khanate, with the Khanate handing Feodosia, a port city of Crimea, to the Ottomans (Çiğdem, 2007a: s. 133). Thereafter, one or more of the Crimean princes resided in Istanbul by way of the Sanjak-bey of Feodosia and were educated in accordance with the Ottoman state administration. This brought a further extension in the Ottoman influence over the Crimea (İnalcık, 1948: s. 478-487).

In 1484, Mengli I Giray joined the Akkerman Campaign with his army, alongside Bayezid II, the Ottoman sultan. The Crimean Khans started to take a place in the Ottoman army from the Akkerman Campaign until the annexation of Crimea (Ortaylı, 1996: s. 71-78). As the fastest-moving armed force of its age, Crimean Tatar horsemen fought in almost all the wars of the Ottoman Empire for almost 300 years, showing great

skill and bravery (Damalı, 2001: s. 320-321).

Islam III Giray, who ascended the throne in 1584 with the support of the Ottoman Empire, started the tradition of having the names of the Ottoman sultans in their sermon (Çiğdem, 2007b: s. 133) But the coins of the realm were minted in the name of the Girays (İnalcık, 1966: s. 36).

In particular, Khan Sahib I Giray (1532-1551) established settlements, increasing the population of the peninsula. He also used the Ottoman state structure as a model for transforming the tribal aristocracy into a centralized state.

In the latter half of the 16th century, Russia was gaining strength. In 1571, following numerous skirmishes with Russia, the Crimean army under the command of Devlet I Giray, who succeeded Sahib I as khan, successfully marched on Moscow. (Kırımlı, 1988: s. 243).

Article 3 of the Treaty of Küçük Kaynarca, signed in 1774, separated the Crimean khanate from the Ottoman Empire and made it an independent state. In 1783, the khanate was invaded by General Grigory Potemkin, serving under Empress Catherine II (Sertkaya, 2010: s. 465-69); 30,000 Crimean Tatars were slain (Çelik, 2013: s. 134). Between 1774 and 1783, the Russian army attacked the Crimean khanate three times under the guise of quelling internal challenges to the khanate throne (Kırımlı, 1998: s. 244).

On 19 April 1783, Catherine II decreed the annexation of Crimea to Russia in an edict (which is currently exhibited in the Khan's Palace Museum) (Kancal, 1997a s. 180).

Following its strategy of southern expansion, Russia established a military unit in Crimea, and made some attempts to eliminate the Muslim Crimean Tatars living in the region; their villages were evacuated, and their lands appropriated for settlements of Slavic and non-Muslim populations. As a result, Crimean Tatars fled their country in droves and started to migrate to the Ottoman Empire. This migration continued for approximately 150 years (Çelik, 2013a: s. 135).

Migration reached its peak in the 19th century. Immigrants sailed on Ottoman ships to Istanbul and the port cities along the Black Sea coast (Demirtaş, 2011: s. 17-44). To prevent overpopulation in the city, the Immigrant Commission (Muhacirin Komisyonu) was established on 1 January 1860. Determinations by the Commission resulted in Tatar settlements in Anatolia, including Polatlı, Haymana, Balıkesir, Gönen, Bandırma Mesudiye, Mihaliç, Adana, Giresun, Denizli and Manyas. Documents from 1861 indicate that immigrants from Crimea and Taman Island settled in Manyas during these years; as these documents state that the wages of Crimean immigrants settled in Razgrad and some of those settled in Manyas be transferred to Bandırma Pier (Çelik, 2013b: s. 137).

2. Transfer of Crimean Coins in the Coin Collection of the Hagia Sophia Museum

The Crimean khanate also fought with Russian-backed Circassians, Kalmyks and Cossacks to protect its lands. The Cossacks, mainly comprising Slavic peoples, were self-governing groups who settled between the Don River, which empties into the Sea of Azov, and the Dnieper and Aksu rivers, at the beginning of the 17th century. Those on the Don River side were called "Don Cossacks", while those living on the Ozi side were called "Zaporozhian Cossacks" or "Waterfall Cossacks" (Alpagu, 1990: s. 23-35).

The Don Cossacks were firmly attached to their own traditions and resistant to the reforms instituted by Tsar Peter I in 1683. Following the Bulavin Rebellion in 1707, a group of around three thousand Don Cossacks, led by Ignat Nekrasov, fled to the Kuban region, which was then under the rule of the Crimean khanate. Nekrasov and his group settled between the Anapa and Poçgur rivers. The Kazakhs, who had been fighting against the Ottoman Empire and the Crimean Khanate for years on the side of Russia, started to fight against Russia in the Ottoman and the Crimean armies after this migration. The Don Cossacks who settled in Kuban were known as Hal, Celali, Agnat, Inat and Nekrasov Cossacks (Bülbül, 2017: s. 97). As a result of the reforms implemented by Peter I, Russia lost the support of the Cossacks, who were a valuable fighting resource.

Cossacks fought against Russia in the Kuban army for 30 years and were settled in the Ottoman lands by Mehmet IV in recognition of their services to the empire. The Don Cossacks who emigrated to Anatolia founded the village of Kazaklar (Kocagöl) in 1740 on the coast of Manyas within the borders of what is today Balıkesir city. As fishing was a main source of their livelihoods in Crimea, the Don Cossacks similarly fished in Lake Manyas. They built thatched cottages (Eröz, 1963: p. 121-36) and continued their traditions with Don folk songs, as well as icons brought by priests from Russia every year. The coins brought by the Don Cossacks from Crimea were given to the church on holy days as offerings; they continued to live freely in the Ottoman lands while maintaining their traditions and beliefs (Fındıkoğlu, 1963: p. 151-66).

For more than two centuries, the Cossacks lived in Kocagöl village, however, intermarriage among the Turkish population was not encouraged. As the effects of the Cold War in the 19th century began to impact Cossack society in Turkey, the members of the community began emigrating to the USA and Russia in 1962. Since they could not bring the icons, coins, and other items from the churches, these objects were transferred to the Hagia Sophia Museum in 1971.

3. Coins of the Crimean Khans

The most durable and objective historical sources are considered to be epitaphs, metal objects, architectural works, tombstones, and money. After the strengthening of Ottoman-Crimean relations begun during the reign of Mehmet the Conqueror, the Crimean Khanate developed a decentralized structure like that of the Ottoman Empire in areas such as architecture, the economy, government administration, and military organization. The Crimean Khanate minted coins and delivered sermons as a sign of the state and the founding symbols of the Turkish states from its establishment until the Russian incursion in 1783 (Ağat, 1966: s. 8). The Crimean khans, similarly, followed a tradition of minting coins in their own names (Pamuk, 2005: s. 18).

The first coins of the Crimean khans were akçe – silver coins – that emulated Ottoman standards. Starting from the signing of the Treaty of Küçük Kaynarca, Russian influence on the Crimean Khanate grew; this influence extended to the coins minted by Crimean khans, which became more similar in form to European coins than to the Ottoman akçe[1].

The Hagia Sophia Museum's Islamic Coin Collection includes 426 Islamic coins, of which 42 belong to the Crimean khans. The other coins were minted in Istanbul on behalf of the Ottoman sultans. Of the 47 khans who ruled the state, these 42 Crimean coins are attributed to just eight khans: Selim I Giray, Devlet II Giray, Ğazı III Giray, Kaplan I Giray, Saadet IV Giray, Menli II Giray, Kırım Giray, and Şahin Giray Khan.

The Crimean coins in the Collection have a similar format as the Ottoman coins of the period: inscriptions are in Ottoman Turkish; the obverse of the coin bears the ruler's title (Giray), his name, and the name of his father. The reverse of the coin bears the mint's location, and the mint date per the Hijri calendar.

The Crimean Giray Khan coins were minted in Crimea, Kırkyer, Kaffa, Güzlü, and Odunpazar, and were minted in Bakhchysarai, the central city of the Khanate, from the time of Islam I Giray (Artuk, 1974: p. 818-820). The 42 coins in the Hagia Sophia Museum collection are silver and were minted in Bakhchysarai.

Some of the coins examined during the research exhibit a toothed pitchfork pattern called a tamga (), which was also used by ancient Turks (Gülensoy, 1989: s. 69). The tamga emblem was also used on carpets, seals, edicts, flags, coins, animals, and gravestones to indicate tribal affiliation.

Each of the khans of Crimea printed stamps on the coins they had minted (Akçoraklı, 1996: p. 23-24). Thus, the tamga emblem is seen in only 12 of the coins included in the research; the symbol is located on the back of the coin above the inscription. In the Islamic Coin Collection, the coins' inventory numbers are 354, 360, 363, 365, 381, 384, 385, 386, 394, 400, 405, 411 in the Islamic coin collection. The tamga was used on coins minted by Saadet IV Giray, Kaplan Giray, Kırım Giray, Ğazı Giray, and Menli Giray (Ağat, 1976).

In addition to the tamga, arrowhead patterns and symbols resembling (), the seal of prosperity, were

1 The Crimean khans used the symbols of their families when minting coins in their own names, much like the Ottoman Sultans used their own tughra on their coins. While the edges of the coins are made up of dots, the edges of dots are also seen in the Ottoman coins of the same period.

also found on coins. Two of these coins belong to Ğazı Giray and the others to Devlet II Giray, Kırım Giray and Saadet IV Giray – in total, five coins feature the (⁂) symbol. This "seal of prosperity" is described as the symbol of wealth and fertility and was also widely used on coins minted in Anatolia[2] (Teoman, 2004: s. 176).

On four of the coins belonging to the Crimean khans, an arrowhead symbol between the inscriptions was detected, again, similar to the coins of the Ottoman Empire rulers[3]. For the Turks, the arrow has various meanings: a symbol of unity, an established state, family, power, and an invitation. In its depiction on coins, the arrowhead represents a symbol of the existence of the state, thus suggesting an independent and powerful state (Çerezci, 2017: s. 33).

Despite their age and wear, most of the coins can be examined and understood. As these coins were devoted to churches, they have holes; some still bear the chains. While some of the coins' uneven shapes could be due to minting flaws or wear, it is believed that most were oval.

Most of the coins do not have a border; some bear an ornamental side border, consisting of dots, around the inscriptions. A star patterned border was seen on just one of the Crimean coins in the Collection (inventory number 391, minted in the name of Kırım Giray).

Around 1600, the akçe was replaced by heavier (1.3 gr) silver coins, and then by alloyed currency units with reduced purity and weights (Damalı, 2001a: s. 320). In the 42 Crimean coins examined, the lightest coins are those minted in the name of Kırım Giray (inventory numbers 394 and 400, weight 0.60 gr). The heaviest is the coin minted in the name of Şahin Giray (inventory number 364, weight 3.08 gr). The largest of the Crimean coins in the collection are those of Şahin Giray (inventory number 364) and Kırım Giray (inventory number 405); both are 21 mm in diameter. The coins of Kaplan Giray (inventory number 365) and Kırım Giray Khan (inventory number 398) are the smallest, with a diameter of 16 mm.

Detailed information on the Crimean coins is provided below under the inventory numbers. At the end of the article, a chronological list of the Crimean khans is provided. The khans associated with the coins examined in this research are shown in bold font.

Inventory Number: 242

The obverse of the coin is indistinct. On the reverse is written "Duribe fi Bakhchysarai 1172" (Minted in Bakhchysarai at 1172). Minted during the reign of Kırım Giray.

Catalog no: 1	Inventory Number: 242
Ruler: Kırım Giray Khan	
Obverse	Reverse
	
Could not read	Duribe fi Bakhchysarai 1172 (M.1758-59)
The coin was originally oval-shaped but has cuts and fractures on its edges. Two adjacent holes with link/chains attached.	

Inventory Number: 243

The inscription "Saadet Giray Khan bin Hacı Selim Giray Khan" on the obverse, and "Duribe fi Bakhchysarai" on the reverse, indicates that the coin was minted in Bakhchysarai during the reign of Saadet IV Giray.

2 A symbol (⁂) resembling the seal of prosperity was found on the reverse of coin number 363, minted during the reign of Saadet IV Khan; on the obverse of coin number 376, minted during the reign of Devlet II Giray Khan; on the obverse and reverse of coin number 394, minted during the reign of Ğazı Giray Khan; on the reverse of the coin number 395 minted during the reign of the same ruler; on the reverse of coin number 394, minted during the reign of Gazi Giray Khan; and on the reverse of coin number 408, minted during the reign of Kırım Giray Khan.

3 The coins were minted during the reigns of Saadet IV Giray Khan with inventory number 363; Şahin Giray Khan with inventory number 364; Kaplan Giray Khan with inventory number 382; and Kırım Giray Khan with inventory number 386.

Catalog no: 2	Inventory Number: 243
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
The coin was originally oval-shaped but has cuts and fractures on its edges. Two adjacent holes.	

Inventory Number: 354

Catalog no: 3	Inventory Number: 354
Ruler: Hacı Saadet Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Partially indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 355

Catalog no: 4	Inventory Number: 355
Ruler: Kırım Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Partially indistinct. Two holes opposite each other.	

Inventory Number: 356

Catalog no: 5	Inventory Number: 356
Ruler: Kırım Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Giray Devlet Giray Khan	Duribe fi Bakhchysarai at year ...
Mainly indistinct, with a broken edge. Two adjacent holes.	

Inventory Number: 357

Minted during the first years of the reign of Kırım Giray, the son of Devlet II Giray.

Catalog no: 6	Inventory Number: 357
Ruler: Kırım Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Well preserved, with a dotted border. Two holes on opposite sides of each other.	

Inventory Number: 358

From the time of Saadet IV Giray[4] (1717-1724), son of Selim I Giray[5]. Was originally oval but is worn. A hole has a link/chain attached. This coin was minted in Bakhchysarai, but the date is indistinct; it was most likely minted between 1129-30 per the Hijri calendar, as each ruler minted coins in his own name when he ascended the throne. Similar to Ottoman coins in terms of the thuluth stacked writing style and the arrangement

4 He ruled Crimea four times, between 1671-1678, 1684-1691, 1692-1699, and 1702-1704 (Hammer, 2013).

5 He was the father of Halim I Giray Khan, who ruled Crimea between 1755-1758. (Hammer, 2013a)

of the inscription; on the reverse is the ruler's name, that of his father. Border consisting of dots between the two lines on the obverse and reverse of the coin.

Catalog no: 7	Inventory Number: 358
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Mainly indistinct. A hole near the edge, with a link inserted, and another link attached to the inserted link.	

Inventory Number: 359

The Saadet I Giray coin was minted in Bakhchysarai in the 11th century per the Hijri calendar. Originally oval but worn. Two adjacent holes, each with links/chains attached. Border consisting of dots between the two lines on the obverse and reverse of the coin.

Catalog no: 8	Inventory Number: 359
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai 1129 (G.1716-17)
Two adjacent holes with link/chains attached. The edges are notably indistinct.	

Inventory Number: 360

The coin is extremely worn, with overall indistinct text. On the obverse, noted it belongs to Saadet IV Giray; on the reverse, that it was minted in Bakhchysarai. Saadet IV Giray (1662-1732), son of Selim I Giray, ruled as Khan of Crimea between 1717- 1724 (Hammer 2013b). Above the inscription is a tamga () belonging to the Crimean Khanate. The mint date cannot be read. Since rulers minted coins in their own names upon ascent to the throne, it is likely that this coin was minted in 1717, when Saadet IV Giray ascended. Two adjacent holes drilled into the top of the coin have link/chains. Originally oval but very worn, and the edges are fractured. It is believed that the coin was not minted properly, as the side border protrudes beyond the coin's edge.

Catalog no: 9	Inventory Number:360
Ruler: IV. Saadet Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Mainly indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 361

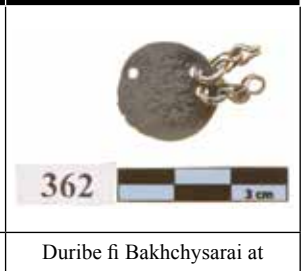
On the obverse: noted that it belongs to Saadet IV Giray. On the reverse: it was minted in Bakhchysarai.

Extremely worn. The writing is mainly indistinct, and the minting date cannot be discerned, although the word "year" can be read. It is likely that the coin was minted in 1717, the date of Saadet's accession. The coin has fractured edges and has lost its original oval form. Probably not minted properly, as the border protrudes beyond the coin's edge. Two adjacent holes with links/chains in each.

Catalog no: 10	Inventory Number: 361
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Partially indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 362

Extremely worn. Since rulers minted coins in their own names when they ascended the throne, it is possible that the coin was minted in 1717, when Saadet IV Giray took the throne.

Catalog no: 11	Inventory Number: 362
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Mainly indistinct. Two adjacent holes with a link/chain attached in each and one hole on the opposite side.	

Inventory Number: 363

Originally oval-shaped; fractured edges; very worn. Two holes opposite each other. The top of the coin's obverse has the inscription "khan" and the seal of prosperity (֎) below the inscription. The reverse bears the tamga (֎) of the Crimean Khanate at the top. Among the inscriptions, there are arrowhead symbols similar to the seal of prosperity (֎). This coin, which belongs to the reign of Saadet IV Giray, differs from the others due to these symbols.

The coins with inventory numbers 358, 359, 360, 361, 362, and 363 were minted in the name of Saadet IV Giray. As this coin was minted during the same ruler's reign, it is similar to the others in terms of form, writing style, and decoration. It is believed that the six coins mentioned above, which have indistinct dates, were minted in the name of Saadet IV Giray in the year of his accession to the throne (1717).

Catalog no: 12	Inventory Number: 363
Ruler: Saadet IV Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Mainly indistinct. Broken edges. Two holes opposite each other. .	

Inventory Number: 364

This coin belongs to Şahin Giray[6], the last Crimean Khan. On the obverse are three arrowheads around the inscription "Şahin Giray Khan bin Ahmet Giray Khan". On the reverse are arrowhead symbols above and below the inscription "Duribe fi Bakhchysarai year 1191", which indicates that the coin was minted in Bakhchysarai; the date indicates that the coin was minted during the First Khanate Period of Şahin Giray . The writing style is not stacked, the letters are more distinct and legible. There are two lines of side borders consisting of chains, with dots around them. It has two holes on opposite sides.

6 Ist Kaplan Giray ruled the Crimean Tatar Khanate three times between 1707-1708, 1713-1715, and 1730-1736 (Hammer, 2013d).

Catalog no: 13	Inventory Number: 364
Ruler: Şahin Giray	
Obverse	Reverse
	
Şahin Giray Khan bin Ahmet Giray Khan (Şahin Giray Khan son of Ahmet Giray Khan)	Duribe fi Bakhchysarai year 1191 (G. 1777-78)
There are two lines of side borders consisting of chains and dots around them. Well preserved. Two holes opposite each other.	

Inventory Number: 365

On the obverse is the inscription "Kaplan Giray Khan[7] bin Selim Giray Khan" on the obverse of the coin and the inscription "Duribe fi Bakhchysarai" under the tamga (𐰇) of the Crimean Khanate on the reverse. the inscription and mint date are indistinct. The mint date is unknown as Kaplan I Giray ascended the throne three times. A link is attached to the hole in the coin.

Catalog no: 14	Inventory Number: 365
Ruler: Kaplan I Giray bin Selim Giray Khan	
Obverse	Reverse
	
Kaplan Giray Khan bin Selim Giray Khan	Duribe fi Bakhchysarai at year ...
Partially indistinct. A hole with a link and a loop attached to the link.	

7 During his first reign, in 1702, when reports of Russian preparations for a major attack against Istanbul together with the Polish having castles built on the Ottoman borders were officially denied by the Russian Ambassador, Devlet Giray was dismissed by Sultan Mustafa II and his father, Selim I Giray, was declared khan for the fourth time. Devlet Giray took refuge in the Kuban region with the Circassians. Following the accession by Sultan Ahmet III to the Ottoman throne in 1703, in 1709 Devlet Giray began his second tenure as the Crimean Khan. In 1711, during the reign of Sultan Ahmet III, he commanded the Crimean forces in the Pruth River Campaign with the Russians, under the command of Grand Vizier Baltacı Mehmet Pasha (Hammer, 2013e).

Inventory Number: 366

Dating from the time of Kırım Giray, son of Devlet II Giray. On the reverse: the inscription "Duribe fi Bakhchysarai", indicating that the coin was minted in Bakhchysarai. Writing is indistinct and mint date unknown, as Kırım Giray ascended the throne twice. Very worn. Dotted border on the edges. Two adjacent holes and a link/chain attached to each hole.

Catalog no: 15	Inventory Number: 366
Ruler: Kırım Khan bin Devlet II Giray	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year ...
Considerably indistinct. The edges feature a dotted border. Two adjacent holes with link/chains attached.	

Inventory Number: 367

The coin belongs to Devlet II Giray, son of Hacı Selim. On the reverse is an inscription noting that it was minted in Bakhchysarai in 1111 per the Hijri calendar, during the First Khanate of Devlet II Giray, who ascended the throne twice. There are two holes in the coin; one hole is broken and the other has a link/chain attached. Not fully oval-shaped. Border is a single line of dots around the inscriptions.

Catalog no: 16	Inventory Number: 367
Ruler: Devlet Giray bin Hacı Selim Giray	
Obverse	Reverse
	
Devlet Giray bin Hacı Selim	Duribe fi Bakhchysarai year 1111 (G.1689-90)
Bent. Two adjacent holes at the edge. One hole is broken, the other has a link/chain attached.	

Inventory Number: 368

On the obverse is the inscription "Devlet Giray Khan bin Selim Giray Khan". Devlet Giray ruled the Crimean Khanate twice, between 1699-1702 and 1709-1713[8]. On the reverse is the inscription "Duribe fi Bakhchysarai 1121". The mint date (between 1709-1710 per the Gregorian calendar) shows that the coin was minted during the Second Khanate era of Devlet II Giray. Originally oval-shaped but bent. Contusions and fractures on the edges. Two holes opposite each other.

Catalog no: 17	Inventory Number: 368
Ruler: Devlet Giray Khan bin Selim Giray Khan	
Obverse	Reverse
	
Devlet Giray Khan bin Selim Giray Khan	Duribe fi Bakhchysarai year 1121 (G.1709-10)
Partially indistinct. Bent edges. Two holes opposite each other.	

Inventory Number: 371

The inscriptions, "Krim Khan bin Devlet Giray Khan" and "Duribe fi Bakhchysarai year 1172" indicate that the coin was minted during the second reign of Kırım. The coin is bent and has fractured edges. There is a dotted border around the inscriptions; two holes on opposite sides of the coin.

Catalog no: 18	Inventory Number: 371
Ruler: Kırım Khan bin Devlet II Giray Khan	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172 (M.1758-59)
Very indistinct. Bent edges. Two holes on opposite sides.	

8 Kırım Giray ruled the Crimean Khanate twice, in 1699-1702 and in 1709-1713. His father was Devlet II Giray Khan (Hammer, 2013g).

Inventory Number: 373

It was minted during the reign of Kırım Khan, son of Devlet Giray. On the reverse side of the coin, from the inscription, it was minted in Bakhchysarai can be read, but the mint date cannot be read. Since Kırım ruled the Khanate twice, it is not possible to determine the coin's mint date. Originally oval-formed but has bent over time. Edges are fractured. Inscriptions are indistinct. Two holes on opposite sides.

Catalog no: 19	Inventory Number: 373
Ruler: Kırım Khan bin Devlet II Giray	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year ...
Partially indistinct. Not perfectly round. Two holes opposite each other on the edge.	

Inventory Number: 378

The coin was minted in Bakhchysarai, but the mint date cannot be read. Minted during the reign of Selim Giray's son, Devlet II Giray. Extremely worn.

Catalog no: 20	Inventory Number:378
Ruler: Devlet Giray Khan bin Selim Giray Khan	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan"	Duribe fi Bakhchysarai at year ...
Extremely worn. Two adjacent holes with link/chains attached.	

Inventory Number: 379

Coin minted during the reign of Devlet II Giray. Reverse side bears mint date of 1119 per the Hijri calendar. Minted in Bakhchysarai. Oval shaped but deformed. Edges have fractures and cuts. Two adjacent holes with link/chains attached. On the obverse is a symbol resembling the seal of prosperity (⛓).

Catalog no: 21	Inventory Number:379
Ruler: II. Devlet Giray bin Selim Giray	
Obverse	Reverse
	
Devlet Giray Khan bin Selim Giray Khan	Duribe fi Bakhchysarai at year 1119 (M.1707-08)
Seal of Prosperity in the middle. Not perfectly round. Extremely worn. Edges are indistinct.	

Inventory Number: 381

On the obverse is the inscription “Saadet Giray Khan bin Hacı Selim Giray Khan”; Saadet Giray ruled between 1717-1724. On the reverse is the inscription “Duribe fi Bakhchysarai 1129” under the tamga (⛓) of the Crimean Khanate. Inscription surrounded by a dotted line border. Was oval-shaped but very worn. Edges are fractured. Two holes on opposite sides.

Catalog no: 22	Inventory Number:381
Ruler: Saadet Giray Khan bin Hacı Selim Giray Khan	
Obverse	Reverse
	
Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai year 1129 (M.1716-17)
Very worn. Edges are fractured. Two holes on opposite sides.	

Inventory Number: 382

On the obverse is the inscription “Kaplan Giray Khan bin Hacı Selim Giray”; Kaplan I Giray ruled the Crimean Tatar Khanate three times, in 1707-1708, 1713-1715, and 1730-1736. On the reverse is the inscription “Duribe fi Bakhchysarai”. There is an arrowhead symbol between the inscriptions.

Catalog no: 23	Inventory Number:382
Ruler: Kaplan I Giray bin Hacı Selim I Giray Khan	
Obverse	Reverse
	
Kaplan Giray bin Hacı Selim Khan	Duribe fi Bakhchysarai at year ...
Quite indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 384

On the obverse is the inscription “Mengli Giray Khan bin Hacı Giray Khan”; Mengli I Giray ruled the Crimean Tatar Khanate three times, in 1467, 1469-1475, and 1478-1515 (Hammer, 2013f). On the reverse is a tamga (⛓), the symbol of the Crimean Khanate, above the inscription “Duribe fi Bakhchysarai”. It is possible that the coin was not minted during the first reign of Mengli Giray, as he was in Kırkyer at that time. There is a dotted line border around the inscriptions

Catalog no: 24	Inventory Number:384
Ruler: Mengli I Giray Khan bin Hacı Giray Khan	
Obverse	Reverse
	
Mengli Giray Khan bin Hacı Giray Khan	Duribe fi Bakhchysarai at year ...
Mostly indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 385

The obverse of the coin is largely indistinct and thus it cannot be determined which Crimean khan minted it. Its readable letters and its form suggest that it belongs to a son of Hacı Selim Giray. There is the inscription "Duribe fi Bakhchysarai" under the tamga (). The mint date is illegible.

Catalog no: 25	Inventory Number:385
Ruler: I. Selim Giray	
Obverse	Reverse
	
Selim Giray Khan ...	Duribe fi Bakhchysarai at year…
Irregularly shaped. Mostly indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 386

On the obverse is the inscription "Kırım Giray9 bin Devlet Giray Khan" and an arrowhead in the centre of the inscription. On the reverse is the inscription "Duribe fi Bakhchysarai" and a tamga () below the inscription. Dotted border around the inscriptions. Mint date is illegible.

Catalog no: 26	Inventory Number:386
Hükümdarı: Kırım Giray Han bin II. Devlet Giray Han	
Obverse	Reverse
	
"Kırım Giray bin Devlet Giray Khan"	"Duribe fi Bakhchysarai at year ..."
Irregularly shaped. Two adjacent holes with link/chains attached.	

Inventory Number: 391

On the obverse is the inscription "Krim Giray Khan bin Devlet Giray Khan". On the reverse is the inscription "Duribe fi Bakhchysarai 1172". Since it was minted between 1758-1759 per the Gregorian calendar, it may belong to Kırım Giray's first khanate. Border of stars around the inscriptions.

Catalog no: 27	Inventory Number:391
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Mostly indistinct. Two adjacent holes with link/chains attached.	

Inventory Number: 392

Catalog no: 28	Inventory Number:392
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Partially indistinct. Dotted border. Two adjacent holes with link/ chains attached.	

Inventory Number: 394

On the obverse is the inscription "Gazi Giray Khan bin Hacı Selim Khan". On the reverse is the inscription "Duribe fi Bakhchysarai", with a tamga () above the inscription. Between the inscriptions on both sides of the coin is a symbol resembling the seal of prosperity.

No border on the edges. Was originally oval but very worn. Ğazı III Giray became a kalgay during the fourth khanate of his father, Selim I Giray. After the death of his father, Ğazı III Giray ascended the throne in 1704 and ruled until 1707.

Catalog no: 29	Inventory Number:394
Ruler: Gazi Giray Khan bin Hacı Selim Giray Khan	
Obverse	Reverse
	
Gazi Giray Khan bin Hacı Selim Khan	Duribe fi Bakhchysarai at year ...
Quite indistinct. Two holes on opposite sides.	

Inventory Number: 395

On the obverse is the inscription “Gazi Giray Khan bin Hacı Selim Khan” and the (88) symbol, similar to the seal of prosperity, between the inscriptions. On the reverse is “Duribe fi Bakhchysarai year 1115”. No border on the edges.

Catalog no: 30	Inventory Number:395
Ruler: Gazi Giray bin Hacı Selim Giray	
Obverse	Reverse
	
Gazi Giray Khan bin Hacı Selim Khan	Duribe fi Bakhchysarai year 1115 (G.1703-04)
Very indistinct. Not perfectly round. Two adjacent holes with link/chains attached.	

Inventory Number: 396

Catalog no: 31	Inventory Number:396
Ruler: Kırım Giray bin Devlet Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray	Duribe fi Bakhchysarai at year ...
Worn and indistinct. Edges have fractures and tears. Two adjacent holes with link/chains attached.	

Inventory Number: 398

Catalog no: 32	Inventory Number:398
Ruler: Kırım Giray bin Devlet Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray	Duribe fi Bakhchysarai at year ...
Very indistinct. Edges are fractured. Two adjacent holes with link/chains attached.	

Inventory Number: 399

Catalog no: 33	Inventory Number:399
Ruler: Kırım Giray Khan bin Devlet II Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (M.1758-59)
Very worn. Not perfectly round. Three holes, two are adjacent and the third is smaller and just below one of the larger holes. Chain/links attached to the two adjacent holes	

Inventory Number: 401

Catalog no: 35	Inventory Number:401
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray bin Devlet Giray	Duribe fi Bakhchysarai at year ...
Very indistinct. Edges are broken. Two holes opposite each other.	

Inventory Number: 400

On the obverse is the inscription “Krim Giray Khan bin Devlet Giray Khan”. On the reverse is the inscription “Duribe fi Bakhchysarai”; a tamga (𐰘) is above the inscription.

Catalog no: 34	Inventory Number:400
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year ...
Very indistinct. Edge has a fracture. Two adjacent holes with link/ chains attached.	

Inventory Number: 405

On the obverse is the inscription “Kırım Giray Khan bin Devlet Giray Khan”. On the reverse is the inscription “Duribe fi Bakhchysarai” and a tamga (𐰘) above the inscription.

Catalog no: 36	Inventory Number:405
Ruler: Kırım Giray Khan bin Devlet II Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year ...
Inscription is indistinct but visible. Two adjacent holes, one of which is torn.	

Inventory Number: 406

Catalog no: 37	Inventory Number:406
Ruler: Kırım Giray Khan bin Devlet II Giray Khan	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (M. 1758-59)
Very indistinct. Edges have tears. Two adjacent holes with link/ chains attached.	

Inventory Number: 407

Catalog no: 38	Inventory Number:407
Hükümdarı: Kırım Giray bin II. Devlet Giray	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai…
Very worn. Two adjacent holes and a smaller hole on the opposite side. One of the larger holes is torn.	

Inventory Number: 408

On the reverse are inscriptions, and a symbol similar to the seal of prosperity (֎).

Catalog no: 39	Inventory Number:408
Ruler: Kırım Giray bin Devlet Giray	
Obverse	Reverse
	
Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai...
Very worn. Not perfectly round. Two adjacent holes with link/ chains attached.	

Inventory Number: 410

Catalog no: 40	Inventory Number:410
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (M.1758-59)
Very worn. Edge has tears. Two adjacent holes with link/chains attached.	

Inventory Number: 411

Obversende “Kırım Giray Khan bin Devlet Giray Khan” yazısı; Reversende tamga altında “Duribe fi Bakhchysarai sene 1182” yazısı bulunmaktadır.

On the obverse is the inscription “Kırım Giray Khan bin Devlet Giray Khan”. On the reverse is the inscription “Duribe fi Bakhchysarai year 1182” and a tamga ( ) above the inscription.

Catalog no: 41	Inventory Number:411
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai year 1182 (G.1768-69)
Very worn. Not perfectly round. Two adjacent holes with link/ chains attached.	

Inventory Number: 412

Catalog no: 42	Inventory Number:412
Ruler: Kırım Giray bin Devlet II Giray	
Obverse	Reverse
	
Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai at year 1172 (G.1758-59)
Very worn. Edge is fractured. Two adjacent holes with link/chains attached.	

Conclusion

In nations and states, a change of administration can lead to superficial or fundamental reforms in the economy. These economy-related reforms can also affect the coins of the state in terms of value, size, and composition. Metals used in coins, such as gold, silver, bronze, and copper, provide information on the state’s economic power. Coins are a significant resource in interpreting states’ economic histories.

Changes to a coin’s design – for instance, inscriptions, symbols, and other images – can offer information on shifts in that society. For example, the names of emperors inscribed on coins together with the names of their fathers indicate a dynastic dominance in lands owned by the state, as do writing styles, symbols and ornamental motifs, and the physical forms of the coins. Studies of the Crimean coins reveal a strong connection of the khanate to its roots and traditions, via the use of the dynastic tamga on the coins. As well, the coins’ design and physical characteristics reveal the influence of certain nations. It has been observed that the Crimean coins and the Ottoman coins are nearly alike. After Russia annexed the Crimean Khanate, a similar likeness to Russian coins began to manifest in Crimean coins, thus demonstrating this influence.

Coins are primary sources that provide valuable historical information: they were used in daily life, and they tend to be durable. The classification of data from the Crimean coins and the detailed investigation of their physical properties offers information that can be a source for further interdisciplinary studies.

The transfer of the Crimean coins to the Hagia Sophia Museum offers an opportunity to acquire more information on the migration of the Don Cossacks to the Ottoman lands, as well as their migration’s architectural, social, and agricultural impacts on the regions where they settled.

Within the scope of our study, we aimed to present clear and comprehensive information on the Crimean Khanate and its coins, as well as the Don Cossacks who migrated to the Ottoman Empire.

5. Classification of Crimean Coins

Inventory Number	Explanation	Type	Weight	Diameter	Obverse	Reverse
242	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1.25 gr	18 mm	Illegible	Duribe fi Bakhchysarai 1172
243	Islamic coin / Crimean Khanate / Saadet IV Giray Khan bin Hacı Selim I Giray Khan	Silver	0.75 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai
354	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1.95 gr	18 mm	Kırım Giray Khan bin Giray Devlet Giray Khan	Duribe fi Bakhchysarai 1172
355	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1 gr	18 mm	Kırım Giray Khan bin Giray Devlet Giray Khan	Duribe fi Bakhchysarai 1172
356	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	0,85 gr	19 mm	Kırım Giray Khan bin Giray Devlet Giray Khan	Duribe fi Bakhchysarai
357	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	0.9 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172
358	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	1.25 gr	19 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai
359	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	1.75 gr	17 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai 11...
360	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	1.75 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai
361	Islamic coin / Crimean Khanate / Saadet IV Giray Khan bin Haci Selim Giray Khan	Silver	1.7 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai sene
362	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	1.9 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai
363	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	1 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai
364	Islamic coin / Crimean Khanate / Şahin Giray Khan bin Ahmet Giray Khan	Silver	3.08 gr	21 mm	Şahin Giray Khan bin Ahmet Giray Khan (Şahin Giray Khan son of Ahmet Giray Khan)	2 Duribe fi Bakhchysarai sene 1191
365	Islamic coin / Crimean Khanate / Kaplan I Giray Khan bin Selim Giray I Khan	Silver	1.15 gr	16 mm	Kaplan Giray Han bin Selim Giray Han	Duribe fi Bakhchysarai
366	Islamic coin / Crimean Khanate / Kırım Khan bin Devlet II Giray Khan	Silver	1.7 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
367	Islamic coin / Crimean Khanate/ Devlet Giray bin Hacı Selim Giray	Silver	1.15 gr	16 mm	Devlet Giray bin Hacı Selim	Duribe fi Bakhchysarai sene 1111
368	Islamic coin / Crimean Khanate/ Devlet Giray Khan bin Selim Giray Khan	Silver	0.9 gr	18 mm	Devlet Giray Khan bin Selim Giray Khan	Duribe fi Bakhchysarai sene 1121
371	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	0.95 gr	17 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172
373	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	0.9 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
378	Islamic coin / Crimean Khanate/ Devlet Giray Khan bin Selim Giray Khan	Silver	1.45 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai

379	islami sikke / Kırım Hanlığı/ II. Devlet Giray Khan bin Selim Giray Khan	Silver	1.15 gr	18 mm	Devlet Giray Khan bin Selim Giray Khan	Duribe fi Bakhchysarai 1119
381	Islamic coin / Crimean Khanate/ Saadet Giray Khan bin Hacı Selim Giray Khan	Silver	0.9 gr	18 mm	Saadet Giray Khan bin Hacı Selim Giray Khan	Duribe fi Bakhchysarai sene 1129
382	Islamic coin / Crimean Khanate / Kaplan Giray I Khan bin Hacı Selim I Giray Khan	Silver	1.7 gr	18 mm	Kaplan Giray Khan bin Hacı Selim Giray Khan"	Duribe fi Bakhchysarai
384	Islamic coin / Crimean Khanate / Menli Giray Khan bin Haci Giray Khan	Silver	1.45 gr	17 mm	Mengli Giray Khan bin Hacı Giray Khan	Duribe fi Bakhchysarai
385	İslami sikke / Kırım Hanlığı/ I. Selim Giray	Silver	1.9 gr	17 mm	Selim Giray Khan	Duribe fi Bakhchysarai
386	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1.55 gr	17 mm	Kırım Giray bin Devlet Giray Khan	Duribe fi Bakhchysarai
391	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1.7 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172
392	Islamic coin / Crimean Khanate / Kırım Giray Khan bin Devlet II Giray Khan	Silver	1.6 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
394	Islamic coin / Crimean Khanate/ Gazi Giray bin Hacı Selim Giray	Silver	0.95 gr	18 mm	Gazi Giray Han bin Hacı Selim Han	Duribe fi Bakhchysarai
395	Islamic coin / Crimean Khanate/ Gazi Giray bin Haci Selim I Giray	Silver	1.8 gr	19 mm	Gazi Giray Han bin Hacı Selim Han"	Duribe fi Bakhchysarai 1116
396	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.7 gr	20 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
398	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.4 gr	16 mm	Kırım Giray Han bin Devlet Giray	Duribe fi Bakhchysarai
399	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.45 gr	17 mm	Kırım Giray Khan bin Devlet Giray Khan"	Duribe fi Bakhchysarai 1172
400	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.6 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
401	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	0.95 gr	18 mm	Kırım Giray bin Devlet Giray	Duribe fi Bakhchysarai
405	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	0.9 gr	21 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
406	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.4 gr	18 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172
407	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	0.65 gr	20 mm	Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
408	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.25 gr	17 mm	Kırım Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai
410	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.75 gr	18 mm	Kırım Giray bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172
411	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.5 gr	19 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1182
412	Islamic coin / Crimean Khanate / Crimean Giray bin Devlet II Giray	Silver	1.75 gr	19 mm	Kırım Giray Khan bin Devlet Giray Khan	Duribe fi Bakhchysarai 1172

6. Chronological List of Crimean Khans

1. Hacı I Giray Khan (1456-1466)
2. Meñli I Giray Khan (1467-1474,1475-1476, 1478-1514)
3. Mehmed I Giray Khan (1514-1523)
4. Ğazı I Giray Khan (1523-1524)
5. Saadet I Giray Khan (1524-1532)
6. İslâm I Giray Khan (1532)
7. Sahib I Giray Khan (1532-1551)
8. Devlet I Giray Khan (1551-1577)
9. Mehmed II Giray Khan (1577-1584)
10. İslâm II Giray Khan (1584-1588)
11. Ğazı II Giray Khan (1588-1596,1596-1608)
12. Fetih I Giray Khan (1596)
13. Toqtamış Giray Khan (1608)
14. Selâmet I Giray Khan (1608-1610)
15. Canibek Giray Khan (16010-1623,1624,1627-1635)
16. Mehmed III Giray Khan (1610,1623-1627)
17. İnayet Giray Khan (1637-1641)
18. Bahadır I Giray Khan (1641-1644, 1654- 1666)
19. Mehmed IV Giray Khan (1641-1644, 1654-1666)
20. İslâm III Giray Khan (1644-1654)
21. Adil Giray Khan (1666-1671)
22. **Selim I Giray Khan (1671-1678,1684-1691, 1692-1699, 1702-1704)**
23. Murad Giray Khan (1678-1683)
24. Hacı II Giray Khan (1682-1684)
25. Saadet II Giray Khan (1691)
26. Safa Giray Khan (1691-1692)
27. **Devlet II Giray Khan (1704-1707)**
28. **Ğazı III Giray Khan (1704-1707)**
29. **Qaplan I Giray Khan (1707-1708, 1713-1716, 1730-1736)**
30. (Kara) Devlet III Giray Khan (1716-1717)
31. **Saadet IV Giray Khan (1717-1724)**
32. **Meñli II Giray Khan (1724-1730, 1737-1740)**
33. Feth Giray Khan (1736-1737)
34. Selâmet II Giray Khan (1740-1743)
35. Selim II Giray Khan (1743-1748) 36.
37. Halim Giray Khan (1756-1758)
38. **Kırım Giray Khan (1758-1764, 1768-1769)**
39. Selim III Giray Khan (1764-1767, 1770-1771)
40. Maksud Giray Khan (1767-1768, 1771-1772)
41. Devlet IV Giray Khan (1769-1770, 1775-1777)
42. Kaplan II Giray Khan (1770)
43. Sahib II Giray Khan 1772-1775
44. **Şahin Giray Khan 1777-1782, 1783)**
45. Bahadır Giray Khan 1782-1783
46. Şehbaz Giray Khan (1787-1789)
47. Baht Giray Khan (1789-1792)

Note: The names of the Crimean khans whose coins were examined within the scope of the study are indicated in bold font.

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