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Editorial

On February 6, 2023, Türkiye was once again confronted with the reality of a disastrous earthquake. This great tragedy, in which we lost more than 50,000 citizens, reminded us how important it is for our country to be prepared for future catastrophic events. We hope that by learning from this disaster we will take necessary precautions so we will not face such pain again.

Earthquake disasters are a great threat to the cultural values of our country and to our citizens. This earthquake has shown us that measures needed to be taken so that there are no additional losses of our valuable cultural heritage, which has a history of thousands of years. Preparations made by the Ministry of Culture and Tourism, in the renovation of buildings and quick action following this disaster, have made it possible for our cultural wealth to survive such catastrophes with minimal losses. Details of the activities carried out by our Ministry during the aftermath of the earthquake are in the current section of this magazine.

The first article in our new issue is by Nicholas Cahill, who has been conducting excavations in the ancient city of Sardis, the capital of Lydia, for many years. In his article entitled *"The Lydian Palaces at Sardis in the Light of New Research",* excavations in this famous ancient city, discoveries made during the work, and findings about the structures presumed to be palaces are conveyed. Vedat Keleş and Salih Pekgöz, in their article *"Evaluations on the Oil Lamps Found in the North East of the Postscaenium Section of the Parion Theater",* discuss the periodic characteristics of the lamps unearthed during the excavations in the theatre of the Ancient City of Parion; favoured by various civilisations throughout its history due to its strategic location. You can read reflections on the developments of art and museology in the cyber world, which is rapidly becoming more widespread today, in the article by Fatma Sezin Doğruer titled *"Museum Experience of the Digital Age: Metaverse Museum".* The articles by Volkan Genç and Muhittin Çiçek entitled *"The Role of Interactive Applications in The Museum Experience: The Example of Gobeklitepe Ruins And Şanlıurfa Archaeology Museum",* in which they compare the impact of interactive applications on the visitor experience using examples of a museum and an archaeological site in the same region. In her article entitled *"Kars Traditional Caucasian, Ottoman, Turkmen Women's Clothing and Interactions",* Emine Erdoğan engages our readers who are interested in museological approaches, through an examination of traditional clothing patterns that are important elements of Kars' cultural values. Yasemin Dalgiç, Nagihan Arikan, Seda Esen, Turhan Doğan, and Erhan İlkmen, in their collaborative article entitled *"Tomb of İsa Sofi with Shamanastic Motifs: Plaster Characterization and C-14 Analysis",* discuss the tomb of İsa Sofi, whose history has long been unclear, and describe the research process used to date the unique decorations of the tomb using scientific data. In her article entitled *"Uses of Multiple Senses for The Visually Improved Museum Visitors",* Zeynep Aktop provides information on contemporary practises in museums for a group whose access to museums has been limited for many years. Fatma Seda Çardak and Giovanni Salmeri provide information about the Kültürpark project proposed in the *"Misis Ancient City Management Plan"* to protect the cultural values of Misis in the article entitled *"Culturpark Design Model Proposal for the Ancient City of Misis".* Misis was one of the most important cities in the ancient region of Cilicia but has lost much of its cultural heritage due to natural disasters and human settlements.

See you in the next issue, I wish everyone a good read.

Prof. Dr. Harun TAŞKIRAN

Table of Contents

Research Papers

Thesis Summary

Museum Article

The Lydian Palaces at Sardis in the Light of New Research

Nicholas CAHILL

Research Paper

Cahill, N. (2023). The Lydian Palaces at Sardis in the Light of New Research,
Türk Arkeoloji ve Etnografya Dergisi, 86, 11-41.

The Lydian Palaces at Sardis in the Light of New Research*

Yeni Araştırmalar Işığında Sardis'te Lidya Sarayları

Nicholas CAHILL**

Abstract

The palace of the Lydian kings, and in particular the palace of Croesus, was famous in antiquity, and has been sought by visitors and archaeologists for centuries. Recent excavation in the center of Lydian Sardis allows us to identify a region intermediate between the Acropolis and the lower city as the site of one palatial complex. The steep topography was regularized and expanded through monumental terraces over a period of more than two millennia. Elite architecture and finds give us an impression of the buildings on these terraces in the Lydian period, although systematic salvage and looting have removed most structures. Recent finds include the remains of the Persian sack of Sardis in 547, including human remains and a hoard of Lydian silver coins. A second palatial complex was identified on the Acropolis, perhaps linked to the lower palace through a tunnel. The area of the lower palace has produced a long sequence of monumental occupation, including Early Iron Age and Bronze Age buildings, the earliest occupation remains yet discovered at the city.

Key Words: Lydia, Sardis, Palace of Croesus, Archaeology, Excavation

Özet

Lidya krallarının, özellikle de Kral Kroisos'un sarayı geçmişte çok ünlüydü; dolayısıyla yeri ziyaretçiler ve arkeologlar tarafından yüzyıllar boyunca araştırılmıştır. Lidya Dönemi Sardisi'nin merkezindeki güncel kazılar, Akropol ve aşağı şehir arasında orta kademeli bir bölgeyi saray kompleksinin mevkii olarak tanımlamamızı sağlamıştır. Bu mevkinin sarp yerbetimi iki bin yılı aşkın süre boyunca anıtsal teras yapılarıyla düzenlenmiş ve genişletilmiştir. Lidya Dönemindeki terasların üzerindeki binalar sistemli olarak yerlerinden sökülüp talan edilmiş durumda olsalar bile, geriye kalan seçkin mimari ve küçük buluntular bize bu yapılar hakkında fikir vermektedir. Yeni buluntular Sardis'in Persler tarafından yağmalandığı MÖ 547 yılına aittir ve aralarında insan kalıntıları ile gümüş Lidya sikkelerinden oluşan bir define de bulunmaktadır. Aşağı saraya bir tünelle bağlanmış olması muhtemel ikinci bir saray kompleksi ise Akropolde tanımlanmıştır. Aşağı saray bölgesi, Erken Demir Çağı ve Tunç Çağı yapılarını da içeren uzun soluklu anıtsal iskan tarihini açığa çıkarmıştır ancak bu erken tabakalar aşağı şehirde henüz keşfedilmeyi beklemektedir.

Anahtar Kelimeler: Lidya, Sardis, Kroisos Sarayı, Arkeoloji, Kazı.

Introduction

The Palace of Croesus at Sardis achieved a legendary stature in Greek and Latin literature, and among ancient and more modern travelers. The palace was the setting of famous encounters in the *Histories* of Herodotus, such as Croesus' meeting with the philosopher Solon (1.30) in which the king was told, but does not learn, to count no man blessed before he is dead; and of Croesus' gift to Alcmaeon of as much gold as he could carry (6.125), thus establishing the fortunes of this famous Athenian aristocratic family. Bacchylides describes the destruction of the palace when Cyrus captured Sardis, and Apollo's miraculous preservation of Croesus from the pyre (Bacchylides 3), a story repeated, with some variations, by Herodotus (1.84ff).

* Geliş Tarihi: 05.05.2022 - Kabul Tarihi: 06.07.2022

** Professor, Department of Art History, University of Wisconsin-Madison, Madison, WI 53706 U.S.A., 800 University Ave. Madison, WI 53706 U.S.A., ndcahill@wisc.edu, ORCID ID: 0000-0001-6384-177X

Literary clues to the location of the palace are relatively few. In his account of Alexander the Great's arrival at Sardis, Arrian (1.17) relates how the conquerer climbed the Acropolis where the Persian garrison was stationed, and was searching for the best place to build a temple of Zeus Olympios on the citadel, when a sudden rainstorm fell on the spot where the palace of the Lydian kings was located. Taking this as a divine sign, Alexander ordered the temple to be built at that spot. Arrian's account does not clearly specify, however, whether the palace was on the Acropolis near Alexander, or simply visible from the Acropolis (Briant, 1993)

Vitruvius (*De Archit*. 2.8.10) cites the palace of Croesus, together with the palaces of Mausolus at Halicarnassus and of the Attalid kings at Tralleis, as an example of the longevity of mudbrick buildings, writing that the Sardians had converted this building to a *gerousia*, a meeting-house or *collegio* for elder citizens. While it is tempting to accept Vitruvius's account at face value and assume, as many scholars have, that the palace was still visible in the Roman period, we cannot take this for granted.

With more wishful thinking than archaeological evidence, early travelers identified the most prominent ancient ruin at Sardis as the palace of Croesus. In his visit of 1750, Robert Wood identified *"the remains of a spacious & splendid fabrick which we fancy to have been a palace, see our plan, there are the walls of 4 or 5 rooms standing & the traces of several more to a vast extent. The walls are built of brick & ornaments of white marble which may be seen from the prodigious quantity of it lying about & some fine granite Pillars."* (Yegül, 1986: p.3) The description, and drawings by the expedition's draftsman Giovanni Battista Borra, make it clear that this was actually the Roman Bath-Gymnasium complex, but despite corrections by Charles Texier and others, the identification persisted; and this Roman complex was long pointed out to visitors as the famous palace (Greenewalt et al., 2003: p.36-37)[1]

When Prof. G.M.A. Hanfmann established the Sardis Expedition in 1958, one of his many goals was to understand the topography of the Lydian city, including the Lydian palace. He writes that he *"had dreams of glory about finding at least the plan of the Palace of Croesus in recognizable shape and we hoped to retrieve, if not the gold treasures (which went to Iran) then at least something of the royal archives with correspondence in Lydian, Carian, Greek, and possibly Aramaic…"* (Hanfmann, 1977: p.154). Writing in 1975, he suggested that the palace, and temple of Zeus, should be located in the lower city, as one could not expect the elder citizens of Sardis to hike up to a gerousia on the Acropolis. He speculated that the palace could have been located on the so-called "Byzantine Fortress" (now sector ByzFort), an unexcavated hill in the center of the Roman city. He further speculated that there could have been both lower and upper palaces, with the upper located on the north slopes of the Acropolis where the expedition had discovered Lydian limestone terrace walls, the only monumental Lydian architecture, other than tombs, known at Sardis at that time. Within a short time, however, he retreated from his proposal of upper and lower palaces, instead suggesting that there was only one palace, on the Acropolis (Hanfmann, 1980: p.104-105; Hanfmann and Mierse, 1983: p. 42-48.)

Throughout his research, however, Prof. Hanfmann was hampered by a fundamental misunderstanding of the topography of the Lydian city. Starting with Herodotus' description of the Ionian revolt when Sardis was under Persian control (5.101), Hanfmann argued that since the Pactolus River flowed through the agora of Sardis in 499 BC, the Lydian city must have been located along the banks of that stream. He therefore focused much of his excavations in that region, and indeed found important Lydian remains at sectors such as Pactolus North, Pactolus Cliff, and "House of Bronzes."(Hanfmann and Mierse, 1983; Ramage and Craddock, 2000; Ramage et al., 2021). He concluded that the city moved from its location along the Pactolus to the northern slopes of the Acropolis in the Hellenistic period, when it was converted to a Greek polis.

The discovery and excavation of the Lydian fortification between the 1970s and 2000s, however, proved that the wall encircled much the same area as the Roman fortification, enclosing the north slopes of the Acropolis and not the region around the Pactolus (fig. 1). The sectors excavated by Prof. Hanfmann, therefore, were located outside the Lydian walls, part of the extramural settlement that stretched more than 2 km along the Pactolus.

1 It is, for instance, labeled on the etching by Thomas Allom of 1838.

We now believe that Sardis during the Persian era was an important satrapal, military, and administrative center of the Achaemenid empire, but not a city per se. The settlement described by Herodotus along the Pactolus was weak and unfortified, while excavation has shown that the area within the Lydian walls had been deliberately emptied out, perhaps as a means of controlling this powerful and rebellious population. When the Hellenistic builders founded public buildings such as the theater and monumental buildings north of the acropolis, it was a return to the earlier, Lydian topography of Sardis, not a new transformation (Cahill, 2019).

This new understanding of the early city therefore raises again the question of the location of the Lydian palace(s). Excavation in the 1980s showed that two natural spurs on the north slopes of the Acropolis had been artificially terraced in the Lydian period: these are sector ByzFort, where Prof. Hanfmann had once suggested that the palace of Croesus was located, and the adjacent hill known as Field 49.[2] At the time, we believed that these were extramural settlements, perhaps sanctuaries or gardens (fig. 2). Now that we understand that this region was the center of the Lydian city, overlooking and dominating the lower town, we returned to the hypothesis that this was part of the Lydian palace complex; and recent work has shown that Prof. Hanfmann's original intuition was likely correct.

1. Extent and Natural Topography

Two spurs in central Sardis were expanded, regularized, and monumentalized by a series of artificial terraces in the Lydian period and earlier. Together with the broad, gently sloping area rising behind them to the cliffs of the Acropolis, these hills, intermediate between the Acropolis and the lower city, probably represented an elite region of Sardis through most of its history, and the site of a palatial complex in the Lydian period and perhaps earlier. The full extent of the terraced area in the Lydian period is uncertain, but the space encompassed by ByzFort, Field 49, and the sloping ground behind measures about 5.8 ha, or about the size of the palatial terrace complex at Persepolis and almost three times the area of the Tall-i Takht at Pasargadae.

Human intervention over the millennia has completely transformed the natural topography. For instance, Field 49 is now a flat-topped spur some 40 m wide, and it was assumed until recently that its horizontal top was essentially natural, making this an attractive spot to build. Excavation showed, however, that bedrock slopes down at an angle of almost 45°, rising to within 1.5 m of the modern surface on the east, but 15 m deep to the west (below, and fig. 29). The hill achieved its current habitable topography only through massive terracing along the west flank, beginning in the Early Bronze Age and continuing through the Roman period.

2. The Lydian Palace: Terraces

The terrace walls that regularized these hills over more than two millennia are still incompletely understood, but a number of phases seem relatively clear. In the first half of the sixth century, the hills were enclosed by terrace walls of neatly cut limestone ashlar masonry. The best-preserved section is on the eastern flank of ByzFort, where the limestone is preserved to a height of eight courses (figs. 3, 4, 5). As commonly in Lydian masonry, the fine limestone ashlars are only a single course of cladding for a structural terrace wall of heavy schist blocks; this in turn retained a massive rubble packing at least 8 m thick in places and rising to a total height of about 12 m (Ratté, 2011: p.10-11, 102-107; Eren, Forthcoming; Eren, 2022).

The terrace probably did not rise to its full height in a single vertical face, but rather in a series of steps. Intermediate limestone terrace walls were excavated along the eastern flank of ByzFort, and reveal at least two phases of construction (fig. 6). The first phase is aligned with the natural slope of the hill here, while the second is aligned with the front of the hill, bringing the hill into a stricter grid plan (Cahill, 2013: p.147).

The western and northern flanks of the adjacent hill, Field 49, were also enclosed with limestone ashlar terrace walls of the first half of the sixth century (figs. 7, 8). These are preserved to only five courses, and made with more irregular blocks, some reused from earlier structures. However, the terrace walls on Field 49 preserve a longer history. In the Hellenistic and early Roman periods the western terrace was rebuilt on the same or similar lines, using reworked Lydian ashlars to recreate the original appearance.

2 Field 49: Greenewalt et al., 1985: p. 64-68; on ByzFort, see below.

These terraces thus transformed the rugged natural landscape into vertical and stepped planes, turning to follow the broad forms of the spurs, but regularizing them where possible into rectangular blocks. The brilliant white limestone surfaces would have been visible from afar, dominating the central part of the city, and contrasting with the undulating orange cliffs of the Acropolis above, long a symbol of Sardis' power. This broad transformation of the natural landscape is a peculiar feature of Lydian urbanism, as noted by Prof. C.H. Greenewalt, jr. (1984: p.17).

2. 1. Buildings on the Terraces, and the Persian Destruction

Like Prof. Hanfmann, we had hopes of finding the palace and some of its contents in excavation on these terraces. In particular, we had hoped to find the remains of the Persian destruction level of 547 BC, which seems to have engulfed most of the Lydian city. This destruction level is often well preserved: Lydian houses contain hundreds of whole vessels, metal artifacts, loomweights, and foodstuffs, while casualties of battle, armor, and weapons found in the vicinity of the fortification provide a remarkable glimpse of life in the last days of the independent Lydian kingdom, when Cyrus defeated Croesus (Greenewalt, 1992; Greenewalt, 1997; Cahill, 2000; Cahill, 2010b).[3] We had hopes that this would prove true in the palace quarter as well, but like Prof. Hanfmann, we have been frustrated in this effort. This region of central Sardis was densely inhabited for millennia, subject to erosion and continual spoliation and reuse of earlier building material. The desirable limestone and marble blocks, and the unusually rich contents of the palace, attracted treasure-seekers far more than in the residential sectors of the city. And finally, the density of later occupation makes excavation of early levels particularly difficult and time-consuming.

Nevertheless, a few features and archaeological contexts survive to give some sense of the buildings and the activities here. On ByzFort, part of a finely worked stylobate of marble, limestone, and sandstone blocks with a setting for a column survive later robbing; this is the only Lydian marble architecture found in situ on these hills (figs. 4, 9). This is probably contemporary with the limestone terrace, dating to the first half of the sixth century BC, and may be the porch of a small building or pavilion. Earlier structures, dating to the first half of the sixth century and earlier, are attested by substantial foundations under the stylobate, by marble blocks, some belonging to a monumental door frame, reused in the stylobate and in the earlier foundation, and by the large collection of fragmentary architectural terracottas and rooftiles reused in the terrace packing (Ratté, 2011: p.10-11, 102-107).[4] Among the artifacts from Lydian terrace fills and later levels at ByzFort, and to a lesser extent Field 49, are many chips and a few finished fragments of brightly colored jasper, including red and black, white with red veins, yellow, and other colors, probably detritus from a Lydian atelier on this hill.[5] Vessels made of such jasper were used in royal and elite tableware in the Achaemenid period, and apparently in the Lydian period as well (Schmidt, 1957: pl. 57, nos. 5–7; pl. 59, no. 3; pl. 62, nos. 5, 9, 11; Simpson, 2005; Özgen et al., 1996: no. 85; Özdemir, 2007)

The situation is somewhat better on Field 49. Lydian structures in the southern trench had been entirely robbed out by Hellenistic and later building, but a small area of mixed destruction debris survived (figs. 10, 11). This was probably back-dirt from a robbing trench from which most of the valuables had been salvaged, but it still contained a jasper weight-shaped seal on a bronze loop, at least one crushed bronze vessel, a decorative bronze plaque, a small bronze lion paw, a fragment of ivory furniture inlay depicting the *potnia theron*, an unusually large amount of fine pottery, a cluster of at least 20 arrowheads melted or fused together, and human bones from at least two individuals (figs. 12, 13, 14).[6] Such finds are not typical of ancient domestic assemblages, but are closely related to assemblages from Near Eastern palaces in Anatolia and Mesopotamia.

A better-preserved area was excavated in 2021 on the western flank of Field 49 (figs. 15, 16). Here, a section of Lydian terrace or platform wall is preserved, about

3 On the date of the destruction, see most recently van der Spek 2021.

4 It is not quite clear whether the stylobate belongs with the limestone terrace phase or an earlier phase; the former seems more probable.

5 Greenewalt et al,. 1987: p.80, misidentified there as chalcedony.

6 Seal S11.014:12991; bronze vessel M13.021:13752; plaque M13.013:13670; lion paw M13.012:13654; ivory inlay BI12.004:13117; arrowheads M13.015:13746. See Dusinberre, 2017. In general, Cahill, 2013; Cahill, 2014; Cahill, 2015. The mudbrick wall found nearby and originally thought to be Lydian (Cahill, 2015: p.420) has now been shown to date to the Bronze Age; see below.

five meters thick and aligned with the terrace walls in a trench further south. A two-phase Hellenistic platform or terrace wall built of Lydian marble and limestone spolia was built on this earlier wall. Among the spolia reused in the Hellenistic wall are a series of marble blocks, finely worked with a flat chisel, similar in workmanship to the stylobate on ByzFort and also to a block reused in the Lydian terrace wall in the southern trench. Three faceted blocks are perhaps wall base moldings.[7] Other stray finds from this hill include two blocks worked with flat chisel on joining surfaces, but with their exposed faces polished to a buttery smooth finish. These suggest that while the sixth-century terrace walls were made of limestone, some at least of the buildings on top of the terraces were made of marble.

Within the Hellenistic platform, Lydian walls and floor levels have been almost completely robbed out, leaving only robber's trenches and a few stones. In front of the Hellenistic platform, however, one course of a Lydian terrace wall was preserved above ancient ground level; its foundation, 3 courses of large boulders, suggests it could have stood many meters high. At the corner, the terrace wall is built of finely carved limestone ashlars with drafted margins, similar to the masonry of ByzFort and the Lydian terrace walls on the Acropolis. Further south, though, the construction changes to less finely dressed sandstone.[8]

Directly in front of the Lydian terrace wall, and perhaps explaining the change in construction, is a poorly preserved mudbrick structure, perhaps a small platform of some kind. At the front of the structure were two settings for wooden posts associated with burned iron hardware, perhaps supporting a covering for this platform.

Another, more roughly built wall of schist boulders seems to have created a passage about 3 meters wide north of the terrace wall. Like the limestone wall, this was completely robbed out within the Hellenistic platform. We may therefore have an entrance here at the edge of the terrace, with a relatively narrow passage leading to buildings on top of the hill. The significance of a circular pit in the center of this passage is unclear. It contained Hellenistic pottery and roof tiles, showing that it was dug in the Hellenistic period, but its vertical sides and location centered within the passageway suggest that it may be the impression of a Lydian feature here, robbed out in the Hellenistic period.

The earth floor in the passage and in front of the terrace wall was covered with a relatively thin layer of burned mudbrick debris, and preserved a number of artifacts in close to a primary context. The nature of the debris and artifacts, including weapons, human bones, and local pottery of the first half of the sixth century BC (fig. 17), suggests that this burned level should be associated with the Persian capture of Sardis in 547 BC.[9] Unlike other sectors at Sardis where a thick layer of destruction debris protected the assemblages, however, there was relatively little debris on the floor here, and many artifacts have probably been lost through exposure and looting.

Around this pit in the passageway was a scatter of 24 bronze arrowheads on the earth floor, and more arrowheads were found in the fills above the floor and in excavations of 2017. Most of these are of the bilobate type, and join more than 100 arrowheads of different types found on this hill in documenting the military destruction of this area.[10]

To the south of the arrowheads, a scatter of human bones, including fragments of skull, teeth, parts of one arm and hand, and a vertebra, are likely the remains of a casualty of battle (fig. 18). Many bones were burned, and all were very fragmentary, probably as a result of erosion and scavenging by animals after the destruction.

Near the fragmentary bones of the arm was an iron knife, probably belonging to the casualty. In a pocket of loose earth among the bones was a tight cluster of nine silver coins (fig. 19). While these await cleaning, a lion and bull is distinguishable on some coins, and a tentative identification suggests that they are all croeseids: two silver staters, four 12th staters, and three

7 Similar limestone examples in Ratté, 2011: cat. A1-A3.

8 The area was uncovered only in the last days of excavation in 2021, and at the time of writing this article, the material has been processed in only the most preliminary fashion; we will present further information as it becomes available.

9 Stemmed dish P21.019:15576. Relatively little pottery was found on the floor; the other fragments are compatible with a mid-sixth century date.

10 A similar scatter of arrowheads, but with a wider variety of types and materials, was found in the gate passage in MMS/N: Greenewalt, 1997. Both bilobate and trilobate types are found on Field 49, but often in relatively distinct contexts. For instance, the arrowheads from the disturbed destruction debris mentioned above, including the large clump of arrowheads, are all of the bilobate type, while those in a fifth-century pit are mostly of the trilobate type.

24th staters.[11] This is only the second hoard of Lydian coins found in archaeological excavations at Sardis, and its archaeological value is greatly enhanced by its discovery in this closely datable and historic context.[12]

Nearby was a fragment of bronze, measuring about 16 x 18 cm and composed of three or more sheets which have been cast or hammered. One sheet is decorated with feathers including longer flight feathers and shorter covert feathers (fig. 20). Two other sheets are riveted together; between the functional rivets are raised circles which seem to be decorative rather than functional. The topmost sheet preserves a scalloped edge. The edge of the sheet with feathers is original, but all other edges are torn or broken, and the artifact seems to be a fragment of a large-scale bronze sculpture, perhaps of a figure such as a griffin or sphinx, and perhaps associated with this entrance to the palace.[13]

As elsewhere in central Sardis, there were almost no occupation remains of the Persian era on this hill. The only coherent deposit belonging to the Achaemenid era was a pit in the central trench of Field 49, which contained ceramics of "Late Lydian" types, animal bones, 24 trilobate and three bilobate arrowheads, a variety of ivory inlays and other small ivory artifacts, and a small coin of Teos, probably of the first half of the fifth century BC (Matzke, 2000). This pit may have been dug to salvage building material and valuables from the remains of the palace such as the ivories. There are no walls or other buildings of the Persian era, and residual ceramics of this period are much rarer than Lydian residuals.

The next major building phase on this hill was apparently in the Hellenistic period, when elite structures seem to have followed the general lines of the earlier Lydian remains. Among the earliest preserved structures is the monumental marble and limestone platform standing directly on the Lydian terrace wall (fig. 11).[14] This turns to the east just as the Lydian terrace does, suggesting that it may have re-created the Lydian building in some fashion. Pottery from its foundation trench dates to the mid-third century BC, but this is not the first monumental structure here, as the foundation trench wall also contained a dense packing of large roof tiles, probably of early Hellenistic date.[15] One or two massive but enigmatic foundations, also built of earlier spolia, probably also belong with this phase.[16] Although these earlier Hellenistic phases are not fully understood, they are clearly monumental, and inherit not only the location but also the materials and aspects of the plan of the earlier Lydian palace; these may well reflect the use of this hill as a Hellenistic palace of the Seleucids, who made Sardis its western capital (Kosmin, 2019).

2.2. An Upper Palace on the Acropolis

Prof. Hanfmann located the palace of Croesus on the Acropolis, where a series of finely worked limestone and sandstone ashlar terrace walls probably once supported elite buildings (figs. 21, 22) (Ratté, 2011: p. 99-102, with previous bibliography)[17]. The upper terrace walls in sector AcN are not defensive, since an external staircase once provided access to the terrace top; rather, they organized this steep terrain in a series of rising terraces, similar to those of ByzFort and Field 49. Buildings on top of these terrace walls do not survive, but a few Lydian artifacts from nearby, such as the fine bronze horse trapping in the shape of a boar, reinforce the identification of the area as an elite quarter (Waldbaum, 1983: no. 88; Cahill, 2010a: no. 48). It seems now that Prof. Hanfmann's original conjecture, that there were two palatial complexes, an upper and a lower, was correct.

11 Inventory nos. 2021.0029-2021.0037. The uncleaned weights of 10.79-10.93 g (two staters), ca. 0.88-0.90 g (four 12th staters), and 0.43-0.45 g (three 24th staters), is consistent with the metrology of Lydian croeseids and fractions: see Nimchuk 2000. For croeseid coins found in this destruction layer elsewhere in the city, including a gold 12th stater and silver 12th and 24th staters, see Cahill and Kroll, 2005. These represent accidental losses rather than a hoard. Two electrum third-staters and one silver croeseid stater from the Acropolis were perhaps dedications at a sanctuary: Cahill et al., 2020.

12 The other hoard, consisting of 30 gold staters, was found in 1922: Shear, 1922: p.396-400; IGCH 1162, now in the İstanbul Archaeological Museum and the Metropolitan Museum of Art, New York.

13 One might compare the winged figures near the gates to the Palatial Complex and the Cappadocia Gate at Kerkenes Dağı: Draycott et al., 2008; Summers, 2021: p.55-75; Summers Forthcoming.

14 Described as a limestone wall in Berlin, 2019: p.59-61.

15 Berlin 2019, 59-61, and fig. 2.6; Cahill 2019, 31-35.

16 The masonry is similar to blocks reused in the Hellenistic phase of the Artemis Temple and other buildings in the sanctuary of Artemis; Cahill and Greenewalt 2016, 497. Those blocks, however, cannot be independently dated, except to say that they predate the construction of the north wall of the temple, completed probably by the third or fourth quarter of the third century BC. It is possible that the spolia belong to a late Achaemenid or early Hellenistic phase which is otherwise archaeologically unattested.

17 The site may have been discovered and partly excavated by the Butler expedition in 1922.

A possible connection between the upper and lower palace areas was also identified by Prof. Hanfmann. A tunnel cut into the Acropolis cliff leads from the head of the wadi between Field 49 and ByzFort up to a chamber cut into the conglomerate below the Lydian terrace walls on the Acropolis (Hanfmann, 1963: p.35-37; Hanfmann, 1965: p.8-10). The tunnel continues down, but difficulty and risk prevented full excavation, and it remains enigmatic. Byzantine pottery and coins from the fills of the tunnel show that it was open and used at that time, but it may have been created in the Lydian period to link the two palatial complexes.

2.3. Earlier Lydian Remains on Field 49 and ByzFort

The sixth-century Lydian limestone terraces on ByzFort and Field 49 are not the earliest monumental terraces on these two hills, however. One of the most important results of recent work on this hill has been to demonstrate the long and early history of building here in central Sardis. Historical sources, primarily Herodotus, lead us to believe that Sardis rose to power quickly in the seventh century with the accession of Gyges and the foundation of the Mermnad dynasty (Mellink, 1992: 643ff; Payne and Wintjes, 2016; Högemann and Oettinger, 2018). Archaeology, however, reveals a long sequence of occupation and monumental architecture here predating the Mermnads.

The limestone terrace wall was built directly upon or in front of an earlier Lydian terrace wall made of large boulders. On the west flank, the limestone wall was built directly on the stub of the earlier wall (figs. 7, 8), while on the north, the earlier terrace wall was located near the crest of the hill, and the later wall was further down the slope. On the north flank of Field 49, this boulder wall is 3 m thick and at least 47 m long (fig. 23). At the moment, sealed strata that would date the construction of this boulder wall are scant. The evidence points to at least one major rebuilding of the terrace in the sixth century BC, but the initial construction of this enclosure may well date to the eighth century BC, long before Gyges and the Mermnads (Greenewalt et al., 1985: p.64-68; Eren, Forthcoming).[18]

Earlier terrace walls have not yet been uncovered, but may be inferred from structures preserved on the hilltop. At least two such monumental buildings predating this eighth-century terrace wall survive. Their similar, distinctive forms and structures suggest that they are broadly contemporary, and represent an important occupation phase of this region in the Early Iron Age.

One building, at the tip of Field 49, measures about 5.25 m square, with mudbrick walls 0.8 m thick. A framework of substantial wooden posts spaced about a meter apart was set into the walls, with a larger post in the center of the room (figs. 10, 24). The massive construction and closely-spaced posts suggest that this is the footing, perhaps partly subterranean, of a building with a tall superstructure. Part of another, probably contemporaneous building on the same alignment was cut into the northern slope of the hill nearby, and there were likely other buildings in the central trench, documented by dumps of mudbrick, charcoal and Early Iron Age pottery. Ceramics from the destruction level of the northern building were scant, but suggest a date in the period identified as Lydian IV at other excavation sectors such as HoB and PC. A series of C14 dates suggests that the building was constructed in the second half of the ninth century BC, and destroyed in the first half of the eighth century (fig. 25).[19] Much of the hill, therefore, was probably settled with monumental, coordinated structures in the Early Iron Age. Occupation at Sardis in this period seems to have extended as far as the Pactolus River, and south towards the sanctuary of Artemis; but no architecture is known from these areas (Ramage et al., 2021: p.31-35, 53-55, 117-119, 147-163). This hill, therefore, gives us our first monumental architecture of the Early Iron Age, suggesting that this was already a high-status area long before the Mermnads.

A similar building, or rather the basement of a larger structure, was excavated on the tip of ByzFort at a position equivalent to the building on Field 49 (figs. 4, 26). Like its counterpart, this room is square, about 3.6 m x 3.6 m, but deeply cut into the bedrock, accounting for its survival. Like the equivalent room at the tip of Field 49, this had postholes in the corners and centers of the walls, and another in the center of the space, suggesting a substantial superstructure. Part

18 The wall was discovered in 1981.

19 Analysis by Turhan Doğan, Yer ve Deniz Bilimleri Enstitüsü, TÜBİTAK Marmara Araştırma Merkezi.

of this mudbrick superstructure had collapsed into the basement. Over the mudbrick wall was a thick layer of burned destruction debris, including many restorable or partly restorable vessels, including dozens of brightly painted stemmed dishes, many more grayware stemmed dishes for a total service of almost 100, large black-on-red and bichrome jars, and other shapes (fig. 27). Beneath the collapsed mudbrick wall were further vessels, plainer and probably the original contents of the basement, while the upper stratum belonged with the occupation stories above. The building was originally thought to date to the seventh century BC, but the pottery compares more closely to the few fine ceramics of Lydian IV levels at HoB and PC than to those of any later period, and a destruction date in the early eighth century seems more likely (Greenewalt et al., 1993: p.28-31; Greenewalt et al., 1994: p.24-27; Cahill, Forthcoming; Eren, Forthcoming).[20]

These buildings suggest that in the Early Iron Age, this was already an elite region of Sardis, probably already a palatial quarter. No terrace walls are known from this phase, but the Early Iron Age Sardians were perhaps still using terrace walls from a still earlier era.

3. Bronze Age Sardis

Strabo (13.6) claims that Sardis was not founded until after the Trojan War, and until recently, the earliest known archaeological remains dated to the Late Bronze Age, generally agreeing with Strabo's account (Ramage et al., 2021: p.37-51). Kaymakçı, the important Bronze Age site on the shores of the Gygaean Lake, offered a candidate for the regional capital of the Seha River Land and a potential focal point of occupation before Sardis was settled (Roosevelt et al. 2018; Roosevelt and Luke, 2017). Recent discoveries of Bronze Age strata on Field 49, however, have prompted a re-evaluation of Sardis and the Lydians during this period.[21]

Small, deep sondages on the western slope of the hill revealed that the area was raised with at least 5 m of artificial fill (figs. 28, 29). The sloping lenses of almost sterile sand and gravel are almost identical to the Lydian terrace fills of the sixth century BC, and almost certainly represent a similar project to raise the level of the natural hill. The fill rests on bedrock, 14 m below modern ground surface, which slopes so steeply here that the hill would have not been habitable without terracing. Although no terrace wall has been found, the nature of the fill makes it quite certain that this represents an artificial landscaping operation similar to the later terracing operations of the Lydian period.

No structures survive in the small sondages in the central trench, but about a meter of stratified occupation deposits rests on the terrace fill, preserving a number of restorable vessels of Bronze Age types (fig. 30). In the southern trench, however, a small stretch of mudbrick wall survives between deep Hellenistic foundations (fig. 11, B). Ceramics and a series of C14 dates from the terrace fill, occupation strata, and destruction debris around the mudbrick wall suggest a date for the creation of the terrace in the late third millennium BC, and subsequent occupation through the 17th or 16th c BC.

The finds and stratigraphy of these levels will be published in more detail elsewhere, but a few general observations are pertinent. These are the earliest stratified remains yet found at the city site of Sardis, pushing back the history of the site by almost a millennium. Moreover, the deep terrace fill suggests that already in this early era, these hills were being transformed and monumentalized. The Early Bronze Age terrace walls that retained these fills are probably buried under dozens of meters of later occupation remains. But already in the Early Bronze Age, Sardians were transforming the landscape through great terraces, in a manner very similar to later Lydian approaches to urban development.

Conclusion

The Mermnad kings thus inherited a region whose landscape had already been transformed by Bronze Age and Early Iron Age monumental terraces and buildings, some dating back more than a millennium. It is too early in the course of excavation to say whether this area could already be characterized as palatial, but the Early Iron Age ceramic assemblage from ByzFort, and a more general argument of continuity of function, suggest that this is a fruitful hypothesis.

Later Lydian kings developed these ancient hills with white limestone terrace walls, following or expanding the lines of earlier constructions. The buildings atop

20 We are preparing a more detailed presentation of this assemblage.

21 These results will be fully published elsewhere, but a short summary is appropriate here (Bruce, Dedeoğlu Konakçı, Pavúk and Cahill, forthcoming)

these terraces have not yet been found intact, but the surviving fragments are among the very few examples of Lydian marble architecture so far discovered at Sardis, and with their brightly decorated terracotta revetments and roofs, and their assemblages of elite artifacts, mark them as qualitatively different from domestic structures, giving us a sense of the palace.

The elite Early Iron Age and Bronze Age terraces and buildings in central Sardis date to periods understood by Herodotus and other later historians as the Heraklid dynasty and earlier, known to the Greeks through the fantastic stories of mythological kings and queens such as Arachne, Omphale, Kamblys, Meles, and Moxos.[22] These stories and events were well known by later Sardians, however, who looked back with pride on their own prehistory and even recorded early Lydian history in a "Lydian Chronicle" found in the sanctuary of the Roman Imperial Cult immediately below the palatial areas of ByzFort and Field 49 (Petzl, 2019: nos. 577, 578; Thonemann, 2020). This interest in their own prehistory also extended to the material culture of earlier eras, not simply as precious objects and spolia for reuse, but antiquities for collection and perhaps study. A Bronze Age stone mace head of green and black serpentine was found in late Roman fill which buried the temple of the Imperial Cult (fig. 31) (Rojas, 2019: p.2-3). Was this elite object, perhaps two millennia old, simply detritus washed from Bronze Age levels on the hills above, or was it perhaps retrieved and curated in the intervening millennia? Was it once wielded by a Bronze Age ancestor of Croesus? Without examples from better contexts, we cannot decide. But ancient ground-stone implements are found in some numbers in Lydian occupation layers, where they were clearly part of contemporary assemblages (Cahill, 2012, 214 and fig. 13).

Already in the Lydian period and for the rest of Sardis' long history, the inhabitants of the city valued both their early history and even their ancient artifacts. The Hellenistic and Roman heirs to these long traditions must have showed visitors the famous sites of the past, such as the Palace of Croesus. But when Vitruvius describes the Palace of Croesus as an example of a long-lived mudbrick building, what structure of Roman Sardis was he referring to? The archaeological evidence suggests that the Lydian palace had been systematically plundered during the Persian and Hellenistic periods, and there is no sign that any remains stood into the early Roman period. Was Vitruvius describing some yet-undiscovered Lydian structure that survived the intense looting and later construction? Or was he describing some unrelated ancient ruin which was taken as the spot where the famous kings had reigned, as nineteenth-century visitors identified the Roman Bath-Gymnasium complex as the Palace of Croesus?

22 Literary sources: Pedley 1972, and the excellent commentary by Annalisa Paradiso in Worthington 2007.

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Appendix

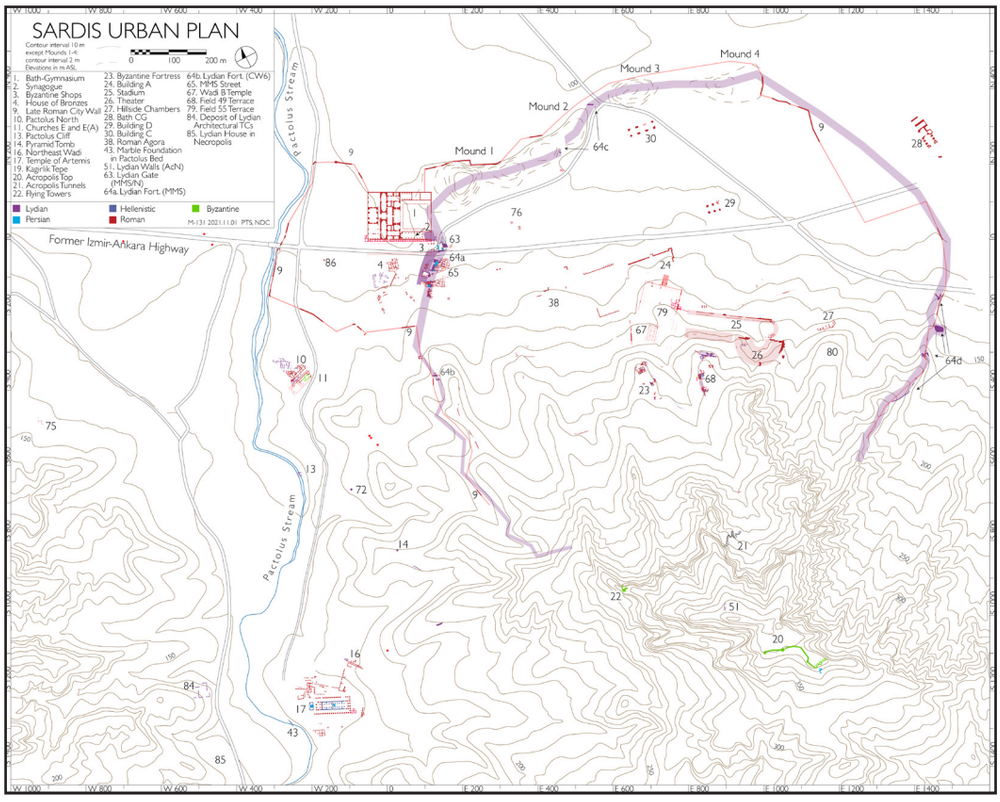

Figure 1: Plan of Sardis.

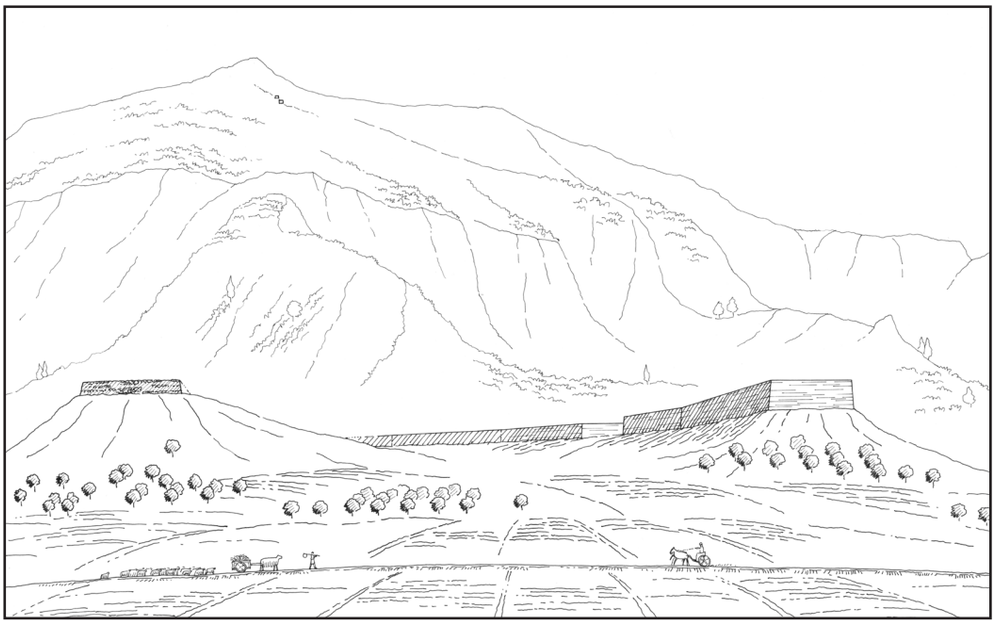

Figure 2: Reconstruction of terraces on ByzFort and Field 49, drawn before it was recognized that this was the center of Lydian Sardis. The landscape around should be shown as densely occupied.

Figure 3: ByzFort, view of northeast corner (1985).

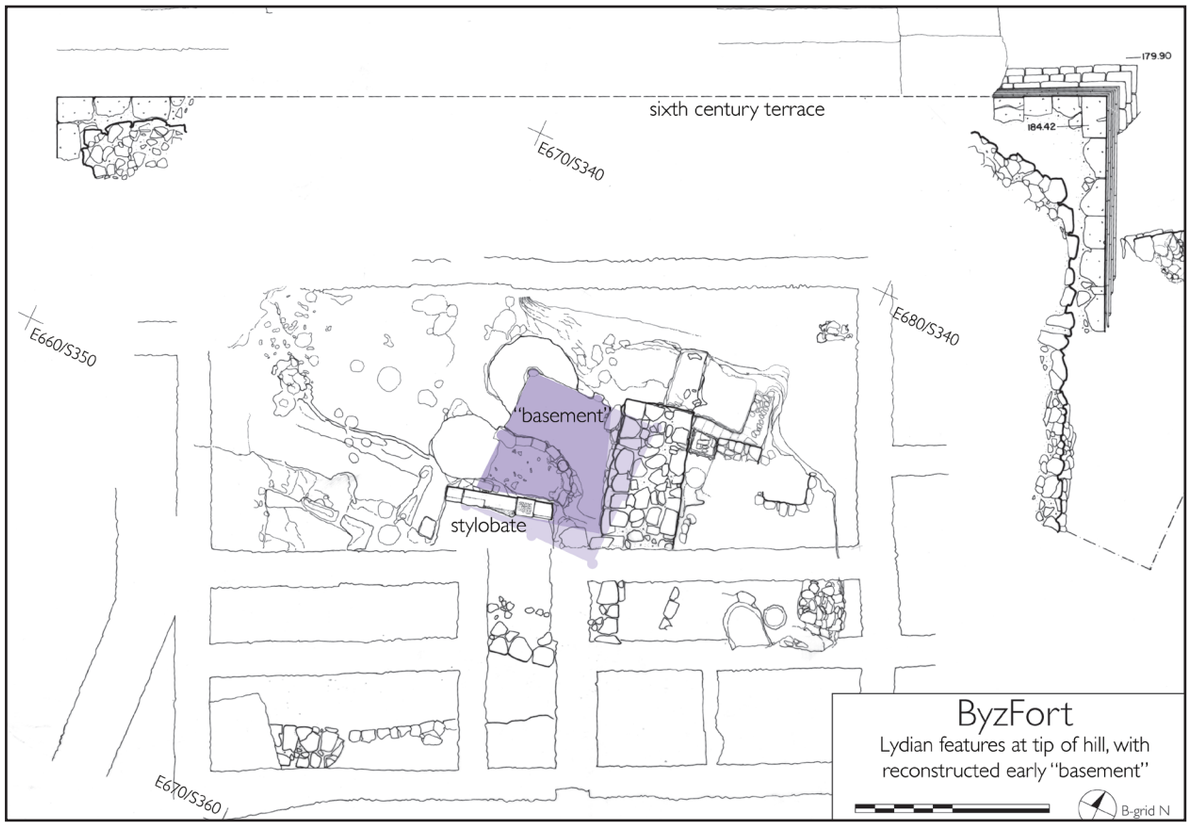

Figure 4: Plan of Lydian features on the tip of ByzFort.

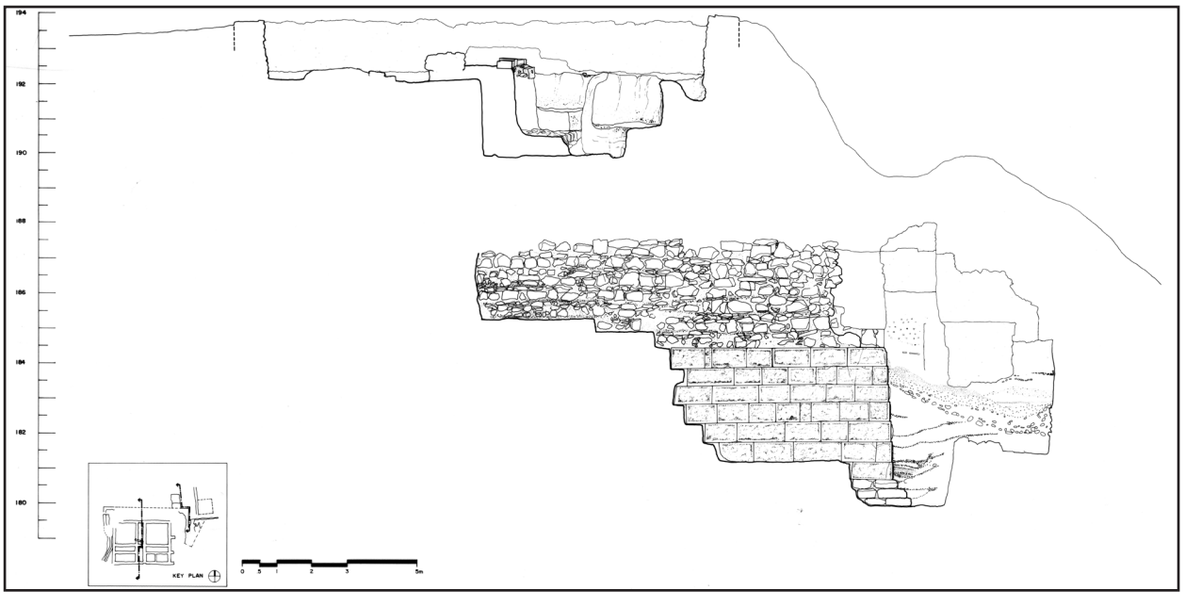

Figure 5: Elevation of eastern flank of ByzFort terrace, showing limestone terrace wall, boulder packing, and stylobate and "basement" on summit.

Figure 6: ByzFort, upper terrace walls, with archaeologist Güzin Eren (2011).

Figure 7: Field 49, western terrace wall showing upper limestone section and lower boulder wall, with archaeologist Will Bruce.

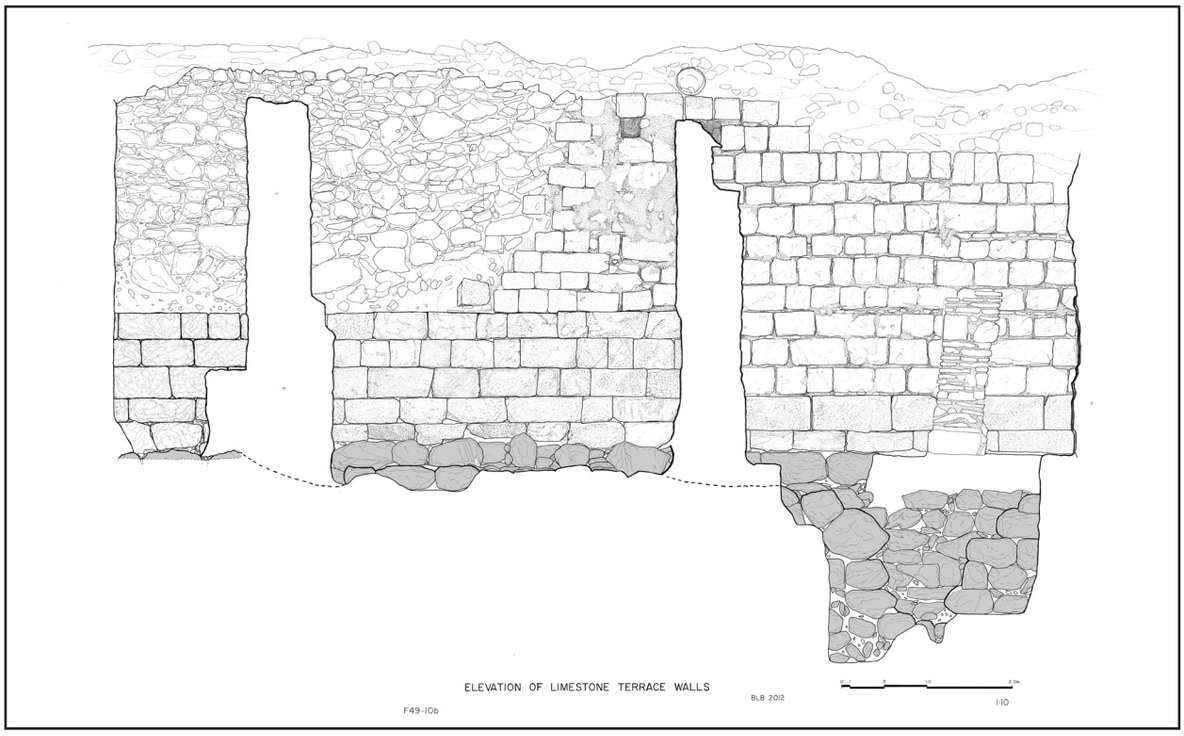

Figure 8: Elevation drawing of western terrace wall of Field 49.

Figure 9: Lydian stylobate on the summit of ByzFort.

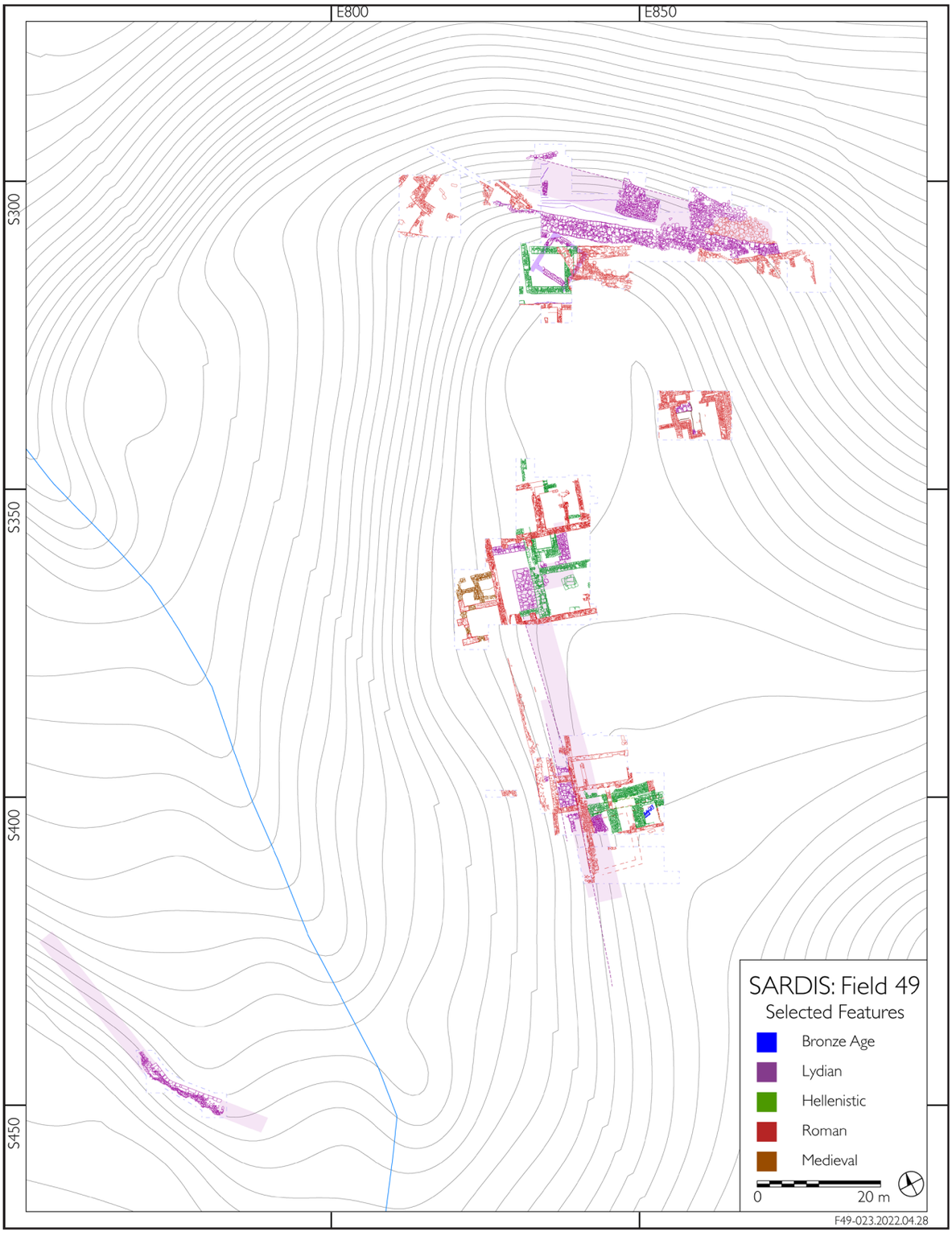

Figure 10: Field 49, plan of selected features.

Figure 11: Field 49, view of southern trench. A: area of Persian destruction debris. B: Bronze Age mudbrick wall. All other visible features are Hellenistic or Roman.

Figure 12: Lydian sealstone from disturbed destruction debris, southern trench.

Figure 13: Clump of bronze from arrowheads.

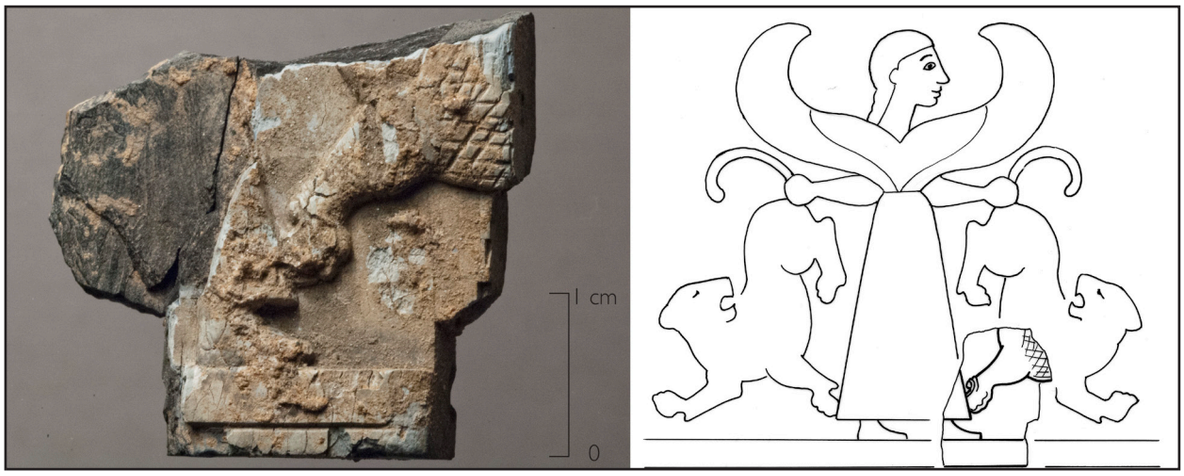

Figure 14: Ivory furniture inlay showing Potnia Theron holding lions?

Figure 15: Central trench of Field 49 showing Hellenistic and Lydian terrace or platform walls.

Figure 16: Plan of central trench of Field 49.

Figure 17: Lydian stemmed dish fragment, from Persian destruction debris.

Figure 18: Human skeletal remains (humerus, part of radius and ulna) from destruction debris, with iron knife and hoard of Lydian coins.

Figure 19: Lydian coin hoard, before cleaning.

Figure 20: Bronze sheets, perhaps part of a large-scale bronze sculpture of a winged creature.

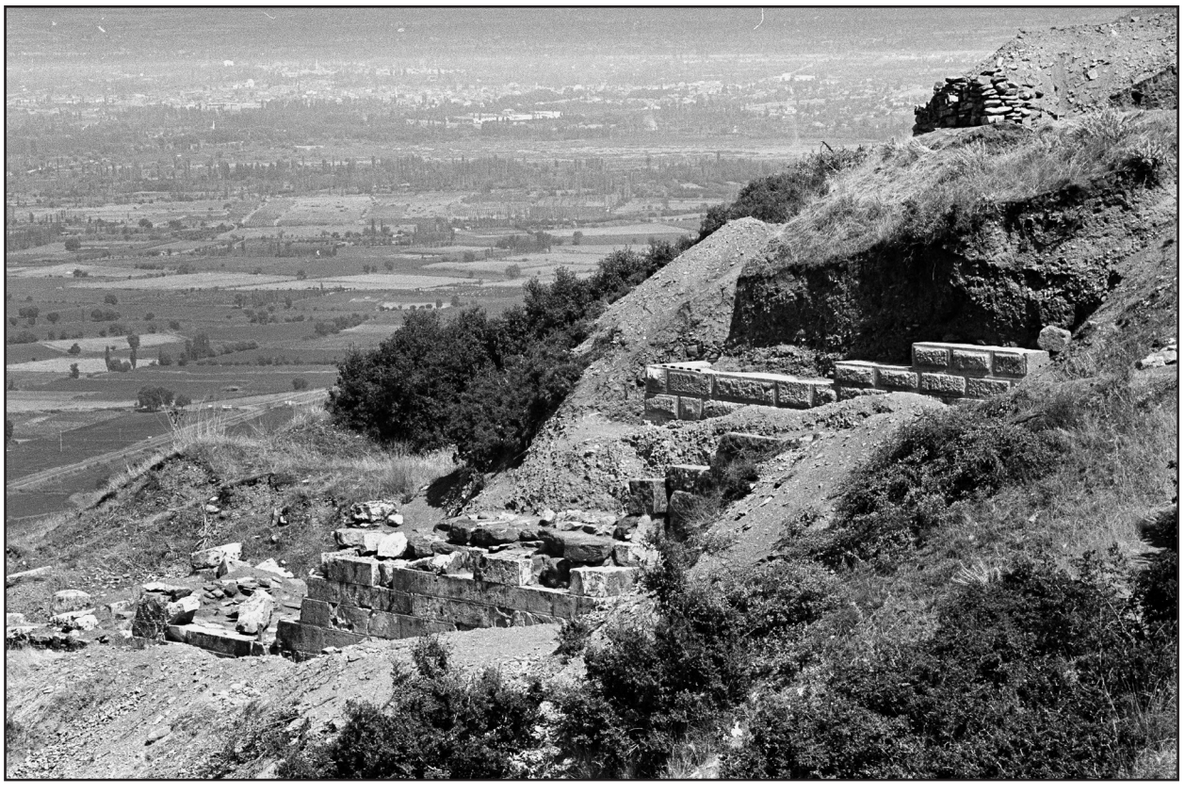

Figure 21: View of terrace walls on the Acropolis, (sector AcN), 1971.

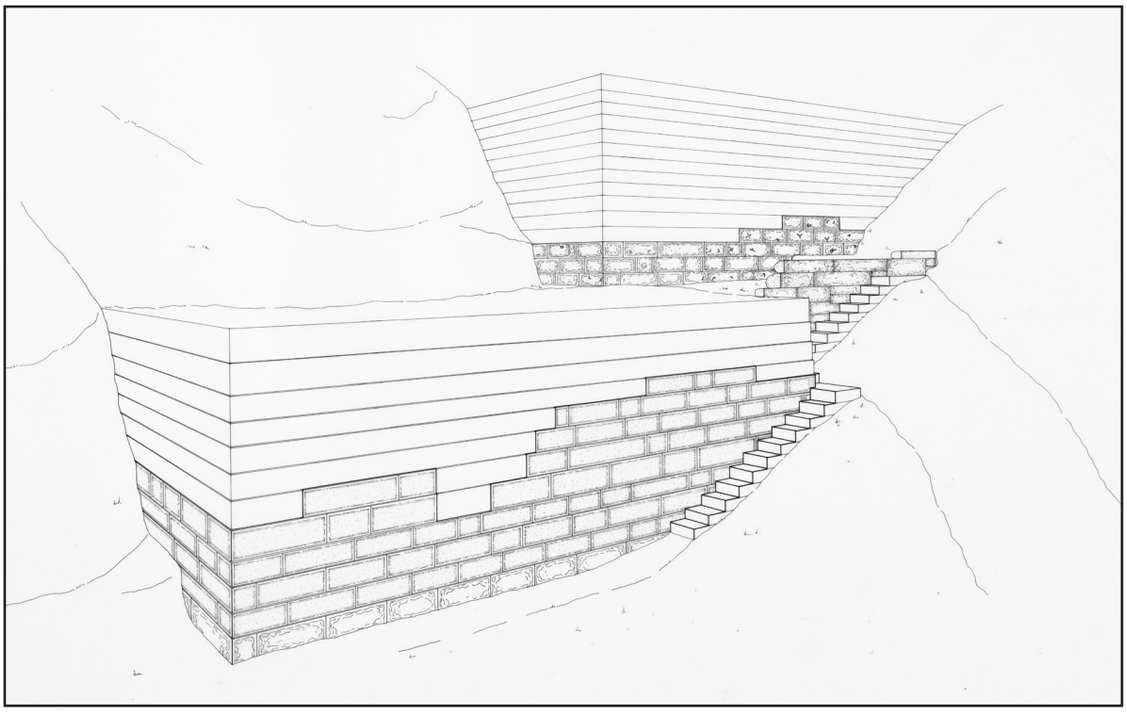

Figure 22: Reconstruction of terrace walls on the Acropolis.

Figure 23: Boulder terrace wall on the north flank of Field

Figure 24: Field 49, Early Iron Age mudbrick building, with Güzin Eren.

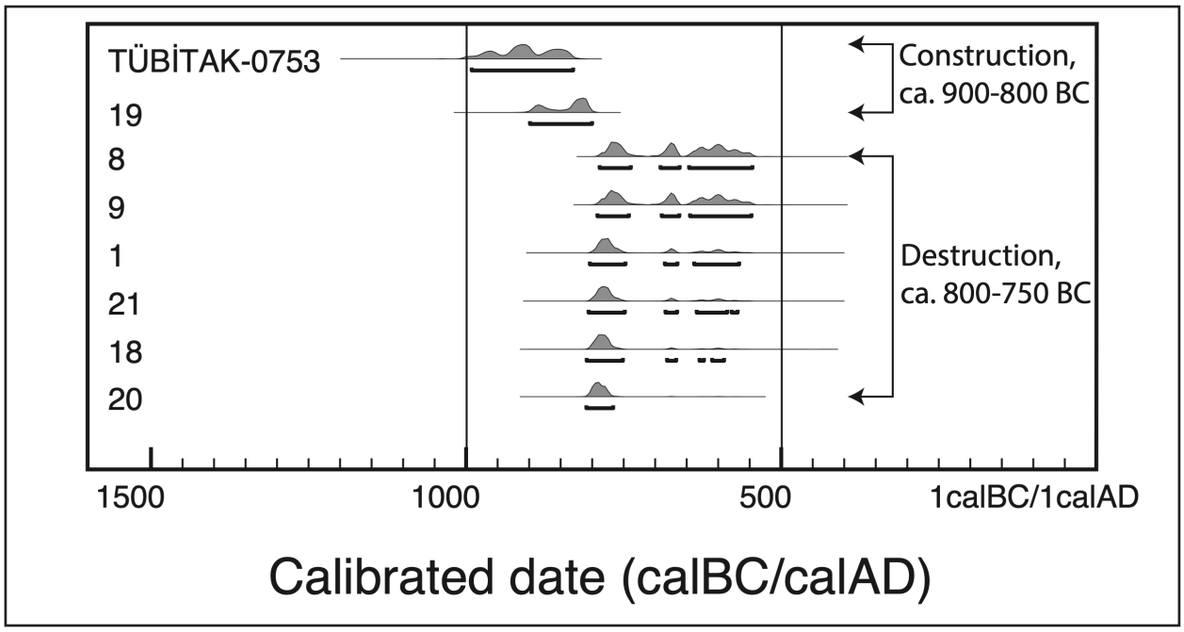

Figure 25: Carbon-14 dates for Early Iron Age mudbrick building on Field 49.

Figure 26: View of Early Iron Age "basement" on ByzFort (1991).

Figure 27: Selection of pottery from the “basement” on ByzFort.

Figure 28: Deep sondage in the Field 49 central trench, showing Bronze Age terrace fill and occupation deposits, with Will Bruce.

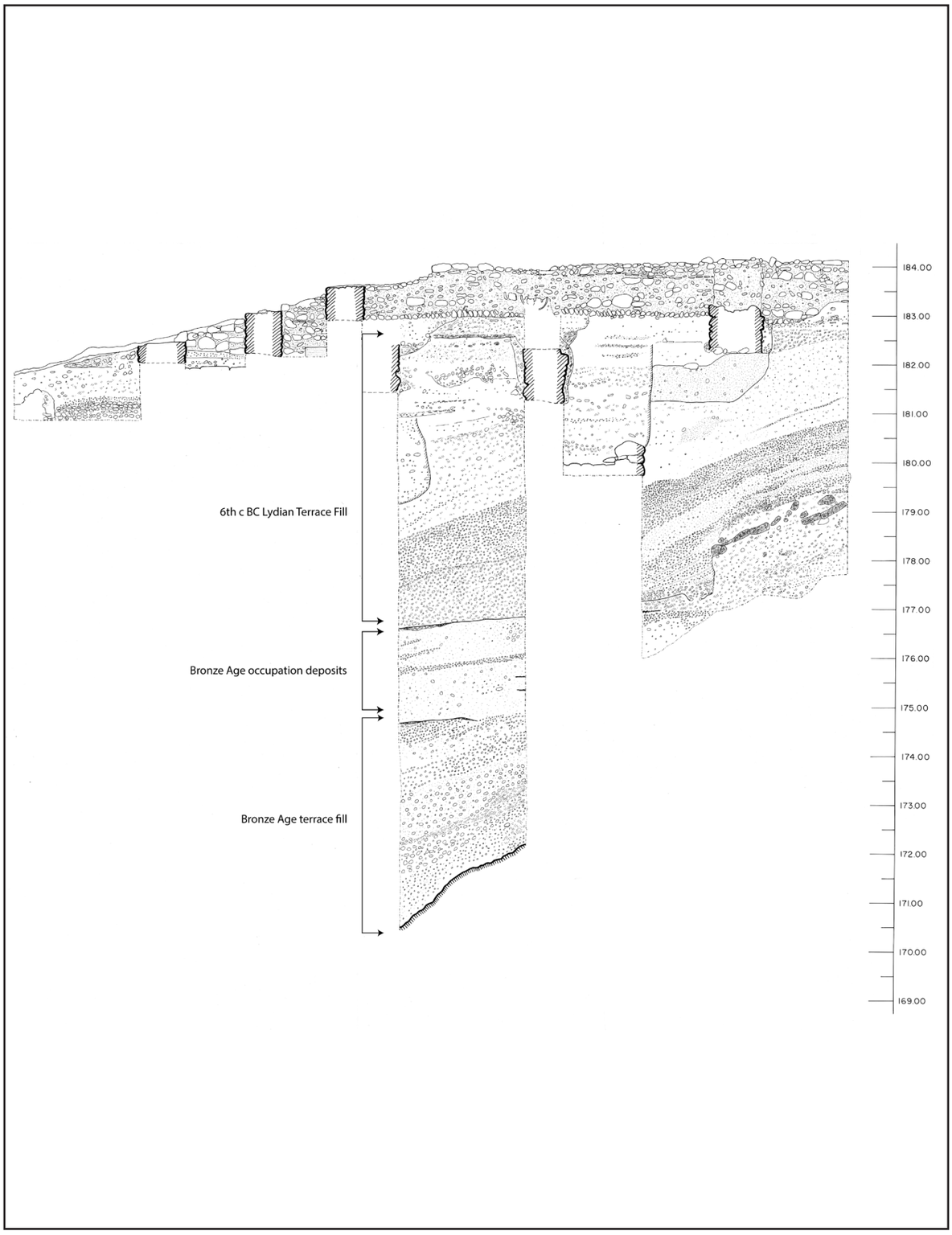

Figure 29: North scarp of central trench in Field 49, showing Lydian and Bronze Age terrace fills and Bronze Age occupation deposits.

Figure 30: Selected restorable vessels from Bronze Age occupation deposits on Field 49.

Figure 31: Bronze Age serpentine mace head, found in Roman strata below ByzFort and Field 49, held by Prof. Crawford H. Greenewalt, jr.

Evaluations on the Oil Lamps Found in the North East of the Postscaenium Section of the Parion Theater

Vedat KELEŞ, Salih PEKGÖZ

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Parion Tiyatrosu Postscaenium Bölümünün Kuzeydoğusunda Ele Geçen Kandiller Üzerine Değerlendirmeler*

Evaluations on the Oil Lamps Found in the North East of the Postscaenium Section of the Parion Theater

Vedat KELEŞ**

Salih PEKGÖZ***

Özet

Parion Antik Kenti, Troas Bölgesi'nin kuzeyinde; bugünkü Çanakkale ili, Biga ilçesi sınırları içerisindeki Kemer köyünde yer almaktadır. Tarih sahnesindeki serüveni oldukça hareketli olan Parion'un bölgesel etkinliği, coğrafi ve stratejik konumu, dönem ayırt etmeksizin hâkim güçlerin dikkatini çekmesine olanak sağlamıştır.

Parion'da kazı çalışmaları 2005 yılında kentin güney nekropolisi olarak adlandırılan sektöründe başlamıştır. 2006 yılında tiyatro kazıları başlamış ve günümüze kadar sahne binasının büyük bir bölümü açığa çıkartılmıştır. Tiyatronun 2019 yılı kazılarında postscaenium bölümünün kuzeydoğusunda kalan alanda gün yüzüne çıkarılan 12 adet kandil örneği, nitelikli buluntu grubunu oluşturmaktadır. Kandillerin MÖ 3. yüzyılın ortalarından MS 4. yüzyıla kadar geniş bir zaman dilimi içerisinde yayılım göstermesi, çeşitli ve özgün formları yansıtması, Parion kandil buluntularının zenginliği ile açıklanabilir.

Tiyatronun Helenistik Dönem kandilleri, kolonizasyon hareketleriyle büyük değişim yaşayan Parion'un kent merkezinde, Roma Dönemi öncesi yaşam izlerinin varlığına ve belki de erken dönem mimarisinin bilinçli bir şekilde tahrip edilme olasılığına işaret etmesi bakımından önemlidir. MS 2. yüzyılın özgün kandil formlarının bir arada bulunması, kent genelinde Geç Roma Dönemi'ne göre az görülen kandil buluntularını anlamlandırma ve yorumlamamıza kolaylık sağlamaktadır. En geç tarihli kandilin MS 3.-4. yüzyıla ait olması ve tek örnekle temsil edilmesi; MS 3. yüzyılın ortalarında gerçekleşen Got istilası sonrası kargaşa ortamından Parion'un da etkilenmiş olabileceğini ve MS 4. yüzyıl sonunda tiyatronun işlev dışı kaldığını, kentin de eski gücünü yitirdiğini akla getirmektedir.

Kandillerin parça şeklinde ele geçmiş olması; örneklerin kulp, burun, diskus ve gövde formlarının yansıttığı spesifik özelliklere göre 7 ayrı form altında değerlendirilmelerini zorunlu kılmıştır. Bu çalışmayla en erkenden en geçe doğru kronoloji ve terminolojiye bağlı kalınmış, kandillerin belirgin özellikleri göz önünde bulundurularak, özgün sonuçlara ulaşılması amaçlanmıştır.

Anahtar Kelimeler: Troas, Parion, Tiyatro, Postscaenium, Kandil.

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** Prof. Dr., Ondokuz Mayıs University, Faculty of Arts and Sciences, Department of Archaeology, 19 Mayıs University Faculty of Arts and Sciences, Head of Archaeology Department, Körfez 55270 Atakum/Samsun, vkelesus@gmail.com., ORCID ID: 0000-0001-9521-6469

*** Ph.D. Student, Ondokuz Mayıs University, Institute of Social Sciences, Department of Archeology,salihpkgz71@gmail.com, ORCID ID: 0000-0003- 4223-0579

Abstract

The Ancient City of Parion is located in the north of the Troas Region, in Kemer Village, within the borders of the Biga district of today's Çanakkale province. The regional activity, geographical and strategic location of Parion, whose adventure in the historical scene is quite active, enabled it to attract the attention of the dominant powers regardless of the period.

Excavations in Parion started in 2005 in the part of the city called the southern necropolis. Excavations in the theater started in 2006 and a large part of the stage building has been unearthed until today. 12 oil lamp examples were unearthed in the area to the northeast of the postscaenium section during the 2019 excavation of the theater constitute the qualified find group. The fact that oil lamps spread over a wide period of time from the middle of the 3rd century BC to the 4th century AD, reflecting various and original forms can be explained by the wide repertoire of Parion oil lamp finds.

The Hellenistic Period lamps of the theater are important in that they point to the existence of traces of pre-Roman life in the city center of Parion, which underwent great change with the colonization movements, and perhaps the possibility of deliberate destruction of earlier architecture. The coexistence of the unique oil lamp forms of the 2nd century AD makes it easy for us to interpret the lamp finds, which are rare in the city compared to the Late Roman Period. The fact that the latest dated oil lamp belongs to the 3rd-4th century AD and is represented by a single example suggests that Parion may have been affected by the turmoil after the Goth invasion in the middle of the 3rd century AD, and that at the end of the 4th century AD, the Theater was out of function and the city lost its former power.

The fact that the oil lamps were found in pieces necessitated the evaluation of the samples under 7 different forms according to the specific characteristics reflected by the handle, nozzle, discus and body forms. In this study, the chronology and terminology from the earliest to the latest were adhered to, and it was aimed to reach original results by taking into account the distinctive features of oil lamps.

Key Words: Troad, Parion, Theater, Postscaenium, Oil Lamp.

Introduction

Parion is a significant port city located in the south of Propontis at the entrance of the Hellespont (Keleş, 2016: p. 193). The present-day ruins of the city are in a valley that begins at Bodrum/Tersane Cape, which resembles a peninsula jutting into the sea and expands like a fan to the south (Yılmaz and Keskin, 2020: p. 895).

Parion was first settled in the final quarter of the eighth century BC. After this date, traces of life persisted for a considerable period, until the settlement was abandoned in the 12th century.

The Parion Theatre, where excavations began in 2006, is located west of the Roman Bath in the city centre (Figures 1 and 2). The studies concluded that the orchestra floor had been destroyed. The architectural features of the theatre indicate that it was constructed in the first century AD and that it may have undergone extensive renovations in the second half and last quarter of the second century AD (Başaran and Yldzl, 2016: p. 104). After the second construction phase-dated to the second half of the second century AD in the beginning of the third century AD, ceramics and coins revealed that the theatre was used until the middle of the fourth century AD (Ergürer and Gülec Ozer, 2016: pp. 44-47). Between the fifth and seventh centuries AD, it was used as a garbage dump. The artefacts recovered from the Late Period wall indicate that the structure served a defensive function during the tenth and eleventh centuries AD (Keleş and Oyarçin, 2021: p. 394).

The lamps that are the subject of this study were discovered along the northeast border of the theatre's postcaenium section (Figure 3). New research was conducted in 2019 in this section, which was excavated during previous theatre excavations. The research began in the fourth layer, which is not dense. The abundance of Roman-era bones, glass, metal, oil lamps, warrior puppet toy figurines, and ceramics in the fifth layer indicates the presence of a high-quality context material group.[1] This section's concentration of context material raises the possibility that it may have been used as bothros. These artefacts were discovered beneath the sixth layer of postscaenium flooring. Discovered in this layer were two walls with intersecting frescoes facing west and

1 Except for oil lamps, the context materials have not yet been published

north believed to be from the Hellenistic Period (Figure 4). Around the walls other artefacts of the Hellenistic period were discovered.

Twelve lamp fragments discovered in the north-eastern portion of the postscaenium were evaluated based on their form and decoration. To better understand the lamps, first the typological nomenclature and general characteristics of the forms were described, and then the definitions of the Parion lamps were formulated.

1. Hellenistic Period Lamps

In the scope of the study, four oil lamps were assessed. Examined were K. Nos. 1 through 3, "long-nosed lamps with a single ear, oval and circular form with a body", and K. No. 4, "long-nosed lamp with a double convex body".

1. 1. Long Nose Lamps with a Single Ear, an Oval and Circular Form with a Body

Hellenistic Period's most popular lamps are named after Broneer, Type 9 (Broneer, 1930: p. 47-49), Thompson, Type 12 (Thompson, 1934: p. 365), Vessberg, Type 13 (Vessberg, 1953: p. 118), Howland, Type 33 A-B (Howland, 1958: p. 101-104), and Barr, Type K. (Barr, 1996: p. 176).

Based on the forms relationship to other types, it is known that they were not created before the third century BC (Broneer, 1930: p. 48). It was witnessed that these oil lamps were produced in large quantities in Athens and Corinth, which were leaders in the oil lamp industry (Goldman and Jones, 1950: p. 87). After the widespread use of mould-made examples during the Hellenistic Period, these lamps produced on the wheel were accepted as prototypes for moulded oil lamps (Howland, 1958: p. 99). This paradigm contributed to the expansion of the oil lamp form in the third century BC (Thomas, 2015: p. 10).

Oil lamps, which circulated widely in and out of Anatolia, have an incline from the shoulder to the pedestal (Kan Şahin, 2008: p. 132).

On the right side of the lamps, prominent knob-shaped ears are characteristic of the design (Vessberg and Westholm, 1956: p. 121). Over time various designs were applied as the prominence of the ear was diminished (Günay Tuluk, 1996: s. 21). In some instances, the circumference of the oil hole is equipped with closely spaced grooves, the base of the high pedestal is concave, and wheel marks are visible in this part (Howland, 1958: p. 99). The nose is higher than the level of the body (Kassab Tezgör and Sezer, 1995: p. 83). The revised long nose, based on examples from the Classical Period, is wide and blunt, has an oval cross-section, and a relatively large hole for the wick (Broneer, 1930: p. 48; Barr, 1996: p. 174).

Three samples were used to evaluate oil lamps with a single auricle, oval or circular body, and long nose found in the northeast of the postscaenium. Small pieces are missing from the shoulder of K. No. 1, from the base and body of K. No. 2, and from the shoulder and discus of K. No. 3.

Lamps K. Nos. 1 through 3 are made with wheels, and the combination of handle, body, and nose is modest and rather plain. Formally, they are representative of the period's popularity. K. No. 1 has a circular body, K. Nos. 2 and 3 have oval bodies; three specimens have a single auricle on the side. The nose of K. No. 1 extends forward with a slight incline without forming a sharp angle with the body and the discus lacks a groove. The discus of K. No. 2 is defined by a ring, whereas the discus of K. No. 3 is separated from its shoulder by concentric grooves. Wide oil filling holes are maintained. The purpose of the tall pedestals of K. Nos. 1 and 3 is to make it simple for long nosed and voluminous oil lamps to stand at a fixed location.

Each lamp has been properly baked. Mica, lime, and powdered fireclay are visible in the clay. The clay in K. No. 1 is light red, K. No. 2 is dark grey, and K. No. 3 is grey. The undercoat is predominated by grey and black tones.

Cyprus (Vessberg, 1953: Pl. 1, Fig. 13), Pitane (Kassab Tezgör and Sezer, 1995: Fig. 210), Ilion (Barr, 1996: Fig. 14, No. 53), Ephesus Lower Agora (Günay Tuluk, 1996: Lev. 2, Fig. H), and Assos Necropolis (Kan Şahin, 2008: Lev. 52, Fig. 105 A) all contain tombstones like K. No. 1. Lamp K. No. 1, which is very similar to these examples, should be dated to the first half of the third century BC. Similar examples of K.

1. 2. Long Nose Oil Lamp with Double Convex Body

The lamps evaluated under this group were classified as Type 18 by Broneer (Broneer, 1930: pp. 61-66) and as Type 48 A by Howland (Howland, 1958: pp.158-159).

During the period characterised by the decline of wheel making and the widespread adoption of mould making techniques, long-nosed oil lamps featuring a double-convex body were manufactured (Broneer, 1930: p. 61). Lamps are typically characterised by a strip handle that extends from the body and terminates in the discus ring. Additionally, these objects feature a double-convex-shaped body on the sides and a lengthy nose (Shier, 1978: p. 13). The form is characterised by a pedestal that is not expansive in width and height, as well as a filling hole that is relatively narrow (Howland, 1958: p. 159). A relief ring demarcates the disc area surrounding the stuffing hole from the broad shoulder (Szentléleky, 1969: p. 49). The shoulder exhibits a series of profound indentations that culminate in marked circular impressions (Ugarković, 2016: p. 8).

A sample was used to evaluate the form of oil lamps discovered in the northeast region of the postscaenium. Lamp K. No. 4 exhibits inadequacies in the foundation, shoulder, and nose regions. The object in question exhibits a convex body form and was produced through the process of mould-making. The prevalent handle type employed in the form is the vertical ring handle, which takes the shape of a band originating from the shoulder. The undecorated concave discus lacks any ornamental features. The presence of horizontal and vertical grooves in various configurations on broad and linear shoulders may be classified as simple and unadorned embellishments.

Lamp K. No. 4, appears to have been thoroughly baked. The presence of mica and fireclay powder can be observed in the clay. The hue of the clay material appears to be a shade of deep grey, while the underlying layer exhibits a black colouration. Artefacts similar to K. No 4, which were manufactured with an emphasis on mass production and practicality, have been discovered in various locations such as Corinth (Broneer, 1930: Pl. 6, Fig. 301), Athens (Howland, 1958: Pl. 48, Fig. 621; Radt, 1986: Abb. 9, Fig. 635), Mainz Zentrum Museum (Menzel, 1969: Abb. 13), Museum of Fine Arts (Szentléleky, 1969: Fig. 39 A), Ilion (Barr, 1996: Fig. 21, No. 78), and Dalmatia (Ugarković, 2016: s. 8). Dating K. No 4 to the second to first century BC would be a suitable course of action, as it could yield significant insights into its form and decoration through comparative analysis with similar artefacts.

2. Roman Period Oil Lamps

The study chronologically catalogued eight oil lamps from the Roman Period based on their form structures, which were classified under five distinct headings.

2. 1. Pedestal and Figure Formed, Incense Lamps

The pedestal and figure-shaped incense lamps were briefly described by Heimerl in groups 9d, 9h, 9k, and 11. He elaborated on the general definitions and characteristics of the artefacts in group 15 (Heimerl, 2001: p. 64-66).

The provision of special production samples offers a glimpse into the artistic thought process, a rarity within the oil lamp industry of the ancient period. It is believed that the lamps were used for illumination, while the incense chamber was utilised for its calming and mind-expanding properties. However, it is possible that they were not used for functional purposes, as there were no traces of use inside the chambers or on the lamp noses in certain samples. The fact that the samples were custom-made also suggests that they may have been utilised for votive or decorative purposes. Heimerl states, however, that it is difficult to demonstrate the religious significance of the specimens for votive offerings and this seems unlikely (Heimerl, 2011: p. 64). Therefore, to accurately determine the intended use of the samples, it is necessary to examine and interpret the area in which they were discovered and to discuss differing perspectives. It is emphasised, for instance, that by placing a small amount of perfume in the chamber located in the centre, a fragrance could be released into a closed environment with the aid of the heat emitted by two oil lamps placed side by side (Bussière and Wohl, 2017: p. 429). The ancient Roman author Petronius states that oil lamps are used by

pouring perfume into them, in his work The Satyricon (Petronius, 1930: p. 81). Based on the knowledge that perfume is added to the oil lamp, it seems possible to implement such use in the incense chamber. Petronius' explanation is supported by the fact that certain oils, which were used as auxiliary substances in the ancient perfume-making process, were also used in oil lamps due to their specific qualities (Brun, 2000: p. 296). In addition to the aforementioned explanations, the existence of perfume and oil sale descriptions on vase surfaces are consistent with the aforementioned hypothesis (Foxhall, 2007: Fig. 7. 11).

On the sides of the pedestal, there are typically support arms for the rare objects (Chrzanovski and Zhuravlev, 1998: p. 130). The examples referred to as "lamps protruding from the shoulder," were manufactured in large quantities in Pergamon, according to Heimerl, and they ought to be called "pedestal lamps". Heimerl also clarified how the pedestal affects the general appearance of such examples and how ornamental components are visible going up from the bottom (Heimerl, 2001: p. 62-65).

On the support arms on either side of the incense chamber, two oil lamps are typically used, though there are a few instances where only one oil lamp is used (Heimerl, 2001: p. 64). In some instances, it is known that the pedestal, the figure on the body, and the chamber parts were created during the Roman Period, while the support arms were later added in the Hellenistic Period lamps (Heimerl, 2001: p. 65). The fact that such a technique was only used in oil lamps and that other parts of the support arm had not been discovered prior to the Roman Period did not present any difficulties in dating the form.

In the Jean Paul Getty Museum catalogue, samples of incense candles described as being from Anatolia; possibly produced in Pergamon (Bussière and Wohl, 2017: p. 429). Heimerl asserts that examples made in Pergamon are more numerous than those of other cities and that a variety of forms coexist (Heimerl, 2001: p. 64). The expression in question remains up to date. In this context, factors such as Parion's proximity to road networks, its status as a port city, the long-lasting peace that began with the Pax Romana, and the fact that it played an active role in commercial relations where demand was high, and with colonial movements during the Roman Period, strengthen the likelihood that Pergamon productions would come to Parion. Additionally, the proximity of the two cities can be viewed as an important factor in potential commercial relations.

The Parion Theatre postcaenium discoveries are illustrated by three examples. The first example, K. No. 5, was cast in three parts and refined to an advanced state. The first cast is an oil lamp, whereas the second is the left wing of an eagle. The third mould is the chamber and body for incense. The presence of thin lines at the intersection of the left-wing support arm and the lamp suggests that the connection point may have been shaped on the wheel. There are visible fingerprints on the base of the incense chamber. It was likely shaped by hand before being fired.

The lamp of K. No. 5 is moulded and has a pear-shaped body. It has a palmette-shaped vertical handle beginning at the trunk. The concave discus resembles an ivy leaf. The discus's leaf motif is prominent near the handle. The shape of the nose resembles a heart. On the right side of the lamp, the incense chamber is in good condition. There is no evidence of soot in the chamber. Similarly, no burns or scars were visible on the lamp's nose. The Aquila (legionary eagle) figure is partially intact on the body part. The chest and feathers of the eagle are rendered in relief from on the front. According to the position of the lamp, the eagle's head is depicted in profile looking to the left, and its left wing is open. The connection point is missing from the other oil lamp and pedestal platform, which should have corresponded to the right wing and left lamp. The legion eagle in question confirms the ancient sources' assertion that Parion was a legion colony. The presence of coins, epigraphic artefacts, and a statue of a legion eagle not only in K. No 5 but also in other segments also provides evidence that Parion may have been a legion colony.

The second example, K. No. 6, is missing half of its stem and has handles shaped like palmette leaves. Shoulders are adorned with a shallow line and point embellishments. No soot is present on the nose. Although the oil lamp is a small piece, it is believed that the downward-tapering projection from the pedestal section is the connection for the support arm. The similarity between K. No. 6 and K. No. 5, as well

as the presence of a connecting link emanating from a portion of the pedestal, allowed the lamps to be evaluated together.

K. No. 7 is absent from the joints. Only a small portion of the incense chamber remains. The chamber's rim is bounded by a single groove.

It is difficult to determine the precise functions of K. Nos. 5 through 7 because it is not in situ, the absence of structural elements that can be correlated with the fifth layer, and the absence of burns or scars on the lamp nose and within the chamber.

The incense-lamps are properly baked. Mica, lime, fireclay powder, and quartz are components of the clay. The clay of K. No. 5 is reddish-yellow and are light red in K. Nos. 6 and 7. Lamp K. No. 5 has a dark reddish grey lining, while K. Nos. 6 and 7 have varying shades of red. Considering the samples discovered in Pergamon, postscaenium incense lamps have nearly the same characteristics as the clay colour and materials in the clay. Similar characteristics can also be observed in the primer colour.[2]

There are very few examples to compare with K. Nos. 5 and 7 as they differ from conventional oil lamps. Similar examples can be observed at Pergamon (Heimerl, 2001: Taf. 16, Fig. 684) and the J. Paul Getty Museum (Bussière and Wohl, 2017: Fig.585).The sole resemblance to K. No. 6 was discovered in Kyzikos Demirkap (Oztürk, 2003: K. No. 40). Lamps K. Nos. 5 and 7 share striking similarities with the J. Paul Getty Museum specimen. Only the lamp on the support arm of the Pergamon discovery is of a different design. The body, the figure, incense chamber, and support arms have identical characteristics. In terms of form and decoration, lamps K. Nos. 5 through 7 can be dated to the second century AD based on the relevant details.

2. 2. Lamps with Palmette Handles, Pear Bodies, and Discus Ivy Leaves

The bodies of oil lamps from the second century AD, which will be seen again with minor modifications during the Late Roman Period, are pear-shaped. The handles have a palmette leaf shape (Goldman and Jones, 1950: p. 92). There are few decorative elements on the lamps. The discus is shaped like an ivy leaf. The fact that the discus was created in this manner is an identifying characteristic that distinguishes it from examples from the Late Roman Period. The fact that the shape of the nose resembles a heart is the second characteristic that differentiates it from lamps from the Late Roman Period. These capes indicate that the quality of oil lamp production was low prior to the second century AD.

According to Heimerl, the lamps have triangular connection points from both the shoulder and the pedestal, and the side projections and support arms had been manufactured since the first century AD (Heimerl, 2001: p. 65; For the triangle-shaped connection points on Pergamon lamps, see Heimerl, 2001: Taf. 6, Fig. 238, Taf. 7, Fig. 285). Hayes states that it is uncertain whether the edge projections were used in conjunction with a larger oil lamp or censer incense (Hayes, 1980: p. 54).

Two examples of Parion finds were used to assess their quality. Lamps K. Nos. 8 and 9 exhibit striking similarities to "base and figure-shaped incense-lamps" that constitute an exclusive class. However, the fact that the shoulder and body edges of oil lamps K. Nos. 8 and 9 are broken makes it difficult to determine their intended use. The right stem edge of K. No. 8 is missing and shaped like a leaf of discus ivy. As seen at the fracture site, the left body edge of K. No. 9 is missing; its nose has a heart-shaped shape.

It is unknown whether the support arms of K. Nos. 8 and 9 contain an incense chamber, a pedestal, or a figure in the lower portion. Not identical in shape, but functionally similar, K. No. Sample 509, one of the Pergamon artefacts that resembles eight and nine, has a connection point on the body and base parts that appears sloppy (Heimerl, 2001: Taf. 13, Fig. 509). Alternatively, the Royal Ontario Museum oil lamp number 242 has only a single joint on its body (Hayes, 1980: Pl. 24, Fig. 242). On the bases of K. Nos. 8 and 9, there are no indications of joining. It differs from the Pergamon example in that only the shoulders and body sides have joints. It shares the same characteristics as the oil lamp in the Royal Ontario Museum. Due to its missing components, the Royal Ontario Museum

2 Examples of clay and lining can be found in Heimerl, 2001: Taf. 8, Fig. 324; Taf. 12, Fig. 474/498; Taf. 13, Fig. 509; Taf. 16, Fig. 703; Taf. 17, Fig. 726.

lamp's general appearance and function remain unclear.

When Parion samples are evaluated within themselves, K. No. 8 and 9 are not evaluated under the pedestal and figure shaped, incense-candles title. This is because the protrusions on the base of K. Nos. 5 and 6 are not present in K. Nos. 8 and 9, and the connection points of K. Nos. 8 and 9 are only located on the shoulder and body edges. In addition, based on the data from the oil lamps in the Pergamon and Royal Ontario Museums, it is possible to conclude that K. Nos. 8 and 9 represent a group of compact oil lamps that are believed to have been used with a different object exhibiting characteristics similar to K. Nos. 5 and 6.

Each lamp has been properly baked. There is sand, mica, and lime in the clay. Clay is typically less permeable. The colours of the clay and slip are dominated by red hues.

Similar examples to K. Nos. 8 and 9 are found in Kyzikos Demirkapı (Öztürk, 2003: K. No. 40-41). It would be appropriate to date the Parion examples, which show a very limited form, to the second century AD with the help of the existing features and the layer from which it was found.

2. 3. Circular Body Oil Lamp with a Short Heart Nose

The oil lamps produced over a long period from the first century AD to the first half of the third century AD were evaluated as Type 17 by Brants (Brants, 1913: p. 34-53), oil lamps with a heart-shaped nose by Walters (Walters, 1914: p. 167- 181), Type 8 by Loeschcke (Loeschcke, 1919: p. 237-243), Type 25 by Broneer (Broneer, 1930: p. 83-87), Type 7 by Iványi (Iványi, 1935: p. 12-13), short-nosed oil lamps by Perlzweig (Perlzweig, 1961: p.83-85),

Type 8 A by Deneauve (Deneauve, 1969: p. 193), Type B 2.5b by Shier (Shier, 1978: p. 35-41), Type Q, Group 5 by Bailey (Bailey, 1980: p. 352-358), round-tipped lamps by Hayes (Hayes, 1980: p. 53-55), and Group 9 G by Heimerl (Heimerl, 2001: p. 58).

The name derives from the leaf motif in the shape of a heart on the nose. From the middle of the nose, the line separating the shoulder from the nose curved inward and formed a heart (Deneauve, 1969: p. 193). Due to the existence of stamped circles on both sides of the nose in early productions, the fold in question were likely created in this manner (Broneer, 1930: p. 85). Due to the subsequent appreciation of the heart shape, the production of vine and ivy branches continued. The band-like ring handle was utilised frequently and diverse decorative elements exist (Iványi, 1935: p. 12-13). Generally, the decorations are in relief (Shier, 1978: p. 35). Towards the end of the production of this type, oil lamps became larger and coarser (Brants, 1913: p. 53). In the first half of the third century, the chamber depth of the form was increased. The body structures of the oil lamps from the first half of the third century AD are slightly bulging after the capacity was increased.[3] The production and usage phase of the form concluded on this date.

In the study, a sample of a short oil lamp with a circular body and a heart-shaped snout was examined. The majority of discus and base are missing from K. No. 10. It is circular in shape and moulded from a circular mould. Two grooves separate the discus from the shoulder. The slender shoulder is unadorned, and the nose is shaped like a short heart. The lamp is baked properly. The clay contains mica, lime, and quartz. The clay is a light red colour, while the undercoat is black. Similar examples to K. No. 10 can be found in the Schloessinger Collection, which is of Anatolian origin (Rosenthal and Sivan, 1978: Fig. 172), at the Royal Ontario Museum (Hayes, 1980: Pl. 26, Fig. 244), Rheinischen Landesmuseum Trier (Goethert-Polaschek, 1985: Taf. 76, Fig. 702), Knidos (Bailey,

1988: Pl. 87, Q 2808), Pergamon (Heimerl, 2001: Taf.11, Fig. 465), Kyzikos (Öztürk, 2004: Figure 4), Kibyra (Metin, 2012: K. No. 156), and Laodikeia Northeast Necropolis (Şimşek, Okunak and Bilgin, 2011: K. No. 934).

Considering comparable examples, the most appropriate date range for K. No. 10 must be the second to third century AD.

3 Regarding the in question lamps, see. Çokay-Kepçe, 2005: K. No. 45, K. No.47. K. No. 49.

2. 4. Short and Simple Oil Lamp with a Round Nose and a Circular Body

The lamp evaluated under this group was classified and analysed as Type 17 by Brants (Brants, 1913: pp. 34-53), Type 27 Group 1 in conjunction with Type 25 by Broneer (Broneer, 1930: p. 90), Type B 2.5a by Shier (Shier, 1978: p. 35-41), and Type Q, Group 5 by Bailey (Bailey, 1980: p. 303-310).

During the same period as the "short heart-nosed oil lamp with a circular body," the "short round-nosed oil lamp with a circular body" was produced. The difference can be demonstrated by the simple round shape of the nose (Shier, 1978: p. 35). In certain lamp examples, the straight groove separating the shoulder from the nose gave the impression that the nose was an appendage with no organic connection to the lamp (Broneer, 1930: p. 85).

There are missing pieces on the shoulder, body, and base of lamp K. No. 11. It is circular in shape and was cast from a circular mould. The vertical ring handle, which begins at the body and ends in the discus ring, was first observed in the second century AD and was also used in examples from the third century, demonstrating the continuity of the practice. Typically, the handles extend well above the highest plane of the body. This would have been done to maintain the lamp's equilibrium and achieve a dynamic appearance. It is known that this type of handle structure was utilised in oil lamps from the northwest of Anatolian Türkiye (Çokay Kepçe, 2005: K. Nos. 45-50; Yılmaz, 2018: K. Nos. 4-6). Oyster shells in their complete concave discus form have been dated to the second or third century AD, but they were a common decoration on oil lamps of the Late Roman Period. The grooves between the discus and the shoulder are made slightly deeper to prevent oil spillage during filling. The non-functional grooves at the junction of the shoulder and nose must have been created for aesthetic purposes. On the left shoulder, air bubbles indicate that the lamps have been removed from a plaster mould. The form's defining characteristic is the simple round nose.

Lamp K. No. 11 is baked properly. The clay is composed of sand, mica, and lime. The colour of the clay is light red, and the colour of the undercoat is dark red. Bleeding in the lamp's lining suggests that it may have been dyed by dipping. Similar examples can be found in the British Museum (Bailey, 1988: Pl. 92, Q 2898) and at Smintheion Necropolis (Tüzün, 1997: Pl. 8, Fig. 30). Considering comparable examples, it was possible to follow the development stage and obtain sufficient information. From this perspective, the relevant data allows us to date K. No. 11 from the second to third century AD.

2. 5. Disc-Formed Body, Simple Round Nose Oil Lamp

This type of lamp with a wide circulation network is classified as Type 27 by Brants (Brants, 1913: pp. 61-63), Type 27 Group 2 by Broneer (Broneer, 1930: p. 90), Type 10 by Iványi (Iványi, 1935: p. 13-14), and as Type 15 by Vessberg (Vessberg, 1953: pp. 125-126).

This form has been identified as a precursor to Christian oil lamps (Brants, 1913: p. 61). In terms of the variety of decoration it is one of the most compact examples of oil lamps from the Roman Period (Wohl, 1981: p. 129). The lamp handles are perforated and feature grooves (Iványi, 1935: p. 13). Their bodies are disc-shaped with a wide discus portion (Vessberg, 1953: p. 126). Numerous examples of the form feature a vine branch, vine leaves, grape clusters on the shoulder, and ray decoration in the discus (Barın, 1995: p. 28). On the round base of some of the lamps, signatures are carved with a pointed tool while the clay was still wet (Broneer, 1977: p. 67). Their noses are simply rounded, and two or more curved lines on either side of the nose separate it from the shoulder border (Brants, 1913: p. 61). Reproductions of oil lamps, which were mass-produced in Corinth and Athens during the fifth and sixth centuries AD, were smaller than the originals (Garnett, 1975: p. 189).

The final example in our study, lamp K. No. 12, is missing its nose, body, and base components. It is cast and has a disc-shaped body. It has two grooved vertical handles with holes beginning at the shoulder. The wide concave discus features a ray decoration. On the straight and broad shoulder are grapevine branches, leaves, and clusters of grapes that resemble diagonal folds.

From the third century AD to the end of the sixth century AD, this type of ornament remained popular

and was used continuously on various forms. However, because K. No. 12 was produced from a long-used mould, the decoration details are not particularly distinct. The deterioration and detail loss in question must be for this reason. The firing of K. No. 12 is substandard. The pinkish-coloured clay contains mica. The colour of the lining has completely faded. K. No. 12 was a popular form in the third and fourth centuries AD. It is a widespread oil lamp that can be found in virtually every Roman city. Similar examples can be found in Athens Agora (Perlzweig, 1961: Pl. 8, Fig. 271; Perlzweig, 1963: Fig. 105), Corinthian Eastern Theatre (Williams and Zervos, 1986: Pl. 32, Fig. 19), Isthmia (Broneer, 1977: Pl. 30, Fig. 2800), Isthmia Roman Bath (Wohl, 1981: Pl. 34, Fig. 14), Corinth Demeter and Korea Sanctuary (Slane, 1990: Pl. 5, Fig. 54), Miletus Museum (Barın, 1995: Lev. 19, Fig. A), Argos Agora (Koutoussakı, 2008: Pl. 27, Fig. 213), and Rhodos (Katsioti, 2017: Cat. No. Cy 23). With the help of similar examples, it is possible to date K. No. 12 to the third to fourth centuries AD.

Conclusion

Formally and decoratively, the oil lamps in the study exhibited a gradual evolution over time. The context material group discovered along the northeastern border of the postcaenium section, along with the lamps, provides specific information about the theatre's pre and post production. In the fourth layer is an oil lamp from the third to fourth century AD. The low concentration of lamps and other artefacts in this layer suggests that Parion may have been affected by the turmoil following the Gothic invasion in the middle of the third century AD, and that it may have been associated with the stagnant and introverted period at the end of the fourth century AD (Keleş and Oyarçin, 2021: p. 397). Oil lamps of the second and third centuries AD were found in the fifth layer. There are oil lamps with rare and extravagant structures from the same layer. They could have been used as portables that were favoured by high-status members of society (K. Nos. 5 through 9). Formally distinguished, these unique production samples will take their place in the oil lamp repertoire and literature. The existence of Hellenistic Period architecture, particularly in the sixth layer, and the discovery of oil lamps, metal, ceramic, and glass fragments from the Hellenistic Period as well as a coin from the first to second century BC (not yet published) in this area lends credence to their existence from the Hellenistic Period. The fact that no pre-Roman architecture has been discovered to date lends credence to the theory that, during the period of urban transformation during the colonisation period, the existing structures were destroyed and for propaganda purposes magnificent Roman architecture was constructed over the top of the structures.

To date, no waste from an oil lamp manufacturing facility, mould, or furnace has been discovered in Parion. It is possible that Parion, a large city with a robust population after being granted colony status, produced its own goods in addition to importing goods (Pekgöz, 2020: p. 150). In line with these considerations, frequently used and popular forms (K. Nos. 1 through 4), rare examples (K. Nos. 5 through 9), highly popular forms and decorations, and oil lamps with low surface condition produced in constantly circulating moulds (K. Nos. 10 through 12), can be seen together. In this context and considering numerical data, the abundant form variations of oil lamps provide current and analytical information about Parion's archaeological remains.

Catalogue

K. No. 1, Excavation No. CPZ-8,

Dimensions: L: 8.8 cm W: 7 cm H: 2.6 cm

Clay Colour: 2.5 YR Light red

Interior Colour: Grey 1 2.5/N Black

Clay Structure: Medium mica, very chalky in the clay of the lamp›s abrasive texture. The surface is a little slick.

Similars: Vessberg, 1953: Pl. 1, Fig. 13; Kassab

Tezgör and Sezer, 1995: Fig. 210; Barr, 1996: Fig. 14, No. 53; Günay Tuluk, 1996: Lev. 2, Fig. H; Kan Şahin, 2008: Lev. 52, Fig. 105 A.

Date: First half of the third century BC

K. No. 2, Excavation No. CPZ-15,

Dimensions: L: 7.7 cm W: 6.1 cm H: 2.8 cm

Clay Colour: 2.5Y 4/1 Dark Grey

Interior Colour: 2.5Y 3/1 Very Dark Grey

Clay Structure: Medium mica, little lime in the clay of the hard-textured lamp piece. The surface is slippery.

Similars: Thompson, 1934: Fig. 50, C 54; Vessberg, 1953: Pl. 1, Fig. 11; Howland, 1958: Pl. 42, Fig. 443; Bailey, 1975: Pl. 78, Q 387; Kassab Tezgör and Sezer, 1995: Fig. 208; Barr, 1996: Fig. 14, No. 50; Günay Tuluk, 1996: Çiz 4 A; Kan Şahin, 2008: Lev. 53, Fig. 107.

Date: Middle of the third century BC

K. No. 3, Excavation No. CPM-40,

Dimensions: L: 7.8 cm W: 6.2 cm H: 3.2 cm

Clay Colour: 2.5Y 5/1 Grey

Interior Colour: Grey 2 2.5/5B Bluish-Black

Clay Structure: Medium mica, more fireclay powder in the clay of a hard-textured lamp piece. The surface is slightly slippery.

Similars: Vessberg, 1953: Pl. 1, Fig. 12; Howland, 1958: Pl. 42, Fig. 435; Bailey, 1975: Pl. 16, Q 78; Kassab Tezgör and Sezer, 1995: Fig. 209; Günay Tuluk, 1996: Lev. 1, Fig. F; Berlin, 1999: Pl. 19, Fig. 84; Tolstikov and Zhuravlev, 2004: Pl. 97, Fig. 2; Kan Şahin, 2008: Lev. 51, Fig. 103 A; Öz, 2014: K. No. 1.

Date: Last quarter of the third century BC, third quarter of second century BC

K. No. 4, Excavation No. CPM-13,

Dimensions: L: 6 cm W: 4 cm H: 4.2 cm

Clay Colour: 2.5Y 3/1 Very Dark Grey

Interior Colour: 2.5Y 2.5/1 Black

Clay Structure: A great deal of mica, less fireclay powder, and less lime were present in the clay of the lamp with a medium texture. The surface is powdery.

Similars: Broneer, 1930: Pl. 6, Fig. 301; Howland, 1958: Pl. 48, Fig. 621; Menzel, 1969: Abb. 13; Szentléleky, 1969: Fig. 39 A; Radt, 1986: Abb. 9, Fig. 635; Barr, 1996: Fig. 21, No. 78; Ugarković, 2016: Fig. 2 AB.

Date: Second to first century BC

K. No. 5, Excavation No. CPD-6,

Dimensions: Lamp L: 10.8 cm W: 5.2 cm H: 3.4 cm

Incense Chamber: Depth: 2.4 cm W: 5.2 cm H: 4.2 cm

Incense- Lamp: General H: 9.6

Clay Colour: 5YR 7/6 Reddish-Yellow

Interior Colour: 2.5YR 3/1 Dark Reddish-Grey

Clay Structure: Less mica, less-grained lime, less fireclay powder in the clay of the medium-textured lamp piece. The surface is powdery.

Similars: Heimerl, 2001: Taf. 16, Fig. 684;

Bussiére and Wohl, 2017: Fig. 585.

Date: Second century AD

K. No. 6, Excavation No. CPD-8,

Dimensions: L: 10.4 cm W: 2.8 cm H: 3.2 cm

Clay Colour: 10R 7/8 Light Red

Interior Colour: 10R 3/3 Blackish-Red

Clay Structure: Medium mica, very chalky in the clay of the hard-textured lamp piece. The surface is slightly slippery.

Similars: Öztürk, 2003: K. No. 40.

Date: Second century AD

K. No. 7, Excavation No. CPZ-16,

Dimensions: L:- W: 4.9 cm H: 6.4 cm

Clay Colour: 10R 7/8 Light Red

Interior Colour: 2.5YR 7/8 Red

Clay Structure: Less mica, less quartz, more lime in the clay of the medium textured incense chamber. Surface powdery.

Similars: Heimerl, 2001: Taf. 16, Fig. 684; Bussiére and Wohl, 2017: Fig. 585.

Date: Second century AD

K. No. 8, Excavation No. CPZ-1,

Dimensions: L: 11 cm W: 4.9 cm H: 3.8 cm

Clay Colour: 5YR 7/8 Reddish-Yellow

Interior Colour: 2.5YR 7/8 Light red

Clay Structure: The clay of the medium-textured lamp piece contains a lot of sand, less mica, and more lime. Surface powdery.

Similars: Öztürk, 2003: K. No. 40.

Date: Second century AD

K. No. 9, Excavation No. CPD-7,

Dimensions: L: 9.5 cm W: 5.1 cm H: 3.3 cm

Clay Colour: 10R 7/8 Light Red,

Interior Colour: 2.5YR 3/1 Dark Reddish-Grey

Clay Structure: Little mica and lime in the clay of the hard textured lamp piece. Surface powdery.

Similars: Öztürk, 2003: K. No. 41.

Date: Second century AD

K. No. 10, Excavation No. CPC-108,

Dimensions: L: 7.3 cm W: 5.3 cm H: 3 cm

Clay Colour: 2.5YR 7/8 Light Red

Interior Colour: 10R 2.5/1 Blackish-Red

Clay Structure: Less mica, less quartz, medium lime in the clay of the hard textured lamp piece. Surface powdery.

Similars: Rosenthal and Sivan, 1978: Fig. 172; Hayes, 1980: Pl. 26, Fig. 244; Goethert-Polaschek, 1985: Taf. 76, Fig. 702; Bailey, 1988: Pl. 87, Fig. Q 2808; Heimerl, 2001: Taf. 11, Fig. 465; Öztürk, 2004: Res 4; Metin, 2012: K. No. 156; Şimşek, Okunak and Bilgin, 2011: K. No. 934.

Date: Second to third centuries AD

K. No. 11, Excavation No. CPC-58,

Dimensions: L: 8 cm W: 5.5 cm H: 4.5 cm

Clay Colour: 10R 7/8 Light red

Interior Colour: 10R 3/2 Blackish-Red

Clay Structure: Less sand, more mica, less lime in the clay of the medium-textured lamp piece. Surface powdery.

Similars: Bailey, 1988: Pl. 92, Fig. Q 2898; Tüzün, 1997: Pl. 8, Fig. 30.

Date: Second to third centuries AD

K. No. 12, Excavation No. CPM-32,

Dimensions: L: 7.7 cm W: 8.1 cm H: 3.9 cm

Clay Colour: 7.5YR 8/3 Pink

Interior Colour: Worn

Clay Structure: Medium mica in the clay of the medium textured lamp piece. Surface powdery.

Similars: Perlzweig, 1961: Pl. 8, Fig. 271; Perlzweig, 1963: Fig. 105; Williams and Zervos, 1986: Pl. 32, Fig. 19; Broneer, 1977: Pl. 30, Fig. 2800: Wohl, 1981: Pl. 34, Fig. 14; Pl. 30, Fig. 2800; Slane, 1990: Pl. 5, Fig. 54; Barın, 1995: Lev. 19, Fig. A; Koutoussakı, 2008: Pl. 27, Fig. 213; Katsioti, 2017: Cat. No. Cy 23.

Date: Third to fourth centuries AD

Notes

Using Munsell Soil-Colour Charts 2009 Year Revised | 2013 Production, the clay and slip colours of the lamps were determined.

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* *We would like to thank all our co-workers, students, and labourers who helped excavate this section.*

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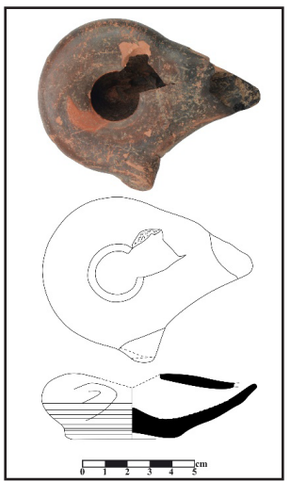
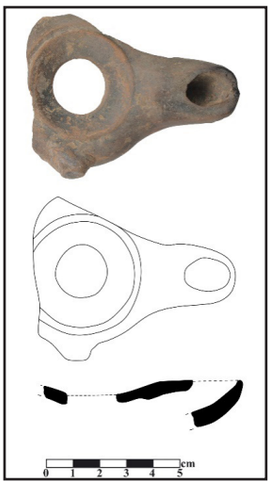
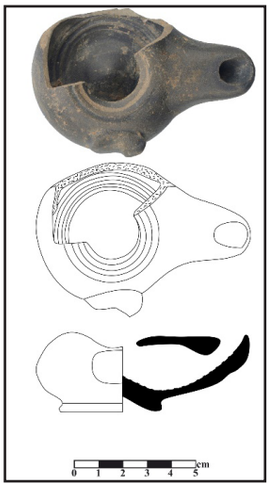
Appendix



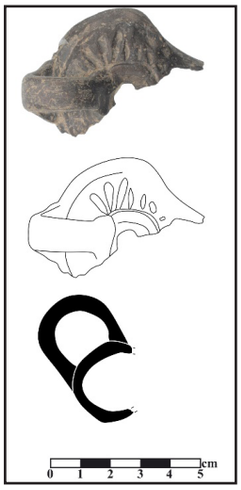
K. No. 1



K. No. 2



K. No. 3



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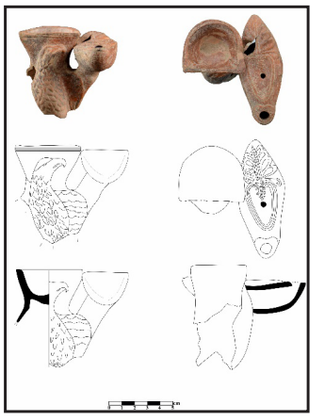

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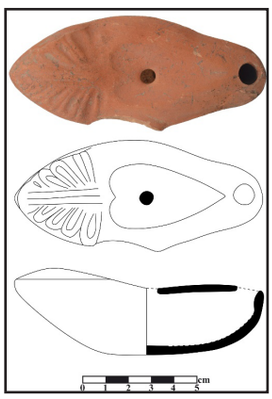

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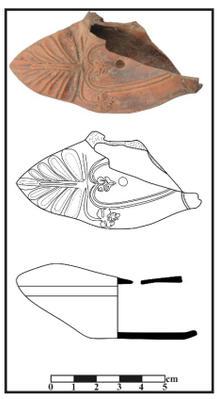

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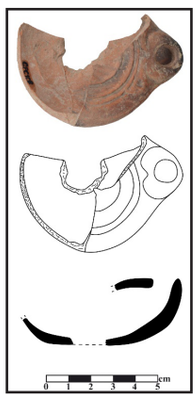

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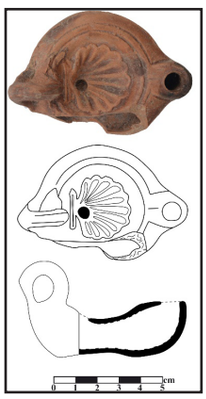

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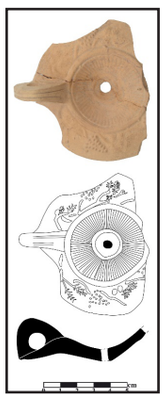


K. No. 12

Figure 1: Parion City Centre and Theatre (Archive of Parion Excavations).

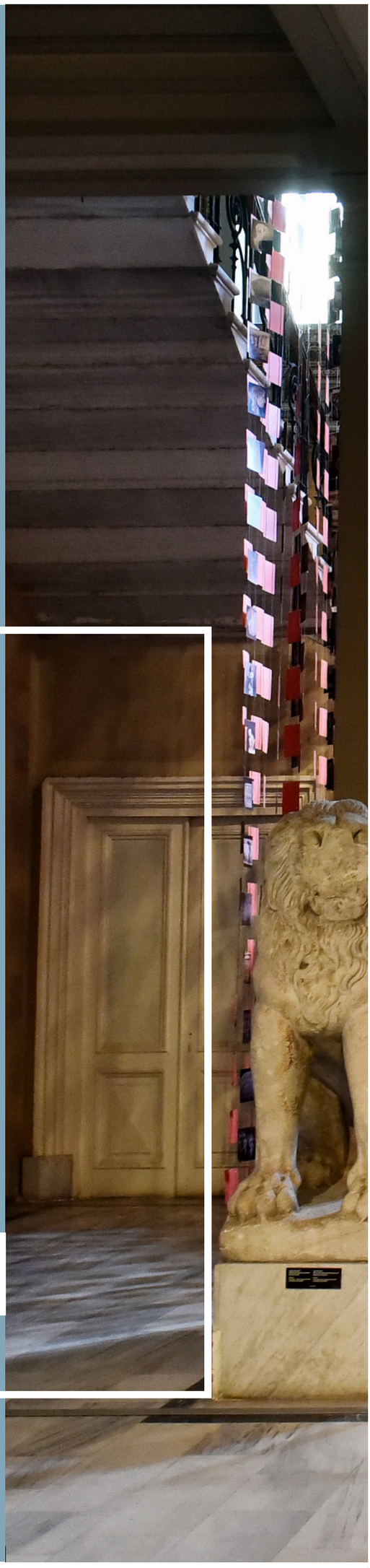
Figure 2: Parion Theatre (Archive of Parion Excavations).

Figure 3: Northeast of the Postcaenium Section with Lamps and the Possibly Hellenistic Era (Parion Excavation Archive).

Figure 4: Frescoes on a Wall from the Possibly Hellenistic Era (Parion Excavation Archive).

Museum Experience of the Digital Age: Metaverse Museum

Fatma Sezin DOĞRUER




Rondel 149
Env. 15
Rev. 7
MEDALLION DECORATED
WITH MEDUSA'S HEAD
Rondel 149
Env. 15
Rev. 7
MEDUSA BAŞLI
MADALYON


ANCIENT
FUTURES
VR

Research Paper

Doğruer, F. S. (2023). Museum Experience of the Digital Age: Metaverse Museum, *Turkish Journal of Archaeology and Ethnography*, 86, 65-81.

Dijital Çağın Müzecilik Deneyimi: Metaverse Müze*

Museum Experience of the Digital Age: Metaverse Museum

Fatma Sezin DOĞRUER**

Özet

Kullanıcı sayısında bir sınırlama olmadan siber alanlarda öğrenme, yaratma, sosyalleşme, çalışma, iş birliği yapma ve oyun oynamaya izin veren devasa büyüklükte üç boyutlu sanal bir arena olan metaverse teknolojisinin hızlı yükselişi ve sanal platformların dünya çapında yaygınlaşması ile yeni metaverse müzeleri ve var olan geleneksel müzelerin NFT eserlerini sergilediği metaverse oluşumları kullanıma açılmıştır. Bu çalışmanın amacı, metaverse müzeler ile geleneksel müzeler arasında ilişkinin kurulmasına yardımcı olarak metaverse müzelerin gelişimlerini anlamaktır. Çalışma kapsamında, dünyadan ve Türkiye'den seçilen örneklerden yararlanılarak metaverse müzelerin tasarım özellikleri, işleyişleri ve müze deneyimleri hakkında yeni tartışma konuları ortaya çıkarılmıştır. Metaverse müzeler ile geleneksel müzeler arasında yapım, teşhir düzenleme, eserler, yönetim ve erişilebilirlik ile ilgili konulara dair kıyaslamalar yapılmıştır. Metaverse müzelerin geliştirilmesine yönelik hem işleyişi ile ilgili faktörlerden kaynaklanan güçlü yönleri belirlemek ve zayıf yönlerin farkında olmak, hem de kullanımın oluşturduğu olası tehditleri önlemek ve geleceğe yönelik fırsatları ortaya çıkarmak için metaverse müzelerin güçlü ve zayıf yönleri, karşı karşıya kaldığı tehdit ve fırsatlar listelenmiştir. Geleneksel müzeler ile metaverse müzeleri arasındaki ilişki güçlendikçe kullanıcı etkinliği ve buna bağlı olarak popülerliğin artacağı; bu bağlamda metaverse'te müze deneyiminin gerçek hayata olumlu ve olumsuz yansımalarının analizi yapılarak gerçek ve sanal alemde varlık gösteren mekân ve sergileme kalitesi ile teknoloji araçlarının kullanıldığı tasarımların geliştirilmesi gerektiği düşünülmektedir.

Anahtar Kelimeler: Metaverse, Müze, Müzecilik, Metaverse Müzecilik, Dijital Çağ.

Abstract

With the rapid rise of metaverse technology, which is a colosal three-dimensional virtual arena that allows learning, creating, socializing, working, collaborating and playing games in cyberspace with limitless users; and the spread of virtual platforms globally, new metaverse museums and the metaverse formations of the existing traditional museums, in which their NFT works are exhibited, were opened for use. The aim of this study is to understand the development of metaverse museums by helping to establish the relationship between metaverse museums and traditional museums. Within the scope of the study, new discussion topics about the design features, functioning and museum experiences of the metaverse museums have been revealed by making use of selected examples from the world and Türkiye. Comparisons were made between metaverse museums and traditional museums in terms of the issues related to construction, exhibition arrangement, artifacts, management and accessibility. The strengths and weaknesses of the metaverse museums, the threats they face and opportunities are listed in order to identify the strengths arising from the factors related to the functioning and to be aware of the weaknesses, as well as to prevent the possible threats posed by the use and to reveal the opportunities for the future. As the relationship between traditional museums and metaverse museums gets stronger, user activity and popularity would increase accordingly In this context, it is thought that by analyzing the positive and negative reflections of the museum experience in the metaverse on real life, it is necessary to develop designs that use the quality of space and exhibition and technology tools that exist in the real and virtual world.

Key Words: Metaverse, Museum, Museology, Metaverse Museum Studies, Digital Age.

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** Doç. Dr., Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums, Ankara/Türkiye, sezin.dogruer@ktb.gov.tr, ORCID: 0000-0002-1237-0020

Introduction

In the virtual world, a series of experiences are generated by creating technological environments that give users the sensation of being in and interacting with an alternate environment. Virtual worlds, which have been a part of our lives since the 1980s, have undergone rapid technological development and have been popular due to the freedoms they provide, such as the ability to create and own objects, establish social networks, and transfer money within a concrete financial structure. Virtual environments possess various characteristics, such as the continuity of a real-world environment, the sharing of space with multiple users at the same time, three-dimensional representation in the form of avatars, the interaction between users and objects, and resemblances to the physical environment and movement in the real world (Warburton, 2009: p. 415, 416).

Museums did not remain a spectator to the rapid rise of metaverse technology and the global spread of virtual platforms. Instead, metaverse formations, or new metaverse museums, were opened for use in places where existing traditional museums exhibit NFT (non-fungible token) works. The Covid-19 pandemic is an additional factor accelerating these formations. Innovative Metaverse technologies have enabled the transfer of museology activities to the virtual environment in museums that offer a variety of exhibitions and cultural. In this dynamic museum model, capable of constant change and transformation, it is possible to produce architectural content similar to conventional designs, as well as designs that cannot be physically built that were once beyond the realm of imagination. The accessibility of metaverse museums is global and without time constraints.

The purpose of this study is to comprehend the evolution of metaverse museums by establishing the relationship between them and conventional museums. In the scope of this study, new discussion topics regarding the design characteristics, operations, and museum experiences of selected international and Turkish metaverse museums are explored. The research questions include, "What are the characteristics of metaverse museum designs?", "What distinguishes metaverse museums from conventional museums?", and "What are the strengths and weaknesses of metaverse museums, as well as the threats and opportunities they face?" The questions raised were recently evaluated, but it should be noted that the findings of this research, which focuses on the cyber world, is susceptible to technological advancements, may likely change over time.

1. Metaverse

Metaverses are vast, three-dimensional sandboxes that permit unrestricted cyberspace learning, creation, socialisation, work, collaboration, and gaming (Argan et al., 2022: p. 35). The term metaverse was coined by Neal Stephenson in his 1992 science fiction novel Snow Crash, as a virtual reality-based successor to the internet, derived from the words "meta" and "universe," used as a noun. It refers to "a dimension beyond the material world" (Dionisio et al., 2013: p. 34:4, 34:6). In the Turkish equivalents, "other universe," "fictional universe," and "virtual universe" are also emphasised (Terzi, 2022: s. 13).

With the use of virtual reality in the metaverse, the previously two-dimensional virtual world can now be perceived three-dimensionally and felt in the environment. It is represented in virtual reality (VR), augmented reality (AR), mixed reality (MR), and extended reality (XR). These technological advancements provide users with interactive environments and immersive experiences (Argan et al., 2022: p: 34, 37, 58). In order to digitise the social structure, the metaverse dematerializes physical reality. In contrast to the previous phases of the internet, which were characterised by a social media presence centred on a handful of service providers, the decentralised character ecosystem now enables effortless participation in the collective experience. With the metaverse, where real-time social activity can be displayed, a transition has occurred from the asynchronous social network to applications that allow users to make new discoveries and transition from one experience to the next (George et al., 2021: p. 5).

Metaverse environments, which can also be referred to as "Parallel Digital Universes," can be viewed as a continuation of real life because they permit a variety of real-world actions and simulate interactions. With the incorporation of metaverse technology into

live performances and similar events, a personalised experience can be created for everyone in the comfort of their own seats (George et al., 2021: p. 4). Similar to physical reality, users are in a different perception of reality with the virtual dimensions of the environment. With the hybridization of the real and virtual worlds, space transitions and exchanges are feasible. With the existence of this synthetic universe, as the individual's and the world's perceptual capacities change, the way of thinking and behaving can be drastically altered (Aydoğan et al., 2022: p. 56, 58).

In such metaverse environments, "immersion" in the atmosphere is intended to provide the user with the sensation of being physically present (Aydoğan et al., 2022: p. 58). It is well known that physical life is simulated to easily adapt to the system. For instance, real-world structures are frequently utilised in the metaverse so the relationship between metaverse environments and physical life is highlighted. For viewers to experience immersion and a sense of belonging, it is essential to provide for the possibility that they have similar physical routines (Güven and Güven, 2022: p. 1474). Individual avatars, also called digital twins, are virtual identities (Aydoğan et al., 2022: p. 56). In virtual channels such as Minecraft, Roblox, and ZEPETO, the avatars of users interact with one another (Lee et al., 2022, 80).

Blockchain technology provides the infrastructure that enables the rapid development of metaverse technology. The first studies on blockchain technology, which has become a part of our lives with the advent of the crypto economy, were published in the 1980s (George et al., 2021: p. 2). NFTs and cryptocurrencies were adopted by the blockchain ecosystem, which was incorporated by Web 2.0. The cryptocurrency Bitcoin and the term "chain" were first mentioned in an article by Satoshi Nakamoto published in 2008. With the blockchain, which represents data integrity similarly to a chain, a secure area where digital data cannot be altered was established. Blockchain technology has an intermediary feature; a system in which the owner of the NFT and the collector approach each other, the original of the NFT can be preserved, the rights of the work can be transferred through commerce, and smart contracts prevent the unauthorised duplication and reproduction of the NFT. In Web 3.0, which purports to eliminate issues such as democratisation, trust, ownership, and belonging, users' data are now produced, processed, and evaluated by machines rather than servers or platforms (Önder, 2022: p. 579, 580, 592). The metaverse environment enables the creation of a digital economy with the production of multiple NFTs and token assets, and the utilisation of crypto wallets such as Trust Wallet and Meta Mask (George et al., 2021: p. 2). The metaverse is open source-not connected to a centralised system-and based on blockchain (Oduncu, 2022: p. 68, 77) A rapid development advantage is provided in many areas. It has a financial potential; platforms such as Decentraland, which opened in 2020, have uses where users and investors can generate income such as designing, renting, and selling "land." This platform, which has its own currency, has become a significant sector of the global economy (Aydoğan et al., 2022: p. 57, 59). Using Cryptovoxels, a platform based on the Ethereum blockchain, players can purchase land, construct shops, and open art galleries (Cryptovoxels, 2022, par.1). This is also an example of the reinterpretation of the constructed environment.

Among the digital transformations that arose during the global shutdowns over two years caused by the Covid-19 pandemic which emerged in the second half of 2019, the metaverse became one of the most notable offline activity substitutes. Due to the social isolation that accompanies existing communication models, alternative models have been developed, and the use of digital built environments has become increasingly prevalent. Since people cannot remain in closed environments for extended periods of time, as during pandemic conditions, a rise in activities known as contactless culture have been observed in museums. Thus, metadata offered users an online existence. In this virtual life, where the audience and the work meet in the digital environment, "multi-layered alternative life forms, kneaded with hybrid reality systems, are dominated by lifestyles equipped with endless possibilities" (Aydoğan, 2022: p. 62; Lee et al., 2022: p. 79).

2. Virtual Museums

The concept of the museum (Museum Definition, 2022, paragraph 1), which is "a non-profit, permanent institution that researches, collects, conserves, interprets, and exhibits tangible and intangible heritage at the service of the community" (ICOM, 2022)has begun to transform and become more complicated due to the economic, social, and political developments of the 19th and 20th centuries (Karatay, 2015: p. 6). With

the emergence of technologically connected cities and the disappearance of physical proximity, the concept of virtual museology emerged in the 1990s, and works began to be offered to individuals, and made available to broader audiences (Kahraman, 2021: pp. 147, 150). Considering these developments, the museum visitor has transitioned from a passive to an active participant that influences the creation of the work. In addition, museums enrich the ways in which societies communicate by utilising technological advancements, which are essential in our modern era. Widespread use of interactive systems has increased the effectiveness and entertainment value of exhibitions. For the effective utilisation of technological infrastructures in museums, efforts are being made to enable the virtual world, such as augmented reality, to be experienced in the real world. Museums can adapt innovations to their structure and increase appeal in this manner.

With the help of information technologies, solutions are sought for issues such as high exhibition costs, preservation concerns, and space constraints (Karatay, 2015: p. 15). In contrast to studies conducted in an effort to expand the traditional understanding of museology, many museology activities have shifted to the virtual universe. It can be observed that the methods of evoking emotion to affect the audience's senses, instructive displays to educate, and education-based exhibition methods employing audio-visual tools are also continued in the virtual exhibitions (Kalyoncu Fırat and Gülactı, 2022: p. 2398).

As a result of the pandemic that began in 2019, the number of museum visits in Türkiye and around the world has decreased significantly. The number of visitors to museums, which approached thirty-five million in 2019, decreased to approximately nine million in 2020 (Museum Statistics, 2022, par. 1). Virtual museums have become a significant means of access for users who are unable to physically visit a museum but wish to view its artefacts. They provide 360-degree panoramic images and the ability to virtually walk through the museum. Fifty-one museums and ruins affiliated with the Ministry of Culture and Tourism of the Republic of Türkiye were made accessible virtually as of November 2022.

(Figure 1) (Virtual Museums, 2022, par.1). The Eczacıbaşı Virtual Museum, which opened to the public in 1999, was the first of the virtual museums established by the private sector in Türkiye (Kahraman, 2021: p. 153). Similarly, the world's leading museums such as the British Museum (https://britishmuseum.withgoogle.com), the Solomon R. Guggenheim Museum (https://artsandculture.google.com), and the Louvre (https://www.louvre.fr) are continuing to use virtual museums.

Numerous computer- and technology-based concepts and procedures have emerged due to the rapid development of technology. For instance, haptic technology product tactile display devices (Figure 2) simulate the sense of touch by sending feedback to the audience's fingertips (Kalyoncu Fırat and Gülaçtı, 2022: p. 2408). In recent years, arrangements for virtual museums or digital museums have been made in the metaverse environment, where physical construction is being replaced by virtual construction. The virtual museum continues to gain speed with innovative technological developments. The metaverse museum concepts accelerated by the pandemic paved the way for digital museum experiences.

3. Metaverse Museums

With the pandemic and the development of NFTs, traditionally centralised museums have begun to take place in the metaverse, despite the fact that decentralisation is a key principle (Ando vd., 2013: p. 218). This coexistence of art and technology is now open to worldwide participation (Oduncu, 2022: p. 73). NFTs are digital representations of rare and collectible assets. As a result of collaboration between the Digital Transformation Office of the Presidency and the Turkish Language Association, the Qualified Intellectual Deed (Nitelikli Fikrî Tapu) has been proposed as the Turkish equivalent of an NFT (Turkish Translation of NFT, 2022, par.1). NFTs stored with blockchain technology are one of the fundamental components of Web 3.0 and constitute a model of digital art ownership (Kalyoncu Fırat and Gülaçtı, 2022: p. 2408). Due to the rapid and unmediated operation of the blockchain infrastructure via software algorithms, the data, and consequently the NFT works, have become immutable and serve as the author's signature. Some museums have adapted to the digital age by auctioning off world-renowned artworks that have been converted into non-fungible tokens (Oduncu, 2022: p. 73).

As an alternative to traditional institutional museum models, metaverse museums offer opportunities such as rethinking and reinterpreting the art experience in the museum, as well as easier access to the community (Decoded: Museums in the Metaverse, 2022, par.2).

As with traditional museums this type of museum is created by interdisciplinary professionals. In addition to professions such as architects, curators, archaeologists, art historians, and designers, there are also three-dimensional (3D) artists or CGI designers, game experts, crypto artists, and NFT artists among the participants. The contents of such museums may consist of NFT renditions of physically existing works or virtual world specific assets. Platforms for the metaverse also permit the production of works of art that undergo constant transformation. Viewers not only consume content but also contribute to the art economy through their participation and content production (Aydoğan vd., 2022: pp. 62, 63).

While some virtual world platforms are utilised within a pre-designed environment, architecture can also be created by users designing and producing content on platforms that serve as empty space. This enables designers and architects to create designs that are distinct from the physical environment, and it enables the use of various visualisation techniques, such as rendering and video. Additionally, new technology products are utilised when designing metaverse museums like game engines and 3D modelling programmes such as 3D Max, Blender, Cinema 4D, and Maya. In addition to creating digital duplicates of real-world structures, new metaverse designs are also being developed. It is evident that the incorporation of artificial intelligence into the metaverse environment enhances design and automation. Thanks to applications such as virtual reality, mixed reality, augmented reality, and augmented reality, a fictitious atmosphere is created using illusion and manipulation techniques; the metaverse experiences of users are enhanced, and the effect on the senses is amplified (Aydoğan vd., 2022: p. 62). On metaverse platforms, there can be permanent and temporary exhibitions, cultural festivals, and various organisations.

In the environment of the metaverse global communications are enabled. Exhibitions opened by institutions, organisations, or individuals may have a different appearance or the same appearance as museums, galleries, or art institutions in the physical world (Aydoğan et al., 2022: p. 62). Considering that the metaverse will "take its inspiration and foundations from the physical universe," it is expected that there will be structures with the same design as the physical universe; it is common practise to use collective memory products during the period of acclimatisation to metaverse environments (Güven and Güven, 2022: p. 1470).

3. 1. 3.1. Examples of Metaverse Museums from Around the Globe

The metaverse, a three-dimensional virtual world where users can freely move for their own purposes, was described as a promising education and research platform in the 2010s, where it was viewed as a functional representative of the Second Life Metaverse environment that enables users to construct objects and architectural products (Thawonmas and Fukumoto, 2011: p. 153). Second Life, one of the earliest examples of the metaverse, contained numerous museums and was easy to use in terms of avatar control (Ando et al., 2013: p. 218). Due to its lack of a game-like objective and skill, it is viewed as a type of front metaverse in the present tense (Aydoan et al., 2022: p. 59).

At the end of the 2010s, other metaverse environments and environments with only museum functions began to be developed. VOMA, Musée Dezentral, Museum of Crypto Art, African Museum of the Metaverse, 6529 Museum of Art, Serpentine Galleries, and Toledo Museum of Art are examples of metaverse museums created with blockchain technology in the present day (Decoded: Museums in the Metaverse, 2022, par.5).

3. 1. 1. VOMA

VOMA, which began development as a meta-museum in 2019, is a 2020-opening metaverse museum designed to offer a photo-realistic, three-dimensional internet browser experience and serve as an alternative to traditional museums (Figure 3, 4). In addition to providing a social experience, the museum also incorporates the audience's voices (VOMA, 2022, par.1). The museum, which is open to the public free of charge, displays digital reproductions of significant works from museums such as the Orsay Museum, the

Art Institute of Chicago, and the Metropolitan Museum of Art, as well as new works (Kahraman, 2021: p. 155).

The museum is situated in a virtual environment with topographical features resembling those of the real world. The museum is surrounded by landforms and natural elements such as lakes, mountains, and various tree species. The entrance to the museum building, which is situated on a small island and accessible via a simple wooden bridge, is colonnaded. The interior space is formed by exterior walls with the appearance of plastered stone and interior walls made of exposed concrete. There are ceiling and near-ceiling windows through which the sky can be seen. The works are displayed indoors, on white panels mounted to the walls or on low wooden structures in the centre of the room.

3. 1. 2. Musée Dezentral

The metaverse's Musée Dezentral is a decentralised NFT museum (Figure 5, 6). Connection to a wallet is required for NFT minting (Musée Dezentral, 2022, par.1). The museum tour, which begins in a hall with a high ceiling, continues to the courtyard, which is reached by two flights of stairs, and then to numerous exhibition spaces connected by stairs and corridors. Marble and wooden parquet-like floors, columns, and vaults stand out in the predominantly white and grey structure. Artefacts are hung from the ceiling of the corridor that encircles the courtyard and are displayed in the niches on the walls. The sky is visible through the skylights. Water and landscape elements are incorporated into the design of the museum structure, which was inspired by real-world architecture, so that the audience could experience a sense of belonging.

3. 1. 3. Museum of Crypto Art

A multi-stakeholder, decentralised art curation and exhibition platform established the Museum of Crypto Art, the first cultural institution of crypto art (Figure 7). The museum's permanent collection consists of 231 works by 231 artists and is known as the Genesis collection (Museum of Crypto Art, 2022, par.1). In the Somnium Space environment, virtual tours of distinct parcels and structures can be conducted. It is understood that most exhibition designs are metaverse designs (Somnium Space, 2022, par.1).

3. 1. 4. Nemo Virtual Museum

Billed as the first design museum of the metaverse environment, The Nemo Virtual Museum has NFTs on display and for sale, in addition to the brand concepts and collection of the Italian lighting company Nemo (Nemo Virtual Museum, 2022, par.1). Four walls and floors without a ceiling are used as the structure's architecture. The exhibition spaces are separated by passageways consisting of narrow corridors. A work-oriented strategy has been adopted via a straightforward design. On the surfaces, white and grey hues are used. The artworks are displayed in niches in the walls or on pedestals on the floor.

3. 1. 5. NFTism

The virtual art gallery NFTism, created by Zaha Hadid Architects, is characterised by its dramatic composition, user experience, and spatial designs centred on social interaction, and it provides an online massive multiplayer gaming and interaction technology service (Figure 9). The architecture of the art gallery incorporates parametric design technologies such as audio-video interaction (Developed by ZHA, 2022, par.2). It has a unique design that makes no reference to the real world and was created specifically for the virtual world.

3. 2. Examples of Metaverse Museum from Türkiye

In addition to these global examples, the use of metaverse museums in Türkiye has begun, concurrently with the rest of the world, albeit in small numbers. On the Decentraland platform (Kalyoncu Fırat and Gülaçtı, 2022: p. 2408), which was opened by Yapı Kredi Bank in May 2022 and displays Atatürk's belongings as NFTs, users play games with their avatars, buy and sell land with MANA-their own currency-and socialise, produce, and sell NFTs in the metaverse museum. Represented are digital artworks that can be authenticated via blockchain (Decentraland, 2022, par.1). The first floor of the Yapı Kredi Bank building, a three-story structure located at the coordinates -112, -43 in Decentraland, serves as a metaverse museum. Originally displayed in the virtual museum, NFT versions of works such as Atatürk's

medals, rosary, wooden walking stick, gramophone, and Zübeyde Hanım's spectacle frames were created and displayed in the metaverse (Yapı Kredi Metaverse, 2022, par.2).

İş Sanat, which carries out museum and artworks on behalf of Türkiye's İş Bank, opened a temporary NFT exhibition titled A Walk on the Bosphorus with Paintings (Tablolarla Boğaziçi'nde Bir Gezinti) between April 8 through 20, 2022 in Decentraland, where the bank's figure collection was displayed (Figure 10) (İş Sanat's Metaverse, 2022, par.1). In accordance with the exhibition concept, a steamboat-shaped exhibition was created.

In addition to these museums which belong to Türkiye's prominent banks, research has begun to transfer the artefacts in the Zeugma Mosaic Museum, which is affiliated with the Ministry of Culture and Tourism, to the metaverse. Within the scope of the study, the museum's Zeugma Dionysos house was scanned in three dimensions and added to the metaverse environment (Zeugma with Metaverse, 2022, par.1).

There are also examples of digital displays and metaverse environments being exhibited in conventional museums. In the temporary metaverse exhibition titled Ancient Futures (Antik Gelecekler) at the İstanbul Archaeology Museums of the Ministry of Culture and Tourism of the Republic of Türkiye in October 2022, digital environments were created in the same environment as the museum works, physical sculptures, and AR works were displayed (Figure 11) (in İstanbul Archaeology Museums, 2022, par.1).

3. 3. Differences between Metaverse Museum and Conventional Museums

It can be seen that physical structures and natural environmental elements are used in metaverse museums, which conduct research, conservation, interpretation, and exhibition activities, and exhibit works in the same manner as traditional museums, which are non-profit institutions at the service of society, and hold a variety of activities for the service of society. In addition, there are disparities in production, exhibition arrangement, work-related issues, administration, and accessibility (Table.1).

Table.1 Traditional Museum and Metaverse Museum Differences

	Traditional museum	Metaverse museum
Production/Exhibition Arrangement	Specific/limited resource and space	Unlimited space
	Land/construction cost	Land/software cost
	Buildability in terms of construction system and building material	Flexibility in design and material, Not seeking constructability
	Limitation on space sizes	Expandable spaces
	Making changes in the exhibition of works in a long time and inconvenience	Exhibition renewal is quick and easy
	The requirement to comply with the zoning legislation in new museum constructions, and the conservation le	Use of legally binding smart contracts and standards
Work	Limited number of exhibits	Unlimited NFT exhibitability
	Does not entail sales.	NFT sale possible
	Limited by artifact size	Flexibility in artifact size
	Methods for the transferability of works	Artefacts from all over the world can be brought together without difficulty
	Possibility of artefact theft	Prevention of plagiarism, forgery, and theft in works
	Limitation of the approach so as not to harm the artefact	Possibility to get as close to the artefact as desired
Management	Traditional method of operation	Internet technology dependence in museum operations
	Specific opening and closing hours	Navigation without time constraints
	Non-profit motive	Profit motive
Accessibility	Geographic distance is at issue	Accessibility on a global scale, the potential for quick transitions and roaming between museums
	Permitting one museum tour at a time	Ability to simultaneously visit multiple museums

When evaluating the construction and exhibition arrangements, there are no restrictions on the locations where metaverse museums can be established, whereas traditional museums must define a specific source and location prior to project design. While land cost is an issue for both types of museums, the traditional museum incurs construction project and implementation costs, while the metaverse museum incurs software and digital design costs. While constructability is sought in terms of construction and building materials in the

traditional museum, flexibility in design and material is evident in the metaverse museum, where structures that are extremely difficult or impossible to build can be designed. In addition, there are no restrictions on the size of spaces in metaverse museums, so expandable spaces have been implemented. While traditional museums take a long time to complete projects and implementation studies-for changes in the exhibitions of artefacts- these studies can be completed more easily and quickly in the virtual environment of metaverse museums. New museum constructions are required to adhere to zoning regulations, and if the museum is a registered cultural property, it must also adhere to conservation regulations. In metaverse museums, non-binding smart contracts and standards are utilised.

In conventional museums, the number of exhibitable works is limited proportionally to the size and number of available spaces, when the works are evaluated, and based on their subject matter. However, an infinite number of NFTs can be displayed in metaverse museums due to their expandable spaces. In contrast to traditional museums, which prohibit the sale of artworks, it is possible to sell NFTs and exchange ownership in metaverse museums. In these museums, there is no restriction on the size of the space, and the NFT is also unrestricted in size. Regarding the portability of the artefacts, various procedures and preventative protection measures are implemented in traditional museums to prevent the artefacts from being damaged. However, in the environment of the metaverse, it is simple to combine works from all over the world. Plagiarism, counterfeiting, and theft can be prevented in conventional museums, although theft of the works is possible if the necessary security measures are not taken or are insufficient. While the approach to physical artefacts is restricted for protection purposes, digital NFTs can be approached to any extent desired.

When management-related issues are considered, metaverse museum operation is becoming increasingly dependent on internet technology, in contrast to the traditional museum model. While the opening and closing times of conventional museums are fixed, there is no time limit for visiting metaverse museums. As stated in ICOM's definition of a museum, it is evident that non-profit museum operations have become profit-driven with the introduction of NFT sales in the virtual world.

When metaverse museums are evaluated in terms of accessibility, geographical distances disappear and accessibility, transitions between museums, and global circulation are possible in a short amount of time. With the ability to visit multiple locations simultaneously, metaverse museums gain prominence.

3. 4. Metaverse Museums' Strengths and Weaknesses, Opportunities and Threats

For the development of metaverse museums, it is essential to identify the strengths resulting from the functioning factors and also to be aware of the weaknesses, as well as preventing threats resulting from use and to reveal future opportunities. As a result of the study's research, the strengths, and weaknesses of the metaverse museums, as well as the threats and opportunities they face, are enumerated.[1]

3. 4. 1. Strengths of Metaverse Museums

- The use of materials in museum designs is flexible; constructability is not required.
- In the three-dimensional museum design, it is possible to freely navigate using avatars and to get very close to the artwork.
- A displayable collection can be created.
- Resources and space are unlimited.
- There is no need to protect works like in real life.
- Blockchain technology is employed to prevent plagiarism and piracy of works.
- Museums have no construction costs, only virtual land, and digital design costs.
- Museums are open without time restrictions.

1 The items under the headings are based on the data gleaned from the review of the relevant literature and the results of previous experience. It does not include importance ranking.

3. 4. 2. Weaknesses of Metaverse Museums

- There is a reliance on internet-based technologies.
- The sensation of interacting with physical objects in the real world cannot be replicated in the virtual world.
- Smart contracts and non-binding standards are implemented.
- In metaverse museums, the effect and intensity of being in the same location as the original work and the monumental museum buildings do not occur.

3. 4. 3. Opportunities of Metaverse Museums

- An infinite number of NFTs may be displayed.
- The economic potential with the sale of NFTs.
- Artists from around the globe can easily collaborate.
- Opportunities for cultural diversity.
- Provides new opportunities for business.
- Worldwide accessibility, transfers between museums, and circulation become feasible rapidly.
- The size of the work is adaptable.
- Offers expandable spaces.
- Exhibits can be updated more quickly than in conventional museums.
- Stands out with virtual socialization opportunities.

3. 4. 4. Threats Faced by Metaverse Museums

- The line between fact and fiction is blurring.
- It is possible that the use of three-dimensional glasses, etc., may cause health issues.
- There is the potential for health issues to arise because of decreased movement.
- Due to the extensive use of virtual applications such as metaverse museums, it is believed that real-world business and relationships are neglected.
- Contrary to the non-profit concepts of traditional museums, NFT sales are possible in metaverse museums, and making a profit is the primary objective.

Conclusion

In recent years, the information age has been shaped by the rapid rise of metaverse technology, where users can produce and interact with other users through avatars, and users can immerse themselves in the virtual world, as well as the increasing proliferation of virtual reality platforms around the world. In this environment, which is intended to present multiple dimensions of the concept of reality, technological advancements are utilised to expand and diversify reality. In the universe of the metaverse, which promises an interdimensional experience, museums and other institutions use these virtual platforms to interact with users.

Not only is the metaverse a physical reflection of the real world, but it is also a medium for interaction. The metaverse museum, an art medium in which works are digitalized, exhibited, and sold as NFTs, has produced a new world model. In addition to permanent and temporary exhibitions, metaverse museums also host cultural festivals and art organisations. Thus, with the emergence of technological concepts such as museology, metaverse, and NFTs, it has become a dynamic concept and acquired a new action domain. Intercultural contact was established through the exhibition of NFT works outside of space and time. It is evident that metaverse museums with a profit motive have financial value in addition to design and education. It creates a multicultural environment because of its global reach.

The museum structures in the virtual environment can be identical to the examples in the physical world, or they can be of a different design, including structures that are extremely challenging or impossible to build in physical dimensions. It is simple and quick to edit museum designs created in the metaverse, which are not constrained by land, space, location, or size.

Similarly, the study reveals differences in production, exhibition arrangement, work-related issues, management, and accessibility.

Consequently, as the relationship between traditional

museums and metaverse museums strengthens, user activity and popularity will rise. Even though it is debatable whether the concept of a metaverse museum has a negative impact on traditional museums, it is clear that designs in both types of museums have similarities and differences, as well as their own challenges and opportunities. It is open to debate how future experiences will evolve in relation to potential weaknesses and threats, as well as strengths and opportunities brought about by technological advancements. In the metaverse, the positive and negative effects of the museum visit on the real world will become more apparent over time. Through analysing these criteria, it must be ensured that the quality of space, and exhibition in the real and virtual worlds, as well as the designs of technological tools, are improved.

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Appendix

Figure 1: Çanakkale Troy Museum, Virtual Museum (Çanakkale Troy Museum, 2023).

Figure 2: Haptic Technology (This Haptic Device, 2022).

Figure 3: VOMA Museum Design (VOMA, 2022).

Figure 4: VOMA Exhibition Area (VOMA, 2022).

Figure 5: Musée Dezentral Entrance (Musée Dezentral, 2022).

Figure 6: Musée Dezentral Exhibition Area (Musée Dezentral, 2022).

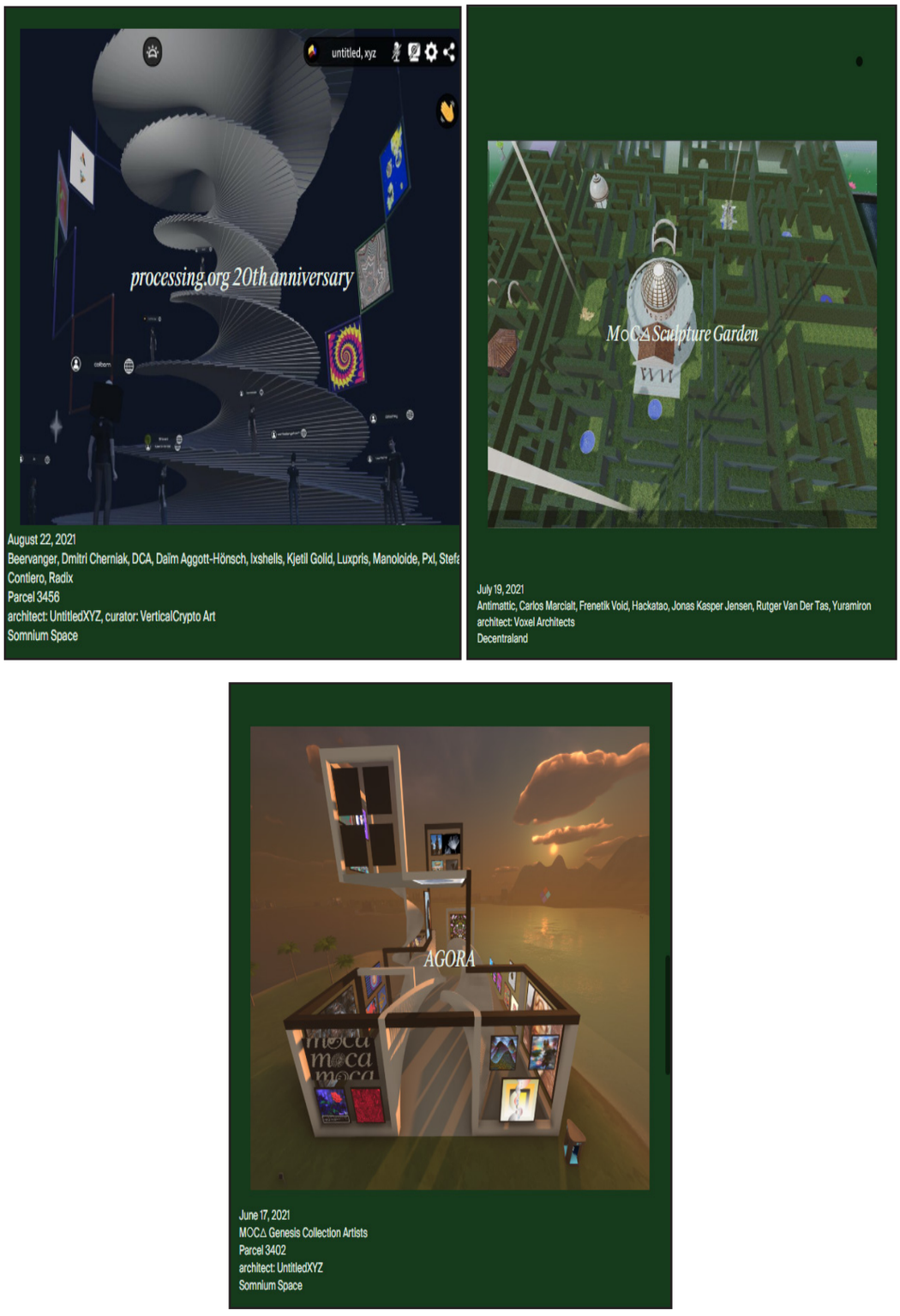
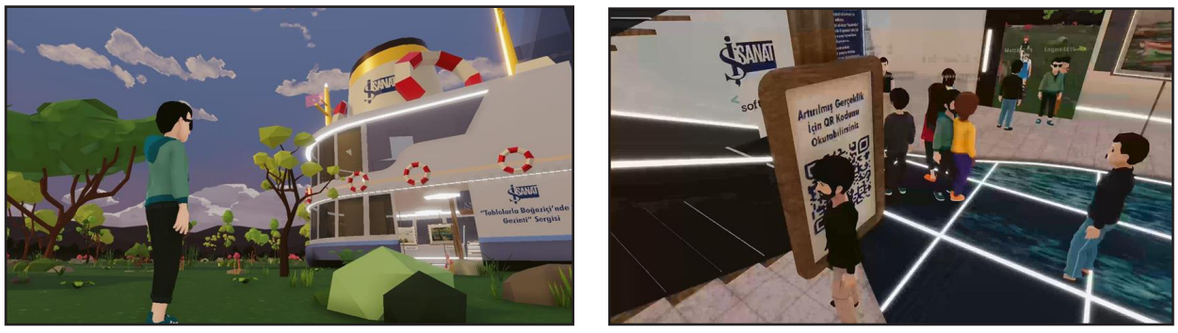


Figure 7: Museum of Crypto Art Exhibition Areas (Museum of Crypto Art, 2022).

Figure 8: Nemo Virtual Museum (Nemo Virtual Museum, 2022).

Figure 9: NFTism (Developed by ZHA, 2022).



Outdoor (İş Sanat New, 2022) Interior (İş Sanat in Metaverse, 2022)

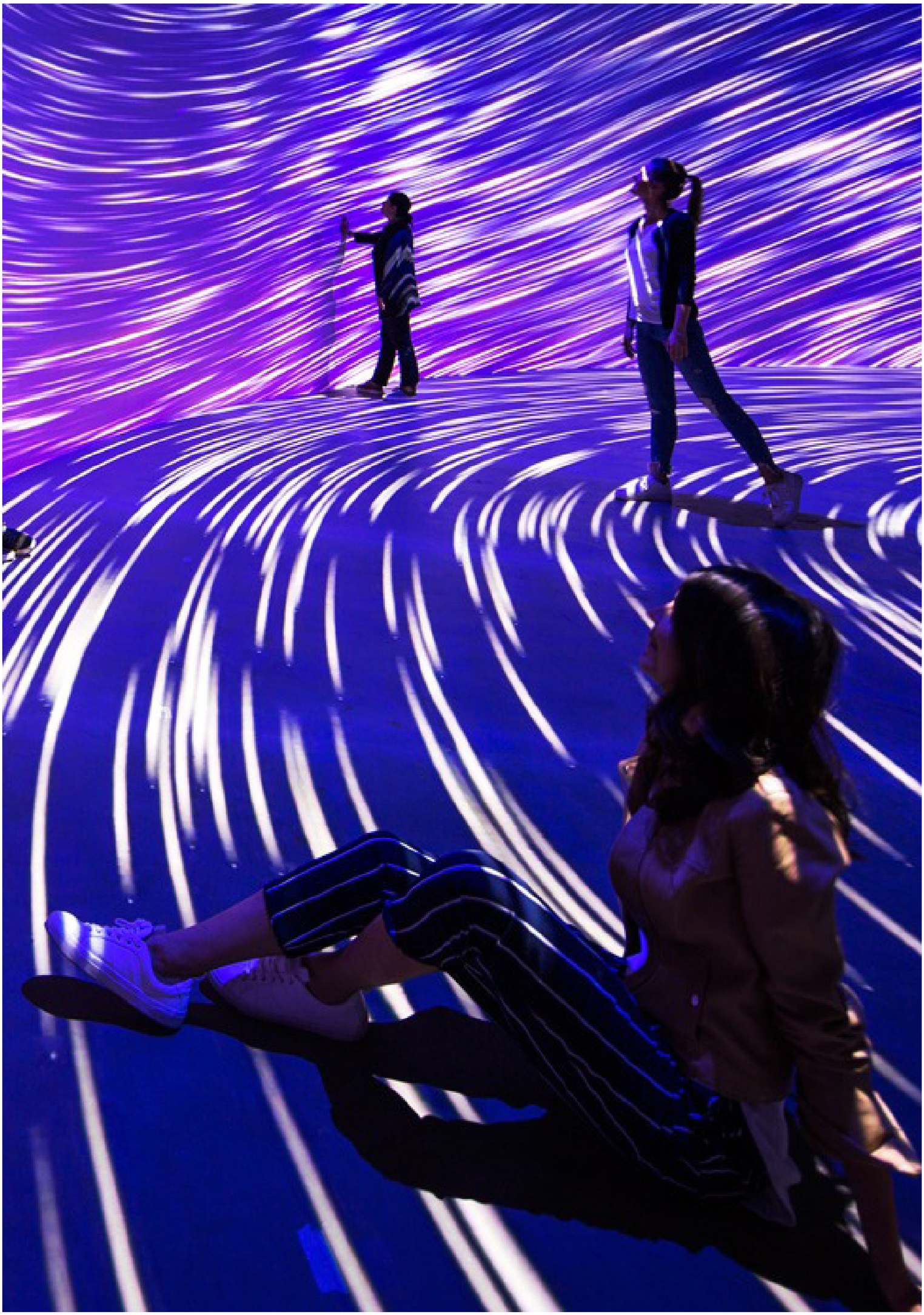
Figure 10: İş Sanat NFT Exhibition.

Figure 11: "Ancient Futures" Exhibition (İstanbul Archaeology Museums, 2022).

The Role of Interactive Applications in The Museum Experience: The Example of Göbeklitepe Ruins And Şanlıurfa Archaeology Museum

Muhittin ÇİÇEK, Volkan GENÇ


KÖYLER
MÖ 11.000 - MÖ 9500
FIRST VILLAGES
11.000 BC - 9.500 BC



Research Paper

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Müze Deneyiminde İnteraktif Uygulamaların Rolü: Göbeklitepe Ören Yeri ve Şanlıurfa Arkeoloji Müzesi Örneği [1*]

The Role of Interactive Applications in The Museum Experience: The Example of Gobeklitepe Ruins And Şanlıurfa Archaeology Museum

Muhittin ÇİÇEK**

Volkan GENÇ***

Özet

Bu çalışmanın amacı, Şanlıurfa Arkeoloji Müzesi ve Göbeklitepe Ören Yeri'ndeki ziyaretçi deneyimleri örneği üzerinden, interaktif uygulamaların tekrar ziyaret etme niyetleri üzerindeki etkisinin; aynı zamanda atmosferin düzenleyici rolü olup olmadığının belirlenmesidir. Bunun yanında interaktif uygulamalar, ziyaretçi deneyimi, atmosfer ve tekrar ziyaret etme niyeti açısından Şanlıurfa Arkeoloji Müzesi ile Göbeklitepe Ören Yeri arasında farklılık olup olmadığı da araştırılmıştır. Kolayda örneklem tekniği ile anket formları, iki müzede toplam 608 ziyaretçiye uygulanmıştır. Araştırmanın hipotezleri SPPS Process Macro 3.3 ve SPSS Statistic 21 programları ile test edilmiştir. Sonuç olarak müze deneyimi ve interaktif uygulamaların tekrar ziyaret etme niyeti üzerinde etkisi olduğu tespit edilmiştir. Şanlıurfa Arkeoloji Müzesi ile Göbeklitepe Ören Yeri arasında müze deneyimi, interaktif uygulamalar ve atmosfer boyutları hususunda, ziyaretçi deneyimleri açısından anlamlı farklılıklar bulunduğu; atmosferin, model üzerinde düzenleyici bir etkisi olduğu belirlenememiştir. Özellikle, müze deneyimi esnasında son dönem teknolojilerinin kullanılmasının gerekliliği ortaya konulmuştur.

Anahtar Kelimeler: Atmosfer, Göbeklitepe Ören Yeri, İnteraktif Uygulama, Müze Deneyimi, Şanlıurfa.

Abstract

This study aims to determine the effect of interactive applications on revisit intentions and the moderator role of the atmosphere through the example of visitor experiences in Sanliurfa Archeology Museum and Gobeklitepe Ruins. In addition, it has been investigated whether there is a difference between the Sanliurfa Archeology Museum and Göbeklitepe Ruins in terms of interactive applications, visitor experience, atmosphere, and revisit intention. With the convenience sampling technique, the questionnaire forms were applied to 608 visitors in two museums. The research hypotheses were tested with SPSS Process Macro 3.3 and SPSS Statistic 21 programs. As a result, it has been found out that the museum experience and interactive applications has an effect revisit intention. No significant differences in terms of visitor experiences regarding museum experience, interactive applications, and atmosphere dimensions between Sanliurfa Archeology Museum and Gobeklitepe Ruins, and also no moderator effect of the atmosphere on the model have been detected. In particular, this study reveals the necessity of using the latest technologies during the museum experience.

Key Words: Atmosphere, Gobeklitepe Ruins, Interactive Application, Museum Experience, Sanliurfa.

1 This study was derived from the master's thesis titled "The Effect of Interactive Applications in Museum Experience on Revisit Intention: The Example of Şanlıurfa Archaeology Museum and Göbeklitepe Ruins" in the Cultural Heritage and Tourism Interdisciplinary Master's Programme at Batman University / Graduate Education Institute / Graduate Education Institute.

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** Deputy Museum Director, Şanlıurfa Archaeology Museum, Şanlıurfa, Türkiye, sanattarihciyyu@hotmail.com, ORCID: 0000-0002-5449-6545

*** Associate Professor, Batman University, Faculty of Tourism, Department of Tourism Guidance, Batman, Türkiye, volkangnc@yahoo.com, ORCID: 0000-0001-5887-0568

Introduction

In addition to being important institutions that increase knowledge, pose new questions, and disseminate information about art, culture, and history (Batat, 2020: p. 109), museums are also experience centres that offer visitors a variety of unique experiences (Falk and Dierking, 2016; Graburn, 1977). As consumers' standards of living improve, they seek out novel and diverse experiences. Archaeology museums, on the other hand appear to have a structure that has received little attention in recent years, despite progress in understanding the needs and desires of visitors who traditionally focus on their collections (Jin, Xiao, and Shen, 2020: p. 1; Yavuzkır and Genç, 202). In addition to the value of museum collections for visitors and administrators, museums also have experiential, economic, and educational value (Batat, 2020: p. 110). It is also understood that they must provide a space that enhances the quality of life through a superior museum experience (Conti, Vesci, Castellani and Rossato 2020). Recently, the visitor experience has become one of the most crucial factors in attracting visitors to archaeological museums (Yavuzkır and Genç, 2022).

In the postmodern era, museums have increased their use of innovative communication techniques, such as interactive applications, to enhance the visitor experience (He et al., 2018: p.127) and to use information and communication technologies to enhance the visitor experience and attract more visitors (Lee et al., 2020: p.1). Regional tales and legends, as well as historical fragments and narratives, are incorporated into on-site interpretations of the local past to enrich the experiences of visitors (Nikolakopoulou et al., 2022: p. 1024). Postmodern audiences participate actively in these narrative experiences, developing their own personal comprehension and making sense of their museum encounters (He et al., 2018: s.133). In accordance with the logic of co-creation (Hyun, Park, Ren and Kim, 2018: pp.152-153), visitors and museum planners, curators, and administrators now jointly produce the experiential authenticity of museum visitors. Moreover, interactive applications offer users a complete virtual environment in which they can fully immerse themselves in aesthetics, entertainment, pleasure, and escape (Yavuzkır, 2020: pp. 40-44)[1]

Displayed inside or outdoors, signs, symbols, and artefacts can play a significant role in communicating symbolic meanings, a solid image, and a code of conduct by establishing an overall impression (Conti et al., 2020). Numerous studies examining customer behaviour in a variety of contexts and cultures have examined the significance of the physical environment (i.e., atmosphere) in depth. Visitors perceive service quality not only through their interactions with employees but also through their impressions of the physical environment (Bitner, 1990: s. 69; Dierking and Falk, 1992; p. 173). Similarly, the literature acknowledges that the interior elements of the environment, such as temperature, interior colours, building cleanliness, flooring, lighting, ambient odours, and sounds, are conducive to the museum experience (Conti et al., 2020). In addition to contributing to customer satisfaction and patronage, atmosphere and other factors highlighted in the literature also play a role (Hsieh, Park and Hitchcock, 2015: p. 1518).

In this context, the primary objective of this study is to determine whether interactive applications in the museum experience influence the intention to return and visit. Another of the research's primary concerns is whether the atmosphere regulates the relationship between the museum experience and interactive applications. One of the specific reasons investigated in the research is to determine if all these factors differ in the context of the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

Today, museums have new responsibilities such as teaching visitors interactive, creative, productive, and sustainable skills (He et al., 2018: p.128). Museums that shape the perception world of their visitors must define the difference between the old and the current museology understandings, observe these shifts carefully, and conduct work presentation studies in accordance with the era. It is necessary for museums to use technology for the purposes of providing information, promoting,

1 Beauty, which can be expressed with elements such as aesthetics, colour, photography, font style, and layout, which are among the dimensions of visiting experience (Genç and Akoğlan Kozak, 2020: p.1204), pleasure, emotions that excite the person (He et al., 2018: p.128) escaping is defined as individuals getting away from their normal environments, suspending the power of the norms and values that govern their ordinary lives, or turning to different perspectives about their lives and societies (Yavuzkır and Genç, 2022), and entertainment is defined as activities that provide entertainment and pleasure (Yavuzkır, 2020: p. 54).

collecting data, exhibiting, and displaying and to remain open to innovation (Onur, 2014: p.52), and present themselves as institutions that adapt to the needs and

desires of the new generation with new presentation formats. Museums that are designed to highlight technology will be able to keep up with rapid change and in the future visitors should prefer places where they are familiar with technology (Lee et al., 2020; p.1).

This study was conducted specifically on the Şanlıurfa Museum, the largest museum complex in Türkiye, and the Göbeklitepe Ruins, which are on the UNESCO World Heritage List. Its purpose is to highlight the significance of technological change, with the belief that technology-oriented requests will inevitably alter museum works. To keep up with the innovative, renewing and changing conditions, museums must be receptive to the innovations brought by a world that is constantly evolving, and they must employ new methods in social, cultural, and administrative environments. Determining whether more visitors are attracted to museums by selecting dynamic, creative exhibitions and presentations over traditional, static systems will shed light on the necessity of implementing animated and interactive applications in the future. In addition, a purpose of this study is to determine whether museums provide visitors with different learning experiences based on new experiences. Ultimately, the purpose of our study, which theoretical significance has been revealed in this manner, is to enrich the theoretical infrastructure in the museum arena and to provide managers, stakeholders, and marketers in the Göbeklitepe and Şanlıurfa museums with new perspectives regarding the visitor experience in the museum.

1. l and Conceptual Structure

1. 1. Visitor Experience at Museums

The museum, which was conceptually defined for the first time in 1946 by the International Council of Museums (ICOM), has been described as a location that houses collections of zoological and botanical gardens as well as history, archaeology, art, technical, and scientific materials. In 1951, ICOM expanded this definition to include permanent organisations managed for the benefit of society and exhibiting for the public's education and enjoyment (Karadeniz and Özdemir 2018: p.159).

The primary functions of museums are to collect, preserve, and exhibit objects or collections, as well as to interpret, serve, and mobilise individuals (Onur, 2014: p.52). Visitors to the museum are part-time active commentators depending on their personal history, experience, and inner predispositions (Karadeniz, 2018: p.8), and individuals whose feelings and thoughts are proportional to their own self-consciousness in the relationships they establish with historical objects and cultural products. In this context, museums, which have shifted their focus from objects to visitors, are also attempting to conceptualise and make sense of their visitors' experiences (Onur, 2014: p.55; Yavuzkır, 2020). Pine and Gilmore defined experience as events that personally engage individuals (1999: p.3). Del Chiappa, Andreu, and Gallarza all concurred that tourists desire a global experience (2014: pp.420-421).

1. 2. Interactive Methods

Museums, which are the most significant destinations for cultural tourism (Onur, 2014: pp. 92-93), must significantly innovate their services to remain competitive. For this reason, museums have incorporated interactive products that are highly memorable and lead visitors from passive to active participation to encourage repeat visits (He et al., 2018; p.1; Lee et al., 2020: p. 1; Trunfio et al., 2020). These interactive products are extremely diverse; and as technology has evolved so have perspectives on visitor experiences. Touch screens, simulations and animations, hologram technology, kiosk presentation techniques, augmented reality (AR), virtual reality (VR), and mixed reality are currently the most popular interactive applications in museums (Dilek et al., 2019: p.27).

Interactive applications are divided into two as perceived usefulness and perceived ease of use. Perceived usefulness is defined as the degree to which a person tends to use a particular system to improve his or her performance (Herrero and Martín, 2012: p.1178). Consequently, visitors and system users utilise these systems when they believe that technology will be beneficial to them (Muslichah, 2018: pp.21-

22). Perceived usefulness of the system's ease of use influences the individual's attitude towards the system. Perceived ease of use is the degree to which an individual believes he or she will not require physical or mental effort to use a system in developing technology (Park, Roman, Lee and Chung, 2009: p.198).

It has been determined that the perceived ease of use influences the purchasing or preference decisions of consumers or site visitors, either directly or indirectly (Choi ve Chung, 2013; Biucky, Abdolvand and Harandi, 2017).

1. 3. Atmosphere in Museums

The environment's effect on a person's mood is a definition of atmosphere (Conti et al., 2020). The atmosphere of a museum has a significant impact on the emotions and attitudes of visitors (Hyun et al., 2018: p.152). According to the Contextual Learning Model proposed by Falk and Dierking (2000), museum learning experiences are divided into three categories: personal context, socio-cultural context, and physical context, where physical context refers to the ambience of museums.

In museums, which are regarded as an indicator of cultural advancement in modern societies, the atmosphere factor is crucial for initial impressions. The environment's design can increase the number of visitors by fostering a museum's culture and encouraging repeat visits (Dıvrak, 2020: p. 23). Museums have undergone numerous significant transformations throughout their history. Along with these modifications, the museum's ambiance has contributed significantly to visitors' desire to return and their length of stay (Hyun et al., 2018). When developing a museum atmosphere, particularly for children, this circumstance is particularly important.

1. 4. Theoretical Hypotheses

This study established a model of museum experience that includes interactive applications, atmosphere, and intention to return. In addition, it intends to determine if there are significant differences between the dimensions of the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum. In their study on augmented reality, He et al. (2018: p. 132) found that compared to visual cues, dynamic verbal cues increase visitors' willingness to pay, and environmental reinforcement provides a high level of virtual presence.

Serravalle et al. (2019: p. 7) emphasise the need for a multi-stakeholder structure when presenting augmented reality applications in museums. According to Lee et al. (2020: p. 7), VR applications enable individuals to obtain engaging and immersive information about museum collections.

It has been determined that virtual reality is affected by museum experience factors such as entertainment, escape, aesthetics, and enjoyment. In this context, the following research hypothesis is established:

Hypothesis One (H1) The museum encounter influences interactive applications and animations.

Burton and Scott (2003) noted that museum elements influence visitor satisfaction, and a satisfied visitor is more likely to return and recommend the museum to others. Mobility, sound perception, and three-dimensional representations are prioritised by Atagok (2012) in the understanding of contemporary museology. Dodge (2016) stated that the understanding of museology has evolved; therefore, museums such as the Louvre, the British Museum, and the Metropolitan Museum of Art protect their brand values by emphasising their interactive features to pique the curiosity of visitors and increase the number of viewers. In addition, he stated that thanks to creating or providing games and other applications for young people and children, marketing and promotion are provided for free after the visit. Erbay (2011) stresses the importance of interactive applications, which are technological products, for effective and engaging museum presentations. Samis (2001, p. 623) stated that the future of museum exhibitions will involve technology and interactive applications, and that interactive tools such as handheld computers and touch screens will make the educational aspects of museum exhibitions possible. Pallud (2017: p.465), determined that the dimensions of information technology, namely usability and interaction, influence emotional processes such as authenticity and cognitive participation in museums, and that this contributes to learning. Therefore, the following was established as the second research hypothesis:

Hypothesis Two (H2) Interactive practises and animations influence the intention to return.

To sustain long-term growth, museums must provide quality experiences and an elevated level of customer satisfaction. Tourism, according to Trauer (2006, p. 183), has an experiential and emotional nature. In addition, Del Chiappa et al. (2014: pp.426-427) discovered that tourists seek a global experience that includes entertainment, culture, education, and social interaction. Similarly, Falk (2016) confirms that all tourists seek a variety of unique experiences. According to a separate study (Brida et al., 2012: p.731), innovative, educational, sensory, and entertaining or relaxing customer experiences play a significant role in enhancing overall customer satisfaction. In this context, the third research hypothesis was formulated as follows:

Hypothesis Three (H3) The museum experience influences the intention to revisit.

Information technologies are playing an increasingly vital role in museums. In the postmodern era, museums face two significant issues: originality and innovative museology (Lee et al., 2020: p. 2). In other words, museums of today must provide a unique experience and enhance visitor experiences through ambience, aesthetics, entertainment, and escape. Information technologies are alleviating these concerns because immersive information technology environments enable visitors to perceive virtual images of artefacts as real and to enjoyably learn about collections (Lee et al., 2020: p.1).

To make a lasting, positive impression on visitors, interactive applications are essential. With the advancement of technology, interactive applications that manifest themselves with various museum tools have significantly altered the ambiance of museums (Hyun et al., 2018: pp. 152- 153). All these modifications have diversified visitor experience factors. Aesthetics and atmosphere are essential for enhancing experience factors like benefit and enjoyment for museum visitors. These factors increase visitors' satisfaction, which can translate into brand loyalty. Although the formation of experiences serves a variety of purposes, both interactive applications and ambient atmosphere inspire repeat visits in visitors (Hede et al., 2018; Hyun et al., 2018). In this context, the fourth research hypothesis was formulated as follows:

Hypothesis Four (H4) The museum experience and interactive applications are regulated by the museum's atmosphere.

Numerous studies have demonstrated that museum visitors are extremely diverse and frequently visit different museums at different times (Dierking and Falk, 1992: p. 173). To determine these differences, the following hypotheses have been established for the Şanlıurfa Archaeology Museum, the largest museum complex in Türkiye, and the UNESCO World Heritage-listed Göbeklitepe Ruins.

Hypothesis Five (H5) The museum experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum differ significantly.

H_{5a}- The aesthetic experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum differ significantly.

H_{5b}- The entertainment experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum are significantly different.

H_{5c}- The pleasure experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum are significantly different.

H_{5d}- The escape experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum differ significantly.

Hypothesis Six (H_6) The interactive applications experienced by visitors to Göbeklitepe Ruins and Şanlıurfa Archaeology Museum are significantly different.

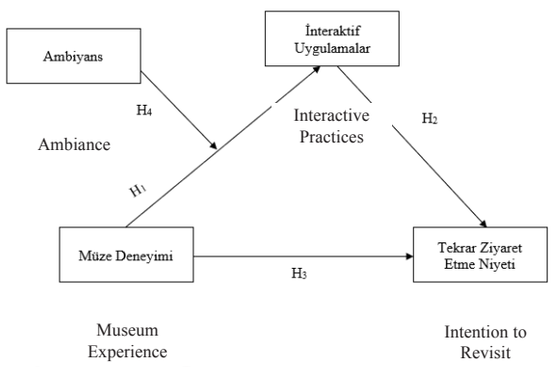
H_{6a}- There is a significant difference between the perceptions of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum regarding the usefulness of interactive applications and animations.

H_{6b}- There is a significant difference between the perceptions of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum regarding the usability of interactive applications and animations.

Hypothesis Seven (H_7) There is a significant difference between the atmospheric experiences of visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

Hypothesis Eight (H_8) There is a significant difference between the visitors' intention to revisit the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

Figure 1. Model of Research and Hypotheses



2. METHOD

2. 1. m and Data Collection

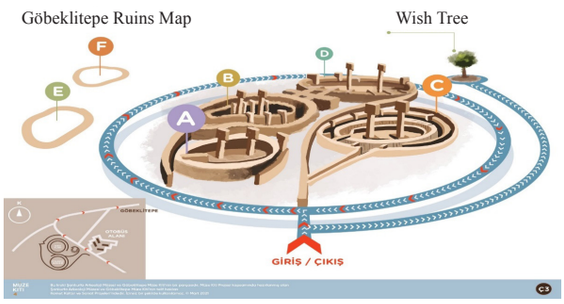
This study's population consists of visitors to the Şanlıurfa Archaeology Museum and the Göbeklitepe Ruins. The Şanlıurfa Museum is within walking distance of Balıklıgöl, the city's most touristic area. It consists of three floors, 29 decares of closed area, with 60 decares in total. It is located in a central area surrounded by shopping malls and hotels. There are areas in the museum with artefacts from the Palaeolithic through the Islamic Periods, on display. The museum excursion route was designed in chronological order, beginning with the Palaeolithic Age. The tour route is depicted in figure two (Figure 2).

Figure 2. The Şanlıurfa Archaeology Museum Travel Route

The Şanlıurfa Archaeology Museum received 171,343 visitors between November 2020 and November 2021 (KVMGM, 2022).

The 12,000-year-old Göbeklitepe Ruins, which were added to the UNESCO World Heritage List in 2018, are located 18 kilometres northeast of Şanlıurfa and are known as the world's oldest temple. Between 1995 and 2014, Prof. Dr. Klaus Schmidt and his team conducted archaeological excavations that were later transferred to the Şanlıurfa Museum Directorate (KVMGM, 2019).

Figure 3. Göbeklitepe Ruins Map



Between November 2020 and November 2021, 537,207 people visited the Göbeklitepe Ruins (KVMGM, 2022).

Using convenience sampling, a survey was conducted with a total of 608 participants, 258 of whom visited the Şanlıurfa Archaeology Museum and 350 of whom visited the Göbeklitepe Ruins between May and November 2021.

2. 2. Test of Common Method Variance and Normal Distribution

In this study, which utilised face-to-face survey methodology, common method variance is one of the potential issues (Kinicki et al., 2004: p1067.). To eliminate this issue, all questionnaires were completed on a voluntary basis, and all guiding actions were avoided during the completion of the questionnaires.

In the first step of this procedure, problems such as missing or excessive data entry, operation error, incorrect indexing, and out-of-range and duplicate coding were checked and fixed. The missing data were then examined. The average value was determined as a result of the analysis of missing data (Lorcu, 2015).

The skewness and kurtosis values of the normal distribution were checked. When the skewness and kurtosis values were regulated, it was discovered that they were all within the range of 1.5. Therefore, it can be said that their values fall within the normal distribution (Tabachnick and Fidell, 2013).

2. 3. Data Collection Tools

The interactive applications scale-perceived usefulness and perceived ease of use-was adapted from Van der Heijden›s (2004: p. 704) work, museum experience-aesthetics, entertainment, enjoyment, and escape-was adapted from the work of He et al. (2018: p. 133), atmosphere was adapted from Hyun et al. (2018: p. 133), and revisit intention was adapted from the work of Luo and Ye (2020: p. 123) work.

In line with this, in the first section of the survey demographic information about the visitors was sought. In the second section, the dimensions of the exhibitions in the Şanlıurfa Archaeological Museum and the Göbeklitepe Ruins were examined. In the third section, the effect of interactive museology and exhibition on the experience was examined. In the fourth section, the effect of interactive museology comprehension was examined.

3. 3. Z AND RESULTS

3. 1. Scale Validity and Reliability

Validity and reliability tests were conducted to ensure that the model's fit analysis and hypothesis testing were effective. Using confirmatory factor analysis (CFA), the museum experience was examined.

The t-values and latent variables: aesthetics, entertainment, escape, and enjoyment were found to be significant at p 0.01 (t > 2.576), and the model was found to be well-fitting (x2/df = 4.843, CFI = 0.98, GFI = 0.94, RMSEA).

The standardised factor loads on the latent variables corresponding to the observed variables were found to be above 0.50, indicating that all of them had sufficient convergent validity, and it was observed that the four-factor structure was preserved (Table 1). Therefore, it is possible to say that the scale provides construct validity.

Table 1. Index for Confirmatory Factor Analysis of Museum Experience

Factors and Expressions of the Museum Visit Experience Model	Standardised Factor Loads	t-Values	Standard error	R2	Structure Reliability	Explained Variance
Museum Visit Experience						
Aesthetic Measurement					0,913	0,777
1.MZD1	0,858	29,504	0,26	0,736		
2.MZD2	0,888	31,942	0,21	0,789		
3. MZD3	0,898	fixed at 1	0,19	0,806		
Entertainment Measurement					0,939	0,838
4. MZD4	0,899	32,945	0,19	0,808		
5. MZD5	0,983	23,595	0,03	0,966		
6. MZD6	0,860	fixed at 1	0,26	0,740		
Pleasure Measurement					0,936	0,831
7. MZD7	0,899	36,361	0,19	0,808		
8. MZD8	0,918	38,507	0,16	0,843		
9. MZD9	0,917	fixed at 1	0,16	0,841		
Escape Measurement					0,912	0,775
10. MZD10	0,923	30,890	0,15	0,852		
11. MZD11	0,866	27,676	0,25	0,750		
12. MZD12	0,851	fixed at 1	0,28	0,724		

The detrended fluctuation analysis (DFA) measurement model was used to evaluate interactive applications. Initially, the modification process was carried out to enhance the quality of fit. As a result of implementing the modification procedure, it was discovered that the perceived usefulness, defined as the latent variables in the DFA data set, explained the perceived ease of use, and t-values were found to be statistically significant at the p0.01 level (t>2.576). It was observed that the factor coefficients of the eight-item, two-dimensional statements were greater than 0.50, whereas the error coefficients were less than 0.90 (Table 2). It was determined that the goodness of fit (x2/df = 3,484, CFI = 0.99, GFI = 0.98, RMSEA = 0.064, NFI = 0.99) was within acceptable limits (Fokkema and Greiff, 2017).

Table 2. Interactive Methods Values of Confirmatory Factor Analysis

Aspects and Forms of Interactive Methods	Standardised Factor Loads	t-values	Standard error	R2	Structure Reliability	Declared Variance
Interactive Methods						
Perceived usefulness					0,944	0,808
Interactive methods make the tours at the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum useful.	0,905	44,268	0,18	0,819		
Interactive methods are an effective way to visit the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	0,904	44,157	0,18	0,817		
I use AR application to better access information about the Göbeklitepe Ruins and the Şanlıurfa Archaeological Museum.	0,817	31,978	0,33	0,667		
In general, I find it useful to use interactive methods.	0,963	Fixed at 1	0,07	0,927		
Perceived Ease of Use					0,939	0,838
Interaction with interactive methods is clear and understandable.	0,970	55,804	0,19	0,808		
Interaction with interactive methods does not require much effort.	0,950	50,154	0,03	0,966		
I find the interactive methods easy to use.	0,946	65,119	0,26	0,740		
I find it easy to reach the desired information through the interactive methods.	0,943	Fixed at 1				

Examining the standardised factor loads of the interactive applications scale reveals that the construct validity of the scale is supported by a construct reliability greater than 0.70 and an explained variance greater than 0.50.

The atmosphere scale consists of eight items and one factor. After a single modification, it was observed that the goodness of fit of the scale was within acceptable limits. When the standardised factor loads of all items in the scale are examined, the construct validity of the scale can be said to be ensured by the fact that the construct reliability is greater than 0.70 and the variance explained is greater than 0.50. Latent variables and t-values for the atmosphere were found to be significant at p 0.01 ($t > 2.576$). It is evident that the model fits the data well ($x2/df = 3,894$, CFI = 0.99, GFI = 0.98, RMSEA = 0.069, NFI = 0.99). The standardised factor loads on the latent variables corresponding to the observed variables were all greater than 0.50, indicating sufficient convergent validity, and the four-factor structure was maintained (Table 3).

Table 3. Confirmatory Factor Analysis Values for the Atmosphere (Environment)

Atmosfer İfadeleri	Standardize Edilmiş Faktör Yükleri	t-Değerleri	Standart Hata	R2	Yapı Güvenirliliği	Açıklanan Varyans
Atmosfer					0,950	0,733
Şanlıurfa Arkeoloji Müzesi / Göbeklitepe Ören Yeri neşelidir.	0,854	25,674	0,27	0,729		
Şanlıurfa Arkeoloji Müzesi/ Göbeklitepe Ören Yeri heyecan vericidir.	0,877	26,701	0,23	0,769		
Şanlıurfa Arkeoloji Müzesi/ Göbeklitepe Ören Yeri canlıdır.	0,844	25,259	0,29	0,712		
Şanlıurfa Arkeoloji Müzesi / Göbeklitepe Ören Yeri'ne gelen ziyaretçilerin çok keyifli aktiviteler yaşaması mümkün.	0,777	22,343	0,40	0,604		
Şanlıurfa Arkeoloji Müzesi / Göbeklitepe Ören Yeri bana macera duygusu yaşatıyor.	0,924	29,217	0,15	0,854		
Şanlıurfa Arkeoloji Müzesi/ Göbeklitepe Ören Yeri bana heyecan veriyor.	0,888	27,313	0,21	0,789		
Şanlıurfa Arkeoloji Müzesi / Göbeklitepe Ören Yeri yeni deneyimler sağlıyor.	0,820	1'e sabitlenmiştir	0,33	0,672		

Fornell and Larcker (1981) suggest that the square root of the AVE value should be greater than the inter-factor correlations indicating that the distinctive validity of the measure is also adequate. The four dimensions of visitor experience and the four dimensions of museum display policy were found to meet the model's discriminant validity criteria (Table 4).

Table 4. Distinctive Validity Values

	Aesthetics	Entertainment	Escape	Enjoyment
Aesthetics	0,881			
Entertainment	0,785**	0,915		
Enjoyment	0,850**	0,831**	0,912	
Escape	0,728**	0,821**	0,806**	0,880
	Perceived usefulness		**Perceived Ease of Use**	
Perceived usefulness	0,899			
Perceived Ease of Use	0,836**		0,915	

Next, the results of the dimensions' reliability analysis were examined, and it was determined that Cronbach's coefficients for the museum's exhibition policy ranged from 0.965-0.969. The range of values for museum visitor experience was between 0.947 and 0.951, and the range for learning motivation was between 0.881 and 0.916. In this context, all results have been determined to be trustworthy (Table 5).

Table 5. Reliability Analysis Values

Dimensions	Cronbach's Alpha Value
Aesthetics	0,922
Entertainment	0,888
Enjoyment	0,935
Escape	0,910
Museum Experience Total Dimensions	0,965
Perceived usefulness	0,949
Perceived Ease of Use	0,979
Interactive Applications Total Sizes	0,979
Atmosphere	0,950
Intention to Revisit	0,969

3. 2. Results Concerning Participants

Table six lists the demographic characteristics of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum. When 608 visitors were examined, it was determined that male participants

outnumbered female participants, single participants outnumbered married participants, most participants were between the ages of 21 and 29, and the majority of participants were undergraduates.

Table 6. Demographic Characteristics of Visitors

Place of Survey	Frequency	% Ratio	Marital status	Frequency	% Ratio
Göbeklitepe Ruins	350	57.6	Single	327	53.8
Şanlıurfa Archaeology Museum	258	42.4	Married	276	45.4
Total	608	100.0	Total	603	99.2
Gender	Frequency	% Ratio	Lost Value	5	0.8
Female	292	48.0	Total	608	100.0
Male	314	51.6	Educational Status	Frequency	% Ratio
Total	606	99.7	Primary education	24	3.9
Lost Value	2	0.3	Secondary Education (High School)	131	21.5
Total	608	100.0	Associate Degree	89	14.6
Age	Frequency	% Ratio	License	273	44.9
Ages 20 and Under	60	10.9	Graduate	83	13.7
21-29	232	38.2	Total	600	98.7
30-39	160	26.3	Lost Value	8	1.3
40 +	119	19.6	Total	608	100.0
Total	577	94.9	Frequency of Visits	Frequency	% Ratio
Lost Value	31	5.1	First Visit	426	70.1
Total	511	100.0	Second Visit	104	17.1
Income Level[2]	Frequency	% Ratio	Third Visit	17	2.8
2.500 TL and Under	181	29.8	Four and Up	53	8.7
2.501-3.500 TL	76	12.5	Total	600	98.7
3.501-4.500 TL	58	9.5	Lost Value	8	1.3
4.501-5.500 TL	74	12.2	Total	608	100.0
5.501 TL ve Üstü	184	30.3			
Total	573	94.2			
Lost Value	35	5.8			
Total	608	100.0			

2 The minimum wage between the dates of data collection is used to classify the income level.

3.3. Results Relating to the Research's Hypotheses

The Hayes (2018) SPSS PROCESS Macro 3.3 programme and the Hayes (2018) PROCESS Model 7 were utilised to evaluate the research hypotheses. In this model, an independent variable, a dependent variable, a mediating variable, and a moderating variable were employed to assess hypotheses with direct, mediating, and modulating effects. The examined hypotheses are presented as figures and tables below.

The hypothesis that the independent variable is temporal construct, the dependent variable is learning motivation, and the mediating variable is visitor experience is presented in the following section, and the SPSS PROCESS Macro results for the hypotheses are presented in Table 7.

H_1- The museum experience influences interactive applications and animations.

H_2- Interactive applications and animations influence intention to return.

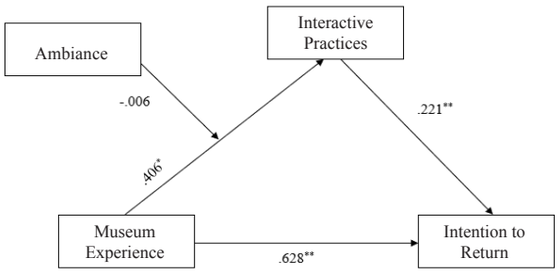
H_3- The museum experience influences the intention to return.

H_4- The impact of atmosphere on the museum experience and on interactive applications and animations is moderating.

Table 7. Hypothesis Findings

Hipotezler	β	Boot SE	t	p	BootLLCI	BootULCI
H1	0.406	0.135	2.999	0.003	0.140	0.672
H2	0.221	0.050	4.434	0.000	0.123	0.319
H3	0.628	0.064	9.814	0.000	0.502	0.754
H4	-0.006	0.006			-0.019	0.005

Figure 4. The Influence of Museum Experiences on Interactive Practises



Upon examination of Table 7 and Figure 4, it has been determined that the museum experience has a positive and statistically significant impact on interactive applications. The H1 hypothesis was therefore supported. It was determined in the H2 hypothesis that interactive applications influence the intention to return, and this hypothesis was also supported. A positive and statistically significant effect was discovered in support of the H3 hypothesis that the museum experience influences the intention to return. Consequently, the third hypothesis was also supported. The H4 hypothesis that the atmosphere has a regulatory effect between the museum experience and interactive applications was unable to be supported due to the absence of a significant effect.

The following are hypotheses regarding the current interactive applications, ambience, museum experience, and intention to revisit the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum. The results of the SPSS t-test for the aforementioned hypotheses are displayed in Tables 8, 9, 10 and 11.

H_5- The museum experiences of visitors to Göbeklitepe Ruins and Şanlıurfa Archaeology Museum are significantly different.

H_{5a} - There are significant differences between the aesthetic experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_{5b}- There are significant differences between the entertainment experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_{5c} - There are significant differences between the enjoyable experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_{5d}- There are significant differences between the escape experiences of visitors visiting Göbeklitepe Ruins and Şanlıurfa Archaeology Museum.

H_6- There is a significant difference between the interactive applications experienced by visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_{6a}- There is a significant difference between the perceived usefulness of interactive applications and animations of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_{6b}- There is a significant difference between the perceived ease of use in interactive applications and animations of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_7- There are significant differences between the atmospheric (ambience) experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_8- There are significant differences between the visitors' intention to revisit the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.

H_5 The Göbeklitepe Ruins was evaluated more favourably than the Şanlıurfa Archaeology Museum in terms of aesthetics, entertainment, and escape experience, as determined by the t-test for the H5 hypothesis. Consequently, hypotheses H5a, H5b, and H5d were confirmed. There was no significant difference in the enjoyment experienced. Table 8 indicates that the H5c hypothesis could not be supported.

Table 8. The t-Test Results on Museum Experiences

Dimensions	Sex	n	Medium	t value	p value
Aesthetics	Göbeklitepe	350	3.891	-3.002	.003*
	Şanlıurfa Arc. Museum	258	4.141		
Entertainment	Göbeklitepe	350	3.550	-4.688	.001**
	Şanlıurfa Arc. Museum	258	3.955		
Enjoyment	Göbeklitepe	350	3.991	-1.286	.199
	Şanlıurfa Arc. Museum	258	4.092		
Escape	Göbeklitepe	350	3.641	-2.887	.004*
	Şanlıurfa Arc. Museum	258	3.910		

The Göbeklitepe Ruins was evaluated more positively than the Şanlıurfa Archaeology Museum in terms of perceived usefulness and perceived ease of use technology experience, as determined by the t-test for the H_6 hypothesis. Consequently, H_{6a} and H_{6b} were supported (Table 9).

Table 9. The t-Test Results for Interactive Applications

Dimensions	Sex	n	Medium	t value	p value
Perceived usefulness	Göbeklitepe	350	3.402	-4.547	.001**
	Şanlıurfa Arc. Museum	258	3.816		
Perceived Ease of Use	Göbeklitepe	350	3.451	-4.517	.001**
	Şanlıurfa Arc. Museum	258	3.868		

As determined by the t test for the H_7 hypothesis, the Göbeklitepe Ruins were rated more favourably than the Şanlıurfa Archaeology Museum in terms of atmosphere. Therefore, the H_7 hypothesis was supported (Table 10).

Table 10. The. t-Test Results for Atmosphere

Dimensions	Sex	n	Medium	t value	p value
Atmosphere	Göbeklitepe	350	3.784	-2.627	.009**
	Şanlıurfa Arc. Museum	258	3.987		

The t test for the H8 hypothesis revealed no significant difference between the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum in terms of intention to revisit. The H_8 hypothesis was therefore disproved (Table 11).

Table 11. The t-Test Results for Revisit Intent

Dimensions	Sex	n	Medium	t value	p value
Intention to Revisit	Göbeklitepe	350	3.804	-1.324	.186
	Şanlıurfa Arc. Museum	258	3.933		

Tablo 12. Hipotez Test Sonuçları

Hypotheses	Result
H_1- The museum experience influences interactive applications and animations.	Accepted
H_2- Interactive applications and animations influence intention to return.	Accepted
H_3- The museum experience influences the intention to return.	Accepted
H_4- The impact of atmosphere on the museum experience and on interactive applications and animations is moderating.	Rejected
H_{5a}- There are significant differences between the aesthetic experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_{5b}- There are significant differences between the entertainment experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_{5c}- There are significant differences between the enjoyable experiences of visitors to the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Rejected
H_{5d}- There are significant differences between the escape experiences of visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_{6a}- There is a significant difference between the perceived usefulness of interactive applications and animations of visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_{6b}- There is a significant difference between the perceived ease of use in interactive applications and animations of visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_7- There are significant differences between the atmospheric (ambience) experiences of visitors visiting the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Accepted
H_8- There are significant differences between the visitors' intention to revisit the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum.	Rejected

4. Discussion, Concluding Remarks, and Suggestions

The concept behind museum exhibition design places the works at the centre. With the advancements in technology and informatics, the exhibited products began to be displayed without intermediaries There have also been changes in the method of creating interpretive environments (Forrest, 2013: pp. 201-202). Therefore, both existing and newly established museums should consider the incorporation of interactive museology into any restoration or new building construction projects. According to Forrest (2013, p.211), the exhibition environment is crucial for perceptual transfer in museums, which serve as transfer zones for cultural heritage.

It has been determined through analysis that the museum experience has an effect because of interactive applications and animations. The use of interactive applications influences the aesthetic, entertainment, enjoyment, and escape experiences of visitors to the Şanlıurfa Archaeology Museum and the Göbeklitepe Ruins. These findings concur with the findings of Lee et al. (2020) and He et al. (2018). It has been determined that interactive applications and animations have a significant and positive impact on visitors› intention to return. Similarly, these findings align with those of Lee et al. (2020), He et al. (2018), and Trunfio, Campana, and Magnelli (2020). In addition, it was determined that the museum experience had a significant and positive impact on the intention to return. This result is consistent with Kırcova and Erdoğan›s (2017) findings. In this context, it has been determined that postmodern museum environments make extensive use of interactive applications and that the non-routine experiences created for visitors have a significant impact on their intentions to return.

It was not possible to determine the regulatory impact of the atmosphere-based museum experience on interactive applications and animations. In the study conducted by Hyun et al. (2018), it was discovered that the atmosphere regulates the museum experience. In our study, it was not found to play a significant role. In the context of the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum, we can say that visitors desire a stronger connection between interactive applications and their overall experience. In this context, it is possible to say that this result represents a new contribution to the literature in this regard.

In analyses comparing the Göbeklitepe Ruins and the Şanlıurfa Archaeology Museum, the Göbeklitepe Ruins was perceived more favourably in terms of the museum experience dimensions; aesthetics, entertainment, enjoyment, and escape, than the Şanlıurfa Archaeology Museum. In recent years, new discoveries, research, and global news about Göbeklitepe have increased interest in this location. National Geographic Magazine, which determines the world›s most exciting destinations each year, also included Göbeklitepe on its list of twenty-five must-see destinations for 2020 (Genç, 2020: p. 10).

In this context, the fact that Göbeklitepe is a newly discovered and visited location may have contributed to its more favourable perception in relation to the aforementioned criteria. Similarly, Göbeklitepe was perceived more positively than the Şanlıurfa Archaeology Museum in terms of the interactive applications of perceived usefulness and perceived ease of use. Doğuş Group began construction on the «Göbeklitepe Visitor Welcome Complex» in January 2017 as part of the «Göbeklitepe Interactive Applications Area Social Responsibility Project».

The animation centre, visitor centre, and amphitheatre were completed in December 2017. The animation centre is a location where interactive and video applications about Göbeklitepe are accessible, where visitors are provided with extensive information about Göbeklitepe, where they are psychologically prepared for the area, and where written, visual, and audible materials are available. In this context, visitors are drawn to this area in substantial numbers. Göbeklitepe was perceived as having a more pleasant atmosphere. In this regard, the Göbeklitepe Visitor Welcome Complex has a significant impact. No significant differences were observed in terms of intention to return.

With the recent change it has made to the definition of museum, the ICOM has revealed its understanding that museums should not be limited to tasks such as collecting objects, protecting them, and displaying them, but that they should be institutions that serve the development and education of the society. This has led to a shift in the way museums view their role in society (Karadeniz, 2018). In order to ensure the education and development of the visitors, museums should also be designed as educational environments using the most advanced technologies. In addition, a family environment should be created to reach all segments of society and the visitor profile should include families with children.

In accordance with the experiences of those who visit the Şanlıurfa Archaeology Museum and the Göbeklitepe Ruins, it was determined in this study that interactive applications have an effect on the intention to return.

In addition, one of the objectives of our study is to determine if interactive applications influence the intention to return and if they play a regulatory role in this process. The results indicate that these effects

are notable outside of the atmosphere. In terms of experience, interactive applications, and atmosphere, the Göbeklitepe Ruins were found to be superior to the Şanlıurfa Archaeology Museum. In this regard, examining the evaluation results can contribute both theoretically and practically.

It is believed that our research provides an important model for researchers working in the field of museum experience and interactive application and that this model can be used by expanding it in the context of museums with technological infrastructure in Türkiye and around the world. However, no significant effect on the atmosphere was discovered, and it should be noted that additional research is required on this topic.

The importance that museums place on providing visitors with an active role and inspiring a desire to return based on their experiences in the visited locations, is one of the issues that they prioritise. To enhance the visitors› experiences, it is essential to activate entertaining interactive tools. In addition, for the visitor experience to be successful, the existing exhibition products must be liberated from their static, confined positions. It is evidence of the importance of interactive museology that these considerations are taken into account in museums that are currently being renovated or constructed. The significance of aesthetics and entertainment, particularly in relation to postmodern experiences, necessitates that museum administrators engage in activities that enhance these experiences. Recent interactive applications, such as augmented reality and virtual reality, have begun to provide museum visitors with a significant experience. Therefore, it is recommended that museum administrators develop their technological infrastructure in this area. Although the experience at the Şanlıurfa Archaeology Museum was positively evaluated in terms of interactive applications and atmosphere, it lagged behind Göbeklitepe. It is anticipated that museum administrators will be more willing to use innovative technologies to provide visitors with interactive applications and experiences.

According to our research, the museum experiences at the Şanlıurfa Archaeology Museum and Göbeklitepe Ruins have an effect on interactive applications and intention to return. Therefore, in order to attract visitors from Türkiye and abroad to museums and exhibition areas, museums that will be newly established or undergoing restoration should employ interactive information technology products. It is suggested that they be designed to appeal to all demographic groups regardless of age, gender, level of education, marital status, or economic status.

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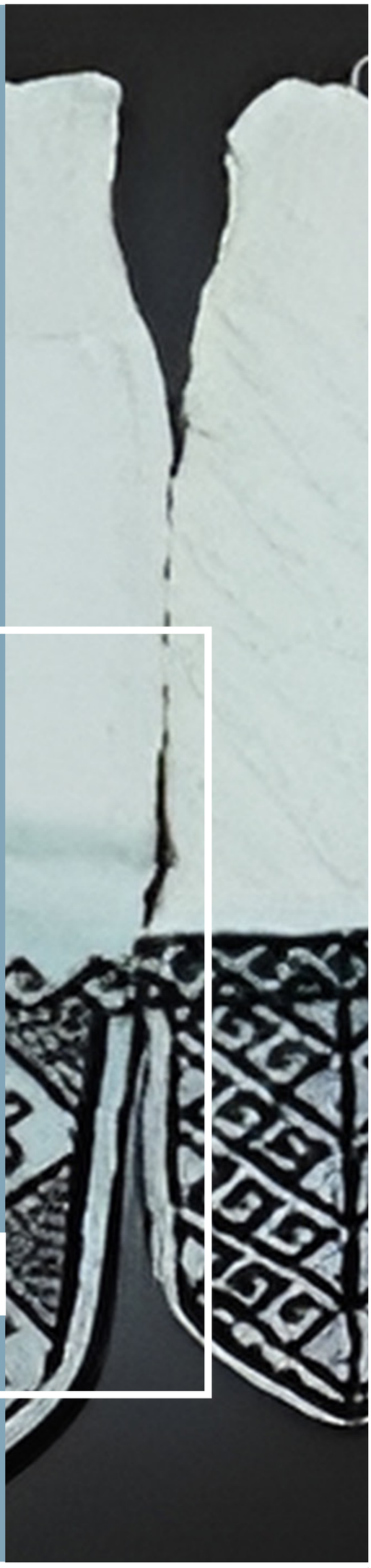
Kars Traditional Caucasian, Ottoman, and Turkmen Women's Clothing and Interactions

Emine ERDOĞAN, Feyza AKARSLAN KODALOĞLU



Research Paper

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Kars Geleneksel Kafkas, Osmanlı, Türkmen Kadın Giyimleri ve Etkileşimleri*[1]

Kars Traditional Caucasian, Ottoman, Turkmen Women's Clothing and Interactions

Emine ERDOĞAN**

Feyza AKARSLAN KODALOĞLU***

Özet

Yaratılışından günümüze kadar kendi sınırları içinde kalmayıp sürekli yer değiştiren insanoğlu, bu yer değişiklikleri esnasında hem kendi kültürünü gittiği yerlere taşımış hem de yerleştiği coğrafyalarda mevcut olan kültürleri benimsemiştir. Bu durum bazen gelenek veya kültürlerin yok olmasına neden olmuş, bazı durumlarda da farklı kültürel değerlerin kaynaşmasını beraberinde getirmiştir.

Kültürlerin önemli öğeleri arasında yer alan ve kültürel etkileşimlerin izlerini taşıyan geleneksel giysiler, günümüzde artık çoğunlukla müzelerde görülebilmektedir. Kars'ın kültürel değerlerinden olan geleneksel giysiler de birçok medeniyetin izlerini barındıran Kars Müzesi'nin eser koleksiyonları arasında sergilenmektedir. Müze haricinde, yerel halkın sandıklarında ve albümlerinde az da olsa geleneksel giysi örnekleri tespit edilebilmektedir.

Çalışmamız esnasında müze ve alan araştırmaları neticesinde ulaştığımız geleneksel kadın giyim örnekleri; üst bedene giyilenler, alt bedene giyilenler ve tamamlayıcı giysi aksesuarları olmak üzere 3 grup şeklinde ele alınmış; tamamlayıcı giysi aksesuarları da başa giyilenler, ayağa giyilenler ve diğer giysi aksesuarları şeklinde gruplandırılmıştır.

Kültürel mirasımızın bir parçası olan Kars geleneksel kadın giyimlerini gün yüzüne çıkarmaya; tarihi, tipolojik, sanatsal ve kültürel açıdan inceleyip, yazılı ve yazısız kaynaklarla açıklamaya çalıştığımız bu çalışmamızın Kars geleneksel kadın giyimlerinin gelecek kuşaklara aktarılması hususunda hem sanatsal hem de bilimsel belge niteliği taşıyacağına inanılmaktadır.

Anahtar Kelimeler: Giyim, Gelenek, Kültür, Tarih, İpek Yolu.

Abstract

Since its creation to the present, people have never stayed within their own borders but have constantly moved. During this movements, they have taken their culture to where they have gone and also have adopted the cultures of the places where they have settled. This phenomenon has sometimes destroyed some traditions or cultures; other times has caused different cultural values merge.

Traditional clothes, as important elements of cultures and by reflecting the cultural interactions, can only be seen in the museum in our times. Traditional clothes of Kars are exhibited in the collections of Kars Museum where it is possible to see the traces of many civilizations. Except the museums, at times, it is possible to find examples of traditional clothes in the crates and albums of local population.

Samples of traditional women's clothing reached during our research are examined in 3 groups; clothes for upper body and lower body and complimentary accessories. Complimentary accessories are grouped as the head-worn, foot-worn and others.

It is believed that, this research in which we tried to bring the traditional women's clothing that is an element of our cultural heritage to the light and to explain them in the scope of written and unwritten sources will serve as artistic and scientific documents for transmitting this tradition of women's clothing to future generations.

Key Words: Clothing, Tradition, Culture, History, Silk Road.

1 This article is the result of Emine ERDOAN's expertise in art thesis.

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** Dr, Faculty Member, Kafkas University, Faculty of Fine Arts, Department of Textile and Fashion Design, Kars, emineerdogan@kafkas.edu.tr, ORCID:0000-0003-0249-4369

*** Associate Professor, Süleyman Demirel University, Faculty of Engineering, Department of Textile Technology, feyzaakarslan@sbu.edu.tr, ORCID:0000-0002-7855-8616

Introduction

Since the beginning of humankind clothing has been influenced by factors including religion, social status, moral value, age, and geographical conditions. Clothing, which varied according to aesthetic characteristics and practices of daily life, differed according to whether it was worn at home, at work, or for special occasions. Most traditional garments, which can be viewed as a reflection of cultural values and way of life, are associated with aspects of daily life, traditions, beliefs, and worldviews. However, the increased accessibility of ready-to-wear due to the development of transportation networks, shifts in living standards and fashions, and the disruption of traditional production practices brought about the extinction of traditional clothing today.

According to Kaşgarlı Mahmut, Kars, noted as a gateway to Anatolia-therefore also known as a "gateaway city"-has been home to numerous civilizations, and can mean "an animal made of camel or sheep wool and a beautiful fur made of karsak skin, a steppe fox", and Sheikh Süleyman from Bukhara explains that Kars means a "shawl, belt, weaving, waist tie, futa, miyambet, karsak, fox" (Doğan, 2018, p. 69). The traditional garments, which are an integral part of the culture of Kars, a city that is generally regarded through cultural, historical, and geopolitical parameters as having an illustrious past, have not been sufficiently investigated.

The Kars Museum, which was established in 1959 by a provincial chamber to preserve and pass on the cultural values of Kars to future generations, and where historical and cultural artefacts from Kars and its environs have been collected and recorded since that time, houses traditional clothing as well as numerous artefacts. Simultaneously, samples of traditional clothing can be found in the crates and photo albums of the local residents. When examining these examples, it is evident that the raw materials for traditional clothing are derived from animals. This can be interpreted as a reflection of the fact that animal husbandry is the primary source of income for the population and also the influence of climatic conditions. Due to the harsh and lengthy winter season, woollen clothing was widely worn. When the weather becomes warmer in the middle of summer and autumn, sheep are sheared, and their wool is collected. Autumn-shorn sheep's wool is used for socks and other weavings whereas summer-shorn sheep's wool is preferred for bed quilts (Dündar and Çetinkaya, 2002: p. 259). Sheep's skin and wool are used in clothing and are also embroidered as a decorative element into rugs, carpets, and socks, using the name ram horn (koçboynuzu).

The research focuses on traditional Ottoman, Turkmen, and Caucasian women's clothing discovered in the province of Kars and in the Kars Museum. This study aims to unearth these garments in Kars, where unique traditional clothing has a special place, to examine the garments in depth, to, to preserve Kars's traditional women's clothing and to contribute to the literature and art on the subject. To achieve this objective, field and literature surveys were conducted, and samples obtained during the research and determined from photographs were analysed technically and artistically. Among the goals of this research is to set an example for a cultural carrier, to bring an innovative perspective to the field of art and design, and to introduce the cultural value of the traditional clothing of Kars and make it possible for it to be passed on to future generations.

1. Traditional Women's Clothing from Kars

Due to its geographical location, Kars, which has been home to numerous ethnic groups throughout its history because of both migrations and wars, is extremely diverse culturally. Although the traditional clothing or individual pieces, which reflect this wealth, are still worn by individuals for weddings, ceremonies, holidays, and other special occasions, and can be seen on some elderly rural residents, these occasions remain extremely rare. The clothes worn at local dances are typically recent copies of the originals. For this reason, the Kars Museum, the chests of the locals, and the samples determined from archival photographs provide the most comprehensive and accurate information regarding Kars traditional clothing.

In accordance with museum and field research, it can be stated that Caucasian and Turkmen (Figure 1) clothing, which also demonstrates Ottoman influence

in the region, rose to prominence. In Turkmen clothing (Figure 2), the predominant style is that of the Oghuz Turks, who are among the Central Asian-migrating Turkish tribes. This style of clothing which during the time it was worn was connected to Kars, is prevalent in the Damal district of Ardahan province.

Locals, particularly women, wore their traditional attire in the highlands (Figure 3), at home and on special occasions, in short, in all aspects of daily life. As a method of protection against the cold weather prevalent in the region, women typically dress in layers, and ornaments embroidered with heavy stone beads predominate. The fact that they carry such layered and heavy clothing is indicative of the local women's strength.

The clothes of married or widowed women, young girls and the elderly, consists of dinge (kofik-slipper-koh) üçetek entari (saya), arkalık, şalvar, iç göynek, gurduşka (vest, fermene, libade), mintane (cepken, salta), puşu, peştamal, döşlük (tor), kolçak, kalagey-vala (headscarf), dayra (daire, underwear), önlük, kemer, kolçak, siğil (şakaklık), dulluk ipi, top, zincef, sakaldırık (sakalduruk), keten, yedek, kuşak, gümüş kemer (Caucasian belt), kundura, çapula (a pointed and curved shoe made of coarse leather, yemeni).

The üçetek (three skirts) is the oldest and most well-known piece of Turkish women's clothing (Figures 2 and 3). This garment, which is prevalent throughout Anatolia, is referred to as üçetek entari (three skirt dress) in Kars and its environs. In the past, women wore üçetek in both urban and rural settings. Cotton and woollen fabrics of various hues are used to create üçetek that can be worn in all aspects of daily life and throughout the year. In addition, it is observed that velvet and satin fabrics are preferred for weddings, holidays, and special occasions.

1. 1. Women's Upper Body Clothing

In general, çuha, üçetek entari,(saya, dayra, deyre), köynek (shirt-iç koyneği), cepken, and vests are worn on the upper body. These garments are commonly constructed from woollen broadcloth, velvet, silk, linen, and cotton.

Çuha, which means woollen fabric and is worn as outerwear, is the Ottoman, Caucasian, and Turkmen term for woollen outerwear. Çuha is also

A term used in place of cepken (short jacket) and vest, is referred to as kaftan (caftan) in the inventory list of Ottoman clothing at the Kars Museum. The üçetek entari seen in the clothing of Ottoman, Turkmen, and Caucasian women served as both under and outerwear. The front skirts of the layered and wide üçetek dress worn by the Turkmen (Figure 2) are either left hanging straight or joined by lifting them at the ends. A newly married woman is required to wear at least five gowns, three skirts and a vest (Kırzıoğlu, 1991a: p. 278). In the Caucasian style (Figure 1), the garment primarily expands below the waist. Although the form features of the Ottoman style (Figure 4) are comparable to the üçetek of the Turkmen and Caucasian, they differ in their embroidery style and motifs.

A göynek (long shirt) is a garment made primarily of cotton and silk that extends to the knees and has side slits. Mintane (vest, gurduşka) or cepken is worn on it. The vest and cepken are lined and fitted at the waist. It is fastened at the front waist with silver or other ties (Figure 5). There are similar characteristics in Ottoman and Turkmen clothing styles of cepken. With the göynek, Caucasian and Ottoman clothing styles are similar. It usually has a mandarin style or a "V" style collar. Young girls prefer the "V" neckline. This is due to the wearing of a necklace or other jewellery made with gold or silver under the collar. Brides and married women favoured collars with a sheer, mandarin appearance during the winter (Iğdır Municipality, 1923: p.122).

1. 2. Women's Lower Body Clothing

The garments worn on the lower body consist of trousers called şalvar (tuman-saltak, fistan) (Figure 6) and the üçetek. The şalvar have a very wide crotch, the legs and waist are elasticized and shirred, reaching up to the ankles. The ankles "…rise above the socks. Colours that contrast between the three-skirt and shalwar are preferred. There are more red, striped, and patterned ones" (Erden et.al., 1999: p. 237). The şalvar can be made of silk, cotton, or other fabrics, however, the same fabric to the üçetek entari is typically preferred.

The şalvar shares similarities in Caucasian, Ottoman, and Turkmen attire. In the clothing of Caucasian, Ottoman, and Turkmen women, üçetek that resemble full-length dresses are also worn on the lower body.

1.3. Women's Complementary Accessoriess

In general, women's supplementary clothing accessories are categorised as worn on the head, worn on the feet, and other garment accessories. In these garments, ornaments such as beads, pearl buttons, gold, silver, and copper, and motifs stand out.

1. 3. 1. Head Worn

Headdresses and parts generally used on headwear are dinge (kofik, araşkın), vala (kalagey, yaylık, alınlık, leçek), (headscarf), hair ties (dulluk ipi), sakalduruk (sakaldırık, chin pad). There are two types of headdresses worn by women in the region, but both share the same name. The first (Figure 7a) is the headdress worn by Turkmen women, on which accessories such as bead embroidered pediments, vala (headscarf), sakalduruk, etc. are worn. The second one (Figures 7c and 7d) is the type of headwear used in Caucasian clothing, with gold and silver lined on a circle, embroidered with gold, and attached to the vala and linen.

It is the details rather than the overall appearance of women's headpieces that distinguish them from one another. In all headdresses, a dinge (fez) (kofi, kofik)[1] is worn on the head which is then hooped around the edges of the dinge and raised four to five centimetres. Covers made of silk, linen, and tulle are tied on the dinge and decorated with a variety of gold, silver, and beaded embellishments. If the top surface of the tepelik is flat, metals such as silver and copper are applied, coloured beads are embroidered, or the surface is left blank by passing a fabric over it. In Kars and its environs, they are covered with white or coloured headscarves made of linen or silk, called kelağay or more commonly vala.

It has been determined that the headwear, predominantly described as Turkmen in field studies and written sources and primarily known as dinge in Kars, is widely worn. The dinge (Figure 7a) is embellished with beads, silver, and gold, and strings of coloured beads are typically attached to both sides of the cap's edges, dangling under the chin and in front of the ears.

There are a variety of tying techniques for local headwear, which vary according to age. One of these is the wrapping of different coloured covers (vala) on the dinge in accordance with regional characteristics. A triangular-shaped white linen scarf (Figure 7a) with tassels that is embroidered on both sides with coloured beads is draped over the head. Seniors rarely employ dinge, they wear simpler headgear than younger individuals. They wear short fez, cones, and skullcaps along with woollen çatmas tied to their foreheads. Linen covers are simple and minimally decorative. The attire of middle-aged women is simpler and less ostentatious.

Ottoman headdresses also have a dinge-like fez and are mostly decorated with silver or gold crowns (Figure 7b). Hotoz used in Caucasian and Turkmen headdresses was also used in Ottoman headdresses. Depending on the individual's financial situation, the interiors of the hotoz are adorned with materials such as gold, silver, and embroidery.

1. 3. 2. Footworn

Women wear yemeni (çapula, iskarpin, kundura), pisi pisi, çarık (shoes) and socks on their feet. Yemeni, which in some regions refers to a head covering, is used in the Kars region for shoes made of coarse leather that are worn on the feet or cover the feet without laces (Figure 8a, 8c). In the region, Yemeni is also known as çarık, iskarpin, and kundura. Pisi pisi is a soft shoe constructed of soft leather, with or without soles. Women today wear the pisi pisi (Figure 8b), which is worn without a sole, during folk dances. A çarık is a shoe with a sole and laces for securing it to the foot.

Socks are typically produced through hand knitting. The primary raw material for socks in the region is wool, and they are handcrafted using five needles. The front surfaces (foot) of the socks are embroidered with motifs from the region›s carpets and kilims. These motifs reflect the individual›s family, financial situation, and social standing, and ram horns play an important role among these. The herringbone motif (Figure 9) is dominant on the base. There are also plain ones with motifs from the whole or from the end (wrist). Socks are sometimes extended below the kneecap and worn over the şalvar and sometimes under the şalvar.

1 The word "dinge" is Turkish and "kofik" is Persian.

1. 3. 3. Other Garment Accessories

Garment accessories are essential for adorning clothes and gaining respect in a particular region. These accessories consist of a döşlük (göğüslük, tor), kolçak, silver and gold belt, kolan belt and kurşak (kuşak). The tor (göğüslük, döşlük) made in rectangular and square forms, is completely woven from stone beads and mounted on fabric. In clothing and clothing accessories it is one of the ornaments produced by hand using coloured beads (Figure 10) There are buttonholes in the upper and lower corners; from the upper buttonhole to the neck, and from the lower corners to the back, there are ties. These ties secure it at the neck and waist, covering the chest from the neck to the waist with the short edge of the chest piece on top. The underside of the tor is lined, the coloured beads are strung together to form geometric patterns and are embroidered so tightly that the fabric is not visible This is surrounded by strung mother-of-pearl or coloured buttons. The coloured ones are typically worn by the young and married, whereas the plain cloth, black, and dark colours are worn by widows and the elderly.

Young and old alike wear kolçak (Figure 10) that extend from the elbows to the wrists with gathers at both the elbows and wrists. These kolçaks, which are sometimes gathered to the elbows, are used to prevent the arms from becoming dirty while working, particularly when milking animals. In addition, since some of the clothing in the region has three-quarter sleeves, it serves the purpose of further covering the arms. Young people prefer vibrant colours that complement the colours of their clothing, whereas the elderly prefer black and dark colours. The colour of the kolçak typically contrasts with the thin fabric cuff at its wrist. The collar with a contrasting kolçak is known as a zincef. A knot is created in the centre of the wide kolçak by slightly tightening it with a tie (Görgünay, 2008: p. 296).

Although most woven belts (kuşak) and columns (kolon) are made of wool, there are also some made of silk. Belts, which are used as an accessory garment by wrapping around the waist and over outerwear in the region, are commonly found in pastel hues. The girth belt (kolan kemer), which is predominantly used in Turkmen clothing, is a wool belt woven by hand or machine and dominated by the same motifs found on the region's rugs, carpets, and socks (Figure 11a). The belt is fastened to the outermost portion of the garment by wrapping it around the waist, with the ends hanging from the sides of the waist. The belt's ends are adorned with beads, colourful buttons, and tassels.

Featured in the foreground is motif-adorned beadwork. These beads and buttons utilised in the belt give the belt vitality. The example depicted in Figure 11c, which is an Ottoman silver belt from the nineteenth century, was created by arranging the pieces side by side. At the bottom ends of the arch, ornate circles (cıngıl) hang. On a silver plate, the belt buckle is embroidered with floral motifs. Again, on the tip of the belt buckle that hangs just below, there are chain rings with designs within the belt's lower edges. The motifs were created using the techniques of filigree, relief, and granulation.

In belts where techniques such as savat, granulation and embossing are used, the buckles are larger and more ostentatious. The parts of the belt are mostly mounted by threading on the leather.

Wool and wide knits are worn around the waist by the elderly, who favour these materials (Figure 11b). These belts feature motifs like those found on local rugs and carpets. Many elderly people choose dark colours such as black and brown, and the sleeves are typically tasselled. These collars are broad and long so that they may be draped over the shoulders and worn as a shawl. Silk ones are also seen.

Conclusion

In this study, which examines the traditional women's clothing of Kars, the interaction of the elements reflected in the traditional clothing culture of Kars with geographical conditions, belief systems, economic structures, social life, art appreciation, and technologies is discussed.

Most of these garments were made from fabrics woven on looms. Woollen garments were worn due to the cold climate of the province and silken garments were worn due to the province›s border status and its historical location on the Silk Road.

According to this research, traditional clothing styles have almost entirely disappeared from everyday life. In

celebrations of special days such as weddings, henna ceremonies, circumcisions, and feasts, ready-made clothing, which is the current fashion, is favoured over traditional attire. Traditional clothing, which is rarely worn in everyday life today, is now almost exclusively restricted to museum exhibits only. Even though it is evident that Caucasian clothing is worn in folk dances, these are examples of clothing that resemble traditional garments in appearance but differ from them in terms of materials, function, and complementary element.s

Due to migration and war, Kars, a city located in a border region which is home to different ethnic groups, has created Caucasian, Turkmen, and Ottoman traditional women›s clothing. Examining these three garments together reveals that in addition to their unique characteristics, they also share certain characteristics. Particularly the Ottoman and Caucasian clothing share similarities in terms of shape, ornaments, materials, and function. In terms of decoration and craftsmanship, it can be said that Ottoman clothing is more extravagant.

It is our greatest hope that this study, which was conducted based on data obtained from observations, written and unwritten sources, and interviews, will contribute to the literature, ensuring that the traditional clothes of Kars, which are a part of our cultural values, are preserved, and create a cultural memory that will transmit these values to future generations by serving as a resource for future research.

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Appendix

Figure 1: Turkmen (Left Pair) and Caucasian Clothes (Right Pair) (Öztürkhan, 2019).

Figure 2: Kars, Turkmen Married Women's Dress

(Orta Doğu Video İşletmeleri A.Ş.,1986, s. 97-98).

Figure 3: Elderly Women Milking in the Plateau (Görgünay, 2008: p. 304).

Figure 4: 18th century Ottoman Entari (dress) (Top Double) and Kaftan (Lower Double) (Kars Müzesi, 2018.)

Figure 5: Woman dressed in Göynek and Cepken (Çiftçi, 2015: p.131).

Figure 6: Women's Şalvar (Öztürkhan, 2019).

a. Turkmen Headwear b. Ottoman Women's Tepelik c. Caucasian Headwear

Figure 7: Headwear Examples a. Turkmen Headwear (Kırzıoğlu, 1991b: p. 425); b. Ottoman Women's Tepelik (Kars Müzesi, 2018); c. Caucasian Headwear (Aydın, 2005: s.78).

a. Yemeni b. Pisi Pisi c.Yemeni (Çarık, İskarpin, Kundura)

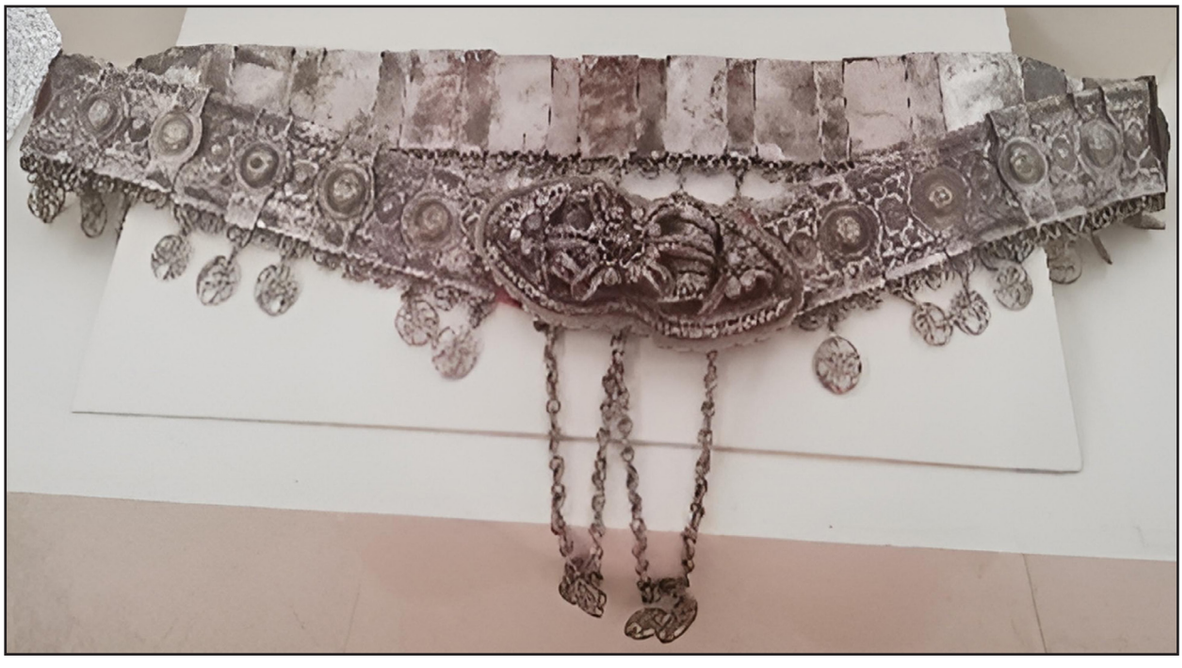
Figure 8: Shoe Examples, a. Yemeni, b. Pisi pisi (Aydın, 2005:75-80); c. Yemeni (Kars Provincial Directorate of Culture and Tourism, 2019).

Figure 9: Wool Socks, Front (Top) and Back (Bottom) View (Mert, 2019).

Figure 10: Tor, Kolçak (Ege University Ethnography Museum, 2019).

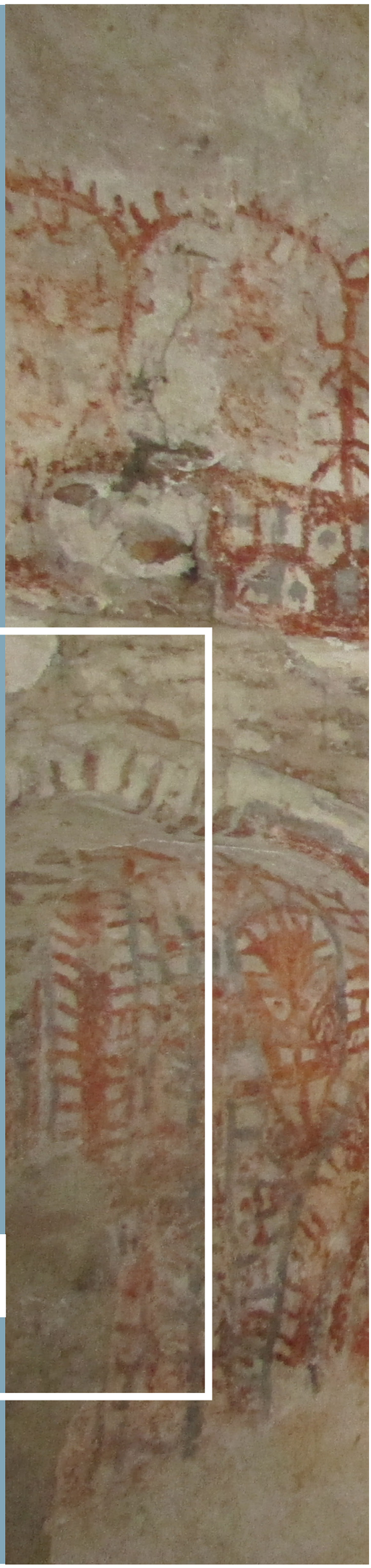
a. Kolan Kemer (Bel Bağı)

b. Kurşak



c. Silver Belt

Figure 11: Belt and Girdle Examples, a. Kolan Belt (KK2, 2019); b. Kurşak (Kars Provincial Directorate of Culture and Tourism, 2019); c. Silver Belt (Kars Museum, 2018).



Tomb of İsa Sofi with Shamanastic Motifs: Plaster Characterization and C-14 Analysis

Yasemin DALGIÇ, Nagihan ARIKAN, Seda ESEN, Turhan DOĞAN, Erhan İLKMEN

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Şamanistik Bezemeleriyle İsa Sofi Türbesi: Sıva Karakterizasyonu ve C-14 Analizi*

Tomb of İsa Sofi with Shamanastic Motifs: Ğlaster Characterization and C-14 Analysis

Yasemin DALGIÇ**

Nagihan ARIKAN***

Seda ESEN****

Turhan DOĞAN*****

Erhan İLKMEN******

Özet

Bilecik ili, Söğüt ilçesi, Borçak köyü sınırları içerisinde yer alan İsa Sofi Türbesi'nde 2018 yılında restorasyon çalışmaları yapılmıştır. Bu çalışmalar kapsamında gerçekleştirilen sıva raspası sonucu, türbe duvarlarında Gök Tanrı inancına yönelik Şamanist bezemeler tespit edilmiştir. Bu çalışmada, sıva ve boya tabakalarının niteliği ve bu tabakalardan yola çıkarak bezemelerin yapım dönemini belirlemek amacıyla gerçekleştirilen analizlere yer verilmiştir. Türbe'den alınan sıva ve boya örneklerine; malzeme niteliğini belirlemek için kimyasal analizler ile XRF, SEM –EDS gibi ileri teknik analizler uygulanmış, tarihlendirme amacıyla radyokarbon yaş tayini yapılmıştır.

Sıva örneğinin üzerinde görsel analiz, basit spot testler, kızdırma kaybı, asit kaybı ve asitle reaksiyona girmeyen agregaların stereo mikroskop altında görsel analizleri ile agrega/ bağlayıcı türü ve oranları belirlenmiştir.

Sıva üzerinde bulunan boya tabakasının kimyasal içeriğinin tespiti için ise p-XRF cihazı ile analiz yapılmıştır. Ayrıca numunenin SEM görüntüsü alınarak EDS analizi ile elementel içeriği belirlenmiştir.

Yapıdan örneklenen kıtıklı (hayvan kılı) sıva numunesi üzerinde C-14 tarihlendirmesi yapılmıştır. Harcın içindeki kıtıktan yola çıkarak gerçekleştirilen analizle numune 18. veya 19. yy'a tarihlendirilmiştir. Bu tarihlendirmeden dolayı türbe içindeki bezemelerin günümüze yakın bir dönemde yapıldığı sonucuna varılmıştır.

Anahtar Kelimeler: Restorasyon, Sıva Analizi, Radyokarbon Yaş Tayini, SEM-EDS, p-XRF

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** Restorator-Conservator, Bursa Restoration and Conservation Regional Laboratory Directorate, yasemin.dalgic@ktb.gov.tr, ORCID:0000-0003-1566-9850

*** K.Patalog-Chemist, Bursa Restoration and Conservation Regional Laboratory Directorate, nagihan.arikan@ktb.gov.tr, ORCID:0000-0002-2775-0130

**** K.Patalog-Chemist, Bursa Restoration and Conservation Regional Laboratory Directorate, seda.esen@ktb.gov.tr, ORCID:0000-0002-14104-5833

***** Dr., Chief Researcher, TÜBİTAK Marmara Research Center Barış Mah. Dr. Zeki Acar Cad. No:1 P.K. 21 41470 Gebze Kocaeli, turhan.dogan@ tubitak.gov, ORCID:0000-0002-1917-8437

****** Dr., Chief Researcher, TÜBİTAK Marmara Research Center Barış Mah. Dr. Zeki Acar Cad. No:1 P.K. 21 41470 Gebze Kocaeli, erhan.ilkmen@ tubitak.gov.tr, ORCID: 0000-0002-2060-590X

Abstract

As a result of the plaster scraping within the scope of the restoration works on The Tomb of İsa Sofi, located within the borders of Bilecik province, Söğüt, Borcak Village carried out in 2018, shamanistic motifs related to the belief of Sky God Tengri have been identified. In this study, the analysis made for determining plasters and paint layers quality and the production date of motifs based on these layers are explained. C-14 analysis was carried out for dating the plaster and paint samples taken from the tomb. To determine the quality, chemical analyses and advanced technical analyses such as XRF, SEM-EDS were carried out.

The aggregate/binder type and ratios were determined on the plaster sample, loss on ignition analyses, simple spot tests, reaction with acid and visual analysis of the aggregates that don't react with acid under the stereo microscope.

p-XRF analysis was performed to determine the chemical content of the paint layer on the plaster sample. Also, SEM image of the plaster sample was taken and elemental content was carried out with EDS analysis.

C-14 dating on the mortar sample taken from the building was based on the tow (animal hair) in the morter. As a result of the C-14 dating, it was determined as the 18th-19th century. Based on this analysis, it was concluded that the motifs inside the tomb were made recently.

Key Words: Restoration, Plaster Analysis, Radiocarbon Dating, SEM-EDS, p-XRF.

Introduction

Very little scientific research has been conducted on this tomb, which is referred to in sources as the Tomb of İsa Sofu, İsa Sofi, and İsa Dede. This tomb was constructed in the style of Early Ottoman architecture and features pre-Islamic ornamentation. In addition to the tomb analyses presented here, a limited number of scientific publications and research discovered through a literature review are also included. The building's construction date is depicted on the decorations. One of the objectives of the investigation is to determine whether the structure was constructed as early as the 14th century or more recently. Based on the plaster sample taken from the tomb, the characterization of the material was determined through chemical analysis, and radiocarbon (C-14) dating was performed.

1. İsa Sofi Tomb

The tomb is located nine kilometres east of the centre of Söğüt, province of Bilecik. It is situated on a steep hill to the north of the village of Borcak (Figure 1). According to the "Foundation Monuments and Ancient Artefacts in Türkiye" by the General Directorate of Foundations, the tomb belongs to a person named İsa Dede, but it is unknown when and by whom it was constructed. Nonetheless, it is believed that this structure also dates to the early Ottoman period (General Directorate of Foundations, 1977: p.99). Due to the absence of an inscription on the tomb, it was attempted to be dated based on the architectural features of the building; it was described as a classical Turkish-Islamic structure from the 14th century and the Early Ottoman Period due to its square plan, rubble stone walls, octagonal pulley, and brick dome. Although a zawiya in Söğüt and its villages is identified as the İsa Sofi Zaviye Foundation in the 1860 record of the General Directorate of Foundations (Aydn and Aydn, 2021: p.181), there is currently no structure surrounding the tomb (Figure 1).

Although the architecture of the tomb resembles Early Period Ottoman tomb architecture, the decorations-that emerged after plaster scraping done during the restoration work initiated in 2016, after its destruction by treasure hunters-do not resemble their contemporaries or any other tombs in Anatolia. Various techniques were used to apply stone, wood, tiles, and plaster to the architectural decorations of the Early Ottoman Period. Stone decoration, openwork with plaster, and malakari are some of the most employed decoration techniques of the period. The hand-drawn ornaments featured floral motifs from the Hatayî group, motifs such as vases and columns, rumi on the free-curved branch, and inscriptions embellished with curved branches (Demiriz, 1979: p.24).

The Tomb of İsa Sofi stands apart from its contemporaries in terms of decoration technique and motifs. It is believed that the hand-drawn decorations in the tomb are completely distinct from the botanical and geometric motifs used by contemporary architects and artists, which originated from the belief in the Sky

God (Gök Tanrı). All walls of the tomb and the skirts of the dome are predominantly decorated with red and grey colours (Figure 2).

Shamanic motifs are used to explain topics such as the Turkish universe narrative, the ascension of the shaman, and the tree of life in the tomb's interior decorations (Arıkan, Çetin and Kahraman, 2019: p.148). There are two important ship motifs among the decorations. It has been theorised that one of these ships carried the soul of the deceased to Ülgen (a god living on the sixteenth floor of the sky), while the other ship depicted the confluence of seventeen seas, and that the two ships were a narration of a death ritual (Figure 3-4). The decorations, which are divided into horizontal and vertical sections on the dome drum, are ornaments belonging to the shamanic thought system, which depict the earth, its inhabitants, and the underworld, or the nature of the universe in general. In Turkish mythology, the sun and the lightning motifs, which are frequent embellishments, represent the gods (Arıkan, Çetin and Kahraman, 2019: p.144), (Figure 5). The motif of a tree with a long trunk and thin branches was frequently used in ornamentation. These motifs are associated with auspicious trees such as the apricot and the juniper. The stylized animal motif bird may represent the spirit bird named Bucu or Koarı that Gold Shaman employed during his journey to the afterlife (Arıkan, Çetin and Kahraman, 2019: p.147), (Figure 6). Regarding the construction date of the ornaments in question, there are two contradictory viewpoints. The first is that the people brought by İsa Sofi, who was one of Osman Gazi's commanders who contributed to the foundation of the Ottoman Empire, came from outside Anatolia (it is unknown exactly where he migrated) and settled in Borcak village, may have imbued the tomb with these motifs under the influence of Central Asian Shamanism (Arıkan, Çetin and Kahraman, 2019: p.148). The second theory presented in the tomb's art history report is that the motifs may have been created at the turn of the twentieth century by a nearby resident or residents (Buğdaycı, 2018: p. 14).

It is remarkable how dissimilar these ornaments are to traditional ornament motifs, which are not found in similar examples in Anatolia. The lack of definitive information about the period in which it was created makes the research on the determination of the decoration dates, which is the focus of this article, even more important.

2. Experimental Studies and Method

In the context of dating, plaster, and pigment analyses of the Tomb of İsa Sofi, a plaster sample was taken from a surface that had been scraped and on which decorations were discovered.

Through chemical and advanced technical analysis, the characteristics of the sample were determined in this study. Based on the hair sample of tow (animal) origin found in the plaster sample, C-14 analysis was attempted to determine the date of construction of the decoration.

2. 1. Sampling and Visual Analysis

Before beginning the chemical and physical analysis, the sample was examined for its texture, colour, condition (solidity), type, colour, size, and approximate amounts of aggregates, visible organic additives, and pollution. It was defined alongside the section from which it was sampled, and the results can be found in Table 1 (Figure 7).

2. 2. Chemical Analysisv

2. 2. 1. Calcination (heating a chemical compound to a temperature below its melting point)

With this analysis, the amount of CaCO3 (calcium carbonate) was calculated from the loss of CO2 (carbon dioxide) by determining the amount of moisture and organic matter by utilising the weight change in the sample as a result of the continuously increasing temperature (Güleç, 1992; Ersen and Güleç, 2009: pp. 65-72). A ground sample measuring 0.5-1.0 g was placed in the porcelain crucible and weighed with an accuracy of 0.1 mg before being heated at 105±50C, 550±50C, and 1050±50C in the muffle furnace. The moisture, total organic, and carbonate contents of the samples were calculated based on the weight difference, and the results are presented in Table 2.

2. 2. 2. Acid Loss and Sieve Analysis

The purpose of this analysis is to determine the characteristics of silicate aggregates in the sample that

are distinct from those of the binder and carbonate aggregates. A 10% HCl acid solution was applied to 20 to 25 grammes of sample on average. The portion of the sample that did not react with the acid was filtered through a determined weight of filter paper, and the residues were washed. The undissolved aggregates and the filter paper containing the clay-sized aggregates were dried for 24 hours at 105±50C and weighed. Then, the size distribution of the aggregates, which were sieved and weighed separately using a sieve set of 125, 125, 250, 600, 1000, 2500µ by filtering the acid-insoluble portion of the sample, was examined under a stereo microscope and their visual qualities were determined, with the results listed in Table 2.

2. 2. 3. Analyses of Salts Soluble in Water

This analysis was performed using simple spot tests of Chlorine (Cℓ-), Sulphate (SO4=), and Nitrate (NO3-) salts to determine the properties of the water-soluble salts in the sample, and the quantity analyses were determined by measuring conductivity. The sample of plaster was ground into powder, one g of the powder was dissolved in 100 ml of ionised water, and it was analysed using the stock solution extracted from the clear portion of the solution. The results of the analysis are presented in Table 1.

2. 3. Advanced Archaeometric Analysis

2. 3. 1. X-Ray Fluorescence Spectrometer (XRF) Analysis

Using a portable Hitachi X-MET 8000 ExpertGEO (Oxford Instruments), an elemental analysis of the red-brown paint layer on the plaster sample was performed. Figure 8 provides a photograph of the measured area and the measurement results.

2. 3. 2. EDS Analysis and Scanning Electron Microscopy (SEM) Image

The plaster sample's microstructure and semiquantitative chemical composition were determined via SEM-EDS analysis using a Carl Zeiss/Gemini 300 instrument. Figure 9 depicts the SEM image and EDS analysis measurement results of the plaster sample, as well as the SEM images of the animal-origin hair in the plaster sample.

2. 3. 3. Analysis of Radiocarbon Age Determination

The interior plaster sample of the Tomb of İsa Sofi was analysed for radiocarbon at the TUBITAK Marmara Research Centre National AMS Laboratory (Doan et al., 2021). Figure 10 depicts the detection of animal hairs in samples submitted to a laboratory. The animal hair material was extracted from the mortar and analysed. Physical cleaning was performed with tweezers in the microscope to remove contaminants from the collected samples. To eliminate any potential carbonates from the plaster, the samples were washed twice with 1 M HCl (hydrochloric acid) at 700C for 30 minutes. It was washed at 700°C for 30 minutes with 0.1 M NaOH (sodium hydroxide) to remove humic acid and other possible organics. The sample was then washed with distilled water until it reached a neutral pH level (Figure 10) (Mook et al., 1983) after being washed with 1 M HCl acid at 700C for 30 minutes. The dried sample was weighed to be 1 mg of pure carbon, and the IonPlus Brand AGE III model device was used to graphitize the graphite process. The NEC Model 3SDH-1 (UAMS) system was used to measure the samples. Using the OxCal (Bronk, 2009) programme and the Intcal20 (Reimer et al., 2020) database, the results were calibrated. Using the Oxcal programme, the measured radiocarbon age was converted to the calibrated calendar age. The results measured before today (BP) as 141±24, with a probability of 1 Sigma 68.3% and a distribution of 2 Sigma 95.4, are shown in Figure 11 and Table 3. Although the exact date range spans the years 1672 to 1944 A.D., it was calculated as 1846±50A.D. with a probability of 40.9% and 1725±53 A.D. with a probability of 36.5%.

Evaluation and Conclusion

Included in this study's analyses are the binder, additive types, and weight ratios of the plaster and paint sample obtained from the wall of İsa Sofi's tomb, the

chemical properties of the paint layer, and the dating of the decorations.

The fact that the SEM-EDS analysis of the tomb sample revealed a high concentration of calcium (51.4%) suggests that lime was used as a binder in the plaster sample. In addition, the calcination analysis performed to support this result revealed that the sample contained 91.82 percent calcium carbonate, while the acid treatment resulted in a 95.39 percent loss. When all the analysis results were considered together, it was determined that lime was the plaster sample's binder.

Based on the stereomicroscope analysis of aggregates that do not react with acid, it was determined that the aggregate on the 2500 sieve was composed entirely of hair of animal origin. The spot tests did not detect any Chlorine (Cℓ-), Sulphate (SO4=), or Nitrate (NO3-) salts.

To determine the content of the red-brown paint layer on the plaster sample, p-XRF analysis was performed. Considering that the paint layer is not of sufficient thickness due to abrasion, it is thought that the calcium (36.17%) element obtained as a result of the measurement may be from the lime binder used, and the iron (1.58%) element may originate from hematite (Fe3O4).

To determine the date of construction of the decorations, a radiocarbon dating analysis of animal-origin hair in the plaster sample was conducted, and it was determined that the plaster layer on which the decorations are located can be dated to the 18th or 19th centuries.

Therefore, although there are theories that the motifs were embellished onto the tomb by the people İsa Sofi brought with him-under the influence of the Shamanism belief of Central Asia-the radiocarbon dating analysis revealed that the motifs were created approximately 300-400 years after the Early Ottoman Period, during which İsa Sofi lived.

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Appendix

Figure 1: External View of the Tomb (Eskişehir Regional Board of Cultural Heritage Protection Archives).

Figure 2: General View of the Decorations (Eskişehir Regional Board of Cultural Heritage Conservation Archives)..

Figure 3: Ship Motif at the Confluence of Seventeen Seas (Eskişehir Regional Board of Cultural Heritage Conservation Archives).

Figure 4: Ship Motif in the Sky (Eskişehir Regional Board of Cultural Heritage Preservation Archives).

Figure 5: The Lightning and the Sun Motif (Eskişehir Regional Board of Cultural Heritage Preservation Archives).

Figure 6: Botanical Embellishments and Stylized Bird Motif
(Eskişehir Regional Board of Cultural Heritage Preservation Archives).

Figure 7: Plaster Sample.

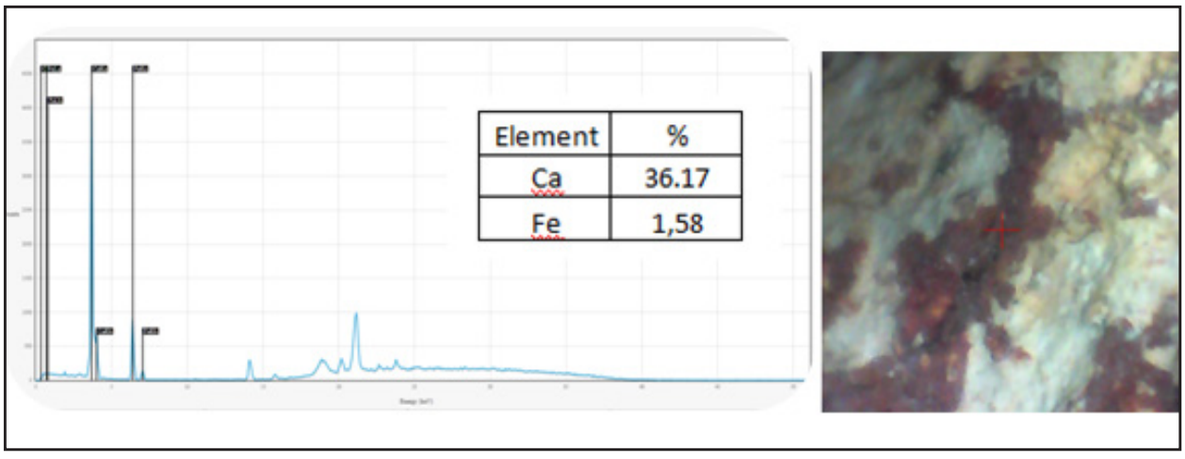


Figure 8: XRF Measurement Results and XRF Measurement Area.

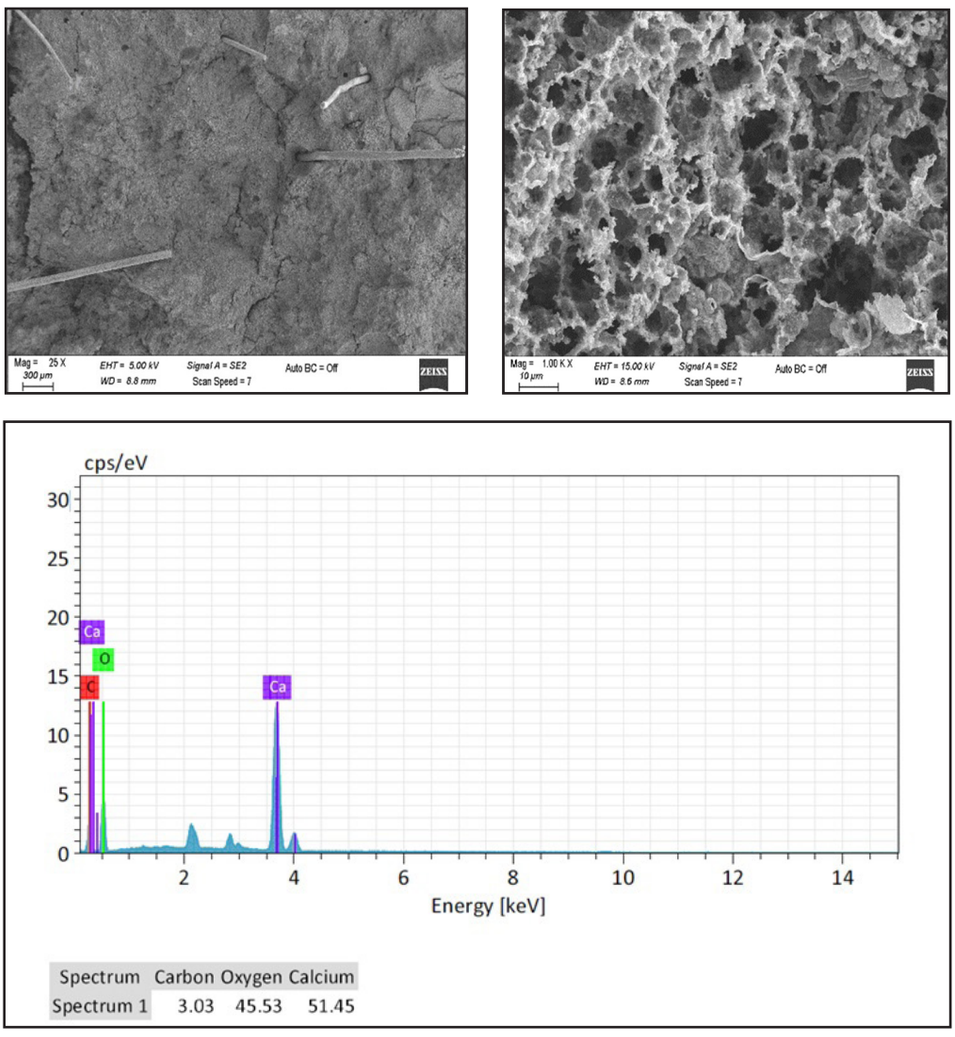


Figure 9: SEM Image of Hair of Animal Origin in Plaster (a), SEM Image of Plaster Sample (b) and EDS Analysis (c).

Figure10: Mortar Sample Sampled (a), Sample of Completed Physical and Chemical Cleaning Process (b).

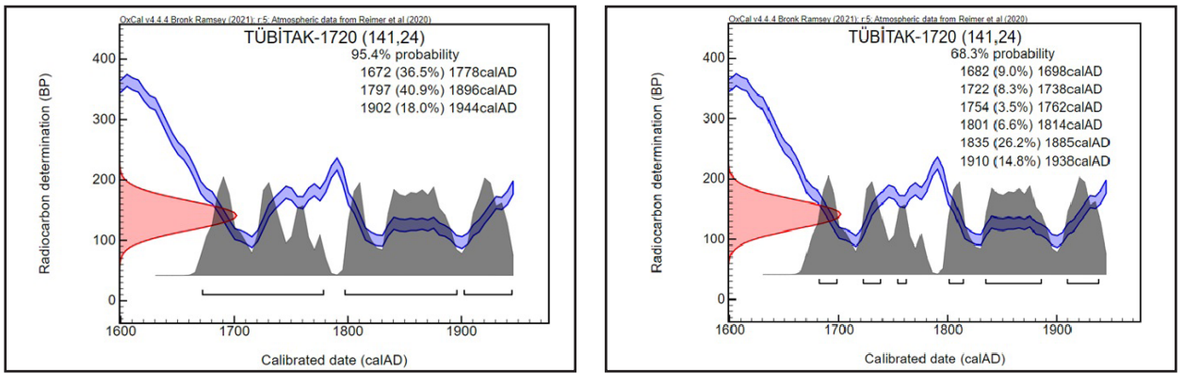


Figure 11: 2 Sigma (a) and 1 Sigma Probability Distribution Graph of Radiocarbon Age (b).

Sample No	Sample Type	Sample Area	Colour	Fibre Additive	Condition	Cl^-	SO_4^{2-}	NO_3^-	Conductivity (µS)	Amount of Total Salt Dissolved in Water (%)
1	Mortar	Interior Wall	White	Animal Hair	Medium Robust	-	-	-	126	0,70

-:No, ±:Yes-no, +:There is little,++:Yes,+++:There is too much,++++:There is too much

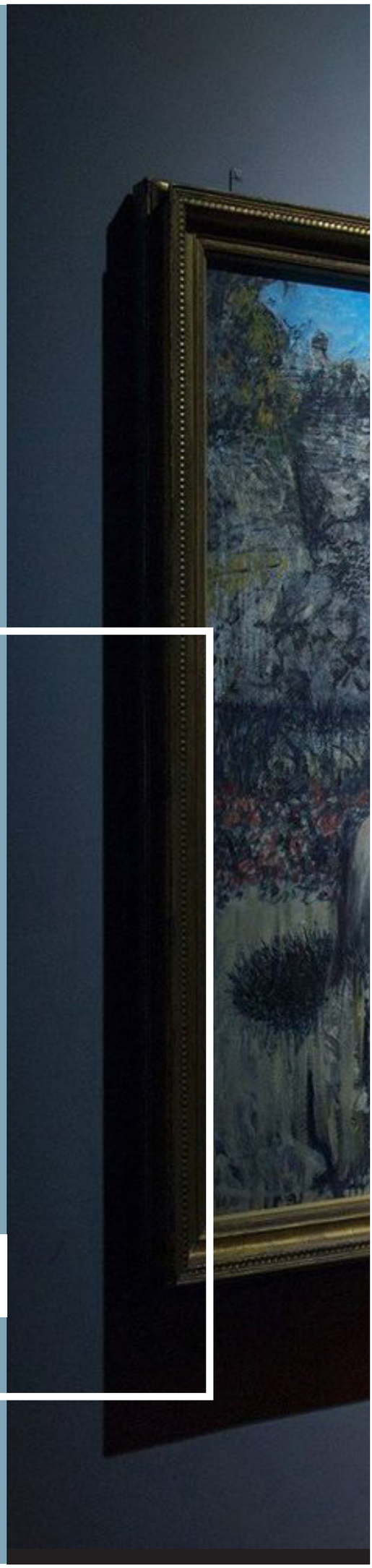
Table 1: Visual Properties of Plaster Sample and Qualitative and Semi-Quantitative Analysis of Water-Soluble Salts.

Calcination (%)				In Acid (%)		On the Sieve (%)					
Sample No	Humidity	550℃	$CaCO_3$	Loss	Remainder	2500µ	1000µ	600µ	250µ	125µ	<125µ
1	0,50	2,81	91,82	95,39	4,61	9,5	6,97	16,66	22,47	18,13	26,26

Table 2: Calcination, Acid Treatment, and Size Distribution of Non-Acid-Reacting Aggregates of the Plaster Sample.

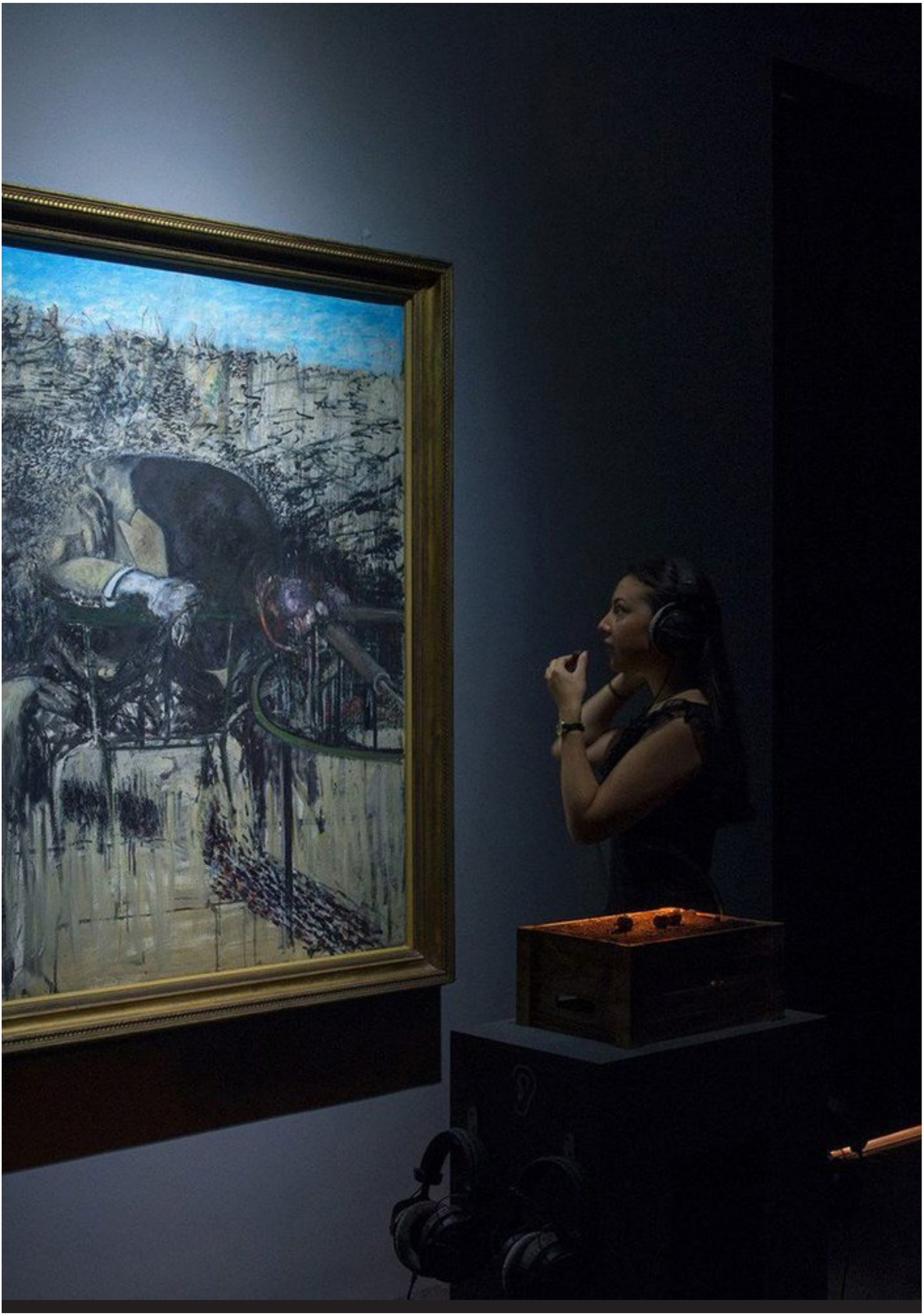
Sample Lab Code	Calibre Calendar Age (M.S.)						
	1 Sigma %68,3 Distribution			2 Sigma %95,4 Distribution			Medium
	Date range		%	Date range		%	
TÜBİTAK-1720 (141,24)	1682	1698	9,0	1672	1778	36,5	1828
	1722	1738	8,3	1797	1896	40,9	
	1754	1762	3,5	1902	1944	18	
	1801	1814	6,6				
	1835	1885	26,2				
	1910	1938	14,8				

Table 3: 1 and 2 Sigma Probability Distribution Graph of Radiocarbon Age.



Uses of Multiple Senses for The Visually Improved Museum Visitors

Zeynep AKTOP



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Görme Engelli Müze Ziyaretçilerine Yönelik Çoklu Duyu Kullanımları*[1]

Uses of Multiple Senses for The Visually Improved Museum Visitors

Zeynep AKTOP**

Özet

Son dönemlerde artan erişilebilirlik çalışmaları, kültür alanlarında da farkındalık oluşturmaya başlamış; gerçekleştirilen uygulamalarla dezavantajlı olarak görülen özel grupların toplumun bir parçası olarak sosyal yaşamda yer almaları desteklenmiştir.

Engellilik durumuna göre farklılık gösteren ihtiyaçlar göz önüne alındığında, müzeler için en dezavantajlı grubu görme engelliler oluşturmaktadır. Bu durumun birincil nedeni müzelerin öncelikli olarak görsel algıya yönelik mekânlar olmasıdır. Günümüzdeki sergileme sistemlerinin geliştirilmesi, dokunma ve işitme duyularıyla birlikte koklama ve tatma duyularını da harekete geçirerek ziyaretçilerin eser erişilebilirliğini desteklemiştir. Böylece, duyuların birleştirilmesiyle ortaya çıkan duyusal müzecilik anlayışı şekillenmiş ve özellikle görme engellilerin müze erişilebilirliğine büyük ölçüde katkı sağlamıştır.

Hazırlanan makalede, görme engelliler için kullanılan çok modlu sergileme yöntemleri ele alınmıştır. Makalenin merkezinde, bu ziyaretçilerin müze erişilebilirliğini sağlayan uygulamalarda kullanılan duyusal çeşitliliğin örneklendirilmesi amaçlanmıştır. Bu kapsamda müzelerin görme engelliler için ziyaret edilebilir hale gelmesini sağlayan dokunsal erişim çalışmaları araştırılarak görme engelliler için hazırlanan dokunsal turlarda kullanılan yöntemlerin teorik gelişimi incelenmiştir. Ardından yeni teknoloji araçlarının müzecilik çalışmalarında kullanılmaya başlamasıyla sergilerde artan farklı duyu kombinasyonları belirlenerek örneklendirilmiştir.

Anahtar Kelimeler: Görme, Engelli, Müze, Erişilebilirlik, Duyusal Müzecilik.

Abstract

Accessibility studies, which have recently increased, have started to raise awareness in cultural areas; with the practices realized, special groups that are seen as disadvantaged have been supported to take part in social life as a part of society. Considering the needs that differ according to disability status, visually impaired people constitute the most disadvantaged group for museums. The primary reason for this situation is that museums are primarily places for visual perception. Today, the development of display systems has supported the accessibility of artifacts by activating the senses of smell and taste, as well as the senses of touch and hearing. Thus, the understanding of sensory museology, which emerged by combining the senses, was shaped and greatly contributed to the museum accessibility of the visually impaired.

In this article, multimodal exhibition methods used for the visually impaired are discussed. At the center of the article, it is aimed to exemplify the sensory diversity used in applications that provide museum accessibility for these visitors. In this context, the theoretical development of the methods used in the tactile tours prepared for the visually impaired was investigated by researching the tactile access studies that make the museums visitable to the visually impaired. Then, with the use of new technology tools in museum studies, the different combinations of senses that increased in the exhibitions were determined and exemplified.

Key Words: Visual, Disableds, Museum, Accessibility, Sensory Museology.

1 The article was derived from the master's thesis of the author.

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** Museum Researcher, Turkish Historical Society, Dumlupınar mah. Murat Çelebi Cad. 38/3 Afyonkarahisar/Merkez, aktopzeynep@gmail.com, ORCID ID: 0000- 0002-3505-8814

Introduction

The visually impaired are one of the groups that are negatively impacted the most in museums among the large minority of disabled people. This is because museums are primarily designed for the sense of sight, and accessibility studies in museums typically focus on physical arrangements.

The development of new technologies and the expansion of disability studies over the past four decades have altered the behaviour of museums. These modifications have facilitated the disabled's access to museums and have contributed to the evolution of museology. In addition, thanks to multi-modal applications within the scope of sensory museology that combine touch, hearing, smell, and taste, the exhibitions have shifted the access centre of museums from physical to sensory.

Sensory museology studies, which make exhibition accessibility possible by implementing a new museology approach, are particularly important for visually impaired visitors, and these studies have become indispensable for encouraging museum visits by visually impaired individuals.

This study examines the evolution of museum access methods, including those for the visually impaired, and the use of other senses to support this evolution. In the article, examples of multimodal applications that utilise multiple senses and are effective for visually impaired museum access are provided. In these examples, the senses of touch and hearing, which are utilised more frequently by visually impaired individuals to comprehend the work, are highlighted, and a general evaluation is conducted.

1. Museums and the Visually Impaired

Visually impaired individuals are those who were born blind, have lost their sight for various reasons, or have vision below a certain threshold. According to Jun Dong Cho (2021: p. 14), an expert on sensory interactions and technological tools, sighted individuals perceive incoming information as 60% visual, 20% auditory, and 20% based on their senses of touch, taste, and smell. In this context, it should be predictable that visually impaired individuals will have difficulty learning the visual culture elements correctly and completely. In order to combat social inequality, Richard Sandell, a professor at the Leicester University School of Museum Studies, suggested (2002: pp. 4–18) that museums should provide effective solutions for the cultural problems of visually impaired visitors.

According to researchers on museum accessibility, Jonathon Rix, Helena Garcia Carrizosa, Jane Seale, Kieron Sheehy, and Simon Hayhoe (2020: p. 1048), the visually impaired are the least evaluated group in museum studies conducted on people with sensory and other differences. These individuals' museum visits are deemed unnecessary. According to Valeria Donnarumma (2010: p. 5), who examines the museum accessibility of the visually impaired in art museums. For some, a visually impaired individual visiting a museum is comparable to a hearing individual attending a concert. Roberto Vaz, Diamantino Freitas, and Antonio Coelho, who conduct research on the use of multiple senses in museums (2020b: p. 17), have argued that museums have begun making accommodations for disabled access to disprove this notion and fulfil their societal responsibilities.

Historically, exhibition accessibility in museums has been regarded as a secondary accessibility layer. According to Tazuru Harada, Yanagisawa Hideyoshi, Eric Gressier-Soudan, and Camille Jean (2018: p. 2221), who study the use of multi-sensory approach in museums, this situation prevents visitors from interacting with the artefacts, resulting in a passive relationship based solely on sight. Fiona Candlin (2003: p. 103), who develops suggestions for visually impaired visitors in museums to find solutions to the visually impaired's issues of access, suggests that in museums one of the primary exhibition programmes should prioritise solutions that meet all the needs of disabled people.

Touch and hearing senses are most effective for visually impaired individuals' learning (D'Agnano et al., 2015: p. 207). In line with this information, studies on touch and hearing, the most effective access methods for the visually impaired, should also be conducted in museum applications. Audio descriptions for the visually impaired and tactile examination of artefacts are the longest standing methods of examination.

2. Evolution of Tactile Artefact Access

The primary sense that most museum exhibitions address is sight. Regardless of their skill level, the initial method for visually impaired individuals to obtain information from works of art is through touch. In this context, tactile museum tours are viewed as the most important aspect of learning and instruction for the visually impaired (Candlin, 2004: p. 74; Hayhoe, 2017: p. 46).

Touch-sight multisensory displays were implemented as the first non-auditory examples of multisensory combinations used in museums. Sensory museologist David Howes (2014: p. 60) asserts that the educational function of tactile tours was utilised for special visitors in the first museums of the 17th and 18th centuries. According to Jingyu Peng (2021: pp. 16-18), when 19th-century museums opened to the public, tactile tours were reduced, and modern museums became "sight museums" by directing the public to view the artefacts rather than touch them. With the increase in the number of museum visitors, touch tours have become a privilege reserved for the upper class, and with the privilege of touch tours, a new sense other than touch has been added to sight, for example audio explanations in tours led by guides. The fact that visitors from lower social classes tend to touch more than those from higher social classes is considered a limiting factor for touching (Sandell, 2003, p. 45).

The use of the sense of touch in the earliest museums was motivated by four factors: viewing the works as a learning tool, facilitating access to perceive the beauty of the work, enhancing the enjoyment of art through aesthetic appreciation, and establishing a close relationship between the object and the visitor (Peng, 2021: p. 16). In other words, these touch applications that were implemented in the early years of European museums were not intended for the visually impaired. According to Virginia Kastrup and Eliana Sampaio (2012, p. 96), who investigate the tactile experiences of the visually impaired in museums, tactile tours are implemented primarily to enhance the museum experience.

At the beginning of the 20th century, natural history collections housed the first studies designed for the visually impaired (Hayhoe, 2017: p. 45). The American Museum of Natural History initiated practises for the visually impaired in 1909 when museum staff gave natural history lessons to visually impaired clubs and meetings. Dr Hermon C. Bumpus, the director of the museum at the time, requested that a room be prepared for the collections that attract the attention of the visually impaired, so a room was made available for students to receive instruction (Blind Kids' Experience, 2021, par. 2) (Picture 1). It is known that tactile tours continued to be conducted for the visually impaired in the United States until the 1950s, albeit in small numbers (Hayhoe, 2017: p. 46).

Diversification has begun to emerge in the implementation of exhibitions because of the increase in presentations for the visually impaired, but the need to protect both the artwork and the visitor becomes concerning. According to Abigail Housen and Karin DeSantis (2003: p. 430), the New York Museum of Art provided tactile access to the sculptures for the visually impaired using protective gloves in the early 1970s. In addition to Braille writings, verbal descriptions were used during tactile tours, so that the sense of touch was accompanied by hearing.

The "Sculpture for the Blind" exhibition at the Tate Gallery in 1976 was the first major tactile exhibition in England and influenced the proliferation of similar exhibitions (Donnarumma, 2010: p. 35). In the 1980s, these exhibitions encouraged museums and galleries to develop creative learning spaces (Kastrup and Sampaio, 2012: p. 98). Disability movements, which gained global prominence during the same period, influenced the work of museums and made possible institutional accommodations for the disabled. In particular, the United Nations' declaration of 1981 as "International Year of Disabled Persons" was effective in regulating the cultural access of individuals with disabilities. The Association of Museums and Galleries (MAGDA), founded in 1986 to advocate for the disabled, organised training and discussion seminars on this topic (Hooper-Greenhill, 1999: p. 156; Weisen, 2018: p. 12).

Increasingly museum studies in the 21st century have shifted the focus of museums away from the collection and towards the audience (Hayhoe, 2017: p. 46).

In this period, although the visitors took place completely as spectators, the museum started to think

again about encouraging the touching of artifacts (Peng, 2021: p. 17). In addition, a variety of training sets for tables describing various materials were developed to aid the perception of visually impaired visitors (Multi-Sensory Discovery, 2021, par. 4) (Picture 2). In this context, with the help of new technological tools, three-dimensional replicas and tactile interfaces that facilitate perceptible access for the visually impaired have begun to be developed (Cho, 2021: p. 4). Even though the traditional method of physical access, direct contact with the artefact, is still in use; replicas or digital interfaces are utilised for sensitive or large-scale artefacts.

The creation of replicas of the works in various sizes using three-dimensional printers prevent the works from being damaged and allow visitors physical interaction. According to Radu Comes (2016: pp. 60-61) who works on technological systems in museums, a variety of materials including embossed paper, thermoformed plastic, three-dimensional printing, resin moulding, carved wood, stone, and fabric are used to provide tactile access to the works. Materials are shaped using three-dimensional systems such as light scanners and laser scanners.

Following the development of three-dimensional replicas, virtual replicas were created. By developing an interface, virtual copies of the works created in the digital environment were arranged. Some interfaces perceived through a pen offer visitors tactile feedback regarding the weight, shape, texture, and material of the objects (Vaz et al., 2020a: p. 62). (Picture 3). These studies have become a trend in the new understanding of museology and one of the most influential aspects of sensory museology (Howes, 2014: p. 259). In other words, thanks to new technological tools, the use of multiple senses has improved, it is now possible to prepare various combinations of experiences, and the recognition of sensory museology has been enhanced.

3. Sensory Museology and Multi-Sensory Combinations

The programs created with today's museum understandings aim to benefit the individual rather than the museum and to increase quality of life (Sandell, 2002: p. 6). Mark Clintberg (2014: p. 313), who conducts research on the sensory access of museums, argues that in addition to touch in the first museums where tactile tours began, in some cases the works were smelled and even tasted. When Western museology models are examined, it is seen that the works are generally selected according to their visual qualities and additional evaluations are made for other sensory situations.

According to Jamie Kwan, Jean Ho Chu, Daniel Harley, Melanie McBride, and Ali Mazalek's (2016: p. 483) research, which examined multi-modal prototypes in artefact access; the handling of sensory experiences in social studies in the 1990s enabled multi-sensory studies to be used in museums as well. Hearing, touch, smell, and taste were included in temporary exhibitions and museums where new technologies are used, according to Christine Axel and Nina Levent's (2003: p. 426) research on museum access and the visually impaired. According to studies, learning techniques that involve all the senses help to strengthen memory. It is also claimed that multi-sensory stimuli help all museum visitors, including those with disabilities, remember the exhibits more easily (Harada et al., 2018: pp. 2221-2222). Using the senses of touch and smell stimulates the neurons responsible for vision, allowing visually impaired individuals to perceive visual arts. In addition, it is believed that the senses of smell and hearing, in addition to sight, combine in the brain to contribute to the perception of an object's composition. According to Siyi Wang (2020: p. 4), an expert on the senses, the use of diverse sensory associations in sensory museology has facilitated the perception and experience of artefacts.

Monica Randaccio (2018: p. 290), an expert on audio descriptions and multimodal studies in museums, positioned multimodality at the centre of sensory museology and shared the view that linguistic, visual, auditory, and tactile modes acquire meaning through their interaction. This perspective is comprised of experiences in which the sensory properties, contexts, and stories of historical objects are discussed to enhance information accessibility and visitor interaction in museums. Multimodality can be described as the combination of multiple senses for the visually impaired, compensating for their lack of vision through sound, texture, temperature, and smell (Cho, 2021: p. 2). The development of new technology

tools has facilitated the use of touch in museums, and applications such as video screens, sound systems and digital scent machines are also supported in multi-sensory studies (Howes, 2014: p. 263). Thus, it could be said that museums have begun to emphasise the sense of touch, as a therapeutic and cultural tool, the sense of hearing, as a communication medium, and the sense of smell, which evokes emotions using the imagination.

After sight, hearing is the most frequently activated and paired with other senses in exhibitions for all visitors, including those with visual impairments, in museum technology systems. This is because museums are full of various sounds, including footsteps, visitor whispers, guide conversations, and music (Peng, 2021: p. 23). This must make sounds in museums, especially for the visually impaired, at least as effective as sight.

Since hearing and touch are the most effective means of information access for the visually impaired, exhibitions designed for these visitors emphasise the combination of hearing and touch. In museum exhibitions for the visually impaired, audio information is available for most works. In these exhibitions, while providing information about the work, tactile access to the original or copy is also furnished. In some of the works created using touch-hearing combinations, general information is provided, while in others, more specific information is supplied. Tooteko's sensor replicas are one of the most outstanding examples of touch and hearing research in multimodal systems. A ring, which is stimulated by the sensors on the replicas, conveys information about the touched part of the artifact realising joint tactile and auditory access (D'Agnano et al., 2015: pp. 207-208) (Picture 4). Some exhibition stands also utilise sounds that represent the work. These descriptions include the sounds of the symbols on the artwork. For instance, the sounds of plants swaying in the wind are made audible to the visitor so that they can experience the work through hearing (Cho, 2021: p. 8).

The combination of touch and hearing is an example of common sense in Türkiye. With its work for the visually impaired, the Anatolian Civilizations Museum is among the most exemplary museums. It has conducted museum studies with disabled children since 2000. According to museum educator Halil Demirdelen (2020: pp. 28-44) tactile tours were organised with replicas prepared by the museum, along with verbal descriptions in support of these studies. The Batman Museum contains a comparable example. Replicas of works designed for the visually impaired are displayed in stands with headphones and Braille labels, allowing visitors to use multiple senses (Batman Museum Directorate, 2022). There are other Turkish museums exhibiting diverse collections such as the Kayseri Seljuk Civilization Museum, the Beşiktaş JK Museum, and the İstanbul Modern Art Museum, among others, where touch and hearing applications are prepared for the visually impaired in both permanent and temporary exhibitions.

Smell is one of the senses paired with touch that visually impaired individuals can use to perceive the work directly for themselves. In the 1980s, historical sites, museums, and tourist attractions began to create scent-based exhibitions (Peng, 2021: p. 24). Due to the possibility of creating a tiring experience for museum visitors, or of people becoming distracted by the new smells, scents should be used with caution in exhibitions (Wang, 2020: p. 6). It is also claimed that the sense of smell is inadequate for perceiving the form of works of art (Harada et al., 2018: p. 408). Most permanent museum exhibits do not include the sense of smell, with a few exceptions (Kwan et al., 2016: p. 483). However, scented applications in museums offer all visitors, including the visually impaired, an engaging experience. When these olfactory arrangements are combined with other senses and incorporated into the exhibition, they encourage visitor interaction.

Despite the fact that the sense of smell can appeal to most visitors, it is sometimes activated by touch or sound for the visually impaired. The 2016 exhibition "Love on Earth: Taizhou Folk Traditions from the Perspective of Cultural Geography" at the Taizhou Museum in China was one of the best examples of combining hearing and smell. In the exhibition depicting folk traditions relating to production, life, trade, and belief from antiquity to the present, the smell of fish was added to the sound of waves and wind while depicting a fishing village (Wang, 2020: pp. 4-6) (Picture 5).

Even though the sense of smell is typically used to stimulate another sense in museum exhibitions, there are instances where it was used alone. Even though these examples, which utilise only the sense

of smell, are insufficient for the visually impaired, they supported the exhibition's accessibility. When it was difficult to stimulate multiple senses simultaneously during exhibitions, separate fragrance stands were created. Even though the fragrances in these stands were presented independently without tactile access or audio description, it provided multisensory access within the context of the exhibition as a whole. By pressing buttons or pedals, fragrance stands typically scent their surroundings (Picture 6) (Don't Just Look, 2021, par.3). In the State Archaeological Museum of Chemnitz, Germany, an example of these fragrance stands was crafted. In an exhibition about the Middle Ages, visitors are exposed to various smells of the streets of that time, such as burnt wood, spices, and the smell of toilets (The Staatliches Museum, 2021, par. 6) (Picture 7). Another example is the creation of a setup with a replica of "Prayer-Nuts" in the exhibition titled "Scents of Power" developed by Kwan et al. (2016: pp. 483-485). The replica placed on the stand was prepared to contain special scents created from spices, resins and essential oils associated with historical texts (Picture 8).

In sensory museology, the sense of taste is included alongside the sense of smell. However, in museums, the senses of smell and taste are regarded as more sensitive and possibly triggering than other senses (Harada et al., 2018: p. 2226). The diversity of tastes in various cultures enables museums to be viewed as an essential tool for conveying the history and culture of flavours and foods (Peng, 2021: 26). In certain instances, the taste of the object is presented to the visitor, and sometimes flavours are used to remind visitors of the exhibition's subject matter. Although taste is used in conjunction with other senses, it is primarily integrated with touch for visually impaired visitors. An example of such a study was conducted at the "Open House London Festival," which was organised by the Royal Academy of Arts in England in 2014, and exhibitions that stimulate the senses of texture and taste were prepared for festival attendees (All for Art, 2021).

Applications that combine the senses of touch, hearing, smell, and taste, in addition to the sense of sight, are not possible in all museums. However, there are instances in which the senses other than sight are combined in multisensory exhibitions of selected museum works. Typically, these exhibitions are composed of combinations of two or three senses. These combinations included hearing and taste, hearing and touch, and hearing and smell. A similar application was made during the "Tate Sensorium" exhibition held between August 26, and October 4, 2015, at the Tate Modern Museum in England. The exhibition featured the creation of sounds, smells, and physical forms inspired by four paintings from the Tate collection. In this context, information about the work is heard while the sense of touch is provided by touch devices that are independent of the work. In the exhibition where chocolate designs were created, sea salt and cocoa were used to create aromas that stimulate the sense of taste. (IK Prize 2015, 2021, par.4) (Picture 9). The sense of taste is the most difficult to utilise. In the Netherlands, a tasting exhibition was carried out as an example at the 2019 Multi-Sensory Museum Symposium held at the Van Abbe Museum. A chocolate interpretation of an artefact was created with the work's multisensory activation supported by taste (Multisensory Museum Symposium, 2022, par.2) (Picture 10). In the same museum's "Unlinking and Reconnecting" exhibition, 120 works of art were touchable, smellable, and visible to all visitors (Delinking and Relinking, 2022). In this context, it was possible to create different layers of senses within the exhibition's framework. Although all senses except vision were included in the exhibitions, there was no simultaneous sense access.

Conclusion and Evaluation

In general, visually impaired individuals, who have difficulty participating in social life due to environmental factors, have viewed museums as inaccessible locations. The fact that museums primarily appeal to the sense of sight is one of the reasons why visually impaired individuals view these locations as inaccessible. Through the development of accessible exhibition methods, in recent years, museums have attempted to address the issues of the visually impaired and their negative perceptions of museums. Audio guide and tactile access to artefacts are the earliest efforts made to make museums accessible to all individuals. Beginning with guides, auditory practises contributed to the development of sensory museology knowledge. Following these initial applications involving the senses of sight and hearing, the sense of touch was introduced. The first examples of sensory access studies involved the use of three senses, sight, hearing, and touch, in exhibitions. With the use of touch and hearing together,

museum access for the visually impaired has become relatively simple.

Even though the senses of sight and hearing are more conventional in museums, the use of the sense of touch has increased the sensory accessibility possibilities in museum exhibitions. Replicas and interfaces are used to present works that cannot be touched due to their size, value, or composition. These techniques have both safeguarded the artworks and expanded the opportunities for the visually impaired. However, it should not be overlooked that these replicas created in different environments should be of sufficient quality to convey to the visitor the original quality of the works.

With the increased usability of touch in museums, tactile tours in exhibitions have begun to be combined with other senses, and accessible exhibitions for the disabled have been created by combining touch-hearing, touch-smell, and touch-taste. Complementing these combinations with audio systems or guides facilitates the museum access of disadvantaged groups. Access to museums for the visually impaired should also involve the use of the senses of smell and taste, in addition to touch and hearing. However, it is believed that the use of the sense of smell in museum exhibitions should be scrutinised as it can be disturbing. In addition, it would be more appropriate to set up a fragrance stand in a specific area than to have the scent permeate the entire exhibition space.

Combining different sense experiences has been the primary method for making museum exhibitions accessible to visitors with visual impairments. Thus, it is evident that multisensory applications other than sight used in exhibitions increase both visiting pleasure and accessibility. Nonetheless, the multi-sensory stands, which rely heavily on the senses of smell and taste, are often arranged in distinct areas of the exhibition. Typically, smell and taste studies are conducted in separate stands from the work, and while this creates a sensory connection with the work, the physical connection is severed. For this reason, touch and hearing may be more effective than other senses in multisensory studies designed specifically for visually impaired participants.

It is evident that museums will become more accessible to the visually impaired when new applications are added to traditional exhibition techniques. Conducting research for the visually impaired will both reveal the egalitarian nature of museums and promote the social inclusion of these visitors. The use of multiple senses, which will vary depending on the museum's capabilities and the exhibition's subject matter, will ensure accessibility for all visitors, including the visually impaired.

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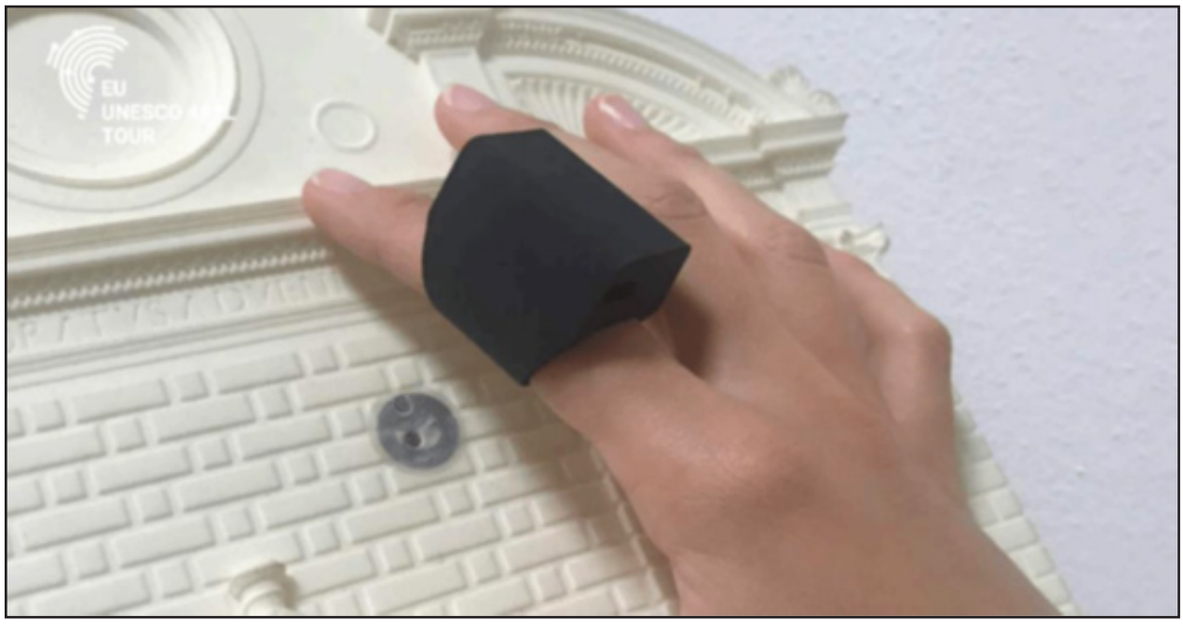
Appendix

Picture 1: Touch Lessons for Blind Children at the American Museum of Natural History, 1917 (Blind Kids' Experience, 2021).

Picture 2: Velvet, Silk Fabric and Jewellery Samples from the Education Set at the Nantes Art Museum (Multi-Sensory Discovery, 2021).

Picture 3: Equipment and Application Providing Tactile Experiences to Digitized Artifacts (Comes, 2016: s. 62).

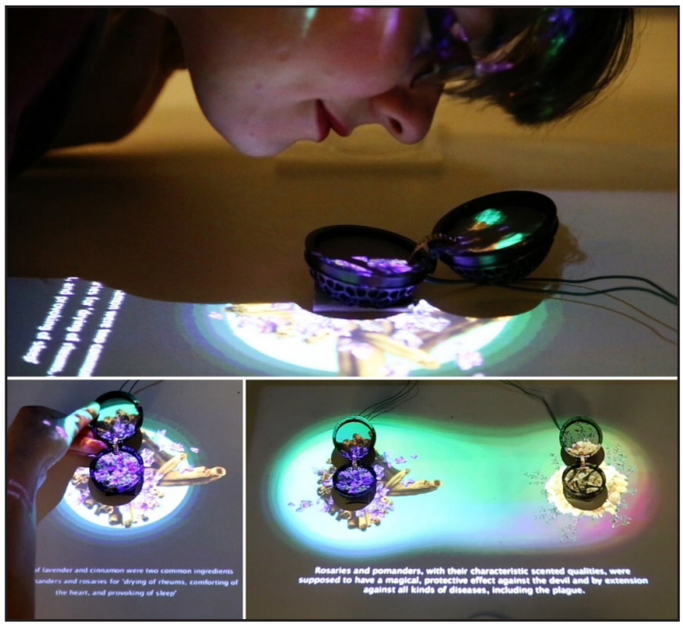


Picture 4: Ring and Replica Artefact Used in the Tooteko System (Tactile Models, 2022).

Picture 5: Shitang Fishing Village (Wang, 2020: s. 4).

Picture 6: Fragrance Dispensers Used in the New Exhibition at Mauritshuis in The Hague (Gerson, L.) (IK Prize 2015, 2021).

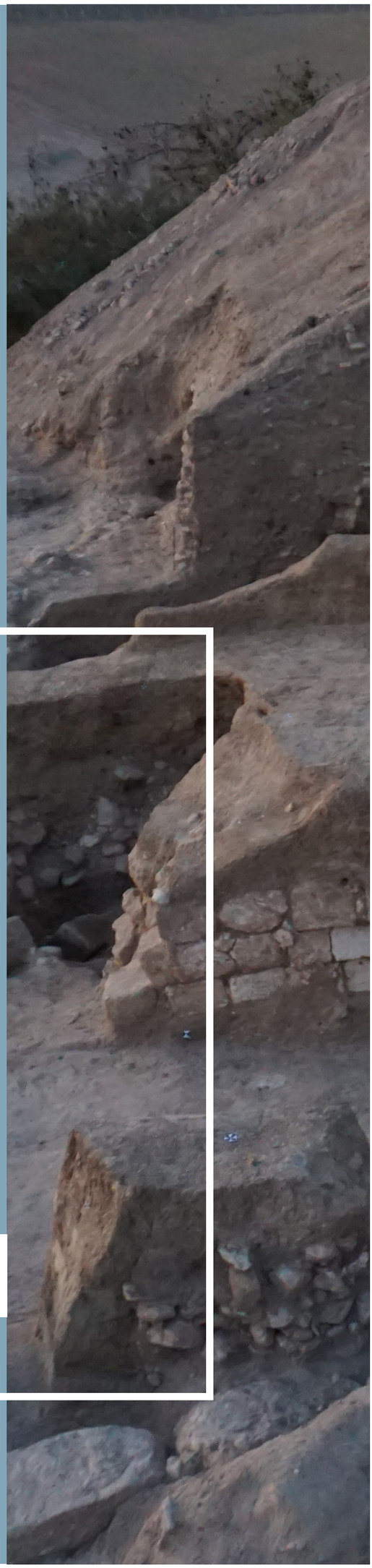
Picture 7: The Smell Station of the State Archaeological Museum of Chemnitz, Germany, Allowing Visitors to Discover Three Powerful Scents from the Middle Ages (The Staatliches Museum, 2021).



Picture 8: How Aromas Inspired by the Historical Ingredient Lists in the Power Fragrances Exhibition are Scented. (Kwan vd. 2016: 483-485).

Picture 9: Combining the Sense of Hearing and Taste in the Tate Sensorium Exhibition (IK Prize 2015, 2021).

Picture 10: Tasting Interpretation of Andrzej Wróblewski's Work (Multisensory Museum Symposium, 2022).



Cultural Park Design Proposal for Misis Ancient City

Fatma Seda ÇARDAK, Giovanni SALMERI

Thesis Synopsis

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Misis Antik Kenti İçin Kültürpark Tasarım Modeli Önerisi[1]*

Cultural Park Design Proposal For Misis Ancient City

Fatma Seda ÇARDAK**

Giovanni SALMERI***

Özet

Misis Antik Kenti, geçmişte Kilikya olarak adlandırılan bölgenin önemli yerleşim yerleri arasında yer alır. Neolitik Çağ'dan günümüze kadar kesintisiz yaşamın sürdüğü bu yerleşim, zengin tarihi ve farklı uygarlıklara ait kültürel mirası ile bölgenin geçmişine ışık tutmaktadır. Antik kent, sınırlarına dayanan Adana Organize Sanayi Bölgesi ve tarım alanları nedeniyle tehdit altındadır. Ayrıca yaşanan depremler, kırsal faaliyetler, birinci ve ikinci derece arkeolojik sit alanlarında imara aykırı yapılaşmalar gibi nedenlerle kültürel mirasın önemli oranda tahrip olduğu tespit edilmiştir. "Misis Antik Kenti Yönetim Planı" içerisinde önerilen " Kültürpark Projesi "; bölgenin tarihine ışık tutmayı, aynı zamanda kültürel ve doğal mirasın korunmasını amaçlamaktadır. Gerçekleştirilen çalışmalar neticesinde elde edilen verilerle antik kentin daha fazla tahribata maruz kalmadan koruma altına alınmasını sağlayan; kültürel mirasın yeniden işlevlendirilip ziyaretçilerin geçmişle bağlantılarını güçlendirerek tarih, sanat, edebiyat, tarım alanlarında birçok farklı aktiviteyi sunmayı amaçlayan bir proje önerisi geliştirilmiştir.

Anahtar Kelimeler: Misis, Arkeolojik Sit Alanları, Koruma, Kültürpark, Kültürel Miras.

Summary

Misis Ancient City is one of the important settlements of the region called Cilicia in the past. This settlement in which continuous habitat is witnessed since neolithic age until present day, sheds light on the past of the region with its rich history and cultural heritage of different civilizations.The ancient city is challenging the problem of urban invasion due to the Adana Organized Industrial Zone and agricultural areas located on its borders. In addition, it has been found out that the cultural heritage has been significantly destroyed due to earthquakes and unauthorized construction in the archaeological site. As the management plan for the Misis Ancient City proposes, Culturalpark project aims to shed light on the history of the region and to protect the cultural and natural heritage. A project proposal has been developed as a result of the data obtained by the research conducted by which it will be possible to preserve the ancient city before being exposed to further destruction and it is aimed to present various activities related to history, art, literature and agriculture by strengthening the ties between the past and the present.

Key Words: Misis, Archaeological Sites, Conservation, Cultural Heritage, Culture Park.

1 This article was written by Fatma Seda ARDAK under the supervision of Dr. Necdet SAKARYA of the Institute of Social Sciences, Department of Art and Design at Çukurova University and Prof. Dr. Giovanni SALMERI of the Department of History, Faculty of Humanities and Social Sciences, Pisa University. It was derived from the dissertation titled "Culturpark Design Model for Urban Archaeological Sites: The Example of Ancient City of Misis."

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** Faculty Member, Adana Alparslan Türkeş Science and Technology University, Faculty of Architecture and Design, Department of Architecture, Adana, Türkiye, fscardak@atu. edu.tr, ORCID:0000-0002-8232-5137

*** Prof. Dr., University of Pisa, Faculty of Humanities and Art, Department of History Pisa, Italya, Giovanni.salmeri@unipi.it, ORCID:0000-0002-8586-6553

Introduction

The conservation of cultural values is a universal phenomenon. This concept is defined by the International Council of Monuments and Sites National Committee of Türkiye (ICOMOS) as "all measures necessary for the preservation and harmonious promotion of a historic city or region." At the forefront of these measures is the identification of cultural heritage that requires protection on the scale of a single building or historical environment, as well as the regular improvement, restoration, maintenance, and repair of these areas.

Prior to the influence of religious and political movements, the concept of conservation was an economic strategy for extending the life of an asset to reap greater benefits. However, it has since evolved into a symbolic stance (Erder, 1975; Çeçener, 1982). Conservation, which has evolved into today's universal understanding of protection with the goal of increasing people's understanding of history and the universe, is a movement formed by the efforts of a relatively small number of pioneers in this field from various countries. This segment, which engages in conservation-minded practises, decreases and increases according to a parameter based on the intensity of the cultural environment in each country (Kuban, 2000).

While the concept of conservation was initially perceived as a single structure and its necessary repairs, in the 1970s, the concept of conservation evolved from single structures to a field scale, which included physical, economic, and social aspects. Since the 1990s, concepts of field management with a holistic conservation approach have been developed, and the scope has been expanded to include sustainable protections and field management due to environmental issues (Ulubaş and Kocabaş, 2016: pp.75-76). As can be seen with the changing definitions, conservation is a dynamic phenomenon that evolves through the addition of new concepts to its purview. Particularly since the emergence of the concept of sustainability, conservation has begun to be implemented in a manner that considers its physical, social, and economic aspects. This strategy envisions the protection of the natural environment using holistic approaches that include the cultural texture of the historical environmental and aims to give current residents the chance to live in accordance with their social needs and desires.

In a nutshell, sustainable city conservation is the protection of an area's natural environment and cultural heritage, as well as its management plan and economic and social support.

1. Concepts of Cultural Parks and Archeoparks

In terms of definition and scope, the literature on cultural parks contains some gaps. The ambiguity and complexity of the cultural park's definition paradoxically encourages researchers from various disciplines to seek precise definitions. These definitions cannot be applied to true or false statements. As a result, they each define this concept within the confines of their respective fields and search for an answer. For example, Archaeologist Orejas (2001: p.3) defines a cultural park as "a tool for the coordination of cultural heritage". The geographer Rubio Terrado (2008: pp.21-48) defines a cultural park as "a proposal for rural spatial planning." A cultural park is defined by the Aragon Cultural Park Law (Spain) as "areas where cultural heritage are prioritised and managed" (1997). Rosemary Prola defines cultural parks as "the meeting of community leaders and residents around a common vision of cultural heritage in rural areas" (Prola, 2005). The definition of cultural parks by city planners is "projects aiming to create an image of regional identity" (Gonzales, 2011: p.45). Architect Sabaté considers cultural parks to be "projecting and managing tools that value a cultural space, which is not only the protection of heritage or the promotion of education, but also the support of local economic development" (2009: pp.21-22). In his definition which has a broader perspective, Daly states that the primary purpose of a cultural park is a project that should be planned by institutions and social groups on a regional scale and developed for a shared future (Gonzales, 2011: p.46).

Sometimes the concept of an archeopark is considered synonymous with the concept of a cultural park, and sometimes it is considered a sub-group of the concept. The combined concept of archaeology and park emerged in the second half of the 20th century (Keskin, 2019: 54). Archaeoparks can also be defined as a dynamic presentation format consisting of education, recreation, and tourism components for protected and publicly accessible archaeological sites. In addition to

being a park or museum, they also protect historic sites and historic landscapes. These combined roles are the fundamental elements of archaeoparks (Kwas, 1986; Ünal, 2015: p. 49).

2. Misis Archaeological Site

2.1. Geolocation

Today, Misis is comprised of the districts of Yakapınar, Geçitli Cumhuriyet, Havraniye, and Eski Misis. The area is situated on the banks of the Ceyhan River, 34 kilometres east of Adana. The area, which became a town municipality in 1988, was incorporated into the province of Adana's, Merkez Yüreğir district as of March 29, 2009 (per Law No. 5747).

Misis is significant because it was founded on an ancient city The total area of the site covers 90 hectares. The Adana Organised Industrial Zone (AOSB) is situated north of the community. The AOSB is traversed by the D400 highway from the south, the TEM Highway and railway from the north. The D400 and TEM highways connect to Misis (Figure 1).

The entire study area has been classified as an archaeological site of the first, second, and third degrees. Drilling excavations, surface surveys, and the detection of numerous cultural heritage relics from various time periods have proven effective in identifying the protected areas.

Although the surface cultural assets have been identified and registered, some of them have vanished since their dates of registration due to earthquakes and other destructive events.

The Yakapınar District was declared an archaeological site of the first degree with the decision dated July 5, 1992, and numbered 1256, and Geçitli District was declared an archaeological site of the third degree with the decision dated September 18, 1996, and numbered 2593. The site plan for Misis Ancient City was approved by decision number 6269 and dated August 9, 2010.

Yüreğir Municipality, to which it is affiliated, commenced work on "Preparation of 1/5000 Scale Conservation Plan for Misis Yakapınar Neighbourhood Archaeological Site" on September 4, 2018 (Yüreğir Municipality Archives, 2018).

2. 2. Socio-Cultural Structure

In 1867, when Adana became an independent province, a new form of administration emerged. As a result of migration patterns at the time, many new villages sprang up in the vicinity of Misis, an Armenian settlement at that time. Nomads who settled in the regions surrounding Misis at the turn of the nineteenth century did so due to the availability appropriate arable land for animal rearing (Toksöz, 2010: p.71). Since the end of the nineteenth century, the inhabitants of Misis have maintained a coexistent life with the ruins (D'Agata, Salmeri, 2012: p.7). Since the second half of the twentieth century, seasonal agricultural workers from the Eastern and South-eastern Anatolian regions have settled in the village, which was destroyed by earthquakes.

According to the Turkish Statistical Institute, the premises had a total population of 9449 in 2018, made up of 4740 males and 4709 females (TÜK, 2019).

The area is home to one elementary school and two secondary schools. The educational status of the region's inhabitants could not be determined.

Misis attracted the attention of the film industry until the 1980s, owing to its well-preserved historical attributes. The 1967 film İnce Cumali, directed by Yılmaz Duru and starring Yılmaz Güney, was shot in Misis. The film's most important scenes were shot in Misis, at the East and the West Mills.

Among the most important valued cultural heritage of the Çukurova Region are writers Yaşar Kemal and Orhan Kemal, who frequently mention the Çukurova Region, Misis, and its surroundings in their novels. In his novels İnce Memed and Yılanı Öldürseler, Yaşar Kemal discusses the social life and environmental characteristics of Misis and its environs.

2. 3. Economic Structure

Misis has been the region's agricultural and military centre since the Ancient Period. The city, which has been a border city for centuries, and is located both on

the Silk Road and the Pilgrimage Route, has developed alongside agriculture and trade.

The livelihood of Misis, which has the most fertile agricultural areas of the Aşağı Plain, is maintained today by agriculture and animal husbandry. In addition, the city reflected the effects of Adana and its surroundings' industrialization process. The Çukobirlik Sawgin Facility is a representation of this phenomenon in Misis; it was constructed in the 1940s and operated until the 2000s. It made a significant contribution to the city's economy. Even though the facility has expanded and remained operational since its establishment until the 1990s, it is now almost idle due to a decline in regional industrial activity.

The area is surrounded by agricultural lands on its southern, eastern, and western sides. Citrus groves dominate the agricultural landscape of the region. Cotton, wheat, corn, sunflower, watermelon, lettuce, potato, and onion are grown in this region. However, problems that are prevalent throughout the nation, such as unplanned development and the loss of agricultural land due to inheritance, also exist in Misis and its environs.

The majority of Misis residents are seasonal workers in the AOSB or surrounding agricultural areas. A portion of the population engaged in seasonal labour also excavates the Misis Mound in the spring and autumn.

Today, the industries of leatherwork, which has been practised in Misis since antiquity, and ceramic pottery, which has been of high quality due to the alluvium brought by the Ceyhan River, are on the verge of extinction.

2. 4. Historical Development

Misis, which is now located in Çukurova, was within the borders of Kizzuwatna in the second millennium BC. and the Cilicia Region in the first millennium BC (Ünal, 2006: p.17). Since prehistoric times, Misis has been one of the earliest urbanised areas due to its location on the banks of the Ceyhan River and the region's primary transportation route. Throughout history, the ancient city has been known by many different names (Ramsay, 1960: s.428) (Table 1). The rich history of the city is divided chronologically into six sections: Prehistoric Ages, Bronze and Iron Ages, from Late Antiquity to the end of the Middle Ages, from the 15th to the end of the 19th Century, and Misis in the 20th Century (Table 2).

2. 4. 1. Prehistoric Ages

During these ages, Misis was a settlement that took advantage of the Ceyhan River, and the plain in front of it, it retained its location on important roads and rose to prominence as a trading hub as a result.

Misis Mound, which is believed to be the earliest settlement in Misis, contains Neolithic and Chalcolithic artefacts. The depth of the mound's layers, the quality of the ceramic artefacts, and the quantity of obsidian indicate that it was an extremely important settlement between 7000 and 4000 BC. The city of Misis, described as having a hierarchical structure since the Middle Chalcolithic Period, had become a regional hub (D'Agata, Salmeri, 2012: p. 5).

2. 4. 2. Bronze and Iron Ages

During this time, roads connecting Mesopotamia, Egypt, and Anatolia opened to Çukurova via the Gülek Strait. Misis was also one of the period's leading port cities (Yörük, 2015: p.119).

Misis is believed to have been one of the earliest Hittite cities (Marjory and Williams, 1954: p.124). In the first half of the first millennium BC, the city's Assyrian dominance was in question. The city, which had been under the control of Alexander the Great since 334 BC, passed to the Seleucids upon Alexander's death (Freely, 2008: p.178).

2. 4. 3. From Late Antiquity to the End of the Middle Ages

Misis grew rapidly after the Hellenistic Period, becoming highly developed in terms of architecture and urbanisation with the incorporation into the Roman Empire. It became one of the most significant cities of the Eastern Roman Empire (D'Agata and Salmeri, 2012: p.6). Misis was located on the Tarsus-Adana-

Syria route, one of the most important routes [1]during the Roman era (Langlois, 1947: p.25). Misis remained within the borders of the Eastern Roman Empire for approximately three hundred years, transforming into an important religious centre during the spread of Christianity

throughout Anatolia. In the seventh century, Misis became a border region between Muslims (Umayyads, Abbasids) and Byzantines (Yörük, 2015: p. 209). At the end of the tenth century, Armenians settled in the city; once again a Byzantine territory (Langlois, 1947: p.25).

Misis, along with numerous cities in Çukurova, came under the control of the Armenian Kingdom in the eleventh century (Altan, 2008). Following the Battle of Manzikert, Turkmens began to settle in the region. In 1083 and 1084, Süleyman Shah conquered Adana, Misis, and Anazarba (Andreasyan, 1962: p. 162).

Cilicia remained under Seljuk rule until the First Crusade, an additional significant event. In the twelfth century, the region--which had been ruled by Tankred, the nephew of Bohemond, the Count of Taranto, who participated in the subsequent Crusade--and the Principality of Antioch, once again fell under Byzantine control (Sevim, 2006; Altan, 2008). Benjamin, a traveller who visited Cilicia in this century, described Misis as a beautiful seaside city and stated that the Byzantine Empire's borders reached Misis (Arslantaş, 2009: p.139). When Misis was incorporated into the borders of the Armenian Kingdom of Cilicia, it became a major metropolitan area (Andreasyan, 1946: p.259).

Wilbrand von Oldenburg, who arrived in the region in the winter of 1211, reached Misis from Antakya, which, according to him, was situated on the banks of the Ceyhan River. He described Misis as a flamboyant city, stating that it was surrounded by towering walls. Misis was the centre of the Armenian Diocese at the time (Oldenburg, 2000). As in the rest of the region, it experienced a period of relative stagnation until the middle of the thirteenth century (Tekindağ, 1949: p:30). At the end of the thirteenth century, the Mamluks conquered Misis and seized control of the Misis Bridge. Following the Mamluks, the Mongols moved into the area and conquered Misis. Armenians fought alongside the Mongols against the Turkish Seljuk State, the Abbasids, and the Mamluks in Anatolia. Misis once again fell under the control of the Armenian Kingdom (Yiğit, 2015: p.181). The city was destroyed after many years of raids. In addition, Misis, a port city for many years, had lost this characteristic due to the silting of the Ceyhan River. Due to these factors, its significance began to decline at the end of the thirteenth century.

In the fourteenth century, the Mamluks destroyed the Armenian Kingdom and retook Misis. Throughout these expeditions, the city was again destroyed.

2. 4. 4. 16. Yüzyıldan 19. Yüzyıl Sonuna Kadar From the 16th to the End of the 19th Century

After Yavuz Sultan Selim's campaign against Egypt, the entire Çukurova Region and Misis came under Ottoman rule. The Ramazanoğulları ruled the region for a time.[2] It is well known that the city's population decreased gradually and Misis lost importance during these years (D'Agata, Salmeri, 2012: p.6). In his Book of Travels, Evliya Çelebi first noted that Misis was a township centre in the seventeenth century. The traveller noted that Misis was a dilapidated and small in area by 1671, and that Köprülü Mehmed Pasha, during the reign of Mehmed IV, repaired the dilapidated caravanserai on the other side of the bridge outside the city. In addition, he mentioned that a caravanserai with a fireplace, a precious mosque with low minarets, and a small and lovely bath were constructed next to the old caravanserai. In addition, he noted that there were 380 houses with earthen roofs surrounding the inn, masonry shops between the bridge and the caravanserai, and mills that had been in operation for many years on the opposite side (Evliya Çelebi, 2005: p.339). The Frenchman Paul Lucas, who visited Misis in 1707, related that Misis was six hours by animal from Adana and that he saw a second river here that was as large as the Loire. In addition, he claimed that the Ceyhan River was stagnant, that they crossed it using a stone bridge with nine arches, and that they stayed at an inn. Lucas explained that the colossal ruins surrounding the inn were evidence of a once prosperous city. He also mentioned that there were medicinal herbs in the Misis Mountains that ancient physicians collected (Lucas, 1712).

1 This route is still referred to as "Aleppo Road" in the area.

2 The Ramazanoğulları Principality, which was subject to the Mamluks and dominated the region prior to Ottoman rule, remained in the region until 1608.

By the eighteenth century, Misis, located on the Istanbul-Damascus-Mecca Pilgrimage Route between Adana and Kurtkulağı, was described as a large village with poor roads, seven hours from Adana. It was rumoured that a ruin on the Adana side of the bridge was once a madrasa and is believed to be where the Seat of Sevens (Yediler Makamı) once stood (Erünsal, et.al., 2000).

On the hill overlooking the bridge, Labord, who visited Misis in the first half of the nineteenth century, observed only five or ten ruined houses and an old mosque with a minaret resembling a church bell tower (Ener, 1990: p.195).

2. 4. 5. Twentieth century

Misis remained under French control for some time. In 1919 the French stationed Armenian troops in the area. Turkish forces seized control of the region in 1920 (Demirkent, 2005: pp.178-181).

Franz Xaver Schaffer, who arrived in the area in the twentieth century, identified Misis as a 30-metre-high city whose origins dated back to the Babylonians. According to him, Misis was a town that had lost its significance and was only notable due to its location on the Syrian trade route. In the village, he noted that there were numerous earth-roofed homes and ruins bearing the traces of a once-glorious city. According to him, the ancient Misis extended to the opposite bank of the Ceyhan River via a bridge constructed during the reign of Emperor Constantine, and there were numerous marble column capitals and ancient chipped stones everywhere. Additionally, he claimed that the Ceyhan River, through which even large sailboats passed in the twelfth century, was only accessible by boat during his visit (Schaffer, 1903: p.91).

Due to earthquakes in Çukurova, the population of Misis decreased over time, from the Republican Period to the present. The region experienced severe earthquakes in 1933, 1945, 1952, and 1998 (http://www.koeri.boun.edu.tr, 30.06.2019). The inhabitants of Misis were forced to relocate as a result of the devastation and destruction caused by earthquakes.

The 1933 earthquake also affected the Ceyhan River, which began to flow into the Mediterranean through the Hurma Strait in 1935 (Kaplan, 2015: p. 6).

As a result of the earthquakes, seasonal agricultural workers from the Eastern and South-eastern Anatolia Regions settled in the destroyed village (Salmeri et al., 2012: p.7). Recycled stones from the ancient city were used in the construction of some of these buildings, and the Ancient City was severely damaged by earthquakes and illegal construction.

Under the direction of Prof. Dr. Helmuth Teodor Bossert, excavations and surveys were conducted in Misis between 1956 and 1959. In his publications titled "Report on the Excavations in Misis" from 1956, 1958, and 1959, Bossert discusses his contributions to this process. The Misis Mound archaeological excavations resumed in 2012. Under the direction of Prof. Dr. Anna Lucia D'agata and Prof. Giovanni Salmeri, excavations were conducted under the supervision of the Adana Archaeology Museum.

With the assistance of numerous international and national institutions, archaeological excavations, the preservation of cultural assets, and the promotion of Misis, have been carried out in Misis during this recent period.

In 1960, Misis's name was changed to Yakapınar. Aerial photographs depicting the 80-year transformation of Misis can be used as a guide that reveals the city's transformation (Figures 2-6).

2. 5. Cultural Heritage

Due to the strategic location of Misis, which has been inhabited continuously since the Neolithic period, the city is home to numerous cultural artefacts from various eras. Due to natural disasters such as earthquakes and floods, and problems such as planning, infrastructure projects, illegal constructions, and illegal excavations, very little of the cultural heritage has been preserved today.

Misis Mound, Misis Bridge, Ancient Theatre, East and West Mills, Wall Ruins, Aqueducts, Havraniye Caravanserai, Lokman Hekim Mosque, Old Misis Mosque, Stadium, Necropolis, Mosaics, and the Vaulted Structure remains are all registered remains in the ancient city, which is entirely an archaeological site. Aside from these, other structures that require protection and registration have also been identified through field research and literature review (Figures 6-7).

Misis Mound: In 2012, archaeological excavations resumed on the mound, which was initially excavated between 1956 and 1959. Misis Mound, which contains Neolithic and Chalcolithic artefacts, is believed to be Misis's oldest settlement (Figures 8-9) (Salmeri et.al., 2012: p.8).

Misis Bridge: In the sixth century, the Byzantine Emperor Justinianus I repaired the bridge connecting Yakapınar and Geçitli on both sides of the Ceyhan River (Sayar, 2003: p. 65). Due to its location on important thoroughfares, from the time it was constructed until the present, and despite being destroyed numerous times throughout history, it has been repaired as many times and has maintained functioning (Salmeri et.al., 2012: p.8).

Mosaics: During excavations conducted in 1955 on the western slope of Misis Mound, church floor mosaics from the fourth century AD were discovered (Budde, 1969: p.42). The mosaics are believed to be of first-rate quality and to have been created by a master from Antakya (Bossert, 1956: p.40). These mosaics, including a depiction of Noah's Ark, were displayed for a time in a protected building (Old Misis Mosaic Museum), and in 2017 they were transferred and displayed at the new building of the Adana Archaeology Museum.

Amphitheatre: Only the western parados of the amphitheatre, which was constructed in the second century, has been preserved. Other architectural elements of the building comprised of limestone are dispersed across the theatre's site in a north-south direction. In the area where the theatre once stood, a house was constructed using some of its stones. This house uses the western parados of the theatre as its warehouse (D'agata and Salmeri, 2009: p.22).

Stadium: Located northeast of the bridge in the Eski Misis District, today the stadium is partially surrounded by citrus groves and agricultural land (D'Agata et al. 2012: p.7).

Colonnaded Street: The Colonnaded Street was approximately 500 metres long and 15 metres wide (D'Agata et al., 2012: p.8). Andazite and marble were used to create the columns and drums of the floor's marble slabs. The columns and stones surrounding the street, of which almost all traces have vanished, were used to construct buildings in the region.

Ancient Aqueducts: Today, four arches from this structure extending from north to south can be found to the north of Misis on the border of the AOSB (D'Agata and Salmeri, 2009: p. 22). Stones from the nearly entirely demolished arches were used to construct various structures in the region.

Necropolis: The area created by excavating a limestone platform is in the northwest, with some of the necropolis lying within the boundaries of the AOSB. During the 2009 studies, a total of 127 tombstones were discovered. Too many unpermitted excavations have resulted in the destruction of numerous tombs. The city's necropolis has been in use for centuries, and it contains dromos (passageways) leading to hundreds of underground tombs (D'Agata and Salmeri, 2009: page 23).

Quarry: It is possible that stones from the quarry just east of the stadium were used to build the theatre (D'Agata and Salmeri, 2009: p. 23).

Ancient Walls: Traces of the medieval structures surrounding ancient Misis can be found in certain areas today. Bossert, who thinks that the walls have three main gates, defines the gate opening to the west as the Adana Gate, the gate opening to the east as the Aleppo Gate, and the gate connecting to the inner castle with a high-walled passage on both sides as the Bridge Gate (Bossert, 1957: p.40).

Vaulted Structure: Only a small portion of the building in the Gecitli District has survived to the present day. The building, the purpose of which is unknown, has a square floor plan. There are vaults and pointed arches (AKVKBK Archives, 2018) built with rough-cut stone and rubble stone.

Misis Castle: Today, Misis Castle, which is depicted in some Ottoman Period sources and Langlois' engravings, is completely in ruins. It is believed that the castle stood atop the mound. According to Bossert (1957: p.40), the water cistern on the mound may also belong to this castle.

Havraniye Caravanserai: During the reign of Mehmed IV, the eleventh century Havraniye Caravanserai was renovated, and a hall-type caravanserai was added to the west of the courtyard-type caravanserai.

Due to the presence of architectural works from different periods, a large-scale completion of the building was not carried out during the salvage excavations conducted as part of restoration practises. There have been applications to preserve and exhibit all the remains using the conservation method. Wall fragments from the Ottoman Period, the Principalities Period, the Islamic Phase, and the Armenian Kingdom of the thirteenth century were uncovered as a result of excavations conducted to the south of the structure (AVBM Archives, 2018).

Lokman Hekim Mosque: It is believed that the mosque, which is adjacent to the caravanserai and lacks an inscription, was constructed around the same time for the caravanserai's guests (D'Agata and Salmeri, 2009: p.23).

Old Misis Mosque: The mosque, which lacks an inscription, dates to the seventeenth century. It is believed to have been constructed during the same time as the Caravanserai (AVKBM Archives, 2018).

Misis Bath: It is unknown where and when the bath mentioned in Ottoman Period sources was constructed (Erünsal et al., 2000).

Water Mills: Only two of the mills, which are located on the banks of the Ceyhan River and are among the period's most significant industrial structures, have survived to the present day. In 2016, the East and West Mills, which the Yüreğir Municipality expropriated in 2014, began to be restored (Yüreğir Municipality Archives, 2018).

Twentieth Century Structures: The Çukobirlik Ginnery, which was constructed in the first half of the twentieth century, is arguably the most significant structure of the century in the Ancient City. Some of the factory buildings were constructed using stones from the ancient city (D'Agata and Salmeri, 2009: p.23). The old gendarmerie building, another significant structure, was likely constructed at the turn of the century and is now used as an excavation house.

2. 9. Land Use and Settlement Pattern

In accordance with the principles of the Washington Charter of 1987, morphological analyses were conducted to ascertain the land use and settlement pattern in Misis. The city's protected areas and planned areas, registered and unregistered cultural assets, street attributes, transportation, indoor-outdoor space relations, number of floors, and building use were all analysed.

Aside from the ruins of the ancient city, the area has been developed with predominantly single-story, terrace roofed, and reinforced concrete housing. Some portions of the Yakapınar and Geçitli neighbourhoods are planned areas with a grid street layout. As of 2018, one hundred twenty-three buildings in Misis are eligible for building permits, and fifty-five of these buildings are eligible for occupancy permits. However, there are 932 structures on the archaeological site that violates the licence. Due to the irregular construction and as a continuation of the historical urban character, it can be said that the street order in these areas has developed organically.

In terms of the indoor-outdoor space relationship, there are a significant number of green areas. However, most of these areas are privately owned farmland and citrus groves.

4. 1. SWOT Analysis of Misis

Based on the data, a SWOT analysis was conducted to evaluate the ancient city of Misis in terms of preservation and site management. The field's strengths, weaknesses, threats, and opportunities were determined in this context (Table 3)

Strengths:

- Easy access,
- Rich cultural history,
- Natural resources (Ceyhan River) and natural landscape and the presence of endemic plant species,
- The area is an important cultural heritage in the region,
- Local lifestyle,
- Gastronomy (Misis Ayranı, Sıkma),
- Agriculture,
- In summer, the temperature is lower than in the city centre,
- Ongoing archaeological excavations in the mound,

- Restoration of cultural assets in the region,
- Projects and practices of the Municipality of Yüreğir, to which it is affiliated, to protect the city and bring tourism,
- Joint studies of local government and central government units (Ministry of Culture and Tourism, Ministry of Environment and Urbanization, Governorship of Adana) on the values and protection of the region,
- International festival for the promotion of the region,
- Lokman Hekim Legend,
- Support of non-governmental organizations (Misis Association).

Weaknesses:

- Being in the earthquake zone,
- The vastness of the ancient city and the inadequacy of protection due to urban invasion,
- Illegal construction on the protected area,
- Lack of cultural sensitivity among users,
- Neglected and dysfunctional riverbank,
- Residential, agricultural, and industrial (AOSB) zones based on the boundaries of archaeological sites,
- The environmental degradation caused by the AOSB,
- Uncontrolled entry to the area and looting of artefacts,
- New settlements in the region to obtain building materials from the ancient city,
- Inadequate planning for visitor management,
- Inadequate public infrastructure,
- Lack of infrastructure in supportive tourism activities,
- Lack of tourism marketing,
- Festivals and organisations remain on a local scale or are not promoted adequately,
- Low competitiveness compared to other tourism destinations,
- Low number of entrepreneurs,
- Lack of educated people in sectors that require technology and knowledge,
- Lack of innovation culture.

Opportunities:

- Cultural and natural resources to support sustainable and developable activities (water sports, cycling, creation of walking routes, etc.),
- Continuation of contributions from Yüreğir Municipality, with which it is affiliated,
- Cooperation between public and non-governmental organisations,
- Support for projects aimed at preserving the historic environment and individual buildings,
- Possibility of creating a cultural route with the settlements in the region that have a rich cultural history (Anavarza, Yumurtalık, Güveloğlu, Kurtkulağı, etc.),
- Expropriations in the region.

Threats:

- Destruction of the archaeological site due to rain and river flooding,
- Continued uncontrolled construction in the protected area's historical environment,
- The increase in areas illegally used for agricultural and industrial activities,
- The problem of vegetation, particularly in water structures due to high levels of humidity,
- Failure to prepare a viable site management plan,
- Inability to financially meet Site Management decisions,
- Inability to achieve quality in the tourism sector due to a lack of education,
- Lack of tourism marketing,
- The future of the population residing in illegal buildings.

Conclusion:

As a result of the literature research, field studies, and SWOT analyses, it has been determined that in settlements where life continues in ancient ruins, such as Misis, it is necessary to consider the social, economic satisfaction, and expectations of the residents, while also protecting the historical environment and archaeological site while bringing them into the tourism industry. Therefore, it is necessary to develop the proposed model using a multidimensional and

sustainable strategy. In this context, suggestions are presented under the following three headings: "Suggestions for the Cultural Park Model," "Other Site Suggestions," and "Conservation of the Historical Environment."

Suggestions for the Cultural Park Model

As a result of the SWOT analysis, the area's strengths and opportunities were evaluated, and a proposal for a cultural park model was developed to bring cultural tourism to Misis. Cultural properties that should be primarily protected within the scope of Kültürpark (Cultural Park) and are recommended to be functional in terms of the protection-use balance are as follows: the East and West Mills, the Havraniye Caravanserai, and the Çukobirlik Ginnery. It is recommended that the cultural park be developed in phases and planned for the short, medium, and long term due to the current conditions of the region and its rich and multi-layered cultural texture. It is suggested that, within the scope of Kültürpark (Cultural Park), an archaeopark route be established to preserve the archaeological significance of Misis and make it accessible to the public (Figure 10).

Other Site Suggestions

Considering that the area has a rich historical process and cultural heritage belonging to many civilizations, it is suggested that it be declared a historical site and an urban archaeological site. In addition, when the Ceyhan River passes through here and the endemic plants growing in the Misis Mountains surrounding the area and the natural landscape characteristics of the region come together, it is very important to consider Misis as a natural protected area, as well. In this context, Misis, with its archaeological and natural features, can be evaluated within the scope of a "complex site".

Conservation of the Historic Environment

Illegal construction in areas where cultural heritage is concentrated is one of the greatest threats to the historical environment's protection. Priority must be given to preparing the conservation plan and continuing the expropriation of Misis Mound and its immediate surroundings.

In studies conducted at the scale of a single building, it is essential that the buildings whose restorations have been completed are regularly maintained and repaired, as well as their surroundings be protected.

Consider the Lokman Hekim Mosque and the artefacts unearthed during the rescue excavations in this area when preparing a new conservation project.

It is suggested that the residents of the first and second degree archaeological sites in Misis be relocated to the planned areas of the Yakapınar and Geçitli neighbourhoods, and that a plan be developed to address the infrastructure, social reinforcement areas, green and agricultural areas, and transportation needs in these places. However, it should not be forgotten that Misis is a living ancient city. In addition to its historical significance, one of the defining characteristics is its authenticity. By combining the present and the past, it should be possible to preserve and maintain this culture.

Stones and accessories discovered in gardens or outside of buildings should be inventoried for museum display or restoration.

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Appendix

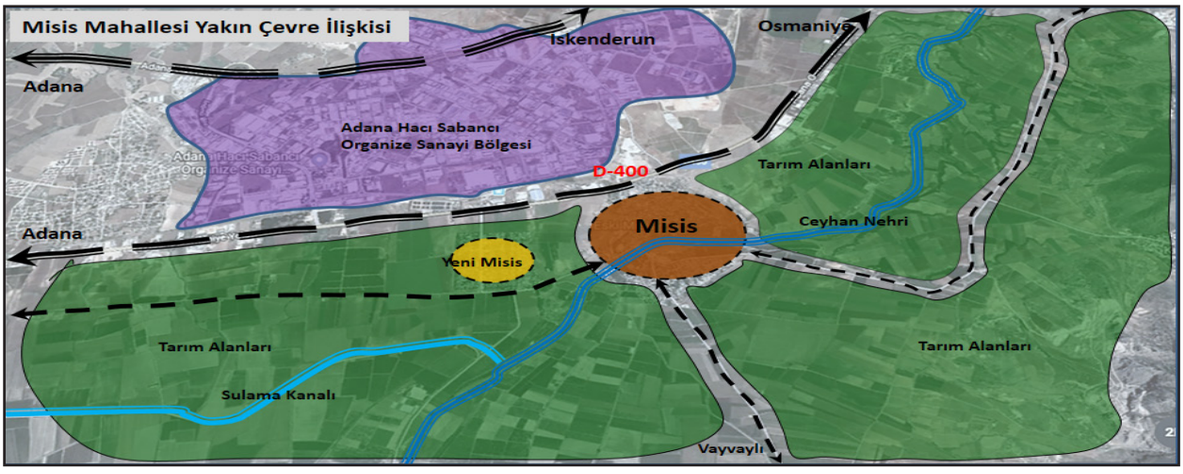


Figure 1: The Relationship of Misis with the Neighbourhood.

Figure 2: Misis 1940 Aerial Photograph (THK).

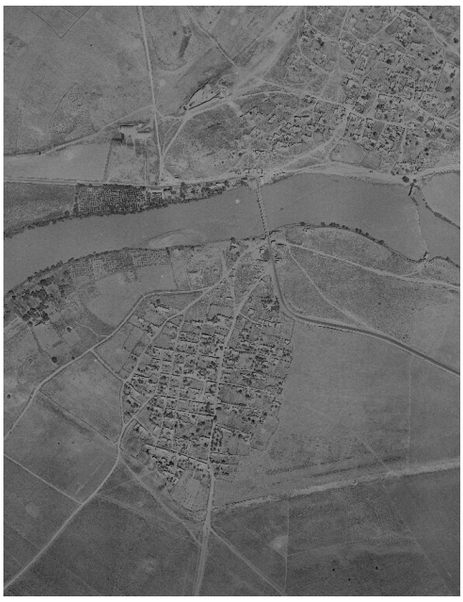


Figure 3: Misis 1952 Aerial Photograph (THK).

Figure 4: Misis 1975 Aerial Photograph (THK).

Figure 5: Misis 1992 Aerial Photograph (THK).

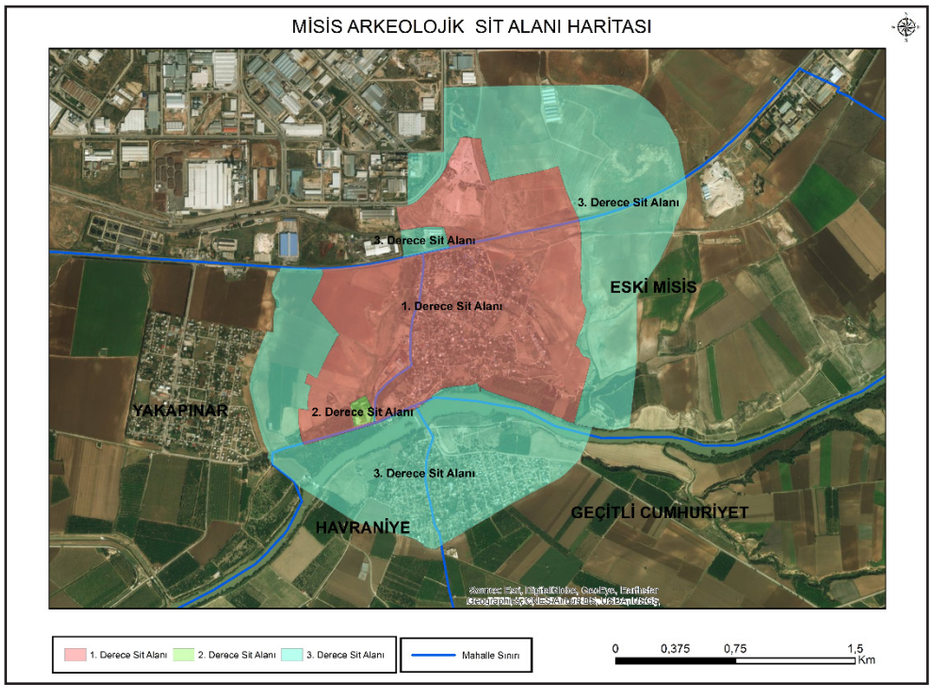


Figure 6: Misis (Yakapınar) Zoned Settlement Area and Archaeological Site Map (2020).

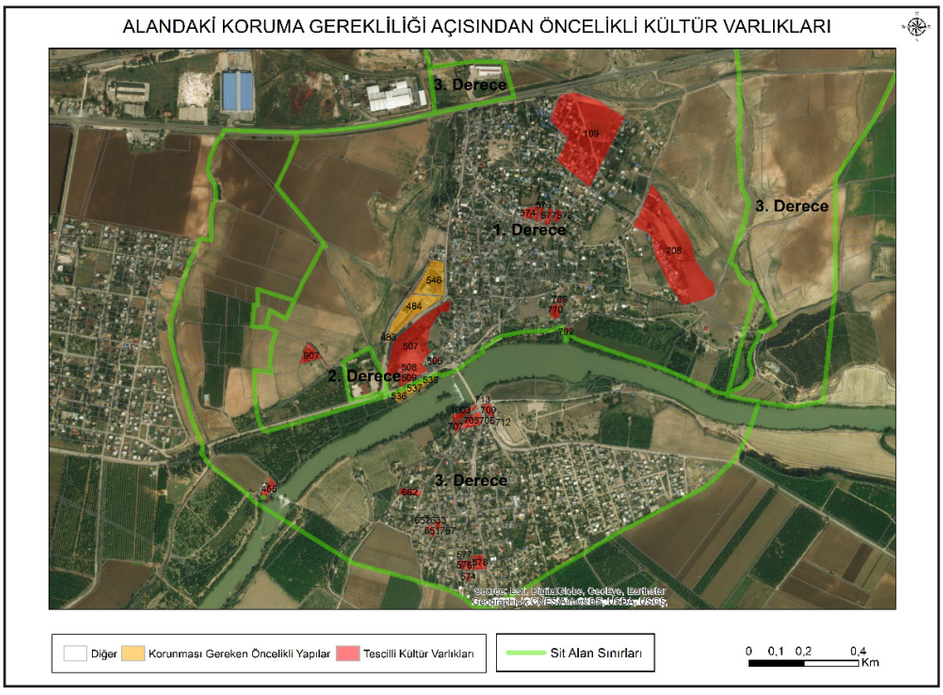


Figure 7: Parcels with Registered Cultural Properties with Priority Conservation in the Area.

Figure 8: Misis General View Aerial Shot (Yüreğir Municipality Archives, 2019).

igure 9: Misis Mound (D'Agata, Salmeri).

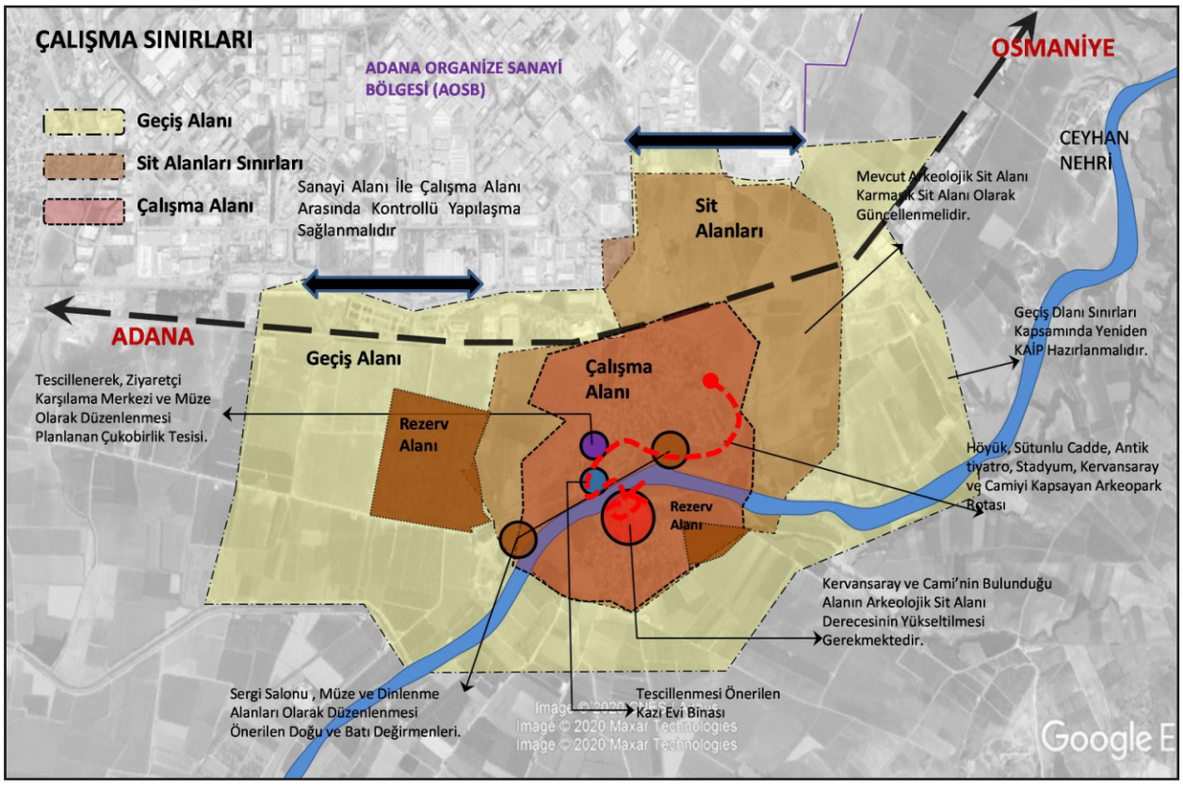


Figure 10: Suggestions Map for Misis Archaeological Site.

Period	State
7000-4000 BC	
1000 BC - 7th century	Hittites, Que, Assyrians
4 BC – 2nd century	Persians, Selekeus
1 BC – 3rd century	Rome
4th - 7th century	eastern Roman
8th - 14th centuries	Eastern Romans, Umayyads, Abbasids, Mamluks, Armenians
15th - 19th centuries	Ramazanoğulları, Ottoman
20th and 21st centuries	French Mandate, Republic of Türkiye

Table 1: Names of the Ancient City Throughout History.

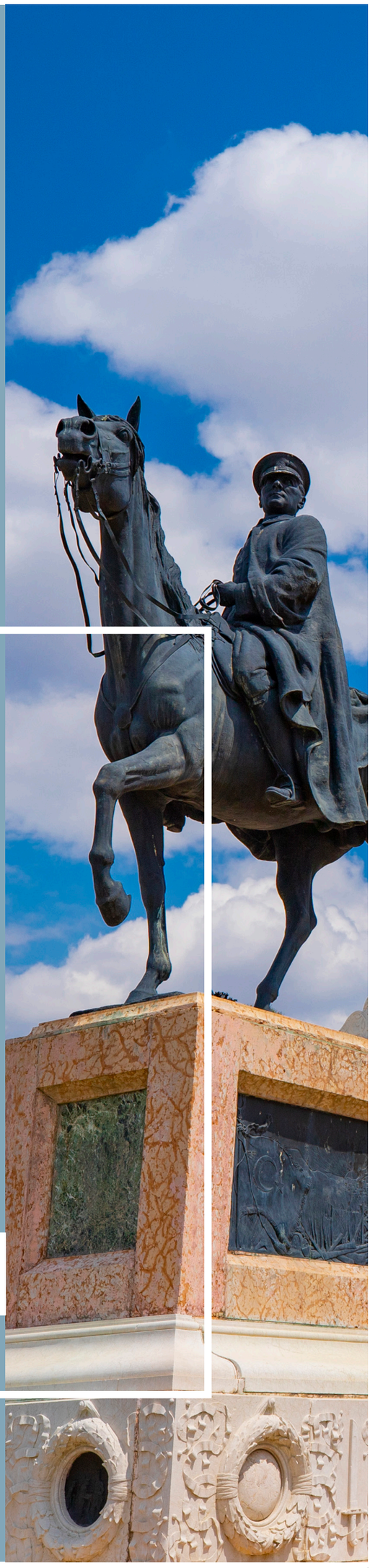
Names of Ancient City	Period
Pahri, Pahru	10 BC – 5th century
Selösi (Seleucia, Pyramum)	4 BC – 2nd century
Mopsuestia	1 BC – 7th Century AD
Massisa, al Massisa	8th – 10th centuries
Mamistra, Mampsysta, Masiste, Mamestia, Misses, Mises	11th - 14th centuries
Misis	from the 15th century

Table 2: Historical Process of Misis Ancient City

Strengths	Weaknesses	Opportunities	Threats
Easy Access.	Being in the earthquake zone.	Significant economic potential for the socio-cultural development of the region.	Destruction of the archaeological site due to rain and river flooding.
Rich cultural history.	The inadequacy of protection interventions.	Cultural and natural resources to support sustainable and developable activities (water sports, cycling, creation of walking routes, etc.).	Continued uncontrolled construction in the protected area's historical environment.
Endemic plant species growing in the region with natural resources (Ceyhan River) and natural landscape.	Construction on the site in violation of the license.	The contribution of Yüreğir Municipality, to which it is affiliated, to the field.	The increase in areas illegally used for agricultural and industrial activities.
The area is an important cultural heritage in the region.	Lack of cultural sensitivity among users.	Cooperation between public and non-governmental organizations.	The problem of vegetation, particularly in water structures due to high levels of humidity.
Local lifestyle.	Neglected and dysfunctional riverbank.	Support for projects aimed at preserving the historic environment and individual buildings.	Failure to prepare a viable site management plan.
Gastronomy (Misis Ayranı, Sıkma).	Residential, agricultural, and industrial (AOSB) zones based on the boundaries of archaeological sites.	Possibility of creating a cultural route with the settlements in the region that have a rich cultural history (Anavarza, Yumurtalık, Güveloğlu, Kurtkulağı, etc.).	Inability to financially meet Site Management decisions.
Agriculture.	The environmental degradation caused by the AOSB.	Expropriations in the region.	Inability to achieve quality in the tourism sector due to a lack of education.
In summer, the temperature is lower than in the city centre.	Uncontrolled entry to the area and looting of artefacts.		Lack of tourism marketing.
Archaeological excavations in the mound.	New settlements in the region to obtain building materials from the ancient city.		The future of the population residing in illegal buildings.
Restoration of cultural properties in the region (Misis Bridge, Havraniye Caravanserai, East Mill, West Mill).	Inadequate planning for visitor management.		
Projects and practices of Yüreğir Municipality, to which the city is affiliated, to protect the city and bring it to tourism.	Inadequate public infrastructure.		
Joint studies of local government and central government units (Ministry of Culture and Tourism, Ministry of Environment and Urbanization, Governorship of Adana) on values and protection in the region.	Lack of infrastructure in supportive tourism activities.		
International festival for the promotion of the region.	Lack of tourism marketing.		
Lokman Hekim Legend.	Festivals and organisations remain on a local scale or are not promoted adequately.		
Support of non-governmental organisations (Misis Association).	Low competitiveness compared to other tourism destinations.		
	Low number of entrepreneurs.		
	Lack of educated people in sectors that require technology and knowledge.		
	Lack of innovation culture.		

Ankara Ethnographical Museum

Ali Haydar ATALAR




T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
ETNOĞRAFYA MÜZESİ


بسم الله الرحمن الرحيم
وما أرسلناك إلا رحمة للعالمين
لا إله إلا الله
محمد رسول الله
وإنك لعلى خلق عظيم

Ankara Ethnographical Museum

Ali Haydar ATALAR*

Each state that has completed the nationalisation process has established national museum projects that investigate the history of their own nation, collect the material and spiritual values that they generate, present these values to the public, and thus aim to give these values a national identity.

In this regard, the Ankara Ethnographical Museum is the result of a national initiative proposed by the Republic of Türkiye.

The concept of the "National Museum" dates to the 1917 Congress of the Union and Progress Committee (İttihat ve Terakki Cemiyeti). In the establishment of the Ankara Ethnographic Museum, the intellectual infrastructure of Ziya Gökalp, the leader of the Committee of Union and Progress who played an important role in the establishment and early years of the Republic of Türkiye, holds an important place.

The concept of the "Ethnographical Museum", which was proposed at the 1917 congress of the Committee of Union and Progress, was incorporated into the Law on the General Assembly, which was submitted to the Grand National Assembly of Türkiye on September 30, 1920.

At a meeting of the Executive Deputies Committee on December 14, 1924, it was decided to send the priceless works preserved in the Cenabi Ahmet Pasha Mosque in Ankara to İstanbul and to construct a museum building in Ankara to house Asar-ı Atika (ancient monuments) and Nefise. The building was intended to be an Ethnography Museum or a National Museum, and it was anticipated that the artworks that were requested to be returned to Ankara would be preserved and displayed on site.

To prepare for the establishment of the Folk Museum, the Ministry of Education established, under the leadership of Celal Esat Arseven (by order dated July 2, 1924, and numbered 646) a commission under the direction of Celal Esat Arseven in İstanbul. In the initial phase, 1250 works were gathered. The collected works were protected by the İstanbul Darülfünun.

Turcologist Gyula Meszaros, who teaches Hungarian and Ethnography in İstanbul, was asked to prepare a report on the museum's establishment. Two of his reports were instrumental in the construction and establishment of the Ankara Ethnographical Museum. These reports were published in the Ministry of Education's first and fourth issues.

Based on the second report of Hungarian Turcologist Gyula Meszaros, recommendations were made to construct the museum on a high point of the city that is protected from moisture, that the museum should not be far from other educational institutions and the city centre, and that the museum building should be constructed on a large plot of land to allow for future expansion. The Ministry of Education deemed the Namazgah area, located beneath the current Numune Hospital, to be suitable. The verbal approval of the prime minister was obtained, and through extensive governmental correspondence, the Ministry of Education received the land designated for the museum for free in 1926.

In April 1925, the Ministry of Education contacted architect Arif Hikmet Koyunoğlu with a request for a design for a building that adhered to the old Turkish architectural style. Mr Arif Hikmet completed the project within fifteen days of receiving the specifications.

In his speech at the construction site of the Ethnography Museum, Mustafa Kemal Atatürk referred to "a modern architecture that is far from imitation, unique to our country, and unique to Turkishness." Mr Cevat Abbas, who was standing next to Gazi Pasha, said, "Pasha, you are discussing modern architecture, but architect Arif Hikmet is constructing a madrassa-style museum building." Mustafa Kemal Atatürk stated, "The architect considers what work will be assigned and what style it is expected to be in and creates the work accordingly. We wanted this museum to be inspired by old Turkish artefacts to preserve artefacts of old Turkish traditions and way of life, and Hikmet is constructing this building in accordance with this suggestion."

* Museum Director, Ankara Ethnographical Museum.

Arif Hikmet's memories reveal that the construction of the museum, which continued despite all obstacles, was closely monitored by the highest level of the state.

"In the winter of 1925-1926, when the front door was opened and Atatürk, covered in snow, entered, he inquired, "Hikmet, can construction be done in this weather?" Pasha received the response, "According to our construction agreement, our time is very limited; we must continue working regardless of the weather; our workers even work at night with kerosene lamps," to which he replied, "May God grant you strength."

The memory of his conversation with the workers while gazing at the Ankara Plain and his remark, "the view is very beautiful, it will be very cool under this dome in the summer, and when I am not busy, I would like to sit in the coolness of this dome against this beautiful plain" demonstrates that the construction of the museum was completed under difficult conditions and against the clock.

The contractor for the museum was Erzurum native Nafiz Kotan, the marble master was Hüseyin Avni Efendi, the bronze relief moulds for the dome were cast by Hakkı Usta, and the architect was Bahri Bey.

Since Ankara was a city with limited resources at the time, the water used in the construction of the museum, which began under extremely difficult circumstances, was brought by car from Bentderesi, the limestone was brought from the village of Lezgi, 35 kilometres from Ankara, and the cement was brought from France. The shipment of marble blocks originated from İstanbul, Marmara Island, and Italy.

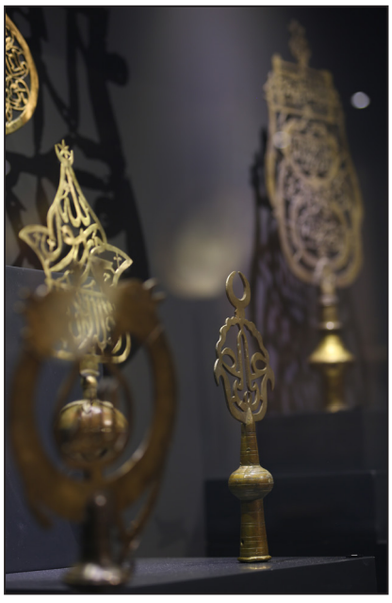
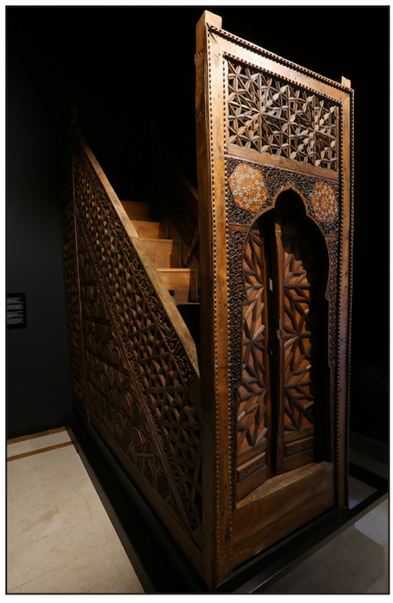
According to the agreement, the construction work was to be completed in ten months; however, some of the marble brought from Marmara Island and Italy and processed in İstanbul were broken, and it took some time for the reinforced concrete legs to solidify in order to construct the central dome. In Arif Hikmet's petition dated August 17, 1926, he requested that the construction period be extended until the end of November. Hamit Zübeyir Koay was appointed as director on June 1, 1927, per the decision of the Executive Board of Deputies (dated November 3, 1926, and bearing the number 4290), which approved the proposal and extended the construction period until the end of November 1926.

This same date is recognised as the establishment of

the Ankara Ethnographic Museum. Prior to the visit of the Afghan King Amanullah Khan to Türkiye, a period of intense study and preparation was undertaken. The visit of the Afghan King to the museum on May 27, 1928, was accepted as the museum's official opening date. The museum was opened to the public on July 18, 1930.

The first museum building of the Republic, constructed over an area of 854 metres squared, was a rectangular, single-domed, single-story structure containing ten exhibition halls and a mausoleum area.

After 1930, when the Ethnography Museum opened to the public, it was subjected to exhibition arrangement and restoration work twice, between 1981-1982 and again between 1999-2002, with the majority of these studies focusing on lighting systems and paint whitewashing.


With the approval of the authority (dated January 19, 2022, and numbered 2102687), the museum was closed to visitors. As a result of the exhibition-organization and restoration works that were carried out for the third time, the museum was reopened on May 5, 2022, with the presence of the Minister of Culture and Tourism Mr Mehmet Nuri Ersoy, within the scope of the Capital Culture Route Festival.

In the museum that presents cultural reflections such as, Hammam Culture, Henna Culture. Barber Culture, and Sunnah Culture, to the visitors' experience in the previous exhibition order, the final exhibition-arrangement work was based on three fundamental principles.

The first fundamental principle is based on the concept of ensuring that visitors understand the level of Turkish-Islamic Art in woodworking, Sufi culture, manuscripts and calligraphy, war-tools and equipment, clay tile, mining, and weaving cultures. The mausoleum area, which served as Mustafa Kemal Atatürk's temporary tomb from 1938 to 1953, is supported by technological equipment and visuals so that visitors can develop a stronger emotional connection to this important location. The third fundamental principle is the interior and exterior design of the Ankara House, as well as the fiction created to touch the hearts of the people of Ankara. The museum, bears the name Ankara Ethnographic Museum despite being an ethnography museum that appeals to many cultures, which is demonstrated by the variety of works in the museum's collection.

There are 598 works in ten exhibition halls, nine of which are permanent (Wooden Works Hall, Hacı Bayram-ı Veli and Sufi Works Hall, Manuscripts and Calligraphy Hall, Power and Rulership Hall, Tile Works Hall, Ankara House Street, Terracotta-Glass and Metal Works Hall, Carpet-Kilim Hall, Elegance and Aesthetic Hall, and a temporary showroom) in the museum displays, where approximately 1500 works are

exhibited in total. This is a result of the exhibition of numerous works that were repetitive of one another in the preceding displays prior to the renovation.

In the Wooden Works Hall, the wooden mihrab and minbar of the Nevşehir Taşkınpaşa Mosque, the door wings of the Ankara Kuyulu Mosque, a wooden sarcophagus belonging to Ahi Şerafettin, the door wings from the Merzifon Çelebi Sultan Mehmet Madrasa, Hacı Bayram-ı Veli's tomb door wings, and other artefacts exemplifying the level of woodworking reached in the principalities of theSeljuk and Ottoman Periods are exhibited.

In the Hall of Hacı Bayram-ı Veli and Sufi Works, artifacts such as Mütteka, Nefir, Keşkül-ü Fukara, Delivery stone, rosaries, incense, metal shoes, and other objects-dated to the 19th century used by Sufi dervishes, brass realms from the 18th and 19th centuries, faithful seals, artifacts specific to Sufi culture such as Mevlevi tajs, walking sticks, the door wing of Hacı Bayram-ı Veli's tomb, dated to the 15th century, dervish coats and crown (coins) attributed to the Prophets of Hacı Bayram-ı Veli are exhibited.

In the Hall of Manuscripts and Calligraphy, artifacts such as a dipstick, inkwell, pencil sharpener, pen, makta, an envelope opener used in calligraphy and dated to the 19th century, manuscripts of the Qur'an from the 13th century to the 19th century, the Persian Cem-i history, dated to the 16th century--about Ertuğrul Gazi's struggle with Tekfur and the Tatars--a Subhat'ül-ahbar (Rosary of the Times) history book dated to the 19th century, where the lives of many important statesmen from Adem Aleyhisselam to the Ottoman Sultans are described, and other artifacts such as genealogy records, delail-i hayrat and enam-ı şerif (prayer books), and calligraphy plates are exhibited.

In the Hall of Power and Rulership, a throne of the Seljuk Ruler, Gıyas el-din Keyhusrev I, bows and arrows, swords, yatağans (Ottoman knives), daggers, ceremonial weapons, oil pots, gunpowder holders, an Iranian inspired shield, a helmet from the 19th century Ottoman Period, halberds, and other war tools and equipment, Ottoman and Republican Period medals and insignias, and other objects are exhibited.

In the Hall of Tile Works, 16th and 19th century wall tiles, 18th-19th century tiles and porcelain for daily use, plates, trays, jugs, oil lamps, balls, other artefacts, and 19th century Yıldız Porcelains are exhibited.

In the Mausoleum area video mapping, which lasts approximately three and a half minutes, a video showing the transfer of Mustafa Kemal Atatürk's body from Dolmabahçe Palace to the Ankara Ethnographic Museum Directorate and photographic plates reflecting that period are staged.

On Ankara Evi Street the original ceiling core and hand-drawn decorations belonging to an Ankara mansion dating back to the 17th century, and daily use items such as tables, chairs, candlesticks, consoles, candle holders, vases, books, writing sets, and plates are exhibited.

In the Hall of Terracotta, Glass and Metal Works there are Uyghur wall frescoes from the 9th and 11th centuries, Raqqa ceramics from the 13th century Seljuk Period, Tophane Ceramics from the 19th century Ottoman Period, Çanakkale ceramics, Beykoz glass pieces, Abbasid ewers (jugs) from the 10th century, 13th century oil lamps, candlesticks and healing bowls from the Seljuk Period, metal artefacts from the Mamluk Period-dating back to the 14th century, and Iranian-influenced metal artefacts dating to the 17th-19th centuries in the exhibition.

In the Hall of Carpet-Kilim Works, carpets and prayer rugs of Anatolian origin (Kayseri, Kırşehir, and Sivas regions), dated to the 19th century, and a Bardız rug woven as a gift to the sheriff of the Caucasian front commanders, who saved the Kars and Batumi Sanjaks from Russian occupation, are exhibited.

The Temporary Exhibition Hall holds temporary exhibitions from around the world and in Türkiye that are determined to be subjects relevant to individuals' lives.

In the Elegance and Aesthetics Hall the experiences of 19th century Ottoman women, their clothing, and jewellery culture are on display.

As a result of the most recent exhibition-organization works, the Ankara Ethnographic Museum's exhibition halls have been shaped with a dynamic museology understanding allowing for quick revisions of its concept and efficient updates. The halls have reached a museum standard that can meet the needs of the age and its visitors with applications such as a voice guidance system, video mapping displays, and more technologies.

The Ankara Ethnographic Museum respects the beliefs and feelings of our citizens today, as it did in the past, and proudly wears the badge of "being the first building of the Republic to be built as a museum and undertaking the first temporary tomb of Atatürk" attributed to it by historians and history makers. The museum continues its activities in a way that respects national values, traditions, and customs, and carries the past into the present with its reverence of heritage and inspiration.

Current

The earthquake disaster that occurred in Kahramanmaraş on February 6, 2023, affecting ten provinces, has shaken our country.

The public institutions that acted in the immediate aftermath of this disaster, in which more than 50,000 of our citizens lost their lives and thousands of buildings were destroyed, helped to heal wounds quickly through their work in the areas with which they are associated, as well as through the humanitarian aid they provided.

The General Directorate of Cultural Heritage and Museums of the Ministry of Culture and Tourism acted immediately after this major disaster using the "Disaster Emergency Action Plan". With the sister museum application, security guards, museum specialists, and museum directors working in provinces unaffected by the earthquake, they were able to quickly travel to their predetermined duty sites in the earthquake zone, allowing all our museums to be reached by morning. After ensuring the security of the artefacts, damage assessment studies were conducted. Due to the speed with which the repairs were initiated and completed, only one block of the Hatay Archaeology Museum-out of twenty-nine museums-was damaged. It was quickly determined that there was no physical damage to any of the others and that most of the works were preserved. Restoration work on the quake-damaged artefacts was completed in a short period of time with the participation of museum personnel working in the earthquake area as well as experts from the surrounding provinces and our central units. All our museums were able to resume welcoming visitors quickly because minor damages were swiftly repaired.

All ruins, including those in Nemrut-which was buried beneath six metres of snow during the earthquake period-were subjected to due diligence studies. It has been determined that the partial collapse of the ruins did not compromise the historical fabric and the minor damages can be compensated for in future restoration efforts. Swift action was taken on the larger scale disruptions with scientific committees assisting in the development of action plans. A team led by Associate Professor Muhammet Arslan conducted the necessary research to locate, document, and preserve artefacts buried beneath the rubble.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MÜZESİ
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İZİNSİZ MÜDAHALE EDİLEMEZ !


T.C. KÜLTÜR VE TURİZM BAKANLIĞI
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The Ministry of Culture and Tourism developed and implemented a financial and technical support package for the restoration, reconstruction, and improvement of all registered cultural assets, regardless of whether they were included in the inventory of the General Directorate of Cultural Heritage and Museums. With the assistance of experts from the General Directorate of Foundations, more than 500 of our personnel, who had been on the ground since the first day of the earthquake, were able to document all the destroyed or severely damaged cultural properties. On the walls of our destroyed or damaged cultural properties, the sign "This is a registered cultural property and cannot be altered without permission." was affixed to prevent unauthorised interventions.

Previous experience and preparations of the General Directorate of Cultural Heritage and Museums, over the course of its nearly two-hundred-year history, aided in avoiding irreparable damage to our museums and archaeological ruins. This well-established institution, which has endured numerous natural disasters and two major wars, was able to pass this test successfully due to lessons learned from previous adversity. Being prepared for such a disaster and taking swift, well-planned action after the earthquake enabled not only the survival of our museums, but also the preservation of the artefacts they housed. Most of the buildings are smart buildings and have been renovated within the last twenty years. Because they are equipped with the latest technology it made it possible for our museums to experience almost no problems during the earthquake. The successful implementation of the "Disaster Action Plan" ensured that all artefacts were safe within the first hours of the quake by transferring them to safe storage museums. In addition, many of the damaged artefacts in our museums have already been restored. Teams of specialists will restore registered structures with low to moderate damage. Under the direction of the Ministry of Culture and Tourism and by adhering to the principle of material reuse, all destroyed cultural properties will be reconstructed scientifically. With the assistance of our stakeholders, we will prevent the loss of these valuables, which are defining characteristics of our cities, by providing technical and financial assistance to privately owned cultural assets.