

# Museology and Exhibition Examples

## Müzecilik ve Sergileme Örnekleri

Mutlu ERBAY 

Boğaziçi University, Faculty of Economics and Administrative Sciences, Department of Political Science and International Relations, Istanbul, Türkiye



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Corresponding Author/Sorumlu Yazar:  
Mutlu ERBAY  
E-mail: erbaym@boun.edu.tr

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### ABSTRACT

New generation techniques in museum exhibitions are emerging in novel ways today. This article aims to examine museum exhibitions as sites where new technological advancements are employed in 2024, a year marking a new milestone in technological progress. The method involves analyzing exhibitions organized for the first time in their respective fields. The findings indicate a rapid increase in the number of new projects and never-before-tested technology applications in museums. Personnel from various professions and different disciplines can work on museum exhibition projects. In this new era, museums utilize artificial intelligence to identify and reshape archaeological findings to maintain their identities. In this new era, artificial intelligence has emerged to demonstrate and reformat archaeological capability to preserve the identity of museums. Istanbul Archaeological Museum: Lost Palaces of Byzantium Exhibition, Yapı Kredi Vedat Nedim Tör Museum: Tatarlı Exhibition, Facial Reenactment Exhibition of Visitors in the Center of Ohio Columbia Exhibition, Florida Salvador Dali Museum. These examples show what can be done at the beginning of the new technological possibilities we use on old cultures. The results of this comprehensive collaboration with museums, universities and research institutes are all changeable. In this new era, artificial intelligence has emerged to demonstrate and reshape archaeological capability in order to preserve the identities of museums. Istanbul Archaeological Museum: Lost Palaces of Byzantium Exhibition, Istanbul Archaeological Museum: Painted Gods, Yapı Kredi Vedat Nedim Tör Museum: Tatarlı Exhibition, Facial Reenactment Exhibition of Visitors in the Center of Ohio Columbia tell us museology is changing

Inferences are drawn from museum collections, studies on them, and existing works, with animations made possible through technology. This allows for the acquisition of unique information about ancient objects, including the periods and forms in which they were created. New interactive presentations are offered that address and guide visitors simultaneously through collections, facial expressions, voice, and movement. Indeed, individuals can freely participate in the experience of these museum works.

**Keywords:** New Technology, museums, new museology, museum projects, artificial animation

### ÖZ

Yeni nesil teknikler günümüzde müze sergilerinde yeni formlarda ortaya çıkmaktadır. Bu makale, teknolojinin ilerlemesinin yeni bir aşamaya ulaştığı 2024 yılında, müze sergilerinde yeni formda teknolojik gelişmelerin kullanımını incelemeyi amaçlamaktadır. Metot olarak, kendi alanında ilk kez düzenlenen sergiler ele alınmıştır. Bulgular, müzelerde yeni projeler ve daha önce test edilmemiş teknoloji uygulamalarının sayısında hızlı bir artış olduğunu göstermektedir. Birçok farklı meslekten ve disiplinler arası çalışan personel, müze sergi projelerinde görev alabilmektedir. Bu yeni dönemde, müzeler kimliklerini korumak adına arkeolojik bulguları tanımlamak ve yeniden biçimlendirmek için yapay zekâ uygulamalarını kullanmaktadır. İstanbul Arkeoloji Müzesi: Bizans'ın Kayıp Sarayları Sergilemesi; İstanbul Arkeoloji Müzesi: Renkli Tanrılar; Yapı Kredi Vedat Nedim Tör Müzesi: Tatarlı Sergisi; Ohio Columbia müze ziyaretçilerinin yüzlerini canlandırma sergisi; Florida Salvador Dali Müzesi Dali ile söyleşi örnek olarak verilmiştir. Koleksiyonlar, yüz ifadeleri, ses ve hareket ile ziyaretçilere eş zamanlı olarak seslenen ve onları yönlendiren yeni interaktif sunumlarla sergilenmektedir. Bireyler, bu müze eserlerinin deneyimine özgürce katılabilmektedir. Bu örnekler bizlere kullanılan yeni teknoloji imkanlarının eski kültürler üzerinde uygulandığında neler yapılabileceğini göstermektedir. Bu anlamda müzeler, üniversiteler ve araştırma enstitüleri ile işbirliği ortaya konan serginin etki sonuçlarını ve kalitesini değiştirebilmektedir.

Müze koleksiyonları ve üzerinde yapılan çalışmalar sayesinde mevcut eserler üzerinden çıkarımlar yapılmakta, teknoloji yardımıyla canlandırmalar gerçekleştirilmektedir. Bu şekilde, antik objeler ve bunların yapıldıkları dönem ve oluşturulduğu biçim hakkında eşsiz bilgiler elde edilebilmektedir.

**Anahtar Kelimeler:** Yeni Teknoloji, müzeler, yeni müzecilik, müze projeleri, sanal canlandırma

## Introduction

Museums began operating as public institutions in the 18<sup>th</sup> century, and from the 19<sup>th</sup> century onwards, increasingly radical changes became evident in museum exhibitions. In the 20<sup>th</sup> century, museums played a crucial role in efforts to construct new international identities, a result of the global social and societal transformations (Elmalı, Yetin, Öztürk, 2020, p. 915)

The rapid advancement in information and communication technologies is paving new cultural pathways in science, sociology, and the economy, evolving alongside humanity. This era is commonly referred to by scientists as the Information Age. The term "digital revolution" describes the period since the 1980s when analog, mechanical, and electrical systems were replaced by digital systems, marking the onset of the Information Age. The digital revolution has also changed the exhibition designs of museums.

As in the rest of the world, the 2010 European Capital of Culture Projects played a significant role in the institutionalization of museums in Turkey. In 2010, many historical artifacts that were reshaped by the developments within the Istanbul Capital of Culture studies were restored, museumized and exhibitions were organized. At the same time, existing museums were re-planned to be transformed into new contemporary exhibitions (Erbay, F.2009, p.560)

Istanbul Archaeological Museum: Lost Palaces of Byzantium Exhibition (Virtual palaces produced from existing archaeological ruins), Istanbul Archaeological Museum: Painted Gods (The first version of the Alexander Sarcophagus can be seen) Yapı Kredi Vedat Nedim Tör Museum: Tatarlı Exhibition (Revival of the archaeological mound found, revealing the paints used and the colors of people's clothes), Facial Reenactment Exhibition of Visitors in the Center of Ohio Columbia (Real-time faces of real people visiting the exhibition became part of the show), Florida Salvador Dali Museum: A brand new selection has been created based on the works of a deceased artist. These examples show what can be done at the beginning of the new technological possibilities we use on old cultures. The results of this comprehensive collaboration with museums, universities and research institutes are all changeable.

The examples examined in the article are examples of the use of color studies, new exhibition and animation in exhibitions. Examples abroad are different from examples at home. Domestic animation, color finding studies, mapping for dormitory samples and new digital exhibitions produced from the works were examined.

### Five Museum Exhibition Projects

Within the scope of this study, five selected examples were discussed: the Byzantine palace revival project held at the Istanbul Archaeological Museum in Turkey and the Painted Gods exhibition exhibited in Athens. The Tatar's exhibition was chosen regarding wood and fabric repair, which was exhibited with the support of a private bank.

It is based on revealing scientific reality in terms of exhibition techniques. The exhibition includes interesting wool fabric dyeing samples and motifs. It is also important in terms of revealing a colorful drawing that is about to disappear on the board. These exhibitions attracted attention with their number of viewers at that time and were talked about with different exhibition techniques. It has brought a brand new perspective to museology.

Foreign examples were examined by considering face dressing and the exhibitions in the Salvador Dali museum. The common aspect of these exhibitions is that they provide a new perspec-

tive on museology. These different domestic and international practices in the field of museology are examples that show us new approaches.

In recent years, the impact of new technological advancements on museums has been substantial. New exhibition techniques have rapidly proliferated throughout Turkey. The physical structure of demonstration techniques employed in contemporary exhibitions has undergone significant changes. To this end, exhibitions utilizing innovative approaches and techniques, distinct from those organized in the past, began to be curated starting in 2010. This article highlights and examines three progressive exhibitions that integrate technology: *Missing Byzantine Palaces in Istanbul*, *Gods in Colour Exhibition*, and *Crimean Tatars Examination*.

These selected exhibitions are from before 2020 or even from 2010. However, they can be considered important exhibitions in their own fields. They are quite different in style and different from the usual exhibitions for those years. Byzantine Palaces, whose places are known in history but whose existing structures can no longer be seen, have been revived. Although paint pigment analysis is not an innovative technology, studies have been actively carried out since the 1950s and these studies are important for museum exhibitions. Likewise, surface research and color studies carried out on wooden cultural objects date back much further than today. These exhibitions were watched with interest by public institutions and museums. Museum curators and academics have used these exhibitions as examples in their classes for years. These exhibition examples caused discussions at conferences and brought new perspectives to our museology.

### Exhibitions of Byzantine Palaces in Istanbul

In 2010, lost Byzantine palaces were reimagined and exhibited using computer technology. The Exhibition of Byzantine Palaces in Istanbul showcased these reconstructed palaces for the first time. Held at the Istanbul Archaeological Museum from June 21 to September 21, 2010, the exhibition featured a simulation of the ancient Byzantine town prepared by the Ministry of Culture and Tourism. Missing Byzantine palaces, along with their artifacts, were made accessible to the public. These palaces were among the largest and most renowned in Byzantine history, and their approximate locations were documented in historical texts. The exhibition included simulations and archaeological architectural photographs of Myrelaion, Bukoleon, Lausos, Antiokhos, Blakhernai, Big Palace and the Palace of Tekfur (Porfirogennetos).



**Image 1.**  
Exhibition of Byzantine Palaces' Poster

Computer programs have facilitated the detection of the locations, architectural structures, and positions of these sites from images of ancient artworks. It is well-known that these towns have endured numerous invasions over time, leading to the plundering and smuggling of invaluable works of art. Currently, many of these artifacts are housed in the collections of European museums (Denker, Çelik, Kongaz, Koç, Öztopbaş 2011, p.160)

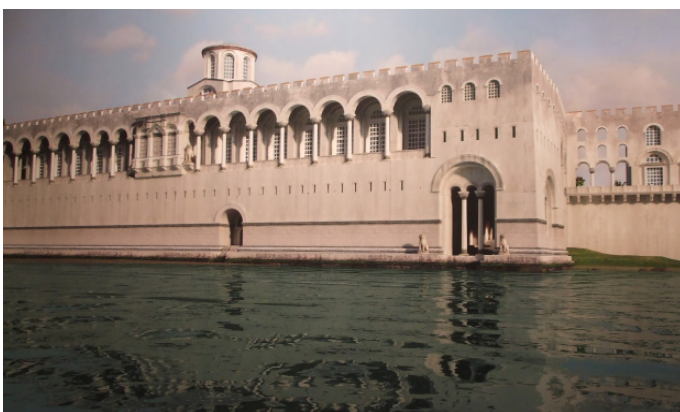
The 3-D reconstructions for the Exhibition of Byzantine Palaces in Istanbul were produced by A. Tayfun Öner (2008, p.172)



*Tekfur (Porfirogennetos) Palace Animation*



*Big Palace Animation*



*Boukoleon Palace Animation*

**Image 2.**  
*Tekfur(Porfirogennetos), Big, Boukoleon Palace Digital Exhibitions of Byzantine Missing Palaces from Exhibition*

In the Exhibition of Byzantine Palaces, old Byzantine palaces, of which only certain parts have survived and are not in their original positions, were reconstructed, animated. This allows visitors to gain insights into the architectural design of Byzantine palaces. This exhibition stands as one of the leading and most progressive showcases in the fields of archaeology and technology (Pera Müzesi.2021, p.650)

### **Exhibition of Gods in Colour (21.04.2006-16.07.2006)**

A catalog has been prepared for the exhibition on the polychrome in ancient sculpture, which was held at the Istanbul Archaeological Museums in cooperation with the Istanbul Branch of the German Archaeological Institute, Munich, the State Antiquities Collection and the Glyptothek and Stiftung Archaeologie Archeology Foundation (Buchwalter, 2006).

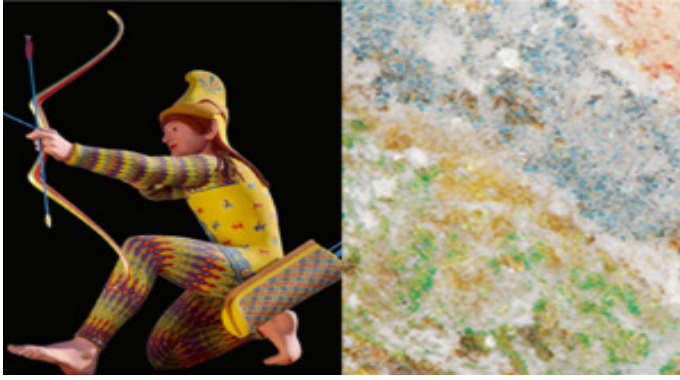
The identification of painted sculptures, as well as the analysis of the chemistry and tones of the colours used, is now feasible with the aid of modern technology.

Exhibitions held at the Istanbul Archaeological Museum and the Athens Archaeological Museum demonstrate that these sculptures were originally painted. The Alexander Sarcophagus, discovered in 1887, is a notable example exhibited in the Istanbul Archaeological Museum. The fact that these sculptures were painted was first proposed in 1920. Similarly, at the Acropolis of Athens, it was revealed in 1920 that the Augustus Prima Porta statue, known since 1863, was painted. Furthermore, painted decorative artworks were found earlier in the houses of Pompeii. While it is established that these artworks were painted, there is insufficient information about their original appearance due to the fading of their colours. The original versions of these statues are painted (Brinkmann, 2019)



**Image 3.**  
*Painted Sculpture in Exhibition of Gods in Colour in Archaeological Museum (Brinkmann, 2019, p.156)*

In 1980, the German Archaeological Institute and the German Archaeological Foundation initiated a project that would continue for 25 years. The results of this project were exhibited in Istanbul, with contributions from Municipality of Copenhagen, Basel, Amsterdam and the Vehbi Koç Foundation. Initially, plaster molds of the artworks were cast, and their replicas were created. These replicas were then painted based on the colors identified from the original pieces, forming accurate representations of the ancient works. The technique of painting sculptures has been employed since ancient Egypt, reflecting an antique form of painting and decoration.



**Image 4.**  
*Exhibition of Gods in Colour in Archaeological Museum*

In the 20th century, examination of these sculptures using ultraviolet lights and sensitive cameras revealed that marble sculptures were originally painted, as demonstrated by Brinkmann's meticulous research on their intricate decorations. Greek and Roman sculptures produced during the Renaissance period remained uncoloured, reflecting a shift from their original context as artifacts of ancient cultures to decorative objects.

Importantly, these pigments were often traded across regions, highlighting their connection to trade routes and commerce.



**Image 5.**  
*Exhibition of Gods in Colour in Archaeological Museum*

The Exhibition of *Gods in Colour* revealed that these ancient artworks were originally painted in surprising hues and patterns, uncovered through new technologies, sensitive measuring instruments, and radiation techniques. Following this discovery, replicas of these artworks were meticulously produced and painted to reflect their original appearance. Visitors were then presented with these replicas to gauge their reactions to the sculptures' true colours. Some remarked that the sculptures' forms were less impressive once they learned of their original appearance.

#### **Exhibition of Crimean Tatars (Exhibition of Return of Tatars' Colour- (18.06.2010-26.09.2010)**

The burial chamber of the Tatarian Tumulus, one of the most important surviving examples of the ancient art of wood painting, was exhibited for the first time with the contributions of the Istanbul 2010 European Capital of Culture Agency. It carried important information about the lives and beliefs of the people who lived in Anatolia in the 5th century BC to the present day. It contained

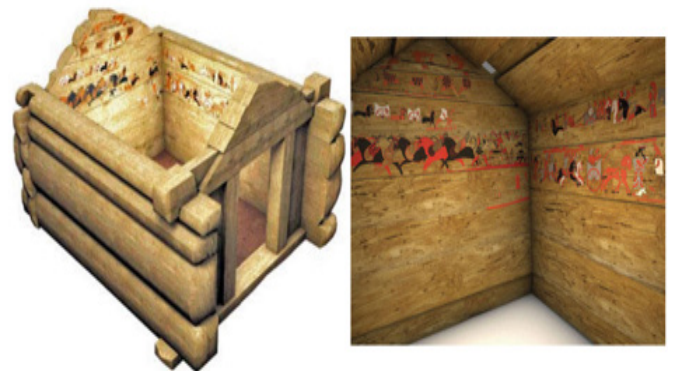
very important information about the paints on the motifs of their clothes and the paints of the figures they painted in their tombs.

Replicas resembling the originals were created based on samples of painted wood materials found, which are featured in the exhibition *Tatarian Tumulus and Return of Colours* held at the Bank of Yapı Kredi Vedat Nedim Tör Museum from June 18 to September 26, 2010. The exhibition was curated by Prof. Dr. Erwin Emmering, Dr. Alexander von Kienlin and Prof. Dr. Latife Summerer, under the direction of Felix Pirson. It was organized by the Ministry of Culture and Tourism, the General Directorate of Cultural Heritage and Museums, and the Agency of Istanbul European Capital of Culture 2010. The Tatarian Tumulus, located near Kelaini (Afyonkarahisar) where Persian kings once resided around the 5th century BC, is considered one of Türkiye's most valuable artworks due to its vividly adorned Frisians found on a wooden sepulcher. Alexander von Kienlin and Latife Summerer note that these archaeological findings, known as Tatarian woods, have suffered significant damage over the past 40 years due to looting and destruction, attributed to its status as an imperial tomb (Conservation of Tatarian Tumulus, 19.06.2010).



**Image 6.**  
*Exhibition of Tatarian Mound, Yapı Kredi Vedat Nedim Tör Museum*

This room had survived intact until 1969, remaining undisturbed for 2500 years. However, it was plundered by looters in 1969, resulting in significant damage. Over the following 40 years, the site suffered from rampant vandalism and the illegal trafficking of historical artifacts, bringing it to the brink of extinction.



**Image 7.**  
*Computer Simulation of Exhibition of Tatarian Mound*

The main objective of this exhibition is to foster a new awareness and sensibility towards the protection of cultural heritage, while drawing public attention to the smuggling of historical artifacts. In 1969, certain sections of the plundered tomb were cut and smuggled across the border, while the remaining parts of the wooden beams were brought to the Afyonkarahisar Archaeological Museum. Prof. Dr. Latife Summerer from the Institute of Classical Archaeology at Munich University, ETH Zurich, and the Research and Conservation Institute of Historic Monuments, along with Dr. Alexander Kienlin, played pivotal roles in this project. The execution of these initiatives was facilitated through their collaboration with these institutions. The exhibition is supported by the Federal Republic of Germany Ministry of Foreign Affairs. Following these investigations, as reported by the Anatolian Agency (Anadolu Ajansı) on February 15, 2017, Mevlüt Üyümez, the director of the Afyonkarahisar Museum, confirmed that the painted sections were safely transported to their museum. Assist. Prof. Dr. Serdar Girginer, Head of the Department of Archaeology at Çukurova University Faculty of Science and Literature, led the archaeological excavations in this region (Tükelay, 2017)

The artifacts, which were found during illegal excavations in the Tatarian Tumulus in the Dinar district of Afyonkarahisar in 1969 and some of which were smuggled abroad, were brought to Turkey. The painted friezes of the 2500-year-old wooden burial chamber were revealed with this exhibition. The stolen pieces were returned to the museum.



**Image 8.**  
*Painted Figure on Original Wood*

The focus of this exhibition and project is to identify the types of pigments used in these artworks. Various methods were employed to research, and analyse the colouring materials. Initially, two different shades of red were identified. The primary component of both included iron oxide, with cinnabar added for deep red and lead added for vermillion. White pigment likely consisted of pulverized bone and terra alba. Carbon-based substances were used for black pigment, while grey was achieved through a mixture of black and white. This project requires collaboration between chemists and museums to study the pigments used in the paints. Research on existing materials has been conducted and documented (Kolektif,2010)

As a stakeholder in the 2010 projects, the Istanbul Foundation for Culture and Arts (IKSV) organized various exhibitions and supported museum projects to elevate Istanbul— with its 3,000-year history as the capital of three empires and the focal point of two major religions— to the status of a global capital. The foundation has not only presented international art events to Turkish art en-

thusiasts but has also facilitated the recognition of Turkish artists abroad, encouraging their participation in international events (Cancat 2016: 41). These efforts eventually inspired the opening of the Tatar exhibition in 2010.

*The Tatarian Tumulus, Exhibition of Return of Colours* holds significant importance for the Republic of Turkey. This exhibition, organized by the European Capital of Culture Agency and the Government of Germany, was sponsored by Yapı Kredi Vedat Nedim Tör Museum. The materials in the exhibition, through replicas, highlights the connections between the Tatars in Iran, Scythians, and Crimea. The wood from the Tatarian Tumulus provides insights into the flora of this region dating back to 531 BC.



**Image 9.**  
*Impersonation from Exhibition of Tatarian*

It is understood from battle scenes that this place was the grave of a commander, and the interior adornment and paints of this wood structure give new information. Historic funeral rites and how the room belonging to Hercules Geryona was organized are understood. The type of woods on the wall of the grave, and the shapes and colour which was used to decorate woods is determined. At the end of the researches, it is known which type of plants were used to paint these works of art. These researches which are conducted by cooperation between the university and a team of specialists with multi-discipline, are quite important, and the research which enlightens the future is an example of multidisciplinary research of exhibition. It was seen that painted woods, sphinx, birds and figures of carriage correspond to vases with figures of Attic Black at the end of the 6<sup>th</sup> century.

#### **Matthew Mohr Project: Ultimate Selfie Machine (Columbus, Ohio,2018)**

Created by American artist Matthew Mohr 'As We As' is a gigantic head shaped installation that rotates through a database of 3D portraits, including local residents of the Columbus are as well as visitors. The sculpture addresses the relationship between self and representation of self, asking the subject of the portrait to reconsider presence through magnification. It is intended to provide amusement and evoke larger discussions around the phenomena of social media. A 4.5-meter LED sculpture was installed inside Ohio Columbia Center, Initially, the sculpture was empty and white. As We As is a fourteen-foot, 3 D universal human head made from ribbons of ultra bright, LED screens, In the back of the neck is a photo booth capable of taking 3 D pictures (inspirationGrid,2018)



**Image 10.**  
*Matthew M. Project: Ultimate Selfie Machine*

This statue, created by Matthew Mohr, is unlike other statues in that it can project the faces of visitors who choose to participate onto its initially empty surface. This interactive feature has garnered significant interest from visitors.

### **Salvador Dali Animation Project on Digital Screen in Salvador Dali Museum (2019)**

To commemorate Salvador Dali's 115<sup>th</sup> birthday, a display was arranged featuring an avatar constructed from his entire filmography and photographs. In this interactive setting, Dali interacts with visitors who can take selfies with him. These selfies are then emailed to the visitors, many of whom share them on social media platforms. Additionally, visitors observed their journeys through a digital screen displaying Salvador Dali's paintings (Erbay, 2020, p. 180)



**Image 11.**  
*Florida Salvador Dali Museum Digital Screen*

The exhibitions mentioned above Revival of the Byzantine Palace (2010), Painted Gods (2010), Tatar Colors (2010), Ohio Columbia Promotion Project (2017), and Florida Salvador Dali Museum's World of Salvador Dali Painting (2019) represent pioneering examples in their respective fields. These exhibitions digitally revived non-existent Byzantine palaces, analyzed the chemical compositions of paints on sculptures, identified the colors of wool used in textiles, and traced the origins of paints on boards. Furthermore, attendees could immerse themselves in the art world depicted

in his paintings through visual screens. These projects exemplify innovative museum practices focused on immersive experiences, showcasing a harmonious blend of museum curation and technology.



**Image 12.**  
*Florida Salvador Dali Museum Digital Exhibition (Erbay,2020, p.184)*

In the realm of international design approaches, principles have been established to guide disciplines related to space, product and communication design. The Universal Design Principles are as follows: 1. equitable use, 2. flexibility in use, 3. simple and intuitive use, 4. perceptible information, 5. tolerance for error, 6. low physical effort, 7. size and space for approach and use. These principles aim to standardize museum exhibition designs according to specific norms. However, due to evolving technologies, the implementation of these principles may not be feasible for every museum (Kandemir, 2015, p.34).

## **Conclusion**

Traditional museum exhibitions are evolving to keep pace with modern times. Throughout history, museums have served as showcases of the innovations, lifestyles, and inventions of their respective periods. Today, with the aid of technology, museum exhibitions strive to provide visitors with the maximum information efficiently and promptly.

Museums, educational institutions, universities, and companies are collaborating more than ever before with technological tools. The rapid dissemination of information through peer-to-peer networks and the internet facilitates the adoption of new methods. This speed of information dissemination necessitates both comprehensive information completion and awareness among people.

Today, museums preserve historical objects at their best. Their roles have evolved significantly in this century; a skull in a museum, for instance, may be re-evaluated considering emerging scientific knowledge. Museums are rapidly assuming roles akin to educational institutions and laboratories.

In recent years, museum visitors have benefited from information systems, sensitive cameras, audio-visual systems, QR codes, LED and touch screens, sensors, animations, and large screens used for historical narratives, among other technologies. How will museums integrate with innovations like artificial intelligence, quan-

tum computing, and robotics? Must they adapt?

This article highlights new exhibitions leveraging technological advancements, exploring how they can communicate new opportunities to museum visitors and the public. Museums remain bastions of inspiration, evolving with each era. They serve as bridges to the future, preserving ancestral knowledge as data banks. Museums are not relics; they are places for understanding people. Should museums keep pace with advancements in digital technology? Certainly yes—museums' future lies in technological progress.

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These exhibitions show us that the concept of museology has transformed into a multidisciplinary structure. With the application of new technologies to the field of museums, museum exhibitions, which have diversified again since 1985 and until 2010-2020, have provided us with a new opportunity. Traditional exhibitions are changing by using technologies and different ideas. This change attracts the attention of visitors and scientists. The most important thing is that the works found in museums or unearthed in archaeological excavations can be looked at with a brand new perspective. Objects can be re-evaluated in the light of new technologies.

In the future, museums will become places for learning and discovery. They will deepen our understanding of past cultures and act as time capsules, bridging the gap between us and these cultures.

With technological breakthroughs, museums can preserve historical artifacts in the best possible way; Their current roles have changed significantly this century. The exhibitions discussed in the article should be re-evaluated as pioneering examples showing the advancements of technology in museum applications and as steps that have inspired newer studies. Museums have the power to quickly transform into educational institutions and laboratories with new developments and the ability to influence society. Museums continue to be institutions that are enriched by the advancement of digital technology and offer participatory experiences.

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## Yapılandırılmış Özet

Müze teknolojileri, bilgi ve iletişim teknolojilerinin hızlı ilerlemesiyle birlikte bilim, sosyoloji ve ekonomi alanlarında yeni kültürel yollar açmaktadır. Bu dönem, bilim insanları tarafından Bilgi Çağı olarak adlandırılır ve dijital devrim terimi analog, mekanik ve elektrikli sistemlerin dijital sistemlerle değiştirilmesini ve Bilgi Çağı'nın başlangıcını işaret eder. Müze teknolojileri, ziyaretçiler hakkında veri toplama, yaş ve cinsiyet gibi bilgileri elde etme, müzeyi ve ilgili bilgileri internet kullanıcılarının arama sıklığı, ziyaretçilerin müzeyi keşfetme süresi, ulaşım modelleri gibi verilerle desteklemektedir. Bu teknolojiler aynı zamanda ziyaretçi profillerine dayalı olarak; ziyaret amacı, yaş aralığı, bilgilerin datalarını, verilerin grafiklerini, müze istatistikleri, doluluk oranları, en yoğun ziyaret saatleri ve günleri, belirli eserlere olan ilgi ve ziyaretçi etkileşiminin sayısal verileri gibi müze ziyaretlerinin iç dinamiklerine ışık tutmaktadır.

Müzenin ziyaretçilerden bilgi toplaması, sürdürülebilirliği ve hizmet iyileştirme amacı ile gerçekleşir. Bu veriler, gelecekteki müze politikalarının, yatırımların, vizyonun, misyonun, etkinliklerin, kısaca stratejilerin ayarlanmasına yardımcı olur. Örneğin, bir müzenin ziyaretçilerinin çoğunluğunu genç bireyler oluşturuyorsa, gelecek planlama stratejileri buna göre uyarlanır. Benzer şekilde, bir müze engelli bireyler tarafından sık ziyaret ediliyorsa, politikaların onların ihtiyaçlarını karşılamak üzere şekillendirilmelidir.

21. yüzyılda, müzeler sergileme ve sunum tekniklerinde köklü değişimlere tanıklık etmişlerdir. Gelişen teknolojiler, müzelerin ziyaretçilere sunduğu deneyimi geliştirmek ve tarihi eserleri daha anlamlı hale getirmek için yeni imkanlar sunmaya başlamıştır. Canlandırma, üç boyutlu animasyonlar, bilimsel araştırmaların uygulamaları ve ziyaretçiyi deneyim odağının içine alma gibi yeni yaklaşımlar, müzelerin vazgeçilmez bir parçası haline gelmiştir.

2000 yılında internetin yaygınlaşması ve mobil cihazların gelişmesi, taşınabilir hale gelmesi müzelerin bu yeni teknolojileri benimsemesini hızlandıran en temel etken olmuştur. Kolay, ucuz ve taşınabilir yazılımların yaygınlaşmasıyla birlikte, müzelerde interaktif sergiler ve sanal turlar gibi yenilikçi uygulamalar geliştirmeye başlamıştır. Sosyal medya ağları da bu etkileşimi daha da pratik hale getirmiş ve hem müzelerin daha geniş kitlelere ulaşmasını hem de kurumlar arası gelişmelerin takibinin hızlanmasını sağlamıştır. Müzeler, kimliklerini korumak ve güncel kalmak için bu yeniliklere ayak uydurmak zorundadır çünkü geçmişti korumak ve geleceğe yön vermek, müzelerin sorumluluğudur.

Son yıllarda, Türkiye'de yeni teknolojik gelişmelerin müzeler üzerindeki etkisi önemli olmuştur. 2010 yılı özellikle yeni sergiler için bir milat tarihi gibi değerlendirilebilir.

2010 yılından itibaren makalede ele alındığı üzere yeni sergi teknikleri hızla yaygınlaşmış ve günümüz sergilerinin fiziksel yapısında önemli değişiklikler görülmüştür. Bu makale İstanbul'da Kayıp Bizans Sarayları, Renkli Tanrılar Sergisi, Tatarlı İncelemesi, Dali Sergisi ve Sanat çalışması olmak üzere teknoloji kullanımı ile ilerleyen beş yeni sergi deneyimini vurgulamakta ve incelemektedir. Bunlardan ilki olan Kayıp Bizans Sarayları Sergisi, bilgisayar teknolojisi kullanılarak yeniden inşa edilen Bizans saraylarını ziyaretçilere canlandırarak sunmuştur. Bu sergi, Bizans tarihinin en büyük ve en ünlü saraylarının simülasyonlarını içermiştir. Ayrıca, sergide Bizans saraylarının mimari fotoğrafları ve 3D re-konstrüksiyonları ziyaretçilerle buluşturulmuştur. 2010 yılında İstanbul Arkeoloji Müzesi'nde açılan ve sarayların görüntüleriyle canlandırılmasından 14 yıl sonra, günümüzde 2024 yılında Bizans İmparatorluğu'nun en önemli sarayları, Tekfur (Porfirogenetos) (ziyarete açılmıştır), Büyük Saray ve Bukoleon Sarayı'nın restorasyon çalışmaları İstanbul Büyükşehir Belediyesi tarafından halen devam etmektedir. Tamamlandığında müze olarak ziyaretçilere açılacaktır.

Renkli Tanrılar: antik heykel sanatında çok renklilik anlatan bir sergidir. İstanbul Arkeoloji Müzeleri'nde (Alman) Arkeoloji Enstitüsü, İstanbul Şubesi Münih Devlet Eski Eserler Koleksiyonu ve Glyptothek ve Stiftung Archäologie-Arkeoloji Vakfı ortak çalışması ile gerçekleştirilen bir sergi olmuştur. (21.04.16.07.2006)

Renkli Tanrılar Sergisi, İstanbul ve Atina Arkeoloji Müzeleri'nde düzenlenmiş ve antik heykellerin boyanmış olduğunu gösteren bir dizi eseri sergilemiştir. Bu sergi, modern teknolojinin yardımıyla, boyanmış antik heykellerin orijinal renklerini ve dekoratif sanatlarını ortaya çıkarmıştır. Açılan bu önemli sergi ile Türkiye'de, daha önceden gördüğümüz ve tanıdığımız antik heykellerin boyalı olduğunun fark edilmesi açısından önemli bir çalışma olmuştur. Heykellerin boyalıyken nasıl görüldüğü ve nasıl anlandırıldığı konusunda birçok farklı disiplin(alan) bilgisi ile araştırmacılara ve ilgililere ilham kaynağı olmuştur.

2010 yılında önemli sergi Tatarlı Tümülüs'ünde yapılan kazılarda ortaya konan mezar anıtı olmuştur. Tatarlı İncelemesi, Türkiye'nin en değerli sanat eserlerinden biri olan Tatarlı Tümülüs'ün boyanmış ahşap malzemelerini yeniden oluşturmuş ve sergilemiştir. Bu sergi, kültürel mirasın korunmasına ve tarihi eser kaçakçılığına dikkat çekmeyi amaçlamıştır. Bu eser çeşitli çabalarla araştırmalarla değerlendirilmiştir. Tarihi eserlerimizin kıymetini bilmediğimiz takdirde onlara sahip çıkamadığımızı göstermektedir. Fakat bu eserlerin öneminin anlaşılması ile yurtdışına kaçırılan eserlerimizin peşine düşmemiz mümkün olacaktır. Bu mezar anıtında tahta üzerine yapılmış olan resim özel görüntüleme teknikleri ile ortaya çıkarılmıştır. Hangi pigmentlerin kullanıldığı ve nasıl boyandığı konusunda önemli araştırma ortaya konmuştur. Pek çok bilim alanında uzmanın katıldığı çok disiplinli bir projedir.

Ayrıca yurtdışından Ohio Columbia Sergisi ve Florida Dali Müzesi sergilemeleri de makaleye eklenmiştir. Bu sergiler çok disiplinli, ziyaretçinin deneyim odağında olan yeni sergileme yöntemlerine örnek verilmektedir.

Geleneksel müze sergileri, modern çağın temposuna ayak uydurmak için değişmektedir. Tarih boyunca müzeler, buldukları dönemin yeniliklerini, yaşam tarzlarını ve icatlarını sergileyen vitrinler olarak öncü hizmet vermişlerdir. Günümüzde ise post-modern müzeciliğin bir yansıması olarak teknoloji yardımıyla müze sergileri, ziyaretçilere maksimum bilgiyi en hızlı ve verimli şekilde sunmaya çalışmaktadır. Ziyaretçi açısından ise günümüz müze ziyaretçisi modern, yeni, katılımcı, etkileşimli sergileme tekniklerini modern müzelerde görmeyi istemektedir.

Günümüzde müzeler, eğitim kurumları, üniversiteler ve şirketler, teknolojik araçlar sayesinde her zamankinden daha fazla iş birliği yapar hale gelmiştir. Bilginin ekranlar arası ağlar ve internet üzerinden hızla yayılması, eş zamanlı olması, yeni yöntemlerin benimsenmesini kolaylaştırmaktadır. Bu bilgi yayılma hızı hem kapsamlı bilginin tamamlanmasını sağlamaktadır.

Sonuç olarak, teknolojik atılımlarla müzeler, müze sergileri tarihi eserleri en iyi şekilde koruyabilirken; müzelerin mevcut rolleri bu yüzyılda önemli ölçüde değişmiştir. Makalede ele alınan sergiler, teknolojinin müze uygulamalarındaki ilerlemelerini gösteren öncü örnekler ve o dönem yeni çalışmalara ilham vermiş adımlardır. Bazen sergilerde kullanılan normlar Salvador Dali'nin hayatı boyunca yaptığı yağlıboya çalışmalar, ya da onun videolarından öğrenen deep fake videosu ile günümüz insanı ile tanışması oldukça ilginç yeni deneyimlerdir. Ayrıca müze ziyaretçilerinin yüzlerinin müzede bulunan bir heykele yansıtılması da oldukça yenilikçi bir çalışmadır. İlerleyen yeni teknolojiler müzelerdeki ve arkeolojik eserlerin tekrar tekrar ele alınmasını sağlamaktadır. Müzeler yeni gelişmelerle hızla eğitim kurumlarına ve laboratuvarlara dönüşebilme gücüne ve toplumu eğitirken değiştirme ve etkileyebilme yeteneğine sahiptir. Modern müzeler, dijital teknolojinin ilerlemesiyle zenginleşen ve katılımcı deneyimler sunan kurumlar olma yolunda devam etmektedirler.