WAYFINDING IN ADAPTIVE REUSE MUSEUMS: ANATOLIAN CIVILIZATIONS MUSEUM IN ANKARA

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ABSTRACT

WAYFINDING IN ADAPTIVE REUSE BUILDINGS AS MUSEUMS: CASE STUDY ON ANATOLIAN CIVILIZATIONS MUSEUMS IN ANKARA

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Adaptive reuse buildings are often used for purposes different from their original function. Especially complex buildings such as large shopping centers, museums, hospitals are such buildings. The orientation problem is the users conflict of use, especially where the paths to different parts of the building are confusing. In places where there is a wayfinding problem, individuals can easily get lost and may have to wander around for a long time to reach the right place. Proper wayfinding should be designed to help visitors easily navigate around the building and reach to the desired destination. While designing the wayfinding system the existing building's architectural attributes should also be considered, such as partitions, different use of materials, lighting, and all other spatial attributes. Moreover wayfinding should also use signs, directional signage and cognitive maps can be used in the design. The problem of wayfinding in the repurposed building is a serious one and an effective wayfinding system needs to be created to solve this problem. This system will help visitors to reach the right place easily and visitors will have a positive visiting experience. Anatolian Civilization Museum was selected within the scope of this thesis for a case study and an investigation was carried out and it is found that the signage system can be improved by disconnecting some connections between the side aisles to central part of the building.

Keywords: Wayfinding, Museum, Re-use of Historical Building

ÖZET

YENİDEN İŞLEVLENDİRİLMİŞ MÜZE BİNALARINDA YÖN BULMA: ANKARA ANADOLU MEDENİYETLERİ MÜZESİ

KARATAŞ GÜREL, İlknur
İç Mimarlık Yüksek Lisans

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Yeniden işlevlendirilmiş binalar genellikle orijinal işlevlerinden farklı amaçlarla kullanılır. Özellikle büyük alışveriş merkezleri, müzeler, hastaneler gibi karmaşık binalar bu kapsamdadır. Yönlendirme problemi, kullanıcıların, özellikle binaların farklı bölümlerine giden yolların karışık olduğu durumlarda karşılaştığı bir sorundur. Yönlendirme sorunu olan yerlerde, bireyler kolaylıkla kaybolabilir ve doğru yere ulaşmak için uzun süreler boyunca dolaşmak zorunda kalabilirler. Ziyaretçilerin binada kolayca gezinmelerine ve doğru yere ulaşmalarına yardımcı olmak için uygun yönlendirme tasarlanmalıdır. Yönlendirme sisteminin tasarlanması sırasında mevcut binanın mimari özellikleri de dikkate alınmalıdır, bunlar bölümler, farklı malzeme kullanımı, aydınlatma ve diğer tüm mekansal özellikler olabilir. Ayrıca yönlendirme, işaretler, yön levhaları ve bilişsel haritalar gibi araçlardan da yararlanabilir. Yeniden işlevlendirilmiş bir binada yönlendirme sorunu ciddi bir sorundur ve bu sorunu çözmek için etkili bir yönlendirme sistemi oluşturulmalıdır. Bu sistem, ziyaretçilerin doğru yere kolayca ulaşmalarına yardımcı olacak ve ziyaretçiler olumlu bir ziyaret deneyimi yaşayacaklardır. Bu tez kapsamında Anadolu Medeniyetleri Müzesi bir vaka çalışması olarak seçilmiş ve bir araştırma yapılmıştır. Araştırmada, yan koridorlar ile binanın merkezi bölümü arasında bazı bağlantıların kapatılarak yönlendirme sisteminin geliştirilebileceği tespit edilmiştir.

Anahtar Kelimeler: Yön Bulma, Müze, Tarihi Binaların Yeniden Kullanım

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CHAPTER I

INTRODUCTION

In the twentieth century, with modernism spreading across the world, many things changed, and these changes also affected museums. At this point, it can be said that contemporary museology emerged. The first examples of museums' modernization approach were demonstrated by their adoption of a new attitude of professionalism, multidisciplinary and innovative approaches. Subsequently, another development took place as museums were divided into units such as "museum management, exhibition design, museum education, archiving, public relations" (Baskın 2020: 8). This is where contemporary diverged from the traditional museum approach. Traditional museums focused on approaches like "collecting, preserving, caring for, and presenting" while contemporary museums embraced more visitor-centered activities and events (Kalyoncuoğlu et al. 2021: 284).

In the present day, architecture continues to exist in a complex manner with pluralistic approaches, encompassing various movements, ideologies, theories, and thoughts. The factors that shape architecture include changes that arise within the cultural and physical environment, the formation of vital differences, and the resulting data and expectations of the content. Contemporary museums, which are constantly evolving, have expanded their functions, seeing visitors as an integral part of the museum and shifting away from their previous exhibition and preservation-oriented approach. Contemporary art exhibitions attract more visitors, and activity areas within museums are transformed into meeting points where visitors can interact with each other. In these significant socialization spaces of the modern world, an important aspect to be addressed is the issue of orientation in these spaces (Peponis et al. 1991).

When visiting a place that is already known and embedded in memory, a sense of comfort and security arises from knowing the place in advance; however, when entering a place for the first time, it may be accompanied by fear and excitement. In

such situations, fear gives way to solving the problem related to the space or finding a way to leave the place and return to the starting point. When finding directions in the space becomes challenging, a feeling of insecurity emerges. As finding directions becomes more difficult, it leads to reluctance towards the destination, fear, and ultimately a reluctance to return to that place.

The interaction of an individual with the space begins from the moment of the first encounter with the space, and this experiential process involves knowing, finding directions, and reaching the goal. The experiences of an individual regarding finding directions in the space are important reference sources for future visits to that place. For example, a negative experience in finding directions during a previous visit will always be remembered, and knowing the place beforehand will not be of any use. Such an unfavorable experience may result in a behavioral pattern of not wanting to visit that place again. Therefore, having a good wayfinding system is crucial to prevent visitors from experiencing any disorientation or insecurity in the visited place (Kandemir and Uçar 2015: 33-34). When visitors know their location within the building, they can better understand the information presented to them (Zimring and Dalton 2003). A poor wayfinding system may lead to problems for individuals when making decisions in the space where they lack sufficient information to move around. In public places, especially museums, it is essential for spaces to have a well-designed wayfinding plan to ensure that visitors do not experience any difficulties in finding directions. For this reason, these types of spaces need to align with contemporary conditions in terms of wayfinding, and everything from spatial planning to exhibition elements should be carefully organized. Clear instructions within the exhibition area help visitors to move freely and avoid any sense of disorientation. The accessibility model within the exhibition area shapes the understanding and perception of connections or separations between areas or elements, sequences, groupings, and forms. The architectural space and spatial boundaries, together with the objects, define an area of influence. Location can be determined according to these definitions (Wineman and Peponis 2009).

1.1. Aim And Scope, Purpose

The historical buildings that bear the traces of the era in which they were built become obsolete over time due to changes in the societal structure and their inability to meet evolving physical or environmental needs. Instead of demolishing or

preserving them without assigning a function, they are re-purposed and integrated into contemporary life. This way, historical buildings can be transmitted to future generations and preserved along with their past values. However, interventions that can be applied to these structures are limited due to their historical significance. Historical buildings are among the most potent physical references that convey information about past life (Aydın and Okuyucu 2009). During the process of re-purposing historical buildings, both the original function and the new function should be taken into account. The layout of the building should be adapted to accommodate the requirements of the new function. Any modifications made should not harm the essence of the building and should be within the limits set by the Venice Charter. The Venice Charter is an international agreement adopted in May 1964 that establishes a framework for the preservation and restoration of historical buildings (Venice Charter 1964). The design should ensure that the historical building's aesthetics and architectural features are preserved while serving the new function. As stated in Article 5 of the Venice Charter, providing a new function to historical buildings while preserving them is essential for societal purposes, but these changes should not damage the original plan and decorations of the building (Venice Charter 1964).

Furthermore, the most suitable alternative for the reuse of a historical building with minimal intervention and without overburdening its capacity is its adaptation as a museum (Ahunbay 1996: 97). Museum structures are also spaces where circulation elements and transitional points are highly needed. In order to fulfill these needs, the role of wayfinding parameters is significant in museum design. Directional systems are important for visitors to know their location and receive the messages of the museum. Lack of proper wayfinding can lead to visitors experiencing fear, uncertainty, and confusion, hindering the fulfillment of the museum's purpose. Therefore, in the design of museum spaces, attention should be given to visitors' need for movement and orientation. Once these fundamental needs are met, other formations can be perceived effectively (Hein 1998: 160-161).

Therefore, in the design of museum spaces, attention should be given to visitors' need for movement and orientation. Once these fundamental needs are met, other formations can be perceived effectively (Hein 1998: 160-161).

1.2.Research Questions

This study aimed to find out visitors' wayfinding experiences during museum visits at the Adaptive re-use buildings, and problems of signage system and buildings configurations. Anatolian Civilizations Museum in Ankara in 2023 is chosen as a case study. The aim of this study was to investigate the impact and adequacy of the museum's wayfinding systems and spatial organization on visitors' wayfinding experiences. Several research questions lead the study. The questions are as follows:

- Do visitors explore the museum in a chronological order?
- What is the relationship between exploring the museum chronologically and wayfinding?
- Are the existing wayfinding elements in the museum clear and comprehensible?
- What is the relationship between providing routes for visitors during museum navigation and easy wayfinding?
- How effective are the existing wayfinding elements in the museum in terms of wayfinding and understanding one's location?
- Do first-time visitors to the museum and visitors at specific time intervals exhibit differences in wayfinding?

To address these questions, observation, face to face interview, space syntax analysis and survey was used in the case study area, Anatolian Civilization Museum, in Ankara, Turkey.

In this thesis study, the Anadolu Medeniyetleri Müzesi (Museum of Anatolian Civilizations), which is housed in the Mahmut Paşa Bedesteni and Kurşunlu Han, two examples of 16th-century Ottoman Period architecture, is examined. After periodic interventions and restorations carried out on both structures, they have been utilized together to establish the museum. Kurşunlu Han, being used as the administrative building of the museum, limits the scope of the thesis to the Mahmut Paşa Bedesteni, where archaeological artifacts are exhibited. Previously, there has been no study specifically focusing on wayfinding design for the building, despite previous research on restoration process, architectural analysis, and lighting design. This circumstance has been one of the determining factors for the topic of this thesis study.

This thesis study, prepared through literature research, on-site observations, visitor surveys, and documentation through photography, aims to determine whether the wayfinding parameters are adequately met through limited interventions in the

interior spaces during the adaptation of Mahmut Paşa Bedesteni as the Museum of Anatolian Civilizations, in the context of preserving historical buildings. The conclusion section of the study aims to include proposed solutions for the identified deficiencies.

The preservation of historical buildings that carry traces from the past and bringing them into the future is a highly significant issue in serving cultural heritage. Particularly, with increased awareness in recent years, historical buildings are being revitalized through the method of adaptive reuse. The examined structure within the scope of this study is one that should be treated with great sensitivity, as it has hosted many civilizations' artifacts throughout the years and received the "Museum of the Year in Europe" award in 1997.

1.3. Structure of the Thesis

After the first chapter which is introduction, literature research about way finding and its problems were analyzed in the second chapter. In the third chapter of the thesis several examples of the buildings which are adapted from a heritage building to a museum were examined, in the fourth chapter Case study with its thorough investigation about Anatolian Civilization museum was stated in detail and the final conclusion part which is chapter five conclude the study and discussion about the research question findings.

CHAPTER II

WAYFINDING IN ADAPTIVE REUSE MUSEUM BUILDINGS

2.1. RELATED RESEARCH

2.1.1. Adaptive Reuse Museum

Table 1: Related Research About Adaptive Reuse Museum.

Author	Year	Title of the Study / Publication Place	Type
Tuğçenur Metin Parlak	2022	The effect of reuse on space and daily life: Çanakkale Kilitbahir Castle Museum / Atılım University	Master Thesis
Ioannis Vardopoulos	2022	Industrial building adaptive reuse for museum. Factors affecting visitors' perceptions of the sustainable urban development potential / Greece	Article
Rana Tootoonchi, Farnaz Faraji, Mina Mehrtash	2020	Evaluation criteria for adaptive reuse of modern architecture, (Case study: Qasr Museum-Garden) / Iran	Article
Serap Sevgi	2020	Examination of adaptive reuse interventions in terms of conservation in the cases of Ankara Çengel Han, Çukur Han and Safran Han, and an assessment method proposal / Gazi University	PhD Thesis
Nihan Konak	2019	An industrial heritage example within the scope of re-functionalization: Seka Paper Museum interior design analysis/ Kocaeli University	Master Thesis
Nehir Öztürk	2019	Examining of the architectural features and conservation problems of sea fortresses reused as archeological museums in the Aegean region in the example of Bodrum fortress / Mimar Sinan GSF	Master Thesis
Zuraini Md Ali, Rodiah Zawawi, Nik Elyna Myeda, NabilaMohamad	2018	Adaptive reuse of historical buildings: Service quality measurement of Kuala Lumpur museums / Malaysia	Article
Seda Özçetin	2016	Castles used as archeology museums; Exemplifying Bodrum, Cesme ve Marmaris castle / Yıldız Teknik Univerity	Master Thesis

Table 1 Continued

Özge Kandemir	2013	Adaptation of buildings devoted to cultural heritage to the museum through contemporary approaches 'new' spatial experiences / Anadolu University	Proficiency In The Arts
Sophie Francesca Cantell	2005	The Adaptive Reuse of Historic Industrial Buildings: Regulation Barriers, Best Practices and Case Studies / State University	Article

2.1.2. Wayfinding and Museum Wayfinding Design

Table 2: Related Research About Museum Wayfinding Design.

Author	Year	Title of the Study	Type
Mizan Adillia Ahmad Fuad, Muhammad Hafeez Abdul Nasir, Yasser Arab, Ahmad Sanusi Hassan, Boonsap Witchayangkoon, Wesam Beitelmal	2023	The Space Syntax Study on The Baltic Station Market of Estonia / Malaysia	Article
Kansu ÖZDEN	2022	Interactive Information Design in Museums: Comparison of Museum of Anatolian Civilizations and Frankfurt Historical Museum / Mardin Artuklu University	Article
Ashley Ann Mask	2020	Wayfinding For Novice Art Museum Educators: A Post-Intentional Phenomenological Exploration / Columbia University	PhD Thesis
Jakub Krukar , Vanessa Joy Anacta, Angela Schwering	2020	The effect of orientation instructions on the recall and reuse of route and survey elements in wayfinding descriptions / Germany, Philippines	Article
Janine de Bruijn	2019	Wayfinding in the Rijksmuseum / Utrecht University	Master Thesis
Teresa Villani	2018	Materials and technical solutions for wayfinding in museums / Sapienza University	Article
Yaghoob Peyvastehgar Ali Akbar Heidari Maryam Kiaee Mahdokht Kiaee	2017	Wayfinding process analysis using space syntax in the Museum of Contemporary Art / Iran	Article
Esin Hasgül	2011	Wayfinding In Interior Spaces: A Study In Big Scaled Buildings / İstanbul Technical University	Master Thesis

Table 2 Continued

Ülkü Ezgi Akgün	2011	A Study Of The Effect Of Spatial Configuration On Perception And Way Finding In Museums/ İstanbul Technical University	Master Thesis
Nien-Tsan Wang Wan-Ju Shen Gwo-Dong Chen	2010	The Development of Interactive Navigation Interface for Virtual Museums National Taiwan University / National Central University	Article
Güler Ufuk Doğu Demirbaş		Spatial Familiarity as a Dimension of Wayfinding / Bilkent University	Doctor of Philosophy ın Art

2.1.3. Anatolian Civilization Museum

Table 3: Related Research About Anatolian Civilization Museum.

Author	Year	Title of the Study	Type
Kansu ÖZDEN	2022	Interactive Information Design In Museums: Comparison Of Museum Of Anatolian Civilizations And Frankfurt Historical / Museum Mardin Artuklu University	Article
Halil Demirdelen	2020	Evaluation Of Educational Activities Which Were Performed At Museum Of Anatolian Civilizations / Ankara University	Master Thesis
Zafer Tüysüz Hüseyin Şalvarli Mustafa Aktaş	2019	On Air Conditioning In Museums: The Case Of The Museum Of Anatolian Civilizations / İzmir-Ankara	Article
Gizem Alp	2018	An Evaluation About The Restoration Processes Of The Buildings Which Constitute The Museum Of Anatolian Civilization / Maltepe University	Master Thesis
Özgür Alican	2017	A Mobile Application With Augmented Reality: An Example For The Museum Of Anatolian Civilizations / Hacettepe University	Proficiency In The Arts
Ayşe Serenay Altintaş	2011	The Analyse Of Phrygian Information Signs Available In Anatolian Civilizations Museum And Their Importance In Graphic Studies / Gazi University	Master Thesis
Uğurtan Aybar	2007	Evaluation Of Natural Lighting Alternatives For The Arasta Section In Anatolian Civilizations Museum And A System Proposal / Gazi University	Phd Thesis

There are a total of 25 theses related to the Anatolian Civilizations Museum in the archive of the National Thesis Center. Among these, 7 of them cover topics related to the interior design of the museum. The remaining theses are related to art history, archaeology, museology, and education.

2.2. ADAPTIVE REUSE AND MUSEUM BUILDING

2.2.1. What is Adaptive Reuse?

The physical durability of buildings remains much longer than their functions, and over time, structures undergo spontaneous changes. However, functions become obsolete technologically, socially and culturally over time. Even if the structures are in good condition from a material point of view, they become unusable from a functional point of view. If the update is not made, the structures that are about to be abandoned and ruined may be doomed to destruction. Adaptive reuse, on the other hand, means making these structures suitable for re-use with renovations. In other words, it is the transformation of old buildings into a livable place by making them suitable for modern needs (Burden 2004: 215).

Historical buildings are constructed according to the social, cultural and architectural characteristics of the time they were built. However, due to changing needs and technologies over time, many historical buildings are losing their function and becoming inactive. This situation causes the buildings to wear out and disappear over time. However, necessary measures can be taken for the preservation and preservation of historical buildings. Within this scope, historical buildings can be protected and new functions can be acquired by taking into account the characteristics of their structures. In addition, renovation and maintenance of historical buildings can be carried out, and these structures can be brought back to life with new functions. In this way, historical buildings with their past values can be transferred to future generations and preserved.

Historical buildings, especially buildings such as caravanserais, tekke, monastery, usually cannot maintain their original functions and may need to be used for different purposes. However, buildings whose functions such as housing and hotels are still valid today are doomed to become obsolete and dilapidated because they do not meet modern standards. Therefore, adaptive reuse is an important tool to save old buildings from demolition. The preservation and re-use of old buildings contributes to the preservation of the historical texture and ensures the transfer of cultural heritage to future generations (Ahunbay 1996: 97).

In the process of adaptive reuse of historical structures, it is necessary to take into account the new function as well as the old function. The plan layout of the building should be harmonized with the requirements of the new function to be used.

The changes to be made must be made without harming the essence of the building and within the limits set by the Venice Charter. By preserving the aesthetics and architectural features of the historical building, the design should be made in such a way as to fulfill the new function. 5 Of the Venice Charter. As stated in the Article, the preservation of historical structures by giving them a new function is important for social purposes, but these changes should not damage the original plans and decorations of the structure (Venice Charter 1964).

2.2.2. Adaptive Reuse of Historical Building

Humanity has experienced a constant process of change and development throughout its history, and the works made in this process are also undergoing changes. Structures built for a specific function may become unusable due to changing needs over time. However, instead of these structures being destroyed by preserving their cultural and historical values, it is necessary to continue their use by adaptive reuse. Thanks to this adaptive reuse, the historical values of the buildings can be preserved while meeting economic, physical and social needs at the same time. Giving new function should be carried out by changes that can be made without damaging the original character of the structure. In this way, while the traces of the past are passed on to future generations, modern needs can also be met (Karaata 2020).

Historical buildings offer important information about elements such as the lifestyle, culture, understanding of art and technological levels of people in the past. Although they have changed and taken different forms over the years due to the influence of time, they bear traces of the development of society and form an important part of our cultural heritage. For this reason, the preservation and transfer of historical structures to future generations is of great importance in terms of the society's identity consciousness and cultural values. The preservation of historical buildings is a necessity and a social responsibility in order to carry our cultural heritage, which bears the traces of our past, to the future (Altınoluk 1998).

Cultural values and traditions are the basic elements that make up the identity of a society. These values originate from the history and culture of society and are passed down from generation to generation. However, societies undergo changes over time, and this change also affects cultural values and traditions. Therefore, works from the past are important for preserving the cultural heritage of society and transferring it

to the future. Deconstructions serve as a bridge between the past and the future and help to preserve the identity and cultural values of the society. Therefore, the preservation and adaptive reuse of works of art is an important task for social development (Eroğlu and Yaldız 2006).

Historical buildings can be seen not only as structures that bear the traces of the past, but also as living works that are at the center of the change of places and social change. The changing values of society also bring about the change of places, and these changes progress by incorporating previous accumulations and adding them to new formations. Spaces are areas where cultural changes take place and evolve together with society. What ensures the continuity of the change is not only the physical structure of the monument, but also the experience of those who live together with the environment. Therefore, monuments are the basic elements of cultural continuity and change" (Asiliskender et al. 2005).

2.2.3. What is Museum?

The word museum comes from the ancient Greek word "Mouseion" and means temple of sciences. The first museum, M.D. I in Alexandria in the 300's. It was founded by Ptolemy (İnel 1998: 24; Genim 1998: 34). At that time, there were no ancient works of art in museums as there are today. However, today's museums have been formed as a result of people's intellectual development and increasing interest in works of art. People who got rid of the scholastic mentality of the Middle Ages began to travel in order to get in close contact with the cultural assets of the old world thanks to faster transportation opportunities. In this process, museums have become a tool for preserving and displaying ancient artifacts, and today there are many museums open to visitors. (Keleş 2003).

Museums are institutions that offer the opportunity to learn, explore and experience, built for the purpose of preserving the scientific and cultural heritage of society and transferring it for future generations. Museums provide people with a better understanding of themselves and the world by showing their visitors the richness of different cultures, history, art, science and nature. Museums also provide resources for research, follow scientific and cultural developments, and play an important role in protecting and advancing the cultural identity and values of society. Museums play

an important role for the well-being and development of society by providing people with access to cultural wealth (Greenhill 2000).

A museum is an institution and space that houses a structure belonging to people's past, historical artifacts, central structures, objects with cultural and scientific consequences. Museums play an important role in preserving, exhibiting and researching the cultural, historical, scientific and central heritage of humanity. museums, which express a non-profit, permanent, public institution that serves society and the development of society, acquire, protect, research, transmit and exhibit the abstract and concrete human heritage and its environment for the purpose of education, study and entertainment. This definition has been adopted and formalized by the International Council of Museums (ICOM) and is included in the ICOM Statutes. (ICOM 2007).

The definition and role of museums have changed over time. In the past, museums were considered as places where concrete evidence was exhibited, but in different periods, such as modernism and postmodernism, they were influenced by different approaches to how information is defined and what can be considered as a source of information. These changing approaches show that museums are being affected both theoretically and practically. For example, before the 1970s, the focus of museums was not on the needs of visitors, but on the exhibition of tangible heritage. However, in the following years, with the change of pedagogical approaches in museums, more attention has been paid to the needs of visitors. These needs have been defined as the use of tangible heritage for educational, working and recreational purposes, especially to increase physical and mental access. But today, inquiries into knowledge in museums indicate that knowledge is not limited only to tangible heritage, but also beliefs, techniques, traditions, science, etc. it shows that it contains. For this reason, by giving more importance to small narratives, local forms of knowledge are becoming more and more valuable (Kandemir 2004: 31-35).

Stephen Weil states that the traditional understanding of what museums are is expressed in functional terms. Therefore, the purpose of museums is focused on "material evidence", which is historically concrete and tangible in nature. However, Weil argues that museums are not only limited to displaying concrete evidence, but also can function as a platform where they can offer different types of information and experiences. For this reason, he emphasizes that it is not correct to perceive museums

as institutions established not only for the purpose of preserving and displaying objects related to the past, but also that they play an important role for the education, entertainment and social experiences of visitors (Weil 1997).

There are museums, different structures, and there are various types that serve the purposes. Archaeological museums exhibit historical artifacts, while art museums exhibit artistic works such as painting, sculpture, ceramics, photography. Science museums, on the other hand, exhibit works related to nature, astronomy, technology and other scientific topics. In addition, ethnographic museums aim to promote the cultures, traditions and lifestyles of peoples (Venturi 1991)

Museums offer many different experiences to visitors. Visitors can visit museums to understand historical artifacts and cultural values, get information about exhibitions and artifacts, or just visit for artistic and aesthetic pleasure. Museums are also used for many educational and information transfer operations, such as school trips, tourist excursion programs, and research operations (Asiliskender et al. 2005).

The collection, preservation, study, interpretation and exhibition of material artifacts are the main components of the definition of a museum. However, the mission and application methods of museums today have changed with the addition of abstract values. The spatial distribution of these activities distracts people from the routine of everyday life. Today, museums have a two-way dialogue with their visitors rather than acting as mere repositories of cultural prototypes or as an authority and normalizing force. This dialogue stands out because it is based on interpretation instead of exact truths and is realized with the desire for innovation. In this way, museums evolve in accordance with the changing needs and diversity of society (Schubert 2004: 132).

Today, the definition of museums is not limited to components such as collection, preservation, documentation, interpretation, and exhibition. The change observed in the mission and activities of museums can be explained by the inclusion of abstract values in the definition of the museum. Among these values are activities such as contributing to cultural practices, conducting scientific research, and preparing publications. In the present day, museums are defined as institutions that go beyond being merely cultural prototype repositories or authoritative sources; they engage with their visitors (Göçer 2003).

The purpose of museums is not a one-way communication but to establish a two-way dialogue with their visitors. This dialogue encourages interpretative

approaches rather than definitive truths and fosters a desire for innovation. The openness of museums, their embracing of a questioning approach, and their rejection of universalized thinking reflect the dynamics and multiculturalism of late 20th-century society. Moreover, it is emphasized that museums now require external elements in defining themselves and their relationships with the other are no longer limited to protective and apologetic dialogues. Museums should be aware that they are both a narrative and a selection, and they should question not only their visitors but also themselves and their selection criteria. This way, visitors can better understand both the framework of museums and the artworks exhibited in them (Huyssen 2016: 261).

2.2.4. History of the Museum

The word "Museum" that we use today is derived from the Greek word "Mouseion" and is used as a term for the inspired fairies who inspire music and poetry (Genim 1998: 34).

The first examples of collecting in history were created by bringing together natural objects and works of art in tombs during the Paleolithic period. Dec. However, more organized collecting activities began in the near east, and especially in Ancient Egypt and Mesopotamia, valuable objects were exhibited in temples, tombs or palaces. While some of these exhibitions were made for religious purposes, some of them were made for showing the spoils captured in wars to the public (Yücel 1999: 19).

The conscious collection and exhibition of works of art was observed especially among the Greeks. This movement was supported by the construction of treasury buildings called "Theasuri" in centers of political and religious importance along with colonization. There was also a picture gallery in the Acropolis of Athens called the Pinakothek, where the works of famous artists were exhibited. Temples also started to serve as art galleries along with the statues and paintings given as offerings (Atasoy 1999: 1).

During the Hellenistic period, social events and philosophical conversations also began to be held in gymnasiums, where physical education and sports, as well as mental education, were given importance. During this period, mouseions became places where intellectual people gathered, and the interiors of these structures were carefully arranged and many works of art began to be exhibited. As a result of these

developments, the collection of ancient artifacts has also gained importance (Yaraş 1994: 19).

Romans are known for their interest in ancient artifacts and their tendency to collect them. The Romans, who especially admired the ancient Greek culture, had a great passion for collecting and displaying Decrepit Greek sculptures. This passion has become a fundamental feature of collecting in Roman culture and has shown similarities to the current understanding of collecting. In addition, the Romans were also very successful in copying and reproducing ancient artifacts. Thanks to this, the ancient artifacts have been multiplied over time and have become visible to wider masses (Yaraş 1994: 20).

In medieval Europe, the idea of establishing and exhibiting museums was not widespread, as the modern understanding of museums had not yet developed. However, there were collections of religious objects in monasteries and churches, and these collections were gradually increasing. For this reason, the churches of the Middle Ages took over the task of protecting and storing works of art by replacing the temples in the ancient period. (O'Doherty 2010).

From the 15th century in Europe, some European royal collections were open to a limited number of visitors, but these visitors were usually special guests. The efforts of Renaissance thinkers to access pre-Medieval knowledge led to the realization of the value of historical artifacts and the systematic collection of these artifacts.These collections were previously stored only in palaces, but 18. at the end of the century, museums began to be opened to the public. These museums usually contained collections related to flora and fauna. in 1683, the Ashmolean museum in Oxford was the first museum to be opened to the public, and there were botanical and nature departments here. The Louvre Museum, France XIV. It was filled with many artifacts brought from the palace during the reign of Louis, and these artifacts were moved to the Louvre Palace. A part of the palace was organized as a museum and opened to the public in 1793. in 1848, a reorganization was made at the Louvre Museum (Cameron 1982).

Figure 1: Louvre Museum (URL 1)

In the United Kingdom, Sir Hans Sloane played a leading role in the establishment of the British Museum, which was opened to the public in 1759. The establishment work of the Berlin Museum began in 1797, and it was opened to visitors in 1830. The Berlin Museum is a museum that exhibits rich collections from Greece, Egypt, Anatolia, and other countries, and it houses many important artifacts, including the Pergamon Altar and pieces from the Agora of Miletus. Museology in Russia developed in the early 18th century, and as a result of the excavations commissioned by Tsar Peter I, the Kremlin Palace Armory Museum was established. The Pushkin Museum and the Hermitage Museum are also among the significant museums later established in Russia (Humbatova 2019).

Throughout the history of museology in Europe, national museums and galleries have been established in many capitals. In America, the first museum was opened at Harvard University in 1750, followed by others. However, with the advent of industrialization and technology, different types of museums emerged to prevent the loss of traditional cultural elements. For example, ethnographic museums originated in Copenhagen in 1841. Open-air museums also became popular, especially with examples like Skansen and the Folk Museum (İnel 1998).

The history of museology in Turkey started with the storage of ancient artifacts in certain places about 150 years after the idea of creating and exhibiting museums that started in Europe (Atasoy 1999: 7).

We can examine the historical development of museology in Turkey under four separate stages:

The first periods of museology in Turkey began about 150 years after Europe. Titles with inscriptions in the name of Emperor Constantine, collected by Sultan Abdulmecid on a trip in 1845 and preserved in the Hagia Irene Church, then began to serve as the first museum of Turkey with the arrangement of this place and its transformation into a "museum".

Edward Goold was appointed as the first museum director, followed by Tarenzio and German Dethier. With Dethier's death, the "Osman Hamdi Bey Period" began and Turkish museology continued to develop (Tekeli 1998:13). Osman Hamdi Bey is an artist who studied painting in Paris and worked as a civil servant. In addition to the directorate of the museum and the directorate of the Sanayi-i Nefise School, he has worked for a large museum in the future. First, he repaired the Tiled Pavilion, and then built the School of Fine Arts, which is now called the "Museum of Ancient Oriental Works". Osman Hamdi Bey had architect Valaury draw plans for the preservation and storage of ancient artifacts and built the building known today as the Istanbul Archaeological Museums. Osman Hamdi Bey made great efforts for the modernization of museology in Turkey and served as the museum director until 1910 (Atasoy 1984: 1458).

During the third period, in the first years of the Republic, it was decided to open the Topkapi Palace as a museum together with its existing objects and to convert the Hagia Sophia Mosque into a museum. In addition, the Ankara Ethnography Museum was opened to the public and is considered the first museum building of the Republican Period. The International Council of Museums, called ICOM, established the Turkish National Committee in 1950 in order to strengthen cooperation between museums and museologists, set standards in museology, ensure information exchange in cooperation with international organizations, and improve public education (Gerçek 1999: 16).

In the last period, since the 1960s, the construction of museum buildings has accelerated. Although the designs of these new museums are similar, in terms of exhibition techniques (preservation, lighting, storage, etc.) important innovations are seen. These innovations are designed to improve the museum experience and help museums better preserve artifacts. Thanks to these new technologies, visitors can see

the works better, while at the same time ensuring the long-term preservation of the works. In this way, museums play an important role in preserving our cultural heritage and passing it on to future generations (Leland 2000: 267)

In summary, the history of Museums, although not as old as the history of humanity, has a deep-rooted past. Even in ancient times, there were museum-like places, especially in Egypt and Greece. However, the emergence of museums in the modern sense began with the Renaissance period. The Renaissance was a great renewal movement in the fields of art, science and culture, and as a result of this movement, the number of places where private collections were exhibited began to increase, especially in Italy (Keleş 2003).

17. and 18. it can be seen that in addition to private collections in Europe, states also began to establish museum-like places in the centuries. Works of art and archaeological finds were usually exhibited in these museums. 19. during the century, the number of museums continued to increase, and a scientific approach to collections was adopted. During the same period, it was also accepted that museums had an educational function, and educational programs began to be organized in museums. 19. over the century, the role and functions of museums have expanded even more. Museums were now considered not only places where collections were exhibited, but also as research centers, educational institutions and social event spaces. (Kandemir ve Uçar 2015: 26).

Today, there are thousands of museums around the world, and millions of people visit museums every year. The history of museums in Turkey is also very old. In ancient times, there were many museum-like places in Anatolia. However, the establishment of museums in the modern sense began during the Ottoman Empire. The first museums, Sultan III. It was founded during the reigns of Selim and Sultan Mahmud II. 19. in the century, the Istanbul Archaeological Museum was opened as one of the most important museums in Turkey. Today, there are many museums in Turkey, and these museums focus on different topics such as history, art, archaeology, ethnography and nature. (Keleş 2003).

2.2.5. Types of Museums

The habit of collecting and preserving has been present since ancient times. People's desire to create collections has led to the emergence of museums. Over time,

museums have undergone changes in their administration and collections, giving rise to various types. In their early days, museums were predominantly focused on archaeology and ethnography, but today, they encompass hundreds of different types. There have been several classifications regarding museums and their collections. One of these classifications, made by The Official Museum Directory, categorizes museums as follows (Boyar 2006):

- Art Museums
- Science and Technology Museums
- Natural History Museums
- Historical Museums
- Anthropology and Ethnography Museums
- Archives and Libraries
- Children's Museums
- Botanical Gardens and Zoos
- Private Collections and Private Museums
- Other Museums (for example, open-air museums, military museums, music museums, etc.)

According to the grouping determined in the Brazilian regional seminar of UNESCO dated 1958, museums are classified according to the branches of science they are related to in the following way

- Natural History Museums
- Scientific and Technical Museums
- Art Museums
- Ethnographic Museums
- Historical Museums
- Comparative Museums
- Private Museums (for example, military museums, music museums, etc.)

2.2.6. Functions of the Museum

Museums play a significant role in preserving, exhibiting, and educating the society about its heritage in areas such as history, culture, and art. Museums serve various functions of general consensus. They aim to preserve cultural and artistic

artifacts, facilitate education and learning, foster social and cultural communication, encourage research and exploration, contribute to tourism, and promote economic development (Atasoy 1999: 7).

The general functions of museums can be outlined as follows:

- Collection: Museums have responsibilities related to collecting, categorizing, and maintaining inventories of artworks. These tasks assist in the preservation of historical and cultural heritage and ensure its transmission to future generations. However, museums in our country face certain challenges in terms of inventory management. This is primarily due to the lack of sufficient human resources, time, and financial means. Additionally, some museums may lack the necessary facilities and technological tools for the maintenance and preservation of artworks. These issues may stem from deficiencies in museum management as well as inadequate allocation of resources by the government. Proper and comprehensive inventory management in museums is crucial for the preservation of historical and cultural heritage. Therefore, it is necessary to consider aspects such as allocating sufficient resources and employing personnel for museum management (Kuruoğlu 2002: 280).
- Documentation: It is important for museums to maintain digital inventories and store them in a centralized database. This enables easier access to information about artworks in different museums and ensures more effective management for the preservation of historical and cultural heritage. With the advancement of technology, creating digital inventories and online exhibition catalogs has become more accessible for museums. This allows museums to maintain accurate and comprehensive inventories of their collections and provide visitors with more interactive and visual experiences. Sharing academic studies and research conducted within museums is also significant. Sharing these works with the public can enhance people's interest in historical and cultural heritage and contribute to the field of science. Therefore, museums should be encouraged to participate in conferences, congresses, and similar events and engage in publishing. Proper and comprehensive inventory management in museums has become easier with the use of digital technologies. Additionally,

sharing the research and studies conducted within museums is important for the preservation of historical and cultural heritage and increasing people's interest in this heritage (Carr 2001: 173).

- Exhibition: One of the most important functions of museums is to expand and popularize scientific knowledge and understanding by presenting artworks to the public. Therefore, museum exhibitions are crucial in terms of organizing and presenting collections. The quality and image of a museum are determined not only by the scope and quality of the services provided but also by the materials in its collection. Museum exhibitions introduce artworks in a systematic manner, catering to different levels of understanding and knowledge of visitors (Hooper-Greenhill 1999: 160).
- Communication and Education: Museums establish communication with the public by sharing their scientific and cultural productions. These productions are realized through research, examination, exhibition, and activities conducted based on the museum's collections. Museums generate and disseminate knowledge through exhibitions and educational programs. Education is a mission aimed at imparting knowledge about art, culture, and science to all segments of society. Nowadays, museums can also be referred to as research centers, universities, and cultural centers due to the missions they undertake. Museums fulfill their communication functions through public relations, marketing and promotion activities, publications, and other communication tools (Atasoy 1999: 38).

2.2.7. Design Inputs of Museum

Social changes have altered perceptions of museums' functions and modes of fulfillment, profoundly impacting the nature of museum spaces. As Wells-Thorpe argues, the rise and fall of the modern architectural movement can be explained by two notable failures among many successful construction projects. These limitations can be summarized as a lack of dialogue with end users and a disregard for the physical context. The first limitation pertains to inadequate communication between the museum space and its end users. This implies a lack of sufficient interaction between museums and their visitors and a failure to meet their needs. This deficiency can diminish the social impact of museums and lead visitors to abandon or refrain from

revisiting the institution. The second limitation is the neglect of the physical context. This means that the museum space does not harmonize with its environmental factors and lacks local architectural styles and cultural features. Consequently, the museum space may fail to fully reflect the historical, cultural, and architectural heritage of the region, thus failing to capture the interest of the community. Failure to overcome these limitations can reduce the functionality and effectiveness of museum spaces and impede their adaptation to social changes. Therefore, it is crucial to consider the needs of end users and the environmental context in the construction of museums within the realm of modern architecture (Toon 2005: 27).

The feasibility of wayfinding in a built environment is an important architectural criterion for both users and the perception of service and brand identity within that environment. Wayfinding refers to people's ability to navigate their way without excessive delays or anxiety. The negative effects of wayfinding disruption have made it a crucial criterion that should not be overlooked in architectural design. At this point, the importance of purposeful movement, namely the act of seeking directions, in a space becomes apparent. Visual access to spatial cues, architectural differentiation, the use of graphic effects, and the formation of plans are considered variables that are part of the wayfinding experience (Öztekin 2014)

Table 4: Museum design criteria determined by different authors.

	Robillard (1982)	**Yazgan (2011)**	**Kandemir and Uçar (2012)**	**Öztekin (2014)**	**Çolak (2016)**
Museum Design Criteria	1.Entrance Halls **2.Circulation** 3.Galleries 4.Lounges	1.Organization of exhibition - Museum Content - Exhibition Design - **2.Editing the circulation scheme** - Free approach - Suggestion approach - Orientation approach	**1.Orientation** 2.Accessibility 3.Diversification 4.Flexibility	1.Dimensions (Volume, wall, ceiling, tc.) 2.Color and Texture 3.Physical conditions (Light humidity) 4.Technical Equipment 5.Space Layout (Entrance,Exit route, **Circulation**)	1.Spatial organization. **2.Circulation Plan** 3.The atmosphere of the place 4.Echibitions Elements 5.Preceiving Space 6.Space-Human interaction

Museums have become symbolic institutions for authoritative knowledge production and distribution in the modern era. These museums have primarily focused on the elevation and interpretation of objects, giving significant importance to their internal operations. Consequently, modern museums have centered around the collection, preservation, conservation, and exhibition of objects, often neglecting the values associated with visitors and the surrounding context. However, in recent times, there has been a shift towards focusing on the visitor experience in museums, placing the visitor at the center and fundamentally changing the nature of the museum by incorporating the physical environment into the experience (O'Neill 1999).

Various inputs should be taken into account in the design of museums:

- Lighting: Proper lighting is crucial for the preservation and display of objects in museums. Lighting also affects the color and surface characteristics of objects. Therefore, it is important to work with a lighting consultant who specializes in museum lighting.
- Thermal: Temperature and humidity control is highly important in museums. A constant temperature and humidity level should be maintained to preserve the artworks. Additionally, visitor comfort should also be considered in museums.
- Humidity: Humidity levels are critical for the preservation of artworks. Excessively high humidity levels can lead to the growth of harmful organisms such as mold and fungi.
- Sound: Sound levels are also important in museums. High sound levels can disturb visitors and potentially cause damage to artworks.
- Radiation: In certain museums, particularly those displaying prehistoric artifacts, radiation levels are important. Therefore, radiation levels should be monitored in museums.
- Dust: Accumulation of dust in museums can negatively impact the preservation and display of objects. Hence, dust control measures should be implemented in museums.
- Music and noise: Some museums utilize music and sound effects. However, these sounds can be disruptive to visitors. Therefore, music and sound levels should be carefully controlled.

- Surface selection: The choice of surfaces used in museums is important. Some surfaces, particularly metallic surfaces, can cause discomfort to visitors due to reflections and glare from light sources.
- Materials: The materials used in museums are crucial for the preservation and display of objects. Special materials should be used, especially for sensitive artifacts.

With this perspective, the prominent factors to consider in designing museum spaces involve concepts necessary for capturing contemporary conditions, such as "wayfinding," "accessibility," and "flexibility."

2.2.7.1 Wayfinding

One of the most crucial factors in museum design is its configuration to meet visitors' needs for wayfinding, location determination, orientation, and movement. In other words, it is important to incorporate directional systems in museums that enable visitors to know their whereabouts and comprehend the museum's messages. Deficiencies in wayfinding can lead to visitors experiencing fear, uncertainty, and confusion, thereby impeding the fulfillment of the museum's objectives. Consequently, in the design of museum spaces, careful attention should be given primarily to visitors' need for movement and their instinct for finding direction. Once these fundamental needs are met, other elements can be effectively perceived (Hein 1998: 160-161).

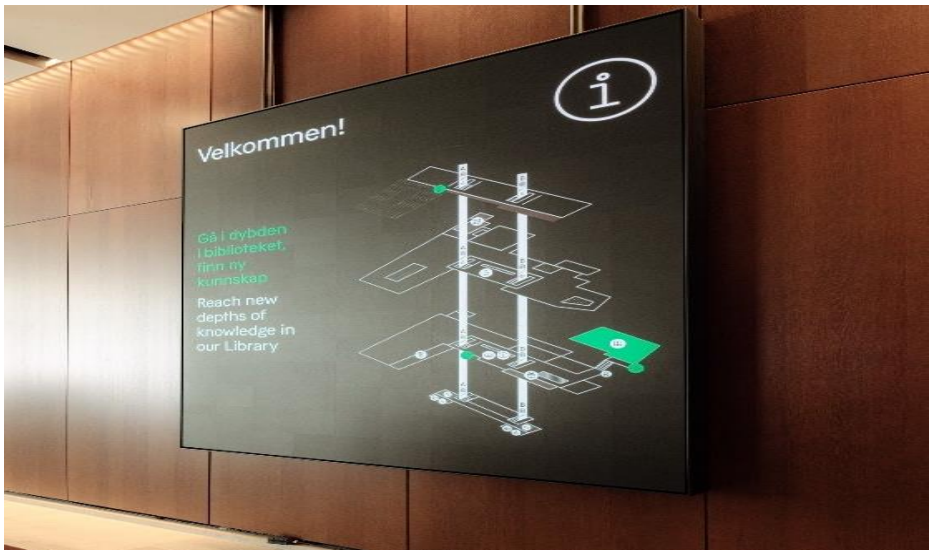

Figure 2: Museum wayfinding design example. (URL 2)

Graphic expressions can be utilized for guiding museum visitors. These forms of expression encompass signs, maps, plans, colors, pictograms, and ideograms. However, it is essential to establish the museum structure as a prerequisite for effective wayfinding. Visitors may create different paths while navigating the museum space, which can vary depending on the amount of time they have and their areas of interest. In museum design, it is crucial to allow visitors to create their own paths based on their needs and interests. Creating potential linear, circular, or spiral walking lines within the museum structure and determining the hierarchy among these lines plays a significant role in guiding visitor behavior (Morrison 2001: 131).

2.2.7.2 Accessibility

Accessibility encompasses all efforts made to provide both physical and cognitive access to museums. These efforts can be categorized into three groups: physical access, cognitive access, and access provisions. Physical access involves ensuring that the museum and its collections are easily accessible to the public (Kandemir and Uçar 2015: 26).

Cognitive access aims to make the museum's subjects and collections more understandable to non-expert visitors. Finally, access provisions aim to attract the interest of individuals who have never visited a museum by eliminating cultural and psychological barriers. Given that each visitor has different needs and characteristics, it is important for museums to develop solutions to make them accessible to everyone (Kandemir 2005: 72).

The "universal design" approach serves as a guiding principle for designers regarding museum accessibility, defining it as the design of products and building features that can be used by everyone. The principles established by the Universal Design Center serve as a guide for interdisciplinary teams in the design of "space," "product," and "communication." These principles emphasize the comprehensive approach that museums need to take, from their structural elements to their facilities, in order to provide physical and cognitive accessibility to all visitors. The universal design approach encourages museums to seek solutions to meet the needs of visitors with diverse characteristics (Greenhill 1994).

The Universal Design Principles, published in 1997 and finalized, include the following:

- Equitable Use: The product or space should be usable and easily accessible to all users, considering their individual needs.
- Flexibility: The design of the product or space should accommodate the varying needs of different users.
- Simple and Understandable: The design should be easy to understand, free from unnecessary complexities.
- Perceptibility: The product or space should be designed to accommodate the needs of users who employ different sensory systems.
- Low Physical Effort: The design of the product or space should minimize physical effort required during use.
- Size and Space for Approach and Use: The product or space should be designed to accommodate the size, mobility, and posture variations of different users.
- Aesthetic and Visual Appeal: The design should be visually pleasing and aesthetic, providing enjoyment for users.

These principles aim to ensure that products, spaces, and communication tools are designed to be inclusive and accessible to both individuals with disabilities and those without (Steinfeld and Maisel 2012: 28).

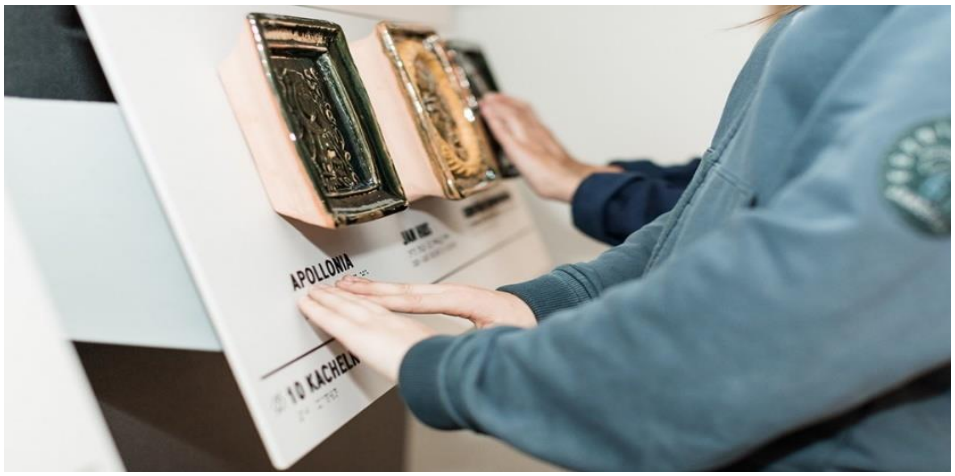

Figure 3: Example of embossed Braille cards. (URL 3)

Universal design principles encompass various applications to facilitate everyone's access, including ensuring physical access, utilizing spatial elements and technological tools, designing wet spaces to meet everyone's needs, and employing visual, auditory, and tactile devices. In the context of museums, the use of practices that cater to different learning styles is particularly important. Museums strive to establish a dynamic relationship between visitors and collections through methods such as tactile interaction with objects, role-playing, participation in theater activities, creating group sculptures, deriving conclusions from primary evidence, and utilizing audio or video recording devices. (Greenhill 1994: 5)

2.2.7.3 Flexibility

When designing museum architecture, the spaces that embody specific functions are structured in accordance with these functions. Therefore, architecture should be perceived not only as the action and creative outcome of the architect but also as a social and cultural product. With this understanding, architecture can be continuously reshaped through its ongoing use. Understanding the social and cultural dimensions of architecture, as proposed by MacLeod, also necessitates acknowledging the constant reproduction of architectural spaces (MacLeod 2005: 19-20).

This perspective emphasizes that museums are constantly reshaped based on their users and highlights that museum architecture is not a static structure. Exhibitions are no longer fixed but have transformed into dynamic activities that are constantly changing and revised. This change has occurred over the past twenty years, shifting museums from static structures to dynamic temporary ones. This transformation requires a shift in mindset and emphasizes considering spaces as different, dynamic performance spaces. Museum architecture should be approached flexibly, allowing for continuous reproduction based on the needs of the users (Schubert 2004: 131-132).

At the beginning of the 20th century, it was recognized that permanent exhibitions needed to be reduced due to space constraints. Consequently, display rooms were abandoned to create storage areas in basements or new structures, aiming to accommodate storage needs.

2.3. WAYFINDING CONCEPT

Passini (1992) defines wayfinding as "the process of searching for a destination and solving spatial problems in a familiar or unfamiliar environment." A good navigation system for a building or environment would involve emitting signals that show users where they are and how to get to their desired location. However, navigation problems arise when the decision-making ability is not activated. In cases of insufficient guidance, users may seek advice from personnel to make decisions about their actions. Additionally, users may become frustrated if they feel they will never return to this environment again. If a building has good wayfinding features, users will have a positive experience while reaching their desired destination (Passini 1984).

According to Lynch, a city consists of essential components for spatial perception. These components are categorized as paths, edges, districts, nodes, and landmarks (Lynch 2010). Lynch's identified components facilitate wayfinding in a city and enable individuals to find their desired location using certain references. Paths are the means that allow us to move along a specific axis. Edge spaces are vertical boundary lines that run parallel to this axis and serve as dividers. Districts are subsets that divide the city into parcels, similar to the concept of neighborhoods. Nodes are junctions where decision-making occurs. Landmarks are symbolic objects such as specific buildings or sculptures.

Considering the increase in public spaces, the acceleration of life, and the growing significance of the concept of time, we can observe that similar requirements also apply on an interior scale. Wayfinding is important in helping people reach their goals without worry or delay. The concept of wayfinding is related to spatial orientation. Spatial orientation, which determines individuals' actions and thoughts, is often based on the perception of directional cues in our surroundings and wayfinding behavior. The process of gathering information from the environment through the senses; the action of cognition, interpretation, sending to memory, and feeling; and the reaction through behavior, purpose, and motivations based on consistent perceptions are performed (Gür 1996).

A person begins the process of wayfinding by observing and perceiving their location, the desired destination, and subsequently engaging in analysis and mapping. These maps are related to an individual's own experiences. Previous experiences

influence the transformation of these maps. Perception of spatial relationships is possible through cognitive perception-based maps. This mapping affects how a person navigates in a place and shapes their spatial behaviors. As a person interacts with their environment, they begin to imagine in their brain. From the moment they approach a space, they unconsciously perform actions such as perceiving, interpreting, and analyzing through their senses. These actions continue throughout the person's internal movement. If a person has seen the place before or has been in a similar location, their behaviors will be shaped based on the impressions they have acquired about the space. Therefore, this also affects perception-based actions such as address search. Cognitive maps allow certain images to form in the user's mind through spatial experiences and perceptions. These images facilitate users in finding their way if they find themselves in the same place again (Gül 2022).

The ability to navigate is important for individuals to reach their goals without anxiety and delay. The concept of wayfinding is closely intertwined with spatial orientation. Spatial orientation, which determines an individual's action and thinking, is often dependent on the perception of directional signs and navigational behaviors in our surroundings. Spatial orientation skills are contingent upon an individual's abilities and experiences and can be utilized in various situations. Wayfinding provides an effective solution based on indoor spatial challenges. Regardless of whether the destination is known or unknown, wayfinding is a process concerned with reaching a goal and the fear, anxiety, and distress caused by getting lost or being unable to find one's way result in time and productivity losses. In museums, the effective guidance of visitors within the space and their preparation for what will encounter them next are associated with the importance given to the concept of wayfinding during the design and construction phases (Falk and Dierking 2000: 113).

A well-designed wayfinding system can facilitate user access, increase satisfaction, and reduce stress by eliminating potential confusion in people's minds. The ability to enter a building and find one's way inside and outside is a prerequisite for the fulfillment of higher objectives. When evaluating any design process, it is crucial to examine it in two fundamental stages: first, determining what needs to be done, and second, considering what should be used based on the requirements (Alpat 2022: 53).

The first actions individuals require in both enclosed and open spaces are related to wayfinding. As individuals become familiar with their surroundings through curiosity and concern, they also have a need to position themselves securely. Wayfinding is influenced by various factors involving the activation of sensations and knowledge. The circulation and wayfinding strategies in museums are a crucial aspect to consider in terms of the interaction established with visitors. The initial impression visitors form through exhibition spaces in museums is significant. Circulation and flow elements take precedence for arousing interest and providing an experiential encounter for visitors. Therefore, organizational and circulation decisions should shape visitors' experiences progressively, ensuring a fluent and uninterrupted journey (Garip 2020: 1327). The most fundamental human needs that should be met in museums visited as experiential spaces are determining location, wayfinding, and movement.

Figure 4: A collapsible 3D map of the Amsterdam Rijksmuseum (URL 4)

Museums will carry out all other activities necessary for fulfilling their functions only after addressing these human needs. It is crucial for visitors to first know where they are in a museum visit experience. The absence of effective wayfinding in a museum can result in fear, uncertainty, and confusion for the visitor. These emotions can overshadow all other feelings and hinder the museum from fulfilling its purpose. The fundamental necessity is the ability to move and navigate

with confidence. Therefore, it is essential to prioritize the fulfillment of these basic requirements in the design of museum spaces. (Kandemir and Uçar 2015: 33)

Museums should always provide clear invitations and easily followable routes to their visitors while carrying out their functions. Knowing one's location and moving with the confidence it provides is one of the most basic motivations for humans. Museums can instill this confidence in visitors through a system of directional signs. Instead of simply shortening distances through technical means such as elevators or escalators, museums aim to guide visitors and provide them with a comprehensive overview of the space they are navigating (Lehmbruck 2001: 63).

In museums where the experience is more about spatial expansion than shortening distances through technical means, wayfinding becomes crucial. There is a need for guidance and directional signage to determine the visitor's location within the space and the location of all other services. Tools such as signs, maps, plans, colors, pictograms, ideograms, and other communication means are used to meet this need. Another important aspect is the structural organization of the museum. This structural organization should be equipped with elements that provide visitors with a good experience and tools to make them visible. Well-equipped and designed museums allow visitors to have a good experience even without a guide (Lehmbruck 2001).

2.3.1. Spatial Infrastructure and Organization Based Wayfinding

To be able to find one's way in a space, it is essential to first consider the overall functioning of the designed structure and the organization of spaces within this structure. Wayfinding elements in a building can assist in finding spaces. Complex spaces can lead to negative effects, such as getting lost within the building and subsequently becoming fatigued. Understanding how individuals create action plans in unfamiliar environments and which environmental cues become relevant during movement can be achieved by examining these movement processes and outcomes (Garip 2003).

Memory, knowledge, past experiences, time, location, environmental characteristics, and individual differences are factors that influence wayfinding in spatial perception. Mental maps are a type of map or planning tool that individuals mentally create to help them determine where they are and where they are going. Mental maps offer various benefits, such as facilitating development, organization,

structuring, preservation, and planning. They can be created using words, symbols, pictures, and colors. These maps are constantly updated and modified as more information is gathered. When new information about a space aligns with pre-existing schemas, individuals may feel a sense of security. Conversely, if new information does not completely align with existing knowledge, individuals may feel discomfort and anxiety (Dierking and Falk 2005: 744–778). In the physical dimension and the process of spatial perception, individuals' mental maps play a significant role in wayfinding. A museum should be meticulously organized, from its layout to its exhibits. The physical pathways and spatial openings for movement are essential elements in the planning process (Lord 1999). Particularly in a museum setting, being able to perceive the space from the entrance is crucial for visitors who are planning their route and deciding how to navigate through the building and eventually exit it.

The spatial design of the building's infrastructure can indeed assist with wayfinding. When a user enters a building and can understand the circulation areas and the location of different functions within the building, the floor plan becomes a useful first step in wayfinding planning. Especially in a museum, being able to perceive the space from the entrance is crucial for visitors who are planning where to go next. It influences their decision-making on which direction to follow and how they will eventually leave the building. Circulation spaces are significant areas that characterize the spatial organization within the building and should be designed before arranging other spaces. A well-designed circulation system enables users to comprehend the building (Arthur and Passini 1992).

After explaining the importance of spatial infrastructure and organization for wayfinding, this section addresses three subheadings: Function, floor plan, and spatial organization.

2.3.1.1 Function

Functionality leads to differences in wayfinding design. Wayfinding can occur in a residence as well as in a crowded building such as a shopping center. Hence, the difference in functionality brings forth distinct wayfinding design requirements. (Hasgül 2011)

In the design of museums, it is important to allow visitors the freedom to create their own routes based on their needs and interests (Kandemir and Uçar 2015: 33-34).

However, this freedom granted to visitors should be balanced with the museum's ability to effectively convey its intended message. This restriction is effective in enabling visitors to easily understand the plan, determine their location accordingly, and have a safe experience without wasting time (Sade 2005). Possible linear, circular, or spiral walking paths should be created in the spatial composition of the museum. These paths allow visitors the freedom to choose their own route based on their needs and interests. The Solomon R. Guggenheim Museum, the first of the Guggenheim museums, established in 1959 in New York, hosts modern art. Designed with the principle of "form follows function" and featuring its iconic spiral structure, the museum allows visitors to navigate within a specific design while still offering them the freedom to explore (Guggenheim 2014).

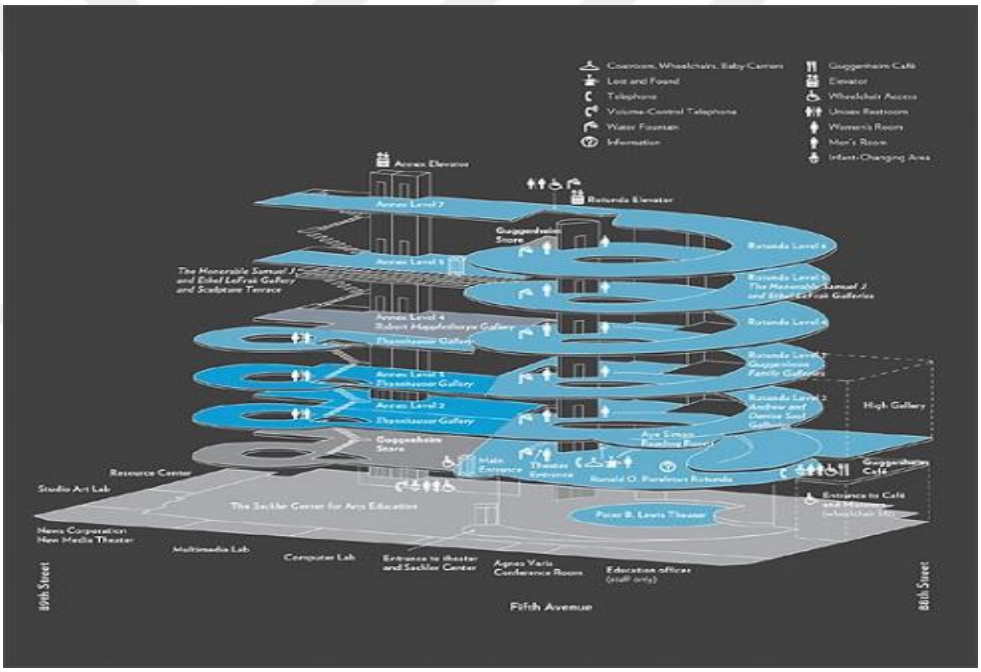

Figure 5: Solomon R. Guggenheim Museum (URL 5).

In museums, cognitive maps are used to facilitate wayfinding for individuals within the space. Cognitive maps are tools that help visually organize and structure a person's mental operations and information. They can be created in various ways to facilitate tasks such as understanding a subject, working on a project, solving problems, and organizing information. Cognitive maps are made more comprehensible through the use of images, symbols, colors, and connecting arrows. Ease of wayfinding behavior in a given environment is closely related to the formation of cognitive maps.

Visual cues in the environment, the use of signage, and the layout of plans are considered factors that influence wayfinding. From the perspective of designers and urban planners focusing on the functions of wayfinding in the conceptual stages of design, it is important to create comfortable and reliable spaces for finding directions (Falk and Dierking 2000: 123).

2.3.1.2 Plan Scheme

The floor plan is an essential element used by architects to define the designed building. Whether in the design phase, during construction, or in the delivery of the project to the client, the floor plan becomes a defining factor of the structure's content and concept. In this sense, the floor plan aims to analyze and describe the building. Creating a floor plan can assist individuals in navigating within a building. When someone enters a building for the first time without any prior experience, they may find it challenging to locate their desired destination. In the 20th century, the distinction between interior and exterior spaces was abandoned, adopting a more futuristic approach. When planning museum organization, attention to detail and flexibility are of utmost importance. The primary function of museum spaces is to serve as permanent and temporary exhibition areas. Since the purpose of museums is to show visitors all areas, the surrounding spaces of the museum can lead them from the entrance to the central area (Tezcan 2019).

In the pre-modern era, museums were constructed with circulation paths that offered definite and limited alternatives. In the modern era, museums were designed with flexible plans and circulation routes with limited alternatives. However, in museums built during the postmodern era, the circulation routes can be highly diverse and offer multiple alternatives. (Barker 2006: 115).

The museums constructed in the pre-modern era followed a similar pattern of enclosed spatial structures. During the postmodern era, particularly in buildings constructed after the 1980s, it became evident that interior spaces were built with different architectural designs. Spatial circulation areas featured scenarios where surprising forms intersected within the same space, with ramps and zigzagging paths that pierced the ceiling to reach platforms, as well as suspended galleries. These elements added unexpected and playful spaces, creating a continuous architectural journey within a spatial scenario. In contrast, museums built in the pre-modern era

presented regular geometric plans, consistent sections, and linear-peremptory routes with limited options (Ataoğlu 2016: 124).

2.3.1.3 Spatial Organization

Spatial organizations are one of the most important factors in determining human behavior. This is because the spatial features of an environment stimulate individuals and prompt them to act based on their feelings. The shape and organization of a space influence individual behavior. A person programmed to behave according to the form of a space exhibits anticipated behaviors based on their prior knowledge. In museums designed especially after the 1980s, there have been notable spatial changes and spatial scenarios in radical, perceptual, and circulation areas. These newly created spatial organizations in circulation areas offer novel spatial experiences. These experiences can include irregular voids within sections, irregular geometric floor plans, blurred and ambiguous boundaries, striking colors, patterns, materials, and alternative routes. Harmonizing the fundamental design elements of a visited space, such as form, mass, color, pattern, etc., will make that space more appealing.

2.3.2. Wayfinding in Space Based on Perception and Perception Psychology

Perception, which is the process of acquiring, selecting, organizing, and interpreting information to make sense of one's own world, is the cognitive process by which data transmitted from our sensory organs to our brains is organized, interpreted, and given meaning. Perception is a mental concept related to the process of sensing and comprehending the stimuli received from the surrounding environment through sensory organs. Therefore, the ability to perceive stimuli can lead to behavioral responses depending on an individual's interests and attitudes towards events. The psychology of perception is particularly employed in large spaces where guidance is challenging, such as museums and exhibition areas. It aims to facilitate easier exploration of the space, provide accurate guidance, and enhance the recall of significant points. The spatial psychology of perception is utilized in guiding individuals in a space, directing their attention to objects and locations, and helping them navigate and find their way. It is influenced by user maps, mental maps, and perceptual cues that individuals utilize during the process of finding their way. These factors affect the usability, constraints, and reliability of individuals during the

navigation process. Navigating based on the psychology of perception in a spatial context assists users in being more effectively guided within the space (Kandemir and Uçar 2015: 35).

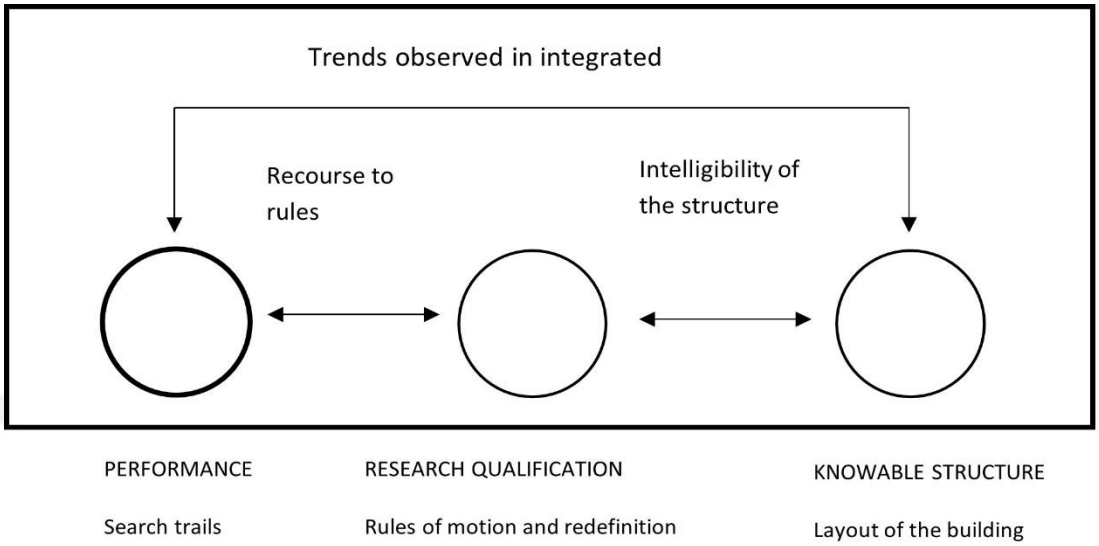

Figure 6: Sample wayfinding prototype (Peponis et al. 1990).

Among these techniques are the use of attention-grabbing focal points, coloring, expressions and signage, directional signs, lighting, and auditory guidance. Just as humans cannot be separated from the physical environment, perceptual and cognitive processes are also inseparable from the effects of spatial environments. Individuals' experiences with spaces are influenced by the completeness of cognitive maps. Variables that affect wayfinding behavior include differences in the form and volumetric characteristics of a space, signage, color, lighting, and detailed solutions. Additionally, familiarity with the space, age, gender, occupation, individual physiology, and sociocultural characteristics of individuals also influence their spatial movements. The positive and negative aspects of spatial design are directly proportional to the extent to which visitors perceive the space (Yiğiter et al. 2010: 123-157).

2.3.2.1. Format

Form is one of the fundamental requirements in architecture. The three main elements that constitute architectural complexity are structure, function, and form. In architectural terms, form is a necessity at both the structural and spatial levels. When

designing a building, architects use basic forms. In interior design, different forms are employed in the design, building elements, and material usage. Shape is the most significant element utilized by product designers when designing a product. Therefore, shape is one of the most crucial components that constitute the design (Akar and Doraj 2023:132).

Starting from the 20th century, numerous studies have been conducted on the function of the eye and brain, and the analysis of visual perception. As mentioned before, Lynch (2010) particularly evaluated visual perception on an urban scale in five parameters: streets, edges, districts, landmarks, and nodes. At the building scale, the Gestalt theory, Rudolf Arnheim's principles of visual perception, and Henry Sanoff's visual perception approaches have been highlighted. Among these studies, the Gestalt theory has gained the most acceptance. This theory asserts that the whole is greater than the sum of its parts. It also explains the process of visual perception and is the fundamental theoretical framework for the visual perception of a space. The German term "gestalt" means "form," and its Turkish equivalent is "arrangement, form." Although the theory belongs to the field of psychology, it explains how visual perception is formed and what is active within it. The principles of how the parts come together to perceive the whole visually are listed below:

- Figure-ground relationship
- Proximity
- Closure
- Similarity
- Continuity
- Enclosure

In addition to these principles, architecture embraces principles such as:

- Repetition (rhythm)
- Symmetry balance
- Scale-proportion
- Unity and integrity

Humans can perceive what they see, hear, and feel. Sometimes it could be an urban space, an object, or a mental image. Urban space is perceived through three different types of perception: visual, auditory, and internal sensory perception. However, these perceptions are not equal. Visual perceptions are the sensory

perceptions that allow us to easily perceive several objects together and distant elements from the individual. In this context, the visual stimuli conveyed to the mind create the sense of sight, and the evaluation of stored images gives rise to visual perception. In fact, the bridge established between the eye and the brain is defined as visual perception. Thus, visual stimuli conveyed to the mind create the sense of sight, and visual perception arises from the evaluation of stored images. In essence, the visual sense controls the perception of living things in our environment and allows individuals to communicate with the place they are in (Deniz and Tokman 2022: 344-354).

Environmental designers facilitate people's understanding and comprehension of a space, even within complex arrangements. Designers should create legible environments for wayfinding. Above all, legible environments should possess a strong image. In this context, within a legible environment, individuals should be able to navigate easily. They should be able to determine their location within the space at any given moment and find a route back to any desired point. When developing recommendations for legible environment designs, it is important to incorporate expressions that align with the application suggestions provided for wayfinding. (Kınam Dokuzlar 2018).

2.3.2.2. Colour, Texture

In museum interiors, color and texture play a significant role in altering the ambiance of the environment and influencing the visitors' perception. The chosen color scheme in the design also affects material decisions (Ching 2007). Consideration should be given to the colors used in the space to highlight the exhibited objects. It is important for the colors used in interior designs to not overpower the objects. Therefore, while white is often chosen as the wall color, the use of corporate colors can also be observed. Colors have a significant impact on enhancing the perceptual effect of signage. They are employed to reinforce the meaning of museum structures or exhibition spaces (Hidayetoğlu 2010).

Figure 7: Use of colour for wayfinding (URL 6)

The colors used on walls provide clues to visitors about the exhibition. The perception and recognition of colors occur in the presence of light. The perception of the space also varies with the level of illumination. Increasing color intensity in the space during the visit of exhibitions creates a vibrant atmosphere and supports comprehensibility. Dark environments with the use of dark colors leave a formal impression and are also used to differentiate spaces and focus on a subject. In the interior spaces of museums, color has been prominent in all areas, especially in the graphical elements used. The combination of colors used in text and background should be carefully planned. Graphic informational displays and color schemes designed in connection with exhibitions reflect the characteristics of that period (Yıldırım 2018: 72).

Indicators employed for cautionary intentions utilize symbols that convey equivalent significances. Essentially, color is an inherent aspect intertwined with light. Nonetheless, certain foundational explanations within color theory underscore the necessity to consider the physical attributes of the observer, as the responsiveness of the human eye to distinct wavelengths differs across the spectrum. It is important to note that the nature of color surpasses the complexity of light. It possesses the capacity to evoke provocation, tranquility, expression, impressionism, cultural representation, vibrancy, emotional resonance, and symbolism.

While color stands as a intricate phenomenon subject to examination across various disciplines today, its preliminary delineation stems from natural observations. Within this framework, the most comprehensive and pragmatic color systems manifest

as triadic constructs encompassing hue, value, and saturation. These attributes possess dynamic, three-dimensional frameworks, affording seamless interplay and congruence within architectural and artistic domains. Given the intricacy inherent to colors, artists and designers have endeavored, over centuries, to formulate a shared, systematic approach for the schematic organization of colors (Yılmaz 2020: 45-55). Sometimes, coloring bird's-eye view maps of the museum is done to help visitors understand the place from the entrance. For example, at the National Gallery in London, the collection of 2,000 works is displayed in four different areas that vary according to the dates of creation. Orienteering maps in four different colors are available to assist visitors in distinguishing these areas (Moscardo et al. 2007).

2.3.2.3. Lighting

Light holds immense importance for human nature; it is primarily the main element that aids both our ability to see and be seen. Without the assistance of light, everything would be dark and meaningless. Our perception of a space is directly related to light. Light defines the boundaries of a place, allows it to appear larger or smaller, and in some cases, separates areas from each other. Reflections bouncing off displayed objects enable us to see them. Light is a vibrant, dynamic, mobile, and seemingly colorless physical characteristic. In exhibition designs, the only thing visible is what light reveals (Hidayetoğlu 2010).

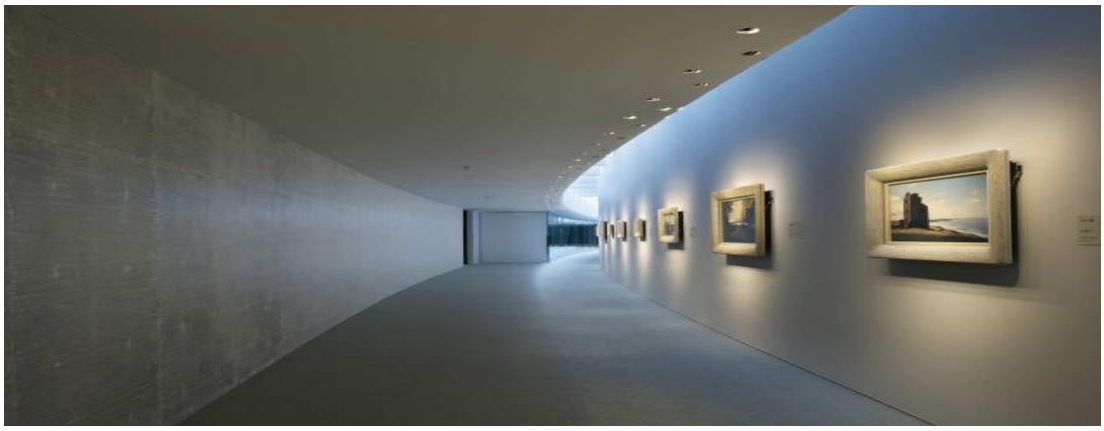

Figure 8: Hoki Museum Lithing Design. (URL 7)

Light is experienced from the moment you take your first step. This experience serves as the sole connection between visitors and objects. If the lighting is

insufficient, colors are absent, the light intensity is too strong, or there is an imbalance, the connection will be severed or disrupted. In a museum, low light levels would likely create a poor museum experience. In terms of architectural space, lighting designers arrange the optimal lighting levels (Kavasoğulları 2021).

Regarding wayfinding, challenges pertaining to the luminous environment can potentially impede an individual's capacity to engage in one of the paramount sensory functions—namely, visual comfort. This quandary assumes critical significance in the context of navigation and location determination. As an initial imperative, individuals must exert visual dominance over their immediate environment. In the context of interior spaces, the pivotal factor facilitating this visual ease emerges as illumination (Hasgül 2011).

Broadly speaking, heightened levels of illumination tend to foster activity and motion, while diminished levels of illumination engender feelings of repose and introspection. In scenarios calling for serene, pacifying, and restful settings, opting for reduced light intensities, employing warmer hues of light, and utilizing diffused sources of illumination can be advisable. Conversely, when formulating spaces that are dynamic, vibrant, and conducive to productivity, elevating light intensities, incorporating cooler-toned illumination, and favoring directed light sources emerge as strategic choices (Tunç 2007).

The specific categories of artistic artifacts exhibited play a pivotal role in determining the requisite or preferred luminous environments. For instance, within dimly illuminated settings or upon surfaces characterized by low-light conditions, a portion of the diffused illumination can be curtailed. In such contexts, the introduction of accent lighting can engender striking visual effects within the environment. This particular technique finds frequent application in galleries and museums to showcase art objects, thereby engendering a compelling spatial atmosphere. Nevertheless, its utility extends exclusively to architectural lighting. It is important to recognize that light exerts a continuous influence on the holistic perception of a given space. In situations marked by rigorous control over luminosity, the placement of the light source exhibits a direct correlation with the resultant visual impact (Kavasoğulları 2021).

Another possibility concerning lighting and wayfinding is the use of lighting fixtures as spatial elements in illumination. This way, lighting fixtures not only provide visual comfort in the space but also become objects that can guide users within the space. When the relationship between light in the space and human psychology is understood, as in the examples mentioned, many alternative orientations within the space can be produced (Hasgül 2011).

Within a delineated environment demarcated by distinct zones, it becomes feasible to orchestrate precise luminance levels to yield intentional illumination throughout the spatial expanse. This approach enables the manipulation of attentional emphasis within the area by modulating the luminosity levels proportionally to the significance of individual components. This modulation serves to steer perception, ensuring that informational content is apprehended in accordance with its relative importance. In a museum gallery, the ambient light should be kept as low as possible. Harmful ultraviolet rays can cause irreversible effects on displayed artworks. Ultraviolet rays can lead to fading of paintings, distortion of shapes, and fading of colors. Thus, direct sunlight must be blocked. Different alternatives can be devised for sunlight to enter certain areas within the space to minimize potential damage (Kuzucuoğlu 2014: 344).

2.3.2.4. Sound, Smell, Density

Sound is an influential tool in museums, shaping the atmosphere and enhancing the visitor experience. Its significance is crucial for both wayfinding and creating a positive encounter in museum spaces. Being a perceptual stimulus, sound can be effectively utilized as a navigational element. In our daily lives, various sounds serve as reminders and aid us in finding our way. In a tranquil environment, a person can locate a specific area within a building by following the sounds they hear. Other people's voices act as the source of sound in such settings. Furthermore, there exists a distinction in the quality of sound between the interior and exterior spaces.

In museums, sound can be used in various ways, such as conveying information, facilitating product demonstrations, or narrating stories. However, the excessive use of sounds in museums can be distracting or bothersome. On the other hand, when using scents in museums, visitors' conditions should be taken into account.

The use of scents is also closely related to the function of the structures. For instance, the scent element in a perfume store occurs naturally. However, in restroom areas, we would like to prevent the occurrence of unpleasant odors. Therefore, olfactory factors are utilized in wayfinding. It is known that olfactory perception is directly connected to the experience. Smell, although sensed in the nose, is an impression that settles in the mind over time and can be remembered later. In museums, scents can make experiences even more captivating. For example, in recreating the ambiance of a historical site, smell can aid in evoking the atmosphere of that era (Greenberg 2005: 227).

The density resulting from overcrowding or emptiness in museums is an important factor for both management and creating a positive experience. Overcrowding represents the extreme point of density and encompasses the significance of abundance. In such situations, a person's sense of location weakens, and their spatial perception is affected. The concept of density can be summarized as directing towards the crowded area while looking for directions. In this context, it involves perceiving and following individuals rather than relying on information-based directional perception. This type of orienteering is applied in places where spatial perception is weak or where a temporary sense of loss occurs. In crowded places where the perception of navigational elements is reduced, one can observe that the user navigates by observing other people (Hasgül 2011)

2.3.3. Wayfinding Based on Information Systems (Marking, Symbols, Signboards, Schematic Expressions and Maps, Icon Object)

In museums, the information inside not only supports the visitor during their visit but also provides details about the exhibited items. At this point, how the information reaches the visitor and how it is perceived by them has become an important subject.

Due to human nature and their inherent tendency to navigate, museum spaces should be planned with a priority on meeting visitors' general comfort and their need for movement and wayfinding. Incorrect implementations in this regard can lead to feelings of uncertainty and fear in visitors. While graphic elements (signs, maps, plans, colors, pictograms, ideograms, etc.) play a significant role in wayfinding, the planning of circulation and guidance has been one of the fundamental elements in museum design. It should be planned in conjunction with supporting elements that make structural features distinct. During a museum visit, the creation of different routes can

vary based on the visitor's speed, time, and areas of interest. In this context, it is appropriate for museums to be designed with narratives that allow visitors to determine their own routes. (Kandemir and Uçar 2015: 33).

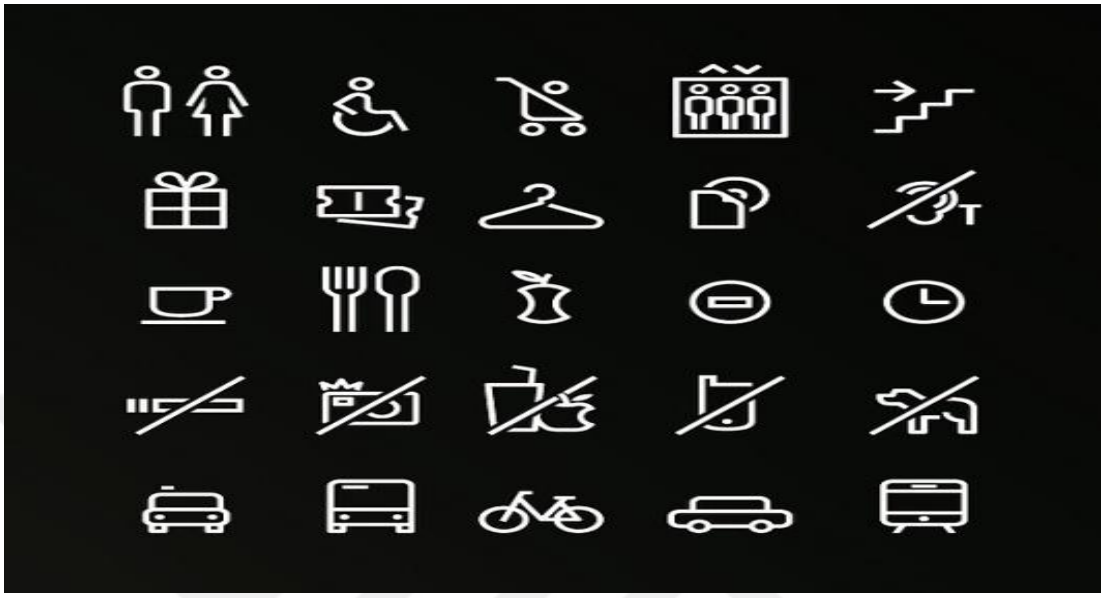

Figure 9: Pictogram examples (URL 8).

In museum interiors, informational displays serve the purpose of guiding visitors within the space and providing them with information about the exhibited objects. At this point, it is important to consider how the information reaches the visitor and how it is perceived by them. Effective communication of information in a museum, apart from the environmental conditions of the space or the visitor's level of perception, is defined as "perceptible information". To achieve this, various tools should be utilized to ensure maximum legibility (Kandemir and Uçar 2015: 35).

Figure 10: Brooklyn Museum information system (URL 9)

At this point, informative designs should have the potential to facilitate the visitor's perception. The informational texts included within the exhibition are organized according to specific rules. Museums are one of the places where signs and symbols are widely used. One of the advantages of using signs and symbols is that they appeal to visitors from a broad perspective, aiming to enhance the quality of their experience and assist them in making decisions about their behaviors. It is important for signs and symbols to be easily readable at a glance. Signs are classified based on their functions, such as orientation/information signs, alert signs, and interpretive signs, which provide visitors with guidance on where to go and what to do.

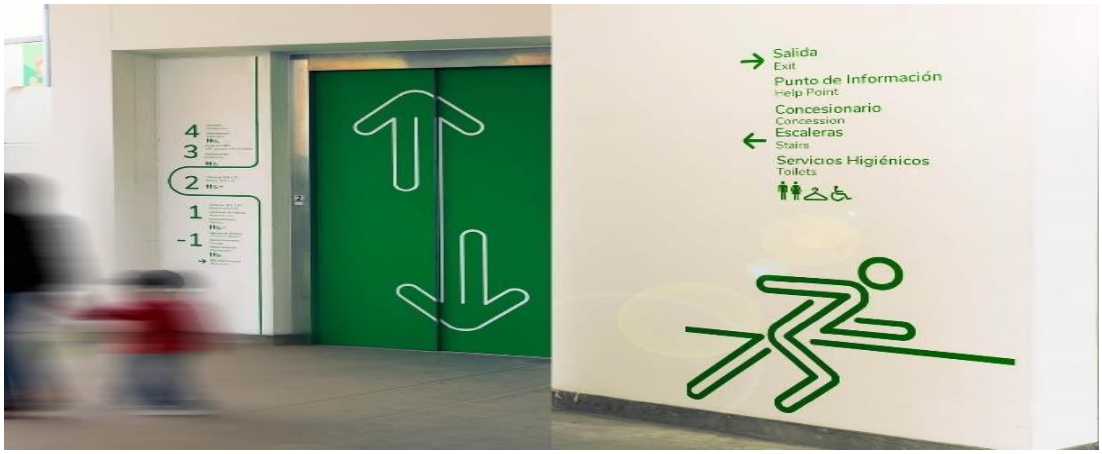

Figure 11: Signs and symbols example (URL 10).

Information signs assist visitors in locating their positions and making directional choices, as well as in planning their visits. The same sign can serve different tasks for different users. For someone who has not been in that space before, it may be

a sign to be followed and read, while for someone who has previously experienced the space, it may become a familiar sign, even one they no longer notice. Signs should be directional, descriptive, and clear (Akgün 2021: 27-45).

In museums, various tools are used for informational purposes. These tools include visual and auditory aids, as well as methods such as lighting, touch tablets, and video presentations, which provide visitors with technological and interactive experiences in terms of both information and learning. Mobile applications with headphones belonging to visitors are used to provide a more immersive experience. In addition to written texts about exhibited objects, digital applications (high-quality photographs, videos, etc.) allow visitors to access more detailed information about the objects (Mercin 2017: 226-230).

Signs, which play a significant role in wayfinding, are a form of expression that visually represents specific concepts. Signs, which can be perceived differently by all individuals, have an international language for countries. Signs are design elements that can be used in indoor or outdoor spaces, such as signs and signage. Signs are examined under specific categories. Directional signs describe an object or event using pictures, symbols, or arrow signs. They guide individuals to the point they are looking for within indoor spaces (Helvacıoğlu 2007).

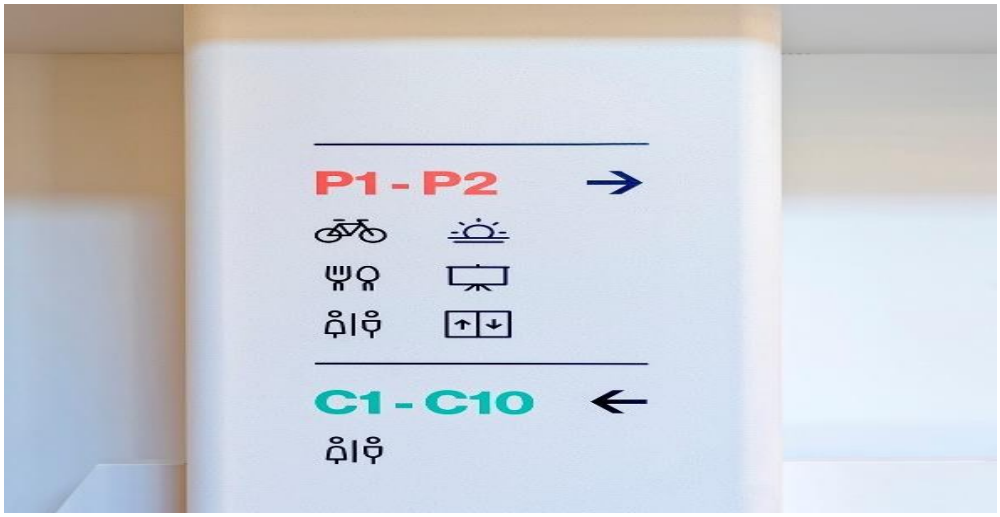

Figure 12: Signboard example (URL 11).

A diagram is a way of visually representing a subject, object, or phenomenon. Diagrams heavily rely on mathematical expressions and proportions. Information obtained from recognizable objects in an environment is referred to as landmark

information. Landmark information involves the use of prominent objects to aid in wayfinding in a new environment by providing a tool to organize, correct, or recall information. Landmark information contributes significantly to finding signs or objects in the mind when needed, and shapes, sizes, colors, and contextual information play a crucial role. Similarly, it has a significant impact on determining distances, and having landmarks along a route helps in identifying decision points and providing necessary information, as well as effectively targeting individuals (Lynch 1960).

CHAPTER III

ADAPTIVE REUSE HISTORICAL BUILDINGS AS MUSEUM

3.1. COMPARISON OF ADAPTIVE REUSE MUSEUMS

Due to changing lifestyles and related demands, many historical buildings lose their original purpose and are adapted to serve activities that deviate from their original intent. Repurposing is a way to rescue old buildings from demolition (Ahunbay 1996: 97). In today's world, where societal conditions and values are constantly changing, the shape and regulations of the social structure also change. Within the concept of preservation, in order to ensure the continuity of history, it is necessary for the buildings to continue to be used by people and therefore be repurposed (Uçar 2013: 13). According to Ahunbay, the most suitable possibility for repurposing a historic building is to adapt it for museum use with minimal intervention and without straining its capacity (Ahunbay 1996: 97). When altering structures, various challenges such as environmental traffic issues, structural problems related to space or material placement, functional problems related to circulation, and legal barriers according to existing laws can be encountered. All these obstacles can be overcome with successful analysis and appropriate measures. At the end of this entire process, industrial structures have been integrated into urban life according to their functions. These buildings illuminate the future as an important part of urban culture, provide economic benefits, and shape socio-cultural life (Konak 2019). Within the context of museums, it is a primary need to exhibit and preserve artworks through a specific arrangement, including stored pieces that are not on display. Exhibition and storage processes can be quite challenging in buildings originally designed for defensive purposes (Öztürk 2019). The purpose of this section is to provide an evaluation based on research adaptive reuse historical buildings converted into museums.

3.1.1. Rahmi Koç Museum

The museum, which is located in the heart of historic Istanbul and along the shores of the Haliç, is the first and only industrial museum in Turkey, covering an area of approximately 27,000 square meters.

Figure 13: Istanbul Rahmi M. Koç Museum (URL 12).

The museum was opened in 1994 with the support of businessman Rahmi Koç. It is dedicated to the history of industry, transportation, technology, and communication in Turkey. The museum is divided into two sections: the Lengerhane Building and the Hasköy Shipyard.

Figure 14: Hasköy Shipyard (URL 12).

The Lengerhane, where chains were thrown into the sea to secure ships during the Ottoman era, derived its name from the word "lenger" referring to the end of the chain with a large anchor. This Ottoman Lengerhane, built on the foundations of a building constructed for different purposes during the Byzantine period, has a historical background dating back to the reign of Sultan Ahmed III. The special history of the museum, however, begins in 1991 when the historical Lengerhane building was purchased by the Rahmi M. Koç Museum Foundation. Following meticulous restoration efforts coordinated by Dr. Bülent Bulgurlu, the museum was opened to visitors in December 1994.

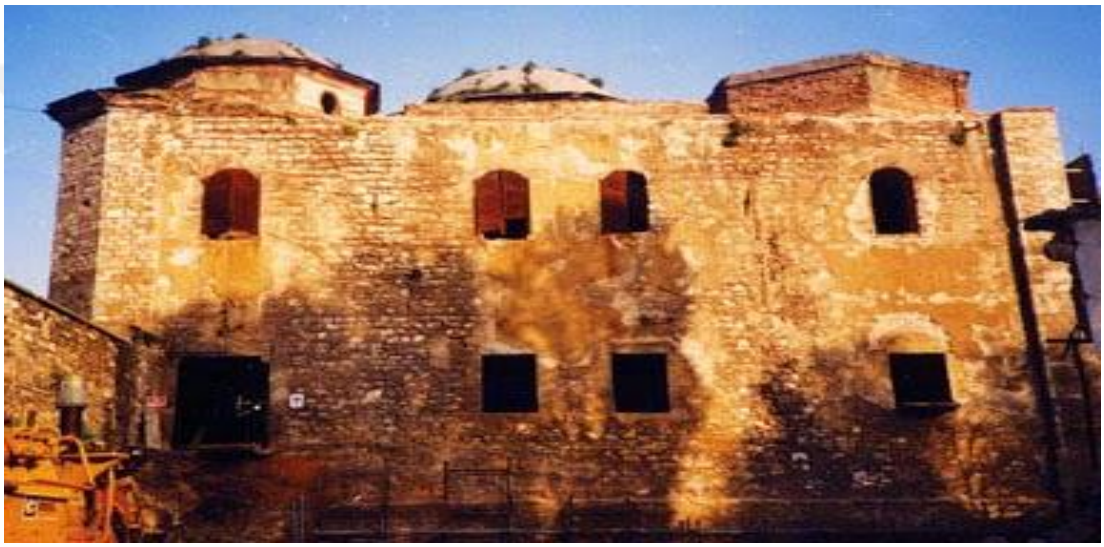

Figure 15: Old Lengerhane Building (URL 12).

Koç Industrial Museum, the first museum dedicated to the history of transportation, industry, and communication in Turkey, showcases various objects related to the topics of road transportation, railway transportation, maritime, aviation, engineering, scientific instruments, communication, models, toys, and education. To accommodate the new functions, a contemporary extension building was constructed adjacent to the existing structure without burdening the monument itself. The connection between the extension and the monument was established through a staircase leading down from the ground floor entrance of the monument (Bulgurlu 2001).

The former bronze melting furnace is now utilized as the entrance corridor of the museum (Tanyeli 1995). When the building was transformed into a museum,

considerations were given to the characteristic layout of industrial buildings and spacious open areas. The transfer of the building's operation to the museum eliminated the need for high ceilings. However, the original space of the monument was insufficient for the exhibition halls required by the new function, and this issue was resolved by constructing a new mezzanine floor (Selçuk 2006).

3.1.2. Tate Modern

During the transformation process of the Tate Power Station Building into the Tate Modern Art Museum in London, a new bridge was constructed to enhance the connection between the building and the opposite bank of the Thames River, creating a focal point and attraction for people. Designed by renowned architect Norman Foster, the bridge named Millennium Bridge provided direct access from the opposite bank to the Tate Modern Art Museum. Tate Modern has fostered collaboration among local government, the private sector, and the local community, offering participation opportunities during the gallery's development phase. It aimed to make the area an attractive place for living, business, and tourism, and through various educational programs, it provided the local community with the opportunity to be involved in the tourism industry (Özer 2000).

Figure 16: Aerial view of front and right side of disused Bankside B Power Station before conversion Tate Modern (URL 13).

The facility in question falls under the category of first-stage listed buildings. The building originally operated on liquid fuel and was constructed to replace another power station that used coal as fuel and continued to serve the same purpose. Due to the excessive rise in oil prices, the production of the power station was discontinued in 1981 for economic reasons. The current functioning of the building dates back to the 1980s when Tate Millbank realized that its exhibition space was insufficient to display its existing collections and began searching for a new exhibition area. The adaptability of the interior space, which allows for the extensive display of artworks, prompted Tate to reconfigure the Bankside Power Station according to its intended use as an exhibition space (Selçuk 2006). The spatial structure of the building, designed by Jacques Herzog and Pierre De Meuron, was largely preserved during its transformation into a contemporary art museum.

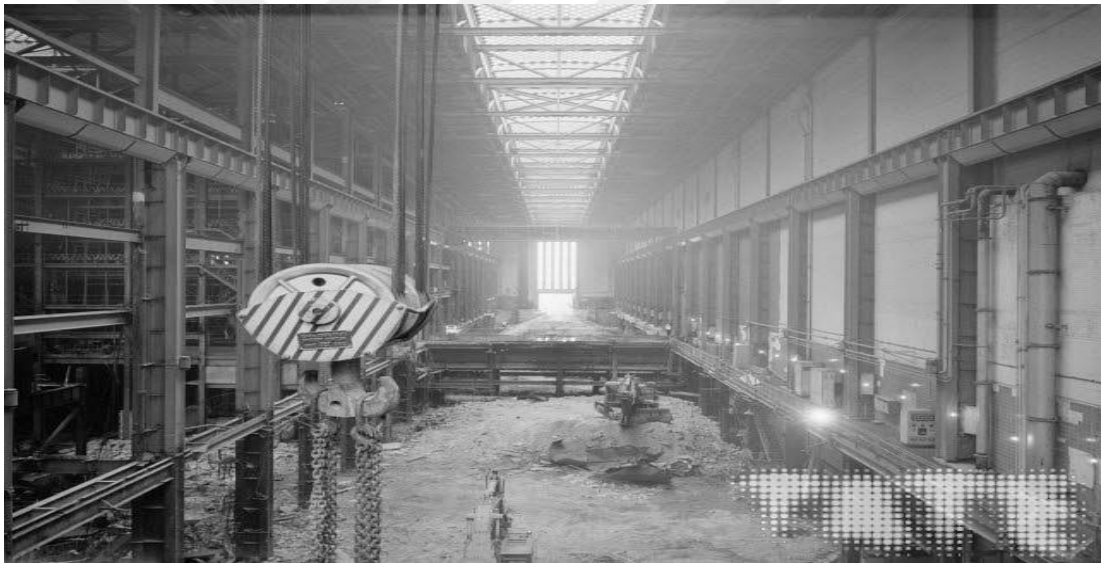

Figure 17: Excavating the Turbine Hall Bankside Power Station 1996 (URL 13).

The most important section of the museum housed the giant generators that once produced electricity for Bankside. In its modern usage, this space serves as both a transitional area for visitors to access galleries and other areas, and as a venue for displaying large art installations (Özer 2000). The architects recognized the need to create a signature for the monumental structure they reconstructed from the old building. This allowed for the resolution of the challenging issue of dealing with extremely large and even unwieldy spaces in the new building and provided an opportunity to repurpose the former turbine hall of the power station (Selçuk 2006).

Figure 18: Exterior shot of the Tate Modern Blavatnik Building showing the detailing, windows and brickwork, London 2016 (URL 13).

The structure actively participates in the urban renewal project carried out in the vicinity of London and contributes to the revitalization of the local economy (Argüner 2000). The reactivation of the Tate power station has been remarkably successful in reducing the vast spaces to a human scale and ensuring the smoothness of the settlement. The expansive open areas required for a modern art museum have been created without compromising the existing structure. Vertical circulation between floors is provided by elevators located at a central point that can be considered as the hub of circulation. Stairs and escalators have been strategically placed to facilitate seamless transitions between rooms on different levels, following the arrangements made to guide visitors along a specific route in the museum and art galleries (Selçuk 2006).

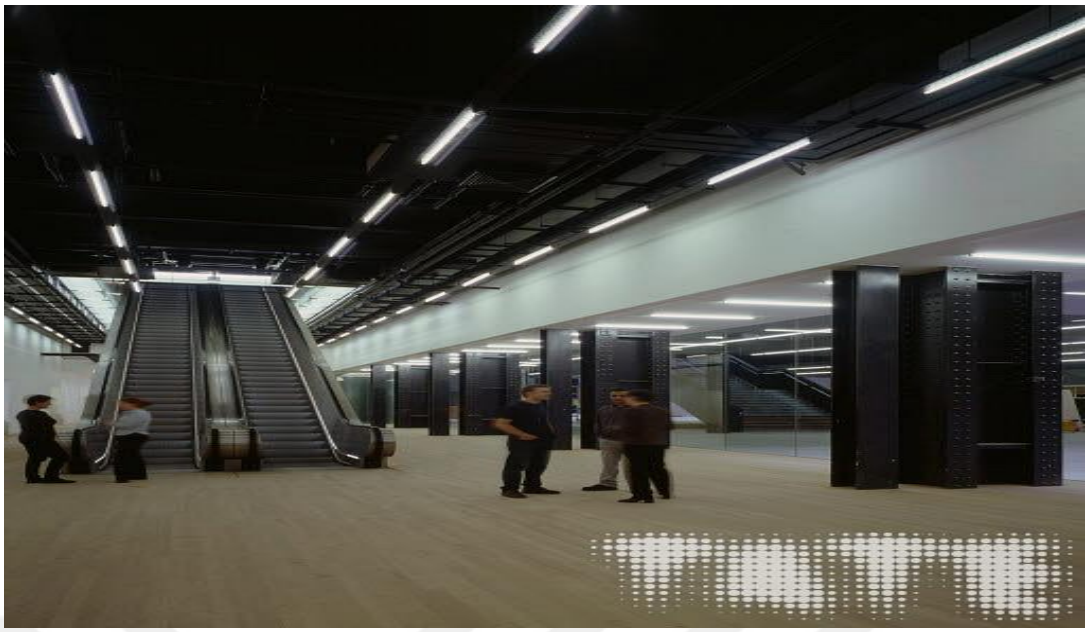

Figure 19: Central escalators in Tate Modern (URL 13).

3.1.3. Orsay Museum

One of the buildings that has gained significance in architectural history with its past functions and new uses in the context of adaptive reuse is the Orsay Train Station (Paris, France). The station, which was opened in 1900, is an exemplary steel architecture of the late 19th century.

Figure 20: While Orsay Station has not yet been turned into a museum (URL 14).

The idea of converting the building into a museum was proposed by Jean Chatelain, the Director of French Museums. In 1971, there were plans to demolish the

building and replace it with a hotel, but the Minister of Culture at the time opposed the hotel concept. Subsequently, Prime Minister Pompidou approved the museum concept in 1973. During President Giscard's term, debates continued, and the design process began with the support of President Mitterand in 1981, while the legal procedures were being completed. The museum, designed by Italian architect Gae Aulenti, was inaugurated on December 1, 1986 (Atagök 2000).

In the transformation of a large railway station into a museum, the architect chose to design against the building's identity rather than revealing it. As a result, a series of isolated rooms were created on both sides of the building's entrance (Selçuk 2006) (Erdinç 2002). Despite the concept of exhibiting 19th-century art in a 19th-century structure, the site is disconnected from its original identity, except for the impressive lobby arrangement and the preservation of the exterior surfaces (Atagök 2000).

Figure 21: Orsay Museum (URL 14).

The programming of the new function proved to be very challenging because the building was originally composed of a room approximately 175 meters long, 75 meters wide, and around 30 meters high, along with smaller rooms serving this main space. On the first floor of the building, due to the small scale of the structural system, the main space was divided into different-sized units, creating level differences that disrupted the spatial integrity. By dividing the structure into middle and upper floors

along the axes of the structural system, exhibition spaces of varying sizes were obtained (Selçuk 2006).

3.1.4. The Seka Paper Museum

The SEKA Paper Factory, which pioneered the development of the paper industry in Turkey, became part of a large-scale industrial transformation project after being privatized and closed down. Despite being abandoned for a long time, the suitability of its structure and space, its historical and industrial value, its overall good condition, its location within the city, and the presence of operational equipment within it have made it an example of industrial heritage included in the scope of refunctionalization.

Figure 22: Before it was given the museum function (URL15).

The factory structure has been chosen to be repurposed as a "museum." The SEKA Paper Museum, despite its shortcomings, has become a notable example of a successful transformation project due to its preserved original industrial traces (Konak 2019).

Figure 23: Seka Paper Museum (URL 15).

The SEKA 1st Paper Factory, being repurposed as a "museum," embraces a preservation approach that encompasses both the structure itself, including the load-bearing system, flooring, walls, and roof covering, as well as the machinery, furniture, and other equipment within the interior space. The concept of preservation in this context aims to maintain the original characteristics of the construction details or reinforcement elements, as well as the furniture and machinery, as closely as possible. For instance, no reduction, repair, or painting process was applied to the furniture in order to change its existing color. The equipment in the space was simply cleaned and repaired, with no interventions that could harm their original state, except for a few exceptions (Konak 2019).

3.2. ANATOLIAN CIVILIZATIONS MUSEUM

3.2.1. Historical Development of the Museum of Anatolian Civilizations

The Museum of Anatolian Civilizations is an important archaeological museum located in Ankara, Turkey. It was established with the purpose of showcasing the rich heritage of Anatolia's past. The museum is housed in two historically and architecturally significant buildings, namely Mahmud Pasha Bedesten and Kurşunlu Han, which have undergone systematic interventions and restorations to create a museum space.

Mahmud Pasha Bedesten and Kurşunlu Han, both with their own historical significance, have been carefully restored and adapted to house the museum's exhibits. The museum's collection includes artifacts and remains from various civilizations that

have thrived in Anatolia throughout history, providing visitors with insights into the diverse cultural heritage of the region.

Figure 24: The old version of the Anatolian Civilizations Museum (Url 16), Salt Research, Ali Saim Ülgen Archive

Over the years, numerous civilizations that have inhabited this region are exhibited in the museum in a chronological order from ancient times to the present. The museum was initially established as a part of the Ethnography Museum, which was opened on May 19, 1921, by Mustafa Kemal Atatürk, the leader of the Turkish War of Independence. Later in 1938, it became a separate institution under the name of the Museum of Anatolian Civilizations. The construction of the museum began in the 1940s and was completed in 1968. Since 1921, the Anatolian Civilizations Museum has been open to the public and houses many valuable artifacts from various periods such as Paleolithic, Neolithic, Chalcolithic, Early Bronze Age, Assyrian Trade Colonies, Hittite, Phrygian Kingdom, and Urartu (URL 2).

The Anatolian Civilizations Museum was established by giving a new function to Mahmud Paşa Bedesten and Kurşunlu Han. It is located in the Hanlar area, which is affiliated with Atpazarı district, southwest of Ankara Castle. The Han, which was previously used as an administrative building, is now situated within a spacious shared garden and serves as an excellent museum.

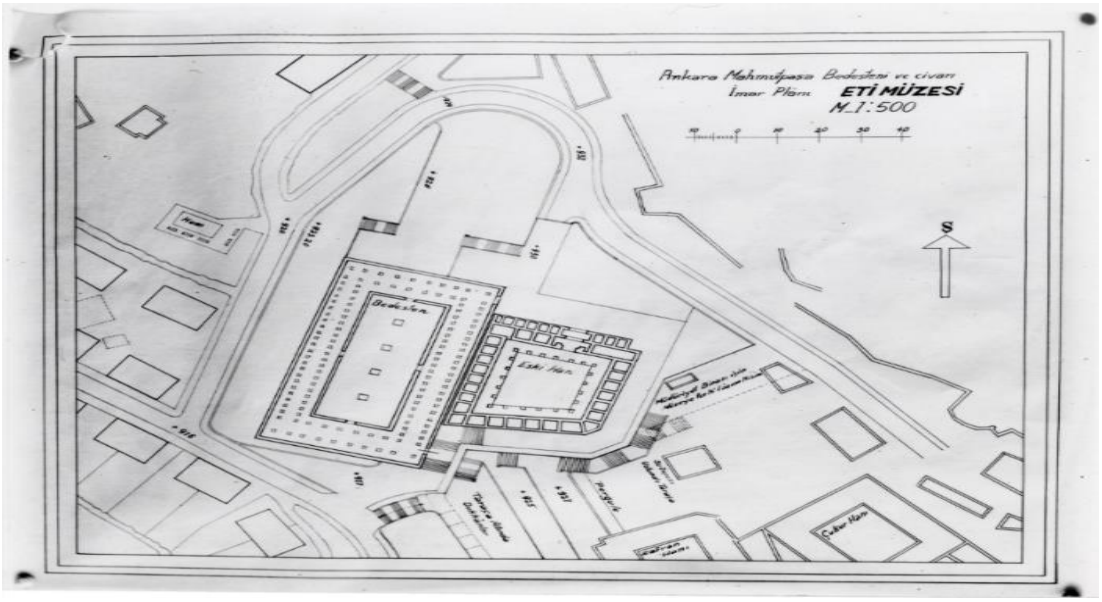

Figure 25: Mahmut Pasha Bedesten Reconstruction plan (URL 16), Salt Research, Ali Saim Ülgen Archive.

During the early years of the Turkish Grand National Assembly (TBMM), upon the request of the Ministry of Culture and high-ranking officials of the time, the establishment of an Ancient Artifacts and History Museum in Ankara was considered, and efforts are currently underway to build the collection of Anatolian artifacts. The idea of establishing an Eti Museum emerged with the suggestion of Atatürk. During this period, the stone masonry at the Temple of Augustus had survived to the present day. Prior to the establishment of the Eti Museum, there arose a need for a museum with the increasing number of artifacts. In the search for a suitable location for the museum, the Akkale, which was the municipal warehouse of the time, was deemed suitable and vacated. This initial museum, which was named the Asar-ı Atika Museum and formed the core of the Ethnography and Museum of Anatolian Civilizations, was the first museum of its time, established under the directorship of Mübarek Galip in 1921. Akkale served as a museum until 1948. Initially named "Asar-ı Atika Museum" during its establishment, it was later transferred to Mahmud Paşa Bedesten and its name was changed to "Archaeology Museum," which it retained until 1968. It is also known as the Hittite Museum (Eti Museum) for its presentation of Hittite artifacts (Bayburtluoğlu 1991).

Figure 26: Anatolian Civilizations Museum after adaptive reuse (URL 17).

The Arasta was designated for the exhibition of small artifacts discovered during excavations. After the restoration of the Han, it was used as an administrative section, laboratory, storage area, library, and conference hall. The stables in the basement were renovated and converted into storage spaces for the unexhibited artifacts (Koşay 1979: 310-311). Guterbock, a Hittitologist who played an active role in the exhibition work at the museum, provides important information about the process of Kurşunlu Han and Mahmud Paşa Bedesten transforming into a museum in his work titled "Guide to the Great Hall of the Eti Museum". "Ankara Bedesteni" was published in 1946, and it was Atatürk who first proposed the idea of establishing a museum. The richness of Eti artifacts in Turkey and the interest in the history of this country prompted the initiation of this work, which led to the creation of the first artifacts. The establishment of the museum began with the transfer of Eti artifacts collected throughout the country to Ankara, despite the absence of a long-term solution for a museum building and the inability to construct a large modern museum building for a long time. Therefore, the decision of the museum administration to rehabilitate the Bedesten as the Eti Museum proved to be a successful solution.

Figure 27: Bedesten (URL 17).

It was stated that a suitable large structure was obtained for the museum, and when completed, the museum would encompass all preclassical findings from Anatolia. It emphasized that the Hittite period was the most significant during this long period and that the majority of the exhibited artifacts in the museum belonged to the Hittite culture. The new museum could be referred to as the Eti Museum (Guterbock 1946: 3-11).

The museum showcases many civilizations that have inhabited the region throughout the years in a chronological order from the earliest times to the present day. Established in 1921 and celebrating its 96th year, the Anatolian Civilizations Museum houses numerous valuable artifacts from periods such as the Paleolithic Age, Neolithic Age, Chalcolithic Age, Early Bronze Age, Assyrian Trade Colonies, Hittite Period, Phrygian Kingdom, and Urartian Kingdom. In 1997, it was honored with the "Museum of the Year" award in Lausanne, Switzerland.

CHAPTER IV

CASE STUDY: ANATOLIAN CIVILAZATION MUSEUM

4.1. EXISTING WAY FINDING SYSTEM IN ANATOLIAN CIVILIZATION MUSEUM

4.1.1. Information About the Existing Building

The Mahmut Paşa Bedesten, which is the building where the artifacts are exhibited in the Museum of Anatolian Civilizations, consists of a ground floor and a basement. The structure is divided into two sections, namely arasta and bedesten.

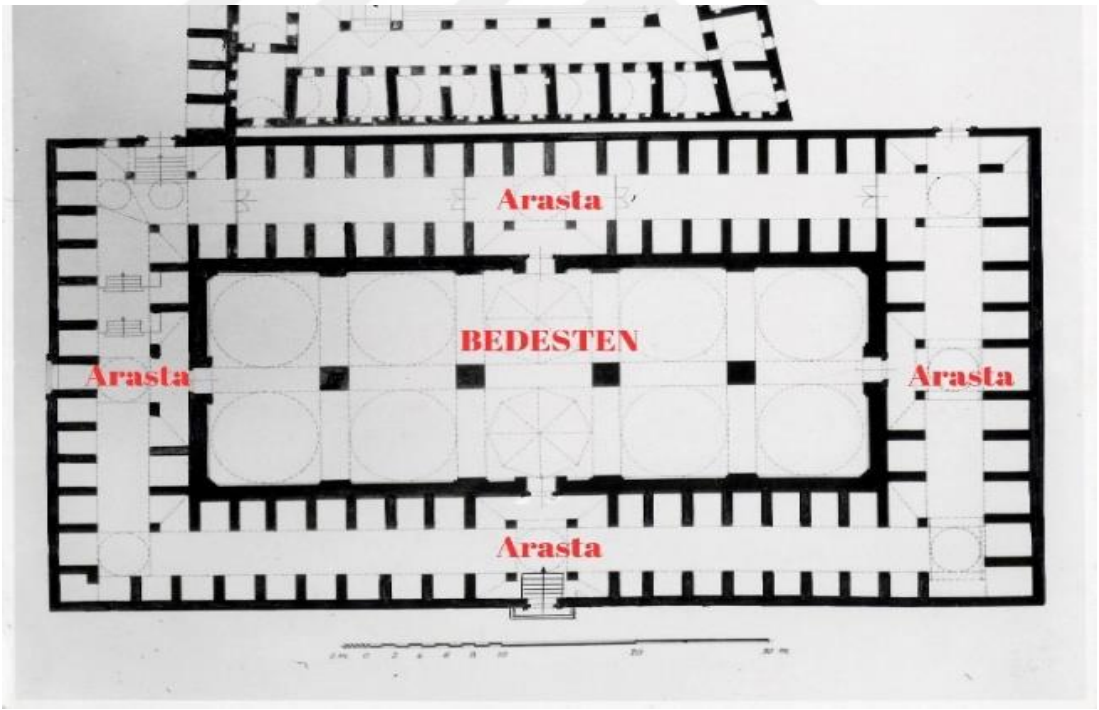

Figure 28: The display of the arasta and bedesten sections on the floor plan Salt Araştırma, Ali Saim Ülgen Archive (URL16).

Within the arasta section, the exhibited artifacts in the museum are displayed chronologically, representing periods such as the Paleolithic Age, Neolithic Age, Chalcolithic Age, Early Bronze Age, Assyrian Trade Colonies, Hittite Section, Phrygian Kingdom, and Urartu Kingdom.

The bedesten section, on the other hand, houses the Stone Artifacts Hall. In this hall, independent artists also hold various concerts on Tuesdays. As we enter the museum building, we are greeted by the Stone Artifacts Hall.

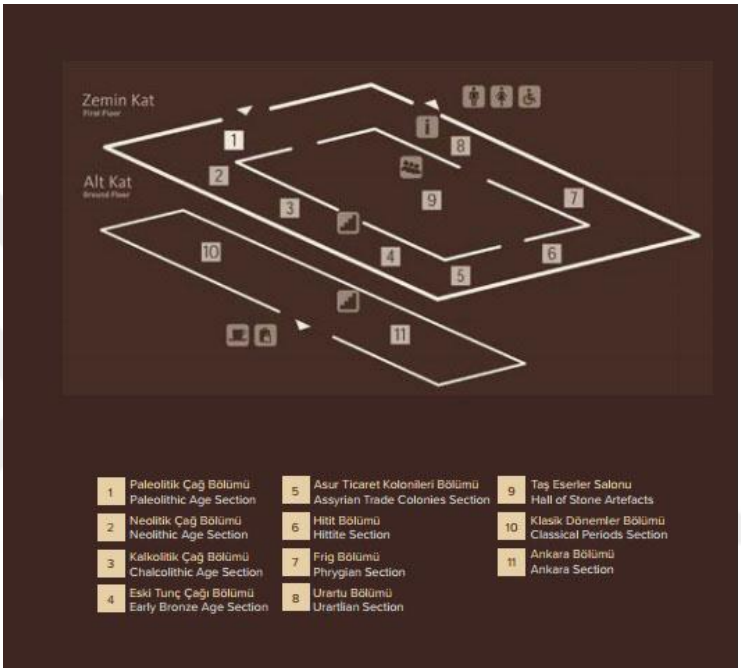

Figure 29: Numbering the works exhibited chronologically on the plan. (URL 17)

Figure 30: The interior of the Stone Artifacts Hall

Figure 31: Free Wifi area and shop

On the left side, there is a resting area and a free Wi-Fi zone. Additionally, an open store selling products that align with the museum's concept can be found.

As we turn towards the right side, we encounter the first section of the exhibited artifacts displayed chronologically, which is the Paleolithic Age section. In this section, dedicated to the Paleolithic Age artifacts, there is a plaster wall that serves as a circulation axis and provides information about civilizations.

Figure 32: A plasterboard wall that gives information about civilizations.

4.1.1.1. Circulation Pattern of the Existing Building: Mahmut Paşa Bedesten.

The Mahmut Paşa Bedesteni is designed in the classical rectangular Arasta-style bedesten typology, as described by Cezar (1985: 278-279). Due to the current floor plan of the structure, a natural circulation axis is observed within the museum. When visitors enter the museum, the spatial arrangement is designed to allow them to explore the exhibited artifacts in a chronological order, enabling them to perceive the development of civilizations. The sequential arrangement of the exhibition space facilitates a cohesive understanding of the historical progression.

4.2. INVESTIGATION

4.2.1. Methodology

Several methods have been used in order to find out the performance of Anatolian Civilization Museum in terms of Wayfinding of the visitors, and possibly how to improve it:

a. The first analysis of the building was to use Space Syntax Program to see the building's problematic areas
b. Observation research method was inevitable to watch the behavior of the visitors and the building's attributes.
c. Quantitative research method was use to implemented a survey among visitors, 175 visitors were questioned
d. Qualitative research method was also implemented has interviews with the museum personnel

4.2.1.1. Space Syntax Program to See the Building's Problematic Areas

The Space Syntax program is a research methodology developed in the 1970s by Bill Hillier and Julienne Hanson, based on human movement and perception. Spatial Syntax is a research program developed by the London University Architecture Studios under the leadership of Professor Bill Hillier (Hillier 1996; Hillier 1984). It is a theory related to the configuration of opinions about the physical properties of architectural and urban spaces (Hillier and Hanson 1997).

When a person moves in a space, different spatial effects occur depending on the destination. The way the space user moves to reach a desired location influences spatial relationships and lines of sight. In this theory, perspective and spatial accessibility analyses are conducted, and results are obtained through numerical data (Gökçe and Kaya 2020).

In Space Syntax, the concept of connectivity is essential both conceptually and as a dissection parameter. According to the theory, the connectivity value (CO: Connectivity) of a space is equal to the number of other spaces (k) surrounding and connected to that space in the next step (COi = k).

Visibility Graph Analysis (VGA) divides the plan drawing into identical square units and obtains an analysis for each frame. These analyses color the pixel value per

unit square using the description method. The numerical values are visualized with colors between red and blue, making the values interpretable (Gül 2022).

In order to understand the museum's spatial performance, Space Syntax Program have been used weather the existing building upholds problematic features to prevent proper wayfinding design.

The museum building's plans have been digitally converted to AutoCAD format (.dwg), maintaining their true measurements, and transferred to the Space Syntax-Depthmap program for visibility and connectivity analysis using the spatial layout method. Benedikt defined visibility as the entirety of all points visible from a selected point (Benedikt 1979).

Using the Space Syntax program for spatial layout analysis, with all doors of the Stone Artifacts Hall open, it has been observed that the visibility and connectivity within the hall are high.

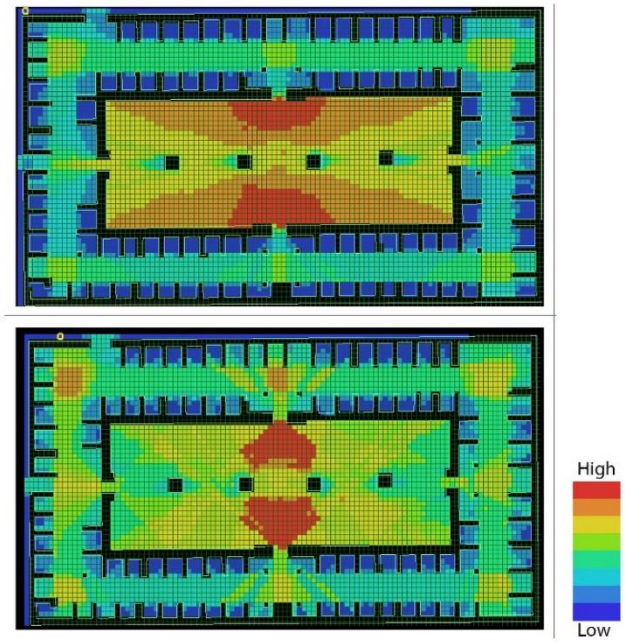

Figure 33: Visibility and connectivity analysis of the museum, respectively.

On the same floor plan, when the B, C, and D doors of the Stone Artifacts Hall are closed, no significant changes are observed in the connectivity analysis of the hall. However, in the visibility analysis, a decrease in visibility within the Stone Artifacts Hall is detected.

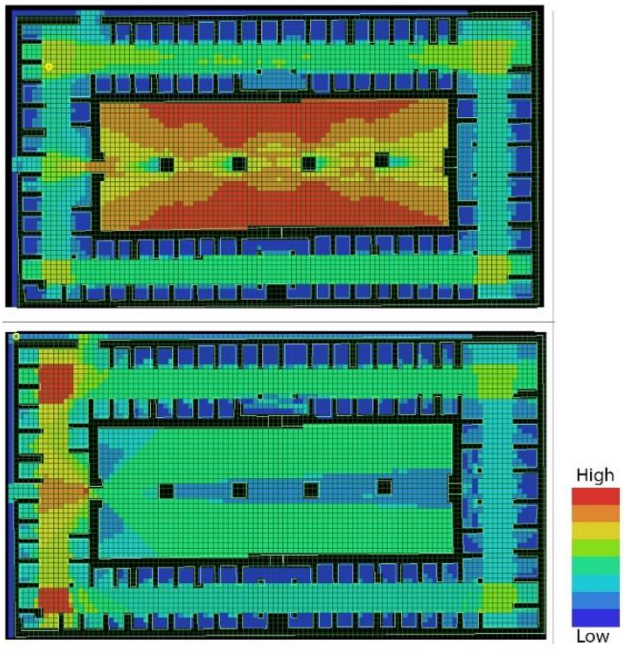

Figure 34: Visibility and Connectivity analysis with the B, C and D doors of the Stone Artifacts Hall closed.

Figure 35: Stone Artifacts Hall A gate.

4.2.1.2. Observation Analysis of Anatolian Civilization Museum

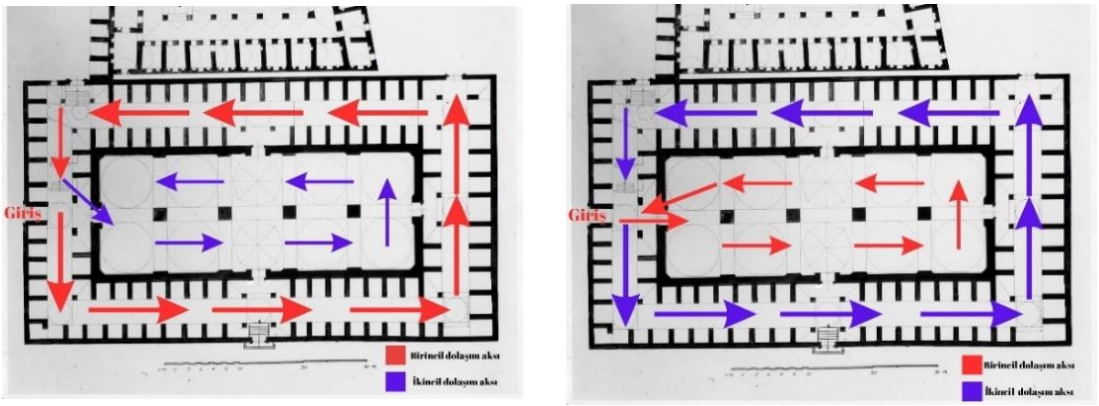

Figure 36: Alternative circulation axes expected from visitors. Based on Ulgen's plan (URL16).

Based on observations made within the museum, it has been noticed that some visitors follow the chronological order while exploring the museum, while others deviate from the strict chronological sequence. One of the main reasons for this situation has been attributed to the four entrances of the Stone Artifacts Hall, leading to artifacts from different civilizations.

During the visit, it has been observed that a visitor starting from the Paleolithic period may enter the Stone Artifacts Hall through any of the entrances labeled as B, C, or D, and exit through any of these same entrances. As a result, sometimes visitors unintentionally follow a circulation axis opposite to the exit they used, deviating from the chronological order.

This situation can lead to visitors navigating the museum in a non-sequential manner, as they might move between different sections and periods in a way that does not strictly adhere to the intended chronology.

When we navigate around the bedesten starting from the Paleolithic Age, the following periods are encountered in sequence: Neolithic Age, Chalcolithic Age, Early Bronze Age, Assyrian Trade Colonies, Hittite Section, Phrygian Kingdom, and Urartu Kingdom.

The Stone Artifacts Hall has four entrance doors, which serve as access points to the hall. One door is located at the entrance of the structure (A door), another in the

Early Bronze Age section (B door), another in the Hittite section (C door), and the last one in the Phrygian section (D door).

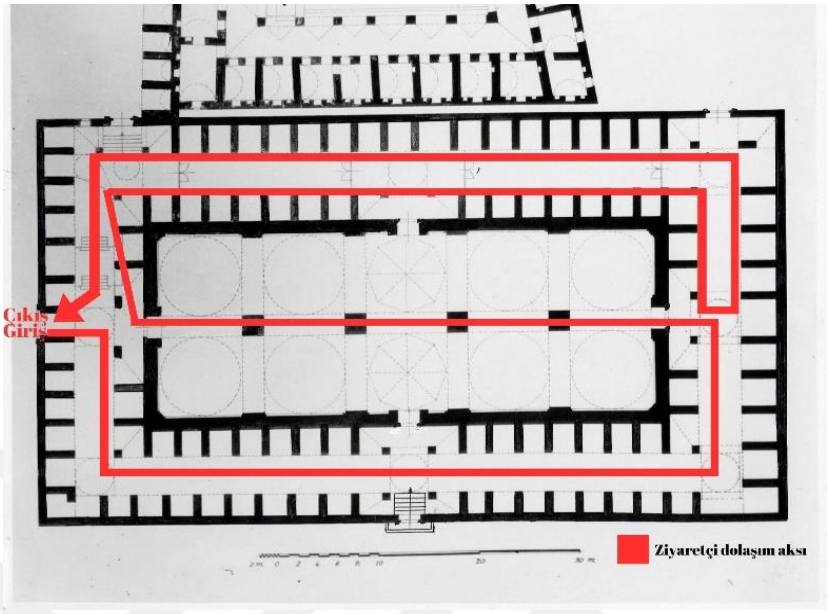

Figure 37: Developed over Ulgen's plan; visitor circulation axis (URL 16).

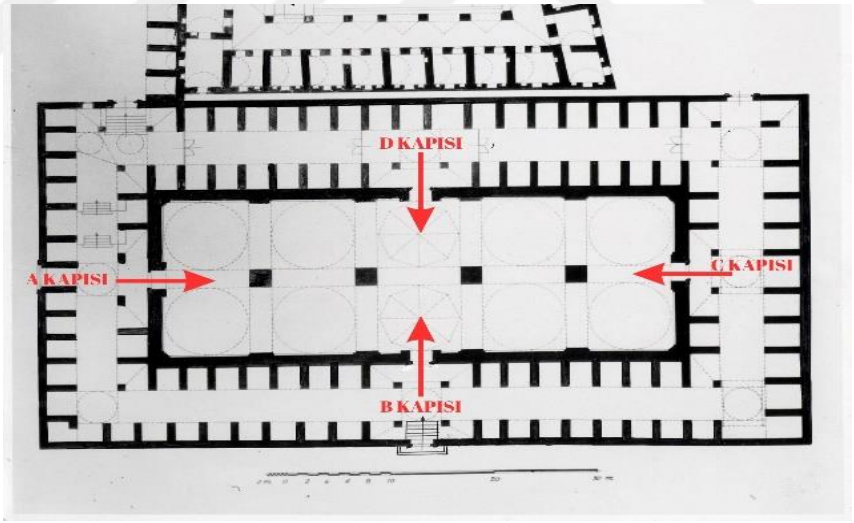

Figure 38: The entrance doors of the Stone Artifacts Hall (URL16).

Only the A door, located at the entrance, has a sign indicating the Stone Artifacts Hall. The other doors lack any directional or informational signage.

While navigating through the museum, in the middle of the corridors, there are illuminated signs indicating the civilization period to which the exhibited artifacts belong. Additionally, next to certain artifacts, there are informational labels providing details about the artwork's provenance. These labels offer information about the historical context, significance, and other relevant details pertaining to the exhibited pieces.

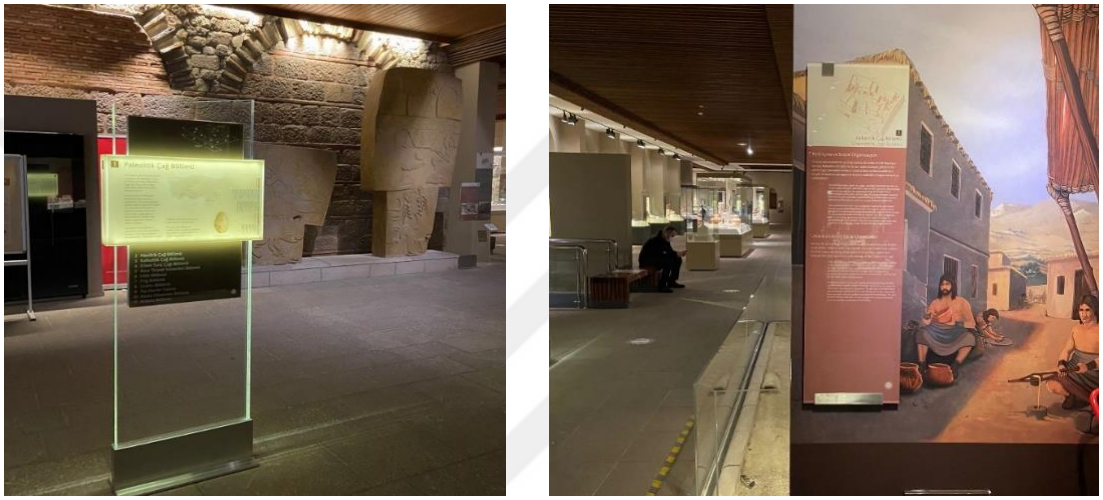

Figure 39: Illuminated signboard and work tag in the museum.

In the design of the museum's ceiling and lighting, the arasta section has utilized a baffle ceiling system to enhance the circulation axis. The baffle ceiling helps guide visitors along the designated path within the arasta section. However, no specific interventions based on directional design have been made on the ceilings of the bedesten section. The bedesten section relies on the existing architectural layout without additional modifications to direct visitor movement.

Figure 40: Ceilings of Arasta and Bedesten Sections.

To the right of the B door in the Stone Artifacts Hall, there is a staircase leading down to the lower level of the museum. This staircase provides access to the exhibition area dedicated to Classical Periods and the Ankara Section. A sign indicating the location of these sections can be found on the wall adjacent to the stairs descending to the lower level.

Figure 41: Ankara Department information sign.

However, observations made in the museum have shown that especially foreign visitors often seek assistance from museum staff to locate the restrooms. Additionally, in the museum's courtyard, there are directional signs indicating the location of the restrooms, cafeteria, and exit.

Figure 42: Direction signs in the garden of the museum.

4.2.1.3. Qualitative Research Interviewing With the Museum Personnel

According to the discussions with museum staff, it has been gathered that due to inadequate signage and guidance, many visitors leave without exploring the artifacts located on the lower level.

In the museum's store section, there is a door that opens to the courtyard of the building. This door provides access to the restrooms, smoking area, administrative building, and cafeteria. To guide visitors to these facilities, there is a sign located on the door.

Figure 43: The exit door located next to the store.

4.2.1.4. Quantitative Research Method Was to Implement A Survey Among Visitors

A survey was conducted among museum visitors using simple random sampling method over a duration of 8 days, including both weekends and weekdays, between 11:00 AM and 4:00 PM. The survey questions were prepared using Google Forms, and visitors were asked to scan a QR code using their mobile phones to answer the questions. Additionally, survey questions were prepared in English for foreign visitors. In total, the survey was administered to 22 foreign visitors and 153 Turkish visitors.

Participants in the survey were not provided with any specific route; they were allowed to navigate within the museum's existing spatial organization and wayfinding design. After the completion of participants' tours, a survey study was conducted to evaluate the museum's signage system and spatial organization, as well as to determine changes based on user profiles. Simple random sampling was employed in the

selection of the sample, and a total of 175 individuals who visited the Museum of Anatolian Civilizations at various time intervals completed the surveys.

The Questionnaire

The survey consisted of 31 questions. The first nine questions were related to participants' demographic characteristics and their museum visit, including age, gender, education, and occupational status. The subsequent 22 questions focused on participants' wayfinding experience, signage systems, and the museum's spatial organization. The questionnaire can be found in Appendix I.

Descriptive statistics and Cross-Correlation analysis were employed to analyze the survey results and determine the impact of the museum's spatial organization and signage systems on participants' wayfinding experience.

In the survey study involving 175 participants, it was observed that 50.29% were male, 47.43% were female, and 2.29% preferred not to specify their gender.

The highest participation rate was observed in the age group of 25-34, with 31.71% of participants taking part in the survey. The age group of 55 and above had the lowest number of participants. (Table 5)

Table 5: Distribution of Participants by Age Groups

1- Age:	**n**
0-17	7
18-24	29
25-34	66
35-44	41
45-54	20
55-64	6
65 Over	6
Total	175

When examining Table 6, it is observed that among the participants' educational backgrounds, 81.14% had a Bachelor's degree or higher education, and there was one participant who reported being illiterate. In terms of participants' fields of study, it was found that visitors from other educational backgrounds explored the

museum the most, while participants from the field of Law visited the museum the least.

Table 6 : Distribution by Educational Status and Educaton Areas

3. Education Status:	**n**	**4. Your Field of Education:**	**n**
University	106	Engineering	12
Master, PhD etc.	36	Archaeology	13
High School	31	Administrative Sciences	15
Primary School	1	Law	4
Illiterate	1	Medicine	6
Total	175	Design	7

When analyzing Table 7, it is observed that among the participants who took part in the survey, the Museum of Anatolian Civilizations was predominantly used for "travel" purposes, while it was least utilized for "research" purposes.

Tablo 7: Distribution of Participants' Purposes of Visiting the Museum.

8. Why did you come to the Anatolian Civilizations Museum?	n
Travel	99
Job	18
Visit	42
Other	10
Research	6
Total	175

When examining Table 8, it is seen that the majority of participants visited the Museum of Anatolian Civilizations for the first time.

Tablo 8: Distribution of the Frequency of Visiting the Museum by the Participants.

9. How often do you come to this museum?	
I'm coming for the first time	91
1-7 days a week	12
I won't come again	12
Every few years.	33
Several times a year	24
3-4 times a month.	3
Total	175

Table 9: The Connection Between the Purpose of Visiting the Museum and the Participant's Route

			19. Could you easily find your direction on your route?					
			A little difficult	A little easy	Middle	Very difficult	Very easy	Total
8. For what purpose did you come to the Anatolian Civilizations	Research	Count	1	1	4	0	0	6
		% within 19. Could you easily find your direction on your route?	3,6%	3,2%	6,2%	0,0%	0,0%	3,4%
	Other	Count	2	2	5	0	1	10
		% within 19. Could you easily find your direction on your route?	7,1%	6,5%	7,7%	0,0%	2,2%	5,7%
	Job	Count	2	2	3	1	10	18
		% within 19. Could you easily find your direction on your route?	7,1%	6,5%	4,6%	20,0%	21,7%	10,3%
	Travel	Count	15	19	37	4	24	99
		% within 19. Could you easily find your direction on your route?	53,6%	61,3%	56,9%	80,0%	52,2%	56,6%
	Visit	Count	8	7	16	0	11	42
		% within 19. Could you easily find your direction on your route?	28,6%	22,6%	24,6%	0,0%	23,9%	24,0%
Total		Count	28	31	65	5	46	175
		% within 19. Could you easily find your direction on your route?	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

When Table 9 is examined, the majority of the participants who came to the museum for business purposes stated that it was easy to find a way. The majority of the participants who came for the purpose of visiting, researching and travel stated that finding the direction to go in the museum is at a moderate level. When the table is examined, the frequency of seeing the museum by the participants who come to the museum for business purposes; It has been seen that the purpose of coming to the museum has an effect on finding the way, since the participants who come for visits, travel and research are more than the frequency of visits.

4.2.2. Findings a Direction Based on Spatial Attributes and Organization at the Museum of Anatolian Civilizations

In this stage of the study, the data obtained from the survey has been evaluated through descriptive statistical analysis and cross-correlation analysis in the context of spatial infrastructure and organization regarding wayfinding experiences.

Tablo 10: Distribution of Which Direction Participants Headed.

Which side did you turn to first when you entered the museum?	
Right side	117
Left side	10
Opposite side	48
Total	175

When examining Table 10, it is observed that participants predominantly leaned towards exploring the museum from the right side.

Table 11: The Correlation between the Frequency of Visiting the Museum and Orientation.

			10. Which side did you turn to first when you entered the museum?			
			Left side	Opposite side	Right side	Total
9. How often do you come to this museum?	3-4 times a month.	Count	0	0	3	3
		% within 10. Which side did you turn to first when you entered the museum?	0,0%	0,0%	2,6%	1,7%
	Every few years	Count	1	9	23	33
		% within 10. Which side did you turn to first when you entered the museum?	10,0%	18,8%	19,7%	18,9 %
	1-7 days a week	Count	0	4	8	12
		% within 10. Which side did you turn to first when you entered the museum?	0,0%	8,3%	6,8%	6,9%
	I won't come again.	Count	2	6	4	12
		% within 10. Which side did you turn to first when you entered the museum?	20,0%	12,5%	3,4%	6,9%
	I'm coming for the first time	Count	5	25	61	91
		% within 10. Which side did you turn to first when you entered the museum?	50,0%	52,1%	52,1%	52,0 %
	Several times a year.	Count	2	4	18	24
		% within 10. Which side did you turn to first when you entered the museum?	20,0%	8,3%	15,4%	13,7 %
Total		Count	10	48	117	175
		% within 10. Which side did you turn to first when you entered the museum?	100,0 %	100,0%	100,0 %	100, 0%

When examining Table 11, it is observed that among users who visited the museum for the first time, 67.03% of them directed themselves towards the right side, while 27.47% directed themselves towards the opposite side. Additionally, it was determined that the majority of visitors who came to the museum at specific time intervals were directed towards the right side upon entering the museum.

Tablo 12: Distribution of Participants According to the Departments They First Oriented.

11. When you entered the museum, which artifacts section did you examine first?	
I can't remember	55
Hittite Division	13
Chalcolithic Age Section	5
Stone artifacts hall section	14
Paleolithic Age Section	54
Neolithic Age Section	20
Phrygian Section	2
Early Bronze Age Division	6
Assyrian Trade Colonies Division	4
Urartian Division	2
Total	175

When examining Table 12, it is observed that participants do not remember which section of the museum they initially headed towards upon arrival. However, it is noted that when considering the chronological order of the displayed artifacts, the Paleolithic Age section, which is listed first, is where they directed themselves.

Tablo 13: The Reason of the Participant's First Direction.

Why did you choose this department first?	
The flow of the space, the light, the spatial organization took me there automatically.	39
Coincidence	76
The guide directed so	24
The redirect was not good	14
I went straight there because that's the part I wanted	18
Couldn't find the section I wanted	4
Total	175

When examining Table 13, it is observed that participants generally headed towards their initial section choice by chance or randomly. It is also noted that participants who could not find their desired section ended up exploring the museum in a disorganized manner, resulting in their inability to locate specific sections. Furthermore, 22.09% of participants mentioned that the spatial flow, lighting, and spatial organization of the museum were influential factors in guiding their wayfinding experiences.

Table 14: The Correlation Between the Frequency of Visiting the Museum and the First Visited Section.

			12. Why did you choose this department first?						
			Coincidence	I went straight there because that's the part I wanted	I couldn't find the part I wanted	The flow of the space, the light, the spatial	The guide directed so	The redirect was not good	Total
9. How often do you come to this museum?	3-4 times a month.	Count	2	1	0	0	0	0	3
		% within 12. Why	2,6%	5,6%	0,0%	0,0%	0,0%	0,0%	1,7%
	Every few years	Count	12	4	3	10	1	3	33
		% within 12. Why	15,8%	22,2%	75,0%	25,6%	4,2%	21,4%	18,9%
	1-7 days a week	Count	2	3	0	5	1	1	12
		% within 12. Why	2,6%	16,7%	0,0%	12,8%	4,2%	7,1%	6,9%
	I won't come again.	Count	9	1	0	0	2	0	12
		% within 12. Why	11,8%	5,6%	0,0%	0,0%	8,3%	0,0%	6,9%
	I'm coming for the first time	Count	45	4	1	16	18	7	91
		% within 12. Why did you	59,2%	22,2%	25,0%	41,0%	75,0%	50,0%	52,0%
	Several times a year.	Count	6	5	0	8	2	3	24
		% within 12. Why did you	7,9%	27,8%	0,0%	20,5%	8,3%	21,4%	13,7%
Total	Count		76	18	4	39	24	14	175
	% within 12. Why did you choose this department first?		100,0 %	100,0 %	100,0 %	100,0 %	100,0 %	100,0 %	100,0 %

When examining Table 14, it is observed that the majority of participants who visited the museum for the first time chose their initial section by chance or randomly. Among participants who visited the museum every few years, 36.36% stated that it was by chance, 12.12% mentioned that it was their desired section, 9.09% couldn't find their desired section, 30.30% mentioned the spatial flow, lighting, etc., and 3.03% mentioned the guide as the reasons for choosing that section. Additionally, 9.09% of participants who visited the museum every few years expressed dissatisfaction with the guidance provided.

Tablo 15: Influencing Factors in Museum Orientation.

13. If the first part you go to is the place that directs you, what are these? A. Light B. Ceiling height C. Walls	
All	68
A Only	22
C Only	31
A and C	32
B Only	6
B and C	5
A and B	11
Total	175

When examining Table 15, it is observed that 38.86% of participants indicated that factors such as lighting, ceiling height, and walls were influential in guiding their wayfinding experiences within the space.

Tablo 16: Evaluation of Whether the Participants Visited the Museum Chronologically.

14. Did you visit the museum chronologically?	
Yes	71
No	45
Partially	59
Total	175

When examining Table 16, it is observed that 40.57% of participants explored the museum in a chronological order. However, 25.71% of participants did not follow a chronological order, and 33.71% of participants stated that they did not fully adhere

to the chronological arrangement of the museum. One of the main reasons for this is the presence of four doors in the Stone Artifacts Hall that lead to different periods. The lack of clear boundaries around these doors leads to visitors navigating in a scattered manner.

Table 17: The Effects of Visiting the Museum Chronologically on Direction Finding.

			15. While examining the works exhibited in chronological order, were you able to find your way easily?			Total
			No	Sometimes	Yes	
14. Did you visit the museum chronologically?	No	Count	17	19	9	45
		% within 15. While examining the works exhibited in chronological order, were you able to find your way easily?	68,0%	31,7%	10,0%	25,7%
	Partially	Count	8	26	25	59
		% within 15. While examining the works exhibited in chronological order, were you able to find your way easily?	32,0%	43,3%	27,8%	33,7%
	Yes	Count	0	15	56	71
		% within 15. While examining the works exhibited in chronological order, were you able to find your way easily?	0,0%	25,0%	62,2%	40,6%
Total		Count	25	60	90	175
		% within 15. While examining the works exhibited in chronological order, were you able to find your way easily?	100,0%	100,0%	100,0%	100,0%

When examining Table 17, it is observed that 78.87% of participants who explored the museum in a chronological order stated that finding their way was easy. On the other hand, participants who did not follow a chronological order expressed negative views regarding wayfinding in the museum. The majority of participants who partially followed a chronological order also expressed negative views on wayfinding within the museum.

Table 18: The Effect of Chronological Order on Wayfinding.

15. While examining the works exhibited in chronological order, were you able to find your way easily?	
Yes	90
No	25
Sometimes	60
Total	175

When examining Table 18, it is found that participants easily found their way when they explored the museum in a chronological order. However, it is observed that the total number of participants who answered "sometimes" and "no" is very close to the number of participants who answered "yes."

Table 19: Awareness of the Building's History

26. This museum building is from the 15th century Ottoman period. Did you know this information, Did you find out now?	
Yes, I knew	83
No, I just found out	92
Total	175

As seen in Table 19, 52.57% of participants were unaware that the museum exhibits artifacts from the 15th century Ottoman period, while 47.43% indicated that they were aware of this information.

Table 20: The Effect of Educational Status of the Participants on the Awareness of the Architectural History of the Building.

			26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		
			No, I just found out	Yes, I knew	Total
3. Your education status:	High school	Count	24	7	31
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	26,1%	8,4%	17,7%
	Primary school	Count	1	0	1
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	1,1%	0,0%	0,6%
	Master,PhD etc.	Count	13	23	36
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	14,1%	27,7%	20,6%
	Illiterate	Count	1	0	1
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	1,1%	0,0%	0,6%
	University	Count	53	53	106
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	57,6%	63,9%	60,6%
Total		Count	92	83	175
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	100,0%	100,0%	100,0%

When Table 20 is examined, it is seen that most of the participants, whose education level is high school and primary school, learned that the museum is a 15th century building while answering the survey questions. Participants whose education level is university show an equal distribution. The majority of users with a Master, PhD level of education stated that they knew about the history of the building.

Table 21: The Effect of Participants' Educational Area on Awareness of the Architectural History of the Building.

			26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	No, I just found out	Yes, I knew	Total
4. Your field of education:		Count		24	9	33
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		26,1%	10,8%	18,9%
	Archeology and	Count		1	12	13
		% within 26 This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		1,1%	14,5%	7,4%
	Design	Count		3	4	7
		% within 26 This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		3,3%	4,8%	4,0%
	Education	Count		15	13	28
		% within 26 This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		16,3%	15,7%	16,0%
	Engineering	Count		1	1	2
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		1,1%	1,2%	1,1%
	Law	Count		2	1	3
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		2,2%	1,2%	1,7%
	Administrative	Count		7	8	15
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		7,6%	9,6%	8,6%
	Medicine	Count		5	1	6
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		5,4%	1,2%	3,4%
	Architecture	Count		8	2	10
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		8,7%	2,4%	5,7%
	Other	Count		26	32	58
		% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?		28,3%	38,6%	33,1%
Total			Count	92	83	175
			% within 26. This museum building is from the 15th century Ottoman period. Did you know this information; Did you find out now?	100,0%	100,0%	100,0%

When examining Table 21, it is observed that the majority of participants with a background in archaeology and art history have knowledge about the historical aspects of the museum's structure. On the other hand, participants with backgrounds in engineering, medicine, and education acquired information about the historical aspects of the museum's structure during the survey. This table suggests that the participants' educational background has an influence on their knowledge of the museum's historical background.

Table 22: Route information

18. Have you been given a route for the trip?	
No	73
Yes	62
Sometimes	40
Total	175

When examining Table 22, it is observed that some participants were not provided with a specific route by a guide or museum staff while exploring the museum. Out of the 175 participants, 35.43% answered "yes" to this question.

Tablo 23: Evaluation of Participants Wayfinding on Their Routes.

19. Could you easily find your direction on your route?	
A little easy	31
Easy	0
Middle	65
A little difficult	28
Very easy	46
Very difficult	5
Total	175

When examining Table 23, it is observed that 44% of participants expressed that they did not have any difficulty with wayfinding, while 53.14% indicated that they mostly faced challenges with wayfinding. Additionally, 2.86% of participants stated that they had great difficulty in finding their way.

Table 24: Travel Route and Finding Direction on the Route

			19. Could you easily find your direction on your route?					
			A little difficult	A little easy	Middle	Very difficult	Very easy	Total
18. Have you been given a route	No	Count	19	23	53	3	28	126
		% within 19. Could you easily find your direction on your route?	67,9%	74,2%	81,5%	60,0%	60,9%	72,0%
	Sometimes	Count	3	4	5	2	3	17
		% within 19. Could you easily find your direction on your route?	10,7%	12,9%	7,7%	40,0%	6,5%	9,7%
	Yes	Count	6	4	7	0	15	32
		% within 19. Could you easily find your direction on your route?	21,4%	12,9%	10,8%	0,0%	32,6%	18,3%
Total		Count	28	31	65	5	46	175
		% within 19. Could you easily find your direction on your route?	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

When examining Table 24, it is observed that participants who were provided with a guided tour route expressed that they found it very easy to navigate along the designated route. On the other hand, participants who did not receive a guided tour route experienced some difficulty with wayfinding.

4.3.2. Finding a Direction Based on Perception and Perception Psychology in the Museum of Anatolian Civilizations

During this stage of the study, descriptive statistical and cross-correlation analysis were conducted to evaluate the data obtained from the survey in the context of spatial perception and wayfinding experience based on perception and cognitive psychology.

Tablo 25: Evaluation of Awareness of Steering Elements.

16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	
Yes	96
No	25
Sometimes	54
Total	175

Table 25 suggests that the majority of participants have noticed the directional elements that help them understand the periods to which the exhibited artifacts belong while exploring the museum. However, it is observed that the number of participants who answered "No" or "Sometimes" is very close to the number of participants who answered "Yes." In this case, 54.86% of visitors were aware of the presence of directional elements, while 14.29% did not notice them at all, and 30.86% noticed them sometimes.

Tablo 26: Evaluation of Wayfinding Elements in the Context of Wayfinding and Position Perception.

20. Which elements did you use to find your way along your route or to understand which civilization period artifacts are on display in your location?					
a. Signage, signs and direction information		**b. Different visual objects**		**c. Colors**	
No	18	No	63	No	91
Yes	113	Yes	72	Yes	49
Sometimes	44	Sometimes	40	Sometimes	35
Total	175	Total	175	Total	175
d. Lightings		**e. The form and geometry of the space**		**f. Floor covering**	
No	69	Yes	88	Yes	57
Yes	68	No	36	No	93
Sometimes	38	Sometimes	51	Sometimes	25
Total	175	Total	175	Total	175
g. Ceiling and walls		**h. By asking other people**		**ı. I could not perceive which civilization period I was in**	
Yes	68	No	89	No	76
No	60	Yes	23	Yes	20
Sometimes	47	Sometimes	63	Sometimes	79
Total	175	Total	175	Total	175

Table 26 reveals that in the survey conducted with 175 participants, the majority of participants relied on signage, directional information, various visual objects, and the form and geometry of the space to find their way and understand their location. It was determined that factors such as color, ceiling and walls, lighting, and flooring did not have a significant positive impact on wayfinding and spatial perception within the space. 45.14% of the participants answered "Sometimes" and 11.43% answered "Yes" when asked if they had difficulty perceiving which civilization period the artifacts belonged to.

Table 27: Agreeableness of Orientation Elements in the Museum

			17. Were the direction signs in the museum clear, understandable and helpful?			
			No	Partially	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	14	7	4	25
		% within 17. Were the direction signs in the museum clear, understandable and helpful?	51,9%	11,7%	4,5%	14,3%
	Sometimes	Count	7	34	13	54
		% within 17. Were the direction signs in the museum clear, understandable and helpful?	25,9%	56,7%	14,8%	30,9%
	Yes	Count	6	19	71	96
		% within 17. Were the direction signs in the museum clear, understandable and helpful?	22,2%	31,7%	80,7%	54,9%
Total		Count	27	60	88	175
		% within 17. Were the direction signs in the museum clear, understandable and helpful?	100,0%	100,0%	100,0%	100,0%

Table 27 shows that the majority of participants who answered "Yes" to the question "Was there any directional signage in the museum?" stated that these directional signage elements were clear and understandable. On the other hand, the majority of participants who answered "No" expressed a negative view regarding the presence of directional signage.

Table 28: The Orientation Elements In The Museum And The Connection Between The Use Of These Elements, A. Sign; Signs and Direction Information

			a. Sign; Signs and Direction Information			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	10	7	8	25
		% within a. Sign; Signs and Direction Information	55,6%	15,9%	7,1%	14,3%
	Sometimes	Count	5	15	34	54
		% within a. Sign; Signs and Direction Information	27,8%	34,1%	30,1%	30,9%
	Yes	Count	3	22	71	96
		% within a Sign; Signs and Direction Information	16,7%	50,0%	62,8%	54,9%
Total		Count	18	44	113	175
		% within a. Sign; Signs and Direction Information	100,0%	100,0%	100,0%	100,0%

Table 28 shows that among the participants who stated that there were directional signage elements in the museum, 73.96% of them used signs, symbols, and directional information. Among the participants who stated that directional signage elements were present sometimes, it was observed that they mostly used signs, symbols, and directional information as well.

Table 29: The Orientation Elements In The Museum And The Relationship Between The Use Of These Elements, B. Different Visual Objects

			b. Different Visual Objects			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to	No	Count	15	5	5	25
		% within b. Different Visual Objects	23,8%	12,5%	6,9%	14,3%
	Sometimes	Count	23	16	15	54
		% within b. Different Visual Objects	36,5%	40,0%	20,8%	30,9%
	Yes	Count	25	19	52	96
		% within b. Different Visual Objects	39,7%	47,5%	72,2%	54,9%
Total		Count	63	40	72	175
		% within b. Different Visual Objects	100,0%	100,0%	100,0%	100,0%

In Table 29, it can be observed that the majority of participants who stated that there were directional signage elements in the museum used different visual objects for wayfinding. Among the participants who stated that directional signage elements were present sometimes, 42.59% answered "no," 29.63% answered "sometimes," and 27.78% answered "yes." This indicates that there was no specific consistency regarding the use of different visual objects for wayfinding.

Table 30: The Orientation Elements In The Museum And The Relationship Between The Use Of These Elements, C. Colors

			c. Colors			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	17	6	2	25
		% within c. Colors	18,7%	17,1%	4,1%	14,3%
	Sometimes	Count	33	12	9	54
		% within c. Colors	36,3%	34,3%	18,4%	30,9%
	Yes	Count	41	17	38	96
		% within c. Colors	45,1%	48,6%	77,6%	54,9%
Total		Count	91	35	49	175
		% within c. Colors	100,0%	100,0%	100,0%	100,0%

In Table 30, it can be observed that the majority of participants who stated that there were directional signage elements in the museum did not use the color element for wayfinding. Similarly, participants who answered "no" or "sometimes" also did not use the color element for wayfinding.

Table 31: The Orientation Elements In The Museum And The Connection Between The Use Of These Elements, D. Lighthing

			d. Lighthing			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	16	5	4	25
		% within d. Lighthing	23,2%	13,2%	5,9%	14,3%
	Sometimes	Count	19	19	16	54
		% within d. Lighthing	27,5%	50,0%	23,5%	30,9%
	Yes	Count	34	14	48	96
		% within d. Lighthing	49,3%	36,8%	70,6%	54,9%
Total		Count	69	38	68	175
		% within d. Lighthing	100,0%	100,0%	100,0%	100,0%

When examining Table 31, it can be observed that 50% of the participants who stated the presence of directional signage in the museum used lighting as a means of navigation, while 35.42% indicated that they did not utilize lighting for this purpose. Due to the proximity of the data, we can conclude that the effect of museum lighting on wayfinding does not create a significant difference among users

Table 32: The Orientation Elements In The Museum And The Connection Between The Use Of These Elements, E. The Form and Geometry of the Space

			e. The Form and Geometry of the Space			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	15	5	5	25
		% within e. The Form and Geometry of the Space	41,7%	9,8%	5,7%	14,3%
	Sometimes	Count	9	29	16	54
		% within e. The Form and Geometry of the Space	25,0%	56,9%	18,2%	30,9%
	Yes	Count	12	17	67	96
		% within e. The Form and Geometry of the Space	33,3%	33,3%	76,1%	54,9%
Total		Count	36	51	88	175
		% within e. The Form and Geometry of the Space	100,0%	100,0%	100,0%	100,0%

Upon examining Table 32, it has been determined that a significant majority of participants who stated the presence of directional signage in the museum utilized the form and geometry of the space during wayfinding. On the other hand, the majority of participants who indicated the absence of directional signage in the museum did not utilize the form and geometry of the space during the process of wayfinding.

Table 33: The Orientation Elements In The Museum And The Relationship Between The Use Of These Elements, F. Floor Covering

			f. Floor Covering			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	16	4	5	25
		% within f. Floor Covering	17,2%	16,0%	8,8%	14,3%
	Sometimes	Count	30	13	11	54
		% within f. Floor Covering	32,3%	52,0%	19,3%	30,9%
	Yes	Count	47	8	41	96
		% within f. Floor Covering	50,5%	32,0%	71,9%	54,9%
Total		Count	93	25	57	175
		% within f. Floor Covering	100,0%	100,0%	100,0%	100,0%

Upon examining Table 33, it can be observed that 42.71% of participants who stated the presence of directional signage in the museum utilized the flooring during the wayfinding process, while 48.96% indicated that they did not use it. Overall, when considering the table as a whole, it is evident that participants did not effectively utilize the flooring as a means of wayfinding.

Table 34: The Orientation Elements In The Museum And The Connection Between The Use Of These Elements, G. Ceiling and Walls

			g. Ceiling and Walls			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	14	7	4	25
		% within g. Ceiling and Walls	23,3%	14,9%	5,9%	14,3%
	Sometimes	Count	17	28	9	54
		% within g. Ceiling and Walls	28,3%	59,6%	13,2%	30,9%
	Yes	Count	29	12	55	96
		% within g. Ceiling and Walls	48,3%	25,5%	80,9%	54,9%
Total		Count	60	47	68	175
		% within g. Ceiling and Walls	100,0%	100,0%	100,0%	100,0%

When examining Table 34, it is observed that the majority of participants who stated the presence of directional signage in the museum utilized the ceiling and walls during the wayfinding process. Upon overall analysis of the table, it can be concluded that the majority of participants provided responses supporting the view that the ceiling and walls are effective in the wayfinding process.

Table 35: The Relationship Between The Orientation Elements In The Museum And The Use Of These Elements, H. By Asking Other People

			h. By Asking Other People			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	14	8	3	25
		% within h. By Asking Other People	15,7%	12,7%	13,0%	14,3%
	Sometimes	Count	18	29	7	54
		% within h. By Asking Other People	20,2%	46,0%	30,4%	30,9%
	Yes	Count	57	26	13	96
		% within h. By Asking Other People	64,0%	41,3%	56,5%	54,9%
Total		Count	89	63	23	175
		% within h. By Asking Other People	100,0%	100,0%	100,0%	100,0%

Upon examining Table 35, it is observed that 59.38% of participants who stated the presence of directional signage in the museum mentioned that they did not ask

others for directions during the wayfinding process. Overall, the table indicates that although not always, participants occasionally relied on asking others for directions.

Table 36: The Relationship Between The Orientation Elements In The Museum And The Use Of These Elements, I. I Could Not Perceive Which Civilization Period I Was In.

			1. I could not perceive which civilization period i was in.:			
			No	Sometimes	Yes	Total
16. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	No	Count	7	16	2	25
		% within 1. I could not perceive which civilization period i was in.:	9,2%	20,3%	10,0%	14,3%
	Sometimes	Count	7	37	10	54
		% within 1. I could not perceive which civilization period i was in.:	9,2%	46,8%	50,0%	30,9%
	Yes	Count	62	26	8	96
		% within 1. I could not perceive which civilization period i was in.:	81,6%	32,9%	40,0%	54,9%
Total		Count	76	79	20	175
		% within 1 I could not perceive which civilization period i was in.:	100,0%	100,0%	100,0%	100,0%

Upon examining Table 36, it is observed that the majority of participants who stated the presence of directional signage in the museum did not encounter any difficulties in perceiving which civilization period artifacts were being exhibited in their current location. However, when the table is considered as a whole, it is observed that the majority of participants occasionally experienced difficulties in perceiving which civilization period artifacts were being exhibited.

Table 37: The Effect of Spatial Organization on Perception of Location

24. Did the spatial organization / plan of the museum affect your experience of finding your way or perceiving which period artifacts you are in?	
Yes	67
No	14
Undecided	41
Often	25
Rarely	28
Total	175

Upon examining Table 37, it is observed that 38.29% of participants responded that the spatial organization of the museum is effective in perceiving which civilization period artifacts are present. However, 47.43% of participants responded with "no," "undecided," and "rarely," indicating a negative impact of spatial organization on perceiving which civilization period artifacts are present.

Tablo 38: Distribution of the Emotions Felt by the Participants While Visiting the Venue

25. How did you feel about the interior of the building as you progressed on your route in this museum?	
Mystery	43
Curiosity	74
Trust	13
The feeling of being lost	13
Stress	7
Peace	17
Panic	1
Pride	7
Total	175

As observed in Table 38, the majority of participants expressed feeling curiosity and a sense of mystery while exploring the museum. However, 7.43% of participants reported experiencing a feeling of getting lost inside the museum.

Table 39: The Effects of Participants' Frequency of Visiting the Museum and their Feelings about the Interior Space of the Building.

		Total		9. What do you often come to this museum for?											
				Several times a		I'm coming for the first		I won't come again		1-7 days a week		every few years		3-4 times a month	
		% within 25. As you progress on your route in this museum; How did you feel about the interior of the building?	Count	% within 25. As you progress on your route in this	Count	% within 25. As you progress on your route in this museum;	Count	% within 25. As you progress on your route in this museum;	Count	% within 25. As you progress on your route in this museum;	Count	% within 25. As you progress on your route in this museum	Count	% within 25. As you progress on your route in this museum; How did you feel about	Count
25. As you progress on your route in this museum; How did you feel about the interior of the building?	Confidence	100,0%	13	15,4%	2	53,8%	7	7,7%	1	15,4%	2	7,7%	1	0,0%	0
	Curiosity	100,0%	74	9,9%	7	47,9%	37	1,4%	1	7,0%	5	31,0%	22	2,8%	2
	Mystery	100,0%	43	20,9%	9	58,1%	25	2,3%	1	0,0%	0	16,3%	7	2,3%	1
	Panic	100,0%	1	0,0%	0	0,0%	0	100,0%	1	0,0%	0	0,0%	0	0,0%	0
	Peace	100,0%	5	0,0%	0	40,0%	2	60,0%	3	0,0%	0	0,0%	0	0,0%	0
	Pride	100,0%	1	0,0%	0	100,0%	1	0,0%	0	0,0%	0	0,0%	0	0,0%	0
	Stres	100,0%	7	14,3%	1	42,9%	3	28,6%	2	14,3%	1	0,0%	0	0,0%	0
	The feeling of being lost	100,0%	2	0,0%	0	100,0%	2	0,0%	0	0,0%	0	0,0%	0	0,0%	0
	Total	100,0%	175	13,7%	24	52,0%	91	6,9%	12	6,9%	12	18,9%	33	1,7%	3

As analyzed in Table 39, it can be observed that overall, participants across all frequency of visits reported feeling curiosity and a sense of mystery

Tablo 40: Effect of sounds on wayfinding

31. Did the noises of the crowds in the museum affect your orientation?	
Not really	62
Never happened	43
Often happened	37
I'm undecided	24
It's been a lot	9
Total	175

Upon examining Table 40, it is evident that the noises generated by crowds were not particularly influential in guiding participants.

Table 41: The Frequency of Visiting the Museum and Its Effects on the Perception of the Artifacts of the Civilization Period.

			1. I could not perceive which civilization period I was in:			
			No	Sometimes	Yes	Total
9. How often do you come to this museum?	3-4 times a month.	Count	1	2	0	3
		% within 1. I could not perceive which civilization period I was in:	1,3%	2,5%	0,0%	1,7%
	Every few years	Count	13	16	4	33
		% within 1. I could not perceive which civilization period I was in:	17,1%	20,3%	20,0%	18,9%
	1-7 days a week	Count	0	3	9	12
		% within 1. I could not perceive which civilization period I was in:	0,0%	3,8%	11,8%	6,9%
	I won't come	Count	5	4	3	12
		% within 1. I could not perceive which civilization period I was in:	6,6%	5,1%	15,0%	6,9%
	I'm coming for	Count	37	43	11	91
		% within 1. I could not perceive which civilization period I was in::	48,7%	54,4%	55,0%	52,0%
	Several times	Count	11	11	2	24
		% within 1. I could not perceive which civilization period I was in:	14,5%	13,9%	10,0%	13,7%
Total		Count	76	79	20	175
		% within 1. I could not perceive which civilization period I was in:	100,0%	100,0%	100,0%	100,0%

Upon examining Table 41, it can be observed that visitors who come to the museum for the first time, visit a few times a year, or visit every few years predominantly expressed negative views regarding their ability to perceive artifacts from specific civilizations. However, the majority of participants who visit the museum 1-7 days a week expressed positive views regarding their ability to perceive artifacts from specific civilizations.

4.2.3. Finding Direction Based on Information Systems in the Museum of Anatolian Civilizations

At this stage of the study, the data obtained from the survey were evaluated through descriptive statistical analysis and cross-correlation analysis within the context of information-based wayfinding experience.

Tablo 42: Clarity of Direction Signs in the Museum.

17. Were the direction signs in the museum clear, understandable and helpful?	
No	27
Yes	88
Partially	60
Total	175

Tablo 42 reveals that 50.29% of the participants stated that the signs and directions within the museum were clear and understandable while they were exploring the museum.

Tablo 43: Evaluation of the Number of Sign and Direction Systems in the Museum.

21. Have you come across any signage, signage and/or wayfinding information on your route?	
I have encountered often	72
I have encountered rarely	25
I have always encountered	25
I have never	8
I am not aware of	45
Total	175

As observed in Table 43, 41.14% of the participants stated that they frequently encountered signs, symbols, and directional information within the museum. However, 25.71% of the participants were not aware of whether they encountered such signs and directional information.

Tablo 44: Evaluation of Wayfinding Information in the Museum.

22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	
Undecided	40
A little enough	44
A little insufficient	50
Very enough	30
Not enough	11
Total	175

When examining Table 44, it can be observed that 28.57% of the participants found the wayfinding systems within the museum slightly inadequate. Additionally, 22.86% of the participants expressed indecisiveness regarding this matter.

Table 45: Sufficiency Level of Information Systems in the Museum.

Total		21. Have you come across any signage, signage and/or wayfinding information on your route?								22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?		
		I have rarely encountered		I have never		I encountered often		I have always encountered		I am not aware of		
	Count	% within 22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	Count	% within 22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	Count	% within 22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	Count	% within 22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	Count	% within 22. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?		
100,0%	44	6,8%	3	6,8%	3	45,5%	20	15,9%	7	25,0%	11	A little enough
100,0%	50	26,0%	13	2,0%	1	42,0%	21	8,0%	4	22,0%	11	A little insufficient
100,0%	11	54,5%	6	27,3%	3	0,0%	0	9,1%	1	9,1%	1	Not enough
100,0%	40	2,5%	1	0,0%	0	42,5%	17	5,0%	2	50,0%	20	Undecided
100,0%	30	6,7%	2	3,3%	1	46,7%	14	36,7%	11	6,7%	2	Very enough
100,0%	17	14,3%	25	4,6%	8	41,1%	72	14,3%	25	25,7%	45	Total

When examining Table 45, it can be observed that the majority of participants who consistently encountered the informational systems expressed the view that these systems were sufficient and beneficial. However, when considering the overall table, it can be concluded that participants, in general, were indecisive and found the signage systems within the museum somewhat inadequate in terms of their sufficiency and usefulness.

Table 46: Evaluation of Signage Systems, Signage and Direction Information that Participants Encounter on their Routes

23. Evaluate the options regarding the sign systems, signs and direction information that you come across on your route.					
a. They are sufficient in number:		**b. Their size is sufficient:**		**c. Placed in visible places:**	
Yes	45	Yes	53	Yes	60
No	18	No	27	No	19
Undecided	56	Undecided	49	Often	24
Sometimes	21	Often	23	Undecided	42
Often	35	Sometimes	23	Sometimes	30
Total	175	Total	175	Total	175
d. The colors are remarkable:		**e. They can be read and understood:**		**f. Texts and symbols are self explanatory:**	
Yes	47	Yes	64	Yes	76
No	46	No	13	No	17
Undecided	34	Undecided	37	Undecided	24
Sometimes	29	Often	28	Often	32
Often	19	Sometimes	33	Sometimes	26
Total	175	Total	175	Total	175

When examining Table 46, it is evident that participants found the signage systems, including textual information, symbols, and icons, to be descriptive when evaluating them along their routes. The majority of participants expressed that these systems were visible, legible, and understandable. However, participants were indecisive about whether the number of wayfinding elements was sufficient or not.

4.2.4. Final Evaluation of the Findings In The Review Of The Anatolian Civilizations Museum

The Museum of Anatolian Civilizations is a structure dating back to the 15th century. Due to its historical significance, interventions during the process of repurposing the building have been limited in the context of conservation. Therefore, the functional adaptations have been carried out while adhering to the original plan of the structure. Based on examinations, research, and discussions with the museum director, it has been observed that a spatially organized guidance system could not be implemented in the interior of the museum. Consequently, it was observed that a directional design based on informative systems was employed. However, on-site inspections, observations, and survey findings indicate that the existing directional design in the museum is insufficient and inadequate. Through observations made during museum visits, it was noticed that some visitors explore the museum in a chronological order based on the spatial organization, while others do not strictly follow the chronological sequence. One of the main reasons for this situation was observed to be the presence of four entrances to the Stone Artifacts Hall, each leading to different civilizations' artifacts.

While visiting the museum, a visitor starting from the Paleolithic period was observed to enter and exit the Stone Artifacts Hall through any of the B, C, or D entrances, which occasionally leads to a circulation path opposite to the exit door, thereby deviating from the chronological order. Another problem identified in the directional design of the museum is that visitors often fail to notice the Classical Period and Ankara Section, accessible via a staircase located to the right of the B entrance on the lower floor. Discussions with museum staff revealed that due to inadequate guidance, many visitors leave without visiting the artifacts located on the lower floor. The survey results indicated that the majority of participants rely on signage, symbols, directional information, various visual objects, and the form and geometry of the space to find their way and understand their location. Criteria such as color, ceiling and walls, lighting, and flooring were mostly found to have a limited positive impact on wayfinding and spatial perception within the museum. It was found that 79% of participants sometimes experienced difficulty in perceiving the civilization period of the exhibited artifacts, while 20% responded affirmatively. Some participants found the directional systems within the museum somewhat inadequate, while others

expressed indecisiveness. In general, the survey indicated that participants acknowledged the presence of directional systems within the museum but considered their quantity to be insufficient. The majority of participants had difficulty perceiving the civilization period of the displayed artifacts.

CHAPTER V

CONCLUSION

Historical structures should be preserved as a part of cultural heritage, ensuring their transmission to future generations without losing their significance through the preservation of their original fabric. Adaptive reuse is considered an integral part of conservation, as it enables the preservation of the building's social and cultural characteristics. To maintain the vitality and continuity of historical buildings, the new functions assigned to them often provide spaces for interpersonal communication. The key is to reshape the building while preserving its traditional position, composition, and balance without disrupting its connection to the environment.

In this context, the Anatolian Civilizations Museum has undergone some repairs and transformations throughout its existence, reaching the present with positive or negative changes. Besides the original features from its initial construction period, the additions resulting from periodical repairs that contribute to the cultural values of the structure are also considered as significant elements. Therefore, continuing its original use will contribute more to the preservation of historical buildings and the continuity of cultural values.

This study aims to analyze and evaluate the post-adaptive reuse condition of the Anatolian Civilizations Museum, a historical structure with a rich history, focusing primarily on the interior space. The research methodology employed includes on-site observation, surveys, and documentation through photography.

The Anatolian Civilizations Museum is a structure dating back to the 15th century. It consists of a building known as Mahmut Paşa Bedesteni, which serves as the exhibition space for the artifacts and comprises a ground floor and a first floor. The museum presents various periods chronologically, such as the Paleolithic, Neolithic, Chalcolithic, Early Bronze Age, Assyrian Trade Colony Section, Hittite Section, Phrygian Kingdom, and Urartu Kingdom.

Due to its historical significance as a 15th-century structure, the interventions made during the adaptive reuse process were limited, aiming to preserve the original architectural plan. Therefore, it can be stated that the adaptive reuse efforts maintained the building's original layout.

When examining the existing designs in the museum regarding wayfinding, it becomes evident that the directional designs predominantly serve as informational systems. This thesis aims to emphasize that wayfinding can be achieved not only through informational systems but also through various other design elements. It is believed that architectural and interior design play a crucial role in directing visitors. A well-organized spatial arrangement, a plan with a coherent and legible structure, and careful considerations in spatial design constraints are important in minimizing the difficulties in learning, perceiving the museum, and understanding the artifacts, which may arise from design shortcomings.

One of the main shortcomings observed regarding the changes made to the structure in this thesis study is the difficulty visitors experience in wayfinding within the space. Upon general examination, it is observed that the majority of participants sometimes have trouble perceiving which civilization period's artifacts are being exhibited.

Visitors are expected to navigate through the exhibited artifacts in a chronological order when they enter the museum. The aim is to follow the development of civilizations by visiting the space chronologically. Based on the observations, it is noted that some visitors do not strictly adhere to the chronological order while exploring the museum, which leads to their confusion. One of the main reasons for this is observed to be the presence of four entrances to the Stone Artifacts Hall, each leading to artifacts from different civilization periods (shown in Figure 8, Figure 9, Figure 10). Furthermore, through conversations with relevant individuals, it was gathered that due to inadequate signage, many visitors leave without visiting the artifacts located on the lower floor.

Participants who navigate the museum in a chronological order do not encounter any difficulties in wayfinding, while those who do not follow the chronological order express negative views regarding finding their way in the museum. The majority of users who partially follow a chronological route also expressed negative views on wayfinding within the museum. Additionally, it was determined that

criteria such as color, ceiling and wall design, lighting, and flooring do not generally have a positive impact on wayfinding and the perception of one's location within the space. In the conducted survey, participants were asked about their knowledge regarding the history of the museum building, and it was found that more than half of the participants were not familiar with the building's history. Considering that the building is actually a historical artifact itself, this situation holds great significance.
To address these shortcomings, the following suggestions can be considered:

• Restrict access to the four entrance doors of the Stone Artifacts Hall, which are currently present in the original structure, and manage entry and exit through a single door. This measure will help prevent scattered circulation and confusion among visitors.

• Increase the number of wayfinding designs (signage, symbols, colors, etc.) within the museum, particularly for the Classical Periods and Ankara sections located on the lower floor. These designs should be placed in visible locations to enhance visitor awareness.

• Implement color schemes on the body parts of display cases in order to make it more understandable which period the exhibited artifacts belong to. For example, when visitors transition from the Hittite Section to the Phrygian Section, the change in colors on the display cases can help them perceive which period the artifacts belong to more clearly.

• Provide visitors with an information card upon entering the museum, which includes information about the locations of restrooms, the museum shop, the arrangement of artifacts, and how the chronological order is organized.

• Install signage, pictograms, or directional designs at more prominent locations within the museum to guide visitors to exits and restrooms.

• In order to convey to visitors that the building itself is a historical artifact, a promotional brochure could be provided before touring the museum, which narrates the transformations the building has undergone from the past to the present. Within the museum, various methods of reenactment can be applied in certain sections of the bedesten and arasta areas, referencing the building's original functions during its initial establishment.

When historical structures are re-used, such as in the case of the Anatolian Civilizations Museum, the concept of preservation limits the interventions that can be

made to the space, thus restricting the full application of wayfinding design criteria. In such cases, architects and designers often rely heavily on information-based wayfinding elements. However, relying solely on an information-based wayfinding system is not sufficient for museum structures of this kind due to the limitations imposed by spatial organization in historical buildings.

In this regard, wayfinding design based on spatial organization becomes a challenging option for such historical structures. Therefore, it would be more suitable to approach wayfinding design by considering not only information-based systems but also factors related to perception and perceptual psychology, such as color, light, texture, materials, etc. Combining these elements in a study would enhance the visibility of artifacts and contribute to the educational aspect of the museum.

In conclusion, this thesis work serves as a recommendation to architects and designers. When historical buildings are repurposed as museums, it is important for architects and designers to consider elements that facilitate wayfinding within the space, allowing visitors to perceive the structure and artifacts.

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APPENDICES

APPENDIX 1: ANADOLU MEDENİYETLER MÜZESİ KULLANICI YÖN BULMA DENEYİMİ DEĞERLENDİRMESİ ANKETİ

Bu anket Çankaya Üniversitesi İç Mimarlık Yüksek Lisans programı tez çalışması kapsamında hazırlanmış bir ankettir. Çalışmasının amacı, müze olarak yeniden işlevlendirilen ve tarihi bir bina olan Anadolu Medeniyetler Müzesi ziyaretçilerinin yön bulma deneyimleri hakkında bilgi edinmektir. Ankete katılan kullanıcı bu süreçte rotasını kendisi belirlerken; girişten başlayıp müze mekanının tamamını deneyimlenmesi beklenmektedir. Araştırma sonuçları ankete katılan kişilerin şahıslarıyla ilişkilendirilmeyecek olup, bilimsel amaçlar dışında kullanılmayacaktır. Katılımınız için teşekkür ederim.

A. ANKETİ YANITLAYAN KİŞİ İLE İLGİLİ BİLGİLER

1. Yaşınız: ( ) 0-17 ( ) 18-24 ( ) 25-34 ( ) 35-44 ( ) 45-54 ( ) 55-64 ( ) 65 ve üstü
2. Cinsiyet ☐ Kadın ☐ Erkek ☐ Belirtmek İstemiyorum
3. Eğitim durumunuz: ( ) Okuryazar değil ( ) İlkokul ( ) Lise ( ) Lisans ( ) Lisans ve üstü
(Üniversite mezunu iseniz lütfen cevaplayın, değilseniz boş bırakabilirsiniz.) 4. Eğitim alanınız: ( ) Mühendislik ( ) Mimarlık ( ) Tasarım ( ) İdari Bilimler ( ) Tıp ( ) Arkeoloji ve sanat tarihi ( ) Eğitim ( ) Hukuk ( ) Diğer
5. Yapmakta olduğunuz iş eğitim alanınız ile mi ilgili? (Çalışmıyorsanız lütfen boş bırakın.) ( ) Evet ( ) Hayır
6. Şu anda master yada doktora çalışması yapıyor musunuz? ( ) Evet ( ) Hayır

7. Bu müze ile ilgili mi ? (Herhangi bir master yada doktora çalışması yapmıyorsanız lütfen boş bırakınız.) ( ) Evet ( ) Hayır	
8. Anadolu Medeniyetler Müzesi'ne ne amaçla geldiniz ? ( ) Ziyaret ( ) Gezme ( ) İş ( ) Araştırma ( ) Diğer	
9. Bu müzeye ne sıklıkla geliyorsunuz? ( ) İlk gelişim. ( ) Hafta 1-7 gün. ( ) Birkaç yılda bir. ( ) Ayda 3-4 kez. ( ) Yılda birkaç kez. ( ) Birdaha gelmem.	

B. YÖN BULMA DENEYİMİNE İLİŞKİN BİLGİLER:

10. Müzeye girdiğinizde ilk önce hangi tarafa yönlendiniz ?	( ) Sağ taraf ( ) Sol taraf ( ) Karşı taraf
11. Müzeye girdiğinizde ilk önce hangi eserler bölümünü incelediniz ?	( ) Paleolitik Çağ Bölümü ( ) Neolitik Çağ Bölümü ( ) Kalkolitik Çağ Bölümü ( ) Erken Tunç Çağı Bölümü ( ) Asur Ticaret Kolonileri Bölümü ( ) Hitit Bölümü ( ) Frig Bölümü ( ) Urartu Bölümü ( ) Taş eserler salonu bölümü ( ) Hatırlamıyorum
12. Bu bölümü ilk tercih etmenizin nedeni nedir ?	( )Tesadüf ( ) İstediğim bölümü bulamadım ( ) Rehber öyle yönlendirdi ( ) Yönlendirme iyi değildi ( ) Mekanın akışı, ışık, mekansal organizasyon beni otomatik olarak oraya götürdü ( ) İstediğim bölüm o olduğu için doğrudan oraya gittim
13. Ilk gittiğiniz bölüm mekanın sizi yönlendirmesi ise bunlar nelerdir.	A. Işık B. Tavan yüksekliği C. Duvarlar ( ) Yalnız A ( ) Yalnız B ( ) Yalnız C ( ) A ve B ( ) A ve C ( ) B ve C ( ) Hepsi
14. Müzeyi kronolojik olarak mı gezdiniz?	( ) Evet ( ) Hayır ( ) Kısmen

15. Kronolojik düzene uygun olarak sergilenen eserleri incelerken yönünüzü kolay bir şekilde bulabildiniz mi ?	( ) Evet ( ) Hayır ( ) Bazen
16. Müzeyi gezerken incelediğiniz eserin hangi döneme ait olduğunu anlamanızı sağlayan bir yönlendirme unsuru (Tabela, renk çalışması, koku, işaret, aydınlatma, malzeme vb.) var mıydı ?	( ) Evet ( ) Hayır ( ) Bazen
17. Müzedeki yön levhaları açık, anlaşılır ve yardımcı mıydı ?	( ) Evet ( ) Hayır ( ) Kısmen
18. Size gezi için bir rota verildi mi ?	( ) Evet ( ) Hayır ( ) Bazen
19. Rotanız üzerinde işaretleme elemanları, tabela ve/veya yön bulma bilgilerine rastladınız mı ?	( ) Hep rastladım ( ) Sıklıkla rastladım ( ) Farkında değilim ( ) Nadiren rastladım ( ) Hiç rastlamadım

20. Rotanız üzerinde karşınıza çıkan işaret sistemleri, tabelaları ve yön bilgilerinin yön bulmada ne derece yardımcı ve yeterli olduğunu düşünüyorsunuz?	( ) Yeterli değil ( ) Biraz yetersiz ( ) Kararsızım ( ) Biraz yeterli ( ) Çok yeterli
21. Rotanız üzerinde karşınıza çıkan işaret sistemleri, tabelaları ve yön bilgileri ile ilgili seçenekleri değerlendiriniz.	a.Sayıca yeterliler: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır b.Büyüklükleri yeterlidir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır c.Görünür yerlere yerleştirilmiştir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır d.Renkleri dikkat çekicidir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır e.Okunaklı ve anlaşılabilirler: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır f.Yazılar ve simgeler açıklayıcıdır: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır

22. Müzenin mekansal organizasyonu / planı yönünüzü bulmaya veya bulunduğunuz yerin hangi dönem eserlerini barındırdığını algılama deneyiminize etkili oldu mu?	( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Nadiren ( ) Hayır
23. Rotanız üzerinde karşınıza çıkan işaret sistemleri, tabelaları ve yön bilgilerinin yön bulmada ne derece yardımcı ve yeterli olduğunu düşünüyorsunuz?	( ) Yeterli değil ( ) Biraz yetersiz ( ) Kararsızım ( ) Biraz yeterli ( ) Çok yeterli
24. Rotanız üzerinde karşınıza çıkan işaret sistemleri, tabelaları ve yön bilgileri ile ilgili seçenekleri değerlendiriniz.	a.Sayıca yeterliler: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır b.Büyüklükleri yeterlidir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır c.Görünür yerlere yerleştirilmiştir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır d.Renkleri dikkat çekicidir: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır e.Okunaklı ve anlaşılabilirler: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır f.Yazılar ve simgeler açıklayıcıdır: ( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Bazen ( ) Hayır

25. Müzenin mekansal organizasyonu / planı yönünüzü bulmaya veya bulunduğunuz yerin hangi dönem eserlerini barındırdığını algılama deneyiminize etkili oldu mu?	( ) Evet ( ) Sıklıkla ( ) Kararsızım ( ) Nadiren ( ) Hayır
26. Bu müzede rotanız üzerinde ilerlerken, yapının iç mekanına ilişkin ne hissettiniz ?	( ) Gizem ( ) Güven ( ) Kaybolma hissi ( ) Huzur ( ) Stres ( ) Merak ( )Panik ( ) Gurur
27. Bu müze binası 15. Yüzyıl Osmanlı döneminden kalma bir yapıdır. Bu bilgiyi biliyor muydunuz, Şimdi mi öğrendiniz?	( ) Evet, biliyordum ( ) Hayır, şimdi öğrendim
28. Bu yapı yeniden işlevlendirilerek müze haline dönüştürülmüştür. Sizce hem eserleri hem binayı incelemek konusundaki görüşünüz nedir.	( ) Çok iyi olmuş ( ) İyi olmuş ( ) Farketmez ( ) İyi olmamış ( ) Hiç iyi olmamış

29. Bu yapı müzede dolaşırken yönlendirme konusunda yardımcı oldu mu ?	( ) Evet oldu ( ) Bilmiyorum ( ) Farketmedim ( ) Hayır olmadı ( ) Bina yönlendirmeyi karıştırdı
30. Rehberle mi gezdiniz, kendiniz mi gezdiniz?	( ) Rehberle gezdim. ( ) Kendim gezdim.
31. Rehberiniz yoksa, rehberle gezmediyseniz rehberleri takip etmeye çalıştınız mı?	( ) Evet ( ) Hayır ( ) Bazen
32. Müze içerisindeki kalabalıkların çıkardığı sesler sizin yönlenmenizde etkili oldumu?	( ) Çok oldu ( ) Oldu ( ) Kararsızım ( ) Pek olmadı ( ) Hiç olmadı

APPENDIX 2: ANATOLIAN CIVILIZATIONS MUSEUM USER WAYFINDING EXPERIENCE EVALUATION SURVEY

This questionnaire is a questionnaire prepared within the scope of Çankaya University Interior Architecture Master's program thesis study. The aim of his work is to obtain information about the wayfinding experiences of the visitors of the Anatolian Civilizations Museum, which is a historical building that has been refunctionalized as a museum. While the user participating in the survey determines his/her own route in this process; It is expected to start from the entrance and experience the entire museum space. The results of the research will not be associated with the persons participating in the survey and will not be used other than for scientific purposes. Thank you for your participation.

C. INFORMATION ABOUT THE PERSON RESPONDING TO THE SURVEY

1.Age: ( ) 0-17 ( ) 18-24 ( ) 25-34 ( ) 35-44 ( ) 45-54 ( ) 55-64 ( ) 65 ve üstü
1. Gender : ☐ Female ☐ Male ☐ I do not want to specify
2. Your education status: ( ) Illiterate ( ) Primary school ( ) High school ( ) university ( ) Master, PhD
3. Your field of education: (If you are a university graduate, please answer, otherwise you can leave it blank.) ( ) Engineering ( ) Architecture ( ) Design ( ) Administrative Sciences ( ) Medicine ( ) Archeology and art history ( ) Education ( ) Law ( ) Other
4. Is your job related to your field of education? (Please leave blank if not working.) ( ) Yes ( ) No
5. Are you currently doing master's or doctoral studies? ( ) Evet ( ) Hayır
6. Is this about the museum? (If you are not doing any master's or doctoral studies, please leave it blank.) ( ) Evet ( ) Hayır
7. Why did you come to the Anatolian Civilizations Museum? ( ) Visit ( ) Traavel ( ) Business ( ) Research ( ) Other

8. How often do you come to this museum? ( ) I'm coming for the first time ( ) 1-7 days a week. ( ) Every few years. ( ) 3-4 times a month. ( ) Several times a year. ( ) I won't come again.

D. INFORMATION ON WAYFINDING EXPERIENCE:

9. Which side did you turn to first when you entered the museum?	( ) Right side ( ) Left side ( ) Opposite side
10. When you entered the museum, which artifacts section did you examine first?	( ) Paleolithic Age Section ( ) Neolithic Age Section ( ) Chalcolithic Age Section ( ) Early Bronze Age Division ( ) Assyrian Trade Colonies Division ( ) Hittite Division ( ) Phrygian Section ( ) Urartian Division ( ) Stone artifacts hall section ( ) I can't remember
11. Why did you choose this department first?	( )Coincidence ( ) Couldn't find the section I wanted ( ) The guide directed so ( ) The redirect was not good ( ) The flow of the space, the light, the spatial organization took me there automatically. ( ) I went straight there because that's the part I wanted
12. If the first part you go to is the place that directs you, what are these?	B. A. Light B. Ceiling height C. Walls ( ) A only ( ) B only ( ) C only ( ) A and B ( ) A and C ( ) B and C ( ) All
13. Did you visit the museum chronologically?	( ) Yes ( ) No ( ) Partially
14. While examining the works exhibited in chronological order, were you able to find your way easily?	( ) Yes ( ) No ( ) Sometimes

15. While visiting the museum, was there an element of orientation (signage, color work, smell, sign, lighting, material, etc.) that allows you to understand which period the work you examine belongs to?	( ) Yes ( ) No ( ) Sometimes
16. Were the direction signs in the museum clear, understandable and helpful?	( ) Yes ( ) No ( ) Partially
17. Have you been given a route for the trip?	( ) Yes ( ) No ( ) Sometimes
18. Could you easily find your direction on your route?	( ) Very difficult ( ) A little difficult ( ) Middle ( ) A little easy ( ) Very easy

19. Which elements did you use to find your way along your route or to understand which civilization period artifacts are on display in your location?	a. Signage, signs and direction information: ( ) Yes ( ) No ( ) Sometimes b.Different visual objects: ( ) Yes ( ) No ( ) Sometimes c.Colors: ( ) Yes ( ) No ( ) Sometimes d.Lightings: ( ) Yes ( ) No ( ) Sometimes e. The form and geometry of the space: ( ) Yes ( ) No ( ) Sometimes f. Floor covering: ( ) Yes ( ) No ( ) Base g. Ceiling and walls: ( ) Yes ( ) No ( ) Sometimes h. By asking other people: ( ) Yes ( ) No ( ) Sometimes I. I could not perceive which civilization period I was in: ( ) Yes ( ) No ( ) Sometmes
20. Have you come across any signage, signage and/or wayfinding information on your route?	( ) I have always encountered ( ) I have encountered often ( ) I am not aware of ( ) I have encountered rarely ( ) I have never

21. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	( ) Not enough ( ) A little insufficient ( ) Undecided ( ) A little enough ( ) Very enough
22. Evaluate the options regarding the sign systems, signs and direction information that you come across on your route.	a. They are sufficient in number: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No b. Their size is sufficient: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No c. Placed in visible places: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No d.The colors are remarkable: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No e. They can be read and understood: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No f. Texts and symbols are self explanatory: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No
23. Did the spatial organization / plan of the museum affect your experience of finding your way or perceiving which period artifacts you are in?	( ) Yes (Often ( ) Undecided ( ) Rarely ( ) No

24. How did you feel about the interior of the building as you progressed on your route in this museum?	( ) Mystery ( ) Confidence ( ) The feeling of being lost ( ) Peace ( ) Stress ( ) Curiosity ( ) Panic ( ) Pride
25. This museum building is from the 15th century Ottoman period. Did you know this information, Did you find out now?	( ) Yes, I knew ( ) No, I just found out
26. This building has been re-functionalized and turned into a museum. What do you think is your view on examining both the works and the building?	( ) Very well done ( ) well done ( ) It doesn't matter ( ) Not good ( ) It has never been good
27. Did this structure help with orientation while walking around the museum?	( ) Yes it's okay ( ) I don't know ( ) I did not notice ( ) No it didn't ( ) The building has confused the routing.
28. Did you travel with a guide or did you travel by yourself?	( ) I traveled with the guide. ( ) I traveled by myself.
29. If you do not have a guide, have you tried to follow the guides?	( ) Yes ( ) No ( ) Sometimes

30. Did the noises of the crowds in the museum affect your orientation?	( ) It's been a lot ( ) often happened ( ) I'm undecided ( ) Not really ( ) Never happened
31. To what extent do you think that the sign systems, signs and direction information you come across on your route are helpful and sufficient in finding your way?	( ) Not enough ( ) A little insufficient ( ) Undecided ( ) A little enough ( ) Very enough
32. Evaluate the options regarding the sign systems, signs and direction information that you come across on your route.	a. They are sufficient in number: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No b. Their size is sufficient: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No c. Placed in visible places: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No d.The colors are remarkable: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No e. They can be read and understood: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No f. Texts and symbols are self explanatory: ( ) Yes ( ) Often ( ) Undecided ( ) Sometimes ( ) No
33. Did the spatial organization / plan of the museum affect your experience of finding your way or perceiving which period artifacts you are in?	( ) Yes (Often ( ) Undecided ( ) Rarely ( ) No

34. How did you feel about the interior of the building as you progressed on your route in this museum?	( ) Mystery ( ) Confidence ( ) The feeling of being lost ( ) Peace ( ) Stress ( ) Curiosity ( ) Panic ( ) Pride
35. This museum building is from the 15th century Ottoman period. Did you know this information, Did you find out now?	( ) Yes, I knew ( ) No, I just found out
36. This building has been re-functionalized and turned into a museum. What do you think is your view on examining both the works and the building?	( ) Very well done ( ) well done ( ) It doesn't matter ( ) Not good ( ) It has never been good
37. Did this structure help with orientation while walking around the museum?	( ) Yes it's okay ( ) I don't know ( ) I did not notice ( ) No it didn't ( ) The building has confused the routing.
38. Did you travel with a guide or did you travel by yourself?	( ) I traveled with the guide. ( ) I traveled by myself.
39. If you do not have a guide, have you tried to follow the guides?	( ) Yes ( ) No ( ) Sometimes
40. Did the noises of the crowds in the museum affect your orientation?	( ) It's been a lot ( ) often happened ( ) I'm undecided ( ) Not really ( ) Never happened