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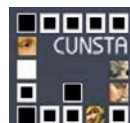
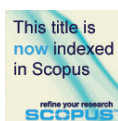
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Conservation Challenges of Cultural Heritage: Ottoman Baths in Istanbul's Historic Peninsula

Zeynep Tanrıverdi*, Emine Selcen
Cesur**

Abstract

Baths are multifaceted architectural structures that embody both tangible and intangible cultural heritage. Originating in antiquity and refined through Roman techniques, they flourished under Islamic influence, reaching monumental proportions in Ottoman cities, especially under Chief Architect Sinan. This study examines the conservation challenges of Ottoman baths, focusing on their architectural, structural, and functional systems. Deterioration is caused by environmental, socio-cultural, and economic factors, as well as property disputes, inappropriate reuse, and urban transformation. Three Sinan-era baths – Valide Sultan Ayakapı (Cibali), Kapıağası Yakupağa, and Çemberlitaş – are analyzed as case studies representing different states: abandoned, reused, and still operational. Each case illustrates distinct conservation issues and informs strategies to preserve their architectural and cultural integrity.

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I bagni sono strutture architettoniche complesse che incarnano un patrimonio culturale tangibile e intangibile. Nati nell'antichità e perfezionati con le tecniche romane, si svilupparono sotto l'influenza islamica, raggiungendo dimensioni monumentali nelle città ottomane, soprattutto sotto l'architetto capo Sinan. Questo studio analizza le sfide di conservazione dei bagni ottomani, con particolare attenzione agli aspetti architettonici, strutturali e funzionali. Il deterioramento è dovuto a fattori ambientali, socio-culturali ed economici, nonché a controversie sulla proprietà, riusi inadeguati e trasformazioni urbane. Tre bagni dell'epoca di Sinan – Valide Sultan Ayakapı (Cibali), Kapiğası Yakupağa e Çemberlitaş – sono esaminati come casi di studio che riflettono diversi stati funzionali: abbandonato, riutilizzato e ancora operativo. Ogni caso evidenzia problematiche specifiche e fornisce indicazioni per la salvaguardia dell'integrità architettonica e culturale dei bagni ottomani di Istanbul.

1. *Introduction*

In the earliest stages of human history, individuals primarily relied on natural water sources to fulfill their basic hygiene needs. Over time, however, factors such as climatic conditions, increasing population density, and the growing demand for privacy contributed to the emergence of purpose-built bathing structures. These buildings, which served functions including washing, spiritual purification, relaxation, and social interaction, possess significant cultural heritage value – not only through their physical presence but also through the intangible practices they embody. Baths are distinguished by their unique architectural features and technical systems, including heating, water circulation, lighting, and acoustics, and they have played a vital role since antiquity. During the Roman period in particular, baths became an essential part of daily life, reaching their peak in Rome, supported by advancements in construction materials and building techniques¹. In subsequent periods, the bathing culture became a fundamental aspect of Islamic societies – especially within Turkish contexts – shaped by Islam's emphasis on cleanliness. This transformation involved the selective adoption of features from Roman baths, retaining elements compatible with the customs, needs, and religious principles of the new users, while omitting others.

In Islamic cities, the bath, along with the mosque and the suq (market), constituted one of the three principal urban institutions. Cleanliness similarly held a central place in Turkish-Islamic urban life, and during the Ottoman period, public baths (hammams) emerged as prominent architectural elements². Bath architecture attained a monumental scale, particularly in the works of

¹ Yegül 2011, p. 27.

² Kuran 1987, p. 132.

the Chief Architect Koca Sinan in Istanbul. Goodwin³ analyzes Sinan's architecture within its social, cultural, and political context, showing how each building reflects the needs, hierarchies, and values of Ottoman society. He emphasizes Mimar Sinan's spatial and aesthetic approach, arguing that the dome organizes the interior as a unified whole and reduces visual obstructions – a principle consistently observed in his mosques, medreses, baths, and other structures.

Despite influences from earlier traditions, Goodwin underscores that Sinan's works exhibit a distinct architectural personality, with independent treatment of mass, space, and wall surfaces, contributing to the development of a coherent and uniquely strong classical Ottoman style in which each structure balances functional efficiency with monumental expression.

Kuban⁴ emphasizes how this coherence is achieved through geometric clarity and structural rationality – principles that are equally evident in Sinan's monumental architecture. According to his analysis, the domed spaces of monumental buildings not only fulfill structural and symbolic functions but also shape the users' social and ritual experience by integrating functional efficiency with urban and cultural logic. This perspective highlights that Sinan's baths, like his mosques and complexes, are carefully orchestrated compositions in which spatial hierarchy, circulation, and monumental expression are harmoniously arranged in relation to the socio-cultural life of the city. Similarly, Necipoğlu⁵ notes that Sinan's architectural production – from mosques and complexes to urban public buildings such as baths – represents the construction of a conscious "classical" Ottoman style that reflects imperial identity by synthesizing diverse artistic and structural traditions.

Despite their historical, architectural, and cultural significance, the role of baths has gradually diminished over time; many have been closed, abandoned, or completely demolished. Unfortunately, some of Mimar Sinan's bath structures have also shared this fate. The rapid loss of these culturally and historically significant structures is alarming, as they embody core principles of environmental, social, and economic sustainability.

This article examines the conservation challenges faced by Ottoman-era baths in Istanbul and categorizes these issues under several headings: environmental impacts (such as earthquakes, fires, and atmospheric changes), problems related to fuel consumption, socio-cultural transformations, economic constraints, property ownership disputes, inadequate building inspection practices, inappropriate adaptive reuse, the negative consequences of urban transformation, and limitations arising from zoning regulations. The study focuses on

³ Goodwin 1971, pp. 196-240; Goodwin, 1987, pp. 10-19; Goodwin, 1993, pp. 132-160.

⁴ Kuban 1987, pp. 72-97; Kuban 1988, pp. 582-587.

⁵ Necipoğlu 2005; Necipoğlu 2007, pp. 141-183.

three baths designed by Architect Sinan in Istanbul: the Ayakapı (Cibali) Bath, the Kapağası Yakup Ağa Bath, and the Çemberlitaş Bath. Today, these three structures represent different states of preservation – as a ruin, as a repurposed structure, and as a bath still serving its original function, respectively.

2. Methodology

This study adopts a multi-method historical-architectural research approach that combines bibliographic and archival research with fieldwork. Istanbul is home to a large number of bathhouses dating back to the Ottoman period. However, data spanning from the 17th to the 20th century indicate that the number of bathhouses in Istanbul has declined over time. While Evliya Çelebi mentions 151 bathhouses in the 17th century⁶, 18th-century bathhouse census records indicate that this number ranged between 178 and 195⁷. According to Ali Cevad, there were approximately 175 bathhouses in the 19th century⁸, while the 1883 census recorded 169 bathhouses. At the beginning of the 20th century, the number was around 178; however, it declined to 150 by 1935 and further decreased to 80 by 1948 due to fires and demolitions⁹. In 1994, Semavi Eyice examined 78 bathhouses in Istanbul and noted that 32 of them had been demolished¹⁰. In 1995, M. Nermi Haskan studied 237 bathhouses and reported that 60 of them were still operational¹¹. In 2011, Demet Orcan identified 45 bathhouses in the Historic Peninsula¹²; and in 2019, M. Ali Heyik, through mapping and archival research, documented 260 bathhouses in Istanbul dating from the 16th to the 20th centuries, of which 50 were examined in detail¹³. Although researchers have reported varying figures, the overall trend clearly indicates a significant decline in the number of bathhouses over time.

As it is not feasible to examine all extant baths, three works by Architect Sinan that remain standing were selected as case studies. These examples were chosen due to their representation of different functional contexts, accessibility, and the availability of related documentation in the literature. The research commenced with archival investigations to examine primary source data and evaluate both written and visual materials. Historical maps were used to doc-

⁶ Demircan 1989.

⁷ Yaşar 2014, pp. 556-557.

⁸ Özey 1996, pp. 103-122.

⁹ Ergin 1948, pp. 1344-1348.

¹⁰ Eyice 1994, p. 538.

¹¹ Haskan 1995, p.8.

¹² Orcan 2011.

¹³ Heyik 2019.

ument environmental changes surrounding the structures and to trace transformations in their physical and urban contexts.

Subsequently, fieldwork was conducted on the three selected baths. Visits were arranged in coordination with the structures' current users and owners, during which their present conditions were documented and associated conservation challenges were reviewed. Existing project documentation was examined, and finalized architectural plans were presented. The historical and architectural features of each bath were described, and observed conservation issues were assessed. Interventions were then analyzed within the framework of international and national conservation standards, resulting in the formulation of context-specific conservation recommendations.

In this context, the research framework also includes a review of international conservation charters and conventions from organizations such as UNESCO¹⁴, ICOMOS¹⁵, and ICCROM¹⁶ aimed at evaluating the authenticity, integrity, and adaptive reuse of historical buildings. In parallel, as a part of the assessment framework, Turkey's Law No. 2863 on the Conservation of Cultural and Natural Heritage was also considered.

These international and national frameworks collectively ensure that conservation interventions applied to Ottoman-era baths in Istanbul are evaluated through a holistic approach for both their tangible and intangible heritage values.

3. Ottoman Baths

Ottoman baths possess a rich historical background and reflect not only religious functions but also cultural and social dimensions. The Ottomans continued the long-established tradition of the bath (*hammam*), which dates back to antiquity, and transformed it into a distinctive architectural and cultural phenomenon known today as the "Turkish bath," representing both tangible and intangible cultural heritage¹⁷.

During the Ottoman period, *hammams* were typically constructed for two primary purposes. First, many were established as charitable foundations (*vakıf*), generating income to support philanthropic activities, which ensured their economic sustainability. Second, they served religious communities associated with nearby mosques, functioning as integral elements of purification rituals required before worship. Throughout the empire, both large public

¹⁴ <www.unesco.org>, 12.06.2026.

¹⁵ <www.icomos.org>, 12.06.2026.

¹⁶ <www.iccrom.org>, 12.06.2026.

¹⁷ Mazlum 2018, p. 16.

baths and smaller local facilities were common. In addition to centrally located bazaar baths, small-scale masonry baths were also constructed within private estates and mansions, often as detached structures¹⁸.

Baths constructed between 1299 and 1453 are classified as Early Ottoman baths. In Anatolian Turkish baths – designed in accordance with Islamic principles and centered solely on cleanliness – the cruciform plan scheme, characterized by an axial *iwan* (*eyvan*, a vaulted space open on one side) and corner niches, emerges as a defining architectural feature. This plan type had previously been employed in structures such as houses, mosques, madrasas, and *tekkes* (dervish lodges)¹⁹. Early Ottoman baths were generally small in scale and exhibited asymmetrical floor plans. During this period, a variety of roofing systems – such as domes and barrel or groin vaults – were widely used. The gradual shift from simple structural forms to more elaborate and ornamented roofing systems contributed to the creation of dynamic and aesthetically rich interior spaces²⁰.

The Classical Period of Ottoman baths, spanning from 1453 to 1703, marks a significant era during which baths became central to Turkish urban life. Baths constructed within *imarets* (charitable complexes managed by foundations) met the hygiene and health needs of the rapidly growing urban population, while also reflecting the distinct characteristics of classical Turkish architecture. Construction activity intensified after the conquest of Istanbul by Mehmed the Conqueror and reached its peak during the reign of Suleiman the Magnificent, when the Ottoman Empire attained its political, economic, and artistic zenith. Numerous baths were built across Anatolia, particularly in Istanbul, during this period. Symmetrical and double-bath layouts became widespread while decorative programs and complex roofing systems gained prominence. The finest examples of Ottoman bath architecture were created in this period, particularly under the supervision of Architect Sinan, the foremost architect of the Ottoman Empire who designed numerous baths in Istanbul in the 16th century²¹. According to Önge²², Sinan's portfolio includes 59 baths, 45 of which were located in Istanbul.

After the 17th century, the number of baths in Istanbul began to decline steadily, with only a few new baths constructed in the 18th century. In these later examples, the centrality of the traditional plan was diminished, and stylistic influences of Rococo, Baroque, and Empire architecture became evident²³. The 19th century represented the final flourishing of Turkish bath culture;

¹⁸ Eyice 1997, p. 413.

¹⁹ Önge 1988, p. 404.

²⁰ Sözen *et al.* 1975, p. 115.

²¹ Yaman 2010, pp. 18-19.

²² Önge 1988, p. 405.

²³ Aysin *et al.* 1997, p. 117.

however, its vibrancy was largely confined to the entertainment-oriented functions of neighborhood and bazaar baths, while others that failed to maintain economic sustainability were gradually demolished²⁴.

With the advent of the Republican period, the centuries-old tradition of the Turkish bath began to decline. Many baths became obsolete or were demolished, while others underwent modernization that often altered their original functions or features. Although these technological and functional transformations brought certain improvements, they also led to the loss of a rich cultural heritage deeply connected to the traditional roles and practices of the bath.

3.1. *Spatial, Structural and Functional Systems of Ottoman Baths*

Ottoman baths were designed with a specific spatial arrangement reflecting the customary social practices associated with bathing. The *soğukluk* (cold room) served primarily as a changing area, typically featuring a *seki* (square or rectangular platform arrangement) along the walls for seating, storage niches for shoes and clothes, and occasionally a fireplace set within wall niches, used to provide moderate warmth and to prepare refreshments such as tea and coffee. This space also functioned as a social area, where visitors could converse or enjoy refreshments²⁵. Adjacent to the *soyunmalık*, the *ılıklik* (warm room) provided a transitional environment to gradually acclimate bathers to the heat, incorporating resting platforms along the walls and small areas for shaving and toileting, sometimes arranged in an *aralık* (a transitional/intermediate space) which was later integrated into the main warm room after the 16th century²⁶. The *sıcaklık* (hot room) comprised the *iwan* (*eyvan*, a vaulted space open on one side) and *halvet* (private bathing cell), with entrances designed for privacy. Continuous low platforms with *kurnas* (basins) for hot and cold water lined the walls, while the central *göbek taşı* (central heated marble platform) offered a multipurpose surface for resting, sweating, or massage. Floors and lower walls were typically clad in marble, and wastewater from the *sıcaklık* was directed through channels that also served to flush toilets²⁷. Adjacent to the hot room, the *külhan* (furnace room) housed the furnace and fuel storage, traditionally wood but sometimes coal or diesel oil, with copper boilers facilitating rapid water heating and arched chimneys ensuring effective airflow²⁸ (Fig. 1).

²⁴ Yaman 2010, p. 57.

²⁵ Aru 1949, p. 32.

²⁶ Önge 1988, p. 408.

²⁷ Ülgen 1950, p. 176; Ertuğrul 2009, pp. 51-52.

²⁸ Eyice 1997, pp. 402-430.

Ottoman bath architecture can be classified into six primary plan types based on the configuration of the *sıcaklık* (hot room) section, as proposed by art historian and archaeologist Eyice²⁹. These include: Type A, a cross-shaped plan with four *iwans* and four *halvets*; Type B, a star-shaped *sıcaklık* with adjoining *halvets*; Type C, with *halvets* arranged around a square-shaped *sıcaklık*; Type D, featuring a main *sıcaklık* with multiple domes and pillars; Type E, a centrally domed, transverse *sıcaklık* with two *halvets*; and Type F, in which the *ılıklik*, *sıcaklık*, and *halvets* are of equal size. In addition to these main types, simpler examples were constructed, particularly in smaller towns, and some can also be found within private estates such as mansions and palaces.

Structural systems varied between the cold and bathing sections. The *soyunmalık* (changing room) was constructed using either timber framing or masonry techniques, whereas the bathing sections were consistently built in masonry to withstand high temperatures and humidity. When the *soyunmalık* space was constructed with a timber frame, the roof was usually gabled or hipped, sometimes featuring a central lantern, when built in masonry, it was covered with brick domes.

The hot and warm sections, constructed from stone or alternating stone and brick masonry, were covered with brick domes, often overlaid with lead on a layer of clay mortar. Lighting was provided through glass lanterns and roof openings, ensuring adequate natural illumination³⁰. Traditional *horasan* plaster, composed of lime and crushed brick fragments, enhanced both structural durability and hydraulic performance³¹. Interior finishes and architectural elements – such as *kurnas*, fountains, pools, seating platforms, railings, and columns – were predominantly executed in marble. Water was initially distributed through clay pipes and collected via drainage channels carved into the floor (Fig. 2).

The functional systems of Ottoman baths – including heating, water supply, drainage, lighting, and acoustics – were carefully integrated to create a comfortable and efficient environment. Heating relied on the circulation of hot air beneath the raised floors of the *sıcaklık*, *halvet*, and *ılıklik* spaces, facilitated by the *cehennemlik* (the main furnace chamber responsible for generating and distributing heat beneath the floors) and the *tüteklik* (vertical flues embedded within the walls that expel hot air while also contributing to wall heating)³².

Water was sourced from natural and artificial reservoirs, heated in the furnace system, stored in tanks, and distributed as both hot and cold water through *maslak* systems (water distribution systems/reservoirs) to various

²⁹ İvi, pp. 417-419.

³⁰ Taşcıoğlu 1998, p. 74.

³¹ Uğurlu 2005, pp. 87-88.

³² Aru 1949, p. 37.

sections, including *kurnas* and other water points³³. *Filgözü* openings (hemispherical roof projections with multiple apertures designed to enhance daylight penetration) and roof lanterns provided natural illumination, while artificial lighting during evening hours was achieved through candlesticks and oil lamps³⁴. Acoustically, Ottoman baths were designed to achieve effective sound absorption, with traditional plaster and mortar compositions contributing to improved acoustic performance throughout the bathing spaces³⁵.

3.2. *Conservation Problems of Ottoman Baths*

Baths are among the most significant building types in Ottoman architecture due to their structural and spatial qualities, which were shaped by their functional purposes. Initially, they were constructed not only to meet the public's needs for bathing, cleaning, and socializing but also to generate economic income for charitable foundations. However, these buildings have not received the same level of conservation attention as other monumental structures of Ottoman architecture and have gradually deteriorated over time.

An examination of the deterioration of Ottoman baths over time reveals that this process began with their decreasing use due to various factors, including wars, political decline, poverty, and the state's limited capacity to carry out necessary maintenance and repairs. In addition to these socio-economic challenges, the high operational costs associated with firewood and water consumption further discouraged bath usage. As a result, Sultan Mustafa III imposed restrictions on the construction of new baths in 1768³⁶. These restrictions remained in effect until the reign of Sultan Abdülmecid (1839–1861), when lignite was allowed as a substitute for firewood³⁷. The difficult conditions during the War of Independence, followed by the relocation of the capital to Ankara with the establishment of the Republic, significantly altered Istanbul's population structure. Consequently, this demographic shift had a detrimental impact on the city's social life and the use of its baths, including some of the most prominent examples of Ottoman bath architecture³⁸.

Historical records further reveal that Ottoman baths suffered significant damage and destruction from natural disasters, including earthquakes and fires, and were often left to deteriorate as a result of declining state support. In the case of Istanbul, archival documents show that major earthquakes in 1509,

³³ Önge 1981, p. 216.

³⁴ Önge 1978, pp. 115-130.

³⁵ Aydın 2008, p. 86.

³⁶ Eyice 1997, pp. 402-430; Yaşar 2014, pp. 553-585.

³⁷ Kuruçay 2012.

³⁸ Baykara 1956, p. 121.

1719, 1766, and 1894 caused substantial damage to numerous bath structures. Fires were also frequent; between 1633 and 1852, the city experienced 209 fires, followed by additional fires over a span of just fifty-four years, from 1853 to 1908. The recurrence of these disasters illustrates the vulnerability of bath structures to both natural and human-induced factors. From the declaration of the 1908 Constitutional Monarchy until 1922, nearly 100 more fires occurred, further damaging bath buildings³⁹. For instance, a major fire in 1917 that ravaged neighborhoods in Istanbul's Fatih district led to the abandonment of the Çapa Macuncu and Saray baths, as well as the Çavuşbaşı and İmrahor baths⁴⁰.

In the subsequent decades, the introduction of mains water to urban households, coupled with the construction of modern social spaces such as cafes, patisseries, and bars, significantly transformed social and cultural life, rendering bath structures largely obsolete. Under these unfavorable conditions, the Foundations Administration, which owned the baths, encountered financial difficulties and began leasing the buildings to private individuals for set periods or, in some cases, selling them outright. Over time, the lack of institutional oversight meant that many baths transferred to private ownership were either altered or neglected without proper regulation⁴¹.

Additionally, urban transformation decisions, particularly those implemented in the mid-20th century, altered the historical topography of cities and directly or indirectly contributed to the destruction of many baths. In Istanbul, the demolition of the Murad Pasha Bath in 1956 and the Fındıklı Bath in 1957, as well as the partial loss of the *soyunmalık* (changing room) in the Çemberlitaş Bath, stand as notable examples⁴². Similarly, the Yenikapı İmrahor, Saraçhanebaşı İbrahim Paşa, and Unkapanı Azeplar baths were also demolished to make way for Atatürk Boulevard⁴³. The Aksaray, Cerrahpaşa, Fatih Çukur, and Horhor Çelebi Mehmed Ağa Baths were demolished during the construction of Vatan Avenue; the Haseki Sultan and Çapa Baths during the construction of Millet Avenue; and the Küçükkağa Baths during the construction of the Sirkeci coastal road⁴⁴.

Today, Ottoman baths are largely neglected or subjected to unsystematic adaptive reuse, while only a limited number continue to serve their original function. The growing disconnection of these baths from their surrounding social, cultural, and physical contexts has accelerated the process of adaptive reuse. In commercial districts, in particular, high rent expectations have made it economically unfeasible to sustain their original bathing function,

³⁹ Cezar 1963.

⁴⁰ Ünver 1942, pp. 245-251.

⁴¹ Yıldırım 2021, p. 81.

⁴² Kuruçay 2012, pp. 18-21.

⁴³ Ergin 1948, pp. 1344-1348; Güncüoğlu 2009.

⁴⁴ İBB 1958.

given the limited revenue-generating capacity of such facilities. Consequently, in response to changing lifestyles and contemporary needs, many bath structures have been renovated to accommodate new functions, including bazaars, restaurants, cultural venues (such as exhibition halls and seminar spaces), workshops, and storage areas. However, these interventions have often been costly and inadequately planned, frequently compromising the architectural integrity of the buildings⁴⁵. During this process, both the immovable and movable original elements of the baths have suffered considerable damage. The immovable components include features such as water distribution channels, heating systems (*külhans*), and floor and wall coverings, while movable elements – such as fountains and basins (*kurnas*) – have often been removed, sold, or destroyed.

Among the few public baths that still retain their original function, those located in city centers – such as Kılıç Ali Paşa Bath⁴⁶, Hürrem Sultan Bath⁴⁷ and Zeyrek Tiled Bath⁴⁸ – are primarily used for tourism while neighborhood baths are more commonly frequented by local residents. In tourist-oriented examples, the original architectural plan and functional systems – including heating, water, lighting, and acoustics – have largely been modified through the incorporation of modern technologies to create luxurious and exotic bathing experiences for foreign visitors and high-income local patrons⁴⁹. In contrast, neighborhood baths, which primarily serve the local population, face an increasing risk of disappearance due to economic pressures, neglect, and inappropriate interventions.

These ongoing conservation challenges highlight a broader pattern of disregard for the principles of authenticity and integrity established in international charters. The Venice Charter⁵⁰ underscores the importance of transmitting monuments to future generations in their full richness while safeguarding original materials. The Nara Document on Authenticity⁵¹ further expands this notion to encompass intangible aspects, including function, traditions, and community values. Similarly, the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage⁵² emphasizes the preservation of living cultural practices and rituals.

Adaptive reuse, when carefully planned, is widely recognized as an effective strategy to ensure the sustainability of historic structures. The Venice Char-

⁴⁵ Yıldırım 2021, p. 82.

⁴⁶ European Heritage Europe Nostra Awards, 2017.

⁴⁷ Kasap, Değerli 2024.

⁴⁸ *Time* 2024; Tanrıverdi 2025.

⁴⁹ Yegül 2008, p. 22.

⁵⁰ ICOMOS 1964.

⁵¹ ICCROM 1994.

⁵² UNESCO 2003.

ter⁵³ allows for the introduction of new functions if the original use is no longer viable, provided that alterations do not compromise original layouts or decorative elements. Similarly, the Appleton Charter⁵⁴ and the Washington Charter⁵⁵ stress harmonious, minimal interventions that respect urban scale and function. Later guidelines – including the ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites⁵⁶, the Burra Charter⁵⁷, the China Principles⁵⁸, and the Cultural Tourism Charter⁵⁹ – further promote culturally sensitive and context-appropriate adaptive reuse, prioritizing minimal intervention, respect for structural integrity, and the preservation of significant social and cultural practices.

In Turkey, the legal framework for the preservation of historic structures is provided by the Law on the Protection of Cultural and Natural Assets⁶⁰. This law governs the identification, registration, maintenance, and restoration of immovable and movable cultural heritage, including historic baths. Under this framework, any physical intervention, alteration, or adaptive reuse of such structures requires prior approval from the Regional Cultural Heritage Preservation Boards. The Ministry of Culture and Tourism, together with the General Directorate of Foundations, oversees conservation and restoration processes to ensure that interventions respect the authenticity and integrity of the monuments.

Despite these comprehensive frameworks, Ottoman baths have often experienced insufficient adherence to these principles in both decision-making processes and practical interventions. Restorations and adaptive reuses have frequently failed to adequately safeguard the tangible cultural heritage – namely, the original immovable and movable architectural elements – as well as the intangible aspects of baths, including cleansing rituals, social interactions, and collective memory.

Thus, a sustainable conservation strategy for Ottoman baths has yet to be fully implemented. This situation primarily arises from a combination of structural, social, and economic obstacles. Structurally, reliance on aging materials and the absence of systematic maintenance increase the vulnerability of these structures, while irregular adaptive reuse practices undermine their authenticity. Socially, the decline in daily use erodes local communities' sense of ownership and collective memory, thereby reducing the impetus for conser-

⁵³ ICOMOS 1964.

⁵⁴ ICOMOS 1983.

⁵⁵ ICOMOS 1987.

⁵⁶ ICOMOS 2008.

⁵⁷ Australia ICOMOS 2013.

⁵⁸ PUBLICOMOS 2015.

⁵⁹ ICOMOS, 2022.

⁶⁰ No. 2863, 1983.

vation. Economically, high maintenance costs, the limited revenue-generating potential of baths, and the financial constraints faced by both public institutions and private owners impede the sustainability of long-term conservation efforts. Moreover, inconsistencies in policy implementation and urban development priorities often override heritage conservation. Consequently, conservation solutions remain fragmented, reactive, and largely dependent on individual initiatives rather than coordinated, strategic approaches.

As a result, Istanbul's historic baths embody both tangible and intangible aspects of Ottoman architectural and cultural heritage and are increasingly at risk of disappearing. Although some conservation projects have been undertaken for privately owned baths, these remain limited in number and often constrained by insufficient resources. This situation underscores the urgent need for a comprehensive, city-wide conservation strategy. Active involvement of local authorities and heritage experts is critical for effective preservation. Future research should explore mechanisms through which the original functions of baths – most of which are now privately owned – can be sustained via public-private partnerships. Preserving the original function of baths with high tourism potential is crucial for sustaining the recognition and value of this architectural typology and for ensuring the continuity of its historical legacy in the present day.

4. Case Studies of Ottoman Baths in Istanbul

4.1. Valide Sultan Ayakapı (Cibali) Bath

The Valide Sultan Ayakapı (Cibali) Bath, commonly referred to as the Havuzlu, Ayakapı, and Yenikapı Bath, is situated on the shore of the Golden Horn between Fener and Ayakapı, at the intersection of Abdülezelpaşa and Miralay Nazım Bey Streets (Fig. 3a).

The structure, commissioned by Nurbânû Sultan in 1582 and attributed to Architect Sinan, served to generate income for the Atik Valide Complex in Üsküdar. It was classified as a *kuşluk bath* in an eighteenth-century attendance register, indicating a single-plan bath type rather than a double (*çifte*) bath, with alternating use by men and women. Over time, repeated fires in the Cibali-Ayakapı district caused severe damage, resulting in the loss of original marble basins (*kurnas*) and decorative elements⁶¹.

Cartographic evidence, such as the 1928 Pervititch Map indicates that the original plan remained largely intact, although some domes were lost

⁶¹ Heyik 2019, p. 143.

and parts of the structure were repurposed as storage spaces⁶². Following the 1928 fire in Unkapanı, the building was converted into a timber warehouse, and unauthorized alterations, including a mezzanine floor supported by reinforced concrete columns, were implemented between the 1940s and 1950s⁶³. By the mid-1960s, municipal reports described the bath as derelict and surrounded by unauthorized shops⁶⁴. Subsequent ownership transfers and lack of public oversight contributed to further neglect. In 2017–2018, shop additions on the western façade were finally removed, revealing the inscribed marble entrance⁶⁵.

Architecturally, the Valide Sultan Ayakapı Bath follows the classical Ottoman single-bath scheme, comprising a domed *soğukluk* (cold room), a rectangular *ılıklik* (warm room) with vaults and a central dome, a *sıcaklık* (hot room) organized around four *iwans* (*eyvans*, a vaulted space open on one side) corner *halvets* (private bathing cell), and an eastern *külhan* (furnace room). The *soğukluk*'s domed entrance hall, with a central dome flanked by mirror vaults, represents one of Sinan's characteristic design innovations⁶⁶. The transition between sections was achieved through narrow vaulted passages, and traces of a fountain in the cold room indicate the former presence of a central pool⁶⁷.

The structure was constructed using alternating stone and brick masonry, with brick domes, vaults, and arches, while marble was employed for door frames and decorative details. The facades display brick eaves, rectangular stone-framed wooden windows, and iron grilles. Lime and *horasan* mortar were used as binders, and iron clamps and dowels reinforced structural joints⁶⁸.

Today, only one corner *halvet* survives, while the domes of the *sıcaklık* and *ılıklik* have collapsed. Unqualified later additions and makeshift shops have encroached upon the site, obscuring its original volume and material authenticity (Fig. 3b). Deterioration stems primarily from human-induced causes – unauthorized alterations, neglect, and inappropriate cement repairs – and is compounded by environmental factors such as sea salt, air pollution, and vibrations from the coastal road. Stone surfaces show erosion, biological growth, and salinization (Fig. 3c). In addition, the reinforced concrete mezzanine, inserted into the interior during the 1940s, is now corroded (Fig. 4).

⁶² Özeke Eski 2022, p. 12.

⁶³ Koçu 1960, pp. 1379-1381.

⁶⁴ Özbek Eren 2003, pp. 84-87.

⁶⁵ Özeke Eski 2022, pp. 14-15.

⁶⁶ Ertuğrul 2002, p. 117.

⁶⁷ Koçu 1960, pp. 1379-1381.

⁶⁸ Özeke Eski 2022, p. 12.

4.2. *Kapıağası Yakupağa Bath*

The Kapıağası Yakupağa Bath is located in the Samatya district, between General Nazif Gürman and Marshal Süleyman Pasha Streets. It is surrounded by the Surp Kevork Church (Sulumanastır) to the north, the Georgios Church to the southwest, several historic civil structures, and a number of high-rise residential buildings⁶⁹ (Fig. 5a).

The structure, commissioned in 1545 by Yakup Aga and attributed to Architect Sinan, was intended to generate revenue for the lighthouse in Kadıköy and the school in Eyüp. Over the centuries, the bath likely sustained damage from recurrent fires in the Golden Horn (1660), Samatya (1747 and 1855), and Cibali (1782), as well as from earthquakes⁷⁰.

Archival sources, including Evliya Çelebi's travelogue and Thomas Allom's 19th-century engravings, document the bath, which historically served both men and women in separate sections. The construction of the Aksaray-Samatya road in 1910 truncated the southern parts of the bath, leading to the addition of temporary low-quality shops. During a survey of Istanbul's baths conducted between 1916 and 1917, the German architect Heinrich Glück documented the plan and section of the women's section, which remained accessible and in use, whereas the men's section had fallen into disrepair⁷¹. The bath ceased operations in 1940, transferring from foundation to private ownership, and was later refunctioned for various commercial purposes, including workshops, foundries, and artisan shops, which resulted in further structural interventions⁷². Changes in ownership and irregular maintenance accelerated the building's deterioration. Restoration began in 1995 and was completed in 2007, aiming to adapt the structure for tourism, exhibition, and dining functions. Owing to insufficient historical documentation, the demolished part of the *soyunmalık* was reconstructed in a modern form (Fig. 5b) and later leased to private operators⁷³.

Architecturally, the bath was originally constructed as a double bath, featuring cross-shaped plans for both the women's and men's sections. Each *sıcaklık* contained four *iwans* and four corner *halvets*. The entrances to the *soyunmalık* were initially located on the eastern and western façades but were later altered or removed due to roadworks. Latrines and shaving areas were situated in the *ılıkılık*, and historical records indicate a garden with a pool and fountain on the eastern side for visitors to rest and enjoy refreshments⁷⁴.

⁶⁹ Yeşilkaynak 1991, p. 12.

⁷⁰ Haskan 1995, p. 17.

⁷¹ Kuruçay 2012, pp. 39-40.

⁷² Haskan 1995, p. 18; Çebioglu 2013, p. 26.

⁷³ Onedio 2016.

⁷⁴ Yeşilkaynak 1991, p. 11.

The bath was originally constructed using alternating brick and stone masonry, with domes, vaults, and arches built from brick. Marble was used for door frames and decorative elements, while the original roof was covered with lead sheets. Brick hedgehog eaves and brick-arched wooden windows are distinctive elements of the façades. Although the restored sections were executed using original materials and construction techniques, the southern *soyunmalık* part of the building – demolished during road construction—was constructed in reinforced concrete, covered with a metal-clad roof featuring a central lantern, and finished with stone-clad façades. These modern interventions have resulted in both aesthetic and structural inconsistencies (Fig. 5c). The presence of low-quality makeshift shops surrounding the bath, particularly to the northwest, has further compromised its architectural integrity.

Today, the bath is adaptively reused for contemporary purposes. The *soyunmalık*, partially truncated during road construction, was constructed in reinforced concrete with added mezzanine floors. The sub-street-level portion now serves as a restaurant service area, the ground floor as a reception, and the upper floors as a dining hall. The interior marble-clad bathing areas have been converted into dining spaces, and the installation of intense artificial lighting has significantly altered the spatial and visual character of the bath (Figs. 6a-6c). Other sections, including the *ılıkılık*, *sıcaklık*, and *külhan*, have been refunctioned as a bazaar, Turkish bath exhibition areas, and small shops ⁷⁵.

4.3. Çemberlitaş Bath (Valide Sultan Bath, Valide-i Atik Bath, and Gül Bath)

The Çemberlitaş Bath is situated on Divanyolu Street in Istanbul's historic peninsula, near the Column of Constantine, and is surrounded by notable landmarks such as Vezir Han, the Köprülü Mahmud Pasha Complex, and several historic civil buildings (Fig. 7a). During the Roman period, this area, centered on the Column of Constantine, was known as the Forum of Constantine. The Forum was located on the section of the *Via Egnatia*, the ancient road from Byzantium to Thrace, today known as the *Mese* (Divanyolu Street), which later became part of the city. Because the Forum, administrative buildings, and the Pretorium (provincial building) were located there, it was considered the city's main forum⁷⁶.

The structure, commissioned in 1584 by Nurbânû Sultan⁷⁷, as indicated

⁷⁵ Onedio 2016.

⁷⁶ Kuban 1994, pp. 404-405; Eyice 1994, pp. 440-441.

⁷⁷ Eyice 1994, pp. 484-485; Haskan 1995, p. 97.

by the inscription above the entrance, and attributed to Architect Sinan, was constructed to generate revenue for the Atik Valide Complex in Üsküdar.

Due to its location, the bath has suffered damage from earthquakes and fires throughout its history. During the widening of Divanyolu Street in 1868, part of the women's *soyunmalık* was demolished⁷⁸. According to Heinrich Glück's survey conducted between 1916 and 1917, the women's section was still in use, whereas the men's section was in a state of ruin⁷⁹. During World War I, both sections were combined and temporarily repurposed as a military disinfection center, during which the original heating systems were altered or modified⁸⁰. The building later came into private ownership, and the women's *soğukluk* was temporarily used for commercial purposes⁸¹. The men's bath parts were restored between 1972 and 1973, while the women's *soyunmalık* remained in commercial use and other rooms served as storage spaces. In 1988, the women's bath parts were reopened for bathing purposes⁸², and today, the bath continues to operate with its original function, primarily serving tourists.

Architecturally, the Çemberlitaş Bath is a double bath with separate sections for men and women. The entrance to the men's section is located on Vezir Hanı Street, while the original entrance to the women's section, facing Divanyolu Street⁸³, was closed during the 1868 road works. Today, the women's section is accessed through a corridor leading from the men's *soyunmalık*. Both sections follow the classical Ottoman layout, consisting of *soğukluk*, *ılıklik*, and *sıcaklık* units. The *soyunmalık* sections have square plans, covered by domes resting on pendentives with a central lantern⁸⁴. The dome lantern of the women's section is original, whereas that of the men's section dates to the restoration period⁸⁵. The three-story wooden gallery surrounding the *soyunmalık* is believed to be a later addition. The front part of the women's *soyunmalık*, which was removed during road construction, was later closed off and star-shaped windows were added to the upper floor (Fig. 7b).

Among the central marble fountains, the one in the women's section is original. Toilets and shaving areas are located in the *ılıklik*, projecting outward on both sides of the main structure. In the women's *ılıklik*, one of the toilet spaces has been converted into a shower unit, and the adjacent room has been adapted into a massage area. The *sıcaklık* is square in plan and covered with

⁷⁸ Koçu 1965, pp. 3817-3819.

⁷⁹ Glück 1921; Eyice 1994, pp. 484-485.

⁸⁰ Eyice 1994, pp. 484-485.

⁸¹ Koçu 1965, pp. 3817-3819; *Ibidem*.

⁸² Haskan 1995, p. 101.

⁸³ Eyice 1994, pp. 484-485.

⁸⁴ <<http://www.halilonurmimarlik.com.tr>>, 12.06.2026.

⁸⁵ Eyice 1994, pp. 484-485.

a large dome featuring *filgözü* openings (hemispherical roof projections with multiple apertures designed to enhance daylight penetration), supported by twelve marble columns. The geometric carvings on the column capitals and the elevated dome reflect Sinan's structural innovations. This feature, rarely found in Ottoman bath architecture, was inspired by the *caldarium* spaces of ancient Roman and Byzantine baths⁸⁶. The *sıcaklık* contains *halvets* (private bathing cells) at the corners, *iwans* (*eyvans*, a vaulted space open on one side) between them, and a large twelve-sided *göbek taşı* (central heated marble platform) at the center⁸⁷.

In its original construction, the bath employed alternating brick-and-stone masonry. The domes, vaults, and arches were constructed of brick, while the exterior surfaces were covered with lead sheets. The wall of the women's *soyunmalık* facing Divanyolu Street was later truncated during road construction. Subsequently, star-shaped windows were added to the upper portion of the rebuilt wall above the cut.

The interior walls are coated with *horasan* plaster, with marble cladding up to a certain height. The marble craftsmanship, inscribed lintels, and floral motifs in the *halvet* cells are particularly notable. The *göbek taşı* and the multicolored marble flooring were executed using an inlay technique⁸⁸.

Today, the Çemberlitaş Bath continues to operate as a bathing facility, primarily serving tourists while also accommodating local users. The structure is surrounded by dense commercial development. A portion of the *soyunmalık* section facing Divanyolu Street was demolished during road-widening works, resulting in the loss of its original façade. The addition of low-quality retail units, signage, air-conditioning devices, and external cabling at street level has produced significant visual clutter. Vibrations caused by nearby traffic and tram lines further exacerbate the building's structural deterioration (Fig. 8a).

The entrance façade facing Çemberlitaş Square – named after the Column of Constantine, which stands at the center of the ancient Forum of Constantine – is similarly obscured by later shop additions, diminishing the architectural legibility and visual perception of the monument (Fig. 8b). The men's *soyunmalık*, accessed via stairs descending below street level, now functions as a shared reception, lounge, and souvenir area for both male and female visitors. Within the cold, warm, and hot sections, prolonged exposure to humidity, temperature fluctuations, insufficient ventilation, and long-term neglect have caused discoloration, staining, and cracking of marble surfaces; deformation and decay of wooden elements, and condensation and flaking of plaster finishes (Figs. 9a-9c).

⁸⁶ Önge 1989, pp. 255-272.

⁸⁷ Haskan 1995, p. 100.

⁸⁸ Eyice 1994, p. 485.

5. Conclusions

This study investigates the conservation challenges confronting Ottoman-era baths in Istanbul, which are characterized by their intricate environmental, architectural, and structural features, as well as by the sophisticated design of their heating, water supply, lighting, and acoustic systems. Focusing on three baths designed by Mimar Sinan – each representing a different state of preservation – the research examines the Valide Sultan (Cibali) Ayakapı Bath, currently in ruins; the Kapiğası Yakupağa Bath, adaptively reused for a new function; and the Çemberlitaş Bath, which continues to serve its original purpose. Through these case studies, the study delineates the multifaceted conservation challenges of these historically and architecturally significant structures.

The Cibali Ayakapı Bath faces significant conservation challenges arising from natural hazards, including seismic activity and fire, as well as atmospheric deterioration related to its coastal setting along the Golden Horn. Urban pressures from the adjacent coastal road have introduced vibrations and pollution, contributing to physical degradation. Historical inefficiencies in fuel consumption, combined with economic constraints, have further affected its maintenance. In addition, the building's transfer to private ownership and subsequent inappropriate interventions have compromised its architectural integrity, while declining social relevance has reduced its functional viability. As a result, the Ayakapı Bath is currently at risk of irreversible loss.

The Kapiğası Yakupağa Bath is similarly affected by environmental hazards and broader socio-economic transformations that have led to a decline in use. Its transfer to private ownership has resulted in inappropriate interventions and functional alterations that undermine its historical character. Urban planning decisions, including the introduction of a road cutting through part of the *soyunmalık* section, have significantly disrupted its spatial organization and architectural coherence. Structural additions, such as a reinforced concrete extension faced with modern stone incompatible with the original alternating stone-and-brick masonry, have further diminished its authenticity. Moreover, successive adaptive reuses as a restaurant, bazaar, exhibition space, and retail units have fragmented the original functional unity and distorted the spatial narrative of the building.

The Çemberlitaş Bath remains in use as a functioning bath but continues to face conservation challenges stemming from both historical and contemporary interventions. Natural disasters, including earthquakes and fires, have affected the structure over time. Urban interventions, particularly the construction of an adjacent road, led to the partial demolition of the *soyunmalık* section and the creation of an incongruous façade. Subsequent alterations introduced ground-floor commercial units, while upper levels were modified with heterogeneous modern materials and irregular fenestration, weakening the coher-

ence of the original masonry system. Furthermore, the bath's entrance façade, facing Çemberlitaş Square, is now embedded within a dense urban fabric and largely obscured by surrounding commercial developments, reducing its architectural visibility and prominence.

These challenges can be grouped into several main categories. Environmental factors, including earthquakes, fires, humidity, and atmospheric pollution, constitute the primary risks affecting the structural stability of the baths. Socio-cultural and functional transformations, characterized by the decline in social relevance, the loss of original use, and increasing pressure for adaptive reuse, may compromise architectural integrity if not carefully managed. Economic constraints, particularly limited financial resources for operation and conservation, further hinder effective maintenance and long-term preservation. Ownership and management issues, including private ownership disputes and the lack of institutional oversight, also contribute to conservation difficulties. Finally, urban development pressures – such as transformation projects, road expansions affecting the historic fabric, incompatible new constructions, and tourism-related interventions – have significantly altered the surrounding urban context of these buildings (Tab. 1).

<i>Category</i>	<i>Main Risks and Vulnerabilities</i>
Environmental factors	Earthquakes, fires, humidity, atmospheric pollution
Socio-cultural and functional transformations	Declining social relevance, loss of original function, pressure for adaptive reuse (which may affect architectural integrity if not carefully planned)
Economic constraints	Limited financial resources for operation and conservation
Ownership and management issues	Private ownership disputes, lack of institutional oversight
Urban development pressures	Urban transformation projects, road expansions affecting historic fabric, incompatible new structures, and tourism-related modifications

Tab. 1. Principal risks and vulnerabilities faced by Ottoman Baths

As a result, baths, as significant components of Istanbul's cultural heritage embodying Ottoman architectural, social, and cultural values, are increasingly at risk of gradual loss due to a range of conservation challenges. Addressing these threats requires coordinated collaboration among local authorities, public institutions, non-governmental organizations, heritage professionals, and local communities, supported by holistic, sustainable, and context-sensitive conservation strategies.

In this context, tailored conservation strategies should be developed in direct relation to each category of challenge. Environmental risks necessitate regular monitoring, preventive maintenance, and timely repair interventions to ensure structural stability.

Socio-cultural and functional transformations should be addressed through two complementary strategies. First, the continuation and reinforcement of the original function, supported by compatible socio-cultural uses, can help sustain the building's traditional role and social relevance. Second, adaptive reuse approaches may be implemented to accommodate new but compatible functions, provided that such interventions remain sensitive to the spatial organization, architectural integrity, and material authenticity of the structures.

Economic constraints, particularly the high operational costs of baths relative to their user capacity, call for state-supported financial incentives, subsidies, or policy mechanisms aimed at improving economic viability, especially where tourism is integrated as a complementary rather than dominant use.

Ownership and management issues require strengthened institutional frameworks and clear regulatory oversight. In this regard, local authorities should ensure that all interventions – particularly those related to ownership-driven modifications – comply with national legislation and international conservation standards, while maintaining consistent supervision over both functional and physical changes.

Finally, urban development pressures should be managed through interdisciplinary and participatory planning processes. State-led transformation projects, road expansions, and new construction activities should be evaluated in collaboration with conservation specialists, urban planners, architects, and engineers to ensure that development decisions do not compromise the historic urban fabric or the integrity of these heritage structures.

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Appendix



Fig. 1. The view of the *göbek taşı* (central heated marble platform) in the *sıcaklık* (hot room) of the bath (TooIstanbul, 2025)

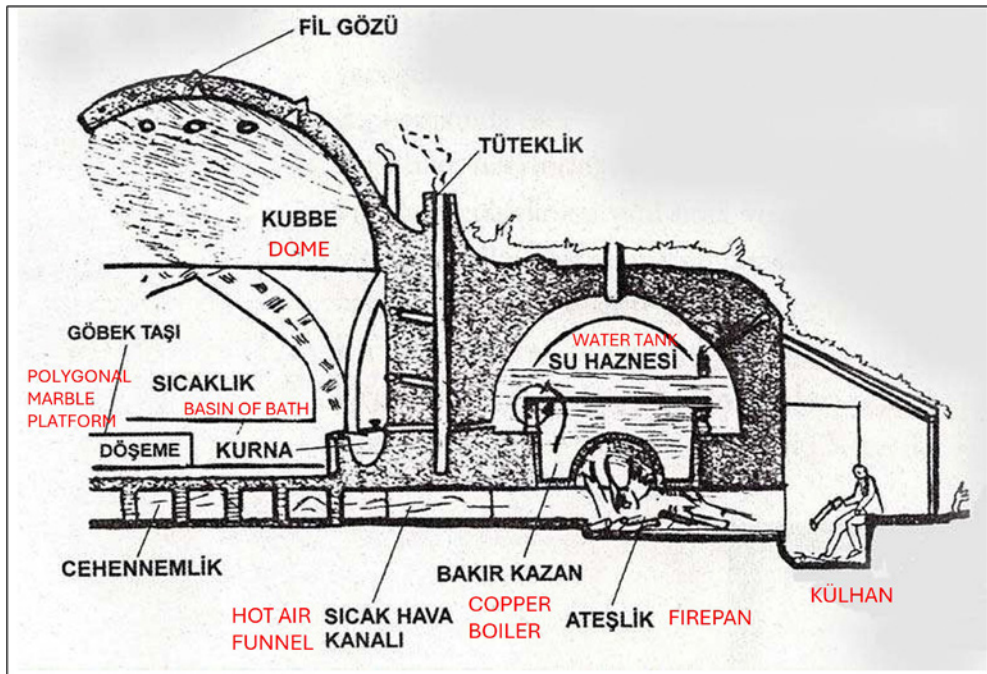


Fig. 2. General functional systems of Turkish Baths (Aru, 1949)



Fig. 3. (a) Aerial photograph; (b-c) coastal road facade of the Ayakapı Bath (Photos: Authors, 2025)



Fig. 4. Reinforced concrete floors and sections subsequently added to the bath (Photos: Authors, 2025)



Fig. 5. (a) Aerial photograph; (b-c) view of the modern addition to the Kapıağası Yakup Ağa Bath (Photos: Authors, 2025)



Fig. 6. (a) Addition of reinforced concrete mezzanine floors to the *soyunmalık* (cold room) (Ağa Hamam, 2012); (b-c) interior view of the bath spaces refunctoned as a restaurant (Photos: Authors, 2025)



Fig. 7. (a) The bath, located within the former Forum of Constantine I and surrounded by historical buildings (Photo: Authors, 2024); (b) the cut facade of the bath facing Divanyolu Street (Halil Onur Mimarlık İnş. San. Ltd. Şti., 1992)



Fig. 8. (a) The bath's façade facing Divanyolu Street; (b) the main entrance facade (Photos: Authors, 2025)



Fig. 9. (a) Women's *soğukluk* with stained and deteriorated marble fountain; (b) wooden changing rooms; (c) plaster deterioration above the upper-floor star windows on the cut wall (Photos: Authors, 2025)

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