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# Acquisitions and Concessions in Preserving Cultural Heritage: The Hagia Sophia Roxelana Bathhouse*

## *Kültürel Mirasın Korunmasındaki Kazanımlar ve Ödünler: Ayasofya Hürrem Sultan Hamamı*

**Öz**: Hamamlar, yıkanma eyleminin su kenarlarından mekân içine taşındığı yapılar olmasının yanında fiziksel ve yapısal değerlerinin ötesinde toplumsal değerlerin izlenebildiği, sürdürülebilirliği sağlanmış kültürel miras ögesi olarak ele alınmalıdır. Bu makale 2009 yılında başlayan ve üç yılda tamamlanan restorasyon çalışmasından sonra iç mekânlarının kültürel değerlerinin sürdürülebilirliği hakkında müstakil bir çalışmaya konu olmamış Ayasofya Hürrem Sultan Hamamı'nın bir kültürel miras olarak korunmasının ve sürdürülebilirliğinin ne derecede sağlandığını irdelemektedir. Makalede hamamın iç mekân bilgileriyle özelliklerinin aktarılması ve Türk hamam kültürünün turizm sektörü aracılığıyla devam ettirilmesinin kazanımlar / ödünler bağlamında değerlendirilmesi amaçlanmaktadır. Çalışmanın içeriği, makaleye deneysel alan olarak seçilen hamamın bir asır sonra orijinal işlevi ile restore edilmesi sırasında kültürel sürdürülebilirlik bağlamında mekân işlevlerinin düzenlenmesinde yapılan çalışmaların değerlendirilmesi olarak belirlenmiştir. Sonuç olarak, bu gibi durumlarda kültürel sürekliliği devam ettirebilmek için bazı ödünlerin verilmesi gerekliliği ortaya çıkarılırken özellikle turizm sektörüne dâhil edilen bu tip yapılar için alınan kararların sonuçlarına dikkat çekilerek eleştirel durum ortaya konmuştur.

**Anahtar Kelimeler:** Kültür, sürdürülebilirlik, Türk Hamamı, Ayasofya Hürrem Sultan Hamamı, iç mekân

**Abstract**: Bathhouses are structures where washing is carried from the waterfront into an area and should be regarded as a cultural heritage piece, where social values may be pursued beyond the physical and structural qualities of a building. This article tackles the social life rules, material, and spiritual-cultural values of the Hagia Sophia Roxelana Bathhouse, which has not been the subject of an independent study regarding the cultural values of its interiors, after the restoration work that started in 2009 and has been completed in three years. The aim is to record the information regarding the dimensional, construction, and space organization of the interior design of the bathhouses as a rare example among Turkish Bathhouses, to transfer its material and spiritual cultural values to the future with accuracy, and to form its proper place in the changing world order. On this basis, the content of the study has been determined as the studies that were carried out in the reconstruction process and the arrangement of functions of cultural sustainability during the restoration of Hagia Sophia Roxelana Bathhouse, which has been chosen as the experimental area for the article. Consequently, while revealing the necessity of making concessions to maintain the cultural continuity in cases such as the example of this historical building, a critical situation has been presented by drawing attention to the result of the decisions taken, particularly for these types of structures included in the tourism sector.

**Key Words:** Culture, Sustainability, Turkish Bathhouse, Hagia Sophia Roxelana Bathhouse, Interior Space

* Acknowledgements: I would like to express my profound gratitude to my esteemed instructor, Master Architect Tevfik İlter, with whom I had the privilege of working and receiving substantial support throughout the process of revitalising the bathhouse.

**Introduction**

In all civilizations, bathhouse structures, which reveal all the hints of social life rules and values, have shaped the spaces with their own distinct rules. In the Classical Period of Ottoman Architecture, which spans the years 1501 to 1703, the bathhouses reached their zenith in terms of spatial organization, functions, and cultural material and spiritual elements under the influence of past knowledge and the Islamic religion and under the control of the Turks. During the sixteenth century, 59 bathhouses were constructed in various parts of the Ottoman Empire, largely due to the expansion of construction activities, particularly during the reign of Sinan the Architect. The biographies reveal that 45 of these bathhouses were situated in and around Istanbul (Ertuğrul 2002: 15-16; Ertuğrul 2015: 450-467). Bathhouse buildings were at the focal point of social and cultural life in the Classical Period of the Ottoman Empire. The 1766 book of Istanbul bathhouses probably reveals the highest number of baths in Istanbul (BOA, C.BLD, 2706, 6 Cemaziyelevvel 1180 / 10 Ekim 1766: note 1)One of the reasons behind this is that it coincided with the period when the Empire was at its strongest in administrative, military, and economic terms. In Istanbul, which is one of the leading cultural tourism centers today, many historical monuments have taken their place in the sector with their original or new functions. As a matter of fact, two years after this census, Sultan Mustafa III (1757-1774) ordered that no new bathhouses should be built in Istanbul due to the high number of bathhouses and their consumption of wood and water. Afterwards, due to this measure and the changing housing architecture and urban experience, the baths of Istanbul lost their former splendour over time. According to the 1916 edition of the *"İhsaiyat Mecmuası"*, there were 178 bathhouses in Istanbul, 80 in the city walls and 98 outside the city walls. This number is not small according to the population of that period (Refik 1988:217).

According to Fikret Yegul's 2009 study, it is insufficient for researchers to explain the origins and success of the Turkish Bathhouses using only the Islamic religion's emphasis on cleanliness. Islam's emphasis on cleanliness is well-known, but religion is only one of several influential factors in this regard (Yegul 2009). In the classical periods, due to the lack of savings and the inadequacies of technology, there were public bazaar bathhouses that served the people of the neighbourhood instead of the baths in the houses. These bathhouses generated income for the *külliye* and foundation to which they were affiliated, and they constituted the most important structures of public organisation as social facilities in close proximity to mosques (Esemenli 2005: 110-121). Therefore, they were the structures where the social and cultural infrastructure of the society found a concrete response.

On the interior surfaces of the Ottoman bathhouse, the symbols that create a culture of cleanliness and purification reveal the history of an ancient memory embodied in the physical spaces of a life pattern. Therefore, bathhouses created on a level that transcends locality represents the cultural memory of society. In recent years, an increasing number of scientific studies on bathhouses support these opinions (Sami 2017: 1531-1546; Sibley 2008: 10-16; Sibley Ed. 2012: 17-28; Tohme, 2012: 87; Bascom, 2003: 169).

**1. Analyzing the Studies on the Revitalization of Hagia Sophia Roxelana (Haseki Hürrem Sultan) Bathhouse in the Context of Cultural Continuity**

In today's living conditions, many historical bathhouses continue to transfer their values to future generations as cultural tourism items. In the article, the restoration work between 2009-2011 was carried out on "Roxelana Bathhouse," a special building that returned to life with its original function after a hundred years.

The bathhouse selected for the research is located on the sea side of the square, south of Hagia Sophia, on the sea side of the square, on the Sultan Ahmet Square, Eminönü District of Istanbul, Sultan Ahmet Square, plot 67, block 59, parcel 1. It is located parallel to the Blue Mosque and Hagia Sophia axis. It was built by Sinan the Architect in 1556-1557 (H.964) for Haseki Hürrem Sultan (Ö: 1558 H.965) (Baltacı1998: 498) the wife of Sultan Süleyman (D.1494 Ö:1566 H. 974) (Emecen, 2010: 74) the tenth sultan of the Ottoman Empire. *Tezkiret-ül Bünyan* record 12-4 and *Tezkiret-ül Ebniye* record 13-5 state that the building belongs to Sinan the Architect (1489-1588) (Kuran 1989: 389).

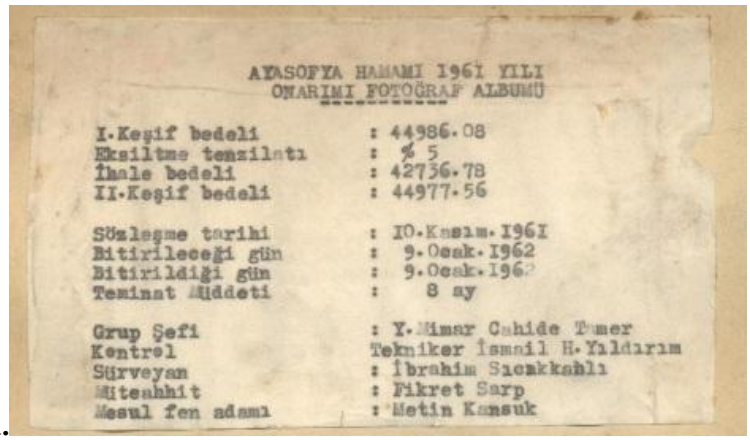
The date of construction of the bathhouse is given as H. 960/1553 in some sources. (Eyice, 1991:211-212; Aslanapa,1986:528-532). The difference in the date of construction is that while the Hijri date at the end of the inscription gives H. 960 / 1553, according to the ebced calculation of the verse 'Hammam behişt abad-ı sultani' in the inscription, H.964/1557 comes out. This may be a stonemason's error, or it may be the beginning and may be considered to indicate the end date. (Yuksel, I. Aydin, 2004).

In addition to those stating that the building was built by Haseki Hürrem Sultan, sources are stating that it was built by Kanuni on behalf of Haseki Hürrem Sultan (Roxelana) (Senocak 2009: 104). It is stated that the bathhouse was endowed to the staff and congregation of the Hagia Sophia Mosque (Pierce 1996:270). According to Müller-Wiener and Haskan, it was built as income for Haseki Hürrem Sultan's foundation (Weiner 2016: 172) (Haskan 1995: 172). Due to the information in these sources, it is thought that the owner of the bathhouse may be Hürrem Sultan.

Although it is reported in archival documents that the building belonged to the Haseki Hürrem Sultan foundation, there is no clear information that it was built by Suleiman the Magnificent or Haseki Hürrem Sultan. While one of the documents found during the research includes the rent problems of the bathhouse (BOA/C.EV, 243/12124, H.1255/1840: note 2), another document includes the repair of the lead of the bathhouse (BOA/TS.MA.d 3538 0003, R.1185/1772-73: Note 2-3).

The bathhouse was named "Hagia Sophia Bathhouse" in archival records. Since it was built after the Haseki Hamam in Bahçekapı, the name of this bathhouse was recorded as "New Bathhouse" in the archive books (Taskiran 1972: 187-188: BOA/TS.MA.d 4575: note 4). However, at the end of the restoration in 2011, the signboard was updated as "Hagia Sophia Roxelana Bathhouse" (Archives of the General Directorate of Foundations). It is continued to be referred to by this name in this article (Image 1). Since it was intended to serve mostly foreign tourists due to its location, it is thought that the change was made with the idea that the name would be more remarkable in this way. With this in mind, it was returned to its original function in 2011, a century after its operation as a bathhouse was suspended, primarily for the use of foreign tourists.

**a.**


AYASOFYA HAMAMI 1961 YILI
ONARIMI FOTOĞRAF ALBUMU

I.Keşif bedeli : 44986.08
Eksiltme tenzilatı : % 5
İhale bedeli : 42736.78
II.Keşif bedeli : 44977.56

Sözleşme tarihi : 10.Kasım.1961
Bitirileceği gün : 9.Ocak.1962
Bitirildiği gün : 9.Ocak.1962
Teminat Müddeti : 8 ay

Grup Şefi : Y.Mimar Cahide Tümer
Kontrol : Tekniker İsmail H.Yıldırım
Sürveyan : İbrahim Saçakkaplı
Müteahhit : Fikret Sarp
Mesul fen adamı : Metin Kansuk

**b.**


**c.**

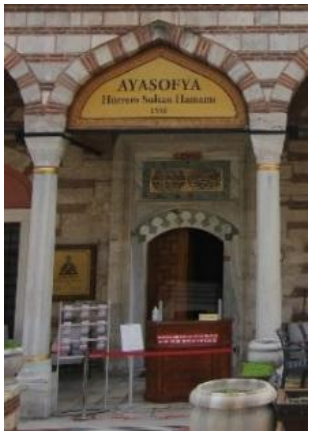
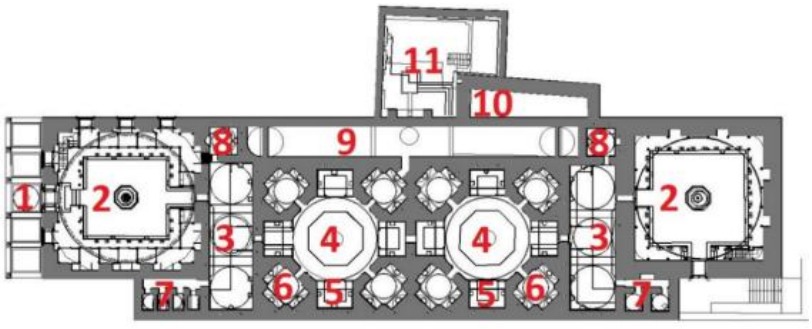
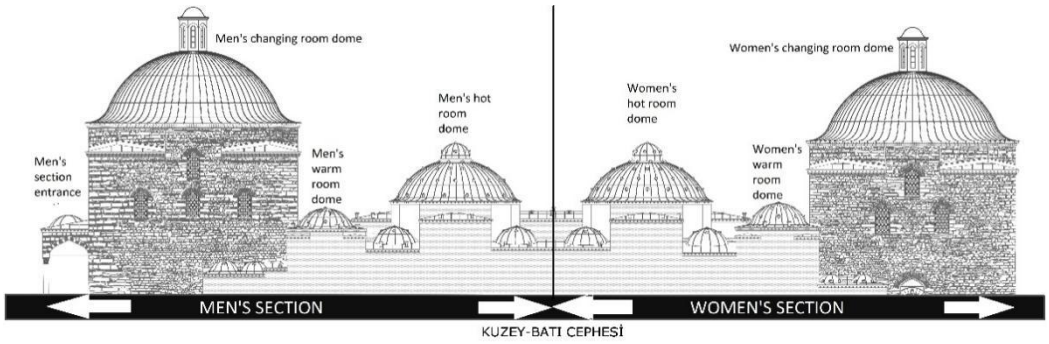



**Image 1. a.** The name of the building is mentioned as "Hagia Sophia Bathhouse" in the photo album of the restoration made in 1961, as in the previous records. **b.** The marble signboard shows the name of the building during the restoration between 1986-1989. **c.** The signboard of the building after the restoration was completed in 2011.

The most privileged feature of the bathhouse, which has the characteristics of a Turkish Bathhouse and has undergone very little spatial change compared to other bathhouse structures, is its plan type. The fact that the plan scheme used in this building was not applied again by Sinan the Architect makes it privileged from other bathhouses buildings and increases the responsibility of the Turkish Bathhouse in terms of cultural sustainability and representation (Image 2).

**a.**






**b.**

**Image 2. a.** The plan schema of Hagia Sophia Roxelana Bathhouse was prepared during the surveying works in 2009 (note 5). **b.** Representation of the spaces of the bathhouse through the façade drawing facing Sultanahmet Square. 1. Men's section entrance portico, 2. The changing room 3. Warm room, 4. Hot room, 5. Iwan, 6. corner secluded niches *(halvet)* 7. Toilets and shaving room, 8. Cold bathing room (after restoration, functioned as consumables storage), 9. Hot water tank (after restoration, functioned as staff rooms for rubbers and bathhouse attendants), 10. Cold water tank (after restoration, functioned as an office area), 11. Furnace (after restoration, functioned as a connection to service areas and kitchen) (author's archive).

In the Ottoman bathhouse buildings, two bathhouse structures with this plan type were identified. One of them is the Şengül Bathhouse in Ankara, which has no construction inscription and is dated to the second half of the XVth century since it is known to have been built by İshak Pasha and continues to serve with its original function today (Ergenç, 1980: 104). Another example of this plan type is the XVIIth century Kızlarağası Bathhouse in Istanbul, which was destroyed in the 1920s (Haskan, 1995: 56-60) (Image 3).

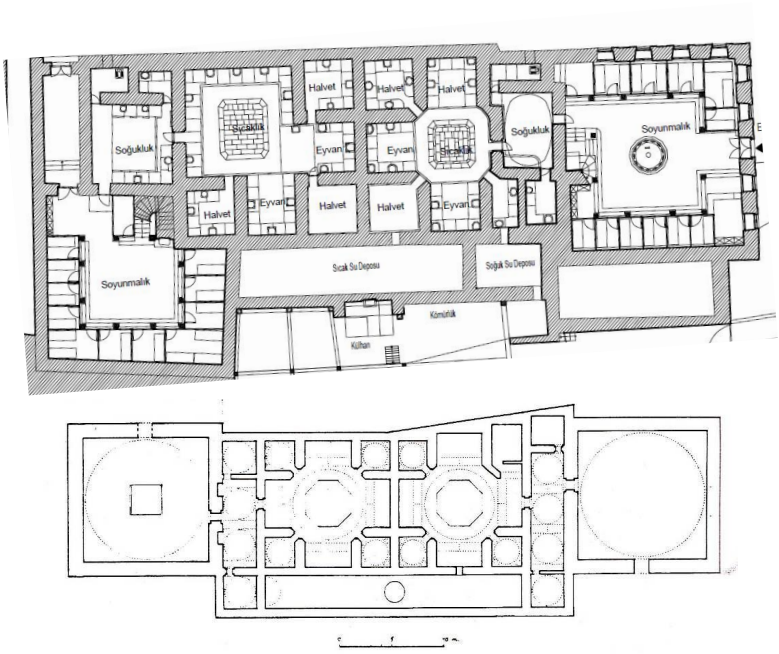



**Image 3.** Upper image: Şengül Bathhouse plan schema, Ankara. (Karakuş, F.-Özcan, Z., 2022); lower image: Kızlarağası Bathhouse plan schema (Haskan, 1995: 56-60).

The Hagia Sophia Roxelana Bathhouse and the Kızlarağası Bathhouse in Istanbul are more similar in terms of plan content than the Şengül Bathhouse in Ankara. On the other hand, as seen in image 4, these buildings belong to "Type A" according to the typology of the hot room section in Ottoman Bathhouses Architecture. They are labelled as "the type with a single dome, corner secluded niches (halvet) at the corners and 4 iwans" (Ertuğrul 2015: 450-467) (Image 4).

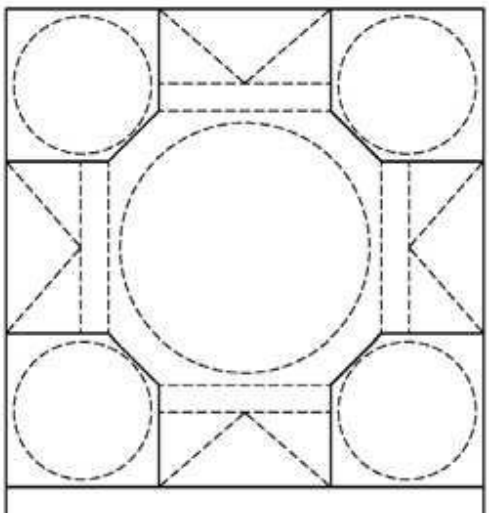


**Image 4.** The hot rooms are categorised in six types on the basis of their temperature sections. The cruciform type with four iwan and corner secluded niches (halvet) are known as Type A. In Istanbul, Beyazıt Bathhouse, Murat Pasha Bathhouse, Edirnekapı Mihrimah Sultan Bathhouse, Langa Bathhouse, Kızlarağası Bathhouse, Tahta Minare Bathhouse, Samatya Ağa Bathhouse, Çukur Bathhouse Men's Section, Gedikpaşa Bathhouse, Hocapaşa Bathhouse, Çinili Bathhouse, Haseki Hürrem Sultan Bathhouse and Süleymaniye Bathhouse are the best examples of this type (Ertuğrul 2015: 450-467).

It is clearly seen that some special arrangements were made on the thin and long mass that emerged as a result of the positioning of the women's and men's sections back to back to create a silhouette in the sphere of influence of the Hagia Sophia, which was considered a magnificent structure throughout the periods. Even after the construction of the Blue Mosque in 1616, the façade formation, which continues to reveal its place in the silhouette, helps to explain the skills of its designer Sinan the Architect. Designed as a double bathhouse, the building was formed by arranging the men's and women's sections on an axis and adding them to each other. The building is a research area where cultural traces can be observed on-site due to its architectural features and the fact that it is a place where Turkish Bathhouse culture is still alive.

Starting with the development of Turkish Bathhouse architecture and maturing in the Classical Period of Ottoman Architecture, the research will reach its goal by opening the "cultural sustainability decisions in space design" related to the architectural, and cultural features that have become more evident with their maturing effects.

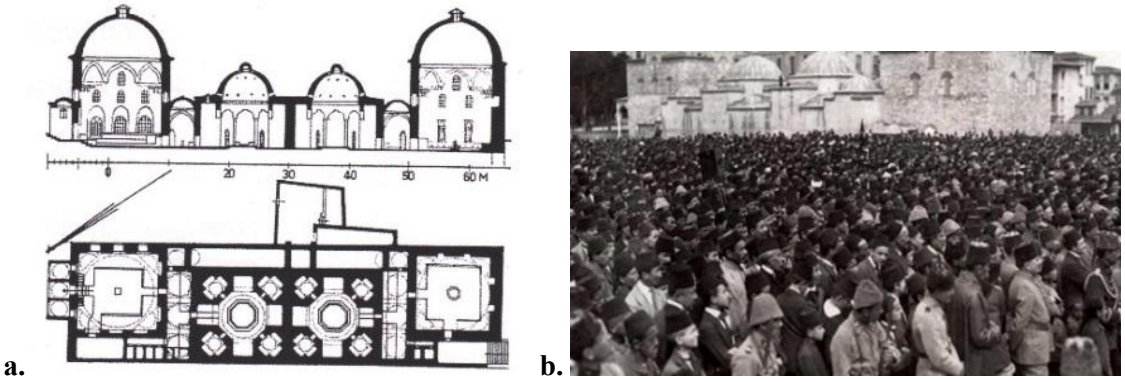
**2. Analyzing the Architectural Structure and the Interior Design**

The building was used intermittently as a bathhouse from the date of its construction until 1910. Later, during the occupation of the Ottoman Empire's territory, it was used as a courtroom by the French, as a gasoline depot of the Municipality, and as a depot of the State Printing House, especially in the last period of use, it was significantly worn out, and interventions such as rearrangement for action areas and addition of installations were made to its interior space. In 1930, the bathhouse was temporarily used as an exhibition space by the Asar-ı Atika Encümen-i Daimisi; during this period, interior interventions continued; the existing heating installation remained idle because the building was not used with its original function. Apart from its original function, the building was last used as a carpet sales store of the Ministry of Culture and Tourism - Central Directorate of Revolving Fund Management (DÖSİM) (Eyice, 1991:211-212;Obruk, 1989).

It was deemed possible to easily follow the cultural traces in the hammam building and its interior features, which was selected as a sample area for the study, by presenting the women's and men's sections comparatively with visuals. For this reason, starting from the sections where women and men enter the building, a progressive narrative was made according to the order to be followed in the washing rules (Image 2).

**2.1. Comparison of Entrance Sections**

In the building, which is one of the examples of double bathhouses, male and female customers entered the bathhouses from separate streets. The men entered Hagia Sophia from across the building. According to historical records, the entrance portico was originally constructed in three sections, but no archive photograph of this layout has been discovered. The bathhouse, which was used until 1911-1912, was severely damaged by the Ishak Pasha fire on June 3, 1912. Istanbul Governor Cemil Topuzlu Pasha wanted to have the bathhouse demolished but was prevented at the last moment (Ertuğrul 2015: 450-467) and the three-sectioned men's entrance portico was expanded to five sections during the repair in 1916-1917. (Yuksel 2004:175). The earliest photograph available dates to Istanbul's occupation years, when the building featured five porticos (Onge, 1988) (Image 5).




**a.** **b.**

**Image 5. a.** Three-section plan diagram and section drawings of the men's entrance portico of the bathhouse (Eyice 1991:206-210). **b.** In the photograph of the Sultanahmet rally attended by Halide Edip Adıvar on Friday, May 23, 1919, the end of the five-sectioned men's entrance portico of the Roxelana Bathhouse is seen (Tanman 2010:85).

Allocating the entrance façade facing an important building such as Hagia Sophia to women is already not possible considering the value judgments of the period in terms of easy observation of people entering and leaving the bathhouse. With the portico built at the men's entrance, it is intuited that Sinan the Architect, while designing the bathhouse with a façade to Hagia Sophia, not only had a concern for architectural form but also wanted to emphasize and glorify the patriarchal social order of the user. Porticoes are functional areas used as the last congregation place in mosques, but for this bathhouse structure, they have no function other

than emphasizing the façade, providing entrance and exit comfort depending on weather conditions, and increasing the architectural effect (Image 6).

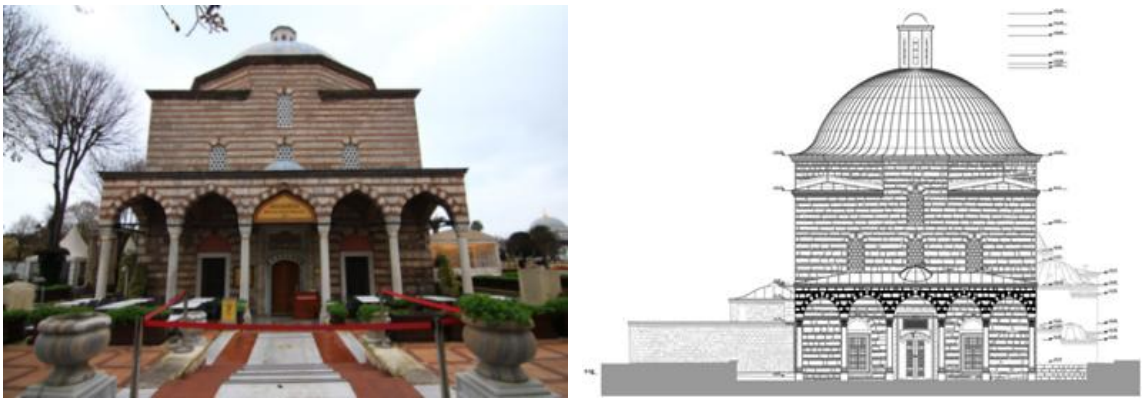


**Image 6.** Photograph of the men's entrance door of the bathhouse in December 2020 and a survey drawing of the entrance façade (author's archive).

The six columns in the portico area at the men's entrance have simple capitals and rosette decorations. The rosettes are of a type that can be seen in other classical-period buildings (Image 7). During the restoration, each capital and all rosettes were cleaned to increase their visibility.

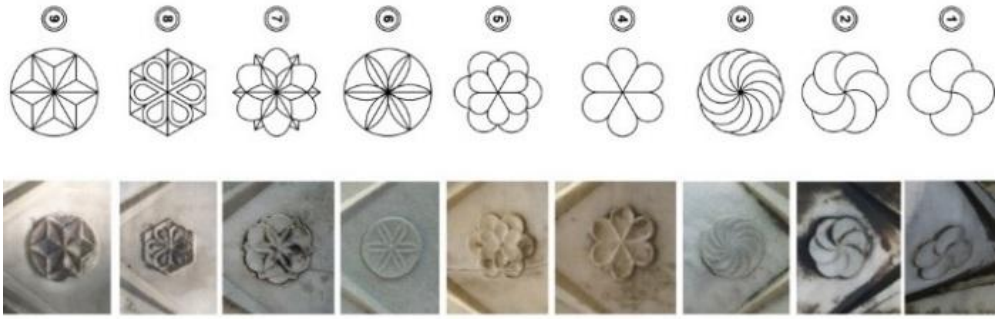


**Image 7.** Rosettes are used on the columns supporting the portico at the men's entrance (author's archive).

Although the floor covering in the portico section was damaged, it was observed that the slopes of the flooring marbles, which were still usable, had deteriorated and lost their quality, so they were numbered and removed from their places to correct their slopes during the restoration, their bottoms were supported with grog, and they were put back in their places by adhering to the prepared survey drawing (Image 8).

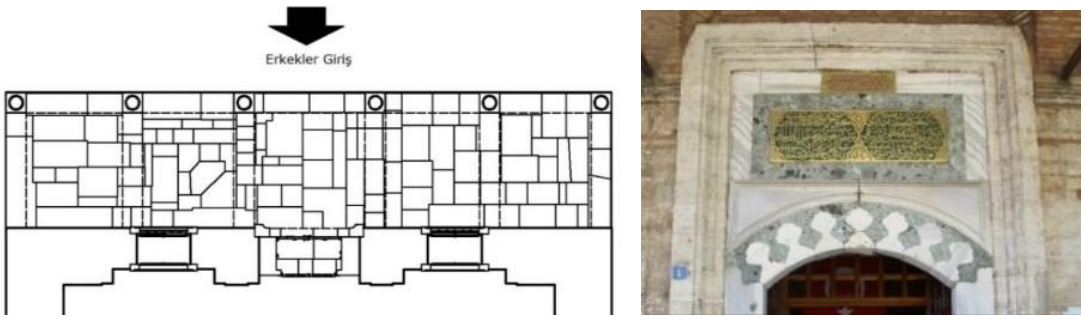
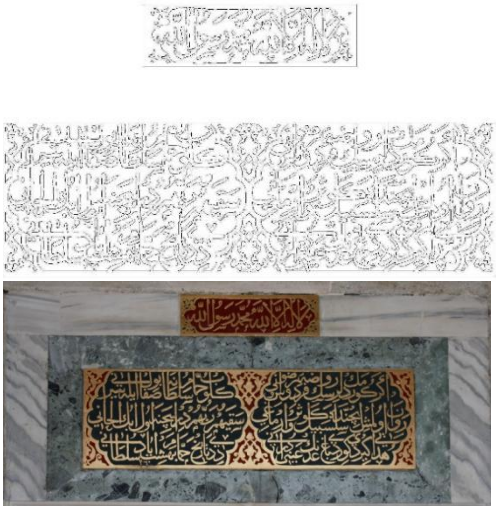



**Image 8.** 2009 survey drawing of the paving stones of the men's portico section and The inscription indicates that the bathhouse was built in 1556-57 (author's archive).

There is an inscription above the entrance door. The date of the inscription at the porticoed entrance of the men's section of the bathhouse also supports these records. During the restoration, necessary cleaning and paint renovations were made (Image 9). The inscription states that the owner of the building was a sultan. However, it is not stated whether the sultan was a man or a woman. The inscription is as follows:



The translation of the inscription written by the Şair Hüdayi is as follows:

*Lailahe illallah Muhammeden Resulullah*

*Eğer görmek dilersen ravza-i Firdevs ü Rıdvanı*
*Gelip hamam-ı sultana safa bul eyle seyranı*

*Revan olmuş içinde selsebil ü Kevser ırmağı*
*"Sekahüm rabbühüm" der içene ol abın elhanı*

*Hüdayi girdi gördü bağ-ı Adnin aynıdır anı*
*Didi tarih "Hamam-ı behişt-abad-ı Sultani"*

*960 H / 1552 M*

**Image 9.** The inscription above the entrance door. (Drawing and photo: author's archive)

The translation of the inscription and the ebced calculation were prepared by I.U. Faculty of Letters, Department of Archaeology and Art History. Lecturer Dr. Hüsamettin Aksu for the master's thesis prepared for the bathhouse in thesis (Unat 1984:66) (Image 9).

While the men's entrance doors open to a crowded area with flamboyant architectural forms, the women's entrance to the hammam is from the direction of Sultanahmet Square, with a narrow entrance descending by stairs below the ground level of the square. The entrance door is kept out of sight and is unpretentious in its form.

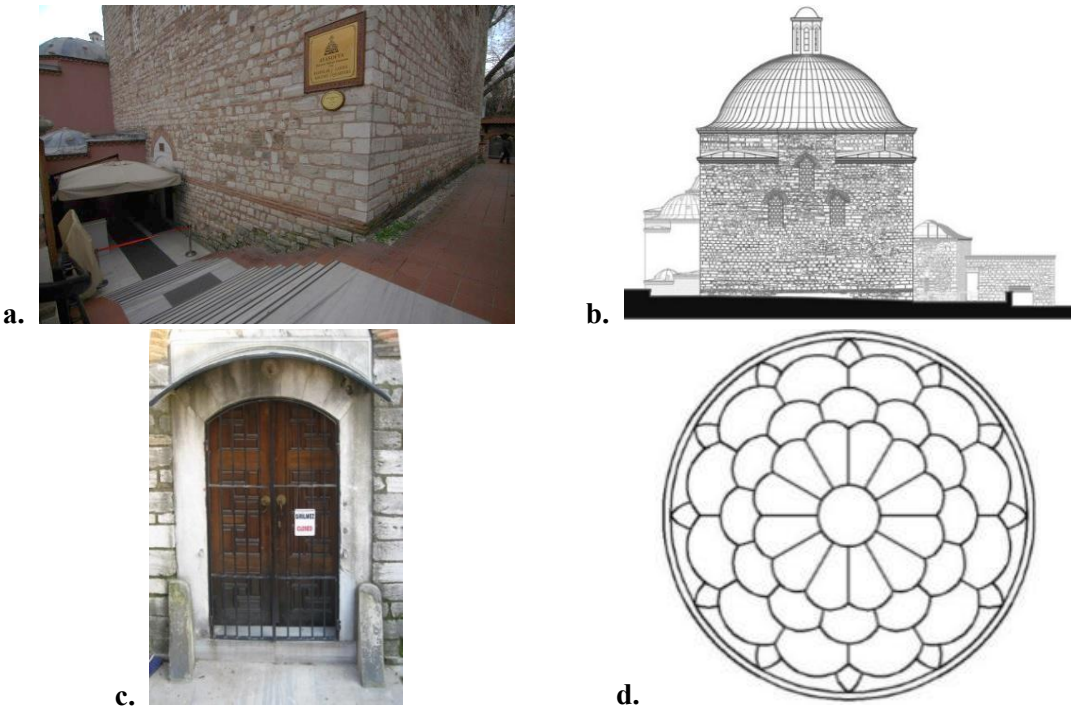


**Image 10. a.** The condition of the women's entrance door of the bathhouse in December 2020. **b.** The view of the women's section entrance through the survey drawing of the southwest façade. **c.** General view of the women's entrance door. **d.** The location of the rosette and the rosette that is used (photo from 2009) (author's archive).

The women's entrance door, like the men's entrance door, is not decorated with various rosettes and has a simple form. In addition, since the entrance terrace is not covered, an awning was placed by the operator, which, as can be seen from the picture, is not integrated with the building (Image 10).

### 2.2. Comparison of Cold Room Spaces

When entering the men's cold room, a dome with a height of 20.70 meters and a width of 13.15 meters is encountered from the top of the floor into the dome in the space with dimensions of 13.40 m.*13.15 meters. The space, which rises in the square form up to the 11m. level, turns into an octagon with the help of tromps up to 13.50 meters, and then turns into a twelve-digit at 15.50 meters and takes the form of a dome. When entering the women's cold section, there is a height of 19.45 meters under the dome from the floor, measuring 12.60 meters * 12.70 meters. The dome diameter is 12.60 meters. The space, which rises in square form from the ground to the level of 9.70 meters, turns into an octagon at the level of 12 meters using trumpets and completes the dome by forming a circle at the level of 13.50 meters. The plan schemas corresponding to the space descriptions are shown in Image 11.

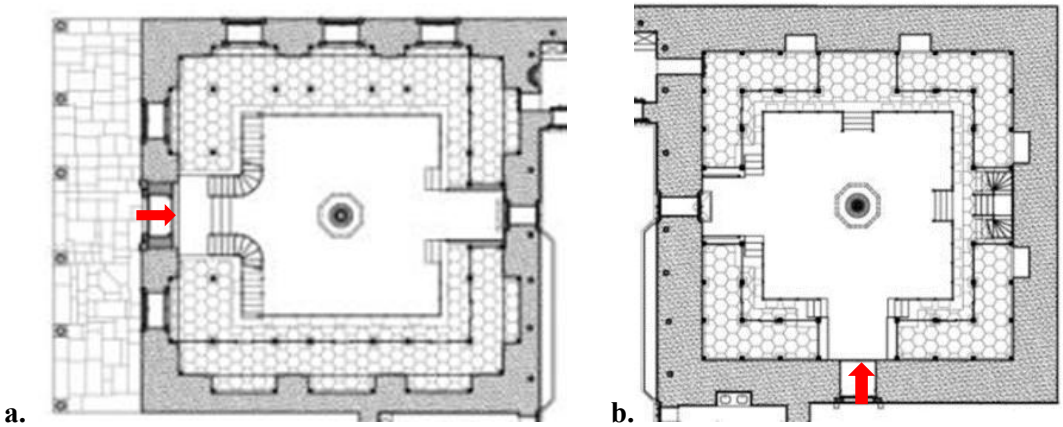


**Image 11.** On the left (a) is the men's section undressing plan; on the right is the women's section undressing plan. The red arrows indicate the entrance to the cold room from the exterior (author archive).

The dome in the men's cold room is decorated at the level of the pulley in the interior and is slightly higher than the dome of the women's cold room, as seen in the façade drawing. The dome of the women's cold room is not decorated in the interior (Image 12).

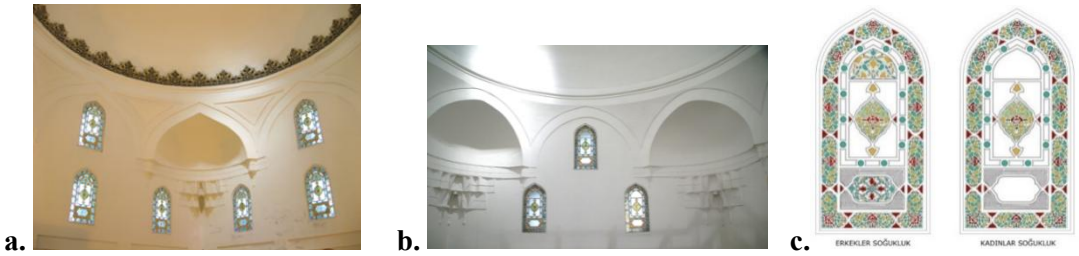



**Image 12.** Photographs from 2010, when the changing rooms in the cold section, which is accepted as a 1986 addition, were dismantled during the restoration. In the pictures where the revzen windows, dome decorations, and muqarnas can be observed comparatively, the one on the left (a) belongs to the men's cold room and the one on the right (b) to the women's cold room, c.In the drawings made for the revzens in the cold sections during the survey studies, it is seen that there are fewer embroidered applications in the women's section compared to the men's section (author archive).

There is no significant difference between the two sections in the form and number of muqarnas. There are stylistic differences between the two cold sections in the configuration of the portico, as seen in Image 11. When the wall cavities of the revzen windows were scraped, it was observed that there was a 10 cm. joinery thread on the outer surface of the body wall, no thread was formed on the inner surface, and a mounting thread was formed on the inner surface of the body walls to mount the revzen windows. It was understood that these windows were not made as double windows in the form of interior and exterior and that the windows inside were added to the system later and noted in the restoration records. Since it would support the thermal comfort of the space and the continuity of the period addition was deemed appropriate, joinery with filigrees on the façade and revzen windows in the interior were included in the design.

According to the floor plan, there is a pool in the middle of both cold rooms. In the men's section, the pool ornament features fish figures, while in the women's section, a flat marble form was discovered during restoration and subsequently utilized. The area in the middle of the

benches surrounding the cold room in the men's section is covered with Marmara marble and features an octagonal pool fountain. During the 1986 restoration, documentation of the octagonal pool made of Marmara marble with a width of 95 cm on one side revealed that the central fountain had been removed. It is understood that the design of the fountain is unusual for Sinan the Architect's structures. It is believed that this pool, like the window jambs, was renovated after being damaged by the earthquakes of 1766 or 1894. When the pool section of the women's cold section, whose marbles were replaced during the 1986 restoration, was dismantled during the 2009 restoration, the pool's original marble stones were discovered. A glass plate was placed over the original stones, allowing them to be viewed even after restoration.

The lower elevation of the bench areas, which are accessed by steps from the central area of both cold rooms, is equipped with 28 shoe niches in the women's section and 32 in the men's section. There are no changing cabins in the original condition of the building. During the 1986 restoration, the wooden construction changing cabins, which are thought to have been added, was renewed in the 2009 restoration as a period addition using cedar wood. By taking advantage of the sectional height of the dressing room, changing cabins, massage rooms, and resting places were organized on the floors created from wooden construction. In the hammam, which provides services through cultural tourism, the addition of volumes that are not present in the original may interfere with the provision of cultural continuity and may offer different experiences for those who will experience the place for the first and only time. The shoe niches, which became dysfunctional with the addition of changing cabins to the upper levels, were also evaluated as decorative ornamentation tools. Visiting tourists have no idea about the original use of these niches. Stands where necessary materials and memorabilia are sold according to the content of the service provided in the space (Image 13).

**Image 13.** Photographs from the men's section cold room in 2021 (author archive).

The light lanterns, which are an important structural element for the natural lighting of the space on the domes of the cold sections, were in the same form in 1942 and 1978, as determined from the archive records, while the lanterns underwent formal changes in the restorations after 1978 and in 1986 (Image 14). In the restoration started in 2009, the period additions were renewed.

**Image 14.** Photographs showing the status of the light towers on the cold room domes in a. 1942, b. 1978, c. 1986, and d. 2010, respectively (author's archive).

The dimensions of the lighting tower at the top of the dome of the men's cold room are 164 cm in diameter, narrowing in two stages to 154 cm and 148 cm. The same lighting opening

is also located in the women's cold room. The glass in this lighting space, which was originally closed with glass, was removed in the later restoration and replaced with a 410 cm high lantern from the inside of the dome. This lantern, which is 252 cm. above the upper level of the dome and finished with a 25 cm. thick molding, is covered with an 80 cm. high dome. The lantern with a façade width of 212 cm. is octagonal and has eight windows of 38 cm. width and 180 cm. height on each surface. The addition of a lantern of this size to the building increased the level of interior illumination.

**2.3. Warm Room Section**

When the men enter the warm section, a rectangular space measuring 4.35 m*14.90 meters is encountered. Two Seljuk arches divided the upper part of the space into three parts, allowing this area to be covered with three domes. The central one of these domes transformed the square space defined by the pendant arches into an octagon and closed the space by taking the form of a circle at the foot of the dome. At the apex of the dome, there are eight-pointed stars in the first row, eight regular hexagons in the second row, and eight regular pentagonal elephant eyes in the third row. The other two domes on the sides also draw attention with the same arrangement of elephant eyes. In the domes on both sides, the square plan trace formed by the pendants and arches is moved directly to the circle trace, and the space is covered.

The women's warm section is a rectangular space measuring 4.60 m.*14.70 m. Two Seljuk arches divided the upper part of the space into three parts, allowing the space to be covered with three domes. Unlike the men's warm section, in the women's section, the central one of the domes closed the space by taking the form of a circle at the foot of the dome without transforming the square space defined by pendentives into an octagon. Since the area in between was rectangular, a triangle and a curved pediment appeared on the edges of the long walls to turn it into a square. These forms produced with the building technology of the period offer clues to the user in terms of the continuity of cultural continuity and traces in terms of the ambiance of the space.

The passage doors to the spaces are similarly decorated with muqarnas in both sections. In the warming rooms, two toilet stalls for women and four for men were built. Looking at the façade of the building in the direction of Sultanahmet Square, it is observed that Sinan the Architect’s design decision in this regard was in favor of symmetry. By placing toilet bowls fixed to the glass flooring on the period toilet stones in the cabins, the visual continuity of the original situation was ensured while trying to provide a solution to the hygiene issue, which wash a necessity of the time. After the restoration, the cold bathing rooms, which were used by those who were uncomfortable with the extreme heat, changed their function as logistic support/storage areas of the touristic service provider and were closed to bathing. Although this decision means interfering with the original function schema, it is seen as one of the moves that should be made due to the necessity of restoring the functions of this building that serves cultural tourism (Image 15).

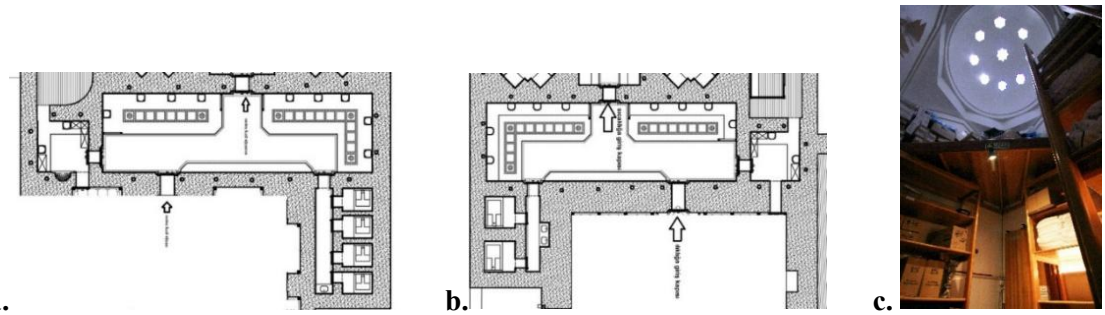


**Image 15.** Plans of the men's section on the left and the women's section on the right, and the state of the cold bathing room in 2021, which was converted into a storage room for logistical support in the men's section. The entrances at the bottom of the drawing are the entrances from the cold room to the warm room, where there are wet bars (author's archive).

**Image 16.** a and b are the original bathhouse basins and mirrors of the men's, and c and d are the original mirrors of the women's warmth section of the bathhouse (author's archive).

After all the basins and mirror parts used in the warm and hot rooms were removed and recorded during the restoration works (Figure 16), they were handed over to the General Directorate of Foundations, and new basins made following the original were put into use. As can be seen from the drawings produced within the scope of the survey studies, gender differences and the effect of hierarchy -as seen in the sultan's basins- affected the shaping of the basins and mirrors. The applications made by adhering to these determinations allowed the values to be transferred unchanged.

### 2.4. Hot Room Section Comparison

The men's and women's warm spaces have an octagonal plan schema and are entered from the warm to hot through the center of an iwan. There is a total of 4 iwans, one directly opposite the entrance iwan and one on each side. On the other four sides of the octagon, there are small private cells accessed by a door (Image 17).

While the two sides of the iwans meet in the form of a Bursa arch above, the same arch was formed with a 5 cm thread on the walls where the small cell doors are located. Thus, all octagon surfaces were made to feel identical. The surfaces of the Bursa arches were converted from octagons to circles using muqarnas, and a dome was created using a second circle. There is a smaller dome projection with a diameter of 160 cm in the center of the dome. During the 2009 restoration work, it was determined that the Seljuk motif used on the navel stone in the men's hot room was not original. According to the document obtained from research conducted in the photo archive of the General Directorate of Foundations, it was therefore believed to have been completed during the 1978 restoration (Image 18). Combining the navel stone fragments from the hypocaust used to heat the floors of the bathhouse, and the environmental excavations resulted in the creation of a new drawing, and it was determined that the current application of the navel stone was incorrect. The application of the navel stone was realized in this new drawing (Figure 18).

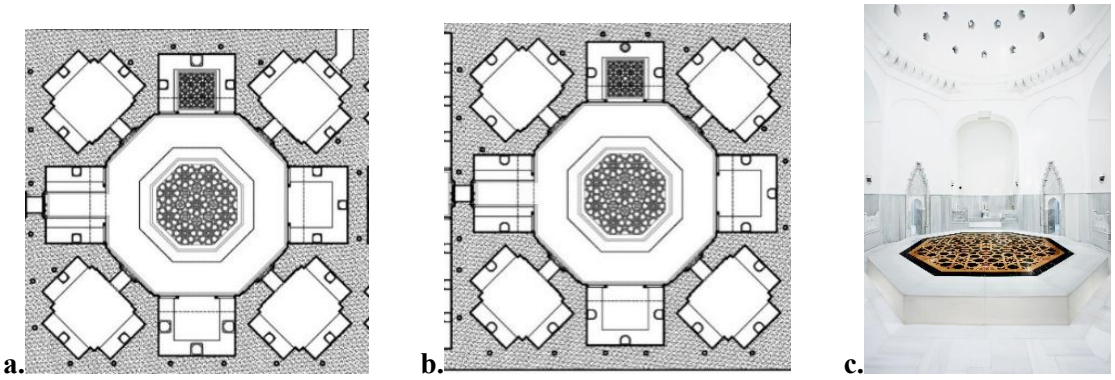



**Image 17.** Plan schematics of the hot room section used by men on the left (a) and women on the right (b), c. Women's navel stone (2021) (author archive).

**Image 18.** The condition of the navel stone and sultan's iwan in the men's hot section from the archive records of 1978 taken from the General Directorate of Foundations.

In both the men's and women's sections, there is one basin different from the others on the walls facing the hot water tank, and these are called "Sultan's Iwan." Although a study was carried out by the General Directorate of Foundations Survey Bureau in 1983 for the floor covering of this iwan (Image 19), with the research carried out, the same pattern was created and applied with the navel stone in the last restoration by continuing over the original stone finds, thus ensuring the correct transfer of the data of cultural heritage.

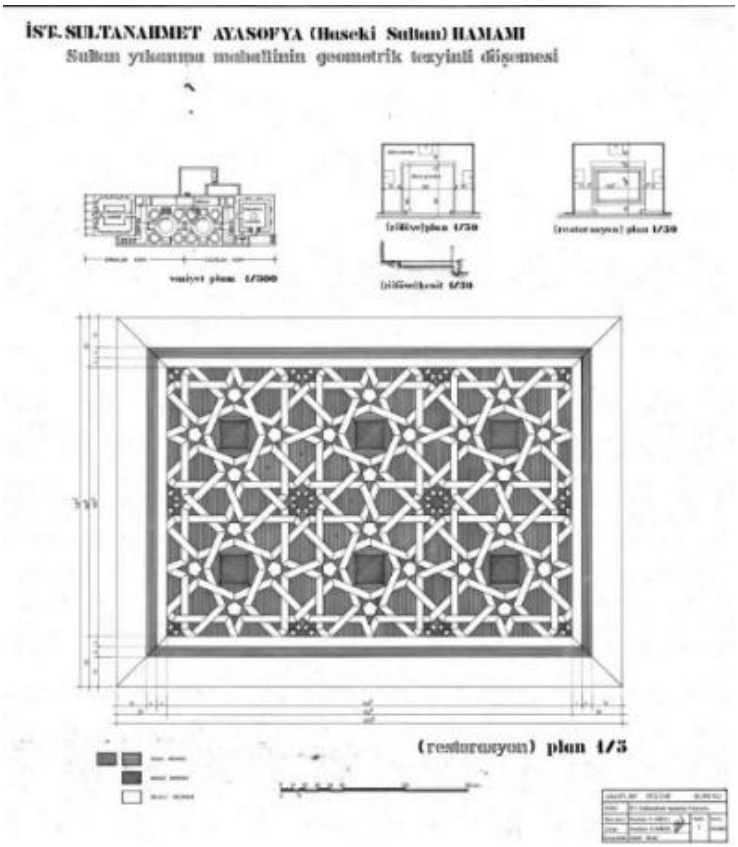


**Image 19.** Drawing of the flooring of the iwan section prepared by the General Directorate of Foundations Survey Bureau in 1983.

The spatial formation of the women's section is similar to the men's section and has a symmetrical plan schema. The plan dimensions are the same as the men's section. The iwan and private small cell layouts are symmetrical compared to the men's section. The only difference is that the pattern application made on the men's navel stone in the 1986 restoration was not applied in the women's section, and the women's navel stone was made with plain Marmara marble application. After the 2009 restoration, the same motif work was applied to the navel stone and sultan's iwans of the two sections with the decision to ensure design integrity (Image 20).

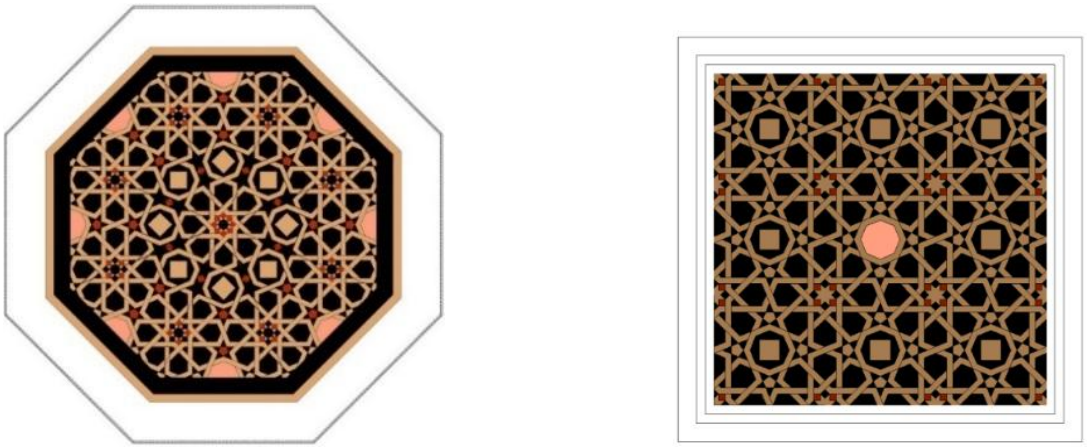
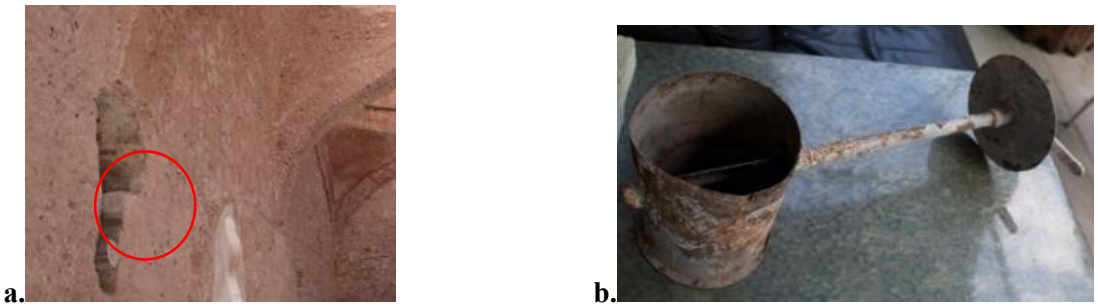


**Image 20.** Drawing prepared and applied for the navel stone (left) and sultan's iwan (right) after the 2009 restoration.

The arrangement of the basins and mirrors used in the warm section has the same features as in the hot one. Natural illumination is provided by revzen windows and light towers in the cold sections and by filigrees in the domes in the temperature and warm sections. It is known that the çerağmans, which is proof that the bathhouses were used even when there was no daylight, were the places where the lamps were placed in the evening. The çerağman, which was discovered during the survey in the small private cell on the right side of the men's hot room entrance, was found to be non-original after surface cleaning, and as a result of the research carried out, two original photographs were found, one dated 1920 and the other in Yılmaz Onge's book titled "Anatolian Turkish Bath and the Bathhouses Built by Architect Koca Sinan." From Ali Sami Ulgen's 1945 survey drawings of the Hagia Sophia Bathhouse, the current locations of the other çerağmans in the bathhouse were determined, and çerağmans were made and placed in their places. It was seen that the remains of the çerağman identified during the survey works were made of plaster, but during the restoration works, it was decided to make the new çerağmans from marble, taking into account the strength of the plaster material (Image21).

**Image 21.** Drawings of the Çerağman made on archival photographs and a photograph of the space before and after the application, 2020.

During the 2009 survey work, while taking the measurements of the hypocaust space, the outlet openings of the vertical ceramic pipes, which allowed the fire burned in the ashtray to be discharged from the roof through the body walls after circulating in the hypocaust and at the same time heating the bathhouse, were encountered. The temperature of the space can be regulated through a lever in the ceramic pipes. When the heat in the space is uncomfortable, it is possible to adjust the amount of heat transferred to the space by reducing or increasing the heat transfer by closing or opening the flap in the ceramic pipes through the lever, thus ensuring the thermal comfort of the space. Essentially, it is thought that this change is made seasonally depending on weather conditions. After the scraping process, traces such as intervention hatches, cracks, or later walling, etc., on the wall surfaces were followed, and the places where the ceramic pipes should be located were determined, and their roof openings were opened and found. The existing ones for maintenance and repair of the ceramic pipes adjustment elements have been taken under protection; the canceled adjustment cover holes have been opened again (Image 22).



**a.** **b.**

c.  d. 

**Image 22.** a- 2009 restoration works - the condition of the ceramic pipes on the wall during the scraping process, b- the ceramic pipes removed from the wall, c- the ends of the ceramic pipes on the dome, d- the view of the ceramic pipes in the interior after restoration with çerağman (author archive).

### 2.5. Installation Spaces Evaluations

Another issue is the choice of heating system, and the spaces were re-functionalized for this reason. As a necessity of the era, the fuel used for the heating of the hammam was natural gas, which necessitated the installation of a new heating system. This situation brought an end to the heating of the floor, walls, and navel stone of the bathhouse with the fire and hypocaust system that was originally burned in the furnace. Although showing the heating systems inside the walls and under the floor stones in the warm sections to the people who will use the space through glass tiles is a positive effort to keep the original situation alive in the memory, just like in the previous restoration works, the installation of underfloor heating and natural gas system within the structure has been one of the applications that have been deemed necessary. As a result of this action, the hot water storage space, which was no longer needed, was replaced with staff rooms and logistics warehouses for the bathhouse employees; the cold water storage space was replaced with an office area, and the furnace was replaced with a kitchen area for food and beverage services (Image 23).

**Image 23.** During the re-functioning of the building, the upper level of the furnace, which was turned into two floors by taking advantage of its height, was converted into a kitchen area, the lower level into a plumbing room, and the cold water tank into an office area(author archive).

With the arrangements made in recent years, the placement of the food and beverage service area in front of the entrance of the men's section of the bathhouse and above the furnace area with ciborium and umbrellas that protect the users from weather conditions has reached a level that poses a problem in the perception of the architectural structure of the building from outside. For those who come to receive food service from the establishment, toilets were built

on the lower level of the furnace area where the fuel tank used to be located. This intervention threatens the originality of the building (Image 23).


**Image 23.** The additions made to the facade of the building to provide the expected comfort level and service variety in the restaurant services provided by the business prevent the perception of the facade and the integrity of the building. Survey drawings of the restrooms built with a new project on the lower elevation of the furnace and a photograph of the entrance to the space (2021).

As it is known from historical sources, it is inevitable to have eating and drinking in bathhouse structures where a whole day is spent. However, screening the main action with a side action is not transferring cultural continuity correctly. It is thought that this situation should not be accepted as a compromise in ensuring the cultural continuity of the building.

**Conclusion**

Today, Turkish Bathhouses, one of the most colorful elements of Turkish culture, are important actors of cultural tourism. Hagia Sophia Roxelana Bathhouse and many similar Turkish Bathhouses structures in Istanbul provide tourism-oriented services primarily for foreign tourists. In addition to providing all the physical and spiritual sensations offered by the water, the service provided by the hammam considers water as a cultural element and makes one feel all the cultural traces developed under the influence of Turkish-Islamic Culture by keeping them alive in their spaces.

The findings obtained through theoretical research and spatial examinations on Hagia Sophia Roxelana Bathhouse have concluded that water shapes culture, and culture shapes space. When the recent restoration works carried out in the context of cultural sustainability in this bathhouse structure, which is a spatial response in the communication of culture with water, are evaluated; can be listed as.

**Table 1** The table of the findings presented in this study.

| Applications made | Evaluation of the application |
|---|---|
| Choosing a more popular name instead of using the original name of the building in the records. | Although it is deemed appropriate to ensure visibility in today's conditions, it is a practice that is likely to cause problems in terms of information tracking. In order to ensure cultural sustainability, the original name of the bathhouse should be positioned on the entrance facade. |
| Reduced visibility of the building due to the positioning of the furnishing elements belonging to the restaurant service in front of the men's entrance portico and on the furnace space, which will be transformed into a terrace, and the use of a ciborium that is not integrated with the building at the women's entrance door. | When evaluating the building in conjunction with its location, restaurant service is unavoidable because it serves the tourism industry, but the application is incorrect at the stage of screening the architectural facade and preventing the building function. |
| Supporting the non-functional shoe niches in the cold room with decorative elements. By taking advantage of the height of the cold room, changing cabins, and massage/resting areas, which are needed by the sector but not included in the original function, were added to the space with wooden construction. Positioning the sales counters in the space. | It may be preferable to decorate these niches with elements that will remind their original functions. Although the space constructions on the upper levels of the cold room section prevent the holistic perception of the space, it can be seen as a compromise for the continuation of cultural sustainability. Sales counters can be considered as a requirement of the new function and their positioning/areas do not disrupt the integrity of the space. A function not found in the original structure is a period addition. |
| Closing the cold bathing rooms in the warm rooms to the user for logistical support reasons. | It may be preferable to decorate these niches with elements that will remind their original functions. Although the space constructions on the upper levels of the cold room section prevent the holistic perception of the space, it can be seen as a compromise for the continuation of cultural sustainability. Sales counters can be considered as a requirement of the new function and their positioning/areas do not disrupt the integrity of the space. A function not found in the original structure is a period addition. |
| Instead of the hot water storage space, staff rooms for bathhouse employees, office space instead of cold water storage, a kitchen area for food and beverage services instead of the furnace, and the lower level of the furnace as a toilet. | Although it is seen as an obligatory application for the change of technology and the building to continue to serve under the conditions of the day, care should be taken to avoid interference with the structure and obstruction of the main function. |
| Making elements such as hypocaust, water pipes on the walls, which have become idle due to the change in the building installation contents, visible with glass floors. | This practice is necessary for the transfer of information in the context of cultural continuity in areas that cannot be used in today's conditions. |
| Equipment that provided the spatial comfort of the period, such as Çerağman and ceramic pipes, have been put into use with the works carried out. | The application is successful because it brings to light values that are idle and about to disappear. LED systems, today's lighting technology, were also used to illuminate the interior of the building. |

These and similar structures allow for the observation of architectural comprehension, spatial interpretation, cultural, social, and economic reflections. While ensuring that the bathhouses are kept alive through cultural tourism, the "restoration of the functions in the

bathhouse spaces" should be studied separately and at this stage; "to what extent should the values of this peak point be kept constant and to what extent should they be adapted to the needs of the age at the stage where the bathhouses meet with cultural tourism?" should be answered carefully.

The building's interventions are a matter of making the correct transitional decisions between the preservation of cultural heritage as it is and its sustainability. All spatial changes and interventions made in the Hagia Sophia Roxelana Bathhouse after a one-hundred-year hiatus are recorded in accordance with contemporary value judgments and understandings as the cost of its return to life. As a living example of Turkish Bathhouses Culture, future restoration-renovation work should continue to demonstrate sensitivity to the subject.

**Notes:**

1. BOA, C.BLD, 2706, 6 Cemaziyelevvel 1180 / 10 Ekim 1766:1731-1776 yılları arasında İstanbul'daki hamamların listesi verilmektedir. Liste için Yaşar, A. Osmanlı İstanbul'u, II. Uluslararası Osmanlı İstaanbul'u Sempozyumu Proceedins Book. İstanbul Hamamları, 1731-1766 (2014): 553-585.

2. BOA/C.EV, 243/12124, H.1255/1840: Since the patrons of the Hagia Sophia Bathhouse from the Haseki Sultan Evkafi musakkafat give very little rent under the land certificate in their hands, the order and transfer to the Haremeyn Inspectorate of the tender to the suitor with the adequate price. a.g.y.tt

3. BOA/TS.MA.d 3538 0003, R.1185/1772-73: 36620 merammat-ı [repair] lead beray-ı [for] hammam Hagia Sophia Kebir: Accounting book: Collections made during the reign of the trustee Safer Agha from İskender Celebi, Kalcacılar Inn, Büyük Hagia Sophia, Dane Hatun, Hamdi Efendi and Haseki Sultan bathhouses, the ground of the inn in Kuçuk Pazar, farm mukata, dukan muacceles, and the sums given to the officials of the mosques, imaret, hospital, and Mustafa Pasha Bridge, Istanbul and Kagıdhane Mosques, Notebook with the seal of Ahmed, the Clerk of the Foundation containing candles, olive oil, bread, rice, saffron, wood, and matbah supplies for the Abu Said and Tokludede Shrines and others, porters, materials necessary for the work of the Foundation, wages, fees, meals, gratuities, field banquet for the school, clothes for the children, Foundation calendar, payments and expenses incurred for the trustees and cabis, dellaliye, repairs, and others.

4. BOA/TS.MA.d 4575: H964/1557: The revenues and expenses of the mosque and imareti- evkaf of Haseki Sultan, wife of Suleiman the Magnificent and mother of Prince Mehmed, in Istanbul. og.tt;

5. The bathhouse structure was rented for 15 years by Haseki Tourism Health Construction Industry and Foreign Trade Co. Ltd. through a tender opened by the General Directorate of Foundations in 2008, and then the necessary research, investigation, and project team was established for the restoration of the building and work was started. All architectural drawings used in this article are from the annexes of the decision dated 26.08.2009 and numbered 3209 of the T.R. Ministry of Culture and Tourism, Istanbul Regional Board for the Protection of Cultural and Natural Assets No. IV. The author is among the authors of the project drawings prepared for the survey, restitution, restoration, and reinforcement works. Photographs and drawings of the bathhouse structure are archives that the author has permission to use.

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