

Interior Water Elements in Ottoman Palaces: A Comparative Analysis of Topkapı and Dolmabahçe Palaces

Deniz Demirarslan 

Abstract. *The present research intends to highlight how water played not just the role of a vital resource and a part of a technical system in Ottoman palace architecture, but also became an important factor affecting the spatial layout, functional zoning, and sensory ambience of interiors. Within this context, Topkapı Palace and Dolmabahçe Palace were compared, and their water-related elements were analyzed according to their spatial positioning, typology, functionality, and sensory aspect. The current research is founded upon a qualitative approach and was carried out by means of reading books and articles, working with archive materials, visiting the objects of interest and taking photographs thereof. It turns out that, at Topkapı Palace, various water-related elements including fountains, selsebils, shadırvans, and pools were placed in a natural way across the interior and served certain purposes such as cooling, relaxing, ensuring privacy, and representing the owner's social status. Meanwhile, in the case of Dolmabahçe Palace, water seems to be mostly applied in the context of modern plumbing, hygiene, comfort, and services systems. This way, while at Topkapı Palace water can be considered as a sensory element, it becomes quite technical in Dolmabahçe Palace.*

Keywords: *Ottoman architecture, interior architecture, Westernization, hammam, fountain*

Kocaeli University, PhD in Interior Architecture, Kocaeli, Türkiye
E-mail: denizd@kocaeli.edu.tr

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Osmanlı saraylarında daxili su elementləri: Topqapı və Dolmabahçe saraylarının müqayisəli təhlili

Deniz Demirarslan 

Xülasə. *Hazırkı tədqiqat Osmanlı saray memarlığında suyun yalnız həyati bir resurs və texniki sistemin tərkib hissəsi kimi deyil, həm də interyerlərin məkan quruluşuna, funksional təşkilatına və duyğusal atmosferinə təsir göstərən mühüm bir amil kimi rol oynadığını ortaya qoymağı məqsəd qoyur. Bu çərçivədə Topqapı Sarayı və Dolmabağça Sarayı müqayisə edilmiş, su ilə əlaqəli elementlər onların məkandakı yerləşməsi, tipologiyası, funksiyası və duyğusal təsirləri baxımından təhlil edilmişdir. Tədqiqat keyfiyyət yönümlü yaşamağa əsaslanmış, kitab və məqalələrin araşdırılması, arxiv materiallarının incələnməsi, obyektlərə yerində baxış keçirilməsi və fotoqrafik sənədləşdirmə üsullarından istifadə edilməklə həyata keçirilmişdir. Nəticələr göstərir ki, Topqapı Sarayında çeşmələr, səlsəbillər, şadırvanlar və hovuzlar kimi müxtəlif su elementləri interyer məkanlarına təbii şəkildə integrasiya olunmuş və soyutma, rahatlıq yaratma, məxfiliyin təmin edilməsi və saray nüfuzunun nümayiş etdirilməsi kimi funksiyalar yerinə yetirmişdir.*

Dolmabağça Sarayında isə su əsasən müasir santexnika sistemləri, gigiyena, komfort və xidmət infrastrukturunu ilə əlaqəli şəkildə istifadə olunmuşdur. Bu baxımdan, Topkapı Sarayında su daha çox duyğusal və məkan təcrübəsini formalaşdıran bir element kimi çıxış etdiyi halda, Dolmabağça Sarayında onun texniki və funksional xarakteri daha qabarıq şəkildə ön plana çıxmışdır.

Açar sözlər: *Osmanlı memarlığı, interyer memarlığı, qarbləşmə, hamam, çeşmə*

Kocaeli Universiteti, daxili memarlıq üzrə fəlsəfə doktoru, Kocaeli, Türkiyə

E-poçt: denizd@kocaeli.edu.tr

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Introduction

From the beginning, water has held great importance in discussions of architecture not only as a basic requirement but also as a spatial, aesthetic, symbolic, and sensual element. Historically, fountains, pools, baths, reservoirs, and hydraulic structures have helped in creating a climate of comfort, aesthetic beauty, acoustics, and spatial identification. Water has been associated with cleansing, purification, prosperity, and the idea of paradise in Islam, and thus was widely used as part of both private and public architecture in the Islamic world. In Ottoman architecture, water transcended beyond being merely a physical requirement to become a part of the architectural composition in the form of fountains, shadirvans, pools, selsebils, baths, and water distribution systems.

The importance of water from the architectural point of view can be measured using modern theories on space. For instance, Lefebvre (1991) argues that space is social construction. This means that water becomes an element in the creation of the spatial experience. Another example would be Bachelard (1994), who views space more poetically by demonstrating how water sounds, moves, and reflects, thus creating experiences for its users. In addition, Norberg-Schulz (1980) suggests that architectural components play a role in the creation of genius loci and, consequently, create identity (Özçam, 2022).

Architects and theories of design have also highlighted the importance of water from an experiential perspective. According to Kellert, water is a primary element of biophilia that fosters humans' engagement with the natural world and leads to psychological well-being (Katuk & Köseoğlu, 2022). In the context of phenomenological architecture, the former ties architecture experience to multi-sensory perception while the latter sees water as a medium of sense that creates an atmosphere by virtue of acoustic, reflective, kinesthetic, and tactile attributes (Spence, 2020; Yılmaz and Akbulut, 2026). Recent research findings have shown that besides providing thermal comfort, water plays a significant role in psychological well-being, spatial perception, and emotional bonding with places (Zhong et al., 2022; Yin et al., 2024).

Scholarly investigations regarding the usage of water within Ottoman architecture have focused on the landscape designs, public buildings, bath houses, fountains, and water system networks (Atasoy, 2002; Karpuz, 2006; Abusaada, 2022; Engüdar, 2022; Koray et al., 2023). Likewise, scholarly analysis concerning the design of Ottoman palaces tends to focus on the organizational design aspects, style, ornamentation, and ritual use within the building, whereby the water elements tend to be considered supplementary features (Benyahia et al., 2021; Çınar & Güzel, 2020; Birkan, 2022; Esemeli, 2023). Thus, the use of water within the palace interior space as well as its evolution from classical Ottoman architecture into modernization in the nineteenth century is understudied from an interior architecture point of view (Altıparmaklıoğlu Sakarya, 2018; Karpuz, 2006). The present study endeavors to contribute to existing research by performing a comparative study of the water features that are contained within the interior spaces of two significant Ottoman palaces – Topkapı Palace and

Dolmabahçe Palace. Both structures have their own unique significance in terms of their place in Ottoman architectural evolution. While the Topkapı Palace is an example of Classical Ottoman architecture, Dolmabahçe Palace represents the modernistic trends that emerged during the nineteenth century. The study evaluates the role of water in the space, as well as its sensory and symbolic function.

Based on this perspective, the research seeks to address the following questions regarding the architectural role of water in the Topkapı and Dolmabahçe palaces:

- How was water incorporated spatially into the interiors of the Topkapı and Dolmabahçe Palaces?
- What functions, symbolism, sensory experiences, and technology did water have within these palaces?
- How does modernization influence the architectural application of water within palace interiors?
- How can water be considered a sign of spatial change during the transition from Classical to Modern periods of the Ottoman Empire?

This study seeks to enrich the existing literature on the subject through a comparative analysis of water within the palace interiors by considering water not only in terms of its practical applications but also its spatial, sensory, and architectural significance.

Materials and Methods

Research Design

The methodology for this investigation is a qualitative comparative case study which focuses on the functions of water elements in the interior spaces of the Ottoman palaces. The focus of the analysis is on two primary palaces of the Ottoman period, namely, Topkapı Palace and Dolmabahçe Palace. In terms of architecture, each one of them symbolizes a different era of evolution. Topkapı Palace represents Classic Ottoman architecture, while Dolmabahçe Palace reflects the process of modernization in the nineteenth century. Hence, a comparative examination of the water elements in these palaces can be considered an effective approach.

Three theories serve as a theoretical foundation of this study. Firstly, the production of space theory by Lefebvre (1991) helps understand how water functions in architecture in terms of spatial composition and hierarchy. Secondly, Bachelard's phenomenological approach (1994) serves to interpret water as a sensory element that forms the users' perception of space. Lastly, genius loci concept proposed by Norberg-Schulz (1980) facilitates evaluating the effect of water on the character of the built environment.

Data Collection

In order to address the research questions and purposes, a mixed-method research design will be used to combine documentary data and data obtained from fieldwork. The information was collected in various forms including books, scholarly journal articles, archival sources, architectural plans, direct field observation, and photographs. Historical sources provided insight into how water-related structures had been designed, as well as their functions, while the latter were useful in assessing their spatial qualities today.

Particular attention was paid to the review of recent international literature published post-2020 in the Scopus and Web of Science (WoS) sources. In addition, important historical and theoretical literature in the areas of architectural history, Ottoman architectural history, and art history has been reviewed to provide an adequate historical and theoretical context for the interpretation of water elements in the Topkapı and Dolmabahçe Palaces. While priority has been given to literature produced recently, some earlier studies of Ottoman architecture have also been included in the review since

they are considered fundamental literature in this field. The use of multiple sources ensured that the results obtained could be cross-referenced and interpreted holistically.

Analytical Framework

This study involves interior water elements such as fountains, selsebilis, shadirvans, pools, hammams, and others. The elements will be analyzed based on five analytical parameters drawn from the production of space by Lefebvre (1991), Bachelard's phenomenology of spatial experience (1994), Norberg-Schulz's genius loci (1980), and relevant literature on water, architecture, and sensory environment (Table 1).

From these concepts, the spatial location will be guided by the theory of spatial production by Lefebvre, sensory influence by the phenomenology of Bachelard, symbolization by the genius loci of Norberg-Schulz, and functionality and technology by literature on water.

Table 6.

Analytical framework for the comparative evaluation of water elements in Ottoman palace interiors

Criterion	Theoretical Basis	Description
Spatial Position	Lefebvre (1991)	Location and relationship of the water element within the palace hierarchy and interior organization
Functional Role	Architectural Literature	Practical functions such as cooling, hygiene, water supply, privacy, and ceremonial use
Symbolic Role	Norberg-Schulz (1980)	Associations with power, prestige, religious meaning, representation, and place identity
Technical Role	Architectural Literature	Characteristics of water supply systems, plumbing infrastructure, and hydraulic technology
Sensory Effect	Bachelard (1994)	Visual, acoustic, climatic, and atmospheric contributions to spatial experience

These criteria were used to establish a systematic basis for comparison between the two palaces and to evaluate the changing role of water in Ottoman palace interiors.

Comparative Analysis

The comparison analysis took place through three phases. Firstly, water elements found in the chosen palaces were sorted and classified based on their type. Secondly, the analyzed elements were evaluated in terms of the criteria discussed above. Lastly, the similarities and differences between Topkapı Palace and Dolmabahçe Palace were examined with regard to spatial organization, functionality, symbolism, technological innovation, and sensuality. Specifically, great attention was paid to the way in which water changed from an element that was predominantly used for its sensory and symbolic attributes in classical Ottoman architecture into one which was technology-oriented.

Limitations

Some interior areas of the palaces could not be observed in the field study and therefore made it difficult to observe some features related to water. Moreover, some of the buildings have been subject to renovations and may have changed in appearance due to these renovations. Without long-term environmental observation records, the sensory evaluation was conducted based on observations and historical/architectural records.

Use of Artificial Intelligence

OpenAI tools were used solely for language editing, grammar checking, and improving academic English expression after the preparation of the manuscript. Artificial intelligence tools were not used for data collection, data analysis, interpretation of findings, or generation of research results.

Historical Background of Water Elements in Ottoman Residential Architecture

In the pre-modern era, Ottoman cities relied on springs, wells, fountains, and cisterns for satisfying their needs regarding water supply. Wells existed primarily in gardens, courtyards, and sometimes even in houses, whereas fountains supplied water to both residential areas and towns (Figures 1-2). Cisterns could be found in bigger houses and palaces, and they served as reservoirs for ensuring a continuous water supply especially when the access to water was difficult (Karpuz, 2006). Besides the use of these means for providing water, Ottoman cities made use of elaborate hydraulic systems for the purpose of collecting, storing, and distributing water. Springs and catchment pools served as sources of water, which after passing through canals and aqueducts reached their destinations, where distribution was made in the urban area. Kırkçeşme and Taksim in Istanbul were among the important projects involved in supplying residential and public buildings as well as imperial palace complexes (Kurt, 2021). The provision of water was an essential aspect for the lives of people in the Ottoman Empire but not only this; water was part of their architecture and culture. This could be evidenced by the presence of charity sebils as well as by domestic fountains that contributed to providing comfort and quality of air inside the house.

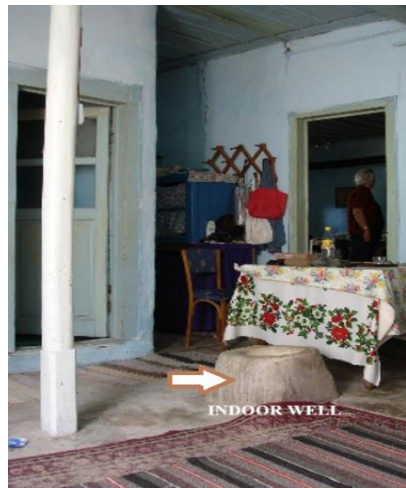


Figure 13

Well in the interior of a traditional Turkish house, Gallipoli

Source. Author's archive.

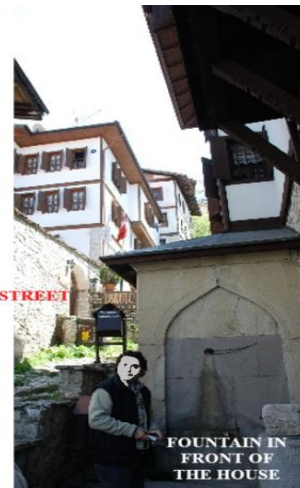


Figure 14

Street fountain in front of a house, Safranbolu

Source. Author's archive.

The bathroom was quite an important feature of the Ottoman residential building design. Based on the type and significance of the house, bathrooms were provided either in the form of gusulhanes, hammams, or modern western bathrooms starting from the nineteenth century. Gusulhane is a very practical example of the Ottoman bathroom, which could be found inside cupboards covered with a lead coating (Figure 3). However, in larger houses such as mansions and palaces, hammams provided a much more comfortable environment.



Figure 15
“Gusulhane”, Safranbolu
 Source. Author’s archive.

Pools are rare in Ottoman domestic architecture but were used together with fountains and baths. They are usually found inside sofas, divanhane, and pavilions. Their function was to add to the climatic pleasure and the aesthetic appearance of their surroundings. These pools were usually built with marble or stone, and their sound effect increased the sensory appeal of the space. Famous examples of these are the Asmazlar Mansion pool of Safranbolu (Figure 4), and the Amcazade Hüseyin Paşa waterfront mansion divanhane pool (Figure 5).



Figure 16
Indoor pool in a traditional Turkish house, Safranbolu
 Source. Author’s archive.



Figure 17
Amcazade Hüseyin Paşa Waterfront Mansion, Istanbul
 Source. Cultural Inventory, 2026.

The use of fountains, pools, baths, and other water-related elements in Ottoman residential architecture established a cultural and architectural tradition that was later adopted and developed in Ottoman palace architecture. In palaces, however, these elements acquired more elaborate spatial, symbolic, and representational roles, reflecting the status and prestige of the imperial court.

Architectural Characteristics of Topkapı and Dolmabahçe Palaces

The creation of Topkapı Palace took place in connection with the conquest of Istanbul and subsequent expansion that included the construction of new courtyards, pavilions, houses, and other additions. Unlike the massive palace complexes of Europe, the structure of the complex follows a hierarchy of courtyards where the degree of privacy, control, and protection increases inwardly (Necipoğlu, 1991). Mostly influenced by Classical Ottoman architecture, the palace later incorporated several elements related to the Baroque, Byzantine, and Rococo styles (Kuban, 2007). In terms of area, Topkapı Palace takes up about 700,000 square meters, and 80,000 square meters out of this number include covered space (Caferova, 2024, p. 79). Instead of monumental structures, relatively small buildings prevailed here, creating close ties between the interiors and exteriors of the building and making it possible for water features to serve the purpose of enhancing comfort and representing Ottoman power. Interior design included Iznik ceramic tiles, painting, wood carving, mother-of-pearl inlaying, and künde-kârî (Kuban, 2007; Ortaylı, 2007).

Built in 1839-1861 under Sultan Abdülmecid, Dolmabahçe Palace sought to meet the demands of a modernized Ottoman government for a new residence. Created by the Balyans and foreign architects, it consists of three main parts, such as Mabeyn-i Hümâyûn, Muayede Hall, and Harem-i Hümâyûn (Esemenli, 2023). Stylistically, it can be characterized as a fusion of Turkish and Western styles, using Baroque, Rococo, Neoclassicism, and the Empire styles. The palace had modern equipment and sanitary installations (e. g., plumbing system) designed to increase comfort and ensure proper hygiene of sultans. Occupying 45,000 square meters, it includes 285 rooms, 46 halls, 68 toilets, and six hammams (Esemenli, 2023). Though serving as imperial residences, these two palaces differ in their architectural context. While the first palace is an embodiment of classical principles of Ottoman architecture and harmony with nature, the latter reflects modernization via monumental construction, incorporation of Western-style aesthetics, and advanced equipment. Comparison of these two palaces can help understand the evolution of water elements within Ottoman palace interiors.

Analysis of Water Elements in Ottoman Palace Interiors

The current study examines the interior water features in Topkapı Palace and Dolmabahçe Palace based on the methodological approach stated in the methodology chapter. In particular, this will focus on aspects such as the positioning, function, meaning, technique, and sensory impact of various forms of water structures including fountains, selsebil, shadirvan, swimming pools, and hamam. The aim of comparing and contrasting these features with their historical context will be to understand how their function and symbolism changed from the Classical Ottoman period into the era of nineteenth-century modernity.

Water Elements and Space in Topkapı Palace

Water management becomes a significant element for Topkapı Palace as the site is located on a promontory providing vistas towards the Bosphorus, Golden Horn, and Marmara Sea. Water was supplied by Beylik and Kırkçeşme systems and was transported by means of reservoirs, water towers, conduits, and wells forming a comprehensive hydraulic network necessary for both daily activities and rituals (BOA, 154/82, 1329; Ergüdar and Yergün, 2022, p. 604). Records associated with the maintenance of fountains, pools, hammams, and water conduits reveal the relevance of water systems in Topkapı Palace (BOA, 10136, 22, 1144). The documents also prove that the system survived after the completion of Dolmabahçe Palace, emphasizing the significance of Topkapı Palace for Ottoman Empire (BOA, Y.PRK.HH. 39/68, 1312; BOA, 154/82, 1329). Water can be found at Topkapı Palace in the form of fountains, selsebil, shadirvan, pools, hammams, and sanitary facilities. However, apart

from providing water, these objects played a significant role in climate control, creating an atmosphere of comfort, privacy, and prestige.

As for the types of water systems used in Topkapı Palace, it should be emphasized that different elements were concentrated in different parts of Topkapı Palace depending on their purposes. For instance, water was primarily used as an aesthetic element in ceremonial rooms, and, therefore, fountains, pools, and shadirvan were often placed as focal points in the architecture. On the contrary, hammams were essential in residential and private rooms to emphasize the significance of cleanliness and comfort. The following sections will discuss these water elements considering their positioning, purpose, symbolism, technical aspects, and sensory value.

Fountains and Selsebils:

The fountain and selsebil are some of the most notable water fixtures in the interior spaces of Topkapı Palace. While they were primarily used for obtaining water, these fixtures served multiple purposes relating to environmental comfort, privacy, representation, and aesthetics. The presence of fountains in audience rooms, pavilions, and harems is also suggestive of the incorporation of water in spaces linked to imperial power and elite lifestyle. One of the most notable fixtures of this kind was the marble fountain located near the façade facing the Babüssaâde Door of the Audience Chamber (Arz Odası) (see Figure 6 below). As can be seen from the Persian inscription attached to the fountain, it had the meaning of providing its viewers with the “eternal water of life.” Clearly, this suggests that, besides being utilized as a simple fixture, the fountain could represent power, wealth, and longevity. Finally, historical pictures demonstrate that changes to the structure of this fountain took place during the nineteenth century (Figure 7).



Figure 18

Fountain located on the exterior wall, to the right of the door of the Audience Chamber

Source. Author's archive.

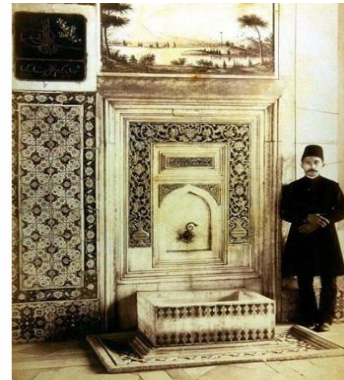


Figure 19

Photograph of the fountain on the exterior wall of the Audience Chamber, dating from the second half of the nineteenth century, by Abdullah Frères (Périn & Périn, 2023).

There is more evidence about the link between water and representation in the very design of the Audience Hall itself. This fountain is situated near the emperor's throne, and its shape recalls that of a selsebil; in addition, it was designed in such a way as to provide water flow regulation over the surface of the fountain (Figures 8 and 9). Moreover, the sounds generated by this water flow were part of the acoustic environment of the Audience Chamber, thus possibly contributing to the chamber's privacy (Eyice, 1991).



Figure 20

Interior of the Audience Chamber in Topkapı Palace and the throne

Source. Author's archive.

Figure 21

Audience Chamber: The fountain beside the throne

Source. Author's archive.

The relationship between water, prestige, and sensory experience can also be found in another room known as the Hünkâr Sofa which was an important ceremonial space in the Harem. Being the biggest and most opulent hall in the Harem complex, it provided venues for various ceremonies of celebration or reception. The fountain that was installed in this room served not only as a source of water but also as a provider of comfort and prestige, especially suitable for imperial meetings (Figure 10).



Figure 22

Throne in the Hünkâr Sofa and the fountain beside it

Source. Author's archive.

The presence of water could also be found in the private spaces of the sultans. The fountains in the Privy Chamber of Ahmed I and the Privy Chamber of Murad III represent how water became one of the components of the sensory appeal of the interior of the palace. In the case of the fountain of the Privy Chamber of Ahmed I, the fountain is part of a highly decorated space using Iznik tiles, mother-of-pearl decoration, and wood carving (Figure 11). Another example is the fountain in the Privy

Chamber of Murad III, which uses more than one basin and several jets to create a sound effect and add to the comfort of the room (Figure 12).



Figure 23

Privy Chamber of Sultan Ahmed I and the fountain (Ortaylı, 2007, p. 277).



Figure 24

Fountain of the Privy Chamber of Murad III

Source. Author's archive.

Figure 25

Fountain and shadirvan in the Serdap Pavilion

(Ortaylı, 2007, p. 278).

The role of water as a sensory element is particularly evident in the Twin Pavilions and the Circumcision Room. In these spaces, fountains were placed within window recesses, allowing the sound of flowing water to permeate the interiors (Figures 14 and 17). Contemporary accounts suggest that these fountains contributed to the creation of a calm and secluded atmosphere, while in the Circumcision Room they may also have served to mask external sounds during ceremonial events (Ortaylı, 2007).



Figure 26

Window and fountain detail in the Twin Pavilions (Ortaylı, 2007, p. 286).

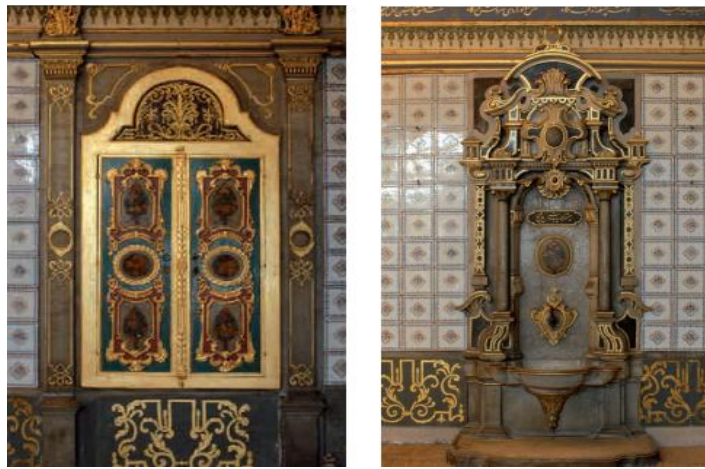


Figure 27

Cupboard shutter of the Privy Chamber of Abdülhamid I (Ortaylı, 2007, p. 248).

Figure 28

Fountain of the Privy Chamber of Abdülhamid I (Ortaylı, 2007, p. 248).

One can observe the evolution of the aesthetic interpretation of water in Topkapı Palace through the Privy Chamber of Abdülhamid I. It represents one of the first cases when the influence of the Baroque style is felt (Figure 15 and 16). The combination of the fountain and shutters of the cupboard suggests that water had been incorporated into an architectural design on purpose. Thus, the inscription "Çeşme-i dîlcû-yı hayat / Câvidan-ı ayn-ı safa" reflects water as not only a natural resource but also a source of calmness, life, and spiritual rejuvenation. Combined with abundant decor of the fireplace and wooden throne area (şirvan), the fountain highlights the representational abilities of the chamber and its connection to the emperor (Özcan, 2023).

The Circumcision Room (Sünnet Odası) represents one of the examples of purposeful use of water for creating sensory ambience. This room created under the rule of Sultan Ibrahim I comprises four marble fountains that serve as a part of the interior design of the room's window alcoves (Figure 17). According to the tradition of Topkapı Palace, they were supposed to conceal cries of princes undergoing circumcision from being heard in other rooms. Nevertheless, along with this practical function, water fountains created a peaceful and private environment in which princes could undergo circumcision. As far as the ceremony of circumcision was connected to royal rituals, the fountains took additional meaning in Topkapı Palace (Ortaylı, 2007).



Figure 29

Fountains within the window recesses of the Circumcision Room (Ortaylı, 2007, p. 146).

Fountains gained extra symbolic significance inside the Harem. The fountain of the Valide Sultan Courtyard is engraved with inscriptions drawn from the verse of Sūrat al-Insān, which suggests that water represents purity, divine blessing, and heavenly reward (Figure 18). Similarly, the Fountained Hall (Çeşmeli Sofa) has been endowed with both ornamental and practical features such as the marble fountain, seashell design, bird imagery, and cypress design (Figure 19).



Figure 30

Fountain in the Valide Sultan Courtyard

Source. Author's archive.

Figure 31

Fountained Sofa

Source. Author's archive.

A further example in this respect would be the Ab-i Hayat Fountain in the Tiled Pavilion (Figure 20). Just by looking at its name, Ab-i Hayat, which means “Water of Life,” one can clearly observe the symbolism of water in the Ottoman culture. Apart from being a source of drinking water for Ottomans, the fountain was also a piece of art that was chosen as the theme for a painting by Osman Hamdi Bey titled Ab-i Hayat Fountain (Figure 21).

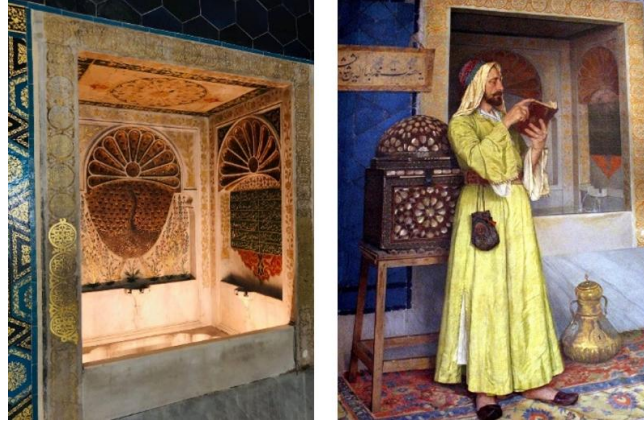


Figure 32
Fountain in the Tiled Pavilion

Source. Author's archive.

Figure 33
Osman Hamdi's painting titled Ab-ı Hayat Fountain

Source. Author's archive.

The fountains and selsebils at Topkapı Palace had multiple functions, from functional to symbolic and sensory. In addition to providing water and making the surrounding environment more comfortable, they were central points in the ceremonies and residential areas while symbolizing status and power, and also reflecting purity and God's blessing. With the help of sound and motion and reflection effects, they enhanced the atmosphere inside the palace. Thus, fountains and selsebils played a role not only in terms of hydraulics but also in terms of producing space.

Shadirvans

Unlike fountains and selsebils, shadirvans have a more restricted but still important presence inside the walls of Topkapı Palace. Shadirvans were not placed everywhere; rather, they were used at certain important spots where they performed as focal points and elements of sensation inside the interior spaces. One such case is the shadirvan situated in the middle of the sofa of Fatih Pavilion (Treasury Pavilion), which is among the first buildings of the palace (Figure 22). Apart from fulfilling its main purpose of watering, the shadirvan also controls the flow inside the room and emphasizes the importance of the sofa in the architectural composition. Both the presence and the sound of the flowing water improve the environmental comfort and enhance the link between architecture and nature (Ortaylı, 2007).

The second example of the shadirvan is contained in the Hall with Shadirvan (Şadırvanlı Sofa), located in the Chamber of the Holy Relics (Has Oda Kasrı). The chamber itself consists of two dome parts, with one of them housing the marble shadirvan under the central dome (Figure 23). Apart from creating an eye-catching feature in this room, the shadirvan produces special acoustics because of the sound of running water. It is known historically that this shadirvan could have served as a place where the attendants to the Privy Chamber washed themselves for religious reasons (Ortaylı, 2007). Thus, the shadirvan is accompanied by another element of water symbolism, i.e., the marble well.



Figure 34
Shadirvan in the Fatih Pavilion (Ortaylı, 2007, p. 123).

Figure 35
The Sofa with a Shadirvan (Ortaylı, 2007, p. 140).

From a spatial viewpoint, the placement of shadirvans was deliberate because they were placed in spaces with significance as they played a role in determining the hierarchy of space as well as movement through the space. The functions of the shadirvans included the provision of water as well as facilitating rituals while at the same time symbolizing the concepts of purity and refinement that were associated with the court culture of the Ottomans. Visually and acoustically, they added a sensory dimension to the interiors of the palaces. Contrasting the use of fountains built into walls or niches, the shadirvans were placed centrally and acted as functional components of the spatial design.

Pools

Pools represent some of the most unique water features at Topkapı Palace, providing insights into the functions of water within Ottoman palace architecture. While fountains and shadirvans played important roles in defining space and creating climatic and symbolic meanings within the palaces, pools had greater impacts on the wider spatial context and reinforced the connection between architecture, environment, and landscape. The pool found within the Serdap Pavilion underneath the chamber of Murad III (Figure 13) represents one of the earliest examples. As a summer house, the pavilion took advantage of the presence of the pool and fountain to improve thermal comfort by movement, sounds, and cool air (Ortaylı, 2007).

The representational aspect of pools becomes especially noticeable at the Pavilion of Osman III, in which there is a marble decorative pool positioned right at the heart of what is referred to as the Court of a Pool (Havuzlu Taşlık) (Figure 24). When considering the pool alongside the entire architectural setting around it, one notices how it creates a focus for the space, underlining its ceremonial and prestigious nature (Ortaylı, 2007). The same effect can be observed at the Mermer Sofa, where there is an enormous pool positioned at the center of the terrace overlooking the Bosphorus and the Golden Horn (Figure 25). In addition to contributing to the aesthetic quality of the space through the use of reflective properties of water, the pool also creates connections between architecture and the landscape. This effect is accentuated by the presence of significant architectural features, including the Baghdad Pavilion, Revan Pavilion, and the Circumcision Room.



Figure 36

Courtyard with a Pool of the Pavilion of Osman III (Ortaylı, 2007, p. 259).

Figure 37

Marble Sofa and Pool

Source. Author's archive.

In general, the pools in Topkapı Palace had an environmental, functional, spatial, symbolic, and sensory function. Pools were beneficial for environmental conditions, they facilitated the usage of the palace spaces according to seasons, and very often became organizing features of architecture. The combination of water pools with gardens, pavilions, and imperial spaces created ideas of prestige, leisure, and power, while water properties such as reflection and acoustic made the atmosphere of palace interior and semi-outdoor spaces. In contrast to technologically advanced water systems in the nineteenth century, the purpose of pools in Topkapı Palace was mostly environmental, representational, and experiential.

Hammams and Toilets

The presence of hammams and sanitary facilities in Topkapı Palace is another important component of its water network, revealing the role of hygiene, privacy, and hierarchy within the palace. The location of the two main examples is an illustration of how water became part of both official and daily activities at the palace. These were the Imperial Hammam (Hünkâr Hamamı) and Valide Sultan Hammam in the Harem complex. Both of them were originally built in the sixteenth century and rebuilt in the eighteenth century. The layout included three types of rooms in accordance with their temperature: cold, warm, and hot. The presence of domes, marble walls, fountains, and decoration suggests that they served not just for the purpose of taking a bath but as places to feel comfortable, demonstrate their status, and make an impression. Their close relationship with the private chambers of the sultan and the Valide Sultan confirms their status within the palace hierarchy (Figure 26).

However, apart from serving a functional purpose, these hamams stood for the notions of purity and cleanliness in the Ottoman culture, making a bath a symbol of health, nobility, and belonging to the empire. The renovation of the Imperial Hammam by Mimar Sinan underscores the importance of architecture. There were also other hammams used by the Black Eunuchs, the concubines, the princes, and the officers in the palace. This hammam of the concubines, along with the laundry and servants area attached to it, demonstrates the organization of water spaces based on hierarchy and function in the Ottoman Empire.



Figure 38

Basin of the Imperial Hammam and interior view (Cultural Inventory, 2026).

It is also important to mention that sanitation areas such as bathrooms, wash rooms, and gusulhanes were connected to the palace water system. In many cases, these sanitation areas were not independent structures but were usually related to fountains or other water elements that would ensure the supply of running water (Figure 27).



Figure 39

Toilet of the Imperial Hammam

Source. Author's archive.

Functionally, the hammams and sanitary facilities were instrumental in maintaining hygiene, comfort, and the smooth functioning of the palace environment. The arrangement of the spaces was determined by the hierarchy at the Ottoman Court, with the finest examples reserved for the sultan and the Valide Sultan. As far as their symbolic significance is concerned, they stood for cleanliness, sophistication, and prestige, while in terms of engineering skills, they represented the sophistication of the water infrastructure system of the palace. Unlike the fountains and pools, whose primary contribution was purely sensory, the hammams and sanitary facilities emphasize the functional aspect of the water infrastructure. However, their architectural excellence reveals the importance accorded to this element of palace culture.

Water Elements and Space in Dolmabahçe Palace

The use of water in Dolmabahçe Palace took place in an entirely different architectural and technological framework compared to Topkapı Palace. Although the latter demonstrates a significant connection between water and sensory experience and symbolic meaning, in Dolmabahçe Palace, water seems to be related more to modern infrastructural, hygienic, and comfort services. In Dolmabahçe Palace, water transported via the Taksim and Hamidiye systems was stored in tanks and distributed across the building through pipes, taps, baths, fountains, and sanitation services, indicating the modernization of the use of water as an element of technological infrastructure (Esemenli, 2023).

It can be seen that the water distribution system at the palace received great attention. For instance, English/Frankish pipes were used for the purpose of connecting reservoirs with baths and apartments of the palace (Esemenli, 2023). Additionally, this modern approach was observed in bathrooms that included enamel bathtubs, showers, and thermosiphons, thus highlighting the coexistence of both Ottoman and European traditions (BOA, Y.PRK.HH. 39/68).

However, there were more facilities that utilized water. Such facilities as fountains, kitchens, toilets, ablutions rooms, servant apartments, and residents' chambers became a part of the sophisticated service system, which suggests a more rational and functionally oriented use of water than what we can find in the Topkapı Palace (Esemenli, 2023). Thus, from the point of view of spatial aspects, water becomes related to hygiene and comfort as well as the effective functioning of a big nineteenth century imperial palace. While its practical aspects become stronger, water remains a sign of modern luxury, lifestyle of elite, and European standards of life. Therefore, the Dolmabahçe Palace is a significant milestone on the way of changing water use from purely sensory and symbolic to technological and functional use in the interior of the Ottoman palaces. This is discussed further in connection with hammams, bathrooms/toilets, and indoor swimming pools.

Hammams

The hammams form one of the most significant categories of water-related facilities in the Dolmabahçe Palace. Contrary to the Hammams of Topkapı Palace that represented an era of traditional Ottoman royal culture and rites, those of Dolmabahçe Palace are indicative of an era whereby the traditions of bathing rituals were merged with luxurious and sophisticated features of modern times. In other words, they represent the transition point between the Ottoman royal hammams and the modern palace bathroom facilities.

Records from archives show that hammams were not just rooms of services but well-equipped interiors based on the social hierarchy of the palace (BOA, 143/54, 1328). Special hammams were provided to the sultan, Valide Sultan, and the other individuals from the Imperial Harem, considering the social hierarchy inside the palace. One of the most striking examples of this would be the Imperial Hammam or Egyptian Hammam, also called the Marble Bath, which is situated inside the Selamlık area. This room belonged to the sultan and was one of the special places inside the palace. The Egyptian alabaster cladded walls, Marmara marble flooring, and luxurious decoration of this room show its significance.

The hammam included the areas for changing clothes and taking baths, whereas its ceiling covered with panels of glass, malakâri decoration, and terrace overlooking the Bosphorus showed the fusion of the classic hammam architecture with the architectural style of the nineteenth century. The water was sourced from the reservoir located opposite to the Glass Pavilion, and all basins and taps were made of silver (Figure 28).



Figure 40

Mermer Banyo (Photographic Archive of the National Palaces).

From an engineering standpoint, the Imperial Hammam is evidence of the sophisticated water network in Dolmabahçe Palace. This can be seen from the inclusion of the reservoir, quality fittings, and the combination of bathing, ablution, and toilet functions in one system. Unlike water being used only for sensory and symbolic purposes at Topkapı Palace, water usage at Dolmabahçe Palace was characterized by a greater emphasis on technical aspects and domestic comfort. Hammams at Dolmabahçe Palace played not only functional but also symbolic and technical roles. They were places for hygienic and comfortable activities, represented the hierarchical order of the palace, and retained the old tradition of linking water, cleansing, refinement, and noble lifestyle. At the same time, water usage took on an infrastructural form. Therefore, Dolmabahçe Palace hammams can be seen as places where the Ottoman tradition of baths and modernization of the nineteenth century met, bringing together continuity and luxury.

Bathrooms and Toilets

The facilities for using water in the form of bathrooms and toilets in Dolmabahçe Palace are among the best examples that show the development in the use of water by Ottoman palace architecture in the nineteenth century. In contrast to Topkapı Palace where bathroom activities such as taking baths were mainly conducted in hammams and related spaces, Dolmabahçe Palace included bathrooms, toilets, showers, bathtubs, plumbing, and other systems which reflected European standards in terms of hygiene and living quality. The archives suggest that the palace was equipped with enamel bathtubs, showers, thermosiphons, and other sanitary appliances which showed that the latest European technological applications had been adopted at the palace (BOA, Y.PRK.HH. 39/68). Thus, water became an integral part of the residential space rather than being used only for special purposes like baths. Moreover, there were connections between bathrooms and the apartments as well as service spaces, and therefore, there were increased needs for convenience, accessibility, and privacy in terms of bathroom activities. In this regard, there were also 68 toilets within the palace, demonstrating that sanitary facilities became an important element of palace planning (Esemenli, 2023). However, apart from serving their functional purpose, many of these lavatories and toilets were constructed using excellent materials that reflected the splendor and grandeur of the palace itself. Hence, even the most sanitary rooms of the palace served the purpose of representation along with their practical uses.

In terms of space and functionality, they facilitated modern requirements of living and access, technologically speaking, as a result of the incorporation of modern water supply and sewage systems. From the symbolic point of view, they represent changes in ideas about comfort, privacy, and modernization related to the period of the Ottoman Empire. This way, the baths and toilets in Dolmabahçe Palace demonstrate a new approach towards the use of water in architecture and daily life, making water a vital element of modern comfort (Figure 29).



Figure 41

Bathroom in Dolmabahçe Palace (Photographic Archive of the National Palaces).

Figure 42

*Examination Room and Vanity Cabinet (Photographic Archive of the National Palaces).
Glass Pavilion (Camlı Köşk).*

One of the most prominent examples of the connection between water, transparency, nature, and representation can be found in the Glass Pavilion of Dolmabahçe Palace. While hammams, baths, and toilets provide evidence of how water was viewed in terms of technicalities and hygiene, the Glass Pavilion exemplifies how water retained its significance on an aesthetic level in the new palace environment.

The pavilion was designed and built by the British architect William James Smith and it is referred to as the only building in the Dolmabahçe Palace which connects with the outer world. It operates as the winter garden, consisting of two connected buildings – a huge hall together with side rooms being the viewing pavilion and the greenhouse. The hall is a luxurious decorative rectangular building, whereas the greenhouse is built with a rectangular layout and comprises mostly cast iron and glass construction, except the façade which is linked with the hall (Batur, 2011). There is an octagonal pool made of dark marble in the centre of the greenhouse and the pool is decorated with naturalistic floral ornamentation along its perimeter. In the center of the pool there is a tall crystal fountain, and from the photos one can see a pool with a bouquet of leaves under the fountain holding some water (Fig. 31) (Batur, 2011). From this composition, one can conclude that water was not intended to be used as a practical item, but rather as an atmospheric decoration.



Figure 43
Glass Pavilion (Photographic Archive of the National Palaces).

In terms of space, the pool and the fountain are the centerpieces of the greenhouse and dictate its visual perception as a whole. The centrality of the two enhances their connection with the elements of water, plants, light, and transparency. From a functional point of view, the water is an important aspect that affects the atmosphere of the winter garden. From a symbolic perspective, the use of water shows that the representation used by the palace is more European.

As such, the Glass Pavilion represents a significant difference from the infrastructural role played by the water architecture of Dolmabahçe Palace. The fact that the latter is evident through the modernity and hygienic nature of the hammams, bathrooms, and toilets does not mean that the pool and fountain in the pavilion cannot be considered to symbolize the significance of water as an element of status and sensory delight. In other words, it becomes clear that water at Dolmabahçe Palace was not restricted only to technical functions but could play its visual symbolic role.

Comparative Discussion

By examining each water element, there emerges a clear shift in the nature of water in terms of its function at Topkapi Palace as opposed to Dolmabahçe Palace. Water at the Topkapi Palace is shown to be predominantly used for its spatial, sensory, and symbolic purposes, whereas it was incorporated

within hygiene, comfort, and technological purposes at Dolmabahçe Palace. The following analysis provides an explanation of the shift from the perspective of spatial positioning, purpose, symbolism, technology, and sensory aspects.

Spatial Organization of Water Elements

These observations clearly indicate a number of distinctions in spatial distribution of water features among the two palaces under analysis. In Topkapı Palace, fountains, selsebils, pools, and shadirvans could often be found in the center of and in prominent locations inside pavilions, courtyards, sofas, and audience chambers. Thus, water played the role of an organizer of spatial relationships, visual perceptions, and social interactions. The examples of these spaces include the Audience Chamber fountain, the Marble Sofa pool, and the Hall with a Shadirvan (Eyice, 1991; Ortaylı, 2007).

On the other hand, the use of water in Dolmabahçe Palace shifted to bathrooms, hammams, toilets, kitchen, and service rooms interconnected by an intricate plumbing system (Esemenli, 2023). Thus, the use of water shifted from being a symbolic function to its use as part of the functional facilities of the palace. This change could be seen from the perspective of Lefebvre's theory of the production of space. According to Lefebvre (1991), spatial arrangement is determined by the social relations that prevail in a society. While at Topkapı Palace, water enabled the production of ceremonial spaces related to imperial power, at Dolmabahçe Palace, it enabled spaces based on comfort and hygienic needs.

Functional Roles of Water

The analysis shows that there is a change in the main purposes served by water at the Ottoman palaces' constructions. While at Topkapı Palace water had an important role in environmental cooling, providing privacy through sounds, creating an aesthetic effect, and participating in ceremonies, water at Dolmabahçe fulfilled more practical goals. Namely, water facilitated the presence of bathhouses, showers, toilets, kitchens, and plumbing in the palace, as well as modern hygienic devices and appliances. However, this change does not mean that the traditional purposes of water were neglected. Water still had many architectural functions, although its infrastructural functions become increasingly important during the period of construction (Eyice, 1991; Ortaylı, 2007).

Symbolic Meanings of Water

The symbolism of water remained an important element in both palaces, but changed through time. For the case of Topkapı Palace, the symbolism involved power, prestige, purity, paradise symbolism, and continuity of dynasty. The inscriptions, decorative themes, and the location of the fountains and pools in the ceremonial area helped enhance their symbolism (Eyice, 1991; Özcan, 2023). In Dolmabahçe Palace, water still carried the connotation of prestige, but it was increasingly seen as a sign of modernity, progress, and a European way of life.

Such changes may be analyzed with reference to the theory of Norberg-Schulz regarding "genius loci." Thus, water was used as an element that determined the character of the classical Ottoman court because of its representation and symbolic meaning. At the Dolmabahçe Palace, it was employed in creating a different architectural identity due to the influences of westernization and modernization.

Sensory Effects and Spatial Experience

One of the most notable distinctions that can be made between the two palaces is related to the way that water affects the sensory experience. Water played an integral part in influencing the aesthetics, acoustics, and climate within interior spaces in Topkapı Palace. Sounds produced by the fountains and selsebil were employed to provide seclusion and create a serene environment, while pools helped with reflecting, moving water, and cooling (Ortaylı, 2007; Tüfekçi, 2020). It should be noted that the described aspects have much in common with the phenomenological concept of space presented by Bachelard (1994) and his focus on sensory experience in architecture.

While sensory properties continued to exist within the Dolmabahçe Palace complex, their significance was minimized. The presence of water existed in certain areas like the Glass Pavilion along with decorative interior fixtures; however, other water installations were primarily for functional purposes. This resulted in the reduction of the sensory purpose of water and its prioritization for hygiene and comfort.

Water as a Marker of Ottoman Modernization

A comparison between Topkapı Palace and Dolmabahçe Palace shows how water can be seen as a symbol of architecture evolution in the Ottoman Empire. The transition from the Classical Ottoman era to the process of modernization in the nineteenth century can also be seen in terms of water in architecture.

In Topkapı Palace, water had more of a spatial, sensory, and symbolic function. It contributed to creating the ambiance of various spaces and added to the ceremonial aspect of the palace. In Dolmabahçe Palace, however, water became part of a greater technological system meant to facilitate hygiene and comfort. This demonstrates a shift in Ottoman architecture in which water moved from a visible and perceptual component of architecture to a hidden one, incorporated into technology. Nevertheless, water remained a means of showing off the elite status.

Thus, water was not only a source used by the Ottomans for their everyday life but also an architectural medium through which the shift from the classical Ottoman world to a new palace can be traced.

Results and Comparative Summary of Water Elements in Topkapı and Dolmabahçe Palaces

This comparative study has indicated both continuity and changes that occurred in the way in which water was used in Ottoman palaces. It can be observed that although there were numerous water-related features both in Topkapı Palace and in Dolmabahçe Palace, yet the manner in which these features have been used is quite different in terms of organization, functions, symbolism, and technology. In order to facilitate an organized presentation of results, Tables 2 to 4 have been prepared.

Table 7

Typological comparison of water elements in the interiors of Topkapı and Dolmabahçe Palaces

Water Element	Topkapı Palace	Dolmabahçe Palace	Explanation
Fountain	Present	Present	Fountains are present in both palaces. In Topkapı Palace, numerous interior fountains possess representational and sensory qualities, whereas in Dolmabahçe Palace, fountains are more prominently associated with functional and plumbed uses.
Selsebil	Present	Not identified	In Topkapı Palace, the fountain located particularly within the Audience Chamber has been interpreted as an arrangement bearing the character of a selsebil.
Shadirvan	Present	Not identified	In Topkapı Palace, examples of sofas with shadirvans are found in the Fatih Pavilion and the Chamber of the Sacred Relics.
Pool	Present	Present	In Topkapı Palace, pools are found around the Serdap Pavilion, the Pavilion of Osman III, and the Marble Sofa. In Dolmabahçe Palace, an octagonal pool is located particularly within the Glass Pavilion/greenhouse.
Hammam	Present	Present	In both palaces, hammams constitute important spaces of water use and hygiene. In Topkapı Palace, they reflect a more traditional arrangement, whereas in Dolmabahçe

			Palace, traditional hammams and modern bathrooms coexist.
Bathroom	Not evident	Present	In Topkapı Palace, hammams, washing rooms (gusülhane), and ablution spaces are the primary features. Bathtubs are found in the bath of the Black Eunuchs' Dormitory and in the Imperial Hammam. In Dolmabahçe Palace, modern bathrooms equipped with enamel bathtubs, showers, and thermostats are explicitly documented.
Toilet/ Latrine/ Ablution space	Present	Present	In Topkapı Palace, sanitation is organized in the form of helâ (toilets), abdestlik (ablution spaces), and gusülhane (washing rooms), whereas in Dolmabahçe Palace it appears as numerous squat and European-style toilets within a modern sanitary system.
Gusülhane (Washing room)	Present	Not identified	In Topkapı Palace, gusülhane arrangements connected to helâ (toilets) and abdestlik (ablution spaces) are clearly documented. In the case of Dolmabahçe Palace, however, the emphasis is placed more on hammams, bathrooms, and toilets.
Water reservoir / cistern Well	Present	Present	In Topkapı Palace, water towers and reservoirs are present, whereas in Dolmabahçe Palace, the system consists of garden-based storage units and water reservoirs.
	Present	Not evident	In Topkapı Palace, wells dating back to the Byzantine period are identified as significant water sources. For Dolmabahçe Palace, there is no explicit evidence of wells within the interior spaces.
Piped water system	Present at the level of the distributio n system	Present at an advanced level	In Topkapı Palace, water distribution was carried out through water towers and reservoirs. In Dolmabahçe Palace, by contrast, lead pipes, Frankish/European pipes, and an advanced plumbing system are explicitly documented.
Decorative Water Feature	Present	Present	In Topkapı Palace, decorative water features include shadırvans, pools, and interior fountains, whereas in Dolmabahçe Palace they are represented primarily by the pool and crystal fountain of the Glass Pavilion.

Table 8*Interpretative comparison of water use in Topkapı and Dolmabahçe Palaces*

Criterion	Topkapı Palace	Dolmabahçe Palace
Spatial Role	Water defines important ceremonial and residential spaces	Water supports the operation of residential and service spaces
Functional Role	Cooling, privacy, representation, and comfort	Hygiene, sanitation, and domestic comfort
Symbolic Role	Power, prestige, purity, and paradise imagery	Prestige, modernization, and elite lifestyle
Technical Role	Traditional hydraulic systems	Advanced plumbing and sanitary infrastructure
Sensory Contribution	Strong visual, acoustic, and climatic effects	Limited sensory role, stronger technical role
Relationship with Modernization	Represents the Classical Ottoman tradition	Represents the modernization and Westernization process

Table 3 highlights the main distinctions found in the comparison process. In Topkapı Palace, water was mainly used for aesthetic purposes, whereas water at Dolmabahçe Palace became more relevant to hygiene and comfort. The above findings reveal how changes in the architecture of the period led to modifications in the significance of water use.

Table 9

Interpretation of water elements according to the theoretical framework

Theoretical Perspective	Topkapı Palace	Dolmabahçe Palace
Lefebvre – Production of Space	Water organizes ceremonial and representational spaces	Water supports modern residential and service spaces
Bachelard – Poetics of Space	Water creates a rich sensory and emotional atmosphere	Sensory role becomes secondary to practical functions
Norberg-Schulz – Genius Loci	Water is a defining component of palace identity	Water contributes to a modernized palace identity

As presented in Tables 3 and 4, the transition from water usage at Topkapı Palace to that of Dolmabahçe Palace cannot be explained simply in terms of technology. This transition also represents the transition in the production of space as suggested by Lefebvre, the transition in the poetic or aesthetic perception of space as suggested by Bachelard, and finally the redefinition of architectural genius loci or identity as suggested by Norberg-Schulz.

Results and Discussion

Through this study, it is shown that water within the palace architecture of the Ottoman period was not merely a basic need or a part of technological infrastructure, but rather a sensorial, symbolic, spatial, and technological aspect, which defined the organization of the interiors of the buildings. Comparing the two palaces, Topkapı Palace and Dolmabahçe Palace, it becomes evident that while water played a significant role in both of them, the architectural usage of it changed dramatically in relation to the changes in the culture, society, and technology. This paper, concentrating on interior water components, widens the scope of the existing literature in this field.

These results suggest that the water elements used at Topkapı Palace were highly interwoven with the space experience and palace culture. Fountains, selsebil, shadirvan, pool, and hamman were not only useful objects but also added some elements of comfortable environment, acoustics isolation, beauty, and symbolical meaning. Water objects were purposefully placed in audience halls, pavilions, chambers, and courtyards where their symbolic meaning added to the emperor's prestige. On the other hand, the use of water at Dolmabahçe Palace can be considered as an example of the development of technical processes in the Ottoman Empire during the nineteenth century. It can be proved by the advanced plumbing system, water reservoirs, bathrooms, showers, and sanitation facilities.

As can be observed through the comparison, there was a progressive evolution in the usage of water at the Topkapı Palace, moving away from a more sensory, symbolic, and spatial form to the more technical, hygienic, and comfort-based one in the Dolmabahçe Palace. In spite of this change, however, it must be pointed out that water has continued to retain its relevance in matters concerning status, authority, privacy, and architecture.

The results are also important for gaining new insights into water as a spatial component in architecture, from the theories developed by Lefebvre, Bachelard, and Norberg-Schulz. The change in water functions is also part of a larger picture that can be described as shifts in the production of space, perception, and identity in the context of Ottoman culture. Water served an active function in

creating spatial experiences in Topkapi Palace while its role in Dolmabahçe was associated more with residential comfort.

In conclusion, water can be viewed as a significant tool for studying changes in architecture in Ottoman palace interiors. The change that is visible when comparing Topkapı and Dolmabahçe palaces indicates a larger shift that includes both technological innovation as well as spatial experiences, values, and daily living practices. Thus, water can help shed light on the transformation of Ottoman architecture from the Classical era to the modern 19th-century palace setting.

Lastly, this paper can provide a basis for more research into water use in Ottoman palaces as there is a very narrow range of comparative literature. In particular, the analysis can be further developed by conducting a study of other Ottoman palaces, waterfront houses, pavilions, and noble homes using archives, restoration data, materials studies, and hydraulic facilities investigations.

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