

Comparasion of Hagia Sophia And Selimiye in Context of Space Hierarchy Related to Privacy

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Abstract

Being a world heritage Hagia Sophia and Selimiye are symbol buildings having significant cultural, spatial and structural features. They both reflect the political ascendancy and magnificence of the century they were built besides challenging constructional approach. At the same time these buildings, reflecting their spatial hierarchy on building surfaces and textures, are the architectural works providing privacy conditions in spatial fiction and configuration also making feel of safety.

The aim of the study is to determine the similarities or differences of the two symbol buildings designed for different religious functioning and rituals in terms of space hierarchy. Within this scope "Privacy" is defined as basic concepts; degrees of space hierarchy are specified in the context of "public, semi-public, semi-private, private" spaces and are analyzed on the two buildings' plan drawings comparatively containing arrangements, limits and lower degrees. he

Key Words: Space Hierarchy, Privacy, Hagia Sophia, Selimiye.

1. INTRODUCTION

A proper organization of space hierarchy depending upon factors such as culture, societal structure, function and privacy level makes cities perceptible easier than before and makes buildings safer and private in terms of users. In cases where space hierarchy couldn't be organized and optimum (ideal) privacy requirement couldn't be satisfied, lack of confidence and wrong relations between users occur besides feelings such as being lost and chaos for a building (Erinsel Önder, 1995, 3).

While space hierarchy shapes towards symbol buildings, trade zone or city center, it is procured within privacy and social norms besides physical elements such as location, color, material, pattern and shape in building and also spatial organization in design.

The purpose of the study is questioning the existence of the spatial hierarchy based on the "privacy" fact at the same time determining similarities and differences in use of hierarchy sequence, formation of boundaries and physical indicators on plan fictions of two World heritage buildings, Hagia Sophia and Selimiye.

2. HIERARCHY– PRIVACY RELATION IN SPACE ORGANIZATION

According to Rapoport (1977, 201), privacy can be understood as an ability that various sensory methods are used to obtain experience. Privacy is to control the interaction and also the ability to avoid adverse interactions.

Privacy is a control mechanism which effects and limits social interaction and changes according to age, race, culture, time, space and conditions (Altman and Chemers, 1986, 81) but also it can be determined as to retain the right to control of a person or group in building the social relations with the environment (Gür, 1996, 95).

According to Altman and Chemers (1986, 75-76) privacy is created through the mechanisms of personal space, territory, verbal and non-verbal behavior [Figure 1]. Here, a process is in question in which people take control of relationships of their choice or not within the personal limits. This process is shaped by instant interaction. Thus, interpersonal distance (distance-proximity) is determined and privacy is regulated / graded. The determined level of privacy in the people's mind refers the desired privacy. However time factor causes change in the interaction between people, also in the level of privacy and identifies it. When the desired and achieved privacy levels are equal the optimum privacy is obtained. According to Ünlü (1998, 54), desired privacy is the subjective expression of the ideal interaction, achieved (obtained) privacy is the real degree of contact fact.

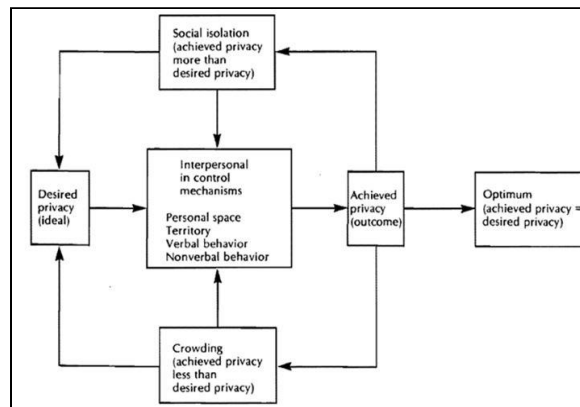


Figure 1. Overview of relationships among privacy, personal space, territory and crowding (Altman and Chermes, 1986, 76)

Personal space refers to the distance between people with other people (Altman and Chermes 1986, 101). Individual space is an important fact on composition of desired privacy grade (Erinsel Önder, 1995, 17). According to Sommer (1969, 26) personal space "is an area which surrounds the individual and cannot be entered from the outside and surrounded by an unseen boundary". Personal space is directly related to the culture and different distances may be possible in different cultures. In addition, the types of actions that occur in space are also influential in shaping personal space (Sommer, 1969, 49). In religious functions it is observed that the level of privacy is important and it causes different interactions in cultural scale. For example; In the 16th century, women did not pray in the mosque, but today Islamic worship, in uses of inner space of mosque, men and women are completely separated (two flated mahfies-side areas), within this distinction, personal space limits are developing proportional with prostrate function area (prayer rug space). But in Christianity, sitting activity and its tools are effective in the spatial organization and formation of personal space because a part of the worship is made by sitting and men and women don't leave by any borders. At this point, the impact of culture and religion on individual space is clearly seen.

Territoriality (psycho-social area) defines an area, which is a unique conservation area and used, defended, owned, personalized by a person or group. This area allows space symbolized

by the regulation of objects and behavior of appropriation to gain identity (Altman ve Chermes, 1986, 120). The formation of a unique layout by groups with different cultural backgrounds of the city can be sampled as a creation of psycho-social space. In an initiative related to the function, for Selimiye, qibla wall, minbar, altar, Sultan Mahfi and for Hagia Sophia, apse, bama, soleo and ambon can be shown as the examples of psycho-social formation because they are specified with indicators such as limited users, only special authority passing that places, elevation differences of space borders, ornaments, orientation.

Verbal and non-verbal behavior allow to set personal space, form psycho-social area and determine the level of privacy. We represent our instant request, determine our level of privacy (Erinsel Önder, 1995, 24), and make people closer to or further away from ourselves by verbal and nonverbal behavior (body language, tone of voice and so on).

2.1. Space Hierarchy and Degrees

Space is a void, which contains human relations and the reinforcements required by these relationships, and its boundaries are defined according to the structure and function of the organization it covers (Gür, 1996, 43-44). The structure of this void will vary depending on many factors such as gender, age, religion, culture, privacy, taste, desire, time, function, materials, ecology, technology and ideology.

There is a definition of "ideal privacy" for each space and the behavior it requires in human mental structure (Gür, 1996, 95). We can explain the necessity of hierarchy in the organization of space as users' desire of "private places" in "general" space due to requirements of ideal privacy (Erinsel Önder, 1995, 50). In the context of space hierarchy, the level of privacy is an important factor for the characterization of private and public and the level of privacy underlying hierarchy is the desired privacy.

Privacy is an important concept to define dividable regions. Spatial boundaries indicate functional domains and these domains indicate the level of privacy. At the same time, the privacy has been described as a vehicle of social status. The porticos of the Greeks and retaining walls of the Romans surrounding the central placement are architectural solutions that strengthen privacy in the context of social status (Ünlü, 1998, 59-60). In Turkish house, barriers/limits separating private, semi-private, semi-public and public areas are very important. The house defines private, garden defines semi-private, the street opening throughout the garden defines semi-public, squares or other public areas of residential space defines public areas [Figure 2].

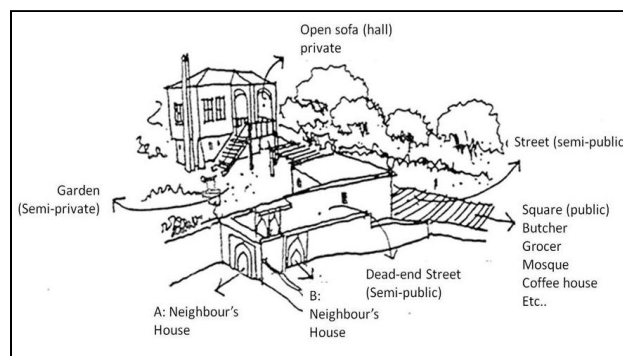


Figure 2. Space Hierarchy Related To Privacy Concept in Traditional Turkish Settlement (Ünlü, 1998, 59).

The concept of privacy is one of the most widely used concept in the formation of spatial organization due to the functions of the buildings and is important for the formation of the hierarchy in spatial organization. Gür (1996, 97) quotes that Chermayeff and Alexander "studied privacy in four categories as private, semi-private, semi-public and public spaces and argued

that opening of these spaces to one another according to a certain hierarchy will reduce the stress on contemporary people."

A similar initiative was introduced by Newman. By Ünlü's (1998, 63-65) expression Newman discussed psycho-social area with the distinction of public and private. He suggested that the hierarchical organization and privacy grading of the psycho-social field are certain factors of feeling good and ensuring safety. Newman has defined the four qualities for creating the good environment as follows;

- Openness and clarity in hierarchical description of semi-public, semi-private and private,
- The existence and location of doors and windows in open space and entries to watch and monitor,
- Coincide of building's form and material with social group identity,
- Development of sympathetic areas at the functional level and its settlers don't be threatened.

The architectural arrangements are important aids in determining personal and psycho-social field, in the regulation of privacy hence in the formation of hierarchy in the organization of space. These tools can be listed as;

- Planning sequence for privacy (hierarchy),
- Formal differences,
- Landscape elements (flora) or wall formations referring to boundaries,
- Differences in elevation, heights, mass finishing,
- Textures and colors in the surfaces,
- Non-functional symbolic signs,
- Material selection.

The private places in the space hierarchy are areas, which are mostly owned, protected, monitored and personalized by the user and allow easy and comfortable use for people and where subjective actions take place depending on personal space boundaries. Public places refer to public use that apply public / social rules (Erinsel Önder, 1995, 50). In this context, as the level of privacy increases, space is now being privatized, and the number of users decreases and when the level of privacy decreases, space gains general character and the number of people using the space increases (Kısa Ovalı, 2006, 109), [Figure 3].

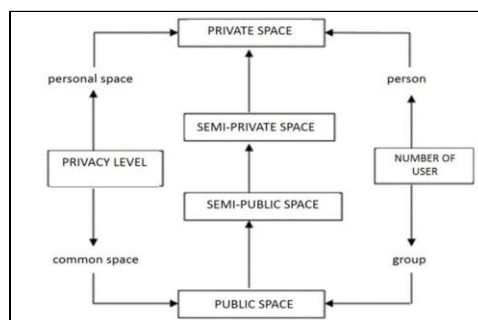


Figure 3. Relationship between privacy level and number of user (Kısa Ovalı, 2006, 108)

Although worship in religious buildings is an individual spiritual act, functioning takes place collectively and order of functioning is important. The boundary of personal space is stretching and the boundary of the community is coming forward. In terms of the interior spaces specific to the worshipping in Islam and Christianity, the axis of worship and the areas of the person or persons managing the flow define the area with the highest level of privacy in the hierarchy. The interior where the act of worship has taken place is "private space". The hierarchy in the organization of the space in Hagia Sophia Church and Selimiye Mosque are discussed in this

assent. In this context, the degree of space hierarchy are discussed in "**public**", "**semi-public**", "**semi-private**" and "**private**" sequence from general to private /public to worship/ outer to inner space.

Public space is defined as urban spaces "used by everyone within the framework of certain rules, not owned by individuals and groups" (Erinsel Önder, 1995, 53).

Semi-public space is defined as bordered front areas "having fewer rules for enter, not owned by certain individuals or groups, with more management responsibility" (Erinsel Önder, 1995, 52) and stating the approach to religious action.

Semi-private space is defined as open / semi-open area which "is regulated by physical elements such as position, color, material, texture, shape in the layout structure, is used by specific individuals and groups for specific periods, has short-or long-term ownership in its own usage rules" (Erinsel Önder, 1995, 52) as well as areas in which the preparatory action of religious functioning takes place.

Private space is defined as interior space/place of worship where "higher-level privacy requirements of people are met, there is long-short-term use, mostly individual actions which are protected, personalized, favored and expressed in the physical elements such as layout position, color, material, texture, shape take place"(Erinsel Önder, 1995,52) as well as the rules of functioning of religious action are enforced effectively.

The questioning concerning space hierarchy in Hagia Sophia and the Selimiye is analyzed from public space to private space within the limits of the main body of the building for the urban area and as part of the overall plan space in the plane with the help of the color legend. The architectural features of both religious buildings are briefly mentioned in order to define the physical indicators supporting the spatial hierarchy in inner and outer organizations.

3. THE ARCHITECTURAL FEATURES AND SPACE SET UP IN TWO SYMBOL BUILDINGS

3.1. Hagia Sophia Church

Hagia Sophia Church, which suffered from many earthquakes until today and destroyed parts restored at different times were designed by Anthemius and Isidore by Byzantine Emperor Justinian's order. Church of Hagia Sophia reaching up to the present day (3. Hagia Sophia) was built between the years 532-537 instead of the old Hagia Sophia church (2. Hagia Sophia) completely burned during Nika riots. The church built to show the whole world the Byzantine rule could be described as a basilica with extended dome (Kleinbau et al., 2004, 12). Hagia Sophia is used as a museum today after serving as a church for 916 years and as a mosque for 482 years.Hagia

Sophia which was located in the heart of the Constantinople like many buildings as Hagia Eirene Church, Zeuksippos Baths, Imperial Palace is now located Istanbul City Walls Zone (historic peninsula) across the Blue Mosque and many historic buildings surrounding them [Figure 4].

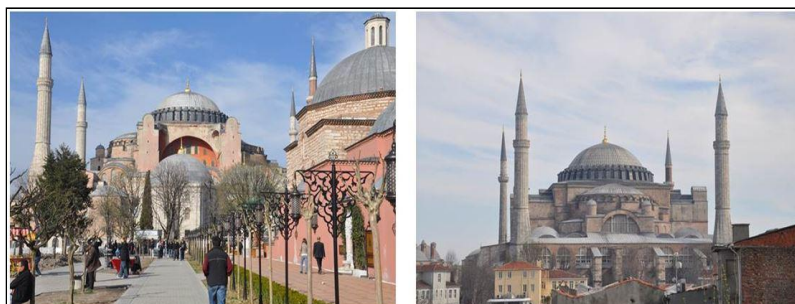


Figure 4. General View of Haiga Sophia Church (Original, 2013)

Hagia Sophia has undergone many renovations and refurbishment through the 6th century to the present day. Besides additional support structure to reduce the structural problems, additional buildings such as madrasa, imarets, mausoleums were built around especially during the Ottoman Empire [Figure 5].

Hagia Sophia was built alongside with connected patriarchate to the west and southwest, a baptistery and Augusteion (Müller-Wiener, 2007, 86). Hagia Sophia has a courtyard (atrium), two baptisterys and a Sacristy. It was connected to Patriarchal Palace and with a raised gallery to the Grand Palace (Kuban, 2000, 104). Despite very little remains of the courtyard to the west up are present today, it is known that there was Kantharoi Courtyard which is surrounded by pillars and columns on three sides (Müller-Wiener, 2007, 85) and used for judiciary, trade and culture actions (Mango, 2006, 98). A large baptistery with undetectable shape was located on the north side of the church (all traces of the baptistery were eliminated and no traces of any position or plans were found in the sources). The still standing second baptistery (small baptistery) with octagonal plan near the present day entrance on the southwest of the church was built during Justinian (Müller-Wiener, 2007, 85-86).

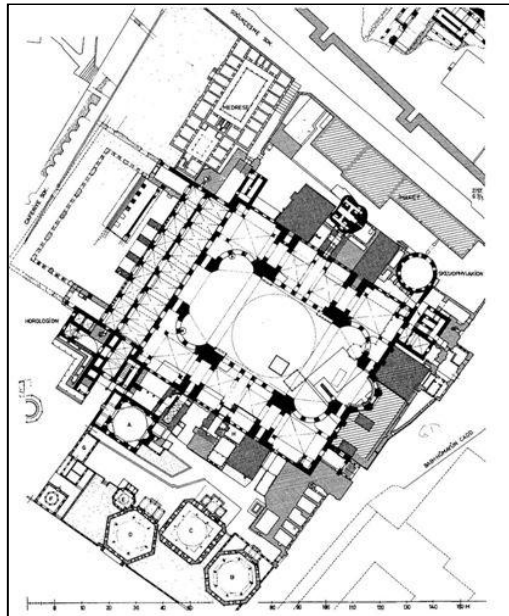


Figure 5. Hagia Sophia Church and Attached Buildings (Müller-Wiener, 2007, 90)

In figure 5, structural parts of 5th and 6th century (black), buttresses from medieval (cross hatched), additions in Ottoman period (hatched), inaccessible places (fully hatched), parts (atriums) that are non-existent but their presence is known are given (dots). (A=baptistery, since 1618 Sultan I. Mustafa then Sultan Ibrahim's tomb, B=Sultan III. Mehmed's tomb (1608), C=Sultan II. Selim's tomb (1576-1577), D=Sultan III. Murad's tomb, E=Prince tomb, F=muvakkithane, horologion: time measurement space, G=modern administration building, H=Library (1738), Skeuophylakion (Sakristis)= treasure, holy goods room) (Müller-Wiener, 2007, 91).

Hagia Sophia described as extended-domed basilica has a rectangular plan, which was covered with a central dome between two half-domes and combines a longitudinal basilica plan and a central plan. Excluding the inner-outer narthex and the peristyle courtyard measures 48x32 m., building's interior dimension is around 70x75 m. and total length of the structure reaches about 135 m (Kleinbauer et al., 2004, 17).

The entrance to the galleries of Hagia Sophia is provided with ramps from outside. Two narthex are located in the west from the nave in Ayasofya. Outer narthex constitutes the eastern wing of the atrium and is a completely enclosed space with a vault. There are five-doors from the the outer narthex to the inner narthex. One of them is the king's door and is larger than the others are. From the inner narthex to the nave (central space) there are nine gates (Kleinbauer et al., 2004, 17),[Figure 6].



Figure 6. Middle and side naves, gallery, apse and inner nartex in Hagia Sophia (Original, 2013)

The apse at the end of the nave is no longer the focal point of the design for the first time in the history of basilica type church with the construction of the Hagia Sophia. Hagia Sophia's nave exhibits a fluidity created by curve and reverse curve of arches, cornices and windows and openings. The size of the middle nave contrasts with smaller scale of surrounding side aisles and galleries. These surrounding galleries have provided spatial continuity in the upper level by wrapping the aisles on three sides. The centre of the nave is fixed a square with an edge of 31 m and its boundary is identified with rigid pillars of 23 m in height. These pillars of 41.5 m height are connected with four thick arches. Approximately, this dome with a 31 m. diameter stands 56 m above the floor (Kleinbau et al., 2004, 18).

As being enormous for the period in question, this dome is supported by large half-domes on both sides located in the east-west direction. This groundbreaking monumental structure reveals designers' creative intelligence due to the placing of the dome structure on the main axis in the east-west direction without being interrupted by wall, column, or by buttresses. However, this single-axis support solution led to problems in time for the static aspects for the dome of Hagia Sophia and the north-south axis high body walls were forced to be supported by buttresses [Figure 7].

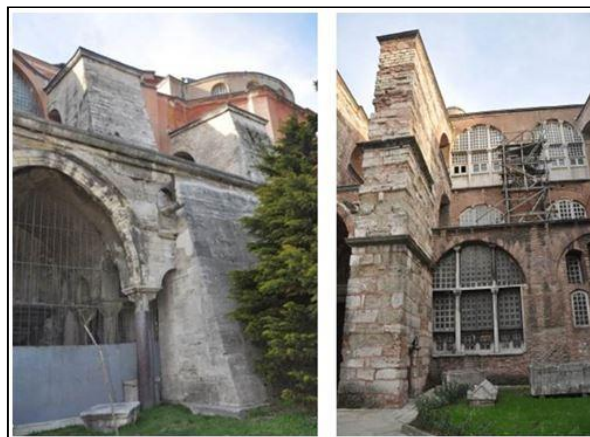


Figure 7. Buttresses supporting the body walls of Haiga Sophia (Original, 2013)

Interior space organization of Hagia Sophia has architectural indicators as variety of materials, richness of decoration, reinforcement organization supporting the liturgical function. Inner-outer

narthex distinction, size changed king door located inside the narthex, the main dome and the decorations that made the middle nave magnificent, coloured marble columns determining galleries, bordered Bema by rectangular open barrier under the eastern half-dome through the apse direction, Solea projecting from Bema to west direction, exits from Solea to Ambon, enrichment of these parts by gold, silver and such precious metals are just a few examples of the design tools helping the space hierarchy [Figure 8].



Figure 8. Architectural indicators of Hagia Sophia located towards the apse and support liturgical function (Original, 2013)

3.2. Selimiye Mosque

During 50 years as head Architect Sinan (1538-1588) was responsible for the construction works of the Ottoman Empire and built nearly 500 different functions and types of structures. Sinan's architectural style has a wide variety and the flexibility to adapt to the circumstances. In this context, his works reached totality in the context of human, place, scale, form, meaning, context, aesthetic, environmental and symbolism.

The Selimiye Mosque Complex built in Edirne between the years 1569-1575 on the behest of Selim II and described as Mimar Sinan's "masterpiece" has been one of the most successful religious architectural examples of the period and the subsequent period due to its technical excellence, size and aesthetic values. Selimiye Mosque as the icon of the city Edirne is the work of a master urbanism and architecture due to its highly detectable four minarets, the magnificent dome, its inner courtyard with porches, Dar-ul Kurri and Dar-ul-Hadith madrasa symmetrically surrounding the structure from the qibla wall, Arasta bazaar, Elementary School and outer courtyard wall [Figure 9]. While today Dar-ul-Kurri Edirne Foundation, Dar-ul-Hadith Museum of Turkish and Islamic Arts Museum, primary school are used as Edirne Tourism and Promotion Association and bazaar continues to function in the trade.



Figure 9. General View and Location of Selimiye Mosque (Şengül, personal archive)

The main dome of Selimiye with 31.50 m. diameter is situated on an octagonal drum supported by eight main pillars placed on the edge of a 42.25 m. square base. The height of the dome is 43.28 m in the center. Around this vast, unobstructed prayer; two-story surrounding environment is located shaped by the structure. The spatial recesses in the qibla wall are the effect of providing symmetry of the octagonal static system (Kuban, 1997, 137) [Figure 10, 11].



Figure 10. Unobstructed praying place and dome structure of Selimiye (Şengül, personal archive)



Figure 11. Qibla Wall, Minbar and Sultan Mahfi (Original, 2013)

Architect Sinan has transformed the interior and exterior structural elements to the aesthetic elements of architectural space and mass organizations. The space and mass organization of the mosque gain unity with worship space, last congregation ground, symmetrically located four minarets, colonnaded inner courtyard and surrounding outer courtyard [Figure 12].

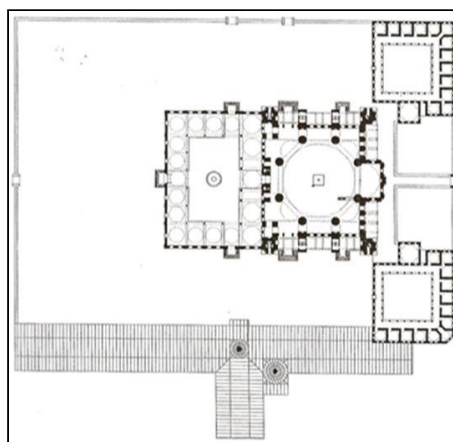


Figure 12. Plan of Selimiye Mosque (Kuban, 1997,130)

The entrance to the place of worship is through four doors on the sides and Great Dargah gate (main gate) at Last Congregation Ground. The symmetrical two stairs on both sides of the Great Dargah door and the four stairs inside the buttress on four sides lead to the side aisles which opened into the mosque and surround the central space on the second floor (Kuban, 1997,137), [Figure 13].



Figure 13. Last Congregation Ground of Selimiye and Dargah Door (Original, 2013)

Selimiye inner courtyard surrounded by a portico of 18 columns and 16 domes exhibits a rhythm different from other mosques. The porches of Last Congregation ground were organized with five domes carried by six columns thicker than the other columns in the courtyard. A dimensional hierarchy with the main dome has been established by designing the domes of the Last Congregation ground larger than the domes covering courtyard portico (Kuban, 1997), [Figure 14].



Figure 14. Inner courtyard, arcades and fountain of Selimiye Mosque (Original, 2013)

The outer courtyard of Selimiye is enclosed with two madrasas on the qibla direction, the courtyard wall on northern and eastern side and bazaar wall on the west. The entrance from the city to the outer courtyard is through five gates including the main gate on the qibla axis, two gates located on the Tas Odalar Street, one gate located between the madrasas and bazaar gate.

In general observation of space organization in Selimiye, it can be seen that, the interior and exterior spaces form a whole in continuity even this spatial continuity's end can be seen on exterior structural organization as balancing elevational differences, the dome ends and also the minarets. Spatial hierarchy is also supported by the architectural indicators such as elevation differences, richness of decoration, variety of materials, reinforcement organization. For example, the use of elevation difference in the arcaded composition of the inner courtyard for distinct of exterior and interior, size of the dergah door, decorations of the stalactites and differentiation with dome shapes, light flood in the main dome covering the unobstructed praying place are the design tools that help the hierarchy.

4. METHOD

Hagia Sophia and Selimiye buildings are analyzed within their original religious functions of their designing period and defined as Selimiye "Mosque", Hagia Sophia "Church". The differences and similarities of spatial relative altitude between these two buildings of two religions are identified in this study which examines on a comparison of theoretical knowledge and space organization (floor plan drawings).

The main building mass and courtyard boundaries on forming the hinterlands for approaching to them are basic criterions while examining space hierarchy. Within this scope Hagia Sophia is taken under consideration with its original plan and religious function of period when it is built; independent from spatial and structural attachments done in following periods. Similarly Selimiye Mosque is also taken under consideration with the main building and the courtyard surrounding; independent from two madrasah and bazaar exist in the complex.

Space hierarchy is determined as public to private passing degrees and sub degrees in the study. To improve the perception of the degrees drawings have coloured, sub degree boundaries of all space hierarchy have stated with the tone of its colour. Boundaries, similarities and differences of the degrees can be visualized on floor plane by this method.

5. ANALYZE OF SPACE HIERARCHY IN HAGIA SOPHIA AND SELİMİYE

5.1. Space Hierarchy in the Church of Hagia Sophia

Standard basilica consists of atrium (courtyard), narthex, naos (central nave) the side aisles and the apse. As the non-existing courtyard (atrium) has a direct impact on the spatial hierarchy of the Hagia Sophia, design of the space hierarchy is required to be made from the original of plans. The contour of the courtyard was clarified in the plan analysis and the plan is simplified by ignoring adding over the centuries and additional buildings (madrasas, imarats, mausoleums and others) during the period of the Ottoman Empire. It is considered that a plan view closest to the original design has been achieved in this way. Sacristy, Observatory and the Baptistery, which are directly related to religious action, were included in the hierarchy [Figure 15].

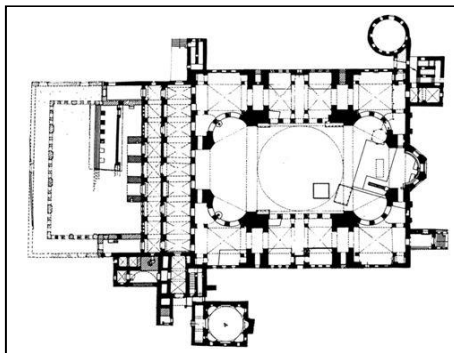


Figure 15. Simplificated plan of Hagia Sophia (adapted from Müller-Wiener, 2007, 90)

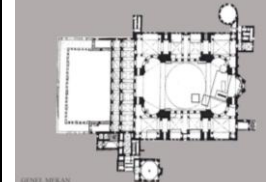
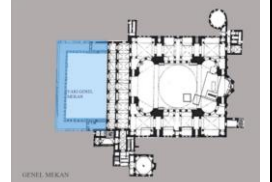
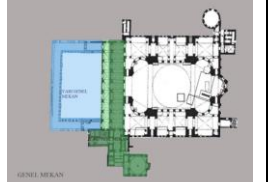
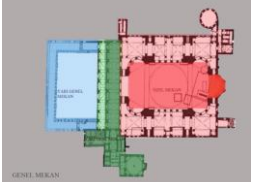
Public Space: Hagia Sophia Church is located on the historic peninsula of Istanbul city as a landmark in the world heritage list. The urban area surrounding the main mass and the courtyard indicated by the gray in Table 1 constitutes "**public space**" in terms of Hagia Sophia.

Semi-Public Space (Courtyard): The courtyard located in the west (Kantharoi courtyard) is sort of a transition area between public spaces to the mosque. The part of the courtyard surrounded by pillars and columns is vaulted as in some other basilicas. The courtyard indicated by the two-tone blue in Table 1 refers to the limits of Hagia Sophia's "**semi-public space**". In the courtyard with two degree of hierarchy, the part with an increased degree of enclose clearly indicated with vault constitutes "**1st degree semi-public space**" the courtyard with no cover constitutes "**2nd degree semi-public space**".

Semi-Private Space (Inner and outer narthexes): Inner and outer narthexes of Hagia Sophia are divided into two semi-private space that can be analyzed in two degrees in the fields of spatial hierarchy. The area indicated by two tones of green in Table 1 refers to the limits of "semi-private space". Inner narthex area and transitions, the Observatory and the Baptistry connected to the inner narthex area constitute "1st degree semi-private space" and the outer narthex area constitutes "2nd degree semi-private space".

Private Space (Interior spaces-Worship space): The church of Hagia Sophia consists of private spaces that can be examined in three degrees in terms of hierarchy. Boundaries specified in Table 1 with the tone of red define the degree of private space in its own. The apse privatized with its religious meaning, form and decoration constitutes "1st degree private space". The main dome, Solea supporting the dome which includes Naos and Bema "2nd degree private space", Sacristy directly related to the internal volume of the church, the side aisles with galleries and vertical circulation areas constitute "3rd degree private space".

Table 1. Space Hierarchy in Hagia Sophia Church (Kısa Ovalı et al., 2013, 29-31)

Public Space	Semi-Public Space	Semi-Private Space	Private Space
			

Although the spatial hierarchy is ending with the apse, large half-domes on the east and the west of the domed central space consisted an uninterrupted overall interior on the major axis in the east-west direction. This interior leads focal point to the central area in the perception of space. In this context, apse at the end of the nave has ceased to be the focal point of the design for the first time in the construction of the basilica type church. It is indicated in the hierarchy study that this universal space gain specific nature.

5.2. Space Hierarchy in Selimiye Mosque

In spatial hierarchy of Selimiye Camii Mosque the main mass is considered and madrasas and arastas as structures independent of the main body of the complex are not included in the hierarchy.

Public Space: Selimiye Mosque is located at the point in the city as a dominant landmark due to its location, function, surrounding traditional examples of civil architecture, the historic Palace Bath, trade actions and with parking space. The city park located in front of the arasta is surrounded by traffic and pedestrian paths. The public spaces indicated by gray color in Table 2 and surrounding outdoor courtyard constitute "general space" in the context of Selimiye.

Semi-Public Space (Outdoor courtyard): The portal located on the axis of qibla of the outer courtyard wall stone room overlooking the back door in the direction of the other two doors and madrasas associated with the concept of privacy emphasizes the distinction and transition between public and semi-public areas. A similar transition has been used in the passage to the outdoor courtyard through arasta and connection is provided. The outer courtyard indicated in Table 2 by the blue color defines a "semi-public space".

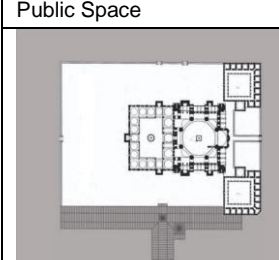
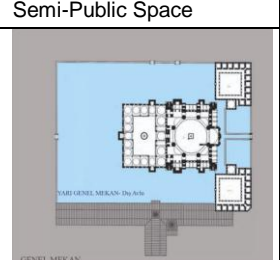


Semi-Private Spaces (Interior courtyard and lateral spaces): Selimiye Mosque interior courtyard is divided into a semi-private space that can be analyzed in four degrees. These degrees are defined in Table 2 with the tones of green. Gradually darker shades define areas, which are closer to private space in a semi-private space and are expressed as more dominantly with the architectural markers (difference in elevation, shape, texture, ornament, symbol, etc.).

The main entrance of the mosque (the main door) located at last congregation ground defines "1st degree semi-private space" through semi-private spaces. Dome of the prayer, prayer place and muqarnas-decorated entrance gate increase the values of the privatization and the nature of specifying the entrance area. The last congregation ground defining the interface of the interior / exterior relationship before entering interior space and the lateral spaces and entrances in the porches composition of the support walls of the side facades of the mosque are "2nd degree semi-private spaces" in space hierarchy. The porches define "3rd degree semi-private spaces" in creating a distinction within hierarchy which the degree of privacy is increased with more spatial definition by difference in elevation in the inner courtyard and the upper cover. The open-top fountain in the inner courtyard of the space that is most clearly expressed in the tone of green defines "4th grade semi-private space" of the hierarchical structure. This area containing the action of ablutions in preparation to the praying has its own rules of use.

Private Space (Interior spaces-Worship space): Selimiye Mosque interior space consists of the private space that can be analyzed in three degrees in terms of hierarchy. The degrees specified in red tones in Table 2 define private spaces which are used by the person / persons who direct acts of worship, use religious icons are expressed more dominantly by architectural markers (difference in elevation, shape, texture, decoration and so on.)

The Muezzin Gallery under the main dome defines "1st degree private space" in mihrab which is protruding on the qibla wall and decorated with stalactite and the Minbar Mosque which is on the right of the mihrab. While the central area of the worship space creates "2nd degree private space", two-story spaces (loge) surrounding the center and the gallery level refer the boundaries of the "3rd degree private space".

Table 2. Space Hierarchy in Selimiye Mosque (Kısa Ovalı et al., 2013, 24-27)

Public Space	Semi-Public Space	Semi-Private Space	Private Space
			

"Sultan Gallery" located in the side spaces carries a special nature due to the administrative position of its user. Therefore, it is located near the middle space in spatial organization. Sultan Gallery was included in "3rd degree private space" because it is used by person / persons who direct acts of worship and the consideration of spaces with religious symbols as more private. In an evaluation of this area based on the number of users, it is predicted that it can be defined as 1st degree private space.

6. EVALUATION

The order from public space to the interior space in spatial hierarchy forms a public-private spatial continuum in Hagia Sophia and the Selimiye Mosque [Figure 16]. Structure of the usual for sequence-specific Both buildings are separated from urban areas by the courtyard walls and areas other than courtyard are defined as "public space" [Table 3].

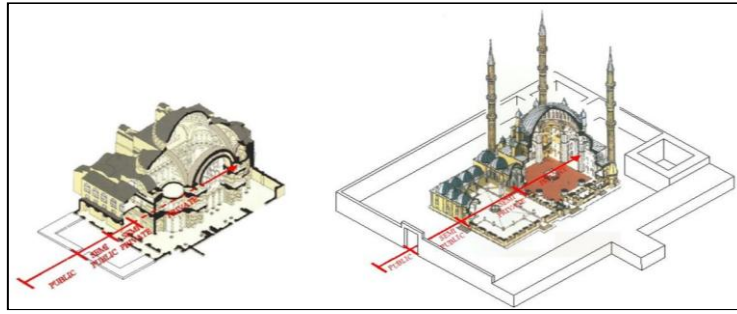


Figure 16. Spatial Hierarchy of Hagia Sophia and Selimiye (Kısa Ovalı et al., 2013, 28, 32)

The outdoor courtyard of Selimiye and Kantharoi courtyard of Hagia Sophia constitute "**semi-public spaces**" in hierarchy (Table 3). The outdoor courtyard of Selimiye is designed as a frontal area (interface) providing access to madrasas and guilds **from outer space**. Kantharoi courtyard of Hagia Sophia is made of two parts in its own, public and semi-public space.

The courtyard serves as frontier space through the direct entrance of church. It's not an element allowing entrance to the other spaces or buildings. Because in the Hagia Sophia transitions to other spaces provided directly by inner space. The basic difference between the two structures is seen at that point.

Table 3. Comparison of Space Hierarchy in Two Symbol Buildings

	Public Space	Semi-Public Space	Semi-Private Space	Private Space
Hagia Sophia				
Selimiye				

The inner courtyard of the Selimiye mosque with a fountain, last congregation ground, the open niches of the mosque and the inner and outer narthex of Hagia Sophia define "**semi-private space**" in the hierarchy (Table 3). Both buildings have grading spaces of their own before entering the private space. The narthexes of Hagia Sophia are graded as interior-exterior and the Observatory and the Baptistry is connected to the inner narthex.

In Selimiye; arcaded inner courtyard, fountain and last congregation ground including the main entrance are graded by locating on different elevations, dome ends in different levels and differentiation of the mosque's main entrance on ground, stalactite and dome details.

Both buildings have the same private space gradations (Table 3). The qibla wall and mihrab and pulpit in Selimiye Mosque, and the apse in the church of Hagia Sophia are "**1st degree private space**." The main dome and the covered middle venue defined "**2nd degree private space**" in both structure. Two-storey galleries in Selimiye and gallery floor, Sacristy and side aisles with galleries in Hagia Sophia define "**3rd degree private space**".

The first of the differences identified in this study is that private space in Selimiye is enclosed by the semi-private spaces (niches). It is considered that externally used niches were organized by Mimar Sinan in order to increase the available area by making the support structure lighter. The second difference is that the passage to the other buildings of the church of Hagia Sophia (Observatory, Baptistery and Sacristy) is Through a semi-private and private space. In Selimiye mosque, the access to other buildings completing the complex is through the outer space. This spatial link difference stems from religious functions.

7. CONCLUSION

X An orderly transition in space hierarchy from the public space to private space depending on the level of privacy makes a positive impression on users concerning structure, develops a sense of confidence and reduces stress. The establishment of the space hierarchy in harmony with the function is important in contemporary architectural design in terms of users' creating positive images for buildings.

In the study, spatial planning stages associated with "Privacy" cases were analyzed comparatively through drawings for two landmarks designed at different times for different religious operation. It is observed when compared both buildings in terms of space hierarchy that;

- There is a defined hierarchy from public space to worship area and from general space to private space,
- Both structures have similar space hierarchy providing the ideal level of privacy.
- Grading ends with Qibla wall in Selimiye but apse in Hagia Sophia
- There are differences occurred in the grade of semi-public and semi-private spaces, in the point of transition to other structures due to the use of interior or exterior space.
- The private space grading is same for both monumental structure,
- Architectural indicators starting from the urban scale are discussed as supporting factors of spatial hierarchy in both structures
- Private places in the deepest degree of the spatial hierarchy has moved to the highest level in visual perception in order to create the use of light and shadow (openings), material selection, richness of decoration and elevation difference
- Spatial alignment provides privacy for religious, social and individual needs,
- The spatial organizations help to form the necessary control mechanisms for users,

This study analyzing space hierarchy through two world heritage structures will help the prevention of the problems of possible spatial and mass organizations in the newly designed structure by examining the importance of space hierarchy that can be ignored in contemporary architecture through landmarks. Also the study, presents one of the constructive evaluation methods under the space hierarchy heading, the method explains the sensitivity that the creative genius or master architects show for social requirements and people's basic psycho-social needs in formation and organization of space.

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REFERENCES

- Altman, I., Chermes, M., (1986). *Cultural Environment*, Cambridge University Press, Cambridge
- Erinsel Önder, D., (1995). *Kent Otellerinde Mekânsal Kademelenmenin Değerlendirilmesi İçin Bir Yöntem* (Unpublished PhD. Thesis). Yıldız Technical University Graduate School of Natural and Applied Sciences, İstanbul
- Gür, Ş. Ö., (1996). *Mekan Örgütlenmesi*, Gür Publishing, Trabzon

- Kısa Ovalı, P., (2006). *Simge Yapı Selimiye Camiinde Mekan Kademelenmesi*. 2.nd International Architect Sinan Symposium, Proceedings, Trakya University, Edirne, s.107-116
- Kısa Ovalı, P., Kıran Çakır, H., Atik, D., Bozacı, M. K., Dönmez, S. and Arabulan, S., (2013). *Dünya Mirası Kapsamında Selimiye ve Ayasofya Camilerinin Mekânsal ve Boyutsal Kademelenmesinin Karşılaştırılması*. Trakya University, Unpublished Scientific Research Project, No:2010/118, Edirne
- Kleinbauer, W.E., White, A. and Matthews, H., (2004). *Ayasofya*, Translated: Handan Cingi, Arkeoloji ve Sanat Yayınları, Scala Publishers, İstanbul
- Kuban, D., (1997). *Sinan'ın Sanatı ve Selimiye*. 1th Edition, Tarih Vakfı Yurt Publishing, İstanbul
- Kuban, D., (2000). *İstanbul Bir Kent Tarihi: Bizantion, Konstantinopolis, İstanbul*, Tarih Vakfı Yurt Publishing, İstanbul
- Mango, C., (2006). *Bizans Mimarisi*, Rekmay Inc., Ankara
- Müller-Wiener, (2007). *İstanbul'un Tarihsel Topografyası*, 3rd Edition, Translated: Ülker Sayın, Yapı Kredi Cultural Activities Arts and Publishing Inc., İstanbul
- Rapoport, A., (1977). *Human Aspects of Urban Form*, Pergamon, Newyork
- Sommer, R., (1996). *Personal Space: The Behavioral Basis of Design*, Prentice Hall Inc., Engbewood Cliff, New Jersey
- Şengül, E., "Edirne ve Selimiye", Personal Photo Archive
- Ünlü, A., (1998). *Çevresel Tasarımda İlk Kavramlar*, İstanbul Technical University Faculty of Architecture Printing Office, Sayı: 1604, İstanbul