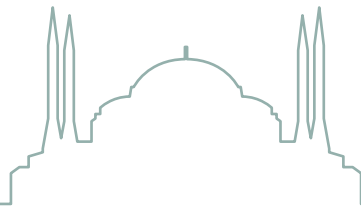


The conversion of Hagia Sophia, from church to mosque during the Byzantine and Ottoman Empire



Abstract



The 1,500-year-old Hagia Sophia has undergone a long historical process of changes during three important periods. During the Roman Empire, Hagia Sophia was a Catholic church. During the Byzantine Empire, it was an Orthodox cathedral and under the Ottoman Empire Hagia Sophia was a mosque. (Mark & Cakmak, 1992) The structure has undergone multiple changes partly due to disasters such as fire and earthquakes. (Coruhlu et al., 2020) Also the conversion from church to mosque has led to multiple changes in the architectural structure and appearance of the building.

This thesis examines the architectural implications of the religious conversion of the house of worship. To investigate this, first a study will be done on the architecture of the church during the Byzantine Empire, then a study will be done on architecture of the mosque during the Ottoman Empire. From these results a comparison will be made which will highlight the architectural and aesthetic changes which Hagia Sophia has undergone as a result of the conversion and what effect the conversion has had on the appearance of the building.

Keywords - Hagia Sophia, architectural changes, religion, house of worship, church, mosque, Byzantine Empire, Ottoman Empire

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History of the Great Church

Between 532 and 537, in Constantinople, the capital of the Byzantine Empire, the largest cathedral in the world of the time was built. The church Megale Ekklesia (Big church) had already stood on the same site in 360. After being damaged by fire and riots, a new church was built in 404. Again the church was destroyed and the Emperor Justinian I ordered the construction of Hagia Sophia (Holy Wisdom). By a mathematician, geometrist and engineer, Hagia Sophia was built in five years in Byzantine architecture.

Following an earthquake swarm in Constantinople, the dome of Hagia Sophia collapsed on May 7, 558, and the surrounding area could not withstand the earthquake either.

In April 1204, the Byzantine city of Constantinople was plundered by the Venetians and Crusaders. The Crusader nobleman Baldwin van Vlaanderen was crowned emperor in Hagia Sophia, due to the treachery the Byzantines refused to recognize him and the empire fell apart. (Hagia Sophia / Ayasofya | Istanbul Provincial Directorate of Culture and Tourism, z.d.)

Constantinople was for a short time under Roman control in the 13th century. Hagia Sophia was badly damaged during this period and restored again by the Byzantines. The Byzantines again took control of the surrounding city. (History.com Editors, 2020)

The next period of change for Hagia Sophia began 200 years later, when the Ottomans, led by Emperor Fatih Sultan Mehmed, conquered Constantinople in 1453. The ottomans changed the name Constantinople into 'Istanbul'. With the Islam as the central religion of the Ottomans, the church was turned into a mosque. (History.com Editors, 2020)

The thesis will examine the change in architecture of Hagia Sophia during the different periods. It will first explore the architectural position and appearance of Hagia Sophia as a church in the Byzantine period. Second, it will explore the architecture of the building as a mosque during the Ottoman period. Finally, the two versions of Hagia Sophia as a church and a mosque will be contrasted, in order to draw a conclusion of what impact the changes have had on the appearance of the building.

The research will be conducted through various literatures and enhanced by illustrations, drawings and pictures. There are various literature sources available on the history of Hagia Sophia from Justinian times to Byzantine times, sources on the architecture and liturgy of the Byzantine church, as well as various research reports on the Ottomans' conquest of Hagia Sophia and the takeover of the church converted into a mosque. The sources offer a lot of information but mainly approach the history of Hagia Sophia in a scientific and objective manner. Although the writers of the literature sources do not share a specific opinion about the conversion of Hagia Sophia, they do share their concerns about the preservation and restoration of the Christian mosaics, among others. Examining different literatures from different periods written from historical, architectural and religious perspectives will help answer the sub-questions.

The thesis is divided into three chapters, each containing subchapters to address smaller topics. The first chapter is an overview of Hagia Sophia during the Byzantine Empire. The building is dissected and each part is described. The second chapter is about Hagia Sophia during the Ottoman Empire. The events during the period and the modifications to the building are described per section in this chapter, leading to the third chapter, which is about the differences between Hagia Sophia as a church and a mosque. In this chapter, the buildings are placed next to each other and compared. From this follows a conclusion in which the effect and consequences of the changes on Hagia Sophia are determined.

By juxtaposing various academic sources, the aim of the thesis is to determine what influence the changes and additions had on the architectural appearance of Hagia Sophia.

Hagia Sophia as a church during the Byzantine Empire



1.1 Introduction

The Byzantine empire played an important role contributing to art, literature, philosophy, theology and scientific knowledge during the middle ages. They were a well-developed society, and were building magnificent structures while the Europeans were still sharing their mud huts. Hagia Sophia, also known as the church of the Holy Wisdom, was one of the most spectacular religious building ever built by the Byzantines and also certainly the most famous masterpiece of the Byzantine Empire. (Lawler, J., 2011).

In this chapter, the architecture of Hagia Sophia will be analyzed. In the following order the building will be dissected. First the exterior structure will be examined, secondly the interior structure, thirdly the movement within the space, then the experience of the church will be described, and finally the Christian mosaics will be discussed.

1.2 The exterior structure of Hagia Sophia

During the sixth-century, Hagia Sophia was the largest and most magnificent structure in Constantinople. The first feature that stands out when observing the building is the large central dome which has a diameter of 31 meters and is surrounded by semi-domes and arches. The central dome is situated on a square base and has a height of roughly 60 meters. Both to the east and west are a series of semi-domes. On the west, the whole ends in a large, almost semi-circular window, which is related to the semi-dome on the east. Grand buttresses connect the backs of the main piers that support the corners of the square dome support, these buttresses continue above the gallery roofs and frame the tympana screens on the north and south sides of the square dome support. Below the tympanums and large window to the west, the roofs of the galleries protrude. At the west, you see a range of buttresses. These are situated on the outer wall of an outdoor narthex. The narthex can be entered by passing through the three arched gates. (Schibille. N., 2014)



Figure 1.1 The church from the south-east (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 11 - R. Mainstone



Figure 1.2 The church from the south (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 23 - R. Mainstone)



Figure 1.3 The church from the west (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 23 - R. Mainstone



Figure 1.4 The church from the west (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 27 - R. Mainstone

1.3 The interior structure of Hagia Sophia

The spatial layout of Hagia Sophia is simple. The support of the dome consists of four huge piers, which together form a square with a side length of 31 meters (just like the diameter of the dome). Together, these piers form the core of the structure. This principle is a typical fundamental structural principle for Byzantine architecture. All four sides of the naos square are spanned by arches and together with the pendentives form the cornice under the dome. In the dome there are forty windows between the ribs that create a ring of light. In addition to the main arches, the structure also consists of freestanding arches to the east and west that connect the two semi-domes, making the central space twice as long as it is wide, emphasizing the vertical longitudinal axis of the space. The semi-domes are supported by the main piers and two pairs of subsidiary piers that frame the arch of bema and the entrance. Following the longitudinal axis, a barrel vault protrudes from the main semi-domes, connecting to the apse semi-domes and the large semi-circular window and wall of the narthex to the west. The four exedras are framed by smaller semi-domes. (Mainstone, 1988)

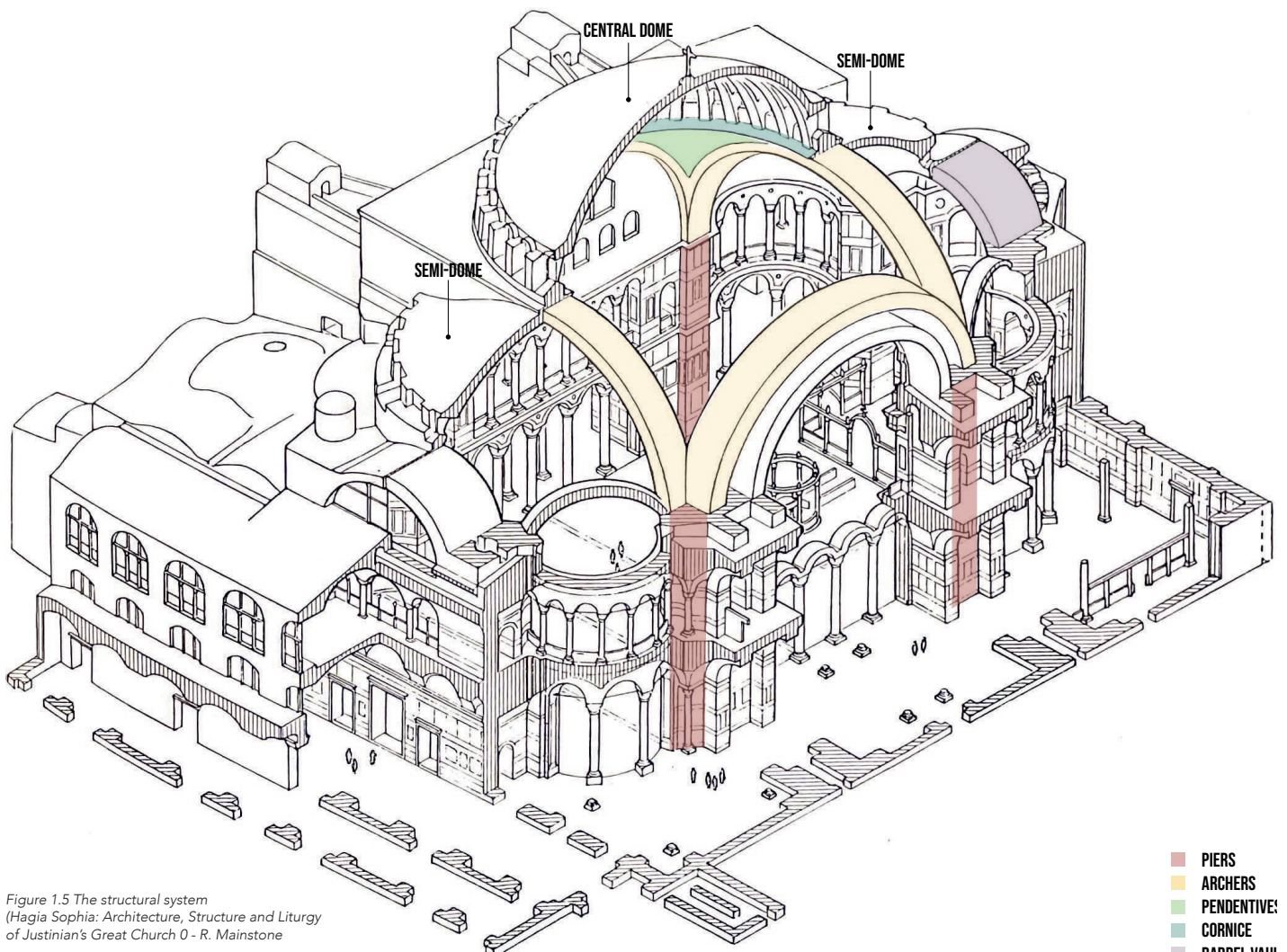


Figure 1.5 The structural system
(Hagia Sophia: Architecture, Structure and Liturgy
of Justinian's Great Church 0 - R. Mainstone)

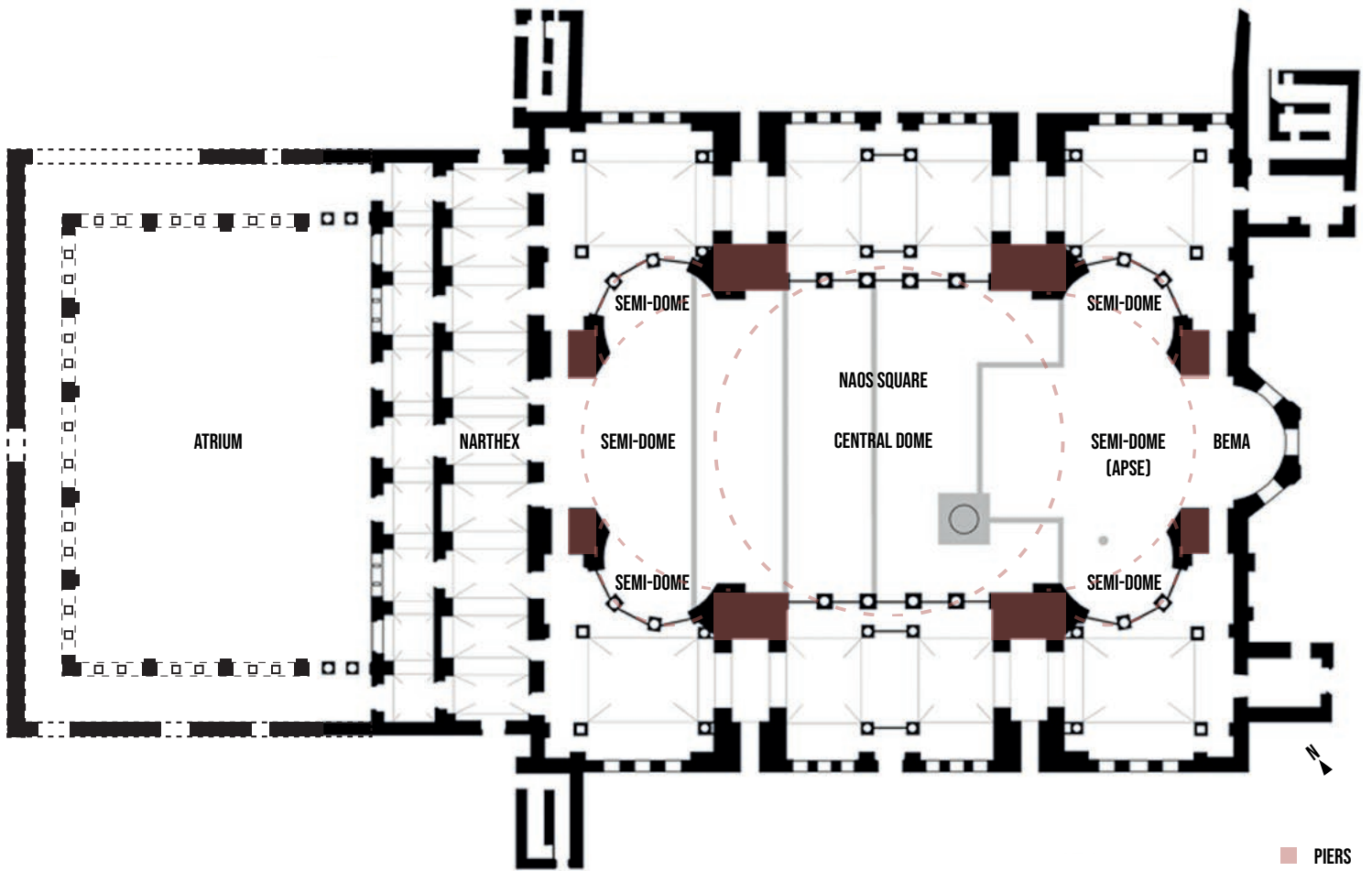


Figure 1.6. Floor plan ground floor (Hagia Sophia and the Byzantine Aesthetic Experience – J. Lawler)



Figure 1.7 Naos square (Hagia Sophia, an Architectural Marvel, z.d.)

1.4 The spatial lay out of Hagia Sophia

The atrium from the west gives an enclosed view of Hagia Sophia. Three doors give access to three central bays from the outer narthex. This leads to five doors in alternating bays leading to the inner narthex. This gives access to nine doorways connected to the church. The route from outside to inside reflects a transition from the material world to the immaterial sacred space. This is enhanced architecturally and aesthetically by the transition from a modest and massive mass of the outer narthex, to an impressive, spacious and richly decorated inner narthex, and finally to the huge church interior with its tall dome structures. (Schibille. N., 2014)

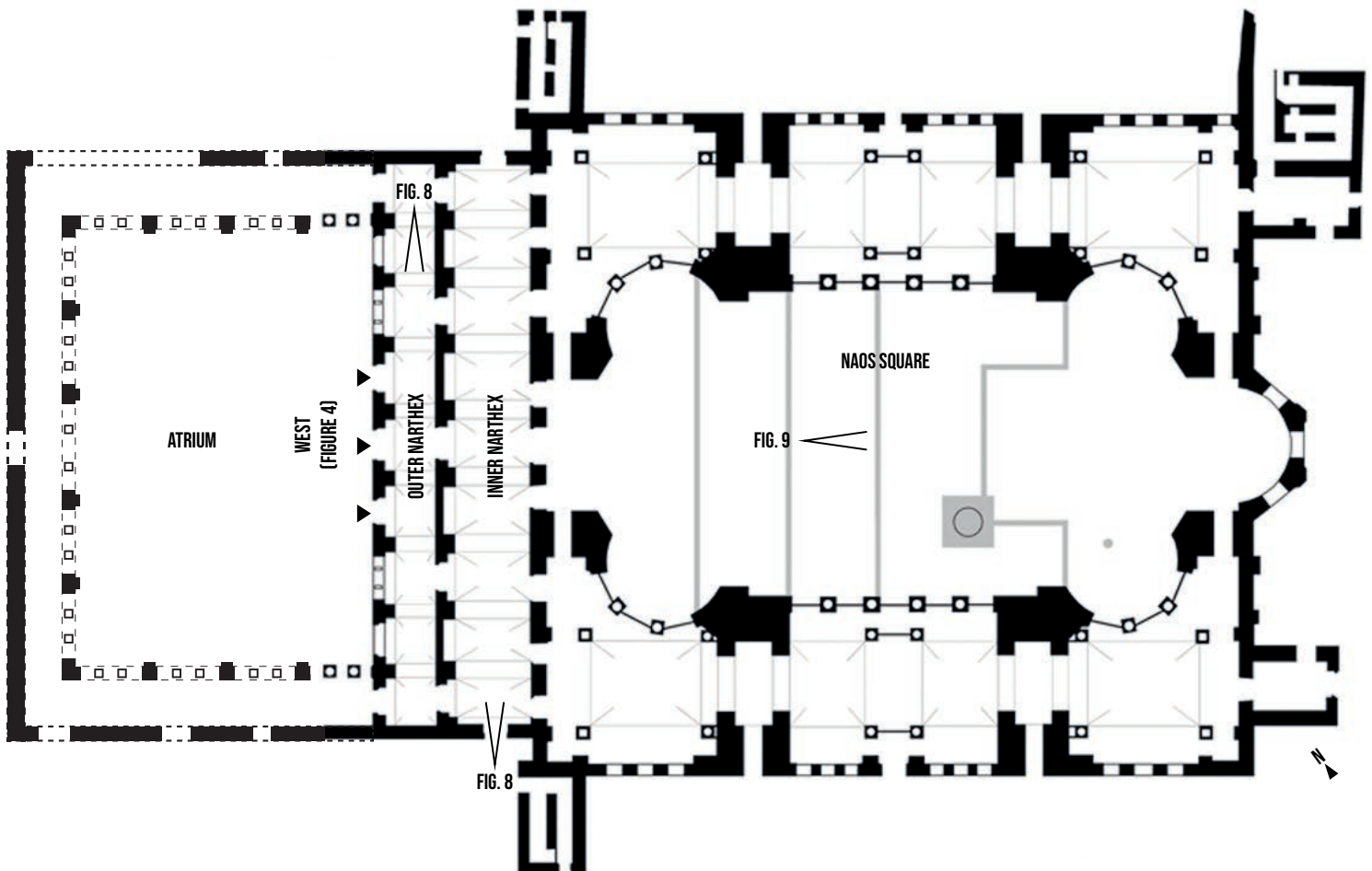


Figure 1.6 Floor plan ground floor (Hagia Sophia and the Byzantine Aesthetic Experience J. Lawler)



Figure 1.8 Left to right: Inner narthex, outer narthex (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 30, 32 – R. Mainstone)



Figure 1.9 The nave, looking eastwards (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 39 – R. Mainstone)

1.5 Byzantine mosaics in Hagia Sophia

Hagia Sophia was beautifully decorated with mosaics during the Byzantine Empire. These were very important to Byzantine art. In addition to Constantinople and Hagia Sophia being the center of Eastern Christianity, it was also the source of Christian artistic expressions. (Morey, 1994)

The sixth-century mosaics were mainly aniconic (non-figurative) which was probably due to the iconoclasm. The tenth-century mosaics are primarily figurative and depict divine figures and other important creatures of the Byzantine Empire. This chapter will discuss both figurative and non-figurative artistic mosaics. The aesthetics and underlying thoughts of the mosaics will be highlighted in this section.

1.5.1 Nonfigurative mosaics

The vaults, domes, ceilings and window frames are covered with mosaics. It is believed that the most ornamental mosaics situated on the first floor are from the sixth century. These ornaments are geometric patterns and crosses on a golden background. The golden shiny glass mosaics reflect light into the room and contribute to the creation of a luminous space. The geometric patterns are often a readout of the edges of the architectural forms. Between these edges are magnified geometric elements, such as Latin crosses. The main colors of sixth-century geometric patterns are red, blue, green, gold and silver. (Schibille, 2014 109-111)

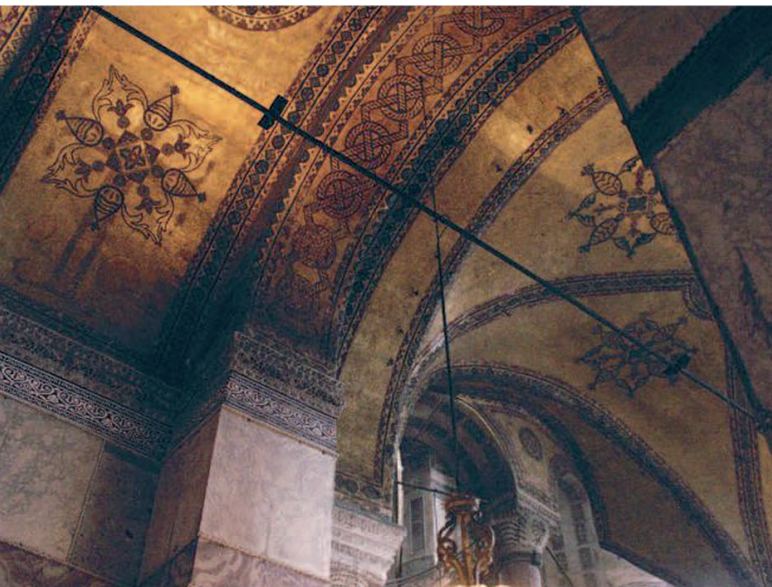


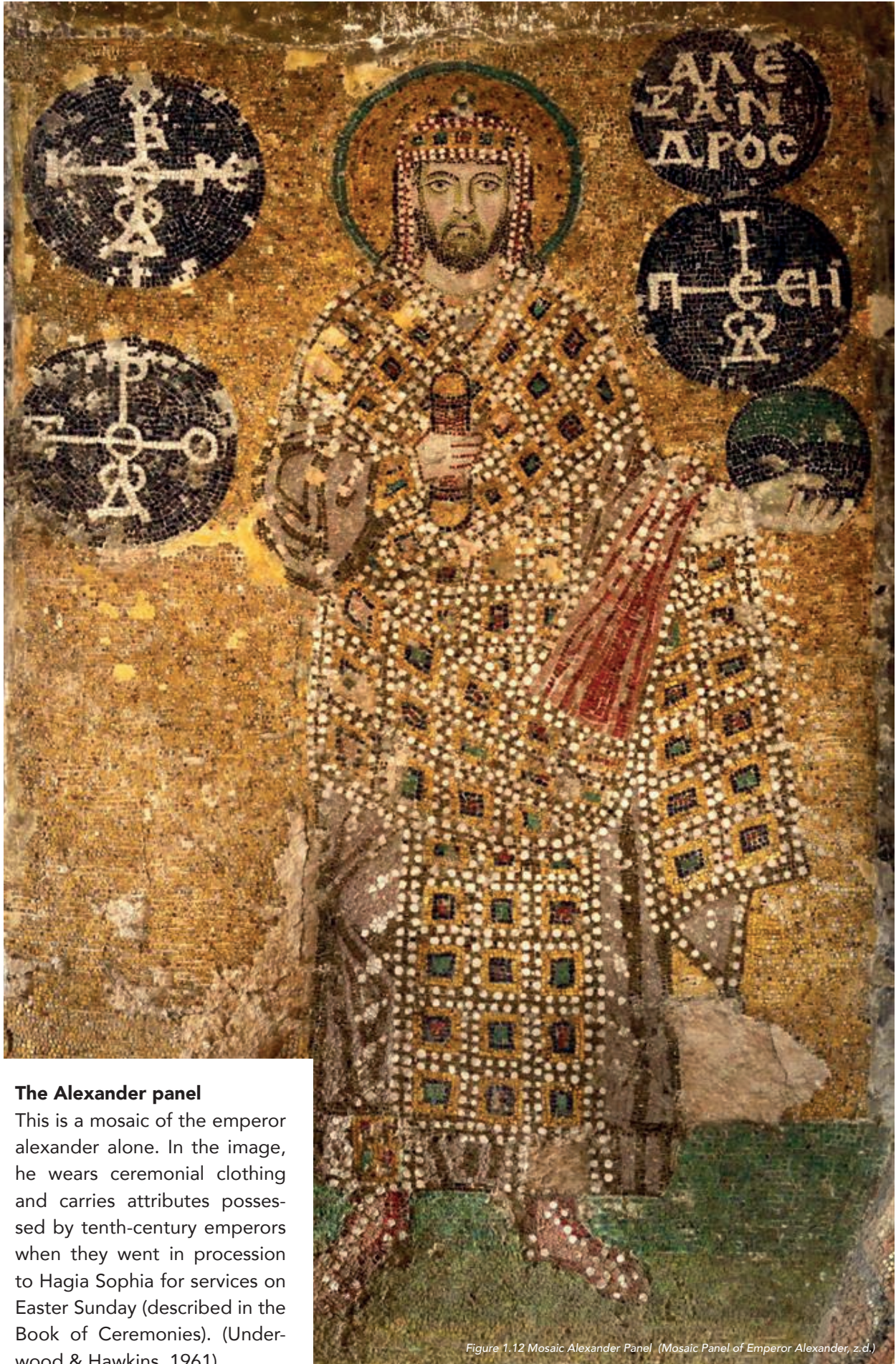
Figure 1.10 Mosaics in the south aisle vaults
(Hagia Sophia and the Byzantine Aesthetic Experience, N. Schibille)



Figure 1.11 Mosaic decoration in the cross vault of the inner narthex of Hagia Sophia
(Hagia Sophia and the Byzantine Aesthetic Experience, N. Schibille)

1.5.2 Figurative mosaics

These mosaics depict Christian figures such as the Virgin Mary and Christ Child, as well as emperors and empresses. The motivation for the mosaics are imperial portraits and Christian figures commissioned by various Byzantine royal families.



The Alexander panel

This is a mosaic of the emperor alexander alone. In the image, he wears ceremonial clothing and carries attributes possessed by tenth-century emperors when they went in procession to Hagia Sophia for services on Easter Sunday (described in the Book of Ceremonies). (Underwood & Hawkins, 1961)

Figure 1.12 Mosaic Alexander Panel (Mosaic Panel of Emperor Alexander, z.d.)



Virgin and Child

A representation of "Mary and child" mosaic depicting the incarnation of Christ. (freeman, z.d.)

Figure 1.13 Apse mosaic with Virgin and Child, c. 867, Hagia Sophia, Constantinople (photo: byzantologist, CC BY-NC-SA 2.0)



Mosaics along a ceremonial route

During the celebration of the "Divine Liturgy", the emperors took a ceremonial route that they passed by as they approached Hagia Sophia. Two mosaics were made along this route.



Figure 1.14 Southwest vestibule, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

The Virgin and Child flanked by Emperors Constantine and Justinian

This sculpture depicts the virgin with Christ child on her lap. Around the image are depicted words naming her as "Mother of God." To her right, is an image of Constantine donating a model of the city. To her left, is an image of Justinian donating her a model of Hagia Sophia. Statues in which donations of small models of buildings they had built were made to divine figures were common in medieval art. (freeman, z.d.)



Figure 1.15 Southwest vestibule mosaic with the Virgin and Child flanked by emperors Constantine and Justinian, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

Christ, Angel, Virgin and Emperor

During the ceremonial route, the emperors passed through the "imperial door," the door connecting the inner narthex to the nave. Above this door, a mosaic in the shape of the arch depicts Christ seated on a throne. With his right hand he blesses the viewer and on his left knee rests an open book, which reads, "Peace be with you; I am the light of the world" (a text from the Bible). Next to Christ are two images in medal form of an angel to his left and to his right the virgin extending her hands to him in a pleading gesture. In the image you can also see an unknown emperor bowing to Christ and like the virgin extending his hands in gesture of reverence, also known as "proskynesis. This mosaic depiction is said to be important for emperors who performed their own acts of proskynesis on the place before passing the imperial door under the mosaic. (described in the book of ceremonies). (Freeman, z.d.)



Figure 1.16 Mosaic over Imperial Door, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

Constantine IX and Zoe with Christ

In this image, Christ sits on the throne with Emperor Constantin IX on one side and Empress Zoe on the other. The emperor and empress are facing Christ, presenting them with a bag of money. The mosaic illustrates how a donation was seen as an offering to god. (Freeman, z.d.)



Figure 1.17 Mosaic with Christ flanked by Constantine IX and Zoe, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

The virgin, John II and Irene

Another image with the virgin carrying the child in the center. With Emperor John II of the Komnenian dynasty on one side and Empress Irene of Hungary on her other. As in the image of "Constantine IX and Zoe with Christ," the emperor and the empress donate a sack and a rolled up document to the virgin. (Freeman, z.d.)



Figure 1.18 Mosaic with the Virgin and Child flanked by John II and Irene, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

Deësis mosaic

The monumental Deësis mosaic depicts Christ with the Virgin Mary to his left and John the Baptist to his right. The size of this mosaic mirrors its significance to Byzantine culture. Signed around the divine figures are the Greek abbreviations IC XC which stand for "Jesus Christ". As described in other mosaics, the Byzantines saw the Virgin Mary as "the mother of god" this is indicated by the abbreviation MP ΘΥ. John the Baptist, (a relative and baptizer of Christ) is referred to as "Saint John the Forerunner." Despite part of the mosaic being lost, it is suspected that the virgin and John make a supplicative gesture toward Christ, hence the mosaic is called Deësis, which means entreaty. (Freeman, z.d.)



Figure 1.19 Deësis mosaic, Hagia Sophia (photo: byzantologist, CC BY-NC-SA 2.0)

1.6 Uniqueness of Hagia Sophia

The architectural elements that make Hagia Sophia so special are the combination of form, scale and the unique aesthetics of light (figure 10). Light plays an important role when designing churches. Both light and wisdom are metaphors for the complexity in the Christian faith. The physical light of the church, lead the faithful to salvation because it offers some insight into divine wisdom and spiritual reality. The aesthetic experience of Hagia Sophia is defined in part by the unprecedented use of light, shadow and color in the sacred space of Hagia Sophia. Both the architecture and interior of Hagia Sophia form an aesthetic concept of light and color that refers to divinity and wisdom. Architects Anthemius and Isidorus involved the windows in the dome and the facades as an architectural system where natural light touches all sides of the interior. (Schibille. N., 2014)



Figure 1.20 Left to right: Study of light in apse, 1948 (Byzantine Institute), Lightning through the domes (Byzantine Institute)

1.7 Conclusion

Hagia Sophia is a unique building, there is no need to discuss that. However, it is typical of Byzantine architecture and contains many features that several structures from that same period also feature. Not only the exterior but also the interior reflect the style of the era. For example, it consists of domes, arches and is built of bricks. It has a central floor plan that is symmetrically balanced and richly decorated by mosaics and patterns. Features that typify the Byzantine style, but even so, Hagia Sophia is special. Iconic it is also called, possibly distinguishing the building from fellow Byzantine churches, monasteries and palaces by its large scale and structure.

Hagia Sophia as a mosque during the Ottoman Empire



2.1 Introduction

In 1453, Constantinople was conquered by Mehmed II. He understood the importance of the Byzantine capital, Constantinople to the rising Ottoman Empire. Mehmed II's new policies meant he wanted to turn the city into the seat of his new empire. The series of policies that would form the Ottoman Empire would influence the architectural landscape of the city, making the Ottomans recognizable without taking the remnants of the Byzantine idioms. The Ottomans first focused on the Byzantine cathedral, Hagia Sophia which was called Ayasofya by the Ottomans. Due to its location, shape and dome, the structure was an icon indicating the previous presence of Byzantium. (Adams, 2018)

This chapter will examine the changes and adaptations that Hagia Sophia underwent after its conquest by Mehmed II. This will be treated in order of transformation. First the initial changes within Hagia Sophia will be discussed and after, the larger alterations to the exterior and interior of the structure.



Figure 2.1 First minaret (Hagia Sophia, drawing by Gaspare Fossati, 1852)

2.2 Mehmed II's Friday Mosque

After the siege of Constantinople, Mehmed II's focus was the policy of the city's structures. To overcome Constantinople's association with Christianity, the Ottoman had to dominate. Similarly, the Byzantine structure the cathedral Hagia Sophia was treated. Mehmed II chose to make Hagia Sophia his Friday Mosque. A place where the sultan could lead Friday prayers as a symbol of the sultan to the people. This transition of function brought minimal changes. The remnants of the distinctive Christian liturgy were removed from the walls. However, the Christian paintings on the walls and the structural décor both inside and outside remained untouched, but the necessary signs of Islam were added. To summon the Muslim population for prayer, a temporary wooden minaret was erected in the southeast corner of Hagia Sophia. These changes were applied even before the church was officially transformed into a mosque. (Adams, 2018)



Figure 2.2 A painting of Hagia Sophia by Gaspare Fossati, 1852

2.3 Adding minaret's

According to seventeenth-century Ottoman traveler Evliya Celebi, architect Ali Neccar, was commissioned by Mehmed II to repair the structure of Hagia Sophia, which had been damaged by an earthquake three years before its conquest by the Ottomans. Ali Neccar built foundations of a minaret while carrying out the task, in which he had offered up his prayers. It was a predestined plan about which the architect said: "The repair depended on me, the conquest depends on you". The foundation was a buttress containing a staircase, which was converted into a minaret by Mehmed II after the conquest of the city. Mehmed II began adding two minarets setting the tone of the official conversion to mosque. The two minarets were allowed to be used only by persons of royal Ottoman blood. Then the bells were removed from the bell tower and the cross on top of the dome was removed as well. (Mark & Cakmak, 1992)

The four minarets sited at each corner of the building were added by Mehmed II's successors, Selim II and Murad III. This is recognizable by the difference in material use and design of each minaret



Figure 2.3 Hagia Sophia minarets, Bull, 2013

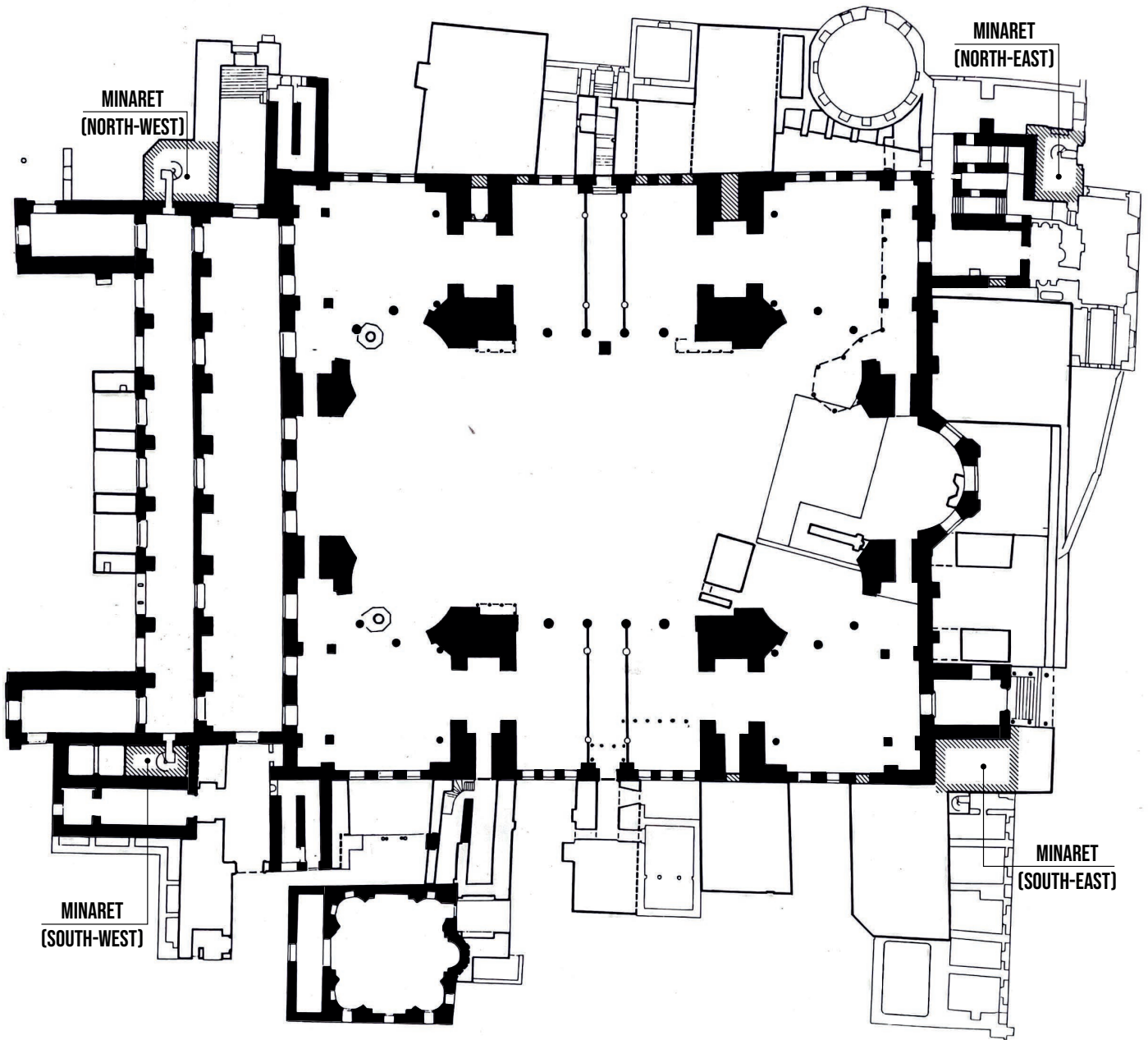


Figure 2.4 Plan Hagia Sophia and the locations of the minarets (R. Mainstone)

The brick minaret stands at a distance of 7,5 m east of the southern corner and is built on a large buttress of limestone. Into this buttress runs a small circular staircase that allows access to the minaret. The minaret itself thus starts from the roof of the buttress, at the level of the roof of the gallery. The shaft stands on a square structure of limestone with on top stands the shaft with 16 sides of brick, above it a platform around the shaft, where the extension of the shaft rises in a thinner form, on which rests a conical roof decorated in a Renaissance style. Through descriptions from the seventeenth-century of the building, it is suggested that this minaret was the first of the four built after the conquest.

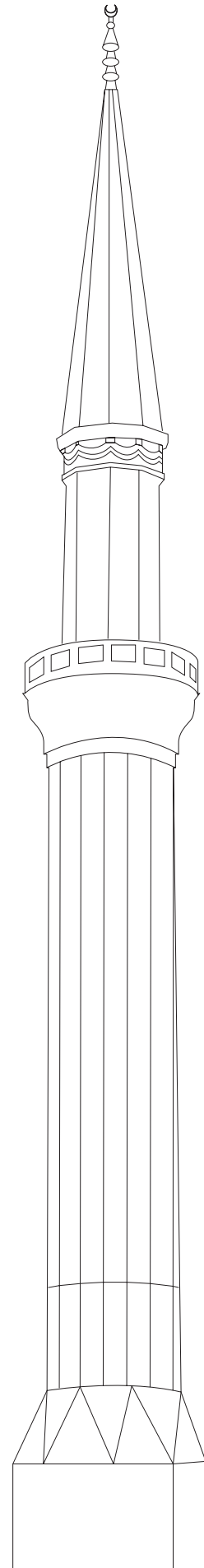


Illustration Minaret by S Ozcan

The minaret situated on the north east stands 10 m east from the northern corner, on a foundation separate from the building. This minaret is the slenderest and more nuancedly decorated. The shafts are of limestone and, like the south east minaret, has 16 sides that are rounded at the bottom. Under the conical roof, the Shaft, like the southeast minaret, is decorated with garland details.

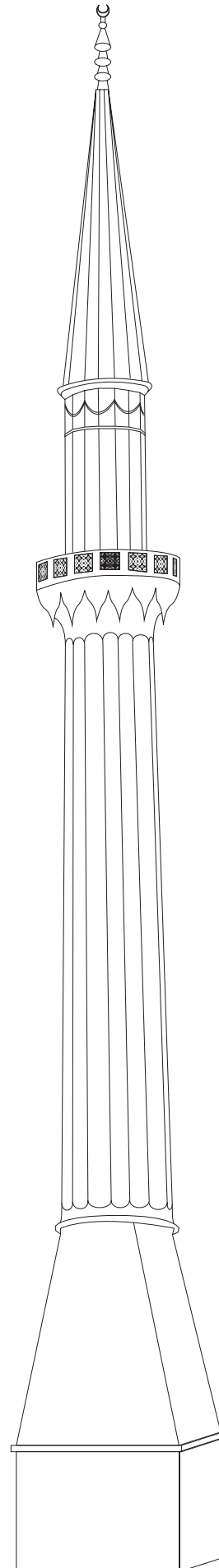


Illustration Minaret by S Ozcan

The western minarets are placed symmetrical-ly and have a different appearance due to the thicker shafts. These minarets are also placed on square foundations of limestone that end at the level of the western gallery. From this rise tapered bases that turn into shafts that have 20 sides each. Surrounding the shafts are platforms under the conical roofs, turquoise glazed tiles have been placed instead of ornate garlands, which used to be there before. (Emerson & van Nice, 1950)

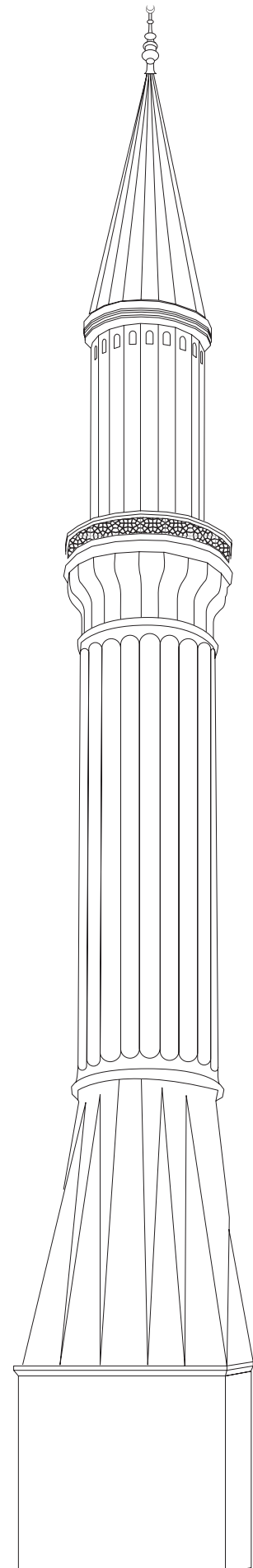


Illustration Minaret by S Ozcan

2.4 Repairing and renovating Hagia Sophia

A century after Hagia Sophia was rededicated as a mosque, Selim II undertook the first major renovation of Hagia Sophia in 1572-1574. According to the architect who would carry out the renovation, Mimar Ahmed, drastic changes had to be made to strengthen the monument. The houses, rooms, latrines and kitchens built against Hagia Sophia burden the walls of the mosque, and were therefore demolished. The buttresses also had to be repaired and the first wooden minaret, which was added to the church in haste after the conquest, had to be replaced with a masonry one. Later, after inspection together with chief architect Sinan, it was decided that the following changes should be applied:

- The space to the left and right of the mosque had to be cleared
- A passageway had to be cleared around the madrasa
- The adjacent royal warehouse had to be removed
- The minaret on the dome had to be removed again, and replaced by a minaret on the buttress in front of it
- In the open space around the mosque buttresses and water pipes had to be built
- Where restoration was needed both inside and outside would be repaired and cleaned
- The stone and brick removed would be reused in repairs
- The lead covering the dome was to be replaced

In addition to the two replaced minarets, Selim II also commissioned architect Sinan to build two new minarets, two Selimiye madrasas and a mausoleum in the free space around the mosque. However, due to the death of Selim II in 1574, not all the orders were carried out. Finally, the two new minarets and a mausoleum were built by his son, Murad III.

Murad III also received his own mausoleum, built by student Davud of architect Sinan. He saw this as an opportunity to make several minor repairs. This was followed by more extensive renovations that significantly changed the celebrated decorative skin of the mosque, a feature previously praised in poems by the Ottomans. The change meant much for the Islamization of Hagia Sophia. (Mark & Çakmak, 1992)

According to a 1607-1609 repair document, Ahmed I's renovation consisted of replacing the covering of the dome of shed, replacing windows and inscriptions, adding ceramic tiles, adding decorative painting to the sultans' royal stand, the mihrab, the minbar, the balustrades around the galleries, and the domes and semi-domes. The other interior and exterior walls were whitewashed. (Mark & Çakmak, 1992)



Figure 2.5 Exterior view of Hagia Sophia with the mausoleums of Ottoman Sultans by P. Sebah c. 1880

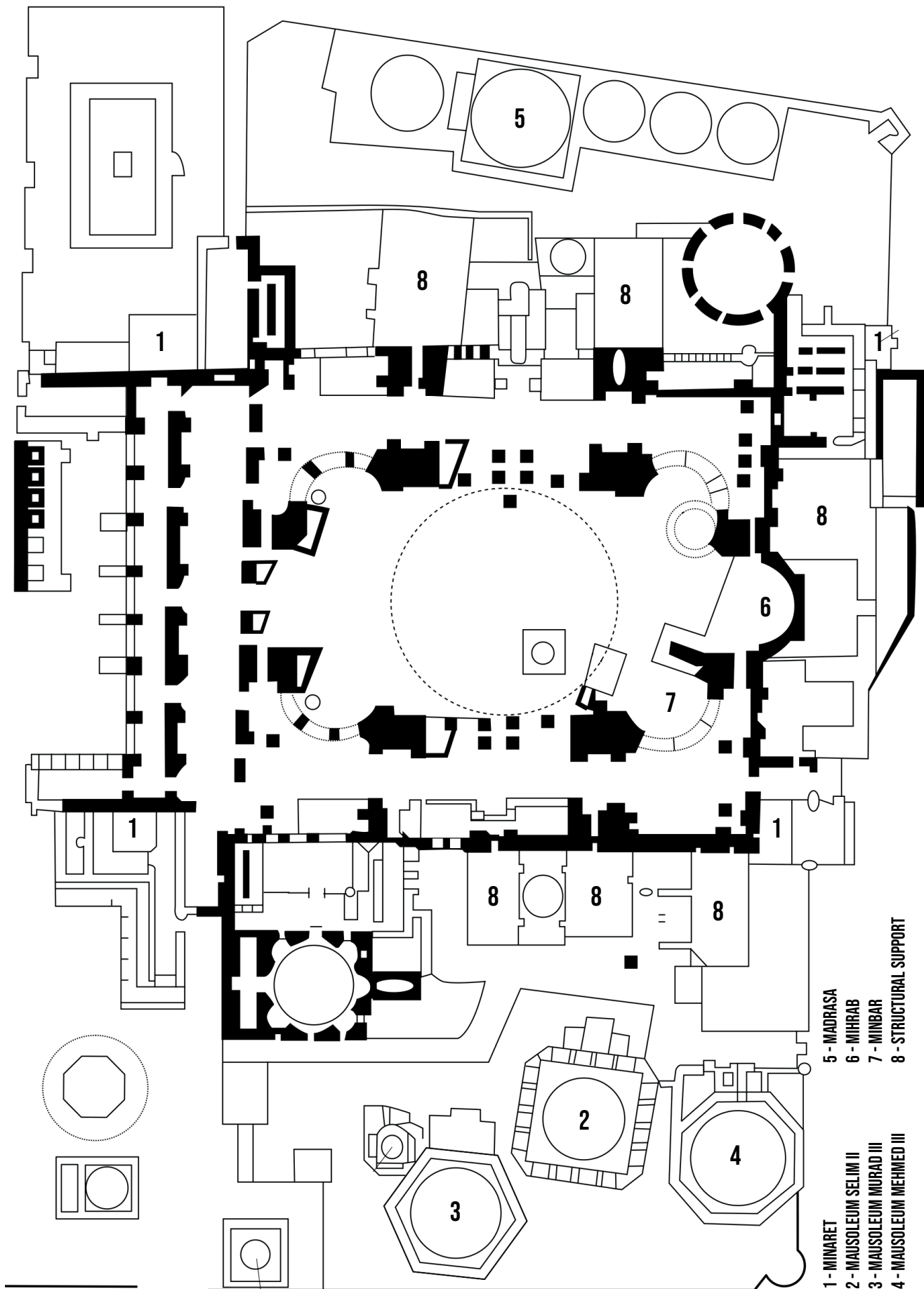


Figure 2.6 Plan Hagia Sophia renovations and additions (Aya Sophia Floor Plan, z.d.)

2.5 Christian mosaics in a mosque

During the renovations, many figurative mosaics of Hagia Sophia, were covered under paint. Mosaics were partly whitewashed and decorated with large engraved Arabic letters. Christian mosaics that were visible outside the prayer room and out of sight of the congregation were left untouched.

A selective choice was thus made as to which figurative mosaics did remain untouched and which were painted over based on the acceptability of their iconography from an Islamic point of view.

According to drawings made by Grelot and Loos, it can be seen that the mosaics preserved in the prayer room were the four seraphim on the pendentives and the virgin with the child in the shell of the apse above the mihrab flanked by the archangels Gabriel and Michael.

The great dome as we know it today was renewed in the 19th century by calligrapher Kazasker Izzet Efendi, the text quotes the Light Verse. The large dome is enhanced by the use of golden mosaics that reflect and allow light to flow in from the windows in the dome. Also shown in van Loos' illustrations is the epigraphic program of the 17th century mosque, placed on the pillars supporting the dome. The panels on the pillars on the side of the mihrab apse contain the inscription of Sunni creed, these are also on the mihrab. In the space there are eight small roundels inscribed with the names of Allah, Muhammad, Abu Bakr, 'Umar, 'Uthman, 'Ali, 'Hasan and Husayn, these names are also on the pillars of the dome. (Mark & Çakmak, 1992)

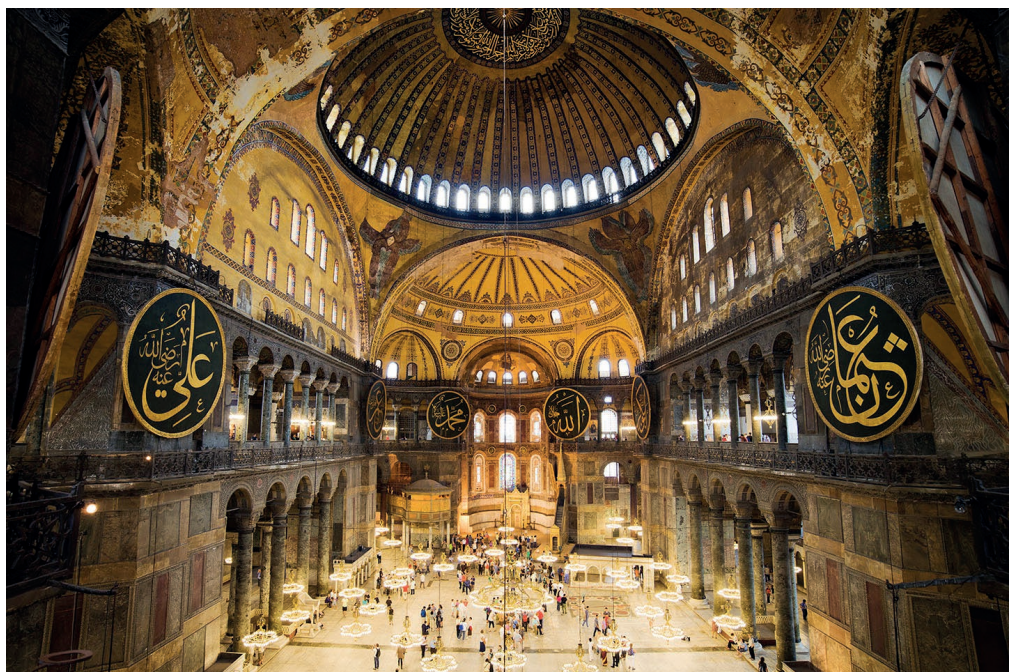


Figure 1.7 Wooden roundels on pillars supporting the dome, (Hagia Sophia, an Architectural Marvel, z.d.)



Figure 2.7 Wooden roundels, the Khalili Collections (Four Wooden Roundels, z.d.)

Later, visible in the 1710-1711 drawings by van Loos, the figurative mosaics that were still visible were completely covered. This may have been by order of Mahmud I (1730-1754), who expanded Hagia Sophia by adding a library, fountain, imaret and a school for children. (Mark & Çakmak, 1992)

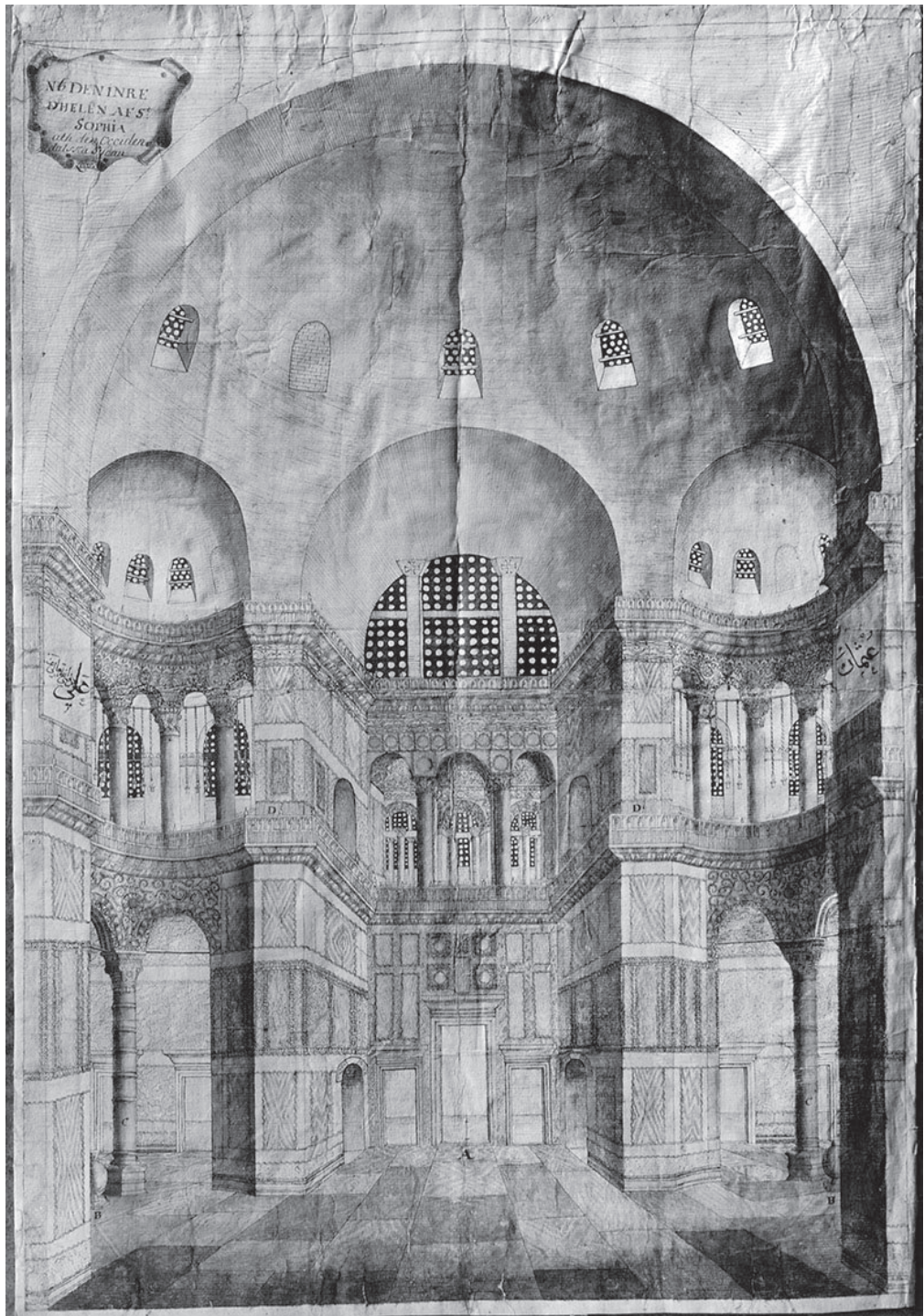


Figure 2.8 Drawing interior of Hagia Sophia, c 1710 by Cornelius van Loos

Between 1847-1849, the Fossati brothers (Gaspare and Guisepe) were commissioned to carry out a major renovation on Hagia Sophia, by Abdulmecid I. The mosaics were laid out by the Fossati brothers during this renovation. Abdulmecid wanted the figurative mosaics located outside the prayer hall to be visible but eventually had to be covered up under pressure from those with more conservative views.

The mosaics that did remain in view are the seraphim on the pendentives, though their faces are covered by star medallions. (Mark & Çakmak, 1992)



Figure 2.9 Seraphim's on pendentive with faces covered with star medallions, (Ayasofya Camii'ndeki Serafim Melegi figure yıllar sonra yeniden gun yuzune cikti, z.d.)

2.6 The elements of a mosque

Mehmed II removed Christian elements and replaced them with Islamic elements with similar functions. For example, the cross on top of the dome was removed and a bronze crescent moon was placed in its place as a symbol of Islam. Within Hagia Sophia, the ambo was removed and a mihrab was placed in the same place in the niche of the apse with a minbar next to it. (Winston, 2017) (See figure 2.11) Since the apse of the church was not aligned with Mecca, the Mihrab had to be placed at a specific angle. Among other things, this is also reflected in the mats and strips of carpets for example, they were not aligned with the lines of the building. (Mark & Çakmak, 1992)



Figure 2.10 The minbar and mihrab in the nave looking east (1710) Drawing by van Loos

2.7 Conclusion

After the conquest of Constantinople by Mehmed II, Hagia Sophia has been changed multiple times at the behest of different leaders. One of the biggest additions to Hagia Sophia are the four minarets at each corner of the structure, these serve to call one to prayer. It is unclear which minaret was built first given different results in literature reviews. During a major renovation, Hagia Sophia was not only strengthened but also expanded by the addition of smaller buildings and elements within the building. Due to the difference in Christianity and Islam, some mosaics depicting biblical saints were hidden and the mosque was further decorated by Islamic calligraphs.

Despite the restorations, additions and changes, the conqueror treated the church with respect from the beginning but did make known the consecration of Hagia Sophia to Islam. The name of "the Great Church of Hagia Sophia" changed in the Islamic form to "the Great Mosque of Aya Sophia. The conversion also brought the replacement of the large metal cross on the dome with the bronze symbolic crescent moon.

The differences between



Hagia Sophia as a church and a mosque

3.1 Introduction

The previous chapters have examined Hagia Sophia as a church from the Byzantine Empire and as a mosque during the Ottoman Empire. The structure, layout, aesthetic features both inside and outside have been examined. Modifications and additions have also been analyzed. This chapter juxtaposes and compares the findings from chapter 2 and chapter 3 to validate the architectural changes in Hagia Sophia during its conversion from church to mosque.

3.2 Changes in Hagia Sophia's structure

3.2.1 The church's structure

A striking feature of the Byzantine Hagia Sophia is its scale and its dome and semi-domes. The base of the structure consists of a square base with a height of 60 meter which is the foundation of the large dome and is supported by buttresses. Attached to the square base on the east side are two narthexes, the inner and outer narthex.

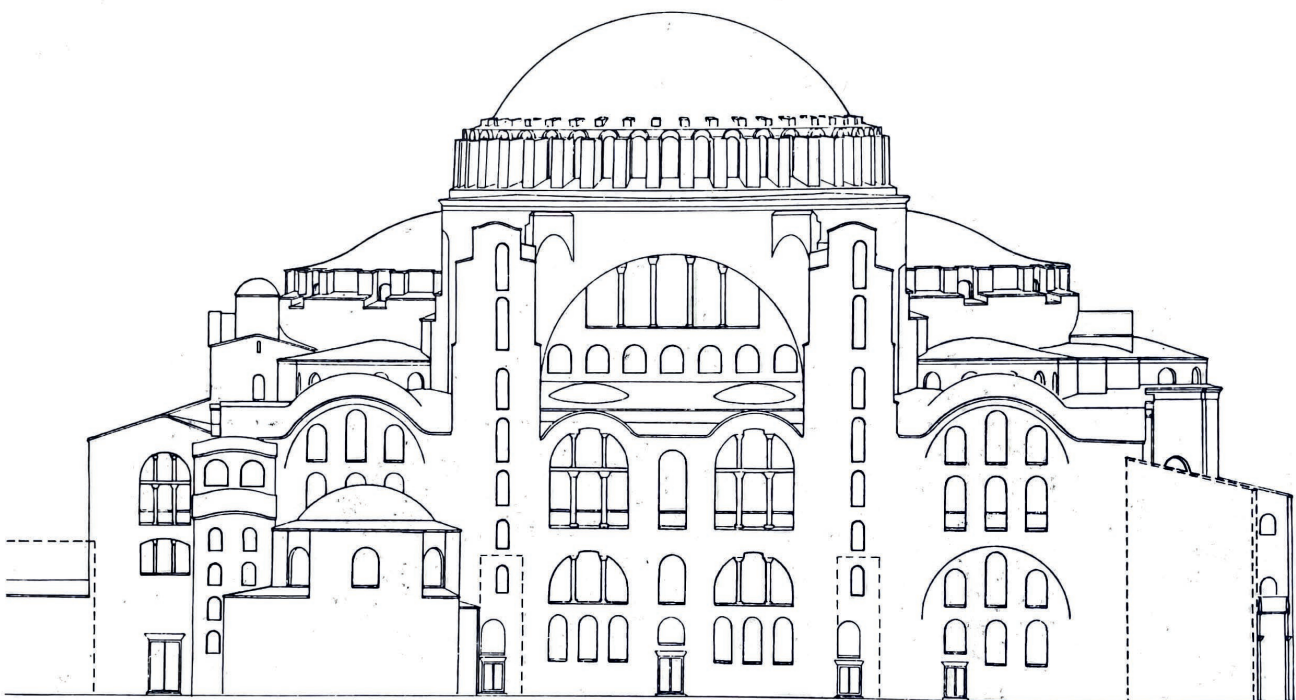


Figure 3.1 South elevation of the church, R. Mainstone

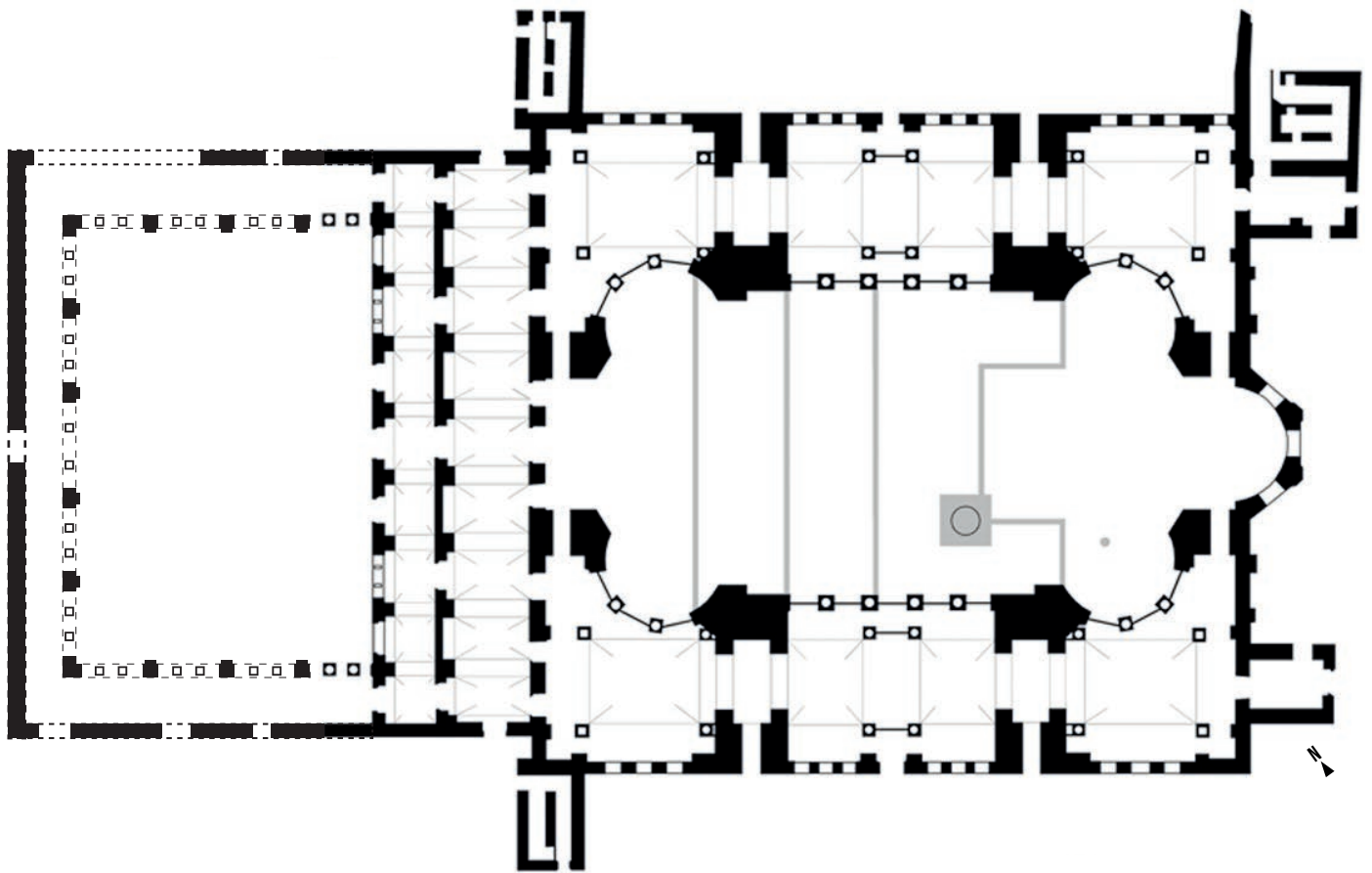


Figure 3.2 Floor plan ground floor (Hagia Sophia and the Byzantine Aesthetic Experience J. Lawler)

3.2.2 The mosque's structure

The structure of Hagia Sophia did not change much after the Ottoman conquest. However, much has been removed and added. For example, the atrium of the church in front of the narthexes was removed and 4 minarets at each corner were added to the structure. Hagia Sophia was also renovated after its conversion to a mosque and in the process the monument was strengthened and repaired. These are not major changes directly visible from the exterior sides. What is particularly visible in the floor plans are the additions of small building parts around Hagia Sophia. For example, several mausoleums, madrasas and a library have been added.



Figure 3.3 The church from the south (Hagia Sophia: Architecture, Structure and Liturgy of Justinian's Great Church 23 - R. Mainstone

3.2.3 Additions to the mosque

Compared to the floor plan of Hagia Sophia as a church and the floor plan of Hagia Sophia as a mosque, the church was more compact and the mosque was expanded with surrounding and adjacent smaller structures on the exterior of the building.

To strengthen the structure, several buttresses were built against Hagia Sophia. Smaller structures have also been built around, on and against the building during the multiple renovations that Hagia Sophia has undergone. A minaret was built on each corner of the building, multiple madrasas, mausoleums, a library, fountain and an imaret (hospice) were added to Hagia Sophia.

Elements have been added inside Hagia Sophia in order to use it as a mosque. What used to be the nave of the church is now called the prayer hall of the mosque. Inside the prayer hall you will find the minbar, mihrab and the sultan's imperial lodge.

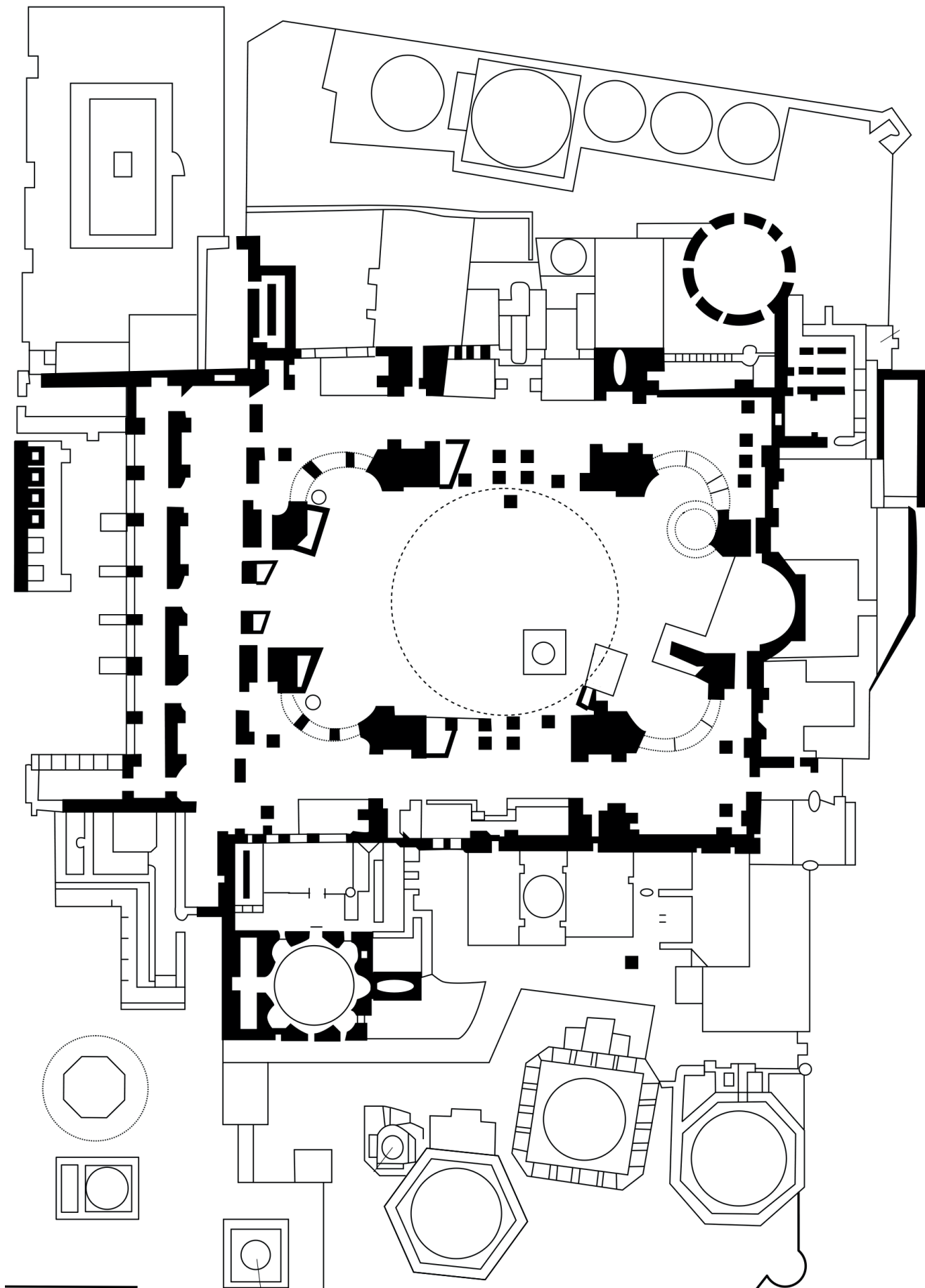


Figure 2.6 Plan Hagia Sophia mosque (Aya Sophia Floor Plan, z.d.)

3.3 Decorative changes inside Hagia Sophia

3.3.1 Decoration in the church

Hagia Sophia was the source of Christian artistic expression and was beautifully decorated with mosaics. The church was decorated with figurative and non-figurative mosaics. The mosaics covered the vaults, domes, ceilings and window frames. The non-figurative mosaics were often geometric patterns that followed the outlines and edges of the architectural forms.

The figurative mosaics were Christian figures such as the Virgin Mary and Christ child, sometimes in the company of emperors and empresses. The imperial portraits and Christian figures in mosaics were commissioned by various Byzantine royal families.



Figure 3.4 Original mosaic of the church with Islamic decorations (Hagia Sophia, a UNESCO World Heritage Site, was a Byzantine cathedral before being converted into a mosque and is now a museum in Turkey's capital Istanbul, Sezer n.d.)

3.3.2 Decoration in the mosque

When the church became a mosque, many of these figurative mosaics were hidden under paint during renovations. Based on the acceptability of the iconography from an Islamic point of view, it was chosen which mosaics remained untouched and which were hidden.

The large dome was renewed in the 19th century by calligrapher Kazasker Izzet Efendi; the text on the dome quotes the Light Verse. Roundels were also added on the support pillars under the dome with the names of Allah on them.

After discussion as to which figurative mosaics should or should not remain, regardless of whether they were inside or outside the prayer hall, the only mosaics that remained in view in the mosque were the seraphim's on the pendentives of the dome. However, the countenance of the seraphim's were covered with star medallions.

3.4 Conclusion

The difference between Hagia Sophia as a church and Hagia Sophia as a mosque is in both the interior and exterior. Most changes were done to strengthen the structure, the biggest changes were done to remove the features of the church and display that of the mosque. This was done by removing and hiding Christian elements and decorations, such as the bell towers, the steel cross on the dome and the biblical mosaics inside the building. Then Islamic elements were added, such as the four minarets, the symbolic crescent on the dome, Islamic decorations within the building and the minbar and mihrab.



4.1 Introduction

This chapter is a conclusion to the results of the research in the previous chapters. The changes of the architecture of Hagia Sophia as a church and as a mosque have been examined and compared in the previous chapters. The conclusion will address the effects of the conversion of Hagia Sophia from a church to a mosque on the architecture and appearance of the structure.

4.2 The effect of the changes due to the conversion of Hagia Sophia on the architectural appearance of the structure

The changes to Hagia Sophia after its conversion from church to mosque can be categorized into three issues. Changes were necessitated by (1) lack of stability, (2) the difference in use and religion, and (3) the desire for expansion.

Hagia Sophia as a church was an important structure for the Byzantine era and reflected the typical architectural style widely used at the time for churches, monasteries and palaces. However, Hagia Sophia was distinguished from similar structures of the time by its large scale and unique aesthetic. The building symbolized the Christian religion and its spiritual significance. The interior of the building which is richly decorated with mosaics and made of precious materials reflected the wealth and power of the Byzantines.

After the conquest of Constantinople by the Ottomans, the church was occupied by Islamists and eventually converted to a mosque. This conversion caused changes to the building. It began with the addition of the (temporary) minaret. Whereas the Christian use a bell to call for a service, Muslims use the minaret to call one to prayer five times a day. The changes after were necessary to strengthen the building because it was no longer in stable condition. Then four new minarets were added at each corner of the building and, during a subsequent restoration, several buildings were ordered to be added around Hagia Sophia.

Even the interior of the old church did not remain unchanged after its conversion to mosque. Again due to difference in religion, biblical mosaics had to be hidden in the prayer hall and Arabic calligraphy panels were added in the space. Some mosaics were destroyed over the years and some were partially whitewashed and decorated with texts from the Koran. These were changes to make the building suitable for Islamic worship. The addition of the mihrab and minbar also served this purpose.



Figure 4.1 The Seraphim's mosaic, (Hagia Sophia Research Team (HSRT), n.d.)



Figure 2.10 Seraphim's on pendentive with faces covered with star medallions, (Ayasofya Camii'ndeki Serafim Melegi figure yıllar sonra yeniden gun yuzune cikti, z.d.)

4.3 Conclusion

If we look at the difference in architectural appearance of Hagia Sophia as a church and mosque as a whole, they are similar. The exterior of the structure changes little in terms of its appearance by retaining the original Byzantine structure. The addition of the minarets provide a unique mix of Byzantine architecture and Islamic architecture. The minarets symbolize Islamic culture and form the visual landmark of the mosque, but for Hagia Sophia they also symbolize the triumph of Islam over Christianity. Although Hagia Sophia was originally built as a church, certain similarities made it possible for it to be converted and used as a mosque. Hagia Sophia remains an imposing building, important for both Christians and Muslims due to its historical and cultural significance. The building will be restored when necessary and old mosaics are also brought out again, so the building will retain its history, importance and significance forever.

Glossary



Bema (the arch of)	<i>a podium of platform containing the altar</i>
Buttress	<i>a structure to strengthen or support</i>
Exedra	<i>a room where people may converse</i>
Firman	<i>a royal decree issued by the Sultans</i>
Iconoclasm	<i>the rejection or destruction of religious images</i>
Mihrab	<i>a niche in the wall of a mosque that indicates the direction of Mecca</i>
Minaret	<i>a tower to call Muslims to prayer</i>
Minbar	<i>a platform used by a preacher</i>
Mimar	<i>architect</i>
Naos	<i>the main body or nave of a Byzantine church</i>
Narthex	<i>a porch at the western entrance of a Christian church</i>
Pendentive	<i>a curved triangle of vaulting formed by the intersection of a dome with its supporting arches</i>
Pier	<i>a solid support designed to sustain vertical pressure</i>
Proskynesis	<i>the act of bowing down before a lord or ruler</i>
Tympana	<i>a semi-circular decorative wall surface over an entrance</i>

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