

## Ottoman Architecture: Cultural Interaction and Influences (Part-I)

**Dr. Nasir Nabi\***

### ABSTRACT

The Ottoman artistic and architectural heritage bloomed and prospered in its Golden Age during the reign of Suleyman (r. 1520–66 C.E.), popularly known as “the Magnificent” or “the Lawmaker”. The Golden Age marked geographic expansion, boom in trade, economic growth, military successes via land and seas and saw an increase in artistic activities. This period saw development in architecture, calligraphy, manuscript, painting, textiles and ceramics and heralded a new era in the expansion of Muslim architecture in the early Modern era. In this backdrop, the paper explores the nature of Muslim architecture across various Muslim Empires with a particular focus on the Ottoman Empire and investigates the various factors that influenced it spread from the Levant, particularly Greater Syria towards the West and East and how the mutual cultural exchange between the East and the West further shaped the architectural structures across continents.

### 1.1 Introduction

Having a distinct cultural, artistic and architectural legacy, the Ottoman Empire (1299- 1922 C.E.), spread from Anatolia and the Caucasus across North Africa and into Syria, Iraq and Arabia, integrated and synthesized different forms of Byzantine, Persian and Mamluk traditions, and ultimately formed a rich artistic and architectural heritage. The formal integration of diverse forms and traditions under the Ottoman Empire happened after the conquest of Constantinople by Sultan Mehmet al-Fateh in the mid-fifteenth century when Turkic and Perso-Islamic traditions blended with the Byzantine artistic repertoires. The transformation of Hagia Sophia church, built in 537 CE by the Byzantine Emperor Justinian I, is the first instance of how East encountered the West during the Ottoman period. Throughout Mehmet al-Fateh's reign, Ottoman, Iranian, and European artists and scholars arrived at his court, making him one of the greatest patrons of art and

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\* Assistant Professor, Shah-i-Hamadan Institute of Islamic Studies, University of Kashmir.

science of his times. With such a tremendous patronage, artists felt free to expose and fuse their art with other arts which led to the creation of a distinct style of Ottoman Art and Architecture.

### 1.2 Roots of Muslim Architecture: Greater Syria

Greater Syria refers to a large area encompassing the modern states of Syria, Lebanon, Israel and Jordan and Palestine. Known as the 'Cradle of Civilizations', the oldest human remains found in Syria date back to roughly 700,000 years ago. The Syrian city of Elba, existing around 3,000 B.C, is one of the oldest settlements. Each civilization built with whatever building materials were at hand, hence the people of the Levant were masters of building with stone in a tradition that went back thousands of years. Their stone walls were dry-bonded and they hardly ever used brick and concrete. The ancient Egyptians discovered that adding volcanic ash to concrete allowed it to set underwater, as did the Assyrians and later the Romans, who developed the use of concrete in new and revolutionary ways. Arches, vaults and domes could be laid over moulds which quickly hardened to become rigid structures.

Roman temples in the East, as at Palmyra's Temple of Bel, for example, has an emphasis on vast walled spaces, open-air courtyards, which enclosed the small room where the image of the god was used and where only priests were permitted. This walled enclosure was an inviolate space for the public, the congregation, to gather and to take part in the ceremonies and rituals of the ancient Semitic religions. The earliest examples are in the Sumerian architecture of Ur and Babylon, in Iraq, both of them ziggurat temple complexes with large courtyards, dating back as far as the fourth millennium. Such a style, alien to both Iranian and Graeco-Roman religious architecture, is found in third-millennium B.C. Phoenician temples of the Levant like Amrit, in Tartous, Syria.

The first original Christian architecture was born in the Byzantine East, not in Rome, in the fourth, fifth and sixth centuries, when Syria, Egypt and Byzantium were the centers of the civilized world. St. Adomnan, for example, abbot of Iona Abbey and biographer of the abbey's founder St. Columba (521–97 C.E.), confirms that Irish monks went to Syria to familiarize themselves with its monastic architecture, while Laurence, Bishop of Siponte in Italy wrote to Roman Emperor Zeno asking to send artists to decorate the churches of his Episcopal villa, a request duly granted.<sup>1</sup>

The tradition passed over to Christianity, with the early pilgrimage churches of northern Syria like St. Simeon Stylites and Qalb Lozeh featuring large walled enclosures where pilgrims could gather safely. Syria was annexed to the Roman Empire in 64 B.C., Pagan gods, such as Jupiter Dolichenus and Jupiter Heliopolitanus, and local fertility goddesses like Atargatis originated in Syria, and therefore Syrian influence penetrated all levels of Roman society, from private soldiers and ordinary citizens to priests and imperial families.<sup>2</sup> The early architectural development of the very first churches, unsurprisingly, began with the repurposing of the pagan temples. Syrians have always been open to religious experimentation and syncretism. The monastery of Mar Gabriel, east of Midyat, is the largest and oldest of the monasteries of the Tur Abdin region in southeast Turkey. The monastery has two churches, and the older, Virgin Mary church (no longer in use) boasts a fine but windowless ancient brick dome, built in around 512 C.E., a rare extant prototype for Justinian's brick-built dome of Hagia Sophia completed in 537 C.E. In the dome behind the altar of the main Forty Martyrs church are beautiful Byzantine mosaics in gold, green and blue, courtesy of generous donations from Anastasius and strongly reminiscent of the mosaics two centuries later in the Damascus Umayyad Mosque, with similar motifs of trees and vine scrolls, images of paradise and fertility. The most exotic of all the Tur Abdin churches can be found in the village of Khakh (Syriac Hah, Turkish Anıtlı). It is called Al-Hadra, (The Virgin) also known as, Meryemana, Mother of god, a graceful second-century Eastern Roman tomb decorated with a pyramid dome and two storeys of elegant, blind arches.<sup>3</sup>

The doors and lintels bear Eastern Roman palm-tree decorations, garlands, pearls and acanthus leaves, and the whole ensemble illustrates well how blended the Roman and Byzantine cultures were and how similar their imagery was, which Islamic architecture then inherited and developed further. The world's oldest Christian church, dated to 231 C.E., was found at Dura-Europos in Syria, a multi-cultural, multi-ethnic and multi-religious trading city on the Euphrates right on the frontier of the Eastern Roman and the Parthian empires.<sup>4</sup> It is a small square shaped courtyard house, identified as a 'church' because of the murals of Adam and Eve and depictions of various New Testament miracles. Excavated at the same time as the church, the much larger synagogue was covered in highly colored wall frescoes of scenes from the Old Testament with patriarchs and prophets in their human form. The synagogue frescoes are thought by art historians to show the origins of later

wall paintings in the Romanesque churches of Europe. A total of sixteen temples were found at Dura-Europos, a city in which Parthians, Greeks, Macedonians and Palmyrenes, be they pagans, Jews or Christians, all worshipped side by side in apparent harmony. The paintings were in near perfect condition as a result of being buried under the sand. Dura-Europos was thereafter nicknamed the Pompeii of the Desert. The official tolerance of Christianity with the Edict of Milan in 313 C.E. then gave Christians the right to practice their religion publicly within the Roman Empire and meant that churches could now be built openly, rather than being discreetly hidden within houses. When the Western Roman Empire and Rome itself collapsed in 476 C.E., Constantinople became the largest and wealthiest city in Europe, and the influences upon it were wide and varied, from the Roman Latin culture, the Egyptian Copts, the Thracians, Macedonians, Illyrians, Bythinians, Carians, Phrygians, Armenians, Lydians, Galatians, Paphlagonians, Lycians, Syrians, Cilicians, Misians, Cappadocians, Persians, to the Arab Muslims.

### 1.3 Hagia Sophia: Inspiration in Dead Cities of Syria

The Romanesque churches of Europe and Hagia Sophia, which later became the foundation of Ottoman Architecture, both draw their influence from the Dead Cities of Syria. Syria not only absorbed the architecture of the sun and moon worshipping pagans, the Orthodox Roman Christianity and the Muslims but it consisted of its own indigenous traits as well. Thus, Syria became the Melting Pot of traditions and designs.

### 1.4 Qalb Loze (Heart of the Almond)

The church at Qalb Lozeh dates back to 460 C.E. and is one of the best-preserved churches of this period in the region consisting of columns and soaring arches which led the foundation of later Byzantine church architecture, and further influenced Muslim architecture in and around Syria.

In an effort to create Hagia Sophia into a grand basilica that represented all of the Byzantine Empire, Emperor Justinian decreed that all provinces under his rule send architectural pieces for use in its construction. Bricks and metal which was produced in Anatolia and North-Africa was used and marble (used in the walls and floor) came from Syria as well as architectural designs of the Byzantine Church Architecture of Syria such as large domed roof and semi-domed altars, were immensely reproduced. The interior of the arches and semi-domes were laden with

Byzantine mosaics made of gold, silver, terra cotta, colorful stones and pure glass and stained glass, brought in from Syria. Syria being the leading manufacturer of glass objects, was the only province under the Roman Empire that did not witness a deathblow after the decline of the Empire, rather the skill was honed and patronized by the Umayyad Dynasty (660-750 C.E.).

### 1.5 Architectural Features across Civilizations

#### 1.5.1 Ribbed Vaulting

A rib vault is an architectural feature used to cover a large interior space in a building, in which the surface of the vault is divided into webs by a framework of diagonal arched ribs. Ribbed walls permitted the construction of much higher and thinner walls. Ribbed vaults are a distinguished feature of Muslim Architecture, found in Khirbat al-Mafjar, Umayyad Caliph Hisham's Palace, Sulaimaniye Mosque in Istanbul and Santiago de Compostela Cathedral in Spain. Early Muslims pioneered the use of ribbed vaulting in the ceilings of mosques and palaces, using their deep understanding of complex geometry, to disguise the structural elements, the ribs – by covering them in decoration. This technique was brought to Europe by Muslim masons via Muslim Spain and Norman Sicily, and then refined by Christian Craftsmen.<sup>5</sup>

#### 2. Minaret/Tower/Spire

First seen in the early-eighth century Damascus Mosque built under Umayyads, where the minarets were built on the foundations of pre-existing Roman Temple enclosure towers, one of each in four corners. Minarets served a shared purpose i.e. to proclaim religious power and to reach upwards as an emblem of faith. Ottoman minarets were tall, pencil-shaped and the tip being lead covered with elongated conical cap, as can be seen in Sultan Ahmet Mosque. Minarets often formed feature of European Basilicas like the Saint Paul's.<sup>6</sup>

#### 3. Double Arcades

These were a series of arches carried by columns or piers, a passageway between arches and a solid wall. It finds its traces in Khirbat al-Mafjar in Jericho, Cordoba Mosque in Cordoba, Selimiye Mosque in Edirne and Durham Cathedral in England.<sup>7</sup>

#### 4. Blind Arches

It is an arch found in the wall of a building that has been in-filled with solid construction. This type of arcade has no actual openings. These blind arches are found in Qasr al-Hayr al-Sharqi and Qasr al-Hayr al-Gharbi, built in Syria by Caliph Hisham from the Umayyad dynasty. These arches are also found in Bayezid Mosque in Istanbul and Canterbury Cathedral and Durham Cathedral in England. Arches originated in Mesopotamia and later brought two more critical developments to architecture i.e., Vaults and Domes. Pointed arches entered Europe through Almali merchants in Italy trading with Damascus, Egypt and Istanbul. Europe's medieval Gothic Cathedrals were covered in pointed and trefoil arches inside and out.<sup>8</sup>

#### 5. Stained Glass

This was used to intensify architecture with vivid color, glasses are colored via metallic oxides during its manufacture, using different additives in order to create a range of hues and tones. It represents purity and spirituality in Christianity and became an integral and innovative element of Muslim architecture in the form of Shamsiyyat and Qamariyyat, i.e., the solar and lunar imagery for example in Dome of Rock in Damascus. The Venetians and Crusaders took the method and raw-material from Syria, and through them it spread across Europe, becoming popular with Dutch artists.<sup>9</sup>

The 17<sup>th</sup> Century traveler Evliya Celebi writes that in his time there were 364 stores and businesses involved in glass-making at Tekfur Palace, which became the centre of glass-making workshops in the 18<sup>th</sup> Century. Stained glasses beautifully decorate the interior of Selimiye Mosque in Edirne and Chartres Cathedral and Basilica of St. Denis in France.<sup>10</sup>

#### 6. Double Dome

A double dome is built of two layers. There is one layer inside which provides ceiling to the interior of the building. The outer layer crowns the buildings. It provides appropriate elevation to the monuments without losing the aesthetic value. Double domes helped project greater height and therefore greater visibility and a more imposing presence.

The first to use double domes were the Seljuks in the 11th Century. St. Mark's Basilica in Venice had the first wooden double dome, Santa Maria del Fiore

Cathedral double dome made of brick which later came to be known as Brunelleschi's Dome. Ottoman double domes of the 16th Century were made out of stone and were flatter than church domes. St. Paul's Cathedral in London, built by Christopher Wren in the 18th Century consisted of triple domes with three layers.<sup>11</sup>

## 7. Twin Towers

These were first seen in Syria in the 'Dead Cities' in the fifth and sixth century churches such as Qalb Lozeh, Deir Turmanin and Church of Bissos at Ruweiha. Further seen in Sulaymانيه Mosque built by Sinan and later seen in cathedrals all over Europe for example Notre Dame and Westminster Abbey.<sup>12</sup>

## 2 Ottoman Architecture

Ottoman architecture was influenced by the concept of 'Paradise Garden'. Each building is designed in a way that connects art with the spaces of everyday life. Trees were planted along-side streets as a balancing element that created harmony between the massive masonry structures, nature and open spaces in order to create a balance between nature and materialism.

### 2.1. Classical Period of Ottoman Architecture

A strong Byzantine influence, especially that of Hagia Sophia runs through the architecture of the classical period. Several mosques similar to Hagia Sophia, but with different proportions, openings and interiors. Mosques had interior and exterior courtyard. Each part of the structure designed and built while considering its impact on the whole monument. Traditionally stones for foundation, brick for the arches and timber for the decoration of domes were used. Later in the Classical period, lead-capped domes and minarets, polychromed glazed ceramic tiles, iznik tiles of white and blue, geometric designs adorned with colored stone, exotic wood and gold and calligraphy became a common sight.

#### 2.1.1. Kulliye/Complex

Ottomans inherited from the Seljuks a variety of public functional buildings. The first of these was the Hana, a building complex consisting of a mosque, a madrassa and a mausoleum. A hospital was also added like in the case of the *Ulu Cami Mosque* built in 1396 C.E. in Bursa. The structural complex came to be known as Kulliye and it served educational, religious and cultural and welfare functions. The kulleyes were founded, maintained and run by Wakf. The wakf received donations in the form of money, subsidies and other endowments and through these donations the Wakf paid wages to the clerics of mosques and muallims.<sup>13</sup>

Buildings such as public bath (*hammam*), offices (*hana*), shops and *bazaars* were later added to the Kulliye and mausoleum (*turbe*) were also added to accommodate the relics of the founder of the Kulliye or of the Sultan himself. The first Kulliye was built by Sultan Orhan Gazi in 1334 in Iznik consisting of a mosque, a public bath and a public kitchen (*imaret*). Sultan Orhan also built another Kulliye Complex in Bursa consisting of a mosque, a bath (known as *Bey Hamami*), an *imaret* and a *madrassa*. Al-Fateh complex known after its founder, Sultan Muhammad Al-Fatih (1451-81), consists of a mosque, sixteen madrassas, mausoleum (*turbe*) of Fateh himself, a library, a hospice (*tabhane*) and a kitchen (*imaret*), built and designed by the Greek architect. Kulliye became a building tradition that every Sultan engaged in constructing, often after successful war campaigns, as a token of appreciation to God for victory.

### 2.1.2. Mosques

Mosques were given central location in the Kulliye and they played a central role in the religious, cultural and political life of the Ottoman Muslim society. Early Ottoman Mosques consisted of rectangular structures with flat roofs raised by arcades and joined by a courtyard with an ablution fountain. The adoption of the domed roof, arranged in a number of small domes rising progressively like steps towards the main dome of the central aisle, produced the unique sanctified atmosphere. The attempt was to re-organise the internal space of the mosque and this was done by enlarging the cupola in front of the Mihrab, allowing greater span which gave the area more centrality. The infinity is expressed through verticality and hence the dome became the dominating skyline of the Ottoman architecture. The perfect centralization of the space under the main dome affirmed its unity and confirmed the symbol of one God-Tawhid, fundamental principle of Islam.<sup>14</sup>

### 2.1.3. Yesil Cami/ the Green Mosque (1412-1413)

Founded by Sultan Mehmet (1403-1421) in Bursa, the whole complex site consists of a bath, tomb and a Medressa. Typical of Ottoman mosques, Yesil Cami was dominated by its domes. What makes this mosque more interesting is the Persian tile-work in blue and green color, made by artisans from Tabriz. The mosque comprises a prayer hall with its centre falling under the central dome and the Mihrab area is located under the half dome. Interestingly, the Mihrab has Persian poetry engraved over it. The balcony tiles were dense with Cuerda Seca outline,

influenced by the Timurids in Samarqand. The Cuerda Seca tiles contain the polychrome glaze within black outline. The tomb of the Sultan called the *Yesil Turbe* (The Green Tomb) was designed by architect Haci Ivaz Pasha. The tomb has monochrome glazed turquoise tiles in hexagonal shape. The Cenotaph has Arabesque medallions with bright yellow floral tiles, again influenced by the Timurid architecture.<sup>15</sup>

#### 2.1.4. Shahzade Mosque (1544-1548)

The architectural successes of Mimar Sinan started with Shehzade mosque (Istanbul, 1544-1548). In this mosque, Sinan increased the size of the main dome to reach half the size of the diameter of the prayer hall, and flanked it with four half domes, one from each side. The huge prayer hall was lightened by a series of large stained glass windows.<sup>16</sup>

#### 2.1.5. Suleymanye Mosque (1549-1557)

The site of the mosque was chosen by Sultan Suleyman himself, on a hill above the Golden Horn. It is Sinan's masterpiece. The influence of the Hagia Sofia on the Suleymanye Mosque is visible as Sinan himself is known to have said that he wanted to surpass it. Many parallels can be drawn between the two structures. Sinan reiterated the structural scheme of Hagia Sofia, especially the main dome supported by two semi-domes from the North and the South.

However the dark atmosphere inside the roof of Hagia Sofia was what was changed and improved by Sinan. The massive polychromed arches that supported the main dome created brighter environment as the drums of domes and the surfaces underneath them were skillfully adorned with extra windows in order to illuminate the interiors.

The golden Naskh inscription that adorns the centre of the dome reads:

*"Allah is the Light of the heavens and the earth. The parable of His light is as if there were a Niche and within it a lamp: the lamp enclosed in glass: the glass as it were a brilliant star: Lit from a blessed tree, an olive, neither of the east nor of the west, whose oil is well-nigh luminous, though fire scarce touched it: Light upon Light! Allah doth guide whom He will to His light..."* (Quran – 24: 35-36).

The minarets were skillfully designed to both enhance the character of the building and emphasise the importance of the domed part of the building i.e., the Prayer hall. The ingenuity of Sinan in this mosque is the ventilation system. With such a large size the mosque posed a number of serious challenges concerning the supply of fresh air and the disposal of smoke of oil burners and candles which could pose a risk to the health of the attendants and to the architectural designs also. For this Sinan spent a considerable time studying the wind direction at the site which helped him in devising an astonishing ventilation system based on careful location of the windows. Accurate instructions were drawn to which windows should be opened.<sup>17</sup>

The homogeneous distribution of sound inside the spacious mosque was another issue Sinan had to deal with. Therefore, Sinan designed the Muezzin's terrace (*mahfil*) at the centre of the mosque and thus the worshippers inside every corner of the mosque could hear and follow the Imam.

#### 2.1.6. Bayezid Kulleyси (1484-1488)

Built by Ottoman architect Mimar Hayruddin for Sultan Bayezid the Second on the shore of Tunca river in Edirne, it remained in operation from 1488 upto four centuries. The complex consists of a mosque, *tabhanes* (guesthouse), *medresah*, *darussifa* (hospital), *imaret* (kitchen), pharmacy and food-storage areas. *Bayezid Khan Bridge* over the Tunca river was built to connect the kulliye to the city.

The principal aim of the complex built by Sultan Bayezid was to establish a hospital in Edirne. The Darussifa consisted of three portions, the first one included six outpatient rooms and service rooms such as kitchen, laundry and *surup* room (laboratory), the second courtyard consisted of four administrative rooms and the third part was the inpatient section called *sifahane* (curehouse).

Underneath the dome of Sifahane, a polygonal marble *sadirvan* (water tank with fountain) was placed not only to provide water but also so that the patients could relax to the sounds of the water. Beside along the edges, platforms were built where musicians used to provide music therapy to the patients.

The mosque holds the center position of the Kulliye with a diameter of 20.55 meters. The Mihrab and the Mimbar of the mosque have been built of marble and

the interior doors and windows are decorated by woodworking and in front of the mosque consists of a large courtyard with a *Gazebo* (pavilion) in its center.

The entrances of the structures present in the complex are decorated by *Muqarnas*, honeycomb-like vaulting, the earliest example of *Muqarnas* can be found in ancient Persia under the Sassanid Empire (224-651 C.E.). These honeycombed structures are later found in Christian Spain architecture and Western architecture.

The mosque had windows with Baroque edges, a theatrical style which appeared in Italy in the 17<sup>th</sup> Century and gradually spread all across Europe. The baroque style is characterized by vaulted cupolas (domelike ceilings) and the use of rough stones and smooth stucco and easily interpreted detail work. Also many windows were built to facilitate lighting inside the mosque keeping in view the rainy and cloudy climate of Edirne.

Flying Buttresses flanked the domes of the mosque, these flying buttresses are the half arches that extend out from a stone wall and this feature was popular during the Gothic Era of 12<sup>th</sup> Century for example the St. Vitus Cathedral in Prague.<sup>18</sup>

## 2.2. Final Phase of the Ottoman Architecture

Rococo style is an ornamental and theatrical style of architecture, art and decoration which combines asymmetry, scrolling curves, gliding, white and pastel colors, sculpted moulding and frescoes. Although Rococo art came after Baroque in Western Europe, it emerged in Turkey before the emergence of Baroque style. While the Baroque style employed contrasts of light and texture and conversely, Rococo contained more light sources, softer colors, flowers, pebbles and seashell motifs. Later in the 18<sup>th</sup> Century, Ottoman architecture was influenced by Baroque architecture in Western Europe, resulting in Ottoman Baroque style. The 18<sup>th</sup> century is the period, when the economic dominancy of Western Europe was felt in the intercontinental trading activity of the Ottoman Empire.

The earliest known example of European influences in Anatolia might be the Sungurbey mosque in Nide built in the 14<sup>th</sup> Century which has Gothic features like gothic windows with tracery-Rococo style is an ornamental and theatrical style of architecture, art and decoration which combines asymmetry, scrolling curves, gliding, white and pastel colors, sculpted moulding and frescoes. Although Rococo art came after Baroque in Western Europe, it emerged in Turkey before the

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In *Cihannuma Mansion* at Edirne Palace has characteristics of Romanesque and was constructed as a Tower Castle which can be found all over Europe. In the 18<sup>th</sup> Century, which came to be known as Ottoman Baroque Age, Ottoman architecture was under the influence of the West. As a result of relations with Europe, traditional Ottoman art was replaced by works influenced by Western influences. Artists from France started a new trend in Istanbul and caused the Baroque style to dominate. *Osman Kiosk* in Topkapi Palace, *Laleli Mosque* (1765), *Nusretiye Mosque* (1826), *Grand Mecidiye Mosque* (1854), Main Gate of Dolmabahce Palace (1856) and *Naksidil Valide Sultan Tomb* (1817) are the noteworthy examples of Ottoman Baroque Age.

The characteristics of the Baroque architecture were implemented with some changes, such as the use of sculptures and decorations without human bodies. The golden Baroque age in Ottoman Empire continued for a century, and later as in Europe, Neo-Classicism became the main style in the mid-19<sup>th</sup> Century. Gaspare Fosatti, Antonia I. Melling, Krikor and Garbaret Banyan were the most famous architects among the others who built important buildings in Istanbul.<sup>19</sup>

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