

Development and Evolution of Palmette Ornament: An Influence on Islamic Architecture

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Abstract. Decorative architectural ornaments are the mainstay of several art forms. Islamic architecture had several properties and characteristics, including the non-depiction of living beings and emulating God's creation of wrongdoing. Therefore, floral, geometrical, and vegetal motifs became the main component of Islamic architectural ornaments. Similarly, Palmette is included and practiced on a large scale in Islamic architecture due to its vegetal or floral forms. This article focuses on the historical aspects of palmette ornament. Additionally, it explores the development and evolution of the ornament from west to east. Moreover, how palmette ornaments are practiced in Islamic Architecture. For this purpose, historical approach of description is used to explore and analyze the palmette ornament in depth.

Keywords: Palmette, Architectural Ornament, Islamic Architecture, Islamic art, Decorative ornament

Decorative Art: Significance of Ornament

The importance of ornamentation in all monumental and architectural components, including domes and minarets, is what defines Islamic architecture as a whole [26]. The beauty of the ornamental embellishments governs every component it is based on [19]. Islamic decoration has traditionally been built on vegetal or floral ornaments.

The enrichment or embellishment of an object by the deliberate altering of its form or color is known as decorative art. The form elements are known as motifs when decorating is achieved via the repetition or combination of particular form elements following a preset scheme [8]. They are referred to together as ornamentation. Pure ornaments are formed when the decorative element takes center stage in the design. As a result, decorative art is largely what can be employed effectively in a certain setting. It is impossible to distinguish clearly between decorative and ornamental art. Depending on how it is utilized, a sizable amount of ornament can be classified in one of two ways. In many instances, the functions of ornamentation and representation are so evenly matched that either function may be chosen. Every piece of ornamental art is either symbolic or aesthetic [29]. In symbolic art, forms are primarily chosen for their significance, whereas in aesthetic art, forms are solely chosen for their beauty. No piece of work can be properly assessed in terms of whether it should be viewed as appealing to knowledge or taste [36].

While Greek and Roman decorations are solely ornamental, that of the Egyptians and Assyrians is essentially symbolic. The ornament should complement the design of the item, it is used to embellish rather than take over its appearance [28].

Ornamentations depend on the shape of the thing it decorates, but it also depends on the type of material and construction method utilized. Therefore, ornamentation is never solely on personal desire or whim [31]. As a result, there is a close connection between material, function, form, style, and the art of decoration. Early patterns had a geometrical design and were made up of little circles, bands, straight and curved lines, and so on. Natural or artificial ornamentation is aesthetic. Natural or imitation ornament is the recreation of forms exactly as they appear in nature so that they are the primary element rather than the second element as they should be in flawless adornment [11]. The alteration of natural features by simplification or exaggeration to make them more palatable or captivating when replicated is known as a conventional or stylized ornament. The components of creative ornaments are not derived from any natural source. Every culture has unique characteristics in its ornamental expression, just as every artist or painter has particular quirks or traits that set their work apart. These traits, which make up style, are fascinating since they show features of the various people's personalities, beliefs, and customs. Each tradition or culture does have distinctive ornamental features that can be categorized as a style and given a name [21]. When it is realized that each period developed from the one before it, the ornamental style is much simpler to comprehend. Every age's ornament may almost always be linked to an earlier culture. When a style is established, each culture gradually incorporates new forms and traits that are uniquely on its own. Because some styles are only variations of others, not all styles are equally important. The Egyptian, Assyrian, and Greek



*Fig. 1. Egyptian Deity, Ra and Palmette
[from authors private archive]*

ancient styles are the ones with the most recognizable traits while Roman art is merely a variation of Greek art [40].

Palmette: An ornament

A palmette is a decorative, ornamental, radiating floral design that, at its most basic level, is typically taken from a palm leaf or the petals of a flower, such as a lotus. Palmettes have been used as a design element in pottery, art, carpets, architecture, and relief for thousands of years. Initially, depicting the plant from the front or the side, these designs gradually developed to show the inside of the plant from the top down or even in two halves [12]. Because the plant's reproductive components were frequently on display, researchers assumed the palmette also had something to do with fertility or symbolize fertility. The palmette ornament has seen several revivals throughout the ages [29].

A distinct Greek adornment is a palmette. A set of narrow, whole leaves that are odd in number are arranged to form a symmetrical ornament, much like the fingers of an outstretched hand. The largest leaf is in the center, while the other leaves get smaller as they get closer to the sides. The leaf tips are arranged in a predictable curve. The lower ends of the leaves often arise from a tongue-shaped leaf and are separated from one another at small intervals. In this ornament, the delicate sensitivity of Greek artistic inspiration is expressed strikingly [35]. It is used in a variety of contexts, including palmette borders, antefixes as well as cornice ornamentation. Greek architectural friezes and the ornamentation on their vessels, palmettes are a common theme.

At the feast of Osiris, the Egyptians used palm leaves or branches; at the Olympics, the Greeks used them; and in triumphal processions, the Romans utilized them. Palm leaves stood for victory and peace [13]. The Assyrian sacred trees' main component and terminal decoration was a palmette. There is some disagreement over whether the Assyrian palmette is a lotus or a palm tree because of how similar they seem [32]. According to Hamlin, it was modeled after the Egyptian lotus palmette but was given more attention to detail [16]. The single sacred tree was intended to represent the

palm tree, hence the palmettes that make up the design are in the shape of a palm tree but were originally lotus palmettes. From Terminal Palmette 1580 B.C. onward, the Egyptians included the palm motif throughout their capitals [17]. They also created a cornice that resembled a fence made of palm sticks. The barrier was made of upright palm sticks with only the tops of the leaves remaining. The bushes on top were designed to deter anyone from scaling them and entering the courtyard. The upright stick was fastened at the top with a rope or cross-stick, and more palm sticks were then woven into the lattice design at an angle to strengthen the barrier. Finally, the area up to the tie level was covered in muck. Even more intriguing is the fact that the earliest depictions of cornices are seen in architectural representations with cross-sticks exposed [39].

Review of Literature

Ancient Egypt is where the palmette first appeared. It probably started as a straightforward papyrus, lotus, or lily design, but as the Upper and Lower Egyptian Kingdoms combined, it evolved into a symbol of unification or rebirth [27]. The lotus flower's petals are frequently linked to literal, figurative, or spiritual life, death, and rebirth. The palm tree finally emerged from the design, with its radiating leaves appearing to light out from its center in a reference to the sun.

In architecture, the palmette was frequently positioned at the top of doorways and it also resembles the crown of the Egyptian sun deity, Ra (Fig. 1). The palmettes also included a big disc between two trees or mountains as a representation of the sun. The purpose of this was to demonstrate how the sun rises between mountains or trees, and the same pattern was used above arches for the same purpose. In some representations, the palmette resembles a halo in its most basic form. The palmette was also the foundation for several other related design motifs employed by the Egyptians, such as the Tree of Life motif, which featured a tree that had been cut in half [22].

The palmette's ornament originated in Egypt and eventually moved around the Mediterranean, naturally making its way into Greek architecture [18]. It also got a new name since the Greeks used to call the pattern an anthemion, which came from the word for flower in their language. The palmette is a distinctive feature of Greek architecture that can be seen both singly at the top of columns and continuously arranged on a building's cornice [29]. Greek palmettes first appeared in pottery but later found their way into the monumental building, a custom that was carried over to the Romans. The widespread use of this emblem by early Christians in Rome served as inspiration for their clandestine iconography, and the palmette eventually appeared in Christian construction. The Greeks would intersperse and support depictions of



Fig. 2. Greek architectural Anthemion, Palmette
[from authors private archive]

heroes and great exploits on their amphora using various anthemion forms [34]. However, the placing of the anthemion on many Greek buildings' border molding, columns, and doors was almost always done ritually (Fig. 2). Greek architectural friezes and the ornamentation on their vessels' palmettes are common.

The palmette style, or anthemion as it was still known, traveled from Greece to Rome. The Romans developed the pattern further by including culturally significant components like wreaths and garlands [35]. The anthemion became a symbol of metamorphosis, death, and life as well as victory. Occasionally, the V shape of plants was added as a symbolic representation of Hermes or Nike's wings, the goddess of victory (Fig. 3). Although it was frequently used to remember death, it was typically a death in triumph. The palmette never conveyed a concept of defeat. Rome's favorite floral motifs, wreaths, and garlands were commonly coupled with palmettes. In addition to this, the palmette was frequently used as a victory sign. An underground Rome populace began integrating this well-known image of victory and death into their iconography in the first century CE [41]. The palmette motif appears most frequently in the fan-shaped foliage of palm trees in ornamental art. It has a long history that originated in ancient Egypt and has developed through the majority of Eurasia's artistic creations, frequently taking on forms that are not identical to the original [35].



Fig. 3. Roman Palmette, Hermes or Nike's wings,
the goddess of victory [from authors private archive]

It was also referred to as the anthemion in ancient Greek and Roman cultures. Although it appears in a variety of artistic mediums, it is most frequently used as an architectural ornament in pottery, sculptures, and paintings. It frequently affects how a frieze or border is designed. Alois Riegl first described the intricate development of the palmette in his 1893 book *Stilfragen* [29]. Another extensively used pattern that comes in a variety of changed and modified forms is the vertically divided half-palmette. It significantly aided in the growth of plant-based scroll decoration. The palm fronds more closely mimic the petals of the honeysuckle flower in the recurring border design known as anthemion, as if designed to draw pollinating insects [9]. The fan of palm fronds can resemble either a man or female face when placed in appropriate architectural locations, such as at the top of pilasters or herms, and the volutes frequently resembled faces. In some configurations, the palmette itself begins to resemble a face with more facial features. The palmette, a couple of volutes at the bottom of the fan, is what sets each of these forms apart.

Findings

Vegetal/ botanical Ornaments in Islamic Architecture: Justification

Islamic architecture exhibited a variety of traits, such as diversity, unity, a distaste for emptiness, and a distinct lack of imitation and mimicry of God's creation [12]. Because Islamic ornamentation is blameless, its essential components include

calligraphy, vegetal patterns, geometric designs, and figural representations. Numerous references to trees and their benefits as well as plants and their allusions to Allah's strength and exclusivity may be found throughout the Holy Qur'an. This is yet another element that influenced Muslim artists' fascination with floral ornamentation. The Qur'an contains many verses about plants, and drag performers have devoted a lot of creative time to flora. This passage exhorts people to consider the magnificent qualities of these plants and to take in their beauty since beauty satisfies the spirit. Muslim artists and architects considered vegetation patterns to be abstract and far apart from the natural world and urged them to expand their understanding to incorporate temporal materialism rather than limiting it to things that could be seen from the outside [33].

Islamic architecture frequently uses floral or vegetable embellishments because human and animal images are rarely utilized in Islamic art or ornamentation because they are considered to be idolatrous. In reality, Islam destroyed idolatry, which was a manifestation of paganism. While figural images persisted in several artistic works, including wall paintings and sketches, the Holy Qur'an and mosques' decoration remained devoid of any depictions of people or animals [6]. Leaman postulates that Islamic art is exceedingly ornamental and the artist's restricted space is fully utilized, there may be a dislike of empty spaces in Islamic art. The use of geometric and floral ornamentation serves to facilitate this since it allows for the display of more distinctive shapes and spatial concept combinations [23].

Historical records revealed that the regions that Muslims invaded already had rich creative traditions and skilled artists, who continued to create works in their original forms, even under Muslim rule. These traditions were in place during the Sassanians' and Byzantines' rule [37]. These earlier works of art, therefore, had a significant influence on early Islamic masterpieces, especially architecture. Islamic art underwent numerous changes as a result of its dominance over large geographic areas and long-term consistency [6]. Even though Muslims at the time came from a variety of ethnic and cultural origins, Islamic art contains common characteristics. Vegetal patterns, one of the basic ornamental themes, were utilized alone or in combination with other significant types of ornamentation to decorate even structures or mobile works of art. Islamic art had its unique characteristics, such as a modified artistic technique that originated in the fourth century to twelve centuries with intertwined floral branches and crossed ones with pendulous blossoms that had neither beginning nor finished. European historians labeled this tactic as "arabesque" and referred to it accordingly. For example, floral and



Fig. 4. An Assyrian sacred tree, Palmette Ornament
[from authors private archive]

vegetal ornamental themes appeared in Iraq and Iran during the Safavid era. It then spread to the other Islamic nations during the Ottoman era via the European control of the majority of the Balkan Peninsula [38].

Palmette Ornament: Evolution

As was already mentioned, the palmette, which is thought to have originated in ancient Egypt around 2,500 BC, has influenced Greek art. Papyrus and lotus or lilies, which represented lower and upper Egypt and their peaceful union, were two flowers whose qualities were initially included in Egyptian palmettes [30]. They only commence getting connected to the palm tree afterward. Given that the sun and this object have always had a tight relationship, this is most likely an early instance of the halo. This was one of the earliest types of palmette in ancient Egypt. This evolved into a further, more refined shape that is like those found in ancient Greece. The Assyrian sacred tree's main component and crowning decoration was a palmette [20].

Due to how similar they appear, there is some debate about whether the Assyrian palmette is a lotus or a palm tree. Hamlin asserts that despite being modeled after the Egyptian lotus palmette, it was made using the intricate details of the palm tree (Fig. 4). The one sacred tree was intended to stand in for the palm tree, hence the palmettes that make up the design are lotus palmettes that resemble palm trees. The Egyptians used the palm design on their capitals starting around 1580 B.C. They also constructed a cornice that resembled a palm-stick fence [42]. Only the tops of the upright palm poles used to construct the fence were draped in leaves. To prevent anyone from climbing them and accessing the courtyard, the tops of the bushes were planted there. More palm sticks were then woven into the lattice pattern at an angle to strengthen the barrier after the upright stick was secured at the top with a rope stick. Not to mention, it was caked in muck up to the tie level. The cavetto cornice shows the curved tips of the palm fence (Fig. 5). The fact that the earliest renderings of the cornice are on architectural models with cross sticks exposed makes this even more remarkable. The stylized fan-



*Fig. 5. Cavetto Cornice Palmette
[from authors private archive]*



*Fig. 6. Hapi god Palmette Ornament
[from authors private archive]*

shaped leaves of the palm were shown in the anthemion. The Greeks used this pattern in a variety of ways.

Another kind depicts a collection of papyrus or lotus petals, each with a dangling bud or bloom, emerging on tall stalks from a (primal) swamp. The papyrus and lotus clusters are linked to Happy, the god of the significant seasonal Nile flood (Fig. 6). Happy recreate the patterns of the horizon's "akhet" by weaving the plant stems of these interlaced around an incense table in the same-Tawi fashion. Several monarchs were provided with this cohesive storyline, which claimed that they had kept control over the powers of renewal by maintaining harmony between the two Egyptian countries [32]. The second implication is that this purportedly mystical and magical source, the undivided source, is where replication and the birth of new life occur.

A single lotus bloom, which is usually utilized to provide aroma, is positioned between two upright buds in another variation of this design. Such a lotus represents Nefertem, the god of fragrance, or Nefertem is seen wearing a lotus as his crown. Strangely, date palms are regularly depicted in the same inventive way on Egyptian tomb walls and staged garden settings, with a cluster of dates cascading down on either side below the crown at the same place [24]. Palmettes and anthemion are two ornamental themes found in classical architecture [14].

Palmettes have several rounded, incised, and grooved lobes, the lowest of which is bent into volutes. The half palmettes, whose ends continue to develop into further palmettes, are a distinguishing aspect of the scrolls since they do not serve as a concluding theme, but rather are an essential component of the scroll itself. A succession of whole and half palmettes forming a continuous scroll define the Islamic arabesque. This kind of palmette was unheard of in East Christian paintings [30]. To discover models for the palmette ornament on the aforementioned capitals, we must look to Sassanian art. To demonstrate the significance of Sassanian art for the evolution of Islamic style, the Sassanian material that Riegl and Strzygowski had at their disposal was insufficient at the time. Recent Sassanian site excavations, like those at Damghan in Persia, Kish in Mesopotamia, and Ctesiphon in Baghdad, have produced a wealth of adornment that is extremely important to scholars of Islamic and medieval art. The development of an abstract, faux-floral adornment based on Assyrian and Achaemenian traditions, which eventually replaced the naturalistic inclinations of Hellenistic art with Oriental principles of rhythmic repetition and symmetry, must be credited to Sassanian art. Arched stems or bands were used to unite the palmette, which was once again the dominant theme in ancient Oriental art, merely for ornamentation. Sassanian palmette decorative influences may be seen in the old, dated instances of Islamic art. The Umayyad bronze tie beam at the Dome of the Rock contains irregular scrolls that show stems that have been replaced with half-palmettes [25]. Half-palmettes created more or less distinct S-links connecting different patterns, which prevents the arabesque character from being completely developed. In other instances, the continuous design and split palmettes evolving into other half-palmettes give the scrolls' arabesque character a stronger presence.

Islamic Ornamentation and Islamic Architecture

It seems obvious that Islamic ornamentation and Islamic architectural decoration are linked with each other. Islamic ornamental patterns decorated with exceedingly intricate embellishments can draw attention to religious structures like mosques.

Regarding the relationship between an artist's or architect's simple aesthetic drive and their religious or spiritual motivation, as well as whether or not Islam as a religion significantly influenced Muslim architects, Hillenbrand claims that such inspiration was not overtly acknowledged. However, it appears that several factors contribute to the aesthetic of Islamic ornaments, such as a feeling of hierarchy, a willingness to use symbolism, a love of opulent ornamentation that serves purposes beyond the mere exhibition, and a tendency to use color [1]. Al-Faruqi notes that depictions of transcendental concepts as well as actual figures from nature were

unacceptable for Muslims [2]. By reminding Muslim artists of the necessity to establish numerous art forms and structural procedures for the construction of extensive designs and motifs, Tawhid (the Oneness of God) dictated the fundamental significance of Islamic artwork. The intricate and minute details, the segmentation into components, and the organization into successive modular arrangements are the fundamental elements that define "Islamic" art. The influence of the Tawhid also seems to be present in Islamic adornment and art. The Muslims typically view God-centered aesthetics and beauty as lovely and appealing. According to Burckhardt, as architecture impacts the human environment, it holds a fundamental place among the arts and is analogous to the Islamic baraka [10]. (blessing). Al-Aloosi asserts that it plays a unique and significant function since Muslim architects contributed their aesthetic features to Islamic architecture, perhaps to experience a pleasure. In the Islamic era, architectural decoration flourished and developed characteristics that define it in terms of design, artistic production, theme, and style [3]. Painting and drawing on stucco was a part of the creative creation, either through direct engraving or mechanical molding. It was typical to employ mosaic and vibrant stone for engraving on stone and wood, whether in the smooth, flowing style or the perforated style where the ground was emptied. Several plant-related motifs, such as stems, single, double, and interwoven branches, leaves that were whole, in half, clustered in twos, threes, or fives, or perforated, palm leaves, and a variety of fruits, served as the inspiration for architectural embellishment.

The broad surfaces of a building might occasionally be covered with decoration, which can be separated into smaller portions, according to Dakhel, who researched the relationship between Islamic ornamentation and Islamic architecture [4]. To achieve visual grandeur, they can disrupt continuity with their numerous little elements, giving the building's exterior the appearance of two identical designs. The first is an architectural design with obvious crossing lines and lines flowing clearly in perspective, whilst the second is an ornament with fine and detailed lines. The generality and simplicity of the design are therefore merged with the distinctiveness and exquisite aesthetic nuances through the correspondence of the two images. The fact that Muslim architects create the art of

decoration and adapt it to fit their grand, permanent structures struck me as particularly noteworthy. As a result, ornamentation becomes a crucial instrument for the architect to improve his creativity, emotions, and expression. Before he began to create it, the architect most likely employed decorating for the first time to express his feelings and views. By guiding people's intentions, both within and outside of structures, ornamentation is essential to the structure of architecture and may contribute to its psychological impacts [15]. This is because ornamentation and architectural forms catch the attention of the spectator and draw their attention to specific architectural features, just as the architect intended. Another significant element worth noticing is the similarity between Islamic and Western architectural adornment in terms of the enjoyment we, as viewers, gain from seeing them. According to Graham, a building that serves only as adornment has been created with the sole intent of being viewed and enjoyed and is hence closer to sculpture. The approach is intended to exclude motives like admiration and enjoyment because they are not utilitarian. Graham claims that eighteenth-century embellishments are parasitic, such as the follies present in many formal landscapes. They are charming replicas of structures whose primary functions were not to amuse [7].

Conclusion

The Islamic religion forbids the carving or painting of human or animal figures, thus vegetative patterns have become increasingly important in Islamic art. As a result, vegetal motifs were an excellent substitute. Byzantine and Sassanian art both had an impact on the vegetative patterns used in Islamic art, such as grape leaves, palm trees, and acanthus leaves. Due to the reverence of palm trees for being revered and mentioned numerous times in the Qur'an, they have dominated other floral patterns. And so, the desire to represent it might be equivalent to highlighting both its aesthetic beauty and its religious significance. The palm tree was sometimes portrayed in Islamic art in an altered state and other times it appeared vibrant and took on a much more natural shape. Different types of palm trees, including half-palmettes and palmettes, were portrayed. Additionally, models from the Ottoman era included palm trees with bunches of dates. The accuracy with which different floral themes are applied reveals the Muslim artist's artistic sensibility and capacity for creativity.

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Kopsavilkums. Dekorātievi arhitektūras ornamenti ir vairāku mākslas veidu pamats. Raksts koncentrējas uz ornamentu vēsturiskajiem aspektiem. Turklāt raksts atspoguļo ornamenta attīstību un evolūciju no rietumiem uz austrumiem. Rakstā tiek izmantota vēsturiskā apraksta pieeja, lai padziļināti izpētītu un analizētu palmetes ornamentu un to attīstības posmus.