

Revival of Aesthetic Values in the Architectural Elements of Fatimid Mosques

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Abstract

Art and architecture represent human cultural identity and creative achievement throughout history. The Islamic architectural heritage and art capture the essence of the Islamic civilizational personality in its prosperous eras. Relied upon the intellectual foundations inspired by Islamic philosophy that is based on faith. That turn fostered the emergence and development of a distinctive architectural style. The arts in the Fatimid era left an Islamic artistic heritage, adopting its basic and distinctive features. This included the unparalleled interest in the decoration elements such as Muqarnas, domes, and columns. These architectural elements added a distinctive qualitative leap in the architecture of building mosques, in another way, architectural heritage provides hard evidence of our past is rapidly vanishing as a result of many destructive reasons. The research used a strategy of analyzing and describing the aesthetics of the Fatimid architecture mosques. The most important findings of the study are the ability to incorporate architectural sculpture inspired by Fatimid heritage into contemporary architecture without requiring advanced technical skills, and the ability to create contemporary architecture inspired by the Fatimid architectural heritage of mosques.

Keywords

Fatimid architecture, aesthetics values, Fatimid mosques, Revival.

الملخص

يعتبر الفن عموماً والمعماري منه خصوصاً، من أصدق أنباء التاريخ و حضارة الأمم لا تقاس بما لديها من تطور علمي وتقني واقتصادي فقط، بل تقاس بما لديها من إرث وتاريخ زاخر بالتراث، وقدرة أبنائها في المحافظة على ذلك الإرث وتحديثه كي يواكب التطور الطبيعي للمجتمع. وعمارة الفاطميين تعتبر أكثر إبداعاً بسبب تنوع عمائرهما التي تحمل العديد من القيم التاريخية والفنية والمعمارية وغير ذلك من هذه القيم التي لا تزال باقية حتى اليوم شاهدة على عظمة الإسلام، و شهدت الإنسانية خلال القرن الماضي العديد من الحروب المدمرة التي أظهرت مدى ضعف التراث العمراني أمام القوة التدميرية للأسلحة والحروب، وباختفاء العديد من المباني الأثرية أثناء الحرب العالمية الثانية بدأ الإنسان يدرك أهمية الحفاظ على التراث من الفناء، وأصبح الحفاظ على التراث المعماري مطلباً عالمياً تسعى إليه جميع الدول مما زاد من أهميته باعتباره تجسيد مادي لحضارة الشعوب والحفاظ عليه يعني الحفاظ على هويتها الخاصة، وفي بلداننا العربية الإسلامية، بالرغم من اتفاق الجميع على أهمية الحفاظ على التراث المعماري إلا إن محاولات الحفاظ عليه تتعسر في مواجهة احتياجات التطوير المعماري الحديثة. وعمليات الحفاظ عملية متكاملة ومستدامة ولا يجب أن تتوقف عند الترميم والحماية والصيانة أو حتى إعادة التوظيف وحسب وإنما كشف القيم الجمالية والفنية لهذا التراث والاستفادة منه وتوظيفه في العمارة المعاصرة ويركز البحث على دراسة إحياء جماليات عمارة المساجد الفاطمية و من أهم نتائج الدراسة القدرة على دمج النحت المعماري

المستوحى من التراث الفاطمي في العمارة المعاصرة دون الحاجة إلى مهارات تقنية متقدمة ، والقدرة على إنشاء عمارة معاصرة مستوحاة من التراث المعماري الفاطمي للمساجد.

الكلمات المفتاحية

العمارة الفاطمية ، القيم الجمالية ، المساجد الفاطمية ، إحياء التراث.

Introduction

Islamic architectural heritage is a cultural achievement that captures the essence of Islamic civilizational personality in its prosperous eras. The aesthetic values of Islamic art relied upon the intellectual foundations inspired by Islamic philosophy which is based on faith. Which in turn fostered the emergence and development of a distinctive architectural style. (ALAMI, 2011) The Fatimid era left an Islamic artistic heritage, adopting its basic and distinctive features through wall painting, ceramic painting with a metallic luster, painting on textiles, plant decoration of Kufic script on ceramic vessels, and murals. This included the unparalleled interest in the decoration of beautiful Muqarnas and domes decoration. These architectural elements added a distinctive qualitative leap in the architecture of building mosques. The Fatimid architecture that emerged in the Fatimid Caliphate (909-1167 CE) of North Africa combined elements of eastern and western architecture, with influences of Abbasid, Byzantine, and Coptic architecture. Fatimid architecture is characterized in North Africa by simplicity, with a significant influence on local Berber architecture as well as Marrakesh and Andalusian architecture. With the transfer of the Fatimid capital to Egypt and the establishment of the Great Cairo, the architecture dramatically changed. The influence of the Berber tribes, with their simple-style tribal mosques, was replaced by the distinguished Egyptian influence. The Fatimid began to build mosques with large spaces and founded the princely city of Cairo to meet the needs of the Egyptians who were accustomed to large mosques (Abouseif, 1998). However, the Fatimid caliphs were influenced by architecture from Mesopotamia, Byzantium and indulged in the building of luxury palaces to compete with the rulers of the Abbasid and Byzantine empires. Their mosques were built using the hypostyle architectural plan, which had arcades surrounding a central courtyard whose roofs were initially supported by columns with caps of the leafy Corinthian order. As well as characteristics included wall-protruding entrances, domes over mihrabs, qiblas, and façade embellishment with iconographic inscriptions, and stucco decorations. Doors and building interiors frequently featured intricately carved woodwork, Arabic Muqarnas, which were initially seen in Egypt during the Fatimid era. The earliest appearance of inscriptions in the form of a concentric circular medallion, a multi-pointed star design, or a pentagram was filled on walls, columns, and ceilings with stucco or with carved wood, (Abouseif, 1998). Additionally, considerable development in mausoleums construction, and the introduction of new ornaments depicting images such as birds, animals, and humans. This was because there were no religious barriers in the Shiite sect to photography and engraving. (Yeomans., 2006). Fatimid architecture is considered more innovative due to its buildings' diversity, and functional and artistic values. The first stage of Fatimid architecture construction, surrounded Cairo with a brick wall with seven gates, followed by the Mosques and a large number of schools (Omar, 2014). According to contemporary writers, the original Fatimid Cairo was a luxurious palace with marble floors and vast houses filled with treasures

and precious golden masterpieces. Throughout modern history, Humanity witnessed many destructive wars, which provided hard evidence that our heritage is rapidly vanishing, in addition to globalization of construction and urbanization. Therefore, the revival of heritage is facing real challenges and some consider heritage protection and revival are an impediment to progress. Today, developers are focusing on the rapid development of new and magnificent buildings while ignoring the existence of the most valuable inheritance left by the people from antiquity. (Mahdy, 1992). As a result, the field of preserving this heritage has become one of the most important international priorities in confronting these problems, which develop their methods with the emergence of the digital revolution and its advanced technologies and modern technological capabilities, (Yeomans., 2006). Therefore, we focus on this research to study and revive the aesthetic values of the Fatimid architectural elements. To clear the ambiguity of their extinction and to show them in their bright artistic image with scientific and intellectual objectivity. The research used a combined strategy of analyzing and describing the aesthetics of the Fatimid architecture mosques. Findings are, the possibility of embodying architectural sculpture to create a contemporary architectural design that responds to the spirit of that time, inspired by the Fatimid architectural elements.

The Research Problem

Despite widespread agreement on the aesthetics of our Arab and Islamic countries' architectural heritage, attempts to revitalize it are difficult in light of recent architectural development needs.

The Fatimid heritage is rich in aesthetic, sculptural, and architectural values that must be revitalized, as well as its role in strengthening national identity in society, and the research problem is represented by the points below.

- 1- There is a scarcity of research on the aesthetics of sculpture in the Fatimid architectural heritage.
- 2- Lack of archaeological aesthetic awareness of Islamic architecture in general, and Fatimid architecture in particular, resulting in a disruption of its civilizational sequence, as reflected in the absence of architectural production influenced by Islamic heritage architecture.
- 3- A fascination with Western architecture and its imitation in ways incompatible with our environment and our social and economic traditions.

As a result, one of society's most pressing issues is preserving and revitalizing the aesthetics of Islamic architecture in general, and Fatimid architecture in particular, to confront Globalization currents and Westernization.

Objectives of the Research

- 1- Recognizing the aesthetics of sculpture in Fatimid architecture and forging a link between the past and the present.
- 2- Preserve identity and heritage by documenting, analyzing, and reviving sculptural aesthetic values in Fatimid architecture.
- 3- Develop strategies for the revival of Fatimid architectural sculpture aesthetics through revival, conservation, documentation, and restoration.

4-Shedding light on the aesthetics of Fatimid architecture and, as a result, the challenges of attempting to marginalize Islamic identity experiences in architectural revitalization and preservation.

5-Highlighting the sculptural architectural values of the Fatimids and defining the possibility of resurrecting these values in an extremely contemporary form of local architecture.

The Importance of the Research

The significance of the study is based on the significance of the subject it addresses, which is the aesthetic values within the Fatimid architectural heritage, which constitutes a national wealth that is not limited to a single generation.

1- Reviving the aesthetics of sculpture within the Fatimid architectural heritage in order to preserve and protect it from the effects of cultural invasion.

2-Bring to light the aesthetic values of the decorative units in Fatimid architecture, as well as the relationship between sustainable architecture and Islamic architectural heritage.

Research Methodology

A descriptive and historical approach is used in this research.

The revival

Revival is a concept of the intellectual link between heritage and contemporaneity, which is the re-use of heritage deliverables at the cultural and civilizational level. (Eid, 2018). It is the full or partial recovery of ancient symbols, concepts, ideas, and solutions, as well as the process of becoming aware of the general cultural contents that embody the philosophical understanding of heritage. (El-Barambali, 2015)

Fatimid Decoration

The Fatimid architecture that developed in the Fatimid Caliphate (909–1167) of North Africa combined elements of eastern and western architecture, drawing on Abbasid architecture, Byzantine, Ancient Egyptian, Coptic architecture, and North African traditions. Original decorations include the conch of the prayer niche and the stucco inscriptions and arabesques on the arcades. (Shayestehfar , Khazaie & Khazaie 2021). The wealth of Fatimid architecture was found in the main cities of Mahdia (921–948), Al-Mansuriya (948–973), and Cairo (973–1169). The heartland of architectural activity and expression during Fatimid rule was at al-Cairo, on the eastern side of the Nile, where many of the palaces, mosques, and other buildings were built.

Al-Aziz Billah(ruled 975–996) is generally considered to be the most extensive of Fatimid builders, credited with at least thirteen major landmarks including the Golden Palace, the Cairo Mosque, a fortress, a bridge, and public baths. (Allam, 2013)

Al-mosques

Fatimid mosques' design and decoration reflect Shiite doctrine, and the mosques were frequently used for royal ceremonial purposes. Fatimid mosques' distinctive architectural styles include protruding portals from the wall, domes above mihrabs and qiblas, porches and arcades with keel-shaped arches supported by a series of columns, façade ornamentation with iconographic inscriptions and stucco decorations, (Abouseif, 1992). The mosques followed the

hypostyle plan, with a central courtyard surrounded by arcades, and their roofs supported by keel arches, which were initially resting on columns with Corinthian capitals. Later columns frequently featured a bell-shaped capital with the same shape mirrored to form the base. The prayer niche was more ornately designed, with features such as a dome or transept. The woodwork on the doors and interiors of the buildings was often finely carved, and two types of Quranic quotations can be found on the main facades of Fatimid royal mosques, (El-Akkad,2013). The first was Quranic verses associated with religious ideologies by Isma'ilis. Popular Quranic verses were included in the second category. The vast majority of the latter were portrayed in symbolic forms on prominent architectural elements of the façades. As a result, there could have been a link between a mosque's architectural form and its epigraphic program on Fatimid mosques. To put it in another way, the façade prominently displayed ideologically charged Quranic quotations. There are no Quranic epigraphic programs of Fatimid Mosque interiors, whether constructed by an imam-caliph or vizier. (Abouseif, 1998)

Mahdiya's Great Mosque

The Mahdiya Great Mosque is a historical mosque in Tunisia's coastal city of Mahdia. After establishing Mahdia in 909, Fatima's caliph Abdallah al-Mahdi built it in 916 AD. Abdallah al-Mahdi chose to build the mosque near his palace in a section of the walled city. The mosque was originally covered in marble, but much of it was removed during episodes in which it was reduced to ruins then it was rebuilt later. (2013) (El-Akkad)

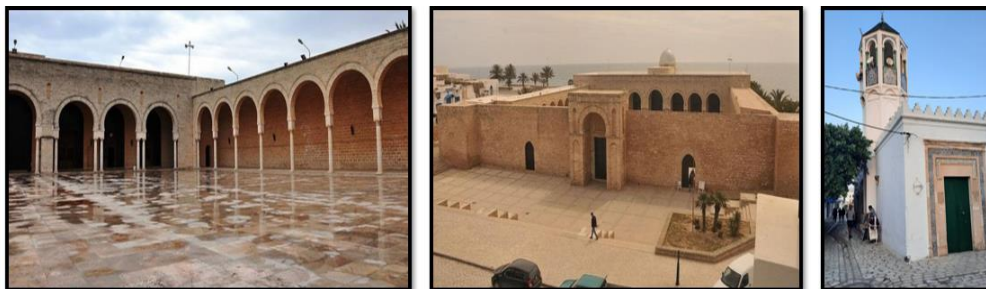


Fig. (1) illustrates the Architectural aesthetic values outside Mahdiya's Great Mosque
Architectural aesthetic values

The plan and other architectural elements of the mosque are heavily influenced by the Great Mosque of Kairouan, which was built in the ninth century. The massive walls with no openings except on the facade, the extensive use of stone, and the presence on the facade of two truncated square towers at the northeast and northwest corners give the mosque the appearance of a fortress. Unlike other North African mosques, the Great Mosque lacked minarets. 2020 (Pradines)

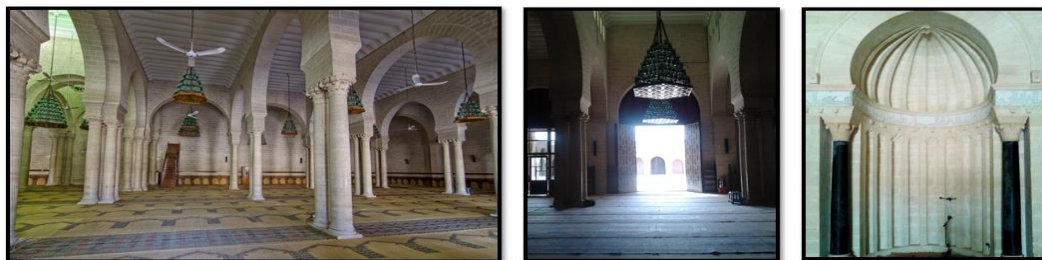


Fig. (2) illustrates the Architectural aesthetic values inside Mahdiya's Great Mosque

The great hypostyle hall is divided into nine aisles that run perpendicular to the qibla and four bays. The central nave, which is much higher and wider than the others, is flanked by a row of thick twin arches supported by four-column groups rather than the twin columns used in the aisles. The horseshoe-shaped mihrab is made of white stone and is supported by two dark green marble columns (Kammoun. & Ben Saci. 2016). Inside, the sculptural decoration is rich, with two distinct levels separated by a band of white marble adorned with inscriptions from Qur'anic verses in Kufic characters. The lower-level features nine vertical grooves that end in shell shapes at their upper ends, with high-relief clover decorations above them. (Pradines, 2020) Curving grooves above the white marble band converge at the arch's top to a single point. The large portal, reserved for the caliph and his entourage, is a watershed moment in Islamic architecture because it provides an aesthetic and symbolic entrance to a place of worship that had previously been completely anonymous even in the most prestigious monuments, and it is inspired by the triumphal arches of Rome, as well as the entrances of the Umayyad desert castles. (El-Akkad,2013)

Al-Azhar Mosque

Al-Azhar Mosque (359-361 AH) / (970-972 CE) is the most important and well-known mosque in Egypt and the Muslim world. The mosque of al-Azhar is regarded as the most important Fatimid monument, (El-Barbary. , Al Tohamy ., & Ali, 2016) despite the fact that little of its original structure remains, the al-Azhar Mosque came to represent authentic Islamic style, as evidenced by its architectural divisions, vault decorations, balconies with stairs that culminate in courtyard walls, and building vaults decorated with Quranic verses written in Kufic script. (Robinson, 1996)



Fig. (3) illustrates the Architectural aesthetic values outside Al-Azhar Mosque

Architectural aesthetic values

Architectural engineering of Al Azhar Mosque is linked to Cairo's history because the materials used inside the structure are inspired by various periods of Egyptian history, and the overall architecture was influenced by Egyptian and other designs. These influences were combined, such as domes built during the Ottoman era and minarets built during the Mamluk era. (Allam, 2013) The al-Azhar Mosque was the first in Islamic Egypt to have a transept aisle. The structure is a harmonious blend of architectural styles, the result of 1000 years of enlargements. As a result, Al-Azhar Mosque serves as a showcase for the beauty of Islamic architecture as well as its influence on Egyptian civilization and culture, (Williams, 2018). The mosque had an open inner court, four arcades surrounding it, and a dome over it. The mosque was built of bricks, with the main entrance on the northwestern side, on the axis of the mihrab, and two other entrances on the north-eastern and south-western sides. A Fatimid architectural feature is this three-axial entrance design, (Allam, 2013). There are eleven arches on the northwestern and

south-eastern sides, and nine on the other two sides. The arches are all Fatimid extremely pointed formed arches supported by marble columns. A magnificent dome on squinches stands in front of the transept entrance. Originally, there were only three arcades around the courtyard; now, there are four. The original minaret was a small structure made of brick that stood above the main entrance. (Mahdy ,1992) The arcades are part of the stucco decoration, of the original mosque. There were three domes, one over the prayer niche and the other two at the corners of the qibla wall, but none had survived. The earliest mihrab in Egyptian religious architecture can be found at Al-Azhar, this mihrab is made up of a round niche with a recessed semi-dome set back within a round-arched. The hood is supported by engaged columns surrounded by a band of Qur'anic writing in Kufic script. The Qur'anic script was added after al-reign, Hafiz's but during the Fatimid period. A star-shaped band with tiered triangular crenellations adorns the walls (Abouseif, 1998)) and the Mamluks added an ornately carved stone minaret with a carved stone railing around balconies in the center and near the top.



Fig. (4) illustrates the Architectural aesthetic values inside and outside Al-Azhar Mosque

The minaret's tip is adorned with a large bulb-shaped stone decoration and a small bulb-shaped metal finial. The conch of the prayer niche, as well as the stucco inscriptions and arabesques, are original decorations. The mosque's walls are distinguished by a new engineering art in which gypsum windows were opened in geometric forms separated by fillings, surrounded by friezes with Quranic verses written in Kufic script... (Raymond .,2001). The prayer niche, windows, arcades, and panels are all framed by a slightly ornate curved Kufic script. There was also a Kufic inscription around the dome in the mosque, which is in the first aisle to the right of the mihrab and the minbar. This inscription included Al-Muizz's name and the name of his servant Gawhar. Windows with geometric grills framed by bands of Kufic inscriptions appear to date from the mosque's construction, (Mahdy.,1992). The stucco decorations on the inside of the sanctuary's northeast wall are exuberantly laden with a plethora of vegetal motifs, including bands of Kufic inscriptions framing windows with geometric stucco grilles, and the Kufic inscriptions and stucco carving in the mihrab's hood. Each arch has a large circular inscribed stucco decoration above it, and each column has a large inscribed stucco decoration that mirrors the shape of the arch and columns. The curvatures of the transept arches are adorned with Qur'anic inscriptions in Kufic script, and the arches themselves are adorned with leafy vegetal decorative motifs, (Abouseif, 1998). The arcade arches were made of stucco-covered brick held

together, there are two kinds of ornaments used; The first appears above the arch and is composed of a sunken roundel and twenty-four lobes. The floral, geometrical, and Kufic inscriptions in the mosque prior to the innovations of khalif Al-Hafiz are simple, but the designs in the dome added during Al-reign Hafiz's were very developed. One of the stucco grills of the transitional zone of al-dome Hafiz's includes bits of green and yellow glass, the earliest known example of this window decoration. They are joined by a continuous band of inscription that runs up one side of each window and down the other, then turns at right angles to run horizontally for a short distance before turning again, (Allam ,2013). The inner spandrels of the transversal aisle's two lateral arcades are decorated with foliated stucco ornaments; the edges of the curves have Qur'anic inscription bands in Kufi, the decoration of the spandrels of the last three arches at each end of the arcade next to the courtyard, and the decoration of that part. The floral designs can be seen on the sides of the transept in the facade that we see today, with its double round arches and the typical Ottoman cypress tree carved above them. (Montasser. 2000)

Al-Hakim bi-Amr Allah Mosque

Al-Hakim bi-Amr Allah Mosque is Egypt's fourth oldest mosque. It is located in Islamic Cairo, on the east side of al-Mu'izz Street, just south of Bab al-Futuh, the mosque is designed as a triangle with four arcades.

Architectural aesthetic

Much of the mosque's architectural style and design is a combination of the styles and features win Ibn Tulun Mosque and Al-Azhar Mosque. The mosque's facades and minarets are made of stone, while the rest of the structure is made of brick, (Mahdy.,1992). The mosque's rectangular design features an open courtyard surrounded on four sides by arcades. Behind these arcades are roofed areas divided into aisles by additional arcades that run parallel to the courtyard's sides. Recessed panels filled with bands of decorative motifs and Kufic inscriptions adorn the entrance. The Fatimids introduced this decorative style to Egypt, which originated in North Africa.



Fig. (5) illustrates the Architectural aesthetic values inside al-Hakim bi-Amr Allah Mosque

Although remnants of the original decorations, such as stucco carvings, timber tie-beams, and Quranic inscriptions, have been preserved, the majority of the mosque's current interior dates from this reconstruction. In addition, the restoration included a new marble mihrab with motifs inspired by the Fatimid-era stucco mihrab in al-Azhar, (Yeomans,2006). Three main architectural features distinguish Al Hakim's mosque; The first is the memorial entrance, which is enormous in size and lavishly decorated. This is the first of its kind in Egypt, and the only

other mosque entrance that can be compared to it is the one at Al Mahdiya Mosque in Tunisia. (Mahdy ,1992)



Fig. (6) illustrates the Architectural aesthetic values inside and outside al-Hakim bi-Amr Allah Mosque

The mosque's wide white marble floor, which reflects the mosque from within, is the mosque's second most beautiful architectural feature. Many flocks of birds can be seen flying around the mosque and standing on its amazing floor, drinking water from its fountain. The third and most notable feature of Al Hakim Mosque is its two distinctively designed minarets located at the north and south corners of its western entrance. They are Egypt's oldest surviving minarets. Furthermore, no other minaret in Egypt resembles those of Al Hakim Mosque due to their unique design, which was imported to Egypt from North Africa, the Fatimids' birthplace, (Warner, 2004).

The Lulwa Mosque

The Lulwa Mosque was constructed between 1015 and 1016 AD, during the reign of the third Fatimid caliph, al- Hakim. The mosque was constructed in the distinctive Fatimid architectural style. The name al-Lulwa means "the pearl," referring to the mosque's ornate and lustrous exterior, it is one of the first mosques built in Egypt in the Fatimid era (King 1984).

Sculptural and architectural features

With typical Fatimid architectural features such as portals with slight protrusions, mihrabs and qibla walls (covered in ornamentation) topped by domes indicative of the place of worship, columned-porches with triple arches or keel-shaped arches, and frontage with inscriptions. (Robinson, 1996)

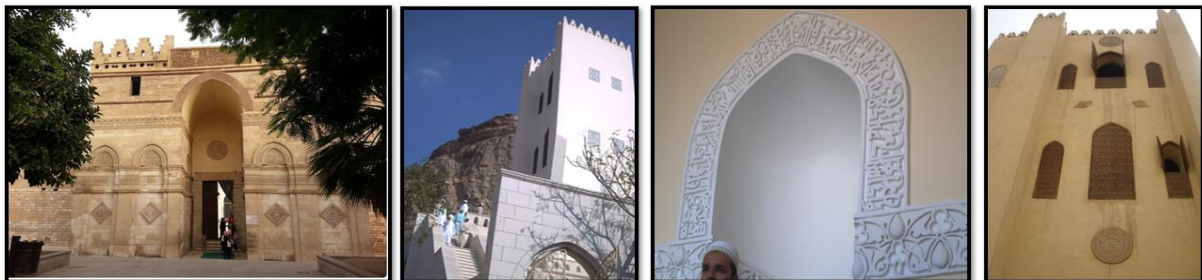


Fig. (7) illustrates the Architectural aesthetic values inside and outside Lulwa Mosque

The ground floor was barrel-vaulted, the Fatimid architectural style was used to build the mosque architectural and sculptural elements, (King, 1984). It is one of Egypt's first mosques, with typical Fatimid architectural features such as portals with slight protrusions, mihrabs and qibla walls (covered in ornamentation) topped by domes indicative of the place of worship, columned porches with triple arches or keel-shaped arches, and inscriptions on the frontage. (Williams, 2018).

Al-Qamar Mosque

Al-Aqmar Mosque is regarded as one of Egypt's most beautiful Fatimid-era mosques. It is a stunning example of Fatimid art, and engineering, the Aqmar Mosque was built by vizier al-Ma'mun al-Bata'ih during the caliphate of Imam al-Hakim bi-Amr Allah, the mosque is located on north Muizz Street in historic Cairo and is one of the city's only remaining Fatimid mosques. The mosque's name means "moonlit" in Arabic, referring to how its walls shimmer in moonlight. (Williams, 1983). This mosque is regarded as one of the earliest examples of a building in the Islamic world that used a triangular section to adapt to the residential fabric surrounding it. It was Cairo's first mosque to use an offset façade, which allows the facade to remain square to the street front while the rest of the building sits at an angle, aligning with the qibla (Abouseif, 1998). The mosque's columns, with the exception of the one that precedes the mihrab, are covered with small shallow brick domes. All of the domes' transition zones are made up of spherical triangular pendentives, the rectangular piers and columns are topped with Corinthian capitals, and the arches are of the Fatimid pointed-arched variety. Al-Aqmar Mosque is the clearest example of the use of Fatimid arches that have been doubled and decorated with Kufic inscriptions, particularly those around the courtyard. (Frishman et al 2002).

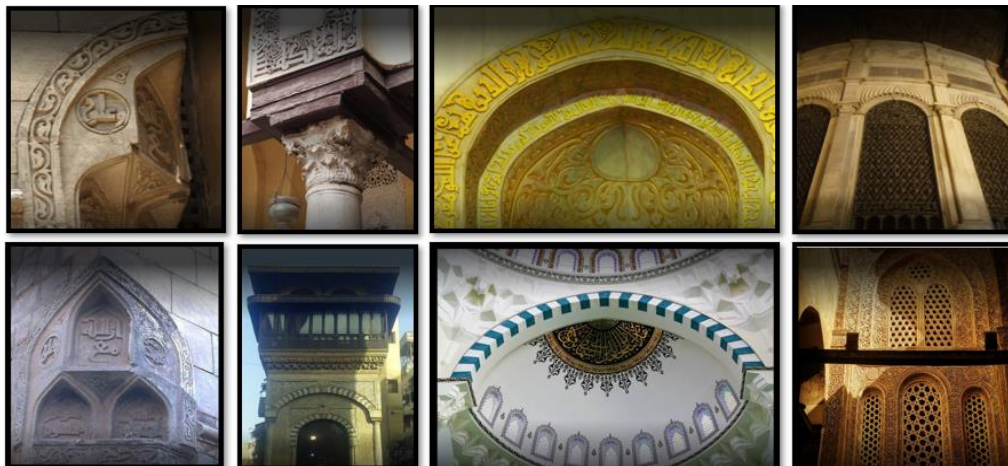


Fig. (8) illustrates the Architectural aesthetic values inside and outside Al-Aqmar Mosque
Architectural aesthetic values

The most endearing feature of Aqmar Mosque is its facade, which was lavishly decorated with inscriptions and intricate carvings. It is the mosque's most recognizable feature. The façade was one of the first in Islamic Egypt to feature lavish decorative elements ranging from inscriptions to various floral and geometric patterns engraved in stones with versatility. From an architectural standpoint, the emerging sculptural richness of Fatimid's stone sculpture is best seen on the façade of this small mosque, (Guidetti, 2019). The flutes are intricately carved, with strong horizontal ribs at the bottom rising gradually and radiating in dawn around the central

medallion. There are many Quranic inscriptions on the façade and interior walls. As one can see, there is more than one frieze on the façade, one running on the top and is partial, with the initial and final parts missing, the style is Kufic, and it is the mosque's foundation inscription (El-Akkad,2013). There are three bands of Kufic inscriptions: one below the lintel, one above the lintel, and one fine Kufic inscription that runs across the entire summit of the facade. Another inscription, this time in floriated Kufic, divides the façade into two registers, acting as a separator between the entrance door or niches on the sides and the respective arches above, (Salah El Din et al 2020). The decoration on the façade and entrance has been carved out symmetrically and includes a variety of components such as shell forms, blind-arched niches supported by spiral columns, vases, rosettes, and diamond shapes, carvings adorn the stone's exterior, (Frishman et al 2002). Kufic. The most ornately decorated façade in Islamic architecture is divided into three sections. The middle represents the front of the main entrance, which is centered by the mosque's door and it stands out slightly from the other two sections.

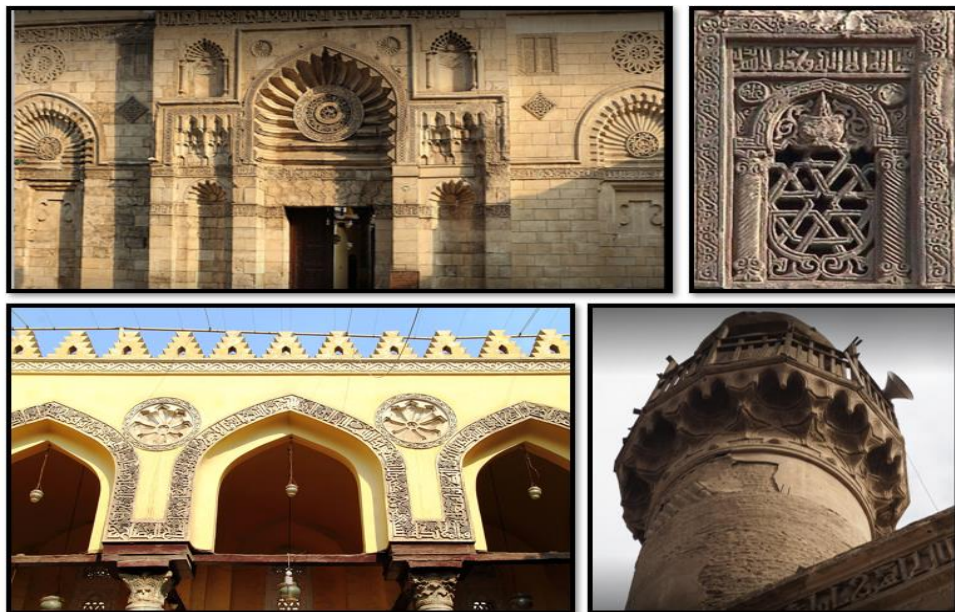


Fig. (9) illustrates the Architectural aesthetic values inside and outside Al-Aqmar Mosque

Its facade is adorned by carvings of three types of Kufic inscriptions. On both sides of the main niche, smaller niches, -also with fluted hoods, are surmounted with recesses crowned with stalactites, the earliest extant stalactites on a facade decoration. (Williams, 2018). The one on the right is a closed door, similar to al-door Hakim's (in the Islamic Museum), and the one on the left is a niche with a geometric grill resembling a window, from the apex of which a lamp is hanging. The interior of the door vault is decorated in parallel ribs that spread light from a round plate (medallion) engraved in its center with the names "Muhamad" and "Al." This medallion is framed by a floral motif strip. The interior of the mosque is topped with a written strip stalactite entrance with four rows of arched stones holding ornamented vaulting, topped by two small cavities held on attached columns, (Salah El Din et al 2020). The Qamar Mosque attests to the mastery of geometric art, architectural motifs, and floral and written inscriptions engraved in stone during the late Fatimid era. On both sides of the niche are floral and geometric decorative units, and on the top of the niche is a lotus flower medallion. Above the entrance door of the mosque is a foundation inscription of floriated Kufic script with floriated stems in

the background, down that inscription is a plain inscription band with relatively small letters stating Kursi Ayat (kuran verse), and on the top of the façade, directly below the cornice of the building is the main foundation from a decorative standpoint. (Williams, 2018). The façade features multiple Shia-related-decorative elements that immediately trigger the viewer's expectation that it was planned from the beginning that the façade would be a masterpiece in this historical edifice. The cornice of the façade is formed by a band of foliated Kufic, and the façade is punctuated in shallower relief with smaller decorative panels and lozenges decorated with vases and interlace. Overall, this is a beautifully proportioned and sculptured façade, with surface decoration and various strata of relief chiseled, drilled, hollowed out, and molded to take advantage of the contrasting play of sunlight and shadow is a set of long panels topped with Fatimid shell niches, (Frishman et al 2002). The interior plan of the mosque includes a large central courtyard. The prayer hall is divided into three aisles that run parallel to the qibla wall. Each of the other three sides of the courtyard has one aisle. The minaret has a square shaft, an octagonal second story, and a cylindrical third story. The mosque's entrance is flanked by a portico with five arches. The exterior walls are made of stone, while the interior arcades are made of brick keel arches and carried on columns, (El-Akkad ,2013). The outside facade of the mosque is decorated with blind keel-shaped arches, while the interior features carved wooden tie beams and stucco window grilles. A continuous band of Qur'anic verses executed in a very floriated Kufic script (Kufic script on an arabesque background), (El-Akkad ,2013). The Kufic decoration outlining the arches inside the prayer hall is particularly fine, and the spandrels of the arches are filled with richly carved medallions. Kufic bands frame the arcades' keel arches, and the antique columns, held together by elaborately carved tie beams, are extremely fine, with intricately drilled Corinthian capitals, (Yeomans ,2006). The mosque is embellished with rosettes carved on the arcaded walls, in addition to the stucco band framing the arches and the Corinthian capitals, (Montasser. 2000). Each arch is adorned with a stucco band of Kufic, and each arch has a small square opening above the apex that is filled with two stucco grilles that are flush with the two faces of the wall. The spandrels are the most beautiful parts of the decoration. (Plate The Kufic band that runs around the arcade arches also runs around the arched panels between the pilasters on the north-eastern wall, and a similar band runs around each window. (El-Akkad ,2013)

Al-Salih Talai Mosque

Al-Salih Talai Al-Faizi, the wazir of the Fatimid Khalif Al-Faiz bi Nasr Illah built this mosque in the months of the year A. H. 555/ Jan. 12th - Dec- 30th 1160, on the north facade of the mosque, there is a Kufic inscription which includes the name of the Khalif and his wazir who called the sultan Al-Salih Talai. The Mosque of Al Salih built by the Fatimid vizier al-Salih Tala'i' ibn Ruzzik in 1160/554-555 AH. The Mosque is situated in Bab Zuwayla Square, in Darb al-Ahmar district facing Bab Zuwayla. considered the last mosque built in the Fatimid period in Egypt. The mosque was constructed on a raised platform whose base, was at the street level, (Montasser, 2000). The main facade consists of five keel arches on Greco-Roman columns taken from an earlier building that are linked by wooden tie beams. Between each arch, a set of long panels topped with Fatimid shell niches. The most distinctive architectural feature of this mosque is the porchlike area. The interior plan of the mosque includes a large central courtyard. The prayer hall consists of three aisles that run parallel to the qibla wall. The three

other sides of the courtyard have one aisle each. The minaret is composed of a square shaft; the second is octagonal while the third is cylindrical. The entrance to the mosque is fronted by a portico with five arches, (Warner, 2004) the exterior walls are built of stone while the interior arcades are formed by brick keel arches carried on columns. None of the column capitals are the same and all are reused from pre-Islamic Christian buildings. The exterior walls are made of stone; the interior arcades are formed by arches of brick keels carried on columns.

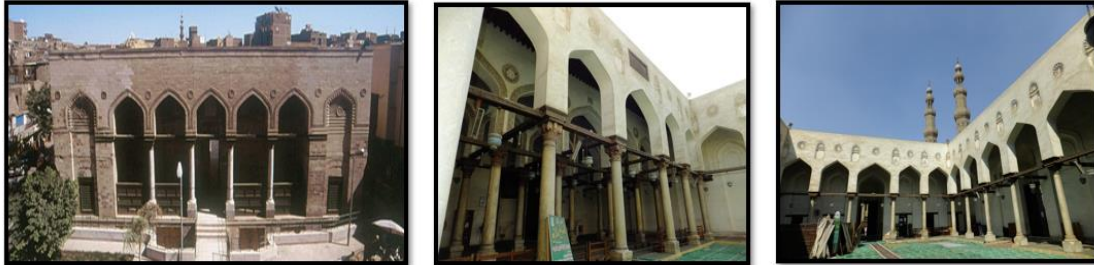


Fig. (10) illustrates the Architectural aesthetic values inside and outside Al-Salih Talai Mosque

Architectural aesthetic values

The decoration of the mosque includes blind keel-shaped arches on the outside facade, while the interior displays carved wooden tie-beams, Qur'anic inscriptions in Kufic style on the outlines of arches in the prayer hall, and window grilles carved in stucco. Some of these decorative elements continued to appear in post-Fatimid architecture in Cairo. The arches are framed by a continual band of Qur'anic verses executed in a very floriated Kufic script (Kufic script on an arabesque background). (Yeomans, 2006). The arches display wooden tie beams, which still show their original carving. Similar carving may also be seen on the wooden tabliyyas or impost blocks between the arches and also the column capitals. The spandrels of the arches facing the courtyard have blind niches with fluted hoods and above the apex of the keel-arches are deeply cut fluted rosettes. Inside the prayer hall the Kufic decoration outlining the arches is particularly fine and the spandrels of the arches are richly carved, (Montasser, 2000). The qibla wall is pierced by seven window grilles, some of which are original, and one of which, near the mihrab, displays the earliest inscription in the cursive Naskhi script, and the decoration of the wooden minbar is a geometric repeating pattern based on star shapes with polychrome accents. Behind the pulpit is a rectangular opening framed by stucco ornament and closed by a bronze grille. Bands of Kufic frame the keel arches of the arcades, and the antique columns, held together by elaborately carved tie-beams, are extremely fine, with intricately drilled Corinthian capitals, (Arslan, 2019). The arched band above the doorway of the NE façade contains a verse and nothing connects this verse with Shi'i ideology. The Quranic quotations on the main facades of Fatimid royal mosques might have been divided into two categories. The first was Quranic verses that have Isma'ili religious ideological significance. The second was common Quranic verses. Most of the former were displayed in symbolic forms and located on the prominent architectural elements of the façades, (Abouseif, 1998). So, one can presume that in Fatimid mosques there might have been a link between the architectural form of the façade of a mosque and its epigraphic program. In other words, the highly charged ideologically Quranic quotations were located on prominent architectural locations of the façade. The Quranic epigraphic programs of the interior of Fatimid mosques, either built by an imam-caliph or a vizier, they do not have any Isma'ili ideological significance, (Yeomans,

2006) . The sanctuary consists of three arcades of seven arches, each running parallel to the qibla wall. Each arch is decorated with a band of Kufic in stucco, above the apex of each arch is a small square opening like a window, filled with two stucco grilles set flush with the two faces of the wall. The first two aisles so formed in width against the aisle next to the Mihrab. The present ceiling is entirely modern, the arches rest on marble columns with various types of capital, mostly comedian by impost blocks formed of three layers of wood. The arcades are braced longitudinally by tie-beams ,this style of the tie beams and «tables» is similar to that in the mosque of Al-Aqmar, but here is the most beautiful and best-preserved example. (El-Habashi. 1999)

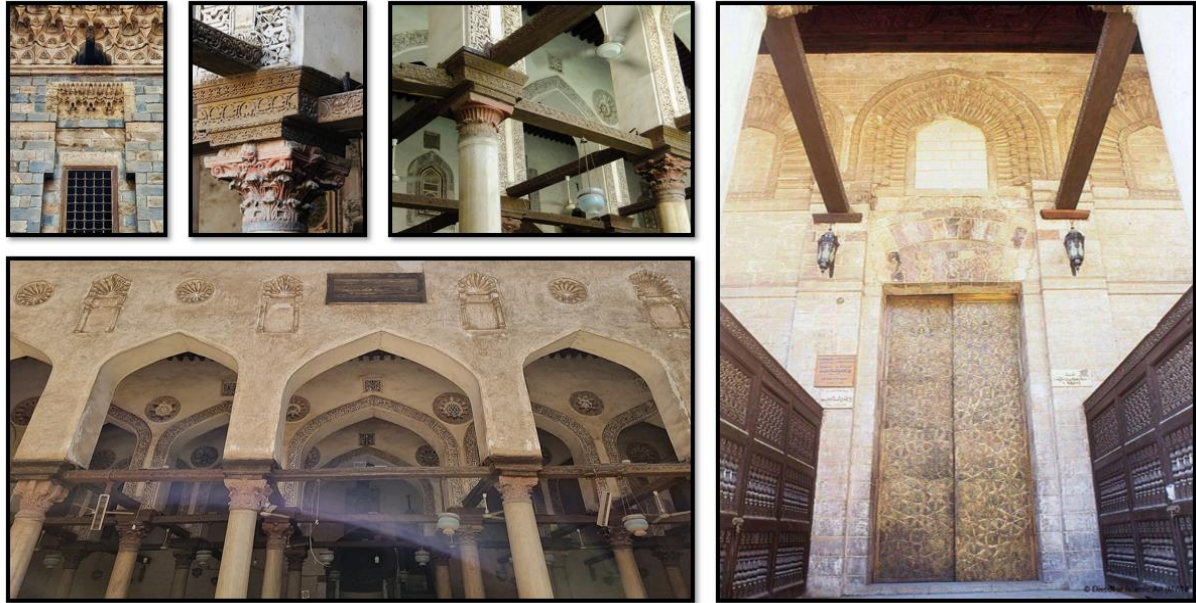


Fig. (11) illustrates the Architectural aesthetic values inside and outside Al-Salih Talai Mosque

Research Methodology

The research follows experimental and analytical methods. The methodology of the research consists of two parts as follows:

The first part deals with the literature review of Aesthetic Values in the Architecture of Fatimid Mosques.

The second part deals with the experimental work where the researcher creates designs with Fatimid ornaments and uses them in a virtual simulation of the aesthetics of Fatimid mosques in the decoration of contemporary architecture to revive and preserve it.

Experimental work

It is divided into two sections.

The first section includes contemporary architectural models inspired by Islamic architecture, such as domes, windows, mashrabiyyas, and others.

The second section

The researcher's experiments are models and designs of contemporary architecture that are inspired by Fatimid Mosque architecture through computer programs (photoshop and illustrator) and Artificial intelligence.

(midjourney ai and Stable Diffusion ai)

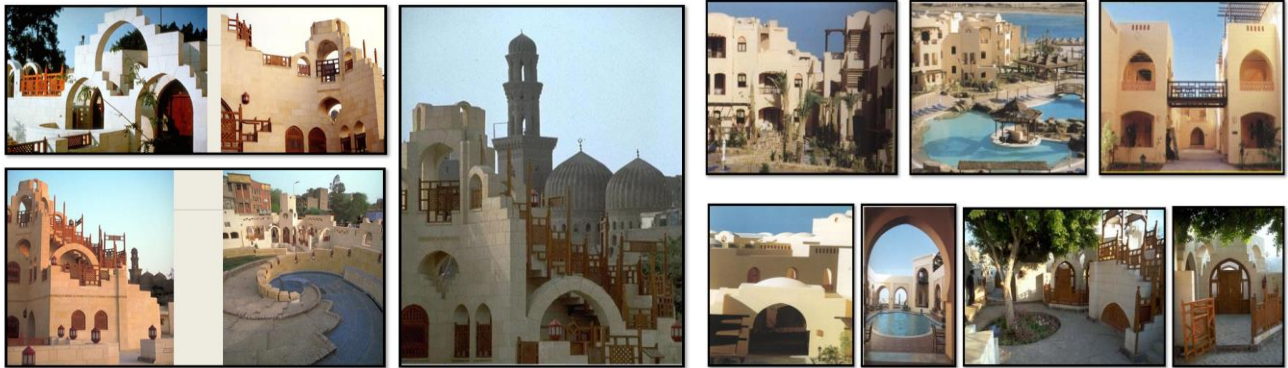


Fig. (12) The architectural openings take on the character of Islamic architecture

Korea Beach Village, Marsa Alam Researcher Experience



Fig. (13) virtual two mosques inspired by Dome of Al-Mahdia Mosque by Midjourney AI and Stable Diffusion AI programs



Fig. (14) modern virtual palace inspired by the arches of the Mahdia Mosque by using Midjourney AI and Stable Diffusion ai programs.



Fig. (15) Decoration of the facades of a contemporary villa building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (16) Decoration of the facades of a modern villa building inspired by the architectural ornaments of mihrab al-Azhar Mosque



Fig. (17) Decoration of the entrance modern palace building inspired by the architectural ornaments of mihrab al-Azhar Mosque



Fig. (18) Decoration of the entrance of modern building and university inspired by the architectural ornaments of mihrab al-Azhar Mosque



Fig. (19) virtual modern mosque building inspired by the architectural ornaments of the mihrab, domes and arches of al-Azhar Mosque by using Midjourney AI and Stable Diffusion AI programs



Fig. (20) Decoration of the contemporary tourist resort buildings inspired by the architectural ornaments of al-Hakim bi-Amr Allah Mosque



Fig. (21) virtual entrance of heritage village inspired by a of Al-Mahdia Mosque by Midjourney AI and Stable Diffusion AI programmes



Fig. (22) Decoration of the windows of a contemporary administrative building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (23) Decoration of the facades of a contemporary tourist hotel building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (24) Decoration of the facades of a contemporary resort villa building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (25) Decoration of the doors and interior decoration of a contemporary building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (26) Decoration of interior decoration (wall hanging) of a contemporary building inspired by the architectural ornaments of Al-Aqmar Mosque



Fig. (27) Decoration of the facades of a contemporary villa building inspired by the architectural ornaments of Al-Aqmar Mosque

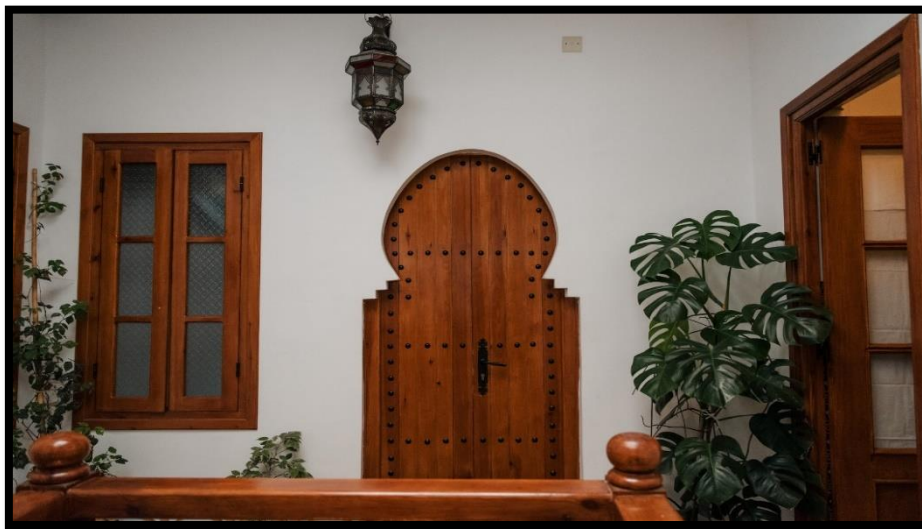


Fig. (28) Decoration of the door of modern building inspired by the architectural ornaments of mihrab Al -Saleh Tala'a Mosque



Fig. (29) Decoration of the window of new building inspired by the architectural ornaments of Al -Saleh Tala'a Mosque



Fig. (30) virtual modern mosque building inspired by the columns and arches of Al-Mahdiya Mosque, the domes and minarets of Al-Azhar Mosque, and the interior decorations of Al-Aqmar Mosque by using Midjourney AI and Stable Diffusion AI programs

Results

1. The ability to create contemporary architecture that responds to the spirit of the times and its capabilities, inspired by Fatimid architectural heritage.
2. The ability to incorporate architectural sculpture inspired by Fatimid heritage into contemporary architecture without requiring advanced technical skills.
3. Sculptural contributes to the aesthetics of architecture by organizing the architectural form and allowing it to be read.
4. Fatimid architecture was distinguished by the abundance of sculptural formations in various forms, such as geometric and floral patterns and Calligraphy ornamentation.
5. Sculptural ornamentation in the Fatimid era was distinguished as having the same aesthetic values despite the different time periods.
6. Fatimid architecture is rich in symbolism and sculptural value, a national goal is to preserve and document aesthetics.
7. Heritage architecture requires efforts to uncover it and remove the obstacles that are preventing its extinction.
8. Fatimid architecture has many historical, sculptural, and architectural values that have been preserved.
9. Fatimid architecture had comprehensive architectural thought for all aspects of human social, psychological, and cultural life.
10. The most influential factors on architectural heritage are those resulting from human factors as well as those resulting from development. Technological as well as environmental factors necessitate prompt treatment with maintenance, restoration, and reconstruction.
11. The lack of a qualified designer and architect capable of carrying out heritage preservation, protection, maintenance, renewal, and restoration operations. Historic building rehabilitation.

12. Preserving architectural heritage necessitates a conviction among planning decision-makers of the importance of heritage preservation, as well as financial and technical support to ensure the implementation of proposed plans and programs, and the lack of these two supports is difficult to overcome.

13. For the first time in Fatimid architecture, a carved stone was used instead of bricks in the facades of mosques, in addition to decorating the facades with various decorations engraved on the stone, such as the facades of Al-Hakim and Al-Aqmar Mosque.

14. People's lack of archaeological awareness is a threat to Islamic monuments and their tourist potential, and it plays a significant role in the destruction of Fatimid architecture.

15. Informal violations and neglect plague Fatimid buildings, and there is no integrated database for Fatimid building locations and histories.

Suggestions for reviving Fatimid architecture and its aesthetics

1. Creating a database of all Fatimid buildings and categorizing them based on historical, architectural, and social values, as well as prioritizing preservation operations so that this information is accessible to anyone who wants it.

2. Creating a comprehensive neighborhood plan for Fatimid architecture that includes historical development, the foundation of previous planning, and the currently approved planning system, followed by the determination of future work goals and strategies.

3. Emphasis on the overall appearance of modern buildings in order to be inspired by architectural heritage in general and Fatimid architecture in particular.

4. Repurpose Fatimid architecture to meet modern-day needs such as entertainment, cultural, and tourist elements.

5. Examine the facades and work on incorporating changes that demonstrate the features of Islamic architecture through the values extracted from them and reflect the overall image of the surrounding archaeological buildings.

6. The importance of determining the appropriate heights and colors for modern buildings adjacent to Fatimid architecture in order to create a sense of balance with the surrounding historical and archaeological structures.

7. Developing laws and legislations related to the preservation of archaeological buildings, as well as establishing standards to ensure their full implementation, as the starting point for ensuring their protection at the local and international levels.

8. Teaching the aesthetics of heritage architecture for architecture and arts curricula, so that designers and architects generate competence and awareness of the need to pay attention to heritage.

9. Establishing an advisory body comprised of university professors, archaeologists, restoration experts, and architects to study Fatimid buildings and determine their nature and needs, as well as the steps required to preserve them.

10. Providing educational institutions with assistance in the field of reviving archaeological buildings, as well as hosting competitions between universities and antiquities conservation centers on practical proposals and feasibility studies for the possibility of reviving archaeological buildings.

11. Promoting Raising awareness of the aesthetics of sculpture in Fatimid architectural heritage, as well as maximizing the role of Fatimid architectural and its impact on tourist attraction.
12. The documentation of all heritage buildings, as well as the creation of databases that contain structured information on both heritage sites and buildings, and they are clearly classified to everyone.
13. Examining Fatimid architecture facades and working to introduce modifications that show their features through the values extracted from them and reflect the overall image of the surrounding archaeological buildings.
14. The necessity of determining the appropriate heights and colors for modern buildings in order to create a sense of balance with the surrounding historical and archaeological structures.

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